



AUSTRIA



Country : AUSTRIA

Project list 27.11.2014

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	private	"Mur power plant Puntigam"	Energie Steiermark AG	Barrage construction in Puntigam (Graz) to capture clean energy from water - total investment 97 Mio. €	No	to be started, detailed plans exist.	0.1	0.1	Ecological audits are ok, nevertheless the construction has not started yet.
Energy Union	Connections and production	public private	Pump Storage Hydro Power Plant Pfaffenboden in Molln	Wien Energie GmbH	<p>The storage project in Molln comprises 2 reversible Francis-turbines with a capacity of 2 x 158.3 MW in pumping mode and 2 x 154.6 MW in turbinning mode (a total storage capacity around 600 GWh annually), 4 storage tunnels with a diameter of 16 m and a length of 1.5 km. The waterway has a diameter of 3.1 m to 4.0 m and a length of 2.5 km. Instead of the construction of a dam, the PSP Pfaffenboden in Molln comprises a closed-loop water system whose components are largely underground or located on an existing industrial site. The headwater reservoir consists of 4 tunnels based in the ridge of the "Gaisbergschuppe" with a total volume of 1.25 Mio m³ (1500 m length and 16 m diameter). The power unit (two turbine sets, each about 150 MW) is located in an underground shaft. The PSP will be connected to a 220 kV transmission grid which runs across the company site.</p> <p>As a result of all necessary screening and permitting procedures, no significant impacts on nature conservation areas and the environment are expected. Moreover the planned pump storage hydro power plant Pfaffenboden in Molln is especially environmentally friendly and sustainable. The operation neither causes CO2 emission nor uses primary energy like coal, gas or oil. Instead of the construction of a dam, the PSP Pfaffenboden in Molln comprises a closed-loop water system whose components are largely underground or located on an existing industrial site.</p> <p>In addition to the well known benefits of the hydro pumped storage technology the project in Molln has, due to the connection to the high level multinational transmission grid, positive impacts on the neighbouring electricity markets of Germany and the Czech Republic.</p> <p>The pump storage hydro power plant is necessary for the further increase of renewable energy production in Austria, as well as the neighbouring countries, like Germany or the Czech Republic. The reason behind is that base load power stations (e.g. coal-fired power stations or nuclear power stations) get substituted for hardly predictable renewables (e.g. wind or photovoltaic). Therefore the need for quick and flexible storages will arise in the near future. As a result the stabilization of the electricity grid through pump storage hydro power plants is essential. On top it improves the security of supply.</p>		fully permitted, preparatory works under way, construction could start immediately	0.4	0.4	<p>Barrier</p> <p>The investment climate in the European electricity market is overall poor. The volatile national and European regulatory framework conditions increase the risk for this long term investment and leave future market mechanisms for this asset class unpredictable, although the medium term necessity of pumped storage plants remains undisputed for a European power generation portfolio with an already high and still steeply increasing renewable share.</p> <p>EIB is aware of this project, ongoing discussion.</p>

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Knowledge and the Digital Economy	Public R&D	public	BBMRI.at Upgrade	Ministry of Science, Research and Economy	Upgrade for the Austrian Biobanking Network (BBMRI.at) as partner of the ESFRI European Biobanking Research Infrastructure. National data management infrastructure for medical research data that are generated by analyzes of human biological samples stored in the Austrian biobanks.	No	Planning - Implementation is dependent on additional funding	0.0	0.0	Longterm funding for the basic Austrian Biobanking Network committed according to the National Research Infrastructure Action Plan - funding contract already running; lack of funding for the upgrade/Financing of upgrade by EC grants. (* The investment costs are in the million EURO range; therefore investment cost only become visible if you activate the respective cells.)
Knowledge and the Digital Economy	ICT Infrastructure	public private	Broadband Austria	BMVIT, telecommunications operators	Establishing an area wide fibre glass net	no	in the process of elaborating a medium-term investment plan and detailed schedules regarding the construction work	1.0	0.5	Public national contribution of € 1 bn. until 2020 and a frontloading of € 500 mio. until 2017 is agreed and will mobilize private investment. According to OECD and EIB estimates, this project requires total investments up to € 5 bn.
Resources and Environment	Resilience to Climate Change	public	Energy efficiency programme	Kommunalkredit Public Consulting	Subsidy scheme for energy efficiency projects of enterprises. Eligible Actions: Fuel switch, biomass district heating, thermal solar energy,	Yes	in operation	3.0	1.5	Alternative financing schemes should be assessed because public financial support might be expected to be lacking in future years.subsidy scheme for SME with approx. 1.000 projects. No specialised banks with additional loan offers for eligible projects/closer cooperation with banks and governmental guarantee instruments. Expected total investment costs cover the period 2015-2020.

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Resources and Environment	Resilience to Climate Change	public	Renewable energy programme	Kommunalkredit Public Consulting	Subsidy scheme for renewable energy projects of enterprises. Eligible Actions: Energy saving devices, resource efficiency projects, change of public light systems,	Yes	in operation	1.5	0.8	Alternative financing schemes should be assessed because public financial support might be expected to be lacking in future years.subsidy scheme for SME with approx. 1.300 projects. No specialised banks with additional loan offers for eligible projects/closer cooperation with banks and governmental guarantee instruments. Expected total investment costs cover the period 2015-2020.
Resources and Environment	Resilience to Climate Change	public	Thermal insulation "Sanierungsoffensive"	Kommunalkredit Public Consulting	Subsidy scheme for thermal insulation projects. Private households with lump sums up to 5.000 € for thermal insulation; Enterprises with up to 30 % grant for thermal insulation	Yes	in operation	3.6	1.8	Alternative financing schemes should be assessed because public financial support might be expected to be lacking in future years.subsidy scheme for SME with approx. 16.000 projects. No specialised banks with additional loan offers for eligible projects/closer cooperation with banks and governmental guarantee instruments. Expected total investment costs cover the period 2015-2020.

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Resources and Environment	Natural resources: efficient and secure availability	public	Protection against natural hazards	Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW); Federal Ministry of Transport, Innovation and Technology (BMVIT), Federal Provinces of Austria; beneficiaries	Measures to reduce risk of natural hazards (floods, debris flows, avalanches)	yes	projects are under way or on planned	1.0	0.6	BMLFUW provides 0,2 bn €/year; total investment depends on co-financing by Federal Provinces and Interested Partners
Transport	Corridors and missing links	public	Development of S7 motorway	Ministry of Transport, ASFINAG	Connection to the highway A2 (Itz- border, Burgenland)	Yes	Construction start expected at mid-year 2015 for the western part and mid-year 2016 for the eastern part. Open for traffic: 2019	0.6	0.6	coordination and permitting problems; delay of commencement, realisation with EIB depends on loan interest rates (reduction of financial costs for AT)
Transport	Corridors and missing links	public	S1 Wiener Außenring-Schnellstraße, Schwechat/Süssenbrunn	Austrian Ministry for Transport, ASFINAG	closure of the missing link between Schwechat & Süssenbrunn with the tunnel Danube-Lobau (Nationalpark Donau-Auen)	Yes	started	1.8	0.6	possible delays due to objections from environmental pressure groups in the EIA, realisation with EIB depends on loan interest rates (reduction of financial costs for AT)
Transport	Business enablers	public	safety engineering - railway tunnel Karawanken	Austrian Federal Ministry for Transport, ÖBB	adaptation of safety engineering of the railway tunnel Karawanken under the terms of the EU-Directive on tunnel safety and the Austrian national law (EisbAV)	yes	outstanding financial decision	0.1	0.0	delayed implementation; adaptations should be started and need to be implemented by 2018

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Transport	Corridors and missing links	public	"GRENZBAHN" (planning project / Austria-Hungary Cross-Border Cooperation Programme / AT-HU ETC) [closing the gap between Eastern Styria (Hartberg/Friedberg), Southern Burgenland (Pinkafeld, Oberwart, Grosspetersdorf, Rechnitz) and Hungary (Vas County/Szombat hely)]	Planning (currently running): Lead: West Transdanubian Regional Development Agency Future implementation: Hungarian Ministry of Transport, Vas County / Federal states of Burgenland and Styria, Austrian Federal Ministry for Transport	The project will re-establish a historic connection between HU and AT, following the natural topography (Pinka-river). Utilisation of previous investments as well as the still existing, historical route makes the project cost-effective. It will give people on the HU and AT side (100.000 in the close surroundings of the rail track) a cross-border connection. Access to SETA would be an important factor for the local economy (steel, wood, automotive industry ... tourism)	mentioned in strategic traffic policy plan of Burgenland province (2014); financing depends of results of planning project "GRENZBAHN"	in definite planning; end of project: 1st quarter 2015; political negotiations between government of Hungary and Federal province of Burgenland running	0.1	0.1	Project idea exists since fall of the Iron Curtain; considered in several Infrastructure Development Plans; Policymakers gave implementation of road links (B63 in AT and 89 in HU) more priority up to now ETC project "GRENZBAHN"-results (Q1/2015) will give a positive and clear basis for decision-makers
Transport	Urban transport	public private	EuRegio Bahnen Salzburg-Bayern-Ober-österreich	Amt der Salzburger Landes-regierung	"EuRegio Bahnen" is an INTEREG sponsored technical feasibility study focusing on railwayconnections around the city of Salzburg. The main task is the extension of the existing lightrail through the city center of Salzburg. The goal is, bringing the Lightrails from the surroundings (EuRegio Salzburg-Berchtesgadener Land-Traunstein) in the city center of Salzburg to get more people on the public transport.	No	Feasibility Study	0.5	0.0	missing political decisions because of a lack in the longterm financing. A combination of EIB and MS finance as well as private capital is envisaged. It is planned to implement a PPP project.
Transport	Corridors and missing links	public private	Gitzentunnel	Amt der Salzburger Landes-regierung	Gitzentunnel is a part (about 3km including a 2.7 km tunnel) of a new road connection (in total 5km) between Austria (Salzburg) and Germany (Bayern) in the north of the city of Salzburg	No	Planning phase	0.1	0.0	missing political decision because of a lack in the longterm financing. A combination of EIB and MS finance as well as private capital is envisaged. It is planned to implement a PPP project. EIB is aware of this project. Still a lot of open questions, e.g. regarding ecological issues.

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Transport	Corridors and missing links	public	Rhine-Danube Core Network Corridor - Railway	ÖBB-Infrastruktur AG	Railway Projects along the TEN-T Rhine-Danube Core Network Corridor	yes	studies and works	1.9	0.8	EU grants
Transport	Corridors and missing links	public	Scandinavian-Mediterranean Core Network Corridor - Railway	ÖBB-Infrastruktur AG, BBT SE	Railway Projects along the TEN-T Scandinavian-Mediterranean Core Network Corridor	yes	studies and works	4.7	1.0	EU grants
Transport	Corridors and missing links	public	Baltic-Adriatic Core Network Corridor - Railway	ÖBB-Infrastruktur AG	Railway Projects along the TEN-T Baltic-Adriatic Core Network Corridor	yes	studies and works	7.3	2.3	EU grants
Transport	Corridors and missing links	public	Terminals - Railway	ÖBB-Infrastruktur AG	Investments in Rail/Road Terminal Infrastructure	yes	studies and works	0.3	0.2	EU grants
Transport	Corridors and missing links	public	Karawankentunnel - Road A11	ASFINAG	Construction of 2nd tube for A11 Karawankentunnel (AT-SLO)	yes	studies	0.2	0.1	EU grants; realisation with EIB depends on loan interest rates (reduction of financial costs for AT)



BELGIUM



**JOINT TASK FORCE EC-EIB-MEMBER STATES ON DEVELOPING INVESTMENT
PROJECTS IN THE EU PROJECT LIST OF BELGIUM**

<u>Sector</u>	<u>Sub-sector</u>	<u>Public/ Public/ Private / Private</u>	<u>Project name</u>	<u>Implementing agency</u>	<u>Description</u>	<u>Included in national investment plan (yes/no)</u>	<u>Status</u>	<u>Total investment cost (EUR bn)</u>	<u>Investment in 2015 – 2017 (EUR bn)</u>	<u>Barriers/ solutions</u>	<u>Socio- economic justification</u>
<u>FEDERAL ADMINISTRATION</u>								19.73	12.58		
<u>MINISTRY OF MOBILITY</u>								5.62	1.84		
<u>TRANSPORT</u>								5.62	1.84		
Transport		public	ETCS deployment on Belgian network	Infrabel	For the Belgian government and the infrastructure manager Infrabel, safety is the key element for the development of the Belgian railway network in the years to come. For this reason, the national ETCS Masterplan has set the target of equipping the whole of the Belgian railway network with ETCS by 2022.	Yes	Under construction	2.20	0.76	-International coordination is needed, - Network effect at EU level (importance of first investment) - Lack of financing	This program has multiple objectives: • Major improvement in the level of safety on the entire network; • Improvement in the interoperability of the Belgian network situated in the heart of the European railway network for freight (connection of three railway freight corridors to the port of Antwerp and Zeebrugge) and for passengers (European high-speed network); • To meet European requirements set by ITS CCS and by the European deployment plan for

Transport		public	Capacity increase of the North-South Junction in Brussels	Infrabel / SNCB	<p>The main objective of this project is to maximise the operating conditions of the North-South Junction, in terms of strength as well as capacity. The work carried out will allow results to be achieved in the short term as well as in the long term.</p> <p>This programme involves infrastructure or new equipment, in particular beyond the North-South Junction.</p> <p>Sub-projects : (1) Track and bifurcation of HSL in the North of the Brussels-Capital region</p>	Yes	Under construction	0.29	0.07	- lack of financing	<p>The Brussels North-South link consists of 3 tunnel tubes which each contain 2 tracks. It's a bottleneck through which pass every day 57% of all travellers on the national rail network as well as trains with international connections. The North-South Junction (NSJ) is nearly saturated during rush hour by 90 trains. Without major modernisation works and other initiatives to improve traffic flows, the NSJ will not be able to cope with the predicted traffic growth.</p>
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Transport		public	EuroCap-Rail (modernisation of the Brussels- Luxembourg axis)	Infrabel / SNCB	<p>The objective of this project is to allow substantial reduction of travel time between Brussels and the Luxembourg, thanks to an increase in the speed to 160km/h wherever possible, with the addition of the re-electrification to northern French standards (25kV) and the modernisation of different components of the railway infrastructure.</p> <p>Sub-projects : (1) Axis 3: modernisation (2) Axis 3: electrification 25kV</p>	Yes	Under construction	0.47	0.17	- lack of financing - cross-border coordination	<p>The objective of this program is to allow a substantial reduction of travel time between Brussels and the Luxembourg. Transport by rail is currently the only alternative to road transport on the Brussels-Luxembourg axis. The proposed project improves the rail service (safety, speed,...) on this axis and makes it more competitive compared to road transport. Therefore this project promotes the modal shift from the road to the rail.</p> <p>In addition, this</p>
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Transport		public	Gent - Zeebrugge line: increase in capacity	Infrabel	<p>To cope with increase of traffics in Zeebrugge and ensure that trains can move around smoothly in the future, Infrabel is investing in the creation of a 3rd and 4th track between Gent and Brugge. Express trains will then travel on the central tracks and slower train will travel on the outer tracks, preventing the different trains from hindering one another. A 3rd track is also programmed between Brugge and Dudzele. Finally various investments in the railway infrastructure of the Port of</p>	Yes	Under construction	0.46	0.06	-lack of financing	<p>Several major traffic routes combine on the railway line which links Ghent and Zeebrugge:</p> <ul style="list-style-type: none"> • Freight travel from or in the direction of Zeebrugge • National passenger traffic linking the coast with the main cities in Flanders, to Brussels and other Belgian cities situated in the north-east of the country • Regional passenger traffic, characterised by a large number of stops, particularly between Bruges and Ghent <p>Today these various</p>
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Transport		public	Brussels - Antwerp axis (including the By-Pass of Mechelen)	Infrabel / SNCB	<p>This project includes several actions to improve the rail axis Brussels - Antwerp. The most important action is the construction of the by-pass of Mechelen. The railway by-pass includes the construction of two additional tracks and two new platforms behind Mechelen station. It will connect with the (new) Schaarbeek-Mechelen line (which runs down the central reservation of the E19 motorway) and the Diabolo rail link.</p> <p>This programme is a major part</p>	Yes	Under construction	0.14	0.07	- lack of financing	<p>This programme is principally intended to make links between major cities and major airport platforms more effective, connected by the high-speed network, in particular from Brussels and Amsterdam via Antwerp to the national airport. Today, high-speed trains are still losing precious time in Mechelen, taking account of the reduced speed and capacity of this major connecting station and the connecting track of the diabolo with the traditional network to the south of Mechelen, with</p>
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Transport		public	Removal of level crossings (belgian network)	Infrabel	This project concerns the elimination of the level crossings. It involves the construction of bridges, tunnels or roads where necessary, in consultation with local authorities. In addition others measures will be implemented to improve the level of safety of some level crossings which can not be removed.	Yes	Under construction	0.33	0.02	- lack of financing	The Belgian railway network, for which Infrabel is the infrastructure manager, currently encompasses 1,857 level crossings, 670 of which cross lines that are included within the TEN-T network. These level crossings generate three types of problem: - safety: they generate additional risks for train traffic and road users; - capacity: the existing level crossings are bottlenecks that reduce among others the smooth flow of train traffic and thus reduce capacity on the railways concerned;
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Transport		public	Increase in the capacity of access to the port of Antwerp	Infrabel	<p>Access to the Rechteroever is via the L27A, which connects a series of lines to the port of Antwerp. This single access suffers in particular from cross-overs which limit capacity. Two sites have been targets to successively remove cross-overs, namely Oude Landen and Krijgsbaan. Together, they should noticeably increase the port's access capacity, while the construction of the second access to the port of Antwerp is under way, which shall be timetabled at a later date. In addition, this programme</p>	Yes	Under construction	0.22	0.00	- lack of financing	<p>The main objective is the increase in railway capacity (mainly during the freight rush hour) leaving from and going to the port of Antwerp. This project will lead to a better connection of the port of Antwerp with its hinterland and with the Rail Freight Corridors North Sea - Mediterranean and North Sea - Baltic. By improving the rail connection to and from the port, this project contributes to a modal shift from road to rail.</p>
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Transport		public	Diabolo project	Infrabel	<p>This project concerns the rail connection of the Brussels Airport with the international railway axes Frankfurt – Liege – Brussels – Paris and Amsterdam – Antwerp – Brussels – Paris.</p> <p>Sub-projects :</p> <p>(1) North rail link of the airport of Zaventem - Diabolo Project-section L25N (Bd. de la Woluwe - Mechelen)</p> <p>(2) North road and rail connection of the airport of Zaventem - section: E19 - Brussels National Airport station</p> <p>(3) North rail link of the</p>	Yes	Under construction	0.06	0.04	- lack of financing	
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Transport		public	Express Regional Network (RER - Réseau Express Régional)	Infrabel / SNCB	This project is the most important rail passengers project in Belgium. The aim is to create an suburban railway network in and around Brussels (30 km range/radius). The RER will combine speed and frequency. The separation of direct trains and slower local trains is therefore absolutely necessary. Infrabel will double the capacity on the major railway axes around Brussels. RER lines will have 4 tracks rather than 2 tracks, allowing RER trains to stop more frequently by using their	Yes	Under construction	0.87	0.37	- lack of financing	The city of Brussels is facing serious mobility challenges. The increase in numbers of commuters travelling to and from Brussels every day causes a lot of traffic congestion and puts huge pressure on public transport. This project will increase the modal shift and therefore help to reduce the congestion on highways. This project will also highly contribute to reducing greenhouse gas emissions.
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Transport		public	Retrofitting or upgrading of SNCB's rolling stock with ETCS on-board equipment.	SNCB	Equipment of the entire rolling stock fleet with the European signal control system ETCS before 2023 (baseline 3).	Yes	In progress	0.36	0.17	- Continuous evolution of norms - Difficult budgetary context	The project stimulates (increased interoperability of the rolling stock) and improves (safety, speed,...) the national and international service provision of SNCB and makes it more competitive compared to other modes of transport, in particular transport by road. In this way, the project contributes to the development of a sustainable mobility. The improved international service provision of SNCB will also have an impact on the other modes of
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Transport		public	Acquisition of four-tension-locomotives	SNCB	Acquisition of four-tension-locomotives intended for warranting the continuity of SNCB's cross border services	Yes	start 2015	0.19	0.09	- lack of financing	To be able to maintain its offer of passenger cross-border services to the Netherlands (Amsterdam, Maastricht, Roosendaal), Germany (Aachen), France (Lille) and Luxemburg, SNCB has to order in the short term four-tension-locomotives (AC : 25kV and 15kV, DC : 3kV and 1,5kV) able to operate on several neighbouring networks concerned. These locomotives will be equipped with ETCS level 2 - baseline 3.
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Transport		public	Energy metering on electric traction equipment	SNCB	Installation of energy metering devices on SNCB's electric rolling stock	Yes	start 2015	0.02	0.02	- lack of financing	Energy metering devices on electric traction rolling stock provide an accurate image of the energy consumption per traction vehicle in a specific zone even in sections beyond national borders. These data can be used for the billing of the actual energy consumption of electric power within the frame of European developments where rules are determined in a TSI (Technical Specification of Interoperability) . This TSI determines, together with Euronorm EN50463, the
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MINISTRY OF ECONOMY

3.13

0.37

ENERGY UNION

2.30

0.17

Energy Union	Connections and production	public private	MYRRHA	SCK•CEN	<p>The MYRRHA (Multi-purpose hYbrid Research Reactor for High-tech Applications) Project aims at establishing at the Belgian Nuclear NuclearStudy Center in Mol, Belgium, a state-of the art research infrastructure with the main objective of providing the research community with a highly performing and versatile installation (fast spectrum irradiation facility) that would serve inter alia the following purposes:</p> <ul style="list-style-type: none"> • Demonstrate the feasibility of accelerator-driven systems 	Yes	in preparatory phase for implementation . Detailed Engineering and realisation to be started in 2018	1.50	0.15	<p>- lack of confidence and risk-taking in the private sector - lack of long term Policy commitment - lack of European licensing uniformity</p>
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Energy Union	Energy's storage; Grid regulation; Interconnection	PPP	CEES (Coordinated Electric Energy Storage)	SPF Economie – Direction Générale de l'Energie	The balance of the electrical grids and their possibilities of regulation constitute today, for the states and the stakeholders of the sector, a major subject of concern. The evolution of the means of production and the increase in the share reserved for wind and solar energy make necessary the implementation of particular installations, making it possible to overcome the intermittent and nonforeseeable character of these energies: the Pumped-Hydro Storage (PHS).By their storage capacities and their important	Yes	Project under development	0.8	0.02	Partnership under construction. New stable regulatory framework to introduce to build a good climate of investment.
SOCIAL INFRASTRUCTURE								0.83	0.20	

Social Infrastructure	Health	public	Mo99 radioisotope	SCK•CEN, IRE	Producers (SCK•CEN), processors (IRE) and other participants in the global supply chain of molybdenum-99 are facing an unstable economic structure that is threatening long-term security of supply of the vital medical radioisotope. Belgium is committed to invest in its production infrastructure to secure the supply of Mo99 until at least 2025-2030, contributing to the health of millions of EU citizens BR2 refurbishment (SCK•CEN):75 MEUR New state-of-the-art	Yes	Advanced phase. First investment will take place early 2015. BR2 refurbishment will have to be finished in 2016	0.53	0.10	- Market of radioisotopes is not properly functioning to foster new investment - lack of confidence and risk-taking in the private sector - lack of long term Policy commitment
Social Infrastructure	Health	public private	NEXTGEN radioisotope	SCK•CEN	Bringing to market the next generation of therapeutic radioisotopes based on innovative radioisotopes (alpha emitters)	Yes	Final phase before pilot scale production	0.30	0.10	- lack of confidence and risk-taking in the private sector

BELGIAN INSTITUTE FOR POSTAL SERVICES AND TELECOMMUNICATION

0.012

0.005

KNOWLEDGE AND THE DIGITAL ECONOMY

0.012

0.005

Knowledge and the Digital Economy	ICT	public-private	White spots coverage	BIPT	Purpose is to provide broadband services and to cover white spot areas in Belgium. Covering white spots is an extensive investment into infrastructure development aimed at providing new generations services in rural areas. White spots which are today without any broadband services access whatsoever, and where about thousands people live. This project should contribute to the digital agenda targets.	Yes	Identification phase	0.012	0.005	La couverture de certaines zones rurales ne sera jamais réalisée faute de rentabilité. Il est indispensable de créer des incitants financiers afin de pousser les opérateurs à déployer des infrastructures et d'offrir du haut débit aux entreprises et citoyens.
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MINISTER IN CHARGE OF THE NORTH SEA

0.020

0.002

ENERGY UNION

0.020

0.002

Energy Union	Renewable energy	private project however the need of public participation is needed	iLand, the Energy Atoll	CREG as regulator will endorse the project	Purpose is to boost renewable energy integration by providing an innovative, offshore, large scale energy storage island. The energy storage island will also play an important role in the security of supply in Europe.	Concession permit has been applied for	0.020	0.002	Due to the growing integration of renewable energy sources, the balancing of the power grid becomes a critical issue. If not dealt with properly, this may lead to problems in security of supply and to eventual black-outs. Hydro-electric energy storage, as provided by iLand, is an important, green way of solving the balancing problem.	This project is the first of its kind worldwide, and has the potential to become an important export product for the European economy. Besides R&D, it will also create important employment, both during installation as during operation.
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<u>NATIONAL INSTITUTE FOR HEALTH AND DISABILITY INSURANCE</u>							10.00	10.00		
<u>RESEARCH AND INNOVATION</u>							10.00	10.00		

Social Infrastructure	Health	public private	Teledermatology	eHealth (www.ehealth.fgov.be) and the National Institute for Health and Disability Insurance (www.riziv.fgov.be)	Fast, safe and effective communication between healthcare providers, mainly general practitioners and dermatologists, via the internet and specially developed smartphone and tablet applications ("apps") for skin related pathologies (exchange of photos, diagnoses and therapies). According to the British Medical Journal (2011), teledermatology applied following patient selection by general practitioner in daily practice improves efficiency and	No	Research phase	2.00	2.00	
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Social Infrastructure	Health	public private	Medical e-communication	eHealth (www.ehealth.fgov.be)	Fast, safe and effective communication between healthcare providers and patients via the internet (exchange of lab reports, medical imagery, drug schemes, vaccination statuses, etc.).	No	Developing phase	8.00	8.00	
<u>BELGIAN SCIENCE POLICY OFFICE</u>								0.95	0.37	
<u>KNOWLEDGE AND THE DIGITAL ECONOMY</u>								0.50	0.21	

Knowledge and the Digital Economy	ICT Infrastructure	public private	Numérisation du patrimoine scientifique et culturel des Etablissements scientifiques fédéraux (ESF) et de la Cinémathèque royale de Belgique	BELSPO (Belgian Science Policy Office)	L'objectif du projet est d'accélérer le processus de numérisation des collections des ESF et de la Cinémathèque Royale (qui constituent une part majeure du patrimoine mondial dans de nombreux domaines) afin de les rendre plus accessibles (notamment au grand public, aux chercheurs) et plus exploitables, tout en assurant la préservation à long-terme du patrimoine numérisé. A ce stade, il s'agit d'un projet public de taille limitée (31 millions EUR pour 2014-	Yes	Première phase du projet lancé en janvier 2014	0.39	0.10	Le volume important de ces collections, leurs grandes variétés (divers types de documents papier, de prises de vues, d'objets 3D, de matériel audiovisuel) et dès lors le manque de ressources financières nécessaires pour les numériser rapidement à grande échelle. Toute la problématique des droits d'auteurs (droits voisins, droits à l'image, ...).
NATURAL RESOURCES AND ENVIRONMENT								0.06	0.06	

Resources and environment	Natural resources: efficient and secure availability	public	Regional research vessel	BELSPO (Belgian Science Policy Office)	The objective of this project is to build a state of the art regional research vessel (65m) that would primarily operate in the North Eastern Atlantic region. The vessel is an answer to current and future needs in Belgium, France and the Netherlands. As such, the vessel would be operated in an European setting inducing further collaboration between these member states and could serve as a role model for future European wide collaboration in the exploitation of research vessels. As	yes	The preliminary design study and identification of the needs has been done.	0.06	0.06	The Belgian Federal government would be the principal operator of the ship. A good exploitation model would need to be developed allowing European collaboration and exchange of ship time e.g. by offering yearly a number of campaigns days (approximately 100). With the private sector, a cost based model must be developed.
<u>FLEMISH REGION</u>								30.97	12.33	
<u>TRANSPORT</u>								6.66	2.40	

Transport	Corridors and missing links	public private	Antwerp ring way	Beheersmaatschappij Antwerpen Mobiel (BAM)	Antwerp ring way	yes	Under consideration	3.5	1.0	This huge project is already known by EIB in a previous structuring-scheme. However, plans had to be reviewed, in order to reduce the environmental effects on the one hand and to cope with the recommendations and positions of the EU (Commission and Eurostat), on the other hand. Current contacts with the EIB will comment the changes and hopefully will confirm the positive attitude of EIB : indeed, concentration of this amount of financial means in a
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Transport	Corridors and missing links	public	New Lock Terneuzen	The Dutch and Flemish minister of infrastructure agreed in 2012 that: The Netherlands will contribute 141.9 million euro. - The government of Flanders will add to the actual costs. The Ghent Port Authority will contribute 15% of the Flemish contribution to the project (max. 120 million euro). Zeeland region will contribute 10 million euro of the Dutch contribution of the project.	The project new lock Terneuzen is a Dutch-Flemish flagship project which aims to improve the access for shipping to the Canal Ghent-Terneuzen and the ports of Ghent and Terneuzen. The project is expected to have a big positive economical impact in the area. The new lock will be constructed in the actual lock complex of Terneuzen.	Yes	The Dutch and Flemish minister of infrastructure decided in 2012 to start up the planning phase of the project. The planning phase has to result in a tender ready project and a preferred design of the new lock. The planning phase is expected to end in 2015-2016 and will be followed up by a realization phase.	1.1	0.2	The project organization is currently preparing tender documentation for a D&B contract. CEF/TEN-T financing will be requested for the realization phase of the project. Due to the investment needs (for example Port of Ghent has to finance their 15% share in the Flemish contribution) EU/EIB support is critical.
Transport	Corridors and missing links	public private	North-South Limburg	Via-Invest	Connection in the province of Limburg	yes	Currently tendered (prequalification done, in bid submission phase)	0.6	0.2	Larger PPP project will be difficult to fund through club deal hence EIB loans or credit enhancement instruments at attractive terms may facilitate PPP
Transport	Urban transport	public private	brabo 2	De Lijn	tram & tramway infrastructure	Yes	procurement phase	0.4	0.4	EIB loans or credit enhancement instruments at attractive terms may facilitate PPP

Transport	Corridors and missing links	public private	N60 (Ronse)	Via-Invest	Ringway Ronse	yes	Currently tendered (prequalification done, in bid submission phase)	0.2	0.1	EIB loans or credit enhancement instruments at attractive terms may facilitate PPP
Transport	Corridors and missing links	public private	R4 East and West	Via-Invest	The upgrade of the remaining intersections of the R-4 ring road	yes	Upcoming	0.2	0.1	Larger project with more thorough approach and potential improvements for the mobility around Ghent and for the Ghent port region might prove to be more value for money. If (long term) financing support from EIB would be available, EIB/EC would provide a clear signal that a more thorough approach for road infrastructure projects, including its full lifecycle, would prove to be beneficial over a longer period of time.

Transport	Corridors and missing links	public private	R0	Via-Invest	The optimization of the ring road around Brussels in Zaventem	yes	Upcoming	0.2	0.1	Larger project which combines two sections of the Brussels ringroad might prove to be more value for money but due to the complexity of the larger project, the higher financing requirements and commitments only one smaller part of the project is scheduled to be realised within the proposed 2015-2017 time frame. If (long term) financing support from EIB would be available, EIB/EC would provide a clear signal that this would be a key project for Brussels and
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Transport	Corridors and missing links	public private	PPP Bridges Albert Canal	Via-Invest	The upgrade/raising of 15 bridges over the Albert Canal	yes	Procedure to be	0.1	0.1	Particular asset class in PPP might hamper (long term) private project finance fund flowing to the project. EIB loans or credit enhancement instruments at attractive terms may facilitate PPP
Transport	Corridors and missing links	public private	N8	Via-Invest	The upgrade of the N8 leper Veurne	yes	Upcoming	0.1	0.1	Permitting problems - appeals with council of state
Transport	Corridors and missing links	public private	Dampoort / Steenbrugge brug	Via-Invest	The upgrade of a bridge and lock around Bruges	yes	Upcoming	0.1	0.1	Particular asset class in PPP might hamper (long term) private project finance fund flowing to the project. EIB loans or credit enhancement instruments at attractive terms may facilitate PPP
Transport	Urban transport	public private	ITS roads	MOW	intelligent transport systems	no	development phase,	0.2	0.005	EIB loans or credit enhancement instruments at attractive terms may facilitate PPP
ENERGY UNION								14.66	4.12	

Energy Union	Connections and production	private	offshore wind parks (Norder, Rentel, Seastar, Mermaid, Northwestern)	PMV	5 offshore wind parks were concessions have been granted and that are required to support Belgium to achieve its renewable energy targets		development phased, Financial closes expected in 2016 & 2017	4.8	2.0	Huge financing needs for offshore wind. All projects will be difficult to fund through private funding hence EIB loans or credit enhancement instruments will prove useful in getting the projects closed.
Energy Union	Connections and production	public private	Offshore electricity storage project (based on pumped hydro system)	PMV / Electrabel / Deme	4 hours at 500 MW storage (both generating and storing electricity), hence 2000MWh		Financial Close expected in 2017	1.3	0.5	Large financing requirement for innovative project outside the typical project finance market and unfamiliar for lenders. EIB lending or credit enhancement instruments might take away the perceived higher risk profile of this project to have it financed at optimum pricing.

Energy Union	Connections and production	public private	Belgian offshore grid	PMV/Elia/Plug@Sea	Joint offshore grid connection for 4 offshore windparks	Yes	development phase, to be realised in 2016	1.0	1.0	Large financing requirement for atypical project structure and cash flow. EIB lending or credit enhancement instruments might take away the perceived higher risk profile of this project and have it financed at optimum pricing.
Energy Union	Connections and production	private	Nobelwind	Parkwind (Colruyt, PMV,...)	offshore wind park of 165MW (2nd phase of Belwind)		development phase, to be realised in 2016	0.5	0.5	Large financing requirement. EIB lending or credit enhancement instruments might take away the perceived higher risk profile of this project and have it financed at optimum pricing.

Energy Union	Connections and production	private	Deep Geothermal Flanders	SPV Balmatt	deep geothermal network (1 GW)		development phase, to be realised in 2015	7.0	0.1	Large financing requirement. EIB lending or credit enhancement instruments might take away the perceived higher risk profile of this project and have it financed at optimum pricing.
Energy Union	Energy efficiency in buildings	public	Revolving Fund Energy Loans	Vlaams Energieagentschap	a widely accessible revolving fund for energy efficiency investments for all dwellings with a poor energy performance based on EPC	No	Further expansion of an existing program	0.1	0.1	lack of both public and private financing for energy efficiency investments in residential dwellings => Loan of EIB could support revolving fund providing loans to finance these investments

NATURAL RESOURCES AND ENVIRONMENT

0.79

0.38

Resources and Environment	Natural resources: efficient and secure availability	public private	Closing the Circle	Private promoter with industrial and European R&D consortia	Plasma Demonstration Plant implementing Enhanced Landfill Mining and its key waste and resource upcycling technologies demonstrating that landfilled waste can be upcycled to secondary raw materials and renewable energy.	Yes	Project under development (planning and permitting) target to go live beginning of 2017	0.30	0.05	Lack of financing possibilities given limited returns of demonstration plant due to downscaling disadvantages and emerging markets not developing rapidly enough (hydrogen, foamglass and alternative cements building products). A combination of EC grants, EIB and national grants/incentives as well as private capital is envisaged.
Resources and Environment	Resilience to Climate Change	public private	Coast defence plan	MOW and PMV	Improvement of the coast line of Flanders by uplifting the current coast line level	yes	Under consideration	0.22	0.20	Particular asset class in PPP might hamper (long term) private project finance fund flowing to the project. EIB loans or credit enhancement instruments at attractive terms may facilitate PPP

Resources and Environment	Natural resources: efficient and secure availability	public private	Water purification	Aquafin N.V.	On-going process of extending water-purification equipment	Yes	On going for the period 2015 2016; financial resources : to be planned for the period 2017 2018	0.20	0.10	Current financial plans are covered by EIB, for a 50 %-proportion (for the period 2015 2016). For the next period (2017-2018), a same investprogram me is foreseen; possible retreat of EIB out of the financial consortium would seriously hamper this program
Resources and Environment	Natural resources: efficient use and secure availability	public private	Blue Gate Antwerp	PMV / City of Antwerp / Flanders	The site of 113 ha is the most important remediation project in redevelopment in Flanders. The realisation of an inland flood protection along the river Schelde and the explicit ambition of the promoters to make this site an example of low carbon energy generation and the integration into networks, is anchoring this site within several key sectors detected by the Taskforce.	No	First investment phase is expected in 2016	0.07	0.03	The complexity of the projects, due to serious pollutions, in combination with the long completion times and the relative uncertainty about the P&L of this project affects the bankability of this regeneration project in a negative way. EIB lending or credit enhancement instruments (e.g. JESSICA funds) might help to tackle these financing issues.

RESEARCH AND INNOVATION							0.50	0.27		
Knowledge and the Digital Economy	Private R&D	private	Avantium	PMV	company developing novel, sustainable beverage packaging solutions	no	investment decision pending final due diligence	0.20	0.15	Large financing requirement to develop the project at scale
Knowledge and the Digital Economy	Private R&D	private	etheRNA	PMV	company developing a disruptive method for modulation of the immune system to combat cancer	no	investment decision pending final due diligence	0.10	0.02	Large financing requirement for an early stage project with substantial risk associated

Knowledge and the Digital Economy	Private R&D (innovation and industrial infrastructures)	private and public-private	Industrial Transformation	Department EWI & PMV	A programme for transformation of industry is conducted through capital investment of the public investment company PMV (TINA) in industrial projects that are set-up by consortia of companies that co-invest in new pilots and new value chains (Made Different). One of the criteria for public leverage is a connection with international value chains; such projects are prepared in the industrial pilot and demonstration network actions of the Vanguard Initiative for	no	A dedicated Investment Fund (TINA) has started. The new investments will be geared towards the priorities for industrial transformation.	0.20	0.10	Good investment projects for transformation through open innovation are more risky and require additional coordination. Public resources are limited while transformation A public-private co-investment enables risk-sharing (and sharing roadmaps). The European leverage through EIB will improve the international complementarities.
SOCIAL INFRASTRUCTURE								8.36	5.16	

Social Infrastructure	Built environment and urban services	public	Social housing program	VMSW + locally organised entities	On going process of extending social-housing programs	Yes	On going, although the needs for the coming period exceeds more than 3 mln €, an amount which is not yet contracted and currently under review, to verify if this amount is budgetary sustainable and fulfills the priorities of the Government	3.10	1.00	The co-funding by EIB/EIF will increase the leverage effect of the regional funding and project is a Flemish contribution to the construction of a new industrial infrastruce
Social Infrastructure	Health	private	Hospitals on the VIPA waiting list for infrastructure subsidies	VIPA	Detailed list: see appendix	no	Plans, but yet no approval for subsidies	2.50	2.50	The list in enclosure consists of requests, not yet decided and could therefore be reduced, due to lacking budgetary means and the necessity to avoid any overcapacity. Budgetary problems would increase, without attractive EIB-financing. Strengthening budgetary EU-rules also have hampering effects on the level of possible investments.

Social Infrastructure	Health	private	Elderly care homes	VIPA	Detailed list: see appendix	no	Plans, but yet no approval for subsidies	1.00	1.00	The list in enclosure consists of requests, not yet decided and could therefore be reduced, due to lacking budgetary means and the necessity to avoid any overcapacity. Budgetary problems would increase, without attractive EIB-financing. Strengthening budgetary EU-rules also have hampering effects on the level of possible investments. Individual investments by the different private operators are moderate and could hinder EIB-financing. Therefore, the
Social Infrastructure	Health	private	ZNA vzw	VIPA	construction of new hospital of AZ Antwerp-North and covered parking lot	No	Approval for subsidies - ready to start construction	0.25	0.25	Loans for those necessary, long amortization periods, concentrated on one debtor are difficult to obtain from one/two banks, if EIB would not step in.

Social Infrastructure	Health	private	Ziekenhuis Maas en Kempen vzw	VIPA	construction of new general hospital	no	Approval for subsidies - ready to start construction	0.11	0.11	Loans for those necessary, long amortization periods, concentrated on one debtor are difficult to obtain from one/two banks, if EIB would not step in.
Social Infrastructure	Education and training	public private	School building	Agion	School building -extension and renovation are subsidised by the Government through the Agion-Agency; however subsidies does not cover the global construction cost; in average, 30 % (primary schools) or 40 % (secondary schools) of investment has to been covered by the Schools	No	The program is running since a long time; however needs remain very high (around 4,1 bn € investments are pending, of which around 1,4 bn € should be financed by the Schools theirselves; it is for this part, Agion would welcome EIB financing, by setting up a adequate administrative structure.	1.40	0.30	Long-term amortisation request Schools to finance theirselves on a long term, which is rather expensive and difficult to obtain. EIB-cofinancing would release those barriers and could also have an lowering effect on interest-costs. Strengthening budgetary EU-rules also have hampering effects on the level of possible investments. Individual investments by the different private operators are moderate and could hinder EIB-financing. Therefore, the implementing

WALLOON REGION

9.304

5.376

RESEARCH & INNOVATION

1.041

0.140

Knowledge and the Digital Economy	R&D&I		Development of Innovation	Ministry of Economy of the Walloon Region	1) Proton therapy The region has decided to invest in research and development leading to the construction of a proton therapy center in Charleroi. This initiative responds to an important societal and health need in the sub-region, but it will be available to the entire region or neighbouring regions. 2) VERDIR VERDIR is a pole of excellence dedicated to urban agriculture through an innovative platform of the existing competitiveness clusters	Yes	Some works have already begun and may be stopped by lack of funds. The other cases are finalized at the stage of sketches and building plans by architect offices. Financial plans are mostly being the subject of study. These records have been thoroughly examined by the Administration of the Walloon Region and have been approved or are pending for approval by the Minister of Health in the Walloon Region.	1.0	0.140	Problem of return for projects with a high social or societal added value. A possible solution is to turn to public-private partnerships, but the public share remains high, at least in the early stages of the projects.
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Knowledge and the Digital Economy	ICT Infrastructure		Smart Cities	Walloon Ministry of Economy	This programme was launched in 2013. It aims to equip the pilot cities with Wi-Fi connections for the public.	Yes	The pilot projects will be extended to 102 cities with more than 10,000 inhabitants	0.04		Lack of resources and high costs
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HEALTH and CARE

1.215

0.445

In order to establish the Walloon project reserve for the EC-EIB-EM Task Force, Wallonia has decided to include a series of projects in the health and hospital care sector.

In view of the project eligibility criteria defined by the TF, the projects presented below, in the form of clusters, are relevant:

1. Compliance Criterion: They are fully consistent with the EU multi-year action « Health for Growth » programme. As stated in the Europe 2020 Strategy « promoting good health is an integral part of the smart and inclusive growth objectives » and « innovation in healthcare helps take up the challenge of sustainability in the sector in the context of demographic change ».
2. Economic viability criterion: In the short term, the proposed initiatives provide jobs in the construction and civil engineering. In the medium term, the benefits are clear: the good health standard of a population is critical for developing its economic potential. This moreover a highly innovative sector, representing approximately 10% of EU's GDP and employing about 10% of the workforce.
3. Calendar criterion: These projects are in the pipeline or ready to be implemented, budget issues being the essential reason why they are standing on hold. The term for the early operational phases is very much achievable through the provision of necessary funds.
4. Leverage effect criterion: The funding of hospital infrastructure, to a great extent run by private organizations, may be organized through a co-funding by private hospitals. In addition, the development of treatment areas beyond the simple hospital setting (economic microwave, services up- and downstream of the strict hospitalisation etc ...) are able to generate the additional private investment.
5. Volume criterion: These projects, although perfectly integrated in a development strategy at the European level, are "manageable" for the Walloon authorities and the hospital institutions which both have the human and technical resources to carry them out.

Health	Hospitals	Public and Private	Plan for the reconstruction and the modernization of health infrastructure	Public and Private Hospitals	<p>The reconstruction aims at :</p> <ul style="list-style-type: none"> - enhance patient comfort and to create an appropriate framework for the work of health professionals in hospitals; - allow the reorganization and modernization of hospital activity by concentrating on a limited number of medical implantations to achieve economies of scale; - help boost the economy through investment in the construction sector; - create an environment favourable to the 	Yes, partially	<p>Some works have already begun and may be stopped by lack of funds. The other cases are finalized at the stage of sketches and building plans by architect offices. Financial plans are mostly being the subject of study. These records have been thoroughly examined by the Administration of the Walloon Region and have been approved or are pending for approval by the Minister of Health in the Walloon Region.</p>	1.05	0.347	<p>Barrier: The Belgian federal government transferred the building investments to the federated entities (including the Walloon Region) under the sixth State reform. Given the budgetary efforts of the federal government (fiscal consolidation of public authorities), the amounts transferred to federal entities can cover the investment costs of the past (33 year amortisation), but do not allow the establishment of a comprehensive plan to build on a large scale.</p>
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Health	Rest Houses		Construction and expansion plan of Rest Houyses and institutions for the elderly	Public and private associative institutions for the care of the elderly (Nursing homes / Nursing and care homes	This reconstruction plan is primarily intended to meet the need of the elderly, due to an aging population. It aims to diversify the modes of residential care for the elderly through the creation of care devices suited for them. Finally, this plan, while meeting societal needs, must allow economic recovery through investments in the construction sector.		Construction plans are finalized. Projects may start between 2015 and 2017.	0.17	0.10	The Region is limited in its investment ability for the coming years, given its efforts to return to a balanced budget. Banking institutions are reluctant to invest in large construction projects. The SEC borrowing limit restricts the Walloon regional policy in terms of investments
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TRANSPORT

4.282

1.948

In order to establish the Walloon project reserve for the EC-EIB-EM Task Force, Wallonia has decided to include a series of projects in the transport sector, composed of two sub-sectors: road transport and waterways transport.

In view of the project eligibility criteria defined by the TF, the projects presented below, in the form of clusters, are relevant:

1. Compliance criterion: They enter the general framework of the development of trans-European transport networks, a European priority since the late 80s and the objectives for the creation of the internal market and the strengthening of European cohesion. Integrating the projects below would complete the existing European intervention via the new 2014-2020 financial framework "Connecting Europe Facility". Wallonia is, in whole or in part, involved in 3 of the 9 core network corridors: North Sea - Baltic, North Sea – Mediterranean and Rhine -

2. Economic viability criterion: In the short term, the proposed works provide jobs in the construction, civil engineering and research sectors. Once the projects are completed, the presence of “employment routes”, facilitating access to areas of economic activity, will ensure a positive return on investment in terms of creating economic activity in the region. Dredging and upgrading waterways will make our inland ports more attractive, and will include a significant benefit in terms of environmental impact, sustainable economic development and improvement of road safety through the reduction of transport by truck in favour of transport by ship. Similarly, all the customization meant to enhance the free flow, particularly urban, of traffic, in one of the most densely populated areas in terms of traffic within the EU obviously has economic, social and ecological impacts.

3. Calendar criterion: These projects are in the pipeline or ready to be implemented, budget issues being the essential reason why they are standing on hold. The term for the early operational phases is very much achievable through the provision of necessary funds.

4. Leverage effect criterion: Improving the attractiveness of areas of economic activity and facilitating their access will act as a catalyst for private investment and for the establishment of private companies in our region. The completion of these projects will facilitate the realization of our economic objectives, accompanied by our regional Marshall Plan policy. It will have a direct impact on, in particular, three of our six regional competitiveness clusters: Logistics in Wallonia, MecaTech and Skywin.

5. Volume criterion: These projects, although perfectly integrated in a development strategy at the European level, are “manageable” for the Walloon authorities which have the human and technical resources to carry them out.

Transport	Road network		Rehabilitation plan for road infrastructure	SOFICO (in collaboration with the Walloon Ministry of Public Works)	Extension, rehabilitation and upgrading of the TEN-T road and highway infrastructure crossing Wallonia and therefore located on European corridors. The rehabilitation of these axes is essential to ensure user security and mobility. The Route plan initiated in 2010 has come to an end and the launch of a new plan will have two important socio-economic impacts: - In the short-term, guaranteed direct and indirect jobs in a sector (construction)		60 projects of + € 3 M by the next 5y.	1.142	0.8	Lack of resources + ESA borrowing limit
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Transport	Road network		Intelligent Highways	SOFICO (together with the wallon Ministry of Public Works and the wallon Ministry of Economy)	For a better traffic management and safety, it is essential to modernize the Walloon electromechanical highway equipment (TEN-T networks and European corridors). The proposition is to create a public-private partnership over 20 years for the rehabilitation of these facilities in a global project involving three complementary components: 1) Light Plan Rehabilitation of public lighting of the entire structuring network by the use of modern technologies enabling		Planned. Procurement process to start – planned 2016-2017	0,875 over a 20 years period	0,195 for the first 3 years	Lack of ressources + ESA borrowing limit
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Transport	Road network		Comforto Plan	SOFICO (in collaboration with the Walloon Ministry of Public Works)	Arrangements enabling buses to circulate on the hard shoulder, concerning the motorway connections, to ensure the service frequency and timeliness on the following motorway sections: Arlon-Luxembourg (E25), Herstal - Loncin (E40) and Waterloo - Leonard crossroad (Brussels East Ring R0)			0.025	0.025	Lack of resources + ESA borrowing limit
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Transport	Road network		Road to Employment Plan	SOFICO (in collaboration with the wallon Ministry of Public Works and SOWAER for the accessibility of airport zones)	Support the development of the accessibility of activity clusters and the “motorways to employment” directly connected to the TEN-T network and European corridors - activity areas (bypass of Wavre, Liège CAREX: European rail freight project) - airport platforms (Liège and Charleroi) - multimodal centers (Trilogiport and Garocentre) - hospitals (Liège and Charleroi)			0.2	0.2	Lack of ressources + ESA borrowing limit
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Transport	Road network		Parking area Plan	SOFICO (in collaboration with the Walloon Ministry of Public Works)	Development of parking areas near highways for: - individual vehicles (multimodality to urban centers, workplaces, wifi, ..;) - carpooling - heavy vehicles (adjusted and secured parking supply at strategic locations (where major transit routes meet and border areas)			0.15	0.15	Lack of resources + ESA borrowing limit
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Transport	Road network		Develop high Service Level (LHNS) and Environment-friendly lines	SRWT, SPW	<p>A structuring urban public transport contributes to traffic and parking control and the reduction of urban sprawl. Its development in the Walloon towns should be pursued with the introduction of high capacity solutions and higher commercial speed, such as high service level lines - LHNS. Particularly in Charleroi for the connection between the south station and the BSCA airport. On the other hand, this line could be operated with eco-friendly rolling stock: acquisition of</p>	No	<p>Preparatory stage, pre-study partially realized. Final studies in 2015; Procurement as from 2016; delivery of the buses and start of the works (stations and LHNS facilities) as from 2017.</p>	0.29	0.14	<p>A sufficiently high commercial speed is necessary to ensure the attractiveness of public transport, which is not always the case when the buses are integrated into traffic. The LHNS can provide solutions by reducing or eliminating barriers to the progress of buses, while their capacity can be increased (e.g. bi-articulated buses) with own lanes where this is possible, remote controlled lights etc. ... Compared to the tram, a LHNS remains</p>
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Transport	Waterway transport	Canal Chaerleroi- Brussels	Walloon Ministry of Public Works	<p>Rehabilitation of the inclined plane of Ronquières and of the 1F, 2F and 3F locks.</p> <p>Two important socio-economic impacts:</p> <ul style="list-style-type: none"> - In the short term by the direct and indirect employment guarantee for the completion of the works in a sector that is suffering greatly from public underinvestment - In the medium term, ensuring waterway mobility, promoting a greater economic development of Wallonia. 			0.09	0.06	Lack of resources + ESA borrowing limit
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Transport	Waterway transport		Seine-Escaut Connexion	Walloon Ministry of Public Works	<p>Upgrading the 2000T (class IV) of the France-Wallonia-Flanders Port of Antwerp connection (axis of European waterway transport)</p> <p>Two important socio-economic impacts:</p> <ul style="list-style-type: none"> - In the short term by the direct and indirect employment guarantee for the completion of the works in a sector that is suffering greatly from public underinvestment - In the medium term, ensuring waterway mobility, 			0.29	0.08	Lack of resources + ESA borrowing limit
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Transport	Waterway transport		Monsin Dam	Walloon Ministry of Public Works	<p>Rehabilitation in order to ensure the fluvial connection 1350 T, between the Seine-Scheldt and the Meuse/Rhine-Main-Danube axes</p> <p>Two important socio-economic impacts:</p> <ul style="list-style-type: none"> - In the short term by the direct and indirect employment guarantee for the completion of the works in a sector that is suffering greatly from public underinvestment - In the medium term, ensuring waterway mobility, 			0.03	0.03	Lack of resources + ESA borrowing limit
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Transport	Waterway transport		Dredging of the river transport network - Waterways Dredging priority programme	Walloon Ministry of Environment and Walloon Ministry of Public Works	Developing multimodal sites (such as Trilogiport) and a large model of the waterway system that drains Wallonia, and develop the interconnection of European inland waterway network. This translates into an ambitious dredging programme and investment in structures. Develop a plan for dredging, maintenance and development of the waterways to allow an additional transport mode to the road for a series of products, materials and	Yes, Marshall Plan n°1 and 2,green	Balance of the 2016-2020 programme - Planning, license and procurement completed in 2015 - Start dredging in 2016 - Dredging programme ends in 2020.	0.20	0.08	The lack of long-term financing + coordination problems leading to possible delays. A combination of grants from the EC, EIB and MS Finance is considered. A project management unit will supervise the planning and implementation of the project under the close supervision of the promoter and the concerned ministries.
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Transport	Waterway transport		Navigable waterways Decontamination of industrial wasteland: waterways cluster	Walloon Ministry of Environment	Decontamination of polluted plants bordering the navigable waterways	Yes, Marshall Plan n°1 and 2, green	Balance of the 2016-2020 programme	0.05	0.01	The lack of long-term financing + coordination problems leading to possible delays. A combination of grants from the EC, EIB and MS Finance is considered. project management unit will supervise the planning and implementation of the project under the close supervision of the promoter and the concerned ministries.
Transport	Railways			Walloon Ministry of Public Works	Improving connections between Brussels and Walloon main cities (Liège, Mons, Namur, Charleroi), including connections between BSCA terminal with lines 124 and 140, and between Liege Carex with the high-speed rail.	YES- Multiannual investment plan 2013-2025 - SNCB		0,948 (cofinanced by the Walloon Region and the Federal Public Service	Walloon share: 0,180	Project acceleration
NATURAL RESSOURCES AND ENVIRONMENT								1.336	0.489	

Natural Resources and Environment	Water management and regeneration of industrial sites		Master plan for water production Rehabilitation of former industrial wasteland	Ministry of Environment - SWDE	The preservation of our environment and a controlled management of natural resources are key areas identified by both the European Commission in its EU 2020 Strategy, and the EIB task force. An innovative and ambitious policy on the production and distribution of water contributes to this objective. Through its water production master plan, the Walloon Region intends to secure the supply of water throughout the territory of the Walloon	Yes, Marshall Plan n°1 and 2, green	Water production master plan: some initiatives are already ongoing, others will begin in late 2014 - early 2015. Industrial wastelands: this project is part of a 2016-2020 programme. A partnership with private promoters is possible.	1.430	0.927	Water production master plan: if proper funding on the SWDE Fund = impact on the water price. Industrial wastelands: The lack of long-term financing + coordination problems leading to possible delays. A combination of grants from the EC, EIB and MS Finance is considered. A project management unit will supervise the planning and implementation of the project under the close supervision of the promoter and the related
SOCIAL INFRASTRUCTURE								1.430	0.927	

Social Infrastructure	Socail housing		DUR + 2000	Société wallonne du logement	Production of 2000 sustainable social housing units Creation of 2,000 sustainable social housing units to meet social demands in urban and peri-urban areas	Yes, Regional Policy Statement + Walloon sustainable development code + decisions by the Walloon government. Measures in line with the guidelines of the EU's Europe 2020 and Horizon 2020 plans	The identification of the projects is validated. The implementation modalities are finalized and effective. The project can be implemented without delay	0,260 (for 2000 units)	0.18	
Social Infrastructure	Built Environment and urban services		Live Together	Société wallonne du logement	Community infrastructure and appropriation of public spaces	Yes, Regional Policy Statement + Walloon sustainable development code + decisions by the Walloon government. Measures in line with the guidelines of the EU's Europe 2020 and Horizon 2020 plans.	Is being prepared	0.13	0.08	

Social Infrastructure	training Institutions		Centre Wallonie-Picarde	FOREM (SPE)	The construction of a "Clean tech" center of expertise for job seekers, employees and students to gain skills in accordance to the social partners needs	Yes	Approval of land acquisition by the Inter-Communal Development Agency l'IDETA (4.887m²)	0.01	0.01	The plot of land was purchased but the lack of funds prevents the further development of the project as currently planned (project had to be frozen due to lack of ressources)
Social Infrastructure	training Institutions		La Maison des Langues	FOREM (SPE)	The "Maison des Langues" aims to develop language and multicultural skills of the Walloon population and promote a qualitative language teaching to meet business demands in line with the visibilisation of the Federation Wallonia-Brussels and of Wallonia on the European and global level.	Yes	Investment decision taken by the Walloon government on 03/04/2014	0.01	0.00	The project is on track in partnership with a university (UCL) but the lack of funds prevents the construction of the building as currently planned. (project had to be frozen due to lack of ressources)

Social Infrastructure	Built Environment and urban services		PIENS	<p>Regional Ministry of Housing</p> <p>Société wallonne du logement</p> <p>The SWL is a public interest organization, which provides, on behalf of the Walloon Government, the mentoring, counseling and assistance to 64 public housing corporations (SLSP).</p>	<p>Energy-efficient renovation plan for 20,000 social housing units in order to maximize energy efficiency.</p> <p>Performance goal of 90 kWh / year / m2, a consumption decrease of more than 30%.</p> <p>This project meets the European targets for energy efficiency and the reduction of carbon emissions.</p> <p>Social impact: reduction of the energy bills for low-income tenants.</p> <ul style="list-style-type: none"> • Analysis and prospecting via the land register / PAE & PEB • Sustainable and innovative 	<p>Yes, Regional Policy Statement + Walloon sustainable development code + decisions by the Walloon government.</p> <p>Measures in line with the guidelines of the EU's Europe 2020 and Horizon 2020 plans</p>	<p>An energy retrofit programme is in progress (12,000 units). Programme development: The identification of the housing targets and the proposed works is validated. The implementation modalities are finalized and effective. The project can be implemented without delay.</p>	0.80	0.60	
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Social Infrastructure	Built Environment and urban services		EQUIENTE Energy road equipment of the plots of land owned by SWL	Regional Ministry of Housing Société wallonne du logement The SWL is a public interest organization, which provides, on behalf of the Walloon Government, the mentoring, counseling and assistance to 64 public housing corporations (SLSP).	Development of the land for housing with energy innovation (heat recovery through the coatings and collective networks (heating - Integrated exchangers)	Yes, Regional Policy Statement + Walloon sustainable development code + decisions by the Walloon government. Measures in line with the guidelines of the EU's Europe 2020 and Horizon 2020 plans.	Existing scheduling based on an inventory showing the plots to be implemented in priority 1, priority 2 and priority 3.	Priority1: 0,067642 Priority 2: 0,047114 Priority 3: € 0,112417234		
Social Infrastructure	Childcare		Plan Cigogne III	Public service of wallonia – Local authorities DG + ONE	Multiannual programme in view of creating early childhood institutions and new home childcare places. Goals: - Responding to the demographic boom; - Creating jobs by promoting parental employability through increasing the home childcare places	Yes	Running investment programme		0.06	Lack of resources + ESA borrowing limit
ENERGY UNION									0	1.427

Energy Union Regulated Activities	Electricity		NA	ORES / TECTEO	RAB Evolution E (ORES part) The DSO has to invest in its network to ensure security	Yes	In progress. Investment decision taken and approved by authorities	Permanent	0.31	
Energy Union Regulated Activities	Gas		NA	ORES / TECTEO	RAB Evolution E (ORES part) The DSO has to invest in its network to ensure security	Yes	In progress. Investment decision taken and approved by authorities	Permanent	0.21	
Energy Union Regulated Activities	Energy efficiency in buildings (public sector & others)		Comptintel	ORES	Progressive implementation of Smart Meters in the Walloon Region	Yes	Planning in final stages and regulatory decision needs to be taken—pre-deployment start expected in 2016-2018. Full roll out expected from 2019		0.22	
Energy Production	Renewable Energy Production		On-shore and off-shore wind farms		Development of On- and Off-shore wind farms (Northern € 600M/3 years -> costs increase in 2016)	Yes	In progress		0.56	

Energy	Sport Infrastructure	Pool Plan	Infrasports (Public service of Wallonia)	Modernizing the Walloon pools -the majority of them was built in the 70s. They are energy consuming. Wallon goals , in partnership with local entities are: • Sustaining the park use to the public (leisure and health); • Reducing energy consumption by replacing lighting systems, building insulation and widespread cogeneration; • Improving the environmental impact and the users health by replacing the systems water treatment and air; • Creating jobs through playful	Yes	Renovation or replacement of 41 sites		0.13	Lack of ressources + ESA borrowing limit
<u>BRUSSELS REGION</u>						7.026	3.353		
<u>TRANSPORT</u>						2.883	1.249		

TRANSPORT	Urban transport	PPP	Brussels Parking Policy – PPP transit parking lots and local neighborhood car parks	Brussels Minister of Mobility and Public Works – Brussels Regional Public Service “Brussels Mobility” – private sector	Implementation of priority investments to promote mobility and the environment in the Brussels Capital Region and the Brussels Metropolitan Area by giving financial support to facilitate public-private partnerships for investment in the development and exploitation of 10.000 parkings (transit parking lots at the borders of the Region and at hubs for public transport as well as local neighborhood car parks).	yes	(1)Existing long term strategy (parking and mobility policy) ; (2)Existing list of possible locations for parking lots; (3)Regional Parking Agency created; Public tender prepared(from January 2015 onwards) (4) Construction first parking lots will start from 2017 onwards	0.425	0.320	BARRIERS: As a result of the financial crisis, either funding for large-scale private projects are limited, or risk-margins are too condiserable, which would mean an additional cost for the government. In order to achieve mobility targets through parking policy adapted tariffs should apply, which are lower than the commercial rates, both for transit parking (for instance discounts for holders of public transport passes) and the local neighbourhood car parks (discounts for local
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TRANSPORT	Urban transport	Public	Automation of Metro Lines 1 and 5 - PULSAR	Brussels Minister of Mobility and Public Works – Brussels Regional Public Service “Brussels Mobility” – Brussels Operator of Public Transport "STIB" - Collaboration between the Federal State and Brussels Capital Region "BELIRIS"	Implementation of priority investments to promote mobility and the environment in the Brussels Capital Region and the Brussels Metropolitan Area by giving financial support to facilitate public investment for the automation of metrolines 1 and 5 (vehicles, CBTC signaling, depot).	yes	(1)Existing program scope and planning ; (2)Existing specifications and public tenders; (3) Contract Awarding foreseen in 2015 (4) Gradual implementation as from 2017	0.808	0.666	<p>BARRIERS: As a result of public budget constraints, public funding of this large-scale project is uncertain or runs the risk of having to be phased over a longer period of time.</p> <p>SOLLUTIONS: An attractive funding through the EIB is an important lever to facilitate alternative investment methods.</p>
TRANSPORT	Urban transport	Public	Construction of new Metro Line Bordet -Albert	Brussels Minister of Mobility and Public Works – Brussels Regional Public Service “Brussels Mobility” – Brussels Operator of Public Transport "STIB" - Collaboration between the Federal State and Brussels Capital Region "BELIRIS"	Achieving accelerated implementation of priority investments to promote mobility and the environment in the Brussels Capital Region and the Brussels Metropolitan Area by giving financial support to facilitate public investment for the construction of new metro line Bordet -Albert (tunnels, stations, depot).	yes	(1)Existing itinirary defined ; (2)Existing study phase; (3) Contract awarding and start of the project foreseen in 2017	1.350	0.158	<p>BARRIERS: As a result of public budget constraints, public funding of this large-scale project is uncertain or runs the risk of having to be phased over a longer period of time.</p> <p>SOLLUTIONS: An attractive funding through the EIB is an important lever to facilitate alternative investment methods.</p>

TRANSPORT	Urban transport	PPP	Renovating and securing the tunnels for car traffic on the territory of Brussels Capital Region	Brussels Minister of Mobility and Public Works – Brussels Regional Public Service “Brussels Mobility” - Private	Implementation of priority investments to promote mobility and the environment in the Brussels Capital Region and the Brussels Metropolitan Area by giving financial support to facilitate public-private partnerships for investment for renovation and safety works of the tunnels for car traffic on the territory of Brussels Capital Region.	yes	(1)Existing scope and roadmap (2)Existing specifications; (3) Gradual renovation of the tunnels of the ring road as of 2015 (4) start of the renovation of the Leopold II tunnel end 2017	0.300	0.105	<p>BARRIERS: As a result of the financial crisis, either funding for large-scale private projects are limited, or risk-margins are too condiserable, which would mean an additional cost for the government.</p> <p>SOLLUTIONS: An attractive funding through the EIB is an important lever to attract private investors for accelerated investment in the renovation of the the tunnels in Brussels.</p>
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KNOWLEDGE AND THE DIGITAL ECONOMY								0.086	0.069
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Knowledge and the Digital Economy	ICT Infrastructure	public private	ICT RDI BRU	for the moment project proposed for ERDF funding RBC (ERDF cell)	This project has a main objective to capitalise from the existing strengths regarding ICT in the two main universities in Brussels (VUB & ULB), but also other ICT actors in the region, in order to establish a strong ICT center on the joint VUB-ULB campus.	Yes	en evaluation (under ERDF RBC)	0.018	0.006	project under evaluation (ERDF RBC) incertitude concerning to eligibility of costs (especially investment costs)
Knowledge and the Digital Economy	Public R&D	public	PARC TPE NEWTON	citydev.brussels	construction d'un parc TPE (très petites entreprises) d'ateliers axé sur les métiers de l'artisanat et du compagnonnage.	No	Investment decision not taken yet - promoter not chosen yet – – construction start expected in 2017/2018. The projects will open in 2018/2019.	0.003	0.003	coordination and permitting problems, leading to possible delays.
Knowledge and the Digital Economy	Public R&D	public	Sustainable Soft Skills	citydev.brussels	urban cluster together in a single building intellectual skills (soft skills) necessary to SMEs and start-ups active in the fields of sustainable construction, environmental and resource waste (Sustainable).	Yes	Planning and permitting OK – construction start expected in 2015/2016. The projects will open in 2017.	0.011	0.011	No particular problems leading to possible delays.

Knowledge and the Digital Economy	ICT Infrastructure	public	Regional Datacenter	Brussels Regional Informatics Center	Consolidation of variety of serverrooms of regional and local institutions into a cost and environmentally efficient datacenter that need to be build.	Yes	Operational business plan, planning and long term rent negotiation of the building in final stage.	0.026	0.026	Lack of short term finance. / A combination of EC grants, EIB and public capital.
Knowledge and the Digital Economy	Public R&D	public	MARCO POLO – Pôle PME	citydev.brussels	The objective is to develop a join project fully integrated in its context including housing and economics activity (mixed superimposed) while asserting itself as a new polarity of neighborhood.	No	Investment decision taken - promoter not chosen yet – construction start expected in 2017/2018. The projects will open in 2018/2019.	0.012	0.012	coordination and permitting problems, leading to possible delays.

Knowledge and the Digital Economy	Public R&D	public private	Open Data Institute	iMinds in cooperation with Brussels Regional Informatics Center	Creation of an Open Data Institute enabling a structural open data policy in all public organisations and stimulating new value creation on economic, societal and cultural level.	Yes	Fragmented initiatives currently exist but are not aligned, not structured and not exhaustive to unlock the full potential that offers open data.	0.010	0.005	Extreme fragmentation of initiatives and expertise, resistance of public actors, difficulty of centralised approach due to complex policy levels (township, regional, national, EU), lack of an expertise center, coaching, technical infrastructure and funds. / Creation of Open Data Institute offering technical infrastructure, coaching, expertise, financial support to organisations. Consolidating open datasets, creation of open web services in
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Knowledge and the Digital Economy	Public R&D	public	MAD Business center	MAD BRUSSEL	Business enterprise center for design and fashion Fashion and design represent in Brussel 19.000 direct and indirect workers	No	Planning - looking for a land or space	0.006	0.006	lack of business center to Support young graduated who launch a start-up of a spin off in the fashion/design sector - management guidance service and administrative Support for young enterprise in the design and fashion sector - working to make design and fashion unavoidable
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NATURAL RESOURCES AND ENVIRONMENT

0.051

0.061

Environment	Waste	public	renovation of infrastructure (depot)	ABP	renovation of infrastructure (depot)	yes		0.015	0.005	none
Environment	Waste/Energy	PPP	District heating	ABP	District heating using the brussels incinerator	no	feasibility study is completed.	0.008	0.008	none
Environment	Waste/Energy	public	electric truck	ABP	electric truck	yes		0.010	0.030	none
Natural Resources and Environment	Natural resources: efficient and secure availability	public	Hôtel d'entreprises Navez	citydev.brussels	The business hotel project on the theme of sustainable food is part of the process that aims to strengthen economic, social and territorial cohesion.	No	Investment decision taken - promoter not chosen yet – construction start expected in 2017/2018. The projects will open in 2018/2019.	0.007	0.007	coordination and permitting problems, leading to possible delays.

Natural Resources and Environment	Natural resources: efficient and secure availability	public	Parc PME agro-alimentaire Gryson	citydev.brussels	SMEs Park project focused on jobs of the "mouth" because of the close proximity of the campus CERIA. Indeed, this is a compatible industry with living quarters and employing a large workforce unskilled.	Yes	Investment decision taken - promoter not chosen yet – construction start expected in 2017. The projects will open in 2018.	0.006	0.006	coordination and permitting problems, leading to possible delays.
Natural Resources and Environment	Natural resources: efficient and secure availability	public	PARC PME Tweebeeek	citydev.brussels	SMEs Park project versatile, focusing in part on the business of the "mouth"	No	Planning and permitting OK – construction start expected in 2015. The projects will open in 2016.	0.005	0.005	No particular problems leading to possible delays.

SOCIAL INFRASTRUCTURE

2.737

0.786

Social infrastructure	Education and training	public	School infrastructure	Commission communautaire française (COCOF)	Creation of 1500 new places for students within COCF managed facilities	Yes	Investment decision taken	0.035	0.035	Estimated cost for the construction of a single building (land excluded) accomodating 1500 students is 35,206 m EUR
Social infrastructure	Built environment and urban services	Public/Private	Early Childhood care provideres	Commission communautaire française (COCOF)	Creation of 7500 new places in Brussel within the structures of early childhood care providers	Yes	Investment decision taken	0.118		1600 places should be funded by the COCOF. Cost estimates for the remaining 5900 places amounts to 118 m EUR

Social Infrastructure	Built environment and urban services	public	Renovation/Development of the Brussels fire department infrastructure	Brussels Region/Fire department (SIAMU)	facing the growth of Brussels, necessity of a more efficient coverage by the fire stations; renovation and construction of low-energy-consuming fire stations (1 central and 4 delocalized ones)	No	Renovation plans in process	0.100	0.100	Lack of budgetary and financial means in the regional budget
Social Infrastructure	Education and training	public private	Fiber-to-the-School	Public-private SPV	Connecting 163 secondary schools and 420 primary schools to fiber optic network.	Yes	28 secondary schools connected in 2014. Target 100% secondary schools connected in 2019 and 420 primary schools in 2025	0.076	0.016	Lack of long term finance + time consuming coordination and permitting procedures. / A combination of EC grants, EIB and public capital. Project is conducted by a public private SPV .

Social Infrastructure	Education and training	public private	YouthBuild Brussels	Confederation of constructor	Create a new school whom deliverd construction cursus based on apprenticeship schemes and work-linked training in enterprise Sharing of know how , The school will propose formation that doesn't exist in the public school because of the cost of the technology	No	Planning and analysing several land in Brussel to implant the school	0.050	0.050	Partnership between public school and the private constructor enterprise. Construction enterprise have difficuly to engage qualified and motivated employee Young unemployement rate in Brussel :30% due to under qualification
Social Infrastructure	Education and training	public	Advanced technologic center	CoCoF	School equipment for qualifying education Center of formation whit high advanced material in partnership with professional sector Completing the material in other technology and renewed the old material	Yes	planning for 2015-2016 if budget	0.008	0.008	qualifying education don't have enough higt efficient material to form student

Social infrastructure	Built environment and urban services	Public/Private	Early Childhood care providers	Vlaamse Gemeenschaps commissie (VGC)	Creation of 4000 new places daycare in Brussel within the structures of early childhood care providers	Yes	Investment decision taken - medium-term planning realisation 2020	0.128	0.064	Lack of budgetary and financial means in the community budget. 20% places could be funded by the VGC. Cost estimates for the remaining 80% places amounts to 128 m EUR
Social infrastructure	Built environment and urban services	Public/Private	Early Childhood care providers	Vlaamse Gemeenschaps commissie (VGC)	Creation of 2000 new places extramural (after school activities) in Brussel within the structures of schools	Yes	Planning and analysing several school-locations in Brussel - medium-term planning realisation 2020	0.013	0.006	Lack of budgetary and financial means in the community budget. 20% places could be funded by the VGC. Cost estimates for the remaining 80% places amounts to 12,8 m EUR

Housing	Building of housing	public	Alliance habitat	<ul style="list-style-type: none"> - Minister of Housing - Brussels-Capital Region housing company (SLRB) - Housing fund of the Brussels-Capital Region (FDL) - NPO Community Land Trust Brussels (CLTB) 	<p>In order to tackle the shortage in housing for middle incomes and subsidised dwellings in general in Brussels, the Government committed itself to start with the production of 6.500 public dwellings by 2019 through the programme "Alliance habitat" of which 5.120 to the account of SLRB (4.000), of the Housing fund (1.000) and of NPO CLTB (120). The first stage consists in acquiring the land indispensable for the development of a programme of the kind. It is estimated that</p>	Yes	<p>Programme "Alliance Habitat" adopted by the Government of the Brussels-Capital Region in September 2013</p> <p>Re-assessment/fin e-tuning of the financial plan after the consolidation of the SLRB and FDL</p>	1.90	0.30	<p>Co-ordination between the actors => establishment of a Co-ordinating Council for housing</p> <p>Funding of the programme => financial analysis in progress</p> <p>The purchase of land</p> <p>Respect and reduction of delivery terms (urban planning permit, environmental permit, public contracts, etc.) => introduction of the "assembleur régional"(regional assembly)</p>
Housing	Renovation of social housing	public	Four-yearly 2014-2017	<ul style="list-style-type: none"> - Minister of Housing - Brussels-Capital Region housing company (SLRB) 	<p>In addition to the development of new social housing, renovation works of existing housing will reinforce the public sector response to the housing crisis</p>	Yes	<p>Four-yearly 2014-2017 approved by the Government of the Brussels-Capital Region in February 2014</p>	0.30	0.20	

Housing/Environment		public	Regional green loan	- Minister of Housing - Housing fund of the Brussels-Capital Region (FDL)	The FDL grants mortgage loans to private individuals in order to support the acquisition of housing. The FDL recently also put in place a loan with zero interest for an amount of maximum 25,000 Euros enabling the financing of works in order to improve the energy performance of housing	Yes		0.01	0.008	
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ENERGY UNION								0.092	0.078	
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Energy Union	Energy efficiency in buildings	public	Logistical center	Brussel Formation	Centralisation of four logistical formation center in one place in Brussel	Yes	planning and final negotiation with the land owner	0.00	0.00	Better coordination and efficiency between the several logistical formation Reduction of general and rental expenses
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Housing/Environment	Housing	public	Cité internationale universitaire	Brussels Regional Public Service / ULB	Acquisition of the former estate of the gendarmerie + creation of a student campus of 150 student housing, an incubator and horeca industrie.	yes	2015 : acquisition	0.06	0.05	
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Economic infrastructure	PMEs & Starters		Sustainable Soft Skills (3S)	City-Dev	Creation of a center targeting SME's active in the field of construction, resources, energy efficiency etc... with corelate equipment and support.			0.01	0.01	
Urban Development / Economic infrastructure and Housing	PMEs & Housing		Espace PME Marco Polo	City-Dev	Redevelopment of an urban area in terms of mixity: Housing, shops and economic activity			0.01	0.01	

SOCIAL AND URBAN INFRASTRUCTURE

1.177

1.110

Energy			Réseau urbain d'énergie / Plaine	ULB	Creation of the first efficient renewable energy urban network			0.01	0.01	
Media infrastructure			Pôle Média reyers	Agence de Développement Territorial	Development of a "Media Pole" to host press companies, universities, communication companie etc + development of an important optic fiber network.	yes		0.03	0.03	
Economic infrastructure			ECEIC		Implementation of a European Center for Circular Economy			0.01	0.01	

Urban Development	Mobility / Urbanism	PPP		Brussels Region / Private Sector	Bridge "Petite Ile / bassin de Biestebroek"	Yes	2016: planning permission -- 2°018: implementation	0.02	0.02	
Economic infrastructure				Brussels Region	Construction village			0.07	0.07	
Urban Development	Logistic infrastructure	PPP		Brussels Region / Private Sector	Schaerbeek Formation : Acquisition site + financing the depollution	No	2015: Acquisition 2016 : planning permission 2018: Depollution	0.10	0.08	
Urban Development	Mobility	PPP		Brussels Region / Private Sector	Aménagement du Parkway E40	yes	2014 - faisibility study - 2015 : masterplan - 2017 PU - 2018 : implementation	0.04	0.04	
Economic Infrastructure		PPP		Brussels Region / Private Sector	Implementation of a Logistic site for vehicle trade (RoRo)	Yes	2014: Faisibility studies - 2016 planning permission - 2018: implementation	TBD	TBD	
Urban Development	Mobility infrastructure	Public		Brussels Region	Covering the "Botanique" Hopper	Yes	2016 : planning permission 2018: implementation	0.65	0.65	
Tourism Culture	/				Implementation of a Modern and Contemporary Art Museum (still non existent in Brussels)		2015 : acquisition 2017-2018 : travaux	TBD	TBD	
Tourism / Culture					Art Nouveau Center + Parc			0.01	0.01	

Urban Development / Economic infrastructure and Housing	transport infrastructure	PPP		Brussels Region / Molenbeek commune/SNCB	Reconversion of a former train station (Gare de l'Ouest) neighborhood - linking of the two sides of the station	yes	2015: Technical faisibility study / 2016-2018: project implementation	0.03	0.03	
Urban Development	Mobility infrastructure	Public		Brussels Region / STIB/BM	Tunel constitution	YES	2016 planning permission 2018 - beginning of the work	0.15	0.15	
Social infrastructure Public Environment	Built environment and urban services	Public/Private	Halle Libelco	Brussels Region Commune de Molenbeek SDRB	Reconversion of the neighborhood 'Quartier Heyvaert – îlot Halle Libelco' (winter garden + language training facility + education infrastructure + social housing + recycling workshop + public administration office + development of public spaces	yes	Phase 1 : 2015 : acquisition 2016-2017 : bureau étude et permis urbanisme 2017-2018 : travaux phase 2 : 2016-2017 : acquisition 2020-2022 : travaux 2019 : réception	Phase 1 : 0,02 Phase 2 : 0,015	Phase 1: 0,0075	

Knowledge and the Digital Economy	Private R&D	public private	Espace Lumière (EL)	Foundation for Social Innovation	Promote and Foster Digital Entrepreneurship within disadvantaged populations from Brussels providing training, coaching and a lab environment.	No	Tendering process towards the building whilst private partners and corporates supporting the project have been identified and committed towards support.	0.01	0.00	To become sustainable the project will require some 5 years of intense human capital investment building success and roll-models inspiring immigrant populations and youth. After the first 5 critical years, sustainability will be ensured by private partners having build experience and track-records in other cities throughout Europe.
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Knowledge and the Digital Economy	Private R&D	public private	Creative Ring (CR)	International Non-for-Profit	Connect buildings and communities throughout Europe populated by entrepreneurs from Creative and Cultural Industries gathered in past-industrial areas facilitating cross-boarder collaboration by using technologies.	No	Founded by the Hubs of Trento, Barcelona and Brussels, the non-for-profit will connect in a first wave some 14 additional hubs before extending it towards more hubs aiming to connect some 250 hubs by 2020.	0.03	0.01	Facilitating cross-boarder collaboration offering co-creation, co-production and co-working infrastructure and software will require important investments in each hub providing facilities to the communities. The network of hubs will connect entrepreneurs and identify scalable projects and talent for Europe.
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FRENCH-SPEAKING COMMUNITY

4.7914

2.1901

ENERGY UNION

0.0543

0.0343

Energie	Infrastructures administratives	Public	Directive 2012/27/UE du 25/10/2012 relative à l'efficacité énergétique	MFWB - DG Infrastructures	Le projet, qui vise à améliorer les performances énergétiques, comprend les travaux : - d'isolation et d'étanchéisation de la toiture ; - d'installation d'une ventilation double-flux.	Oui	Bruxelles - Place Surllet de Chokier, n°15-17	0.00	0.00	lack of financing
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				Le projet, qui vise à améliorer les performances énergétiques, comprend les travaux : - d'installation d'une cogénération ; - de remplacement d'une partie des châssis.	Oui	Bruxelles - Boulevard Léopold II, n°44	0.00	0.00	lack of financing
				Le projet, qui vise à rationaliser les occupations et améliorer les performances énergétiques, comprend les travaux : - d'aménagement ; - de remplacement de deux chaudières ; - de remplacement des châssis et isolation de la façade avant ; - de rénovation de la toiture.	Oui	Liège - rue de Serbie, n°44	0.00	0.00	lack of financing

				<p>Le projet, qui vise à améliorer les performances énergétiques, comprend les travaux d'isolation, d'étanchéisation et d'installation de protections collectives en toiture.</p>	Oui	<p>Mons - MONS 7000 - Rue du Chemin de Fer, n°433</p>	0.00	0.00	lack of financing
				<p>Le projet, qui vise à rationaliser les occupations et améliorer les performances énergétiques, comprend les travaux :</p> <ul style="list-style-type: none"> - de rénovation de la toiture ; - de rénovation des menuiseries extérieures et intérieures ; - d'aménagement, de mise en conformité, de discussion entre l'administration et l'IESP. 	Oui	<p>Nivelles - Rue Emile Vandervelde, n°3</p>	0.00	0.00	lack of financing

Infrastructures du Sport	Public	Plan centre ADEPS	MFWB - DG Infrastructures	Rénovation du parc des centres sportifs de l'ADEPS dont la majorité ont été construits dans les années 1970 et 1980. Il s'agit d'infrastructures énergivores, notamment de par la dimension des halls sportifs. Face à cette situation, les objectifs de la Fédération Wallonie-Bruxelles sont de : - Pérenniser l'utilisation du parc à destination du public (loisir et santé) ; - Réduire la consommation d'énergie par le remplacement des systèmes d'éclairage, l'isolation des bâtiments et la	Oui	17 sites à rénover ou remplacer	0.1	0.1	lack of financing
SOCIAL INFRASTRUCTURE							4.419	1.886	

Social Infrastructure	Health	public	SAC (Structure adaptée au co accueil)	FWB	Développement de structures adaptées à l'accueil individuel ou regroupements (co accueil) des enfants de 0 a 3 ans par l'investissement dans l'équipement, la construction ou dans la mise en conformité de structures locales ou associatives ainsi que le développement de crèches d'entreprises	no	En développement dans le cadre des plans déjà existants comme Cigogne III	0.06	0.06	lack of financing
Social Infrastructure	Education and Training	public	Programme travaux ecole	Direction générale de l'Infrastructure du Ministère de la Communauté française	1,Amélioration de la sécurité et/ou de l'hygiène et/ou de la performance énergétique	Oui	Programme d'investissement en cours d'exécution	0.11	0.11	Manque de crédits et de liquidités vs les besoins enregistrés
					2,Remédier à la situation de dégradation, de vétusté, d'inadaptation des bâtiments en privilégiant les besoins des établissements accueillant des élèves défavorisés					
					3,Aide prioritaire aux établissements défavorisés					

					2. Informatiser les rapports entre l'administration, les écoles et les parents [Administration Centrale et Etablissements]					
Infrastructures sociales	Etablissement d'éducation et de formation	Public	Transfert de l'IEPSCF Saives dans la caserne de Saives	MFWB - DG Infrastructures	La commune de Blegny a acquis les bâtiments désaffectés de la caserne de SAIVES. Son but est de redéployer diverses activités sur ce site. Parmi celles-ci, il conviendra d'y loger l'Institut d'enseignement de promotion sociale de Blégny (IEPSCF Blegny) qui se trouve actuellement dans d'autres locaux communaux délabrés et insuffisants en volume. L'Institut d'enseignement de promotion sociale est organisé par la Communauté française. Il est indispensable que la	Non	Locaux communaux de la Caserne de Saives à aménager et équiper par la Communauté française pour y installer son établissement d'enseignement de promotion sociale	0.00	0.00	Manque de crédits de fonctionnement pour intégrer complètement et aménagement dans les projets de la Communauté française.

Infrastructures sociales	Infrastructures éducatives	Public	Plan IPPJ	MFWB - DG Infrastructures	<p>Rénovation des 5 Institutions public de protection de la jeunesse, et aménagement d'une structure à Bruxelles.</p> <p>Infrastructures très anciennes pour la plupart, très énergivores, notamment de par la dispersion des installations (pavillons).</p> <p>Par ailleurs, le besoin d'une infrastructure à Bruxelles est identifié depuis plusieurs années.</p> <p>La Fédération Wallonie-Bruxelles a donc décidé de rénover et restructurer les sites, en commençant par les sites de Fraipont, Saint-Servais et mettre sur pied</p>	Oui	5 sites + 1	0.03	0.01	Manque de crédits / Limite emprunts SEC
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Social (Education)	Infrastructures de l'Aide à la Jeunesse	Public	Plan IPPJ	MFWB - DG Infrastructures	<p>Rénovation des 5 Institutions public de protection de la jeunesse, et aménagement d'une structure à Bruxelles. Infrastructures très anciennes pour la plupart, très énergivores, notamment de par la dispersion des installations (pavillons). Par ailleurs, le besoin d'une infrastructure à Bruxelles est identifié depuis plusieurs années. La Fédération Wallonie-Bruxelles a donc décidé de rénover et restructurer les sites, en commençant par les sites de Fraipont, Saint-Servais et mettre sur pied</p>	Oui	5 sites + 1	0.03	0.01	Manque de crédits / Limite emprunts SEC
			Restructuration du site de Fraipont	MFWB - DG Infrastructures	<p>Le projet englobe l'affectation, la rénovation, la construction, la démolition de différents immeubles ainsi que l'aménagement des espaces extérieurs.</p>	Oui	IPPJ de Fraipont	0.01	0.01	Manque de crédits / Limite emprunts SEC

Social (Santé)	Hôpitaux universitaires	Public	Sites complet à rénover ou à étendre	MFWB - DG Infrastructures	Rénovation complète et extension des sites dont les constructions principales datent de la fin des années 70. Cette rénovation/extension comprend les grands axes suivants : - Reconditionnement global du site, afin de répondre aux besoins actuels et aux nouvelles normes des hôpitaux (remise aux normes pharmacies, reconditionnement QOP et salles imageries, rénovation locaux consultations, ...)	Oui	Cliniques universitaires Saint-Luc	0.31	0.08	Limite du Budget des moyens financiers des hôpitaux
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			New Erasme	MFWB - DG Infrastructures	Projet répond à la nécessité de rajeunir les infrastructures existantes, datant de 1975, et de les mettre en conformité aux normes. Le projet comprend une reconstruction complète de l'hôpital et un reconditionnement partiel du bâtiment existant.	Oui	Hôpital Erasme	0.20	0.08	Limite du Budget des moyens financiers des hôpitaux
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				MFWB - DG Infrastructures	Rénovation complète et extension des sites dont les constructions principales datent des années 70. Cette rénovation/exte nsion comprend les grands axes suivants : ▪ Travaux à très court terme : - Aménageme nt unité soins intensifs (confort patient et ergonomie personnel soignant) ; - Création de nouvelles salles opératoires (pathologie urgente) et acquisition d'un neuronavigat	Oui	CHU Liège	0.89	0.09	Limite du Budget des moyens financiers des hôpitaux
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			Site complet à rénover ou à étendre	MFWB - DG Infrastructures	Rénovation complète et extension des sites. Cette rénovation/extension comprend les grands axes suivants : - Reconditionnement des quartiers opératoires ; - Reconditionnement de l'internat ; - Reconditionnement des unités de soins, de l'aile D et de gériatrie ; - Extension du parking ; - Rénovation et extension des auditoriums.	Oui	Cliniques universitaires Mont-Godinne	0.07	0.07	Limite du Budget des moyens financiers des hôpitaux
Education et formation	infrastructures scolaires	public	Boom démographique	MFWB	Pour rencontrer les besoins liés aux tensions démographiques, il convient de créer d'ici 2020 25.000 nouvelles places scolaires	oui	Etude	0.50	0.20	Limite d'endettement (SEC)

Education et formation	Infrastructures scolaires	public	Assainissement/ rénovations	MFWB	500.000 m2 de bâtiments préfabriqués de plus de 45 ans sont vétustes, fortement amiantés, hors normes sécurité, non isolés, ils doivent être reconstruits dans les 11 ans à venir.	oui	études	1.00	0.10	Limite d'endettement (SEC)
Education et formation	Infrastructures scolaires	public	Amélioration de la performance énergétique	MFWB	1 000 000 m2 de toitures vétustes doivent être rénovées et isolées dans les 10 ans à venir	oui	études	0.20	0.06	Limite d'endettement (SEC)
Education et formation	Infrastructures scolaires	public	Constructions/ rénovations d'infrastructures scolaires par les pouvoirs subsidiés (Provinces et communes)	Provinces et communes wallonnes et bruxelloises	Subventions octroyées par le MFWB au bénéfice des Communes et Provinces, pour la rénovation d'infrastructures scolaires vétustes et inadaptées .	oui	études	0.05	0.05	Limite d'endettement (SEC)

Education et formation	et Infrastructures scolaires	public	Rénovation	Etat fédéral/MFWB/Vlaamse gemeenschap	Rénovation du bâtiment abritant le conservatoire royal de Bruxelles à la rue de la Régence . 1/3 de l'investissement de 60 millions d'EUR sera financé par la Communauté française	oui	études	0.02	0.01	Limite d'endettement (SEC)
Education et formation	Infrastructures scolaires	public	Reconstruction	Etat fédéral/MFWB	Reconstruction de la section internationale du SHAPE organisée par la Communauté française - investissement de 14 millions d'EUR dont 2 000 000 d'EUR seront financés par la Communauté française	oui	études	0.00	0.00	Limite d'endettement (SEC)
KNOWLEDGE AND THE DIGITAL ECONOMY								0.318	0.270	

Knowledge and the Digital Economy	ICT Infrastructure	public private	Digital culture	FWB	Développement d'une offre de diffusion et de promotion numériques des productions soutenues par la Communauté Française (Numérisation, Hosting cloud, Streaming, ...) ainsi que le soutien à la création culturelle numérique	no	En développement	0.01	0.01	Lack of financing
Knowledge and the Digital Economy	ICT Infrastructure	public	implementation of ICT in high education	Ministry of Education + agency for ICT	Development of ICT within high education (podcasting, Massive online open cursus, e-universities...et c.)	Yes	Call for proposals have been launched	0.10	0.10	Lack of financing
Knowledge and the Digital Economy	ICT Infrastructure	public	E-learning centers in high education's buildings	Ministry of Education + agency for ICT	Implementation of centres dedicated to e-learning in all high education buildings	Yes	Initiated	0.10	0.07	Lack of financing
Knowledge and the Digital Economy	ICT Infrastructure	public private	Partnerships for education	Ministry of Education	Development of partnerships for education with enterprises, actors of education, training, schools and universities	Yes	Initiated	0.10	0.10	Private partners to be found

Knowledge and the digital economy	ICT Infrastructure	Public private	Digital audio broadcasting (DAB+)	French-speaking community ministry of audiovisual/ public broadcaster RTBF/ Privates broadcasters	Implementation of investment to enable the transition to digital of the sound broadcasting networks (Replacement of analogue broadcasting) : installing the broadcasting infrastructure	No	In test period with the public broadcaster. Under consideration but installing the infrastructure is envisaged for 2017-2018	0.01		Lack of resources
<u>PRIVATE SECTOR</u>								5,77-6,32	2.22	
<u>ENERGY UNION</u>								2,11-2,66	0.20	

Energy Union	Connections and production	Private	ALEGrO	Elia - Amprion	<p>The ALEGrO (Aachen Liège Electricity Grid Overlay) project involves the realization of a HVDC link with a bidirectional rated power of approximately 1.000 MW capacity, as the first interconnection between Belgium and Germany. First of all, it enhances the internal market integration by enabling direct power exchanges between these countries. Secondly, the new interconnection will play a major role for the transition to a generation mix which is undergoing structural</p>	Yes	Design & Permitting	0,45 - 0,570	N/A	<p>Permitting process Need for a stable climate for investments Uncertain/unstable regulatory framework Need for a long term vision and commitment</p>
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Energy Union	Connections and production	Private	NEMO	Elia - National Grid	Development of a 1000MW interconnector between Belgium and the UK. This includes a new DC sea link including 135km of 400kV DC subsea cable with 1000MW capacity and the necessary reinforcements in the Thames Estuary region.	Yes	Design & Permitting	0,6 - 0,7	N/A	
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Energy Union	Connections and production	Private	France-Belgium Interconnection Phase 1	Elia - RTE	The project aims at ensuring reliable grid operation to cope with more volatile south-north flows, and at increasing the exchange capacities between France & Belgium to sustain an adequate level of market integration. To achieve this, the replacement of the current conductors on the axis Avelin/Mastain g - Avelgem - Horta with high performance conductors (HTLS = High Temperature Low Sag) will be executed	Yes	Planning	0,11 - 0,17	N/A	
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Energy Union	Connections and production	Private	Luxembourg-Belgium Interco	Elia - Creos	<p>The project envisions the realization of an interconnection between Luxembourg and Belgium allowing to increase the transfer capability between LU, DE, BE and FR and contributing to the security of supply of both countries.</p> <p>As a first interim step a PST will be integrated in Schiffflange, and connected to an existing OH-line to control the transit flows from Germany to Belgium as from end 2015.</p> <p>In a second step: new 220 kV interconnection</p>	Yes	Under Consideration - Under construction	0,15 - 0,17	N/A	
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Energy Union	Connections and production	Private	Stevin	Elia	<p>This project facilitates the integration of up to 2,3 GW of offshore wind production into the Belgian grid via the extension of the 380kV backbone to the coastal area (STEVIN project) to which the offshore capacity will be connected. Note that the STEVIN project is also required for the integration of the NEMO interconnector (BE - UK) into the BE 380kV network.</p>	Yes	Design & Permitting	0,2 - 0,3	N/A	
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Energy Union	Connections and production	Private	Belgian North Border	Elia (- Tennet)	<p>The need to reinforce the Belgian North Border is driven by a congruence of factors</p> <ul style="list-style-type: none"> - ensuring reliable grid cooperation in a context of increasing & more volatile international fluxes on Belgian's north-south axis (Zandvliet to Horta; Van Eyck to Gramme) which could cause internal congestions and negatively effect market capacity - desire to further develop market capacity between Belgium & the Netherlands with +- 1000 MW - possible 	Yes	<p>Design & Permitting</p> <ul style="list-style-type: none"> - Planning - Under Construction 	0,35 - 0,45	N/A	
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Energy Union	Connections and production	Private	LNG Terminal Extension	Fluxys LNG	The project envisions the realization of a new LNG storage tank in Zeebrugge allowing to increase the transfer capability between LU, DE, BE and FR and contributing to the security of supply of the countries.	Yes	Design & Permitting	0,25-0,30	0.20	LNG market volatility/limited long term commitments
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TRANSPORT								3.63	2.02	
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Transport	Business enablers	public private	Single European Mobility Budget	SNCB, SDWorx, Accenture	Objective is to launch 1 single mobility budget services to all EU citizens. Currently there is already 1 country operational and a second one being prepared to connect.	no	operational in 1 country: Netherlands, being prepared to launch in Belgium	0.03	0.02	Need for 1 common platform:
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					To avoid the risk of having multiple non seamless mobility services across all EU countries we would like to propose co-funding for this initiative: 1 Single European Mobility Budget. These phases are identified:					* 1 common platform will enhance investments in Mobility Budgets and Mobility service providers across Europe
					* Design 1 single EU Platform blueprint					* 1 common platform will encourage Mobility Service Providers to provide multi country products & services
					* Pilot this blueprint *Implementation of 1 single EU Platform					* 1 common platform will enable data exchange to influences mobility behavior of EU citizens * 1 common platform is key in developing multimodal transport modes
					* Operating the Platform					* 1 common platform will enable interconnectivity and 1 European standard

					* Connecting mobility service providers					
					* Connecting all EU customers					
Transport	Corridors and missing links	private	LNG Drive	Drive Systems N.V.	Construction and operation of an LNG filling station network	No	Mature project	3.60	2.00	Lack of private financing. / Funding
Total Public Sector								71.83	35.84	
Total Private Sector								<u>5,77-6,32</u>	<u>2.22</u>	
TOTAL BE								77,04-77,59	38.06	



BULGARIA



Country : BULGARIA

Project list

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Transport	Corridors and missing links	public	Construction of speed road Vidin-Botevgrad.	Ministry of Regional Development and Public Works/Road Infrastructure Agency	Part of Paneuropean transport corridor IV. Includes three sections: Vidin-Montana from km 3 to km 98, Montana-Vratza from km 114 to km 144 and Mezdra-Botevgrad from km 161 to km 194.	Yes	Approved conceptual design for the first two sections. Approved technical design and EIA for the third section (all three sections - new roads).	0.5		lacking fiscal space
Transport	Corridors and missing links	public	Construction of speed road Russe-Veliko Turnovo from km 0 to km 110.	Ministry of Regional Development and Public Works/Road Infrastructure Agency	Part of Paneuropean transport corridor IX.	Yes	Approved pre-investment study.	0.4		lacking fiscal space

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Transport	Corridors and missing links	public	Construction of Kalotina Highway from km 1 to km 48.	Ministry of Regional Development and Public Works/Road Infrastructure Agency	Part of PanEuropean transport corridor X.	Yes	Approved conceptual design and EIA for the section from km 1 to km 32 (expansion of existing road). Approved conceptual design and EIA for the section from km 33 to km 48 (new road).	0.2		lacking fiscal space
Knowledge and the Digital Economy	Private R&D	public private	Youth entrepreneur ship.	Ministry of Labour and Social Policy	Provision of grants for unemployed graduates who wish to start a new business in the area of knowledge and digital economy. It will promote ideas aimed at the development and marketing of innovative products and services in the field of high technologies.	No	Conceptual design.	0.1	0.0	lacking fiscal space

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Resources and Environment	Natural resources: efficient and secure availability	public	Sustainable and efficient use of water resources, improving the quality of drinking water.	Municipal authorities (over 40 municipalities)	Technical and technological activities for the construction of new and reconstruction of existing water supply and sewerage networks and wastewater treatment plants and drinking water in urban areas, as well as maintainment the conductivity of riverbeds	No	Ready to be launched.	0.9	0.9	lacking fiscal space
Resources and Environment	Natural resources: efficient and secure availability	public	Innovative technologies for waste utilisation.	Regional authorities (3 regions)	Construction of modern installations needed for the functioning of regional systems for waste management and implementation of inovative methods for treatment of specific waste streams.	No	Ready to be launched.	0.0	0.0	lacking fiscal space

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Resources and Environment	Natural resources: efficient and secure availability	public	Closure and recultivation of municipal landfills.	municipal authorities (9 municipalities)	Implementation of activities of closure and recultivation of municipal landfills that do not meet the legal requirements and current technical standards.	No	Ready to be launched.	0.0		lacking fiscal space
Transport	Corridors and missing links	public	Modernization of railway line „Karnobat-Sindel“.	Ministry of Transport, Information Technologies and Communications /National Rail Infrastructure Company	Upgrade of the existing line, allowing speeds of 130 km/h for most of the alignment, removing bottlenecks.	Yes	Approved EIA and technical design; partial land acquisition procedures.	0.2	0.1	lacking fiscal space
Transport	Corridors and missing links	public	Restoration of design parameters along Ruse-Varna railway line.	Ministry of Transport, Information Technologies and Communications /National Rail Infrastructure Company	Upgrade of the existing line, allowing speeds between 110 - 130 km/h for most of the alignment, removing bottlenecks.	Yes	Approved EIA and cost-benefit analysis; prepared technical design.	0.3	0.2	lacking fiscal space

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	public	Construction of 400kV power line between Vetren - Blagoevgrad	Electricity System Operator	Increase of interconnector capacity with Greece and Romania by the construction of 2 AC new high- voltage transmission lines with a total capacity of 1700 MVA, as follows: 400kV OHL of 100 km between Vetren and Blagoevgrad and 400 kV OHL of 150 km between Tsarevets and Plovdiv (onshore).	No	Feasibility studies / project finance preparatory activities have been initiated.	0.1	0.0	lacking fiscal space
Energy Union	Connections and production	public	Construction of 400kV power line between Tsarevets and Plovdiv	Electricity System Operator	Increase of interconnector capacity with Greece and Romania by the construction of 2 AC new high- voltage transmission lines with a total capacity of 1700 MVA, as follows: 400kV OHL of 100 km between Vetren and Blagoevgrad and 400 kV OHL of 150 km between Tsarevets and Plovdiv (onshore).	No	Feasibility studies / project finance preparatory activities have been initiated.	0.1	0.0	lacking fiscal space

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	public	Construction of a new 400 kV interconnect or Maritsa East Bulgaria - Nea Santa, Greece	Electricity System Operator	Construction of a new AC 400 kV single-circuit interconnector (OHL) with a length of 130 km and a capacity of 2000 MVA between Maritsa East 1 (BG) and Nea Santa (EL) (onshore).	No	Feasibility studies - a route on Bulgarian territory has been selected. Project finance preparatory activities have been initiated.	0.0	0.0	lacking fiscal space
Energy Union	Connections and production	public	Construction of 400kV power line between the Maritza East 1 and Maritza East 3	Electricity System Operator	Construction of a new 400 kV AC line (OHL) of 13 km and with a capacity of 1700 MVA between Maritsa East 1 and Maritsa East 3 (onshore).	No	The project is in the phase of pre- feasibility and feasibility studies. Contract for route selection has been signed, a preliminary development plan - parcel plan and pre- allocation of posts have been approved. EIA has been prepared.	0.0	0.0	lacking fiscal space

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	public	Construction of a new 400 kV power line between the Maritsa East and Burgas	Electricity System Operator	Construction of a new 400 kV AC line (OHL) of 150 km and with a capacity of 1700 MVA between Maritsa East 1 and Bourgas (onshore).	No	The project is in the phase of pre- feasibility and feasibility studies. Project finance preparatory activities have been initiated. Contract for route selection has been signed, a preliminary development plan - parcel plan and pre- allocation of posts have been approved. EIA has been prepared.	0.0	0.0	lacking fiscal space

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	public	Construction of a new 400 kV power line between the Dobrudzha and Burgas	Electricity System Operator	Construction of a new 400kV AC single-circuit line (OHL) of 140 km and with a capacity of 1700 MVA connecting Dobrudzha and Bourgas (onshore).	No	The project is in the phase of pre- feasibility and feasibility studies. Project finance preparatory activities have been initiated.	0.0	0.0	lacking fiscal space

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	public	Construction of a new 400 kV power linesbetween Vidno and Svoboda	Electricity System Operator	Construction of a new 400 kV AC power line (OHL) of 80 km and with a capacity of 1700 MVA between the 400/110kV substations Vidno and Svoboda (onshore). This project also includes the construction of two new 400/110kV substations in Svoboda (Krushari) and in Vidno to connect around 1800 MW of RES, transform the corresponding renewable output to a higher voltage level and transfer that energy to demand centres.	No	The project is in the phase of pre- feasibility and feasibility studies. Project finance preparatory activities have been initiated. Route has been selected.	0.1	0.1	lacking fiscal space

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	public	Construction of a new 400/110kV power line of interconnection Varna - Stupina (Romania - Bulgaria)	Electricity System Operator	Construction of a new 400/110kV power line, breaking up the existing 400kV Saedinenie OHL and connecting 400/110kV Svoboda substation. Length of 10 km, capacity of 1700 MVA (onshore).	No	The project is in the phase of pre-feasibility and feasibility studies. Project finance preparatory activities have been initiated. Route has been selected.	0.0	0.0	lacking fiscal space
Energy Union	Energy efficiency in buildings	public	National Programme for Energy Efficiency in Residential Buildings	Ministry of Regional Development and Public Works	Interventions are directed towards implementation of energy efficient measures in multi-family buildings designed prior to 1999. The project will include all municipalities.	Yes	Ready to be launched.	0.6		lacking fiscal space



CROATIA



Country : Croatia
Project list

No.	Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Intended for EU Funds (yes / no)	Barriers/ solutions	Planned start of implementation (year)	Planned completion date (year)
									(EUR mil)	(EUR mil)				
1	Transport	Corridors and missing links	public / private	MOTORWAY A7 SECTION KRIZIŠĆE - ŽUTA LOKVA	Croatian Motorways Ltd.	Completion of the Adriatic - Ionian Corridor in Croatia for the purpose of connecting the wider region, strengthening tourism services, improving the connectivity of Adriatic seaports	Yes	In preparation	850	100	No	Insufficient funds	2017	2022
2	Transport	Corridors and missing links	Public	BELI MANASTIR - OSIJEK MOTORWAY SECTION	Croatian Motorways Ltd.	Completion/Construction of the motorway on the ex Pan European corridor Vc in Croatia - the missing section is north of Osijek connecting to Hungary.	Yes*	FS and building permits expected by the end of 2014	160.0	128.0	Yes	Insufficient funds (national co-funding)	2016	2018
3	Transport	Corridors and missing links	Public	ROAD CONNECTION TO SOUTH DALMATIA	Hrvatske ceste d.o.o.	Connecting the Dubrovnik area with a direct speedy road within the Croatian state borders - via probably a new bridge to the Peješac peninsula, including construction of new road on the peninsula (total approx. 50 km).	Yes*	FS under contracting	370.0	277.5	Yes		2016	2019
4	Transport	Corridors and missing links	Public	STATE ROAD D-403 (direct link between the port of Rijeka and bypass motorway)	Hrvatske ceste d.o.o.	Construction of the state road D-403 will connect the node Škurinje (Rijeka city bypass - part of road TEN-T) with the planned new terminal of the port of Rijeka (Zagreb coast, necessary for the operation of the terminal)	Yes*	FS, EIA, Natura in progress - to be completed by end 2014. Main design completed - possible need for modification.	64.5	48.4	Yes		2016	2018
5	Transport	Corridors and missing links	Public	GRADIŠKA BRIDGE	Croatian Motorways Ltd.	Bridge over the river Sava as part of the motorway connecting Croatia and BIH (EU border crossing) on the ex Pan European road corridor X	Yes*	FS and building permits expected by the end 2014	71.7	53.8	Yes		2016	2018
6	Transport	Corridors and missing links	Public	NEW MULTIMODAL PLATFORM FOR SPLIT AGGLOMERATION Solin - Stobreč - Dugi Rat - Omiš / Omiš region bypass	Hrvatske ceste d.o.o.	Project is aimed at removing bottlenecks in the road and ferry traffic, better connectivity between the islands and the mainland, increasing traffic safety and reducing greenhouse gas emissions.	Yes*	FS under development	200.0	80.0	Yes		2016	2018
7	Transport	Corridors and missing links	Public	INTEGRATED TRANSPORT SYSTEM FOR THE ZAGREB REGION (for three counties)		The basic objective of applying the model of integration of passenger transport in the City of Zagreb, Zagreb County and Krapina - Zagorje County is increasing quality and hence the attractiveness of urban and suburban public transport. Measures to achieve the objectives are: adaptation and renovation of existing and construction of new urban local and regional rail and road infrastructure, adaptation and renovation of the existing stations/ stops, and the construction of new intermodal terminals and nodes, procurement of new vehicles for passengers in public transport (buses and trains, emphasis on modern ecological vehicles (hybrids, gas,)), construction of informatics infrastructure, restoration of existing or construction of new facilities (buildings) for the purpose of management system, additional safety measures or separation in two levels of rail - road crossings, removing barriers and bottlenecks that cause delays on existing infrastructure, the new organization of public transport (common timetables and fares for all modes of PT).	Yes*	FS to be completed by beginning of 2016	150.0	16.8	Yes		2017	2020
8	Transport	Corridors and missing links	Public	OKUČANI - VINKOVCI RAILWAY SECTION DOUBLE-TRACK UPGRADE AND RENOVATION	HŽ Infrastruktura d.o.o.	Modernisation of a 131,1 km section that is part of the European core network railway line (ex Pan European corridor X). Project includes: elimination of obstacles to the interoperability of the rail system in accordance with the Directive 2008/57/EC and to improve its technical standards to meet those of a TEN railway corridor in line with EU requirements; bringing the line up to the technical standards established under AGC and AGTC agreements and operating parameters; and modernisation of signalling and telecommunication systems.	Yes*	Project preparation tendering on-going – contract expected early 2015	355.0	16.0	Yes	Property-Legal Affairs, public procurement, quality of documentation, insufficient funds	2017	2023
9	Transport	Corridors and missing links	Public	VINKOVCI - VUKOVAR RAILWAY SECTION DOUBLE-TRACK UPGRADE AND RENOVATION	HŽ Infrastruktura d.o.o.	Part of the European core network railway line (ex Pan European corridor X). Project includes: elimination of obstacles to the interoperability of the rail system in accordance with the Directive 2008/57/EC and to improve its technical standards to meet those of a TEN railway corridor in line with EU requirements; bringing the line up to the technical standards established under AGC and AGTC agreements and operating parameters; and modernisation of signalling and telecommunication systems.	Yes	Documentation package in preparation	51.5	21.0	Yes	Property-Legal Affairs, public procurement, quality of documentation, insufficient funds	2017	2019
10	Transport	Corridors and missing links	Public	GOLJAK - SKRADNIK RAILWAY SECTION CONSTRUCTION OF NEW DOUBLE-TRACK	HŽ Infrastruktura d.o.o.	Section on TEN-T Mediterranean core corridor. Project includes improvement of cargo services connected to the Port of Rijeka; elimination of obstacles to the interoperability of the rail system in accordance with the Directive 2008/57/EC and improvement of technical standards to meet those of a TEN railway corridor in line with EU requirements; bringing the line up to the technical standards established under AGC and AGTC agreements and operating parameters allowing for a passenger train speed up to 160 km/h, freight trains up to 120 km/h and the minimum siding length to 750 m; modernisation of signalling and telecommunication systems in order to enable installation of ETCS and centralised traffic control equipment and to facilitate the integration of the Croatian railway network with international and EU standards. D	Yes	Documentation package in preparation	659.0	150.8	Yes	Property-Legal Affairs, public procurement, quality of documentation, insufficient funds	2017	2020

No.	Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Intended for EU Funds (yes / no)	Barriers/ solutions	Planned start of implementatio n (year)	Planned completion date (year)
									(EUR mil)	(EUR mil)				
11	Transport	Corridors and missing links	Public	DUGO SELO - NOVSKA RAILWAY SECTION UPGRADE AND CONSTRUCTION OF SECOND TRACK (2ND AND 3RD PHASE)	HŽ Infrastruktura d.o.o.	Modernisation of a 95 km section that is part of the European core network railway line (ex Pan European corridor X). Project includes: elimination of obstacles to the interoperability of the rail system in accordance with the Directive 2008/57/EC and to improve its technical standards to meet those of a TEN railway corridor in line with EU requirements; bringing the line up to the technical standards established under AGC and AGTC agreements and operating parameters; and modernisation of signalling and telecommunication systems.	Yes*	Documentation package in preparation	572.5	53.3	Yes	Obtaining licenses and permits; land acquisition	2017	2021
12	Transport	Corridors and missing links	Public	DUGO SELO - KRIZEVCI RAILWAY SECTION UPGRADE AND CONSTRUCTION OF SECOND TRACK	HŽ Infrastruktura d.o.o.	Part of the Pan European Corridor Vb; failure to improve this section would create a bottleneck along the Corridor. This project is part of a larger set of measures that will improve the full section of the Corridor Vb in Croatia. Project includes: elimination of obstacles to the interoperability of the rail system in accordance with the Directive 2008/57/EC and improvement of technical standards to meet those of a TEN railway corridor in line with EU requirements; bringing the line up to the technical standards established under AGC and AGTC agreements and operating parameters allowing for a passenger train speed up to 160 km/h, freight trains up to 120 km/h and the minimum siding length to 750 m; modernisation of signalling and telecommunication systems in order to enable installation of ETCS and centralised traffic control equipment and to facilitate the integration of the Croatian railway network with international and EU standards. D	Yes*	Contracting phase – to start works mid-2015, EC MPA positive decision expected	198.0	126.4	Yes	Property-Legal Affairs, public procurement, quality of documentation, insufficient funds	2015	2018
13	Transport	Corridors and missing links	Public	KRIZEVNICA - KOPRIVNICA - STATE BORDER RAILWAY SECTION UPGRADE AND CONSTRUCTION OF SECOND TRACK	HŽ Infrastruktura d.o.o.	Section on TEN-T Mediterranean core corridor. Project includes: elimination of obstacles to the interoperability of the rail system in accordance with the Directive 2008/57/EC and improvement of technical standards to meet those of a TEN railway corridor in line with EU requirements; bringing the line up to the technical standards established under AGC and AGTC agreements and operating parameters; and modernisation of signalling and telecommunication systems.	Yes*	Documentation package in preparation	280.3	76.4	Yes	Property-Legal Affairs, public procurement, quality of documentation, insufficient funds	2017	2020
14	Transport	Corridors and missing links	Public	HRVATSKILESKOVAC - KARLOVAC RAILWAY SECTION UPGRADE AND CONSTRUCTION OF SECOND TRACK	HŽ Infrastruktura d.o.o.	Section on TEN-T Mediterranean core corridor. Project includes: elimination of obstacles to the interoperability of the rail system in accordance with the Directive 2008/57/EC and improvement of technical standards to meet those of a TEN railway corridor in line with EU requirements; bringing the line up to the technical standards established under AGC and AGTC agreements and operating parameters; and modernisation of signalling and telecommunication systems.	Yes*	Documentation package in preparation	361.5	85.0	Yes	Property-Legal Affairs, public procurement, quality of documentation, insufficient funds	2017	2020
15	Transport	Corridors and missing links	Public	ZAPREŠIĆ - ZABOK RAILWAY SECTION UPGRADE AND ELECTRIFICATION	HŽ Infrastruktura d.o.o.	Construction of electrified double track line section mainly for suburban passenger traffic on section Zaprešić – Zabok - Krapina as a part of a suburban passenger railway network in densely populated Zagreb area. This project covers the first phase of the long term project, and consists of electrification, upgrade and renewal of the existing single track railway line section Zaprešić - Zabok in the total length of 24 km.	Yes*	FS and EIA completed; building permit expected Q4 2014	68.0	54.4	Yes	Property-Legal Affairs, public procurement, quality of documentation, insufficient funds	2015	2017
16	Transport	Corridors and missing links	Public	CONSTRUCTION OF A NEW RAILWAY LINE FOR SUBURBAN TRAFFIC ON SECTION PODSUSED TVORNICA - SAMOBOR - PERVOJ	HŽ Infrastruktura d.o.o.	This project shall ensure a railway connection between Zagreb and Samobor as a result of which Samobor would be included into the suburban railway network of wider Zagreb area. That would serve a large number of passengers who commute daily between Zagreb and Samobor and unburden the road network in the wider Zagreb area. The first phase of the project includes construction of a new electrified single track railway line for suburban traffic on section Podsused Tvornica – Samobor Pervoj in the length of 14 km.	Yes*	Revised /new FS to be completed and after that all other documentation to be developed	93.0	9.3	Yes	Property-Legal Affairs, public procurement, quality of documentation, insufficient funds	2017	2020
17	Transport	Corridors and missing links	Public	SECOND TRACK CONSTRUCTION ON THE RAILWAY LINE SECTION ŠKRLJEVO - RUJEKA - ŠAPJANE	HŽ Infrastruktura d.o.o.	Construction of second track along the 39,5 km railway line that is the backbone of the Rijeka railway line node which via connecting railway lines connects all port terminals in the area. Considering the planned increase of capacity in the Port of Rijeka, which is to be accomplished by reconstruction of the existing container terminal in Brajdica and by construction of the new container terminal on Zagreba ka obala, and considering the planned introduction of the suburban railway transport in the greater area of the City of Rijeka, the need to increase the railways' capacities becomes apparent. This implies the reconstruction of the port tracks along the container terminals, the reconstruction of the railway stations and construction of the second track from Kijevo to Jurdani, and consequently, the adequate modernization of the railway line section Jurdani – apjane.	Yes*	Documentation package in preparation	300.0	30.0	Yes	Property-Legal Affairs, public procurement, quality of documentation, insufficient funds	2017	2020
18	Transport	Corridors and missing links	Public	New port Istok Vukovar	Lučka uprava Vukovar	The port of Vukovar is being constructed (reconstructed) due to the planned growth in the transport volume and due to the fact that in the near future, the Danube – Sava canal will be running through the area. As regards the fact, it is required to ensure undisturbed and free port operations, and introduction of passenger and cargo rail transport during the time of construction and subsequent to the construction of the port and canal.	Yes	In preparation	29.7	0	Yes	Insufficient funds		

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									(EUR mil)	(EUR mil)				
19	Transport	Corridors and missing links	Public	Construction of the inter-modal infrastructures of the western part of the port	Lučka uprava Osijek	The construction of intermodal infrastructure in the western part of Osijek Port is divided into four phases. The first phase comprises the construction of bank structures and investor of this phase will be the Croatian Water because it is a building in order to protect the port from the effects of the Drava River. Construction of other phases include the construction of port infrastructure and terrain leveling to insure condition for further use of area for economic and intermodal purpose. The total area covered by this project is 32 ha and it provides a great opportunity to become intermodal logistic centre due to excellent road and rail connection with hinterland. Investor of these 3 phases is the Port Authority Osijek. The location permit is obtained, the main design and the EIA are finished. The building permit for the construction of Phase I was obtained in October 2014, and the Croatian Water has plans to begin construction of I phase next year.	Yes	In preparation	51.7	0	Yes	Insufficient funds		
20	Transport	Corridors and missing links	Public	Freight ferry port Batahovina II	Lučka uprava Dubrovnik	Construction of RORO berths at Batahovina basin is a precondition for further development of Dubrovnik and surrounding area in interconnectivity with mainland of Croatia and Adriatic and Mediterranean countries, opening possibilities for development of local tourism and other industries. Geographical position of Port of Dubrovnik in Adriatic, open approach and close connections to hinterland represent an advantage for attracting maritime (RORO) traffic.	No	In preparation	33.8	1.3	Yes	Insufficient funds		
21	Transport	Corridors and missing links	Public	Construction of the connecting road A1 (Node Ravča) - D8 (Drvenik)	Croatian Motorways Ltd.	Once built, the compound of the A1 motorway from junction Ravča to D8 (Adriatic Highway) will attract new users to the highway and will activate economic potentials of the gravitational area. Particular significance of a the new connecting road is reflected in the direct junction of the A1 motorway with the ferry port Drvenik. This project included the reconstruction of part of the state road D8 around the rotor, and the renovation of two local roads connecting Drvenik and future business zone.	Yes	In preparation	110	110	No	Insufficient funds		
22	Transport	Corridors and missing links	Public	Construction of the connection road node Nikolac - D8 (with Neretva bridge)	Croatian Motorways Ltd.	Connecting road node Nikolac - Connection to D8 (including the bridge over the Neretva) in the town of Ploče is important section of road connecting Dubrovnik and major road corridors (parts of the Adriatic - Ionian motorway A1 Zagreb - Split - Dubrovnik and the A10 motorway as part of Corridor Vc). This intervention over the node Nikolac will separate the existing route of the connecting road to the Port of Ploče and to Dubrovnik.	Yes	In preparation	85.3	85.3	No	Insufficient funds		
23	Transport	Corridors and missing links	Public	Construction of the overpass "Ranzirni kolodvor"	Croatian Motorways Ltd.	The future construction of the viaduct ZAGREB RANZIRNI KOLODVOR is located near the urban area of the city and represents the entrance of the highway Zagreb - Sisak in the town at the junction with the Sarajevska street. At this location there is an existing marshalling railway station, a bypass railway track and a number of existing buildings and infrastructure. The project aimed to avoid scrambling mode at marshalling yard, to ensure good visibility under part of the future viaduct who bridges the marshalling yard, the smooth functioning of railway traffic bypass track as well as a minimum reduction of abbreviated track. This kind of traffic solution maximally relieves existing roads to Sisak (D30 road) by distributing the traffic on more roads.	Yes	In preparation	58.7	58.7	No	Insufficient funds		
24	Transport	Corridors and missing links	Public	Restoration and improvement of the Sava river waterway	Agency for Inland Waterways	Integration and modernization of the Croatian infrastructure concerning TEN-T corridor. As an international waterway, the Sava River does not meet the navigability criteria for the European inland waterways as it is provided in the AGN Agreement, since it should be constructed to ensure the safe navigation for vessels of class IV throughout the 240-days period. According to the Conceptual design it is necessary to renovate 46 existing water structures (revetment and T-groins) and the construction of 137 new water structures (revetment, „T-groins“ and weirs).	Yes	In preparation	55	11	Yes		2016	
25	Transport	Corridors and missing links	Public	Multipurpose channel Dunav - Sava	Agency for Inland Waterways	According to UN / ECE classification of international waterways in 1992 and by 1997 the Croatian signed AGN Agreement on Main Inland Waterways of International Importance, it is necessary to develop the project according to the parameters Vb class. With completion of the Rhine - Main - Danube European network of waterways is the shortest way connected with oceans. This allows the overseas traffic arrives by water directly to the largest number of European countries. Construction of the Danube - Sava channel is the first step in creating a quality transport corridor Danube Region - Adriatic, which would at the navigable highway Europe (Rhine - Main - Danube) had the most favorable combined time of Adriatic Sea to Central Europe, as well as connections the Croatian Danube to the Black Sea ports.	Yes	In preparation	850	25.5	No		2016	
26	Transport	Business enablers	Public	Rail traffic management center	HŽ Infrastruktura d.o.o.	Development of a centralised railway traffic management system / center	Yes*	Early preparation stage (FS not yet started)	200.0	150.0	Yes		2016	2020

No.	Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Intended for EU Funds (yes / no)	Barriers/ solutions	Planned start of implementatio n (year)	Planned completion date (year)
									(EUR mil)	(EUR mil)				
27	Transport	Businessenablers	Public	Equipping of railways with GSM-R system (Communication project for ETCS2)	HŽ Infrastruktura d.o.o.	Introduction of GSM-R and ETCS2 on railway network, primarily on TEN-T	Yes*	Early preparation stage (FS not yet started)	200.0	160.0	Yes		2016	2017
28	Transport	Businessenablers	Public	Reconstruction of the Dubrovnik Airport	Airport Dubrovnik	The existing infrastructure is suitable to serve the actual and expected increased traffic till 2017 but with bottlenecks that are already present: check-in queue area, security check area, accessibility roads to the terminal. With the completion of this project this bottlenecks will be solved and Dubrovnik Airport will be able to serve the traffic up to 3 mil. passengers per year with very good quality service level C according to IATA categories of service. Without investment the development will be limited with constrains to the traffic needs and regional development needs.	Yes*	EIA completed, FS being finalised, design, building permits partially obtained, terminal building construction call for tenders to open	200.0	160.0	Yes		2015	2019
29	Transport	Businessenablers	public / private	Container terminal Zagreb pier - Rijeka gateway project component (Phase I and II)	Lučka uprava Rijeka	The container terminal at Zagreb pier as a component of the Project Rijeka Gateway - Rijeka Gateway, contributes to building and modernization of the port of Rijeka and the Croatian economy to make it more dynamic and competitive. The investment is shared between the concession grantor (Port of Rijeka) and the concessionaire. The concession grantor will finance, design, build, test and put into use in the concession area of the coastal hinterland wall with four hundred meters in length (with the possibility of developing a total of 680 meters), the available water depth along the quay wall of twenty feet. The concessionaire will be based on the Concession Agreement to build input-output complex, parking and roads within the terminal area for stacking and loading and unloading trucks and vans, the charging station and emptying containers, lighting warehouse space, roads and fences. Also, the concessionaire will procure and install the latest reloading equipment and everything else needed for the efficient operation of the terminal.	Yes	Underdevelopment	210.5	144.7	No	Insufficient funds		
30	Transport	Urban transport	public / private	Reconstruction and extension of runway 14-32, trail H and connection A-F	Zračna luka Zadar	The project of reconstruction and extension of the existing runway will contain a complete reconstruction of the existing pavement structure, lighting and drainage and extension of 700m runway and taxiway. This project will maximize the level of safety for air traffic and comply with all international standards in civil aviation.	Yes	In preparation	36.6	28.4	No	Insufficient funds		
31	Transport	Urban transport	public / private	Reconstruction and extension of the passenger terminal at the Split Airport	Zračna luka Split	By reconstructing and extending the Split Airport passenger terminal, gross floor area of the terminal's enclosed part will be increased for a total of around 34,500 m2, which will result in increasing the capacity of the terminal over 2 MPA (depending on the level of service up to 3.5MPA). This will ensure adjustment of the passenger terminal capacity with the expected traffic demand, achievement of high level of safety and service quality, and fulfillment of requirements for implementation of EU standards (Schengen criteria) for international border crossing. Along with reconstruction and extension of the passenger terminal, the project also envisages construction of a car-park for personal vehicles and buses on a total area of 35,500 m2 to the south of the state road D409. The car-park would be connected to the passenger terminal by an enclosed passenger bridge over the state road. The entire land envisaged for implementation of the project is owned by Split Airport d.o.o.	Yes	In preparation	60.3	53.4	No	Insufficient funds		

No.	Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Intended for EU Funds (yes / no)	Barriers/ solutions	Planned start of implementatio n (year)	Planned completion date (year)
									(EUR mil)	(EUR mil)				
32	Resources and Environment	Natural resources: efficient and secure availability	Public	Accumulation Križ.potok	Hrvatske vode	The future reservoir on the Križ stream, lying north-west of the settlement called Lokve in the basin near Lokvarsko Lake, with an overflow level at 770.20 m above sea level and a volume of 9,000,000 m3 of water, can provide new quantities of quality water for water supply. In that regard, the main purpose of the Križ reservoir is to supply water, but also to retain high water waves. The Križ stream is the largest left tributary of the Lokvarka which flows through Lokve and disappears into sink holes. Even though the Lokvarka is regulated to a large extent, sink holes of insufficient capacity cause floods in the settlement's lower zones. The constructed reservoir will be able to receive a 1000-year water wave which will be reduced and flow over in the quantities that can be received by the sink holes, thus providing flood defence as well. The Križ reservoir can be constructed by building an earth-fill dam with optimum cross-section, evacuation facilities and an injection curtain at the selected place where the stream is dammed. In addition to these basic facilities, an access road and a management system need to be established as well. In order to ensure water quality, the catchment area needs to be protected, with special attention given to improvement of the area affected by the reservoir.	Yes	In preparation	24.6	8.4	Yes	Insufficient funds		
33	Resources and environment	Waste management	Public	Waste Management centre Piskonica	RCGO Piskonica d.o.o.	Waste management centre covers area of 4 counties in the Northwest Croatia (Koprivničko križevačka, Krapinsko – zagorska, Međimurska and Varaždinska), WMC includes facility for mechanical biological treatment of waste (capacity of 150,000 t/year), landfill for treatment of waste, administrative facilities. It also includes construction and equipping of two transfer stations within project area.	Yes*	Draft FS / CBA – to be revised, EIA, environmental permit, location permit – completed	80.0	64.0	Yes	Property issues – partially solved	2015	2017
34	Resources and environment	Waste management	Public	Waste Management centre Biljane Donje	Eko d.o.o.	Waste management centre covers area of Zadar County and partially Lika – Senj County. WMC includes facility for mechanical biological treatment of waste landfill for treatment of waste, administrative facilities. It also includes construction and equipping of four transfer stations within project area.	Yes*	Draft FS / CBA – to be revised (contract signed), EIA, environmental permit – completed; Request for Location permit – upon finalisation D	57.0	57.0	Yes	Property issues – partially solved	2015	2017
35	Resources and environment	Waste management	Public	Waste Management centre City of Zagreb	Zagrebački centar za gospodarenje otpadom	Facility for thermal treatment of waste	Yes*	The scope and location of the project is still to be finally decided / confirmed. WM Plan for City of Zagreb pending. D	300.0	150.0	Yes	Location	2017	2019
36	Resources and environment	Waste management	Public	Waste Management centre Lečevica	CGO Lečevica d.o.o	Waste management centre covers area of Split – Dalmatia County. WMC includes facility for mechanical biological treatment of waste landfill for treatment of waste, administrative facilities. It also includes construction and equipping of the 9 transfer stations within project area.	Yes*	Draft FS / CBA – to be revised, EIA – completed; Location permit – not issued yet D	59.0	41.3	Yes	Property issues – partially solved	2015	2018
37	Resources and environment	Waste management	Public	Waste Management centre Antunovac	EKOS d.o.o. za gospodarenje otpadom	Waste management centre covers area of Osijek – Baranja County, Vukovar – srijem county and partially Brod – Posavina county	Yes*	FS for the setting of the WM system for the 7 counties of the continental part of the Croatia has been finalised - this is one of three sites to be developed.	30.0	24.0	Yes		2016	2018
38	Resources and environment	Waste management	Public	Remediation of location highly polluted by waste ("hot spot") - Sovjak	Primorsko-Goranska county Municipality Viškovo	Sanation of the Sovjak pit with estimated during which time it is estimated that some 250,000 m3 of materials (hazardous, mainly industrial waste)	Yes*	Draft FS / CBA, Preliminary design, tender documentation, EIA pending D	53.0	34.5	Yes		2016	2020
39	Resources and environment	Natural resources: efficient and secure availability - Watermanagement	Public	Regional water supply Zagreb East	Vodoopskrba i odvodnja Zagrebačke županije d.o.o.	Construction / reconstruction of the main water supply pipeline and secondary water supply network (including pumping stations) in the Eastern part of the Zagreb county (towns: Dugo Selo, Ivanić Grad, Sveti Ivan Zelina i Vrbovec; municipalities Brckovljani, Rugvica, Kloštar Ivanić, Križ, Bedenica, Dubrava, Farkaševac, Gradec, Rakovec i Preseka.	Yes*	FS/CBA completed, partial design studies available	70.0	70.0	Yes		2015	2019

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									(EUR mil)	(EUR mil)				
40	Resources and environment	Natural resources: efficient and secure availability - Water management	Public	Regional water supply system Eastern Slavonija	Hrvatske vode	Construction / reconstruction of the main water supply pipeline and secondary water supply network (including pumping stations) in the Eastern part of Slavonija (Vukovarsko-srijemski i Brodsko-posavska županija)	Yes*	Preparation stage	75.0	75.0	Yes		2016	2019
41	Resources and environment	Natural resources: efficient and secure availability - Water management	Public	Regional water supply system Bjelovar-Bilogora County	Bjelovarsko-bilogorske vode d.o.o		Yes*	Preparation stage	36.0	36.0	Yes		2016	2018
42	Resources and environment	Natural resources: efficient and secure availability - Water management	Public	Regional water supply system Koprivnica-Križevci County	Komunalac d.o.o. Koprivnica; Komunalije d.o.o. Đurđevac; KP d.o.o. Križevci		Yes*	Preparation stage	56.9	56.9	Yes		2016	2018
43	Resources and environment	Natural resources: efficient and secure availability - Water management	Public	Regional water supply system Sisak-moslavina County	Sisački vodovod d.o.o.		Yes*	Preparation stage	55.8	55.8	Yes		2015	2018
44	Resources and environment	Natural resources: efficient and secure availability - Water management	Public	Regional water supply system Moslavačka posavina	Moslavina d.o.o. Kutina		Yes*	Preparation stage	38.5	38.5	Yes		2015	2018
45	Resources and environment	Natural resources: efficient and secure availability - Water management	Public	Regional water supply system Osijek	Vodovod-Osijek d.o.o.		Yes*	Preparation stage	9.7	9.7	Yes		2015	2017
46	Resources and environment	Natural resources: efficient and secure availability - Water management	Public	Regional/Local Drainage projects	Various	72 independent projects part of the Implementation Plan for the compliance with EU water utility directives	Yes*	Preparation stage	2,999.6	1,499.8	Yes (1/3 of total investment)	Insufficient funds	2014	2020
47	Knowledge and digital economy	Private R&D	private / public	Venture capital Fund	TBD	Promoting venture capital, including set up of a hybrid private/public VC Fund, to support the growth of Croatian SMEs, particularly innovative and high-growth SMEs	Yes	In preparation (only public funds indicated in the next columns)	20	20	Yes		2015	2020

No.	Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Intended for EU Funds (yes / no)	Barriers/ solutions	Planned start of implementation (year)	Planned completion date (year)
									(EUR mil)	(EUR mil)				
48	Knowledge and digital economy	Public R&D	public / private	Science and Technology Park of the University of Rijeka	Step RI d.o.o.	Extension of existing facilities and services and construction of a new science and technology center on a new location. STEP RI promotes entrepreneurship based on knowledge and new technologies and commercialization of scientific and technical work of scientists through: office and laboratory space for start-ups and spin-off companies and high-quality accommodations for rapidly growing technology and service companies; training in entrepreneurial skills; business consulting related to R&D, innovation and support in going to market (go-to-market), with the creation of new products, services and business models; establishment and promotion of cooperation between the scientific and business communities; creating opportunities for the internationalization of business and new markets; providing soft landing services for foreign companies and their research and development units and creating a knowledge center for innovation methodology.	No	Preparation stage	72	15	No	Insufficient funds	2016	2018
49	Knowledge and digital economy	Public R&D	public / private	Technology Park Varaždin - Competence Centre for Renewable Energies	Technology Park Varaždin d.o.o.	Further development of the Technology Park Varaždin, including the construction and development of a Competence Centre for Renewable Energies - industrial R&D focused on applied research and commercialization of research results in the field of renewable energy. Contribution to the development of technologically innovative economy.	No	Preparation stage	52.0	26.0	No	Insufficient funds	2016	2018
50	Knowledge and digital economy	Public R&D	Public	Centre of Competence for Transitional Medicine at the Children's Hospital Srebrnjak	Children's Hospital Srebrnjak	Constructing and equipping of the medical research building (in accordance with EE/green principles of construction)	Yes*	FS, CBA, - under finalisation (by march 2015) Tender documentation (by march 2015) D	45.0	45.0	Yes		2015	2018
51	Knowledge and digital economy	Public R&D	Public	Open scientific infrastructural platforms for innovative applications in economy and society (O-ZIP)	Institute Ruđer Bošković	Construction and equipping of new building in the Institute Ruđer Bošković. The aim is to improve accessibility of equipment and knowledge services of the IRB to the wider business and science community focusing on the areas in which IRB has strong research competencies (linked to Smart Specialisation)	Yes*	Draft FS/CBA (end 2014)	50.0	50.0	Yes		2017	2020
52	Knowledge and digital economy	ICT Infrastructure	public / private	Development of aggregation (backhaul) NGN networks in NGN white and grey areas in Croatia	Odašiljači i veze d.o.o.	Construction of the backhaul portion plus access (middle mile and last mile) of the NGN network in the white (no broadband service) and grey area (existing but non-adequate broadband service)	Yes*	Materials for the pre(notification) to EC in terms of state aid compliance - ready. FS, CBA, design studies and permits – to be prepared / issued. D	980.0	100.0	Yes (1/5 of total investment)	Insufficient funds	2015	2025
53	Knowledge and digital economy	Education	Public	E-schools programme	Carnet	The aim of the project is to complete computerization of 1,400 primary and secondary schools on the Croatian territory with the general aim of contributing to the readiness of students for the labor market or further education through digitally mature schools (Digital maturity is the willingness of the school and the entire education system to accept and exploit the potential of information and communication technology (ICT) to support the improvement of teaching and business processes in schools and the school system). The project is developing several essential components including connecting schools to fast and ultra-fast Internet, building local networks in schools, the development of e-services for business and educational processes, the use of ICT in teaching, digitization of educational content, acquisition of necessary ICT equipment for schools and teachers, and the education and support of all stakeholders involved in the project.	Yes*		287.3	186.7	Yes (Pilot phase only)	Insufficient funds	2016	2020

No.	Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Intended for EU Funds (yes / no)	Barriers/ solutions	Planned start of implementation (year)	Planned completion date (year)
									(EUR mil)	(EUR mil)				
54	Energy union	Connections and production	public / private	LNG Terminal Omišalj	LNG Hrvatska d.o.o.	Construction of a regasification terminal in Omišalj on the island of Krk. The terminal will provide additional source of natural gas for the Croatian market, and also be a distribution point for natural gas to the surrounding market including Italy, Austria, Hungary, Romania and Slovenia. For this purpose, a new natural gas pipeline between Croatia and Hungary was built.	Yes	FS under way	760.0	114.0	No	Insufficient funds	2017	2020
55	Energy Union	Connections and production	Public	Project Zagreb on Sava (HE Podused)	Program na Savi d.o.o.	Hydro Electric Power Plant Podused 46 MW (the first object to be realized, and it is expected that the completion of the preparation and the start of implementation to be in 2017).	Yes	In preparation	1208	140	No	Insufficient funds		
56	Energy union	Connections and production	public / private	Network of stations with LPG and stations for the power supply	Croatian Motorways Ltd.	The realization of the network of stations with LPG and stations for the power supply with a view to expand the supply of fuel for motor vehicles	Yes	In preparation	7	3	No	Insufficient funds	2016	2018
57	Energy Union	Connections and production	Public	Interconnection Croatia/Slovenia (Bosiljevo-Karlovac-Lučko-Zabok-Rogatec)	PLINACRO	Along with the existing interconnection Karlovac-Lučko-Zabok-Rogatec, a new gas pipeline system Bosiljevo-Karlovac-Lučko-Zabok-Rogatec has been planned which would significantly increase the capacity of the interconnection of the Croatian and Slovenian gas transmission systems in this direction. Considering almost all existing and new supply directions in the surrounding region and the Croatian storage potentials, this opens significant transit potentials in both directions. The current capacity is a one-way in direction from Slovenia to Croatia and it is limited: the section from Bosiljevo to Lučko up to 2.5 bcm/y, and the section from Lučko to Rogatec up to 1.5 bcm/y. Construction of this interconnection is crucial both for the security of supply of the Croatian market as well as other markets in the SE region. The interconnection Bosiljevo – Karlovac – Lučko – Zabok – Rogatec is possible to connect to the future IAP project and to the future LNG solution on the island of Krk.	Yes	In preparation	110	60	No	Insufficient funds		
58	Energy Union	Connections and production	Public	Compressor stations	PLINACRO	Construction of such facility is necessary due to opening of the gas market and providing sufficient transmission capacities and pressure conditions of natural gas delivery in compliance with the requirements of the users and development of the gas market in Croatia and the surrounding. It significantly increases efficiency of the gas transmission system.	Yes	In preparation	55	30	No	Insufficient funds		
59	Energy Union	Connections and production	Public	IAP (SPLIT-ZAGVOZD-PLOČE-DUBROVNIK-DOBREČ)	PLINACRO	The Ionian Adriatic Pipeline (IAP) project has been recognised as a project of significant importance. This gas pipeline connection of the new Croatian gas pipeline transmission system with the TAP project (Trans – Adriatic Pipeline) in Albania presents a basis of the South-East Europe gas ring and creates a prerequisite for the gasification of the significant part of the region. As such, it has been included on the list of the Projects of Common Interest (PCI) and the list of Projects of Energy Community Interest (PECI). This project would provide diversification of gas supply from the Caspian and the Near East sources to the neighbouring countries. The project has been given a new dimension by the decision of the SHAH DENIZ II consortium on selection of the TAP for the project of transmission of new natural gas quantities from the Caspian sources of the same name to the European market.	Yes	In preparation	330	60	No	Insufficient funds		
60	Energy Union	Connections and production	Public	EL-TO Zagreb - Replacement of the block A with the new CCCGT plant and heat accumulator	HEP Production	In CHP Zagreb is planned to build a new replacement combined-cycle cogeneration plant driven by a gas turbine engine (CCCGT), to replace old production unit, block A (nominal power of 11.5 MW and the total nominal thermal capacity of about 70 MWth).	Yes	In preparation	189.2	18.92	No			
61	Energy Union	Connections and production	Public	Revitalisation of the HE SENJ	HEP Production	Investment involves the exchange of large machines (generators and transformers), 110 kV and MV switchgear, replacement of connecting lines and HV cables, relatively small work on systems USZMR and arrangement of auxiliary facilities.	Yes	In preparation	38.3	19.3	No	Public procurement, quality of documentation, insufficient funds		
62	Energy Union	Connections and production	Public	HE Dubrovnik II, phase	HEP d.d.	The basic idea of the project phase II HPP Dubrovnik is to have installed flow HPP Dubrovnik from the current 90 m ³ / s increase to 210 m ³ / s, to the energy produced at the plant switched from the initial part of the more valuable, the peak part. In order to achieve this it is necessary to build new supply tunnel, a water chamber, lock pressure pipelines, two pressure pipelines, the existing engine installed two production groups, each installed flow of 60 m ³ / s and build new drainage tunnel.	Yes	In preparation	173.3	17.33	No			
63	Energy Union	Connections and production	Public	HE Molve 1 i 2	HEP d.d.	HE MOLVE 1 and HPP MOLVE represent a technical solution for multi-purpose systems that use the same section of the river hydropower potential, all located on the Croatian territory. Such a variant with two steps on the same section of the Drava implied HE MOLVE one of 47 MW and 235 GWh / year, and HE MOLVE 2 of 51 MW and 248 GWh / year.	Yes	In preparation	456	45.6	No			

No.	Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Intended for EU Funds (yes / no)	Barriers/ solutions	Planned start of implementation (year)	Planned completion date (year)
									(EUR mil)	(EUR mil)				
64	Energy Union	Connections and production	Public	HES Kosinj / HE Senj 2	HEP d.d.	On the basis of complete and comprehensive analysis defined the optimal solution for the further development of HES Senj which is achieved by: increasing strength and power generation, flood control and increase agricultural production areas downstream of Lake Denison, safe water supply of the North coast that this project provides a multifunctional character, increases the regulated removal of high waters of Lika in the Adriatic Sea.	Yes	In preparation	600	60	No			
65	Energy Union	Connections and production	Public	TE Plomin C	HEP d.d.	Replacement Facility TEP C, with the associated infrastructure, is located on an existing building plot of Plomin thermal power plant. The location is mostly located in the municipality Kršan, to a lesser extent (the coastal edge of the Plomin Bay) in the town of Labin. TEP C is envisaged by the concept of modern power plants of pure coal technologies with a view to modernizing will improve the situation from the standpoint of environmental impact at a number of aspects. TEP C is constructed as the condensing block of 500 MW at the generator terminals combustion of coal dust in space and supercritical steam condition of 30 MPa and 600 °C, with one intermediate steam at 610 °C. In the selection of technical solutions there have been analyzed numerous solutions of similar plants in the world and as a reference plant was selected Torrevaldaliga power plants in Italy. Replacement TEP C will produce electricity with 25 percent less fuel per kWh of Plomin 1 TEP C will produce 3,600 GWh of electricity to the consumption of 1.1 million tons of coal annually. For the supply of coal will be used existing wharf for coal. The construction of TEP C reduces air emissions from the site and improves the state of the environment thanks to a new, modern solutions.	Yes	In preparation	810.7	81.07	No			
66	Energy Union	Connections and production	Public	TE Rijeka	HEP d.d.	TE Rijeka became operational in 1979 and is located in front of the end-of-life duration and need to find the best solution for the revitalization of existing or construction of new power plants. Fuel oil used as fuel becomes increasingly difficult and increasingly difficult deliverable meets the criteria of environmental protection, thus jeopardizing readiness, availability and reliability TE Rijeka. The current state of emissions into the environment is such that the results of measurements of the plant can be operated up to 2017 years, after that do not meet the IPPC Directive (Directive 2010/75 / EU of 24.11.2010.). As an alternative fuel for the new plant is planned natural gas pipeline must be the local lead of IAS River-east to the location of TPP Rijeka. A new unit of the river will have installed capacity of between 300 and 600 MW with investment value of 300 million euros. The envisaged role of future TE Rijeka in the Croatian electric power system is working at peak regimes and engagement than 4,000 hours of work per year. One option provides for the construction and production of heat energy required by INA Rijeka refinery. The project is at an early stage of development where they discussed various embodiments of the installed capacity and the amount of heat energy for the needs of industrial consumers.	Yes	In preparation	306.7	30.67	No			
67	Energy Union	Connections and production	Public	VHS Osijek	HEP d.d.	VHS Osijek is a multipurpose hydro-technical system, which would be performed at the Osijek-Baranja County, in the lower course of the river Drava in the area between the City of Osijek and the upstream profile on which this river becomes the border watercourse. This procedure on the best way to harmonize environmental protection of water (flood, erosion of shores and drainage of riparian waters) and conditions of use water of the river Drava (for food production, water supply, navigation, power generation, protection and restoration of natural habitats, and for sport and recreation).	Yes	Idea	346.7	34.67	No			
68	Energy union	Energy efficiency in buildings	public / private	Programme of energy reconstruction of family houses 2014 - 2020	FZOEU	Measures to improve energy efficiency in households. The objectives of this program are the identification and analysis of energy consumption and energy efficiency of the existing housing stock, to identify the potential and possibilities of reducing energy consumption in existing residential buildings, working out the implementation of measures to encourage improvements in energy efficiency in existing residential buildings and to assess their impact. The program is focused on improving the energy performance of existing buildings and measures can be grouped into three groups: encouraging the renewal of the outer shell (increasing the thermal protection of the outer shell, window replacement), encouraging the replacement of the heating system (replacement of existing heating systems that use electricity or fossil fuels, new systems with condensing gas boilers) and encouraging the use of renewable energy (installation of solar thermal collectors, installation of heat pumps and the installation of small biomass stoves).	Yes	In implementation	577.5	82.5	Yes		2014	2020
69	Energy union	Energy efficiency in buildings	public / private	Programme of energy renovation of residential buildings 2014 - 2020	FZOEU	Measures to improve energy efficiency in households. The objectives of this program are the identification and analysis of energy consumption and energy efficiency of the existing housing stock, to identify the potential and possibilities of reducing energy consumption in existing residential buildings, working out the implementation of measures to encourage improvements in energy efficiency in existing residential buildings and to assess their impact. The program is focused on improving the energy performance of existing buildings and measures can be grouped into three groups: encouraging the renewal of the outer shell (increasing the thermal protection of the outer shell, window replacement), encouraging the replacement of the heating system (replacement of existing heating systems that use electricity or fossil fuels, new systems with condensing gas boilers) and encouraging the use of renewable energy (installation of solar thermal collectors, installation of heat pumps and the installation of small biomass stoves).	Yes	In implementation	560	240	Yes		2014	2020
70	Energy union	Energy efficiency in buildings	public / private	Programme of energy renovation of commercial non-residential buildings 2014 - 2020	FZOEU	Commercial non-residential buildings in Croatia can be defined as building the business and service characters, including office and commercial buildings (shops, wholesalers, dealers, retail warehouses), hotels and other tourist facilities, restaurants, catering facilities, banks etc. The Programme of energy renovation of commercial non-residential buildings will be applied to economically justified energy efficient technologies and measures in non-residential buildings for commercial purposes in order to develop new business and entrepreneurship, continuous and systematic energy management, strategic planning and sustainable management of energy resources at the national, regional and local level.	Yes	In preparation	525	225	Yes (in part)	Lack of co-funding	2015	2020

No.	Sector	Subsector	Private/Public/PPP	Projectname	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Intended for EU Funds (yes / no)	Barriers/ solutions	Planned start of implementation (year)	Planned completion date (year)
									(EUR mil)	(EUR mil)				
71	Energy union	Energy efficiency in buildings	Public	Programme of energy renovation of public buildings	APN - Agency for Transactions and Mediation in Real Estate	One of the goals is to fulfill the requirements pursuant to Directive 2012/27 / EU on energy efficiency, according to which the Member States are required to ensure annual renewal of 3% of the total floor heated and / or cooled buildings in the ownership and use of the central government. The Law on the efficient use of energy in final consumption (Official Gazette no. 152/2008, 55/2012 and 101/2013) and the Decree on contracting and implementation of energy services in the public sector (Official Gazette No. 69/2012) regulates the procedure of conducting energy services	Yes	In implementation	700	300	Yes	Lack of co-funding	2014	2020
72	Energy union	Energy efficiency in buildings / Social component	public / private	POS Renting - Social housing programme	APN - Agency for Transactions and Mediation in Real Estate	Investments supporting the social and affordable housing sector, which comprises retrofitting of existing properties and construction of new energy efficient housing.	Yes	In implementation	420	380	No	Lack of co-funding	2014	2020
73	Energy union	Energy efficiency	public / private	Heat rehabilitation programme - Programme of increasing energy efficiency of the district heating sector	FZOEU	Improvement of the efficiency of the district heating system - The majority of DH systems are running beyond their design life, and require major replacement and technological upgrades for boilers, substations and network pipes. Current levels of heat losses range 13% to 23% vs. 6-7% best practice, while water losses reach up to 50 times change a year vs. 1 change in best practice.	Yes	In preparation	140	140	Yes	Lack of co-funding	2014	2019
74	Energy union	Energy efficiency	private / private	Programme of increasing energy efficiency and use of RES in manufacturing industries and service sector	FZOEU	Increasing energy efficiency and use of RES in manufacturing industries and service sector - Share of industry sector in final energy consumption is 18% and in service sector around 12% and it is dominantly carbon based. The aim is to support measures that will contribute to the improvement of energy efficiency as well as introduction (switch to) renewable energy sources.	Yes	In preparation	420	300	Yes	Lack of co-funding	2014	2020
75	Social infrastructure	Health	public / private	Renovation and equipping of Special Hospital Lipik, Daruvarske toplice and CITY Pakrac	CFCA	The goals is renovation and equipping of health-tourism infrastructure in the Special Hospital Lipik, Special Hospital Daruvarske Toplice and Town of Pakrac. Establish the health tourism offer in Bjelovar-Bilogora County and Požeška-Štavljanina that will be sustainable, recognizable, competitive and compliant with regional economic needs and opportunities.	Yes	In preparation	49.8	14.94	No	Insufficient funds for co-financing	2016	2018
76	Social infrastructure	Health	public / private	Reconstruction and equipping of Terme Varaždinske toplice	CFCA	The overall objective is to encourage the development of medical and health tourism. The main goals are improvement of efficiency, capacity, quality and attractiveness of existing medical and healthcare offer of Varaždinske toplice and development of the of destination Varaždinske toplice as a regional centre of health and wellness tourism.	Yes	FS, CBA under development	64.3	32.15	No	Insufficient funds for co-financing	2015	2019
77	Social infrastructure	Health	public / private	Programme of construction and reconstruction of health facilities including energy renovation	CFCA	The overall objective is to encourage the development of medical and health tourism. The medical and health tourism are identified as one of the main directions of development of tourism in Croatia. This programme contributes to this goal by renovation and equipping of hospitals, improving the efficiency, capacity, quality and attractiveness of existing medical and healthcare offers. This will be done primarily through the renovation and equipping of the hospital complex in compliance with European standards and energy efficiency standards in the field of medical and health tourism as well as through employee education. Other goal is to improve health care delivery for the vulnerable groups.	Yes	In preparation	255.3	76.59	No	Insufficient funds for co-financing	2016	2020

* Included in the major projects list of the ERDF and Cohesion Fund funded operational programme for 2014-2020



CYPRUS



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A/A	Sector	Subsector	Private Public PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015-2017 (EUR bn)	Barriers/solutions
1	Entrepreneurial Innovation	Advanced Manufacturing, Health, Transportation, ICT, Construction	Public	Scheme for Entrepreneurial Innovation - Developing Innovative products and Services for the International market.	Ministry of Energy Commerce Industry and Tourism	<p>The grant Scheme on Entrepreneurial Innovation - Developing Innovative products and Services for the International market, is supporting 39 Innovative companies, through the 1st call, to develop innovative products and services for the international market. Some of the products are protected with patents in most countries of the world. One company that has completed the project has already secured three international sales of its "one cycle plastic injection-blowing machine". Its main competitors are two Japanese Companies. Another company that has almost finished the project, produces medical rehabilitation equipment and again its main competitor is a Japanese company.</p> <p>The above companies need capital to expand fast but in Cyprus there is no venture capital market and the Banks do not give loans to innovative companies that have only intellectual property as collateral. Therefore, the subsequent expectation is the injection</p>	Yes. The private companies have received, or are in the process of receiving, a grant from the structural funds that are co-financed by the European Union and the Cyprus Government.	In progress, some companies have finished and some are half way through, while all will finish by June 2015.	0,100 bn	0,020bn	Barriers is the lack of Venture Capital in Cyprus. Solution will be the supply of repayable loans against shares in the company until the loan is repayed.

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						of venture capital in these highly innovative companies, whereas in Cyprus this is not possible due to the present economic situation.					
2	Research Innovation Technology	Proposed research fields (to be defined): Telecommunications, Information Technology, Nanotechnology, Science Pharmaceuticals, Biomedicine, Biotechnology Green Sciences, Botany, Agriculture Natural gas crude oil and petrol derivatives – Petrochemicals R&D	Not defined yet. Maybe BOT	Science Technology Park	Ministry of Energy, Commerce, Industry and Tourism Cyprus	The Science Technology Park (STP) in Cyprus, is expected to be in the form of a Knowledge Park with the scope of promoting research, innovation and technology in order to enhance the entrepreneurial and industrial development of Cyprus and its transformation into a regional research and innovation center that will contribute to the diversification of the economy. It is expected that the STP will provide quality jobs to high calibre graduates through the creation and operation of applied research and development centers, office and support facilities suitable for science and technology businesses and the creation of business incubators and clusters.	Indirectly: The Republic of Cyprus will provide the Land. (appr. 300 000 sqm.) The Land will be leased to the Strategic Operator	Assigning external Consultants to prepare and publish the tender and contract documents for a Strategic Operator. Estimated time for publishing the tender: March 2015 Incentives to be defined after discussion with the Consultants and negotiations with the Strategic Operator	Not defined Estimations EUR 20-100 millions (according to costs of other Technology Parks built in Europe)		
3	Social infrastructure. Resources and environment	Built environment and urban services	Public	Peri Urban waste Water Treatment	Water Development Department, Ministry of Agriculture and	The project will support Cyprus' Central Government's strategy for compliance with the EC Urban Waste Water Treatment Directive ("UWWTD") and will cover a defined programme of major investments in	Yes	In Progress, Very slow implementation because of macroeconomic uncertainty and lack of	0.75 bn	0.100bn	Macroeconomic uncertainty and lack of Fiscal space. Though EIB has approved

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					Natural Resources.	wastewater collection and treatment that are required in fifty-seven agglomerations outside big cities. The project encompasses networks and treatment facilities in fifty-seven agglomerations that account for a wastewater load of 860,000 persons equivalent, according to the NIP 2008's inventory. There are seven urban and fifty rural agglomerations, for which thirty waste water treatment plants ("WWTP") are planned, in total, to be constructed. Parts of the infrastructure have been or are under construction, mainly where the urban sewerage boards are extending existing networks and plants.		Fiscal space.			50% of the financing of the project there is lack of funding of the remaining 50%
4	Education and training	Public R&D ICT Infrastructure	Public	University of Cyprus	University of Cyprus	The project concerns construction, renovation and the upgrading of facilities for research as well as teaching at the University of Cyprus. The project will also improve the energy efficiency of the premises.	Yes	The project comprises investment schemes to be implemented in the period 2014-2019.	0,216bn	0,100bn	Macroeconomic uncertainty and lack of Fiscal space.
5	ENERGY UNION		Public	KODAP STRATEGIC OIL RESERVES STORAGE	KODAP	The purpose of the project is the construction of a 210 kt tank-farm in the industrial area of Vasilikos, Cyprus, replacing and extending the aging 100 kt storage facilities currently used in Larnaca. The project	Yes	The project will be implemented in the period 2016-2017.	0,040bn	0,040bn	

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						<p>consists of two 30 kt automotive gasoline tanks, two 30 kt diesel tanks, one 30kt gas oil tank and two 30kt Jet fuel tanks. Each tank is expected to be 46m in diameter and 25m in height. When built, the project will cater for around 40% of the island's stock-holding obligation.</p>					
6	ENERGY UNION	Energy efficiency in buildings	Private	Energy Efficiency and energy upgrading of Households	Private	Energy Efficiency and energy upgrading of Households. A special fund will be created in order to offer loans with competitive terms to household for Energy Efficiency and energy upgrading	NO	Under study	0,120bn		Luck of funding



CZECH REPUBLIC



CZECH REPUBLIC

THESE ARE ILLUSTRATIVE INVESTMENT PROPOSALS COMPILED BY DIFFERENT BRANCHES AND LEVELS OF ADMINISTRATION. THE GOVERNMENT HAS NOT COMMITTED ITSELF TO IMPLEMENT THIS LIST.

List of Projects - Knowledge and Digital Economy

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan	Status	Total investment costs (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Knowledge and the Digital Economy	Public R&D	public	ALLEGRO Project	consortium of research institutes	ALLEGRO is a Gas-cooled Fast Reactor (GFR) demonstrator, as identified in the roadmap for development of the GFR technology. The project is run by a consortium of research institutes. It is to be implemented in HU, SK, CZ, and PL.	No	A Memorandum of Understanding was signed on 20 May, 2010 between ÚJV Řež, a.s. (Czech Republic), MTA-EK Budapest (Hungary) and VUJE, a.s. (Slovakia). The National Centre of Nuclear Research (NCBJ) Warsaw (Poland) signed the Memorandum of Understanding in 2012 as associated member.	n.a. (for CZ) 0,13 (PL)	n.a. (for CZ) 0,06 (PL)	Lack of long term finance, Low propensity of private sector to co-fund research infrastructures
Knowledge and the Digital Economy	ICT Infrastructure	public private	Enhancement of the internet end users' security by European technologies	CZ.NIC	The aim is to support the internet end users' (households and small enterprises in particular) protection and ensure high level of protection of their privacy thanks to the production of such device (modem, router) in the EU. Currently EU has to count on Chinese or American devices, which are often inconsistent with the European concept of security and privacy. 100 000 end devices would be produced, which would be distributed in at least 5 - 7 EU countries. The project would have clear EU added value represented by using the devices in different EU countries and by the cooperation on the analysis of malware (botnets) among other European workplaces, particularly of CERT/CSIRT type.	No	Currently, in the framework of the TURRIS pilot project, 1.000 units of the safe device were produced and distributed predominantly in the Czech Republic. In 2015, there are plans to produce additional 1 000 units, but this will by far not cover the existing demand. The data from these devices are evaluated by the Czech national cybersecurity team, the CSIRT.CZ, which also draws on the findings of similar institutions in the EU and of the ENISA agency. Other EU member states such as Estonia, Finland, Slovakia and Slovenia have already expressed an interest in the project and equipment was provided to them for pilot testing.	0.030	0.0275	The main barrier preventing launch of such device production is the price to be paid by end users, which are in most cases not capable of paying higher price (approx. 3x higher than now) for their security. Given that the protection of end users and the cybernetic security is in the best interest of not only the state, PPP would be a solution.
Knowledge and the Digital Economy	ICT Infrastructure	public private	Interconnection of reliable networks and establishment of "European internet" (EUNet).	CZ.NIC	The aim of the project is the creation or reliable networks for the data transfers and their accessibility in the case of cybernetic attack (DoS). The condition for connection of individual networks is abundance of certain organizational and technical measures guaranteeing the ability to effectively face the cybernetic threats and react to them accordingly. When the cybernetic attack happens these networks are disconnected from the attackers' networks and ensure operation only among themselves. As many as possible subjects from EU are involved and the safe and protected "European internet" can be created in case of a cybernetic attack. The project would bring clear EU added value as Europe is currently not capable of facing cybernetic threats.	No	At present a pilot phase of FENIX project is being implemented in the Czech Republic, which covers the mutual interconnection of reliable networks that would be enlarged by other European partners. A wider circle would be created offering the European on-line contents and services and the project can be implemented in a short term period. Currently, the project involves nine members including Seznam.cz - the biggest search engine in the Czech Republic, Telefonica O2 - the largest Internet service provider for end users or web hosting companies like Active 24.	0.025	0.020	The main barriers for its smooth implementation are organizational and technical requirements. The other barrier is the current limited national range of the project, which covers only the partners in the Czech Republic. The barrier could be removed by establishing similar networks in other EU countries and their direct connection, so called "peering".

Knowledge and Digital Economy / SMEs	Private RDI (Development of business infrastructure, incl. support to export and cooperation in the area of RDI)	public	Group of three projects: 1.International technological	Ministry for Industry and Trade / CzechInvest	Cooperation of technological SMEs and enterprises outside the Czech Republic concerning technologically demanding RDI projects.	No	Current implementation is being financed by the national funds, which are not sufficient and additional funding would be needed.	0.5	0.05	Lack of necessary funds for the full implementation.
			2.Product and procedure certification	Ministry for Industry and Trade / CzechInvest	Facilitation of obtaining branch specific certificates of quality management.	Yes, sectorial	Not implemented			Lack of necessary funds for the implementation.
			3.Support to formation and development of start-ups incl. internationalization	Ministry for Industry and Trade / CzechInvest / partially Ministry of Education	Support to formation of new businesses, spirit of business, development of innovation ideas and projects, incl. creation of acceleration programmes and better access of SMEs to new technological solutions in the Czech Republic and abroad through the internationalization in developed markets (new business models etc.). Projects aimed at transfer of knowledge from developed SME markets, seminars, implementation of Business Lab, short-term attachment in companies, adjustment of education programmes to market demand, innovation vouchers, support to formation of spin-off businesses, improved protection of intellectual property.	Yes, sectorial	At present the project is being partially implemented (programmes CzechAccelerator and CzechEkosys), covered from EU funds (Operational Programme Enterprise and Innovation) until the middle of 2015. It is well prepared to be implemented also after year 2015.			Lack of necessary funds for implementation after 2015. Another bottleneck represents finding partners for implementation (fragmentation of national support to RDI and start-ups, non-existing support to spirit of enterprise among students).

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List of Projects - Energy Union

Sector	Subsector	Private/Public/PP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment costs	Investment in 2015 – 2017	Barriers/solutions	Additional information
								(EUR bn)	(EUR bn)		
Energy Union	Connections and Production	private	Pumped-storage hydroelectric plant Lipno - Aschach	LIPNO-ASCHACH s.r.o.	Construction of a supranational plant connecting the rivers Vltava (CZ) and Danube (AT), with the multiday cycle of power up to 1 000 MW. Flood control as well as energy security function.	No	Prepared, not implemented due to the lack of financing. Private partner is being searched.	1,5-2,0	0.5	Lack of financing - search for a private investor. Insufficient political support.	
Energy Union	Connections and Production	public	Support of development of North-West region in the area of security of energy supply	ČEPS, a.s.	Three subprojects: New double circuit OverHead Line between two substations, construction of two new substations (both 420 kV)	No	Implementation is planned to start in 2016, one project could be delayed to 2017 due to the approval processes.	0.1134	0.086	The operator of the power grid generally faces the regulatory barriers causing that the preparation phase is rather long. The barriers relate in particular to the legislation, regulation on the market and administrative obstacles. Property purchase and the time needed for the whole approval procedure connected with the preparation of the project represent the main problems.	Two PCI projects, one of them is assumed to be financed from the EIB loan (signature is planned for the end of November 2014)
Energy Union	Connections and Production	public	Support of development of region South Bohemia and Vysocina in the area of security of energy supply	ČEPS, a.s.	Three subprojects: reconstruction and enlargement of two substations (2nd stage in one case), connecting of existing line to a substation.	No	Implementation is planned to start in 2016	0.1408	0.0573	The operator of the power grid generally faces the regulatory barriers causing that the preparation phase is rather long. The barriers relate in particular to the legislation, regulation on the market and administrative obstacles. Property purchase and the time needed for the whole approval procedure connected with the preparation of the project represent the main problems.	Three PCI projects.
Energy Union	Connections and Production	public	Modernization of Hradec substation and improvement in handling of cross-border electricity flows	ČEPS, a.s.	Two subprojects: replacement of an existing transformer (400/220 kV) in a substation and phase shifting transformers (a measure to control unplanned flows of electricity on CZ - DE profile)	No	Implementation is planned to start in 2016 and 2015 in case of the phaseshifters	0.0827	0.0827	The operator of the power grid generally faces the regulatory barriers causing that the preparation phase is rather long. The barriers relate in particular to the legislation, regulation on the market and administrative obstacles. Property purchase and the time needed for the whole approval procedure connected with the preparation of the project represent the main problems.	Two PCI projects, both projects are assumed to be financed from the EIB loan (signature is planned for the end of November 2014)
Energy Union	Connections and Production		Modernization of control systems of substations involving elements of SMART technology	ČEPS, a.s.	Five subprojects: upgrade of control system, protection schemes and renewal of transformer for self-consumption ; modernization of a transformer; security and control systems of a substation; reconstruction of control and security systems and replacement of a transformer in a substation; replacement of a transformer (220/110 kW for 400/110 kW) in a substation	No	Implementation is planned to start in 2015 and 2016	0.0754	0.0622	The operator of the power grid generally faces the regulatory barriers causing that the preparation phase is rather long. The barriers relate in particular to the legislation, regulation on the market and administrative obstacles. Property purchase and the time needed for the whole approval procedure connected with the preparation of the project represent the main problems.	Five projects, four of them are assumed to be financed from the EIB loan (signature is planned for the end of November 2014)

Energy Union	Connections and production	public private	CCGT Mělník	public private company	Combined cycle gas turbine (850 Mwe), flexible source of energy, source of heat for substantial part of the capital (this part is currently heated by coal and availability of this source will decrease rapidly).	No	Project prepared, not implemented due to the barriers.	0.6	0.6	Return on investment; current electric energy market (low prices), like low price of CO2 permit.
Energy Union	Connections and production	public private	PVE Orlik	public private company	Pumped storage plant in the area of existing hydroelectric plant of Orlik reservoir, approx. 2x 80 MWe, flexible source of energy (in order of minutes).	No	Project prepared, not implemented due to the barriers.	0.09	0.09	Accessibility of financial resources and intellectual property law. New ways of risk-sharing should be considered and can represent suitable solution.
Energy Union	Connections and production	public private	Smart metering	public private company	Equipment of distribution network with smart meters (electrometers with bidirectional communication, data infrastructure on subordinate voltage levels, necessary ICT systems) providing better information to customers, potential savings in electric energy (demand side management in general), reduction in electricity thefts etc.	No	Project prepared, not implemented due to the barriers.	0,7-1,4	0,42-0,84	Return on investment (particularly due to high costs of technology) .
Energy Union	Connections and production	public private	Infrastructure for electromobility	public private company	Charging stations, enhancement of network in key nodes, ICT systems supporting the development of mobility, which helps to reach EU goals - decarbonization, dependence on the import of primary energy sources etc.)	No	Project implementation is very slow.	0,055-0,075	0,033-0,045	Return on investment, particularly high price of technologies (incl. electric vehicles) is the main reason for the slow pace of implementation.
Energy Union	Energy Efficiency in Buildings	Public	Use of EPC (Energy Performance Contracting) method for state organizational units	State organizational units	Renovation of technical facilities of buildings using the method of providing energy services with guaranteed result (EPC).	Yes - sectorial	The detailed analysis of potential of buildings is being prepared. The preparation of the investment plan will be prepared subsequently.	0.04	0.04	Lack of public financing for the renovation of state buildings is a general barrier in the Czech Republic and applies here as well. Regulatory barriers for use of EPC method: state organizational units are not allowed to take loans, the registration of financial commitments according to ESA 2010 is not arranged.
Energy Union	Energy Efficiency in Buildings	Public	New Green Savings Program - program of public building (buildings owned by the state)	Ministry of the Environment, State Environmental Fund	Renovation of buildings in order to increase their energy efficiency.	Yes - sectorial	The detailed analysis of potential of buildings is under way. The preparation of investment plan will be prepared subsequently.	0.2	0.075	Allocation of funds under the Operational Programme Environment for energy efficient renovation of buildings in the public sector are insufficient. It is necessary to increase the funds in the new green program savings.

Energy Union	Connections and production (gas industry)	private	STORK II	NET4GAS, s.r.o.	Project is part of the cross-border North - South Gas Corridor, submitted by the Members of V4. Project of the construction the second CZ-PL interconnection. The goal is to ensure safe and reliable transit of gas between these two countries. The new pipeline will allow the increase of transmission capacity between the two countries. Construction will allow flexible transport of gas in Central Europe, ensure diversification of sources.	Yes	EIA is Issued. Preparation LPD.	0.086	0.018	There are regulatory barriers – there are not defined rules for the next regulatory period. The length of the regulatory period versus (5 years) return on investment (50-60 years) is a large investment risk. Lack of financing investment opportunity based on market mechanism.	The project has gained PCI status under Regulation 347/2013.
Energy Union	Connections and production (gas industry)	private	MORAVIA	NET4GAS, s.r.o.	Project is part of the cross-border North - South Gas Corridor, submitted by the Members of V4. In combination with the project Stork II the project will support the development of the North-South connection. The project means also strengthening the security of gas supply for Moravian regions and increase transport capacity for northern Moravia.	Yes	EIA is issued. LPD presented at the MRDR. Continue preparatory work, including archaeological survey.	0.26	0.09	There are regulatory barriers – there are not defined rules for the next regulatory period. The length of the regulatory period versus (5 years) return on investment (50-60 years) is a large investment risk. Lack of financing investment opportunity based on market mechanism	
Energy Union	Connections and production (gas industry)	private	OPTIMUS	NET4GAS, s.r.o.	The program of modernization of compressor stations Kouřim and Břeclav: fulfilment the emission limits, energy efficiency, safety operation, long – distance management of dispatching.	No, it is the reinvestment to sustaining the existing capacity of the gas transmission system	Project preparation and realization of sub projects are underway.	0.037	0.032	Exacting and complex technical solutions. The cost which are given by the requirement to sustain the transmission capacities for period of realization, Difficult economic evaluation of the project because of geopolitical factors and regulatory environment, especially after 2020.	
Energy Union	Connections and production (gas industry)	private	ONI	NET4GAS, s.r.o.	Building the bidirectional interconnections between the Czech Republic and Austria. The goal is a safe and reliable transport of gas between the two countries. The construction allows flexible transmission of gas in Central Europe and increase security of supply and diversification of sources. The project gained PCI status under Regulation 347/2013.	Yes	EIA under preparation	0.144	0.065	There are regulatory barriers – there are not defined rules for the next regulatory period. The length of the regulatory period versus (5 years) return on investment (50-60 years) is a large investment risk. Lack of financing investment opportunity based on market mechanism.	
Energy Union	Connections and production	private	Construction of 2 oil storage tanks with the volume of 125 thousand m ³ each at CTR Nelahozeves.	MERO ČR, a.s.	Increase of storage capacity for strategic stock (including potential diversification of oil types) and increase of handling volume in the periods of regular tank outages.		Valid building permit and prepared implementation project.	0.045	0.045	Insufficient financial resources.	

Energy Union	Connections and production	private	Increase of TAL oil pipeline capacity.	MERO ČR, a.s.	Increase of existing capacity of TAL oil pipeline by 6 million tonnes a year.		Study on capacity increase of TAL oil pipeline prepared by ILF Munich.	0.045	0.025	Implementation approval by partners of TAL oil pipeline and change of existing operation permit for TAL oil pipeline.
Energy Union	Connections and production	private	Construction of a new oil pipeline CTR Nelahozeves – Vohburg.	MERO ČR, a.s.	Construction of a new oil pipeline with close parallel run with the existing IKL oil pipeline allowing for supply to part of Bavaria independently of IKL.		The project is in the stage of negotiation on this option.	0.25	0.18	Necessary agreement about oil supplies between refinery owners in Bavaria and the oil producer. Long period before issue of building and operation permits.
Energy Union	Connections and production (gas storage)	private	Assurance of safety of production wells of underground gas storages in the Czech Republic	RWE Gas Storage, s.r.o.	The project consists mainly of installation of subsurface safety valves and other equipment to the production wells of underground gas storages in order to increase operational reliability and safety of gas storages	no	Ready for immediate implementation	0,032 (until 2020)	0.017	Need to implement due to new legislative obligations regarding safety of operation, for the most risky wells, by 2018. High financial costs of the project in the light of low gas storage prices (financed solely from private sources). Need to implement while sustaining normal operation of gas storages which are needed for security of gas supply.
Energy Union	Connections and production (gas industry)	private	The project consists of two sub-projects: Optimization of RWE GasNet high-pressure network, Brno – Lanžhot and Optimization of RWE GasNet high-pressure network, Uherské Hradiště – Prakšice	RWE GasNet, s.r.o.	This project aims to secure a control system for high-pressure systems at different pressure levels in the given region, to allow connecting this high-pressure system to other regional distribution networks (East Bohemia, North Moravia), and to allow increasing production from natural gas deposits concentrated in the southeast section of Moravia, where production has the potential to increase the diversification of sources of natural gas supplied to end customers in South Moravia, East Bohemia, and North Moravia. Another objective of the optimization is to increase the security of natural gas supply to more than 620,000 customers in all segments in this region.	No	Preparation of design documents	0.0355	0.0179	Negotiation of easements for affected land.
Energy Union	Connections and production (gas storage)	private	The Connection of UGS Facility Dolní Bojanovice to Transmission Pipelines of NET4GAS	SPP Storage, s.r.o., (Operator of Dolní Bojanovice UGS Facility)	The Connection of UGS Facility Dolní Bojanovice with the nominal storage capacity 576 million Nm ³ to the Transmission Pipelines of NET4GAS and Related Technological Adjustments of the UGS Facility.	No	In preparation. Feasibility Studies (2012 and 2014) have been done.	0.02	0.02	The project contributes to the security of supply but it faces up to not sufficient funds so it is necessary to finance it from public resources.

Energy Union	Connections and production (gas storage)	private	Super Quick Gas Storage	GSCeP, a.s.	Cavity natural gas storage with a target volume of 180 mcm (could be updated) located in an extraordinary convenient geological magmatic bedrock. These conditions enable injection/withdrawal using an operating pressure up to 30 Mpa (1 complete injections/withdrawal cycle takes 20 days.) The gas storage is built up in the area of the current uranium mine (which activity is declining) in Dolní Rožínka.	No	Pre-project phase, exploratory works are close to completion. Construction of the gas storage is involved in „The Plan of the Regional Development“ (Document approved by the Government of the Czech Republic).	0,240 (related to the capacity of 180 mcm), based on the current estimates	0.075	The uncertainty in predictions of the future industry's development and related complications in a calculation of the potential investment returns („an inconsistency of the environment“) is considered as the main obstacle.	
Energy Union	Connections and production (gas industry)	private	Gas Pipeline „Mozart“ connecting the Czech and Austrian gas systems. A project of the cross-boarder cooperation.	České plynovody, a.s.	100 km of the high pressure transit gas pipeline connecting the southern line of NET4Gas with Austrian WAG - cross-border project.	No	A study completed. Involved in „The Plan of the Regional Development“ (Document approved by the Government of the Czech Republic).	0.075	0.075	The uncertainty in predictions of the future industry's development and related complications in a calculation of the potential investment returns („an inconsistency of the environment“) is considered as the main obstacle .	
Energy Union	Connections and production (electric energy storage)	private	Electric Energy Storage (CAES Technology)	GSCeP, a.s.	Electric Energy Storage based on use of the compressed air (Adiabatic Compressed Air Energy Storage: A-CAES), target output 60 MW in 40 hours, start up in 5 minutes.	No	Involved in „The Plan of the Regional Development“ (Document approved by the Government of the Czech Republic).	0.036	0.036	The uncertainty in predictions of the future industry's development and related complications in a calculation of the potential investment returns („an inconsistency of the environment“) is considered as the main obstacle	
Energy Union	Connections and production (Petroleum refining industry, Transportation, Storage of automotive fuels)	private	Construction of the pipeline Loukov - Sedlnice	ČEPRO, a.s.	Construction of product pipeline 50 km length, connecting fuel storages of the company Loukov u Kroměříže – Sedlnice u Mošnova.	No	Secured planning permission, ongoing solutions of property relations - provided 90% of the rights to the land in question.	0.02	0.0013	Property purchase. Financing of the project.	
Energy Union	Connections and production (Petroleum refining industry)	private	LNG	ČEPRO, a.s.	Construction of natural gas cryogenisation unit, installation of technology that allows dispensing of LNG / CNG at filling station network of the company.	No	Pending investment plan is prepared (Business Case).	0.043	0.043	Development of the LNG market in the field of automobile transport.	

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List of Projects - Transport

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment costs (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Transport	Corridors and Missing Links (Road Infrastructure)	Public	D11 HRADEC KRÁLOVÉ - JAROMĚŘ	Ministry of Transport / State Fund for Transport Infrastructure	Part of the core TEN-T network, priority project according to the Transport Sector Strategies (TSS), 23 km, and part of the strategic link of CZ and PL by the north-south axis, substantial socio-economic (faster and safer connection, support for the mutual CZ-PL trade) impact is therefore expected.	Yes - sectorial	Valid zoning permits, 90% of land purchased, individual building permits are being requested, tender documentation for tender is being prepared, archaeological survey will start in 2015, the construction in 2016. Economic efficiency of the completion of D11 proved within the feasibility study.	0.45	0.18	Financing from CEF was originally envisaged by the TSS, but it was not accepted by DG MOVE. Other financing resources need to be found. The risks can emerge during the rest of legal procedure in terms of property, obtaining the building permit, delays can occur during the tender for contractor.
Transport	Corridors and Missing Links (Road Infrastructure)	Public	R7 TRIANGLE - SLANÝ	Ministry of Transport / State Fund for Transport Infrastructure	Planned expressway connecting Prague and structurally affected region of North Bohemia with high level of unemployment. It is a secondary connection of Prague and Chemnitz/Leipzig area (DE) – important for mutual CZ-DE trade. The completed expressway will contribute to the socio-economic development of the lagging behind region of North Bohemia and leverage additional private investment to the region. The modernization was completed in the section of industrial zone TRIANGLE – state border (40 km). 36 km remain to be constructed. Furthermore, current I/7 road shows a high accident rate.	Yes - sectorial	Valid zoning decisions for most of the route, preparing to obtain the building permits, economic efficiency of the completion of the road proved within the feasibility study.	0.3	0.11	Expressway R7 is not part of TEN-T, sources from cohesion funds (OP Transport 2014 – 2020) cannot be used. No currently available resources have been identified. Risks can emerge during the completion of preparation and finishing the tenders for contractors for individual sections, PPP project has not been considered.
Transport	Corridors and Missing Links (Road Infrastructure)	Public	TEN-T CONNECTION PROGRAM	Ministry of Transport / State Fund for Transport Infrastructure	In connection of the completed parts of TEN-T, it is necessary to upgrade individual important road infrastructure, that bring substantial transport flows to TEN-T network and serve as interconnections between individual parts of TEN-T. The project will facilitate better interconnections between the municipalities and regions.	Yes - sectorial	Individual first-class roads in direct connection to TEN-T network. Prepared projects of the first class roads are lacking sufficient funds: In particular these roads are prepared to be implemented: I/3 Olbramovice, I/19 Chýnov, I/21 Nová Hospoda (D5) – Kočov, I/27 Šlovice (D5) – Přeštice, Úpravy na I/35 in CZ/SK boarder area, I/37 Chrudim, I/53 Lechovice.	0.6	0.4	Within the TSS, lack of financing for the first-class roads was identified, although the projects are often well prepared and very necessary. Absorption capacity can be even higher than provided funds. Risks can derive from the completion of projects within the programme and successful finishing the tenders for contractors.

Transport	Corridors and Missing Links (Road Infrastructure)	Public	R48 Frydek-Mistek, bypass	Ministry of Transport / State Fund for Transport Infrastructure	Substantial defect point within the TEN-T road network, very good rate of preparation, priority project according to the TSS. Bypassing the city Frydek - Mistek will decrease the volume of transport in the city and fasten the connections within the Moravia-Silesia region.	Yes - sectorial	Economic efficiency of the roads has been proved, substantial risks eliminated, incl. environmental (where necessary exemptions obtained), valid zoning decision, 100% of land purchased, requests for building permits are being submitted.	0.22	0.15	Risks might arise from the necessary time coordination with the removal of old environmental burden (project is currently being prepared).
Transport	Corridors and Missing Links (Road Infrastructure)	Public	R4 SKALKKA - MIROTICE	Ministry of Transport / State Fund for Transport Infrastructure	Improvement of accessibility of south-west Bohemia from Prague and other regions. Project is not covered by the TEN-T network but the accessibility of the region towards Prague, needs to be improved. Until the Central Bohemian part of D3 motorway is completed (not before 2030 due to the complicated preparation and construction) the road is a substitute for TEN-T in the direction Prague – Linz (Austria).	Yes - sectorial	Valid zoning decision for the whole route, preparing to obtain building permits, economic efficiency of the completion of the road proved within the feasibility study.	0.34	0.13	Expressway R4 is not part of TEN-T. ESI Funds (OP Transport 2014 – 2020) cannot be used to finance it. The implementation is purposeful but no resources are available in short-term. Risks and additional barriers for implementation can emerge during the completion of preparation and finishing the tenders for contractors for individual sections.
Transport	Corridors and Missing Links (Road Infrastructure)	Public	LAST MILE CONNECTION	State Fund for Transport Infrastructure	A grant scheme aiming to rehabilitate and finance schemes related to the second- and third-class roads, which connect municipalities and towns to the higher road network. The implementation of the project will contribute to better interconnection within and among the regions of the Czech Republic.	Yes - sectorial	- Different for individual schemes. Approx. 30% prepared, the remaining part of the projects need to obtain building permits.	0.42	0.42	Lack of long-term financing, permission procedure.
Transport	Rail Transport	Public	Equipment of railway vehicles with ETCS on-board unit.	Ministry of Transport	Czech Republic continues to construct the ETCS part of the rails. In order to use ETCS effectively, vehicles have to be equipped with the on-board unit (communication between rail track and vehicle). Support of this measure is purposeful for the efficient investments in the ETCS rails.	Yes - sectorial	No difficult preparation necessary, installation of HW and SW to vehicles. Absorption capacity in the given time frame is approx. 200 railway vehicles.	0.07	0.07	Without the installation of the on-board units the investment in ETCS system cannot be fully used. The planned investment is massive. Moreover, the support can be used as an incentive for railway undertakings.
Transport	Urban Transport	Public	Urban mobility programme I – TEN-T core network nodes	State Fund for Transport Infrastructure	A grant scheme aiming to improve the quality of urban transport systems in TEN-T core network urban nodes (Praha, Ostrava) through the construction of new tram tracks. As regards the socio-economic impacts, the projects will significantly contribute to the low-carbon economy objective. The implementation of the project will make the public transport more attractive and accessible.	No	Different for individual projects. For some of them zoning decision issued, others in the phase of investment design or technical study.	0.37	0.1	Permission procedures, lack of financing (projects not involved in Operational Programme Transport 2014-2020).
Transport	Urban Transport	Public	Urban mobility programme II	individual cities	A grant scheme aiming to improve urban mobility through improvement of transport in other important cities (Olomouc, Brno, Plzeň, Liberec), particularly through the construction of new tram tracks. The projects will significantly contribute to the low-carbon economy objective and will make the public transport more attractive and accessible.	No	Different for individual projects. For some of them zoning decision issued, others in the phase of investment design or technical study.	0.28	0.13	Permission procedures, lack of financing (projects not included in Operational Programme Transport 2014-2020).

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List of Projects - Social Infrastructure

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment costs (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Social infrastructure	Built Environment and Urban Services (Housing)	public private	Programme for general reconstruction of apartment houses	Ministry of Regional Development / State Housing Development Fund	Financial instrument combining grants and low-interest loans. It aims to support complex repairs, reconstructions and modernization of apartments in apartment houses. It would be the pre-activity for the financing from IROP (Integrated Regional OP), which will be restricted to related eligible activities.	No	This activity is currently only partly covered by the financial instrument of the State Housing Development Fund.	0.5	0.35	Lack of financing for the grants. The programme concerns houses in economically weak and structurally affected regions and the houses in small and middle-sized municipalities, where the structure of resident concerning the income and education/qualification is not very positive. The state aid could be a barrier.
Social infrastructure	Built Environment and Urban Services (Housing)	public private	Programme for revitalisation of apartment houses and removal of barriers	Ministry of Regional Development / State Housing Development Fund	Financial instrument combining grants and low-interest loans. It aims to create barrier-free measures in apartment houses in connection to the aging population and worsening local mobility.	No	The financial instrument is one of the tasks set by the Housing Strategy of the Czech Republic. The preparation would start in 2015 and then programme could start in 2016.	0.3	0.2	Lack of financing for the grants. The combination of financial instrument and grant is assumed. A complex technical solution can be a barrier, particularly in case of panel houses. The state aid could be another barrier.
Social infrastructure	Built Environment and Urban Services (Housing)	public private	Programme for support of housing	Ministry of Regional Development	Program for support of housing stock enlargement. The aim is to increase the access to housing by purchase or construction of rental apartments of young households (up to 36 years) and seniors citizens (from 60 years).	No	The Programme is announced every year.	0.15	0.1	Lack of financing for the grants. The combination of financial instrument and grant is assumed. The state aid could be a barrier.

CZECH REPUBLIC

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List of Projects - Resources and Environment

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment costs (EUR bn)	Investment in 2015-2017 (EUR bn)	Barriers/solutions
Resources and Environment	Natural Resources: efficient and secure availability	PPP	General reconstruction and enlargement of the central wastewater treatment plant in Prague	City of Prague	General reconstruction and enlargement of the central wastewater treatment plant	No	The project is prepared for implementation.	0.4	0.2	JASPERS does not recommend the project to be financed by the ESI Funds. Another barrier represents the existing contracting policy.
Resources and Environment	Resilience to Climate Change	public	Investments improving the resilience and environmental value of forest ecosystems	Ministry of Agriculture / State Agriculture Intervention Fund, Public and private land holders and leaseholders, and other private law and public bodies and their associations.	Investments in the protection of soil improving and stabilising tree species; Non-productive investments in forests; Conversion of substitute tree species stands in areas affected by air pollution in past.	No	The programme is a part of the Rural Development Programme 2014-2020. It is planned to be implemented since autumn 2015.	0.100	0.050	Financial - insufficient allocation of EU and national funds. Current allocation from public sources amounts to 29,65 mil. EUR however the real needs for the period up to 2020 amounts to 100 mil. EUR.
Resources and Environment	Resilience to Climate Change	public	Water Reservoir Šance - Transfer of Extreme Floods	Ministry of Agriculture	The aim is to increase the safety of the reservoir, so the transformation of flood wave PV 10000 is safe. The whole reservoir will be brought to safe state, its functions will be restored, particularly the original capacity (15 million m ³). The aim is to protect more than 41 thousand citizens from floods.	Yes	Building permit obtained, tender for contractor is under way. The construction period is planned for 2015 - 2017.	0.027	0.019	A delay in start of construction can be caused by appeals of unsuccessful tender participants.

CZECH REPUBLIC

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List of Projects - SMEs

<i>Sector</i>	<i>Subsector</i>	<i>Private/Public/ PPP</i>	<i>Project name</i>	<i>Implementing agency</i>	<i>Description</i>	<i>Included in national investment plan (yes/no)</i>	<i>Status</i>	<i>Total invest- ment costs (EUR bn)</i>	<i>Investment in 2015 – 2017 (EUR bn)</i>	<i>Barriers/solutions</i>
SMEs	SMEs	public private	Development of SMEs in the Czech Republic	Ministry of Industry and Trade	Programme aims to support the restoration of basic technical equipment of the small and middle sized enterprises (long-term tangible assets - purchase of machines and devices) and purchase of long-term intangible assets (patent licenses connected to purchase of machines) in order to primary boost the SMEs competitiveness on the market. The proposed programme would complement the activities of SMEs co financed by the ESI funds and thus the overall competitiveness of the SMEs would be encouraged. Support from this programme would not be conditioned by the participation in Operational Programme Enterprise and Innovation for Competitiveness.	No	This activity is currently partly covered by the financial instrument of the OP EI 2007-2013, but not included OP EIC 2014-2020. Process of preparation for implementation will take about half year. Not implemented due to the lack of financing.	1.0	1.0	No financing is available for the project. The main support to SMEs in 2014 – 2020 is not focused on the restoration of basic technical equipment of enterprises as an important part of their development should not be forgotten. Overlap with the EU funding is excluded. Cofinancing with beneficiaries' own funds would be requested, use of financial instruments should be considered.



DENMARK



Country : Denmark

Project list

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Transport	Missing links, rail + road	Fehmarn belt tunnel- The fixed link between Scandinavia and Germany	Ministry of Transport	The Fehmarn belt fixed link realizes a fixed, close, and direct connection between Scandinavia and continental Europe. The duration of a train journey between Hamburg and Copenhagen will be cut short from about four and a half to merely three hours. In the future, freight trains will be able to avoid the 160 km longer detour via the Great Belt. This will create a strong transport corridor between the Øresund region in Denmark/Sweden and Hamburg in Germany. The project is on the TEN-T core network	Yes	Planning has been finalised in 2014. The German authorities' approval process has started. Bill on construction is expected to be introduced to the Danish Parliament in February 2015. Preparatory activities have started. Works to start in second half of 2015. Project concluded end 2021.	6,2	2,3	Co-financed by the EU. The Fehmarn belt fixed link will be financed by the future earnings from tolls and user charges. Denmark is responsible for financing the coast-to-coast section and the Danish land works. To this end, the state owned company Femern A/S raises loans on the international financial market. The Danish government is providing

									state guarantees for these loans. As a result of these guarantees, the loans can be obtained by Femern A/S at the same terms and conditions available to the state.
Transport	Bottle-necks and increased speed	The Signaling programme	Ministry of Transport	ERTMS 2: ERTMS Level 2, Baseline 3. A total replacement of all signaling systems on the entire conventional railway network in Denmark with ERTMS by the end 2021 and all signaling systems on the Copenhagen S-line with CBTC by 2018. [Cost include 54M. EUP for S-bane in Copenhagen].	Yes	Ongoing. Early deployment Langå-Frederikshavn completed by 2016. Full roll out entire network by 2021.	2,5	0,83	A combination of EC grants and MS finance is envisaged.
Transport	Bottle-necks and increased speed	Ringsted-Rødby – upgrade of hinterland connections to the Fehmarn belt fixed link.	Ministry of Transport	Ringsted-Fehmarn: From 2015 to 2021 Banedanmark will upgrade and renew the 115 km long railway line to a new, future-proof line. The project includes: Electrification Ringsted – Rødby, Construction of new double track between Vordingborg and Rødby (except Storestrøms-bridge), Upgrading of top speed to 200 km/h, Passing tracks for 1.000	Yes	Planning has been finalised in 2014. Bill on construction is expected to be introduced to the Danish Parliament in February 2015. Preparatory activities have started in 2014. Works to start in second half of 2015. Project concluded end 2021.	1,3	0,54	Please see financing of the Fehmarn Belt fixed link, the project is part of the wider Fehmarn project.

				meter long freight trains and a passenger train station at Holeby in the Southern part of Lolland. Financed by yields from Femern A/S according to the "Danish Model". The project is on the TEN-T core network.					
Transport	Bottle-necks and increased speed	The Danish Electrification programme	Ministry of Transport	Full electrification of the following sections: Esbjerg-Lunderskov, Køge Nord-Næstved, Fredericia-Aalborg, Roskilde-Kalundborg and Vejle-Struer.	Yes	Works ongoing: May 2014-2026.	2,6	0,86	A combination of EC grants and MS finance is envisaged.
Transport	Bottle-necks and increased speed	New High speed railway line Copenhagen-Ringsted	Ministry of Transport	New rail line between Copenhagen and Ringsted: New high speed railway line between Copenhagen and Ringsted via Køge (up to 250 km/h for passenger trains). Will result in a better timetable with more departures, shorter travel times and fewer delays. Capacity will also be increased for freight trains. The project will be on the TEN-T core network upon completion.	Yes	Works ongoing, project completed by 2018.	1,6	0,79	A combination of EC grants and MS finance is envisaged.
Transport	Bottle-necks and increased speed	New Storestrøm Bridge	Ministry of Transport	New Storestrøm bridge (primarily rail, but includes also road and bicycle lanes): Located on the Ringsted-Fehmarn railway line, the	Yes	EIA exercise ongoing. Works to start end 2016/early 2017	0,6	0,11	A combination of EC grants and MS finance is envisaged.

				<p>project removes a major bottleneck in the TEN-T-network. Primarily a railway project that also includes road and bicycle lanes.</p> <p>The project is on the TEN-T core network.</p>					
Transport	Road corridors and missing links	Expansion of the Køge Bugt Motorway (E47/E20/E55) between Greve S and Køge S	Ministry of Transport	The project will reduce congestion in a main corridor, which connects the major cities of Denmark as well as Scandinavia and Central Europe. The project will also improve the conditions for thousands of daily commuters. Very high socio-economic rate of return. The project is on the TEN-T core network.	Yes	The section from Greve S to Solrød S (1st stage) is expected to open in 2015, one year earlier than originally planned. The section from Solrød S to Køge (2nd stage) is expected to open at the latest in 2018.	0,333	0,09	Financed by MS
Transport	Bottle-necks and increased speed	New double track railway across western Funen	Ministry of transport	New railway Kauslunde - Odense, about 35 km. 4 km shorter than the present line, thus saving travel time for passenger and freight trains. The project is part of Train Fund Denmark and is an important part of the one hour model between the five biggest cities in Denmark. The project is on the TEN-T core network.	Yes	EIA process has begun and the project is projected to open in the mid-2020's	0,7	0,01	A combination of EC grants and MS finance is envisaged
Transport	Bottle-necks and increased speed	Fixed link across Vejle Fjord in Jutland	Ministry of Transport	The project is part of Train Fund Denmark and is an important part of one hour model between the five biggest cities in Denmark. The project is on the TEN-	Yes	EIA process has begun and the project is projected to open in the mid-2020's.	0,6	0,01	A combination of EC grants and MS finance is envisaged.

				T core network.					
Transport	Bottle-necks and increased speed	Speed increase Ringsted-Odense	Ministry of Transport	Ringsted-Odense speed increase: Speed increase Ringsted-Odense. It is the Danish Government's ambition to reduce the travel time between the larger Danish cities, including between Copenhagen and Odense, to one hour. Infrastructure investments are therefore required in order to increase train speed between Ringsted and Odense. This implies upgrades in Ringsted, Sorø, Slagelse, and at the Great Belt Bridge etc. [pending political decision on preferred technical solution as per 10/2014]. The project is on the TEN-T core network.	Yes	EIA ongoing.		0,03	A combination of EC grants and MS finance is envisaged.
							0,1		
Transport	Bottle-necks and increased speed	Vamdrup-Vojens	Ministry of Transport	Double track Vamdrup and Vojens: Construction of double track in Southern Jutland in order to increase capacity and secure the current freight connection between Scandinavia and Germany. The project is on the TEN-T core network.	Yes	Works ongoing. Project concluded by end 2015.		0,02	A combination of EC grants and MS finance is envisaged.
							0,1		
Transport	Road corridors and missing links	Expansion of the Elsinore Motorway (E47) between Øverødvej	Ministry of Transport	The project will reduce congestion in the important corridor between Copenhagen and the high-	Yes	The project is on schedule and expected to open in 2016.		0,06	Financed by MS
							0,198		

		and Hørsholm S (stage 1)		ly populated area north of Copenhagen. Positive socio-economic rate of return					
Transport	Road corridors and missing links	New motorway between Låsby and Funder (the Silkeborg Motorway)	Ministry of Transport	The project will include Silkeborg in the Danish motorway network and complete the motorway between Aarhus and Herning. It will improve the traffic flow, mobility and road safety in the Silkeborg area as well as the connections between East Jutland and West Jutland. Positive socio-economic rate of return.	Yes	The construction work is in progress. The section between Hårup and Låsby is 10 months ahead of schedule and has opened on December 1, 2014. The rest of the motorway between Hårup and Funder is expected to open as planned in the autumn of 2016.	0,904	0,34	Financed by MS
Transport	Road corridors and missing links	New motorway between Herning and Holstebro	Ministry of Transport	The project will include Holstebro in the Danish motorway network, which will improve the traffic flow, mobility and road safety in the Herning and Holstebro areas. The project will also improve the accessibility of a future regional hospital in Gødstrup. Positive socio-economic rate of return.	Yes	The highway to the hospital in Gødstrup expected to open in 2017, with some subsequent additional work. The entire highway is expected to open in 2018. The work is going according to schedule.	0,526	0,35	Financed by MS
Transport	Road corridors and missing links	New motorway between Motorring 4 and Tværvej (2 nd stage of the Frederikssund Motorway)	Ministry of Transport	The project will contribute to the inclusion of Frederikssund in the Danish motorway network, which improves the traffic flow, mobility and road safety in the area as well as the	Yes	The construction work is in progress and the motorway is expected to open as planned in the autumn of 2015.	0,175	0,04	Financed by MS

				connections between Frederikssund and Copenhagen. High socio-economic rate of return.			
Re-sources and Environment	Natural re-sources: efficient and secure availability public private	Better use of materials: Establishment of central resources facility for sorting and recycling to recover materials	Central and de-central authorities	To ensure growth and jobs in the resource sector and at the same time improve value of the waste generated in Europe, improved sorting techniques and facilities are needed to be a valuable resources base for commercial solutions for turning these materials into new products. 2-3 large facilities will be constructed with the private sector.	No	Subsolutions are being developed, but larger facilities are needed to serve as genuine resources base	Economic and barriers in contract to investing in smart green solutions
Re-sources and Environment	Natural re-sources: efficient and secure availability public private	Restructuring fund for energy optimizing the water	Min. for Environment	The technological development of energy recovering from sludge has increased in recent years, establishing a potential of waste water treatment plants moving from being net consumer to net provider of energy. Whereas waste water treatment plants today consumes 1-2 % of the total energy consumption, the plants will with adequate technology become providers of	No	Not initiated	200 MEUR

				0,5 % total energy consumption. It is suggested to establish an EU fund of 200 mill euros for energy optimizing the water sector.					
Re-sources and Environment	Re-silience to Climate Change Public private	Climate change adaptation Fund	Min. for Environment	Danish municipalities are in the process of implementing separate sewage systems, which will increase capacity in handling extreme rain. Private house holdings must pay for separate pipes on their own grounds, causing economic problems for certain citizens. The Fund will provide guaranties for loans to private real estate owners who are met with demand for separate pipes, thus providing for growth in the construction sector. It is estimated that a fund of 60 MEUR will provide guarantees for activities for a total amount of 200 MEUR, thus generating employment for approximately 1500 people.	No			60 MEUR	Financing
Re-sources and Environment	Resilience to Climate Change	Coastal and Nature Protection Projects	Ministry of the Environment	A Coastal Protection Analysis is envisaged to estimate the needs, risk and values in connection to	Elements of national co-financing to be expected	The Coastal Protection Analysis will be ready by the end of 2015, and projects can be	A rough estimate of the need of coastal pro-		

				<p>coastal protection in the perspective of upcoming climate changes will be ready by the end of 2015. Based on this analysis projects can be developed and financed. These projects will secure the infrastructure in thinly populated areas of Denmark. It is necessary for these areas to have a sustainable infrastructure in order to sustain and develop growth and tourism. In areas without relevance of coastal protection other projects can be developed. For instance 10 large scale urban climate water projects that create a buffer capacity for large rainfalls or high sea level events while it also forms new green spaces for the benefit of settlement, recreation and nature improvement. The initiative could contain everything from actual new wetlands to the reopening of urban streams with surrounding buffer capacity. In the widest understanding there may also be funding for the relocation of residenc-</p>		<p>launched in 2016.</p>	<p>tection is 40 million Euros yearly. On top of this comes the large scale urban climate water projects</p>		
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				es / technical assets / infrastructure to enable realization. There will be growth and employment pay offs in such a content.					
Re-sources and Environment	Resilience to Climate Change	Coastal Protection Western Limfjord, Jutland	Ministry of the Environment	<p>Over the last decade floodings in the western parts of the Limfiord in North western Jutland have increased significantly, as has the need of dredging shipping lanes through the Fiord.</p> <p>Preliminary rapports show a potential reduction in dredging effort and significantly reduced risk of flooding of the municipalities along the Limfiord if concrete measures are taken to secure the development of the Fjord.</p> <p>A solution to the challenges in the western Limfiord will result in local growth and potentially significant job creation in this peripheral area of Jutland. This initiative will also combat oxygen depletion etc. and thus develop and sustain the environment of the</p>	Elements of national co-financing to be expected				<p>A rough estimate is that further analysis will amount to 4 mill. Euros and that the initial costs of a permanent solution will roughly amount to 40 mill. Euros.</p> <p>Projects can be launched in 2016</p>

				Limfjord which is important in an environmental as well as a growth perspective (tourism, fishery etc.).					
Resources and Environment	Resilience to Climate Change	Removal of bunkers at the West Coast of Jutland	Ministry of the Environment	The Danish government in cooperation with local municipalities initiated removal of more than 120 bunkers at the west coast of Jutland. These bunkers posed, due to deterioration, an immediate danger to the large amount of tourists visiting the local beaches. Only bunkers which proved an immediate danger were removed and there is still a large number of bunkers left which, in the coming years, will become dangerous to visitors due to erosion. Removal of the remaining bunkers will benefit the tourist industry in the peripheral localities at the Danish west coast and result in creation of jobs and local growth.	Elements of national co-financing to be expected	The project is financed by national funding until the first half of 2015. At that time around 120 bunkers will have been removed. From 2016 there is a need for further financing in order to make sure that the remaining bunkers will not pose a danger to visitors and tourists.	Removal of the remaining potentially dangerous bunkers will amount to an estimate of 3 – 5 million Euros.		
Energy Union. (iv) Connections	Electricity transmission	Viking DKW-GB	National Grid Interconnector	An electrical interconnector (HVDC) between Denmark and UK, which accelerates the EU elec-	No	A cooperation agreement to develop the project has been agreed be-	1,9	0,2	Investment gap due to different regulatory frame-

and production.			Holdings Limited Energinet.dk	tricity market coupling. Denmark's energy system is highly diversified with high degrees of interconnection to other EU states with hydropower (e.g. Sweden) and continental thermal capacity (e.g. Germany).		tween Energinet.dk and National Grid in the UK and a common project organization has been set up. Discussions are ongoing with the regulators in Denmark and the UK concerning the regulatory setup for the interconnector.			works. Planning permit complications due to line crossing the territorial waters of several member states. Risk of significant increase in reserve costs on one side or that the choice of cable concept is at a less economical scale.
Energy Union. (iv) Connections and production	Electricity transmission	DKW-DE West-coastPCI 1.3.1.: Interconnection between Endrup (DK) Niebüll (DE)	Tennet TSO GmbH; Energinet.dk	A 400 kV link between Germany and Denmark along the west coast from Niebull in Germany to Endrup in Denmark.	No	Ten-T TSO GmbH and Energinet.dk has set up a common project organization. The technical and economic investigations of alternatives are ongoing. The preferred solution will be defined by the end of November.	0,3	0,1	The project will not be economically viable if established as underground cables. Overhead lines on the other hand would run contrary to present political agreement that new

									transmission lines must be established as underground cables. The results of the cost benefit investigation of different possible project variants have to be discussed with Tennet TSO GmbH before further actions are taken.
Energy Union. (iv) Connections and production.	Electricity transmission	DKW-DE Step 3 PCI 1.4.1: Interconnection between Kassø (DK) - Audorf (DE)	Tennet TSO GmbH; Energinet.dk	An upgrade of the existing connections between Denmark and Germany on the Eastern part of the Danish-German border. The purpose is to increase the trading capacity between the two countries	No	Ten-T TSO GmbH and Energinet.dk has set up a common project organization. T The technical and economic investigations of alternatives are ongoing. The preferred solution will be defined by the end of November.	0,1	0,1	The cost benefit investigation of different possible project variants is not finalized yet and may depend on the ability to finance the project.
Transport	Corridors and miss-	New Light rail systems in Co-	DG	Construction of four new light rails systems in Aar-	Yes	The light rail in Aarhus is under construction	1,9	0,8	The projects are co-funded

	ing links, light rail	penhagen, Aarhus, Odense and Aalborg	MOVE	<p>hus, Copenhagen, Odense and Aalborg projected to open in the period 2017-2021. State-of-the-art light rail solutions are a political priority in developing sustainable cities and making public transport more attractive in urban regions with high traffic density.</p> <p>The responsibility for design, construction, operation and maintenance the new light rail systems is placed in separate companies (owned by state and local authorities) partnering with private contractors</p>		<p>and expected to open in 2017. Projects in Odense, Copenhagen and Aalborg are undergoing planning and expected to open in 2020/2021.</p> <p>Mastering planning and construction of light rail systems is a competence that is much needed but – as of now – of limited availability in both the public and commercial sector in Denmark. Thus the abovementioned projects utilise different models of public-private partnerships that can more effectively attract competence from abroad.</p>			<p>by the Danish state and local authorities, financing their investment through loans.</p> <p>Inclusion in the EU programme would provide a wider range of options for financing the projects.</p>
Telecommunications	Digital infrastructure	Long term financing for investments in digital infrastructure	DG CONNECT	<p>The digital infrastructure is paramount in realising the potential in the digital economy. Generally speaking Denmark has a well-developed digital infrastructure. In recent years, Denmark has however seen a drop in investments in digital infrastructure.</p> <p>As a guiding principal investments in digital infrastructure should be based on commercial interest.</p>	[No]	Depending on when long term financing opportunities can be made available roll out can begin in 2015	0,4	0,2	Investment in broadband infrastructure should be based on a principal of commercial interest, and governments should as a principle abstain from founding digital infrastructure. An intervention should

				<p>Long term financing opportunities for investment in digital infrastructure can contribute to making investment in digital infrastructure more attractive. It could be in the form of guaranties or lending opportunities, for example through investment banks, directed towards project holders, be it commercial companies, municipalities or other project holders.</p>					<p>maintain that investment are based primarily on commercial interests, and should therefore focus on improving the access to long term financing.</p>
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ESTONIA



Country : ESTONIA
Project list 27.11.2014

THESE ARE ILLUSTRATIVE INVESTMENT PROPOSALS COMPILED BY DIFFERENT BRANCHES AND LEVELS OF ADMINISTRATION. THE GOVERNMENT HAS NOT COMMITTED ITSELF TO IMPLEMENT THIS LIST.

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
1. Knowledge and the Digital Economy										
Knowledge and the Digital Economy	Public R&D	public	European Spallation Source in Lund	Ministry of Education and Research	Construction of the European Spallation Source in Lund, Sweden (total construction cost 1843 MEUR in 2013 prices). Estonian contribution for construction of the European Spallation Source will be 5.6 MEUR (Estonian Letter of Intent of April 28, 2014). Project is among the top 3 priority Research Infrastructure projects in Europe (ESFRI priority list approved by EU Competitiveness Council 26 May 2014).	No	Construction of Spallation Source started in 2014, Estonian contribution foreseen starting from 2015.	0.006	0.002	B: Lack of Government infrastructure investments S: Use of structural funds. Investment plan related to the use of 2014-2020 EU Structural Funds for R&D in Estonia will be compiled shortly.
Knowledge and the Digital Economy	Public R&D	public	European Life-Science Infrastructure for Biological Information ELIXIR.	Ministry of Education and Research	European Life-Science Infrastructure for Biological Information ELIXIR (EMBL special project). Estonian investment need for the Estonian ELIXIR node – 1.5 MEUR. ELIXIR is among the top 3 priority Research Infrastructure projects in Europe (ESFRI priority list approved by EU Competitiveness Council 26 May 2014).	No	Distributed pan-European Research infrastructure ELIXIR is in the implementation phase from 2014, Estonia is a founding member of ELIXIR consortia.	0.002	0.002	B: Lack of Government infrastructure investments S: Use of structural funds. Investment plan related to the use of 2014-2020 EU Structural Funds for R&D in Estonia will be compiled shortly.
Knowledge and the Digital Economy	Public R&D	public	The Biobanking and Biomolecular Resources Research Infrastructure BBMRI-ERIC	Ministry of Education and Research	The Biobanking and Biomolecular Resources Research Infrastructure BBMRI-ERIC - distributed research infrastructure. Investment need for the Estonian Genomic Centre that is the Estonian BBMRI – ERIC node - 6 MEUR. BBMRI-ERIC is in the ESFRI priority list of projects that need support for the implementation. List approved by EU Competitiveness Council 26 May 2014.	No	Distributed pan-European research infrastructure BBMRI-ERIC is in the implementation phase. Estonia is a founding member of BBMRI-ERIC.	0.006	0.006	B: Lack of Government infrastructure investments S: Use of structural funds. Investment plan related to the use of 2014-2020 EU Structural Funds for R&D in Estonia will be compiled shortly.
Knowledge and the Digital Economy	Public R&D	public	The Common Language Resources and Technology Infrastructure CLARIN-ERIC	Ministry of Education and Research	The Common Language Resources and Technology Infrastructure CLARIN-ERIC, investment need in Estonia – 1.65 MEUR. CLARIN-ERIC is in the ESFRI priority list of projects that need support for the implementation. List approved by EU Competitiveness Council 26 May 2014.	No	Distributed pan-European research infrastructure CLARIN-ERIC is in the implementation phase, Estonia is a founding member of CLARIN-ERIC.	0.002	0.002	B: Lack of Government infrastructure investments S: Use of structural funds. Investment plan related to the use of 2014-2020 EU Structural Funds for R&D in Estonia will be compiled shortly.

Knowledge and the Digital Economy	Public R&D	public	Estonian participation in European Social Survey ESS-ERIC	Ministry of Education and Research	The European Social Survey is a distributed Research Infrastructure. ESS-ERIC is in the ESFRI priority list of projects that need support for sustainability and European coverage (ESFRI list approved by EU Competitiveness Council 26 May 2014).	No	Project is in the implementation phase, Estonia is a founding member of European Social Survey-ERIC.	0.001	0.001	B: Lack of Government infrastructure investments S: Use of structural funds. Investment plan related to the use of 2014-2020 EU Structural Funds for R&D in Estonia will be compiled shortly.
Knowledge and the Digital Economy	Public R&D	public	European Infrastructure for Translational Medicine EATRIS-ERIC	Ministry of Education and Research	The European Infrastructure for Translational Medicine is a distributed research infrastructure. Investment need for the Estonian National Centre for Translational and Clinical Research is 12 MEUR.	No	EATRIS-ERIC is a ESFRI Roadmap project and it is in the implementation phase. Estonia is a founding member of EATRIS-ERIC.	0.012	0.006	B: Lack of Government infrastructure investments S: Use of structural funds. Investment plan related to the use of 2014-2020 EU Structural Funds for R&D in Estonia will be compiled shortly.
Knowledge and the Digital Economy	Private R&D	public private	Nordic-Baltic Innovation Fund II	Ministry of Economic Affairs and Communications/ KredEx	Providing venture funding for innovative companies through fund-of-fund structure, following the successful example of the current Baltic Innovation Fund. In order to enhance cooperation between innovative companies in the Nordic-Baltic region and integrate the Nordic and Baltic venture capital markets, we aim to broaden the scope to include also the Nordic countries.	No	Not started (Baltic Innovation Fund I currently active)	0.400	0.400	S: Involvement of EIF is necessary to leverage the commitments by governments and thereby create incentives for private sector participation.
Knowledge and the Digital Economy	Private R&D	private	Network of Technological Research Centres	Enterprise Estonia, in cooperation with Nordic and Baltic member states	Scope: carrying out cooperative R&D projects, providing R&D services for private actors on European and international scale, building on existing infrastructure, developing new facilities where necessary. Seed funds to be included for financing cooperative R&D and spin-offs.	No	Part of the infrastructure has already been financed by the existing Technological Competence Programmes. Additional infrastructure is necessary for building necessary capacities for internationalisation.	0.100	0.050	B: Lack of long term finance. S: Funding scheme
Knowledge and the Digital Economy	Digital Service Infrastructure	public	The development of common service base for the public and the private sector	Ministry of Economic Affairs and Communications	The basic infrastructure for services supports the activities of individuals and enterprises in Estonia and cross-border.	Yes	Cluster of priority projects	0.050	0.010	B: Interoperability (technology, institutions, cross-border).
Knowledge and the Digital Economy	Public Services	public	Development of Better Public Services by Using ICT	Ministry of Economic Affairs and Communications	The quality of public services will be harmonised and cooperation between public bodies providing these services will be improved. User-friendliness of public services will be improved by taking into account the interests and needs of users. The quality of public services will be harmonised and cooperation between public bodies providing these services will be improved. The impact and cost-effectiveness of public service provision will be increased. The following actions will be implemented: The development of public services will be made more efficient; The development and implementation of sectoral ICT projects will be supported.	Yes		0.1	0.040	B: Interoperability (technology, institutions, cross-border).
Knowledge and the Digital Economy	Telecommunications infrastructure	PPP	Improving Access to the Internet	Ministry of Economic Affairs and Communications and Estonian Telecommunication Operators	The basic network of the next-generation internet will be completed.	Yes	2300/6500 kilometres ready	0.065	0.030	B: Market failure in sparsely populated regions and in some urban areas.

Knowledge and the Digital Economy	Telecommunications infrastructure	private	4G deployment	Telecommunication Operators	4G network will be fully deployed by 2018 by three operators	No	One of three operators has completed deployment, others have done so in the main population centres	0.100	0.100	B: Market failure in sparsely populated regions.
2. Energy										
Energy	Connections and production	public private	Regional Baltic LNG terminal	Ministry of Economic Affairs and Communications	Regional Baltic LNG terminal is important for the Baltic States and Finland to end isolation, integrate markets, ensure secure supplies and diversify energy sources.	Yes	LNG project of the Baltic States and Finland region (location not specified) is listed in the PCI list. No application has been issued yet to the first CEF TEN-E call for applications.	0.400	0.400	S: Co-financing under CEF
Energy	Connections and production	public private	Balticconnector	Ministry of Economic Affairs and Communications	Baltic States and Finland to end isolation, integrate markets, ensure secure supplies and diversify energy sources.	Yes	Project roadmap was signed by Estonian and Finnish project developers, governments and the European Commission in 2014. According to current estimation, the project should be completed in 2019-2020. The project is listed in the PCI list. Application to the 1st round of CEF has been submitted for under-sea studies for the off-shore part.	0.200	0.200	S: Application submitted for co-financing under CEF
Energy	Production	private	Transforming the Estonian oil shale sector from producing electricity to producing oil shale oil	Ois shale sector	The producer's plans foresee producing 2,5M tons of oil shale oil per year (currently around 0,5Mt of oil shale oil and 1Mcm of retort gas is produced). This would allow the oil shale sector to provide for around 6% value added in the Estonian economy and generate around 12000 new jobs.	No	Underway, Two oil production plants have recently been completed	5.000	n/a	B: EU fuel quality regulation, plummeting global oil price (over 80\$/barrel needed).
Energy	Grids	public	Synchronous operation of the Baltic electricity market with the Continental European network	Ministry of Economic Affairs and Communications and Elering (TSO)	Estonia and the other Baltic States are currently synchronously connected to the Northwestern Russian electricity grid. The aim is to build converters to the borders and synchronise with the Continental European networks	Yes	First steps for Estonia: studies, interconnections with Latvia.	0.400	0.050	B: Lack of long term finance. S: Funding scheme
Energy	Connections and production	public private	EU Regional H2 Footprint Research and Innovation Project	Ministry of Economic Affairs and Communications/ Local municipality	In order to save energy we face the problems to find innovative solutions for public transport. The project is going to explore and implement renewable energy solutions in public transport in Pärnu by implementing hydrogen technology: Establish a complete solar farm onto the former landfill, which produces the renewable energy into the grid; Install a stationary complete hydrogen electrolyser system; Programme the electrolyser production cycle for operating during the electricity low demand (night-time); Acting as the GRID BALANCER by producing electricity during the day-time, selling/ (storage) it into the grid and buying back as "Green energy" during the night-time for the electrolyser; Establish for produced hydrogen a storage system; Close to the hydrogen production and storage site establish a complete multifunctional refueling station for hydrogen vehicles and H2 road tankers for distribution.	No	Project proposal has been sent to Horizon 2020 programme in November 2014.	0.010	0.010	B: Lack of long term finance. S: Funding scheme
3. Transport										

Transport	Corridors and missing links	public private	Rail Baltic	Ministry of Economic Affairs and Communications	Rail Baltic is one of the most significant investment projects in the Baltic Sea Region, being part of the Core TEN-T Corridors. According to the European Commission, the project is among Top 5 funding priorities of the Connecting Europe Facility. The project seeks to integrate the Baltic States with the European railway network and to bring future economic growth to the region, reaching to Finland and Poland.	Yes	Planning and permitting in final stages Construction start expected in 2018.	3.600	1.000	B: Lack of long term finance + coordination and permitting problems, leading to possible delays. S: Prospectively, need for additional funding under post-2021 period. / Application for co-financing under CEF prepared for the 2014 Call for Proposals.
Transport	Corridors and missing links	public private	National Transport Infrastructure Investment Plan 2014-2020 (program)	Ministry of Economic Affairs and Communications	This document covers the investment needs of different transport sectors until 2020. All projects are in line with state's priorities for cohesion policy. The national investment program involves different road-, railroad-, maritime- and air traffic infrastructure investments. Some of the projects are related to TEN-T core network. It has not yet been approved by the Government.	Yes	The main part of the investment plan will be executed 2015-2017.	0.305	0.305	B: Co-financing by local municipalities. S: The use of 2014-2020 EU Structural Funds
Transport	Corridors and missing links	public private	Viru Link	Ministry of Economic Affairs and Communications	The distance between coasts of east parts of Estonia and Finland is approximately 60 miles. During the centuries the nations on both sides of Finnish gulf had natural, tight connections just over the sea, at the moment due to many political and economical reasons from history the main passenger and cargo link between Estonia and Finland are the ports of Tallinn and Helsinki. For east part of Estonia to move persons and cargo to east part of Finland for instance, takes distance of more than 400 till 500 km (it means 4 times longer than just over the sea) and for central and southern part of Estonia no alternative route (by distances, by prices) to Finland, but Tallinn. The port of Sillamäe has experience to have regular connection, but it was cancelled due to economical reason. In the same time the port of Sillamäe has continuous plan to resume the connections with port of Kotka. Port of Kunda has also increased interest in regular ship connection with port of Kotka, underscoring hereby an aspect that due to location the distance between Kunda and Kotka is shorter than between Sillamäe and Kotka. At the moment the port of Kunda is active cargo port without infrastructure to serve passenger traffic.	No	Port of Kunda is owned by private company. Has drawn: a detail plan about widening port as passenger port; construction drawings of passenger quay; 3-D architectural image of passenger terminal. A survey about potential passenger (tourist, commuters) flow and cargo flow between Kunda and Kotka has been compiled (under regular connections is meant a regular passengers and cargo trucks ferry connection). The investment plan comprises constructing a passenger quay (appr. 10 Meuros, financed by port's owner company) and constructing a passenger terminal (appr. 5 Meuros, applied from public funds), reconstructing and renovation of roads connecting a port and state roads network (appr. 4 Meuros, applied from public funds).	0.020	0.020	B: Lack of long term finance. S: Funding scheme
Transport	Corridors and missing links	public	Tartu northern bypass	Ministry of Economic Affairs and Communications	Tartu northern bypass will be integrated with eastern and southern bypasses in order to direct transit transportation. Bypass has significant regional importance.	No	Not started	0.050	0.000	B: Lack of long term finance. S: Funding scheme
Transport	Corridors and missing links	public	Tartu eastern bypass IV phase	Ministry of Economic Affairs and Communications	Tartu eastern bypass will be integrated with northern and southern bypasses in order to direct transit transportation. Bypass has significant regional importance. Phases I-III will be finished in 2015	No	Phase IV not started	0.025	0.000	B: Lack of long term finance. S: Funding scheme

Transport	Corridors and missing links	public private	Construction of Pärnu Airport	Ministry of Economic Affairs and Communications	The project has a regional impact in Pärnu and West Estonia. Pärnu Airport needs to be constructed to serve charter flights. As West Estonia and especially Pärnu has a strong tourism sector and tourism entrepreneurs are cooperating to make possible charter flights from neighbour countries, the airport would have a considerable impact to the region development. The benefit is much wider than only the Airport income statement (the region's tourism sector, the region's public sector, the development of the region and employment).	No	Public and private sector are cooperating to make project possible. Project activities not started.	0.010	0.010	B: Lack of long term finance. S: Funding scheme
Transport	Corridors and missing links	public private	Cruise Harbour in Pärnu	Ministry of Economic Affairs and Communications	Construction of a new 247 m quay for cruise ships. Pärnu as a tourism destination No 2 in Estonia has a potential to serve cruise ships, appr. 1200 visitors per year. The quay is owned by private owner and there is no economic benefit for private owner to make investment alone, the project could be implemented as PPP.	No	Not started	0.007	0.007	B: Lack of long term finance. S: Funding scheme
Transport	Corridors and missing links	public	Development of Narva city bus and railway terminal	Ministry of Economic Affairs and Communications	Reconstruction of Narva city bus terminal is planned to be funded by Cohesion Fund in correspondence with Regulation of the Ministry of Economic Affairs and Communication Minister "Conditions for investment support of to clusters of railway stations with other transport types" Cost of reconstruction is about 1,5 mln EUR	No	Preparation stage	0.002	0.002	B: Lack of long term finance. S: Funding scheme
4. Social Infrastructure										
Healthcare	Hospitals	public	Healthcare investments	Ministry of Social Affairs	Investments outside the ESI Funds to the hospital network depending on the financing capacity of the state.	No	The preparation of the ESI funds investment plans is scheduled to be finished in the first half of 2015. Other investment needs are mapped, however the exact scope and investment priorities are under discussion.	0.261	0.15	B: Need for investment analyses, technical assistance for project preparation.
Social services	Welfare investments	private public	Private welfare services investments	Ministry of Social Affairs	Investments by the private sector to provide welfare services outside the investments planned by the ESI Funds	No	The preparation of legal framework for using ESI Funds is currently under way and is expected to be ready at the Q1 2015. Possible private sector investments are at the negotiation stage.	0.100	0.100	B: Technical assistance to create possible models in order to promote competition in welfare services.
5. Resources and Environment										

Resources and Environment	Natural resources: efficient and secure availability	public private	Energy and resource efficiency in enterprises	Ministry of Environment	State's competitiveness depends ever more on the resource and energy efficiency of economy and the ability of various sectors to increase this efficiency by introducing new technologies and solutions. The products and services of the Estonian economy remain resource-intensive, and their energy and carbon intensity is one of the highest in the EU. The measures taken by enterprises to improve their production efficiency have been insufficient. To ensure efficient use of resources, it is necessary to continue to decouple growth from increasing resource use. To maintain and further develop a competitive and varied industrial base, the industrial sector should be made more energy- and resource-efficient, technology and production methods that reduce the use of natural resources should be promoted, and investments in technology should be increased. It is necessary to increase the share of waste recycling, not the volume of natural resources used, in production.	Yes	The start of raising public awareness and training professionals is expected in 2015, supporting audits and efficient solutions in enterprises in 2016.	0.273	0.139	B: Lack of knowledge of current situation in enterprises - a survey is been made at the moment to identify needs and awareness level for different industry sectors, low awareness of resource efficiency - raising awareness, training professionals and sharing best practices, lack of private financing, long payback period, lack of confidence and risk-taking in the private sector - support enterprises to make these investments
Resources and Environment	Natural resources: efficient and secure availability Resilience to climate change	private	Auvere power plant	Eesti Energia	Compared to the existing oil shale-fired power plants, Auvere power plant (300 MW) will be more environmentally friendly, with lower emissions and greater efficiency. The construction of the power plant will provide work for 1,000 people and the completed plant will create 120 new jobs. Power plant will use oil shale as its fuel and it can be up to replaced up to 50% with biofuel to raise its competitiveness amid conditions of stringent climate policy. Substituting biofuels for oil shale will cut power plant's CO2 emissions to that of modern, efficient natural gas installations, hedging CO2 price risk and making the plant more competitive in the event of a high carbon credit price.	No	Construction is in progress, power plant will be completed by the end of 2015	0.638	0.121	No remarkable barriers. Technological risk.
Resources and Environment	Resilience to climate change	private	Equipment to cut nitrogen emissions	Eesti Energia	Equipment will be installed additionally at the energy units of four power plants in Estonia. This allows emissions of nitrogen oxides into the air to be reduced up to two-fold.	No	Installation in progress, some are in full use. By 2016, all equipment will be installed.	0.028	0.019	No remarkable barriers. Technological risk.
Resources and Environment	Connections and production	private	Petroter III	Viru Keemia Grupp (VKG)	The construction of the third plant will be attended by a next stage of renovation of the VKG industrial park in Kohtla-Järve whereby all industrial complex will be put onto a new level. Major modifications will affect water purification systems and heat and electrical power production. The third "brother" among Petroter plants will bring along 100 new working positions	No	Construction in progress, power plant will be completed by the end of 2015	0.080	0.040	Technological risk. Political risk, which is related to the formation of the tax environment.

Resources and Environment	Connections and production	private	Development activities	Viru Keemia Grupp (VKG)	<p>The aim of the project is to develop the energy production facility of VKG, to improve its environmental protection parameters and to boost the efficiency of energy co-generation. After launching the Petroter I, II and III oil shale processing plants, the production volume of oil shale gas with high calorific value is going to increase significantly. So that it would be possible to direct the entire amount of gas to the processes of co-generation of heat and power in the most efficient way, VKG needs additional investments. The project will include the construction of two sulphur capture devices and the turbine as well as the project for the construction of a limestone plant. In the result of these investments, the reliability and efficiency of the production facility will be improved, and the amount of emissions of CO2 and SO2 will be decreased significantly.</p>	No	Loan contract has been signed between EBRD and VKG in September 2014. Project will be completed in 2016.	0.035	0.035	Technological risk. Political risk, which is related to the formation of the tax environment.
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FINLAND



EUROPEAN INVESTMENT PROGRAMME: FINLAND'S PROPOSALS FOR INITIATIVES

Finland proposes four initiatives. The first one is a **European-wide business friendly e-government initiative** to strengthen a **real-time EU economy**. This would promote cross-border trade, reduce the administrative burden and to improve the regulatory environment of European businesses.

The other three are national and regional initiatives having **significance for Europe**.

1. Energy security and renewable energy

Energy connections and transmission. The main project to be advanced is a **regional, energy security enhancing LNG terminal** in Finland. Also, the aim is to co-operate with Estonia in increasing energy security and enhancing competition. Estonia is planning a smaller LNG terminal simultaneously. Furthermore, an additional **electricity gridline to northern Sweden** is advanced in co-operation with Swedish authorities. These initiatives would implement the European energy strategy.

Renewable energy solutions. The two initiatives, **an integrated smart energy concept demonstration** for intermittent renewable energy production and storage and **off-shore wind energy parks** in a cold climate of the Baltic Sea region promote renewable energy and its storage.

2. Growth potential of key industries

Creating a network for the industrial internet. A new **internet of things pilot network** Finland as a driving environment for industry is advanced. New pilot environments will be built in the university cities of Oulu, Tampere, Espoo and Lappeenranta.

A digital infrastructure ecosystem for automated vehicles is advanced to manage high data volumes associated with vehicles on public roads.

Promoting investments in and the business environment for the **bioeconomy** is advanced. This proposal would include the **necessary infrastructure for key bioeconomy projects**, such as the bio-product mill in Äänekoski and an innovative biorefinery in Kokkola.

EduCloud, a pioneering operations and technology model in which a national ecosystem is built to unite the users and buyers as well as the developers and service providers of educational services is advanced.

3. Transport connections

A fast railway connection between Helsinki and Turku to strengthen the Scan-Med corridor will be advanced. An improvement of **Helsinki – Vantaa airport** would cement its position as a regional hub between Asia and Europe. Also, a transport connection to the **Sokli phosphate mine** is proposed to benefit **exploitation of Arctic resources**.

Inasmuch as national financing is required for projects, the multi-annual central government spending limits need to be observed, and financing is decided upon according to established procedures, fully respecting the budgetary authority of Parliament.

Attached is an illustrative list of possible investment initiatives compiled by different branches and levels of administration. The Government has not committed itself to implement this list.

ILLUSTRATIVE
INVESTMENT
PROPOSALS COMPILED
BY DIFFERENT
BRANCHES AND
LEVELS OF
ADMINISTRATION, THE
GOVERNMENT HAS NOT
COMMITTED ITSELF TO
IMPLEMENT THIS LIST

14/11/2014

Country : Finland

Project list

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
European Umbrella Initiative: European-wide business friendly e-government										
EU REAL TIME ECONOMY Digitalisation and automation of administrative processes	Accounting, cash flow forecasting and public sector reporting for enterprises with the focus on SME sector MidCaps	Yes	Automation of SME and MidCaps business and administrative processes harmonised within EU	DG Enterprise TEKES project	1. Automation and real time cash based accounting (as recommended in VAT directive) is achieved by integrating data from structured e-invoicing with electronic bank statements. 2. Automation of VAT reports based on service providers extracting VAT data from e-invoices. Second stage include real time summing up of amount and value of invoices issued per sector and geographical area, Estonia and Sweden. This data extracting model can be used for a large number of reporting needs. Estonia and Sweden invited to steering group.	Part of Finnish ICT2015 program (path2) Part of Finnish ICT2015 program (path2)	Pilot stage. The concept was created by accounting firms in the Real Time Economy and adopted into the ICT2015 program. Pilot project approved in ICT2015.	0.6	0.6	
European energy security, sustainability and transmission initiative										
Energy	Corridors and missing links		Finngulf LNG and Balticconnector	Ministry of Employment and the Economy/Finland Ministry Economic Affairs and Communications/Estonia	Finland is 100 % dependent on Russian gas via one pipeline. Diverse LNG gas sources will improve security of supply and energy security both in Finland and Estonia and decrease dependency on Russian gas. New LNG regional terminal in Finland and small scale LNG-terminal in Estonia and connection to Finnish and Estonian gas grids via Balticconnector pipeline.	Yes	Request for grants for studies for Balticconnector under CEF-Energy has been made.	0.7	TBD	Agreement pending so far between Finland and Estonia on the location of a regional LNG terminal. In case Balticconnector would receive grants for construction under CEF-Energy, no overlapping funding would be requested.
Energy Union	Connections and production	PPP	Smart grids for renewable energy	CLEEN and Ålands Teknologisentrum	Flexible energy system to enable 100 % weather dependent power supply	No	Letter of intent	0.2	0.2	Solution: Åland is the best reference environment for the integrated smart energy concept. A lot of key players will be included in this project. Focus in manufacturing industry and energy. Barriers: Demonstration risk

Initiative 2. ICT, digital economy and science infrastructure

Energy	Corridors and missing links		New interconnection between Northern Finland and Northern Sweden	Fingrid/Finland, Svenska Kraftnät/Sweden	This investment would help Finland to increase security of supply and secure affordable electricity costs for industry and other consumers. Finland is highly dependent on electricity imports through DC interconnectors which have shown to be less reliable than previously anticipated. This constitutes a threat to security of supply. New AC interconnector would help the situation significantly. In addition, Northern Sweden has surplus capacity in electricity production. This surplus could be exported to Finland which would bring economic benefits to both countries. In addition, Northern Sweden has surplus capacity in electricity production. This surplus could be exported to Finland which would bring economic benefits to both countries.	Yes	The project is on the Nordic Grid Development plan	0.2	TBC	Swedish TSO has been reluctant to take the project on their investment list even though the project would help the situation in the Northern Sweden. At the moment the Swedish TSO is prioritising reinforcements to their internal networks and postponing cross-border projects.
Energy	Corridors and missing links		Reinforcements of the Finnish transmission network	Fingrid/Finland	In order to use the transmission system optimally after the new interconnection, also the internal connections has to be reinforced. These investments would also help to integrate increasing amount of intermittent renewable energy and other CO2-free production to the system.	Yes	These projects are on the Nordic Grid Development plan	0.3	0.2	
	Renewable energy solutions									
Energy Union	Connections and production	PPP	Smart renewable	VTT, later utility	Integrated smart energy concept demonstration for intermittent renewable energy production and storage	No	under preparation	0.1	0.1	Solution: Finland is the best reference environment for the integrated smart energy concept. A lot of key players will be included in this project. Focus in manufacturing industry and energy. Barriers: Demonstration risk
Energy Union	Connections and production	PPP	Arctic off-shore wind parks	Innopower/Mervento/Rajakiiri/Hyötytuuli/Suomen Merituulivoima/Propel Voima and local power utilities	Off-shore wind energy parks in the arctic conditions in the Baltic Sea region. Several projects along the coast of the Bothnian Bay	No	First projects ready to be implemented	1.2	0.8	Solution: Finland is an excellent environment for private-public collaboration for arctic off-shore wind energy plants. A lot of key players included in this project. Focus in manufacturing industry, energy and health. Barriers: land planning and environmental permitting delays
Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
2. a	Centralized ICT for Social and Health Care Regions									

	Knowledge and the Digital Economy	Private R&D	public private	Renewal of industry through digitalisation	Tekes, Academy of Finland, Finnvera, Finpro, Sitra, VTT	Internet of things pilot network Finland as a driving environment for industry. New pilot environments will be built in Oulu, Tampere, Espoo and Lappeenranta. New service model and network of key PPP players will be created. Industry driven projects will be started.	No	Industrial Internet Forum Finland has been created in 2014. Application driven, globally networked top level innovation program and Tekes' digital programs existing. Co-operation started with leaders in USA and Germany. Strong industry commitment already existing.	1.0	1.0	Solution: Finland is the best testing environment to develop digitalisation based on private-public collaboration and agility. A lot of key players included in this project. Focus in manufacturing industry, energy and health. Barriers: Current resources divided in several organisations and sectors.
2.c	Government ICT -projects for the benefit of enterprises and										
	Knowledge and the Digital Economy	Government ICT	public	Identification	Population Register Centre	Model for national identification	yes	2014-2017	0.0	0.0	
	Knowledge and the Digital Economy	Government ICT	public	Service outlook	Population Register Centre	Outlook for services for citizens and firms	yes	2014-2017	0.0	0.0	
	Knowledge and the Digital Economy	Government ICT	public	Administiring roles and authorization	Population Register Centre	Administiring roles and authorisations for citizens and firms	yes	2014-2017	0.0	0.0	
	Knowledge and the Digital Economy	Government ICT	public	Palvelutietovaranto Stock of service information	Population Register Centre / Valtori	Registry of service information, to be used by public sector organisations and firms	yes	2014-2017			
	Knowledge and the Digital Economy	Government ICT	public	Business account	Valtori	Business account for citizens and firms	yes	2014-2017	0.0	0.0	
	Knowledge and the Digital Economy	Government ICT	public	Payment operator		Payment service in conjunction with identification	yes	2015-2017			
	Knowledge and the Digital Economy	Government ICT	public	Meta data service		Metadata service for the use of public administration and firms	yes	2015-2017	0.0	0.0	
	Knowledge and the Digital Economy	Government ICT	public	Electronic signature		Electronic signature	yes	2015-2017			
	Knowledge and the Digital Economy	Government ICT	public	Customer information project	MEE,	Administration of customer information of business customers	yes	2014-2016	0.0	0.0	
	Knowledge and the Digital Economy	Government ICT	public	Cloud avenue	Ministry of Education and Culture	Education cloud services and app store (firms sell education material)	yes		0.0	0.0	
	Knowledge and the Digital Economy	Government ICT	public	Income registry	Ministry of Finance, Tax administration						
	Knowledge and the Digital Economy	Government ICT	public	XBRL	MoF	Transmission of electronic accounting information					

Knowledge and the Digital Economy	Government ICT	public	Service avenue	Population Register Centre	Information transmission channel between public sector organisations and firms	yes	2014-2017	0.0	0.0	
Knowledge and the Digital Economy	Government ICT	public	Tax development work	Tax administration	Development work of taxes while connecting to the service avenue			0.0		
Knowledge and the Digital Economy	Government ICT	public	VTJ kehitys	Population Register Centre				0.0		
Knowledge and the Digital Economy	Government ICT	public	Housing corporation registry		Electronic housing corporation registry for the basis of electronic trade of housing corporation shares			0.0		
Knowledge and the Digital Economy	Government ICT	public	YTJ kehitys		Enterprise information development to address needs of service architecture (firms and public sector)			0.0		
Knowledge and the Digital Economy	Government ICT	public	KTJ kehitys		Real estate information system development to address needs of service architecture (firms and public sector)			0.0		
Knowledge and the Digital Economy	Government ICT	public	developing systems of the Social Security Institution	The Social Insurance Institution	The development of Social Insurance Institution systems and linking them to be part of the service architecture			0.0		
Knowledge and the Digital Economy	Government ICT	public	Liiteri-information service	Ministry of the Environment (MoE, SaDe)	Information and analysis service of living environment for authorities and firms	yes	to be completed during 2015			
Knowledge and the Digital Economy	Government ICT	public	Energy certificate service	Ministry of the Environment (MoE, SaDe)	Energy certificate service provides information on all provided energy certificates of buildings and their providers	yes	to be completed during 2014			
Knowledge and the Digital Economy	Government ICT	public	Service index unity	Ministry of Social Affairs and Health (SaDe)	Social and healthcare index for the use of firms and public sector agents	yes	to be completed during 2015			
Knowledge and the Digital Economy	Government ICT	public	Work space of Own Business Finland customer service	Ministry of Employment and Economy, SaDe	Service between founder of firm and existing firm	yes	to be completed during 2015			
Knowledge and the Digital Economy	Government ICT	public	Transmission of tax information between EU countries	Tax administration	Transmission of tax information between EU countries, countries Finland and Estonia			0.0		
Knowledge and the Digital Economy	Government ICT	public	Public sector ICT Laboratory	CSC	Engaging firms, innovation ecosystem	yes		0.0		
Other ICT initiatives										

Knowledge and the Digital Economy	ICT Infrastructure	PPP	Broadband 2015 - Improving the broadband connectivity in rural areas	Municipalities, Regional Councils, telecom companies, Finnish Communications Regulatory Authority, Ministry of Transport and Communications	The ongoing Broadband 2015 project is aiming at increasing the availability of 100 Mbps broadband subscriptions in the rural areas that are very sparsely populated. Aid for building the network in rural areas is essential. At the moment there is additional need for public funding (about 1/3 of total investment) in order to meet the goal for this project.	No	ongoing	90 M €		Networks in rural areas are not built in market terms. Lack of enabling government investment. Full coverage of fast broadband is essential for the development and digital service provision (both domestic and cross-border) in the rural areas, including the Arctic region.
Knowledge and the Digital Economy	ICT Infrastructure	PPP	Increasing internet exchange capacity and high speed communication networks	Ministry of Transport and Communications, FICORA, FICIX	Establishing a new global FICIX-internet exchange point to Finland.	No		2 M €		New internet exchange point would have numerous advantages f.ecx reducing latency in European connections, thus attracting data-intensive foreign investment.
Knowledge and the Digital Economy	ICT-infrastructure	PPP	Trusted European Cloud	Ministry of Transport and Communications, Universities, cloud computing companies, broad PPP-cooperation	Developing cloud computing platforms and cloud provider company clusters. Establishing a trusted cloud environment on a European level.	No		45 M €		Providing trusted European cloud services. Finding new business/service models and boosting cloud industry.
Knowledge and the Digital Economy	Private R&D	Private	Secure ubiquitous and embedded devices	Aalto University, Tampere University of Technology, 5-10 companies	Intelligence and network connectivity have become important competitive features of everyday objects. Intelligent devices in our living and working environment can improve work productivity and individual wellbeing, reduce costs, and provide valuable information about product use. However, great security challenges arise when millions, or billions, of new devices are connected to the Internet and to cloud-based services. The software, hardware and communication on these devices has to be protected against hacking and other malicious attacks, and personal and business data must remain confidential. This requires scalable security architectures and protocols, as well as trusted computing technologies and security testing techniques. Moreover, the security controls must be designed to be non-intrusive and natural for the users. Usable, trustworthy security solutions will be a critical competitive requirement for the network-connected objects. Thus, we propose developing secure communication and platform technologies for ubiquitous and embedded computing in everyday objects. The project will combine engineering, design and manufacturing expertise. Case studies will be selected from companies in different sectors, e.g. sports textiles, forestry and farming equipment, care for the elderly, and toys and games. The focus is on transferring academic research knowledge into practical product and service design.	No		6 M €		The secure communication and software technologies and platforms and design expertise created in this project will be shared between companies. They provide European design, manufacturing and service businesses an advantage in the competitive market for network and cloud-connected ubiquitous objects. Starting the work on case studies from several European design and manufacturing companies will ensure that the research results are relevant and have a short-to-medium term impact on the business, in addition to providing long-term research knowledge. The project can be started by 2017.

Knowledge and the Digital Economy	Private R&D	Private	Secure ubiquitous and embedded devices	Aalto University, Tampere University of Technology, 5-10 companies	Intelligence and network connectivity have become important competitive features of everyday objects. Intelligent devices in our living and working environment can improve work productivity and individual wellbeing, reduce costs, and provide valuable information about product use. However, great security challenges arise when millions, or billions, of new devices are connected to the Internet and to cloud-based services. The software, hardware and communication on these devices has to be protected against hacking and other malicious attacks, and personal and business data must remain confidential. This requires scalable security architectures and protocols, as well as trusted computing technologies and security testing techniques. Moreover, the security controls must be designed to be non-intrusive and natural for the users. Usable, trustworthy security solutions will be a critical competitive requirement for the network-connected objects. Thus, we propose developing secure communication and platform technologies for ubiquitous and embedded computing in everyday objects. The project will combine engineering, design and manufacturing expertise. Case studies will be selected from companies in different sectors, e.g. sports textiles, forestry and farming equipment, care for the elderly, and toys and games. The focus is on transferring academic research knowledge into practical product and service design.	No		7 M €		The secure communication and software technologies and platforms and design expertise created in this project will be shared between companies. They provide European design, manufacturing and service businesses an advantage in the competitive market for network and cloud-connected ubiquitous objects. Starting the work on case studies from several European design and manufacturing companies will ensure that the research results are relevant and have a short-to-medium term impact on the business, in addition to providing long-term research knowledge. The project can be started by 2017.
Knowledge and the Digital Economy	ICT infrastructure	Private	Optimization of wireless networks	University of Oulu, research institutions, companies	End-to-end optimization of wireless networks and connections for internet of connected objects and industrial internet to enable efficient use and support for big data applications over wireless connections. Big data over wireless networks. Application driven connection optimization.	No		40 M€		Wireless and mobile solutions could offer significant new business opportunities on the European level. Increasing data flows require optimization
Knowledge and the Digital Economy	Public R&D	PPP	Data Center Sustainability	TEM, CSC, Standardintiliitto, Motiva, Aalto-yliopisto, Tekes, VTT, KAMK	Measurement systems and methods for data center efficiency and sustainability are still being developed. Widely used PUE doesn't take various factors into account. Ministry of Transport and Communications in cooperation with stakeholders have developed a tool for data center sustainability estimation. Further development requires various pilots in data centers and possible modifications to the sustainability rating.	No		4 M€		The rating could be used as a wider standard of sustainability monitoring and estimation in Europe. Finding business models to Green ICT development. Improving European know-how in (green) DC skills

Knowledge and the Digital Economy	ICT Infrastructure	public private	Digitalisation	Tekes / Ministry of Employment and the Economy	A) Digitalisation as an enabler in renewing business and industry (please see project name "Renewal of industry through digitalisation"). B) Digitalisation and services. C) Future technologies (5G, radio frequencies). D) Cyber security.	No	Part A) is in implementation planning phase.	1.0	1.0	Solutions: Finland as a leading center of digitalisation, big data and hub for ICT standardisation and cyber security. Starting point is that Finland is a boosting European service pipeline for the effective utilisation of digitalisation. Barriers: The threat is that Europe falls behind competitors in productivity and utilisation of digitalisation.
Knowledge and the Digital Economy	ICT infra	PPP	Arctic Sea Cable	joint venture, EU together with interested Arctic and Asian countries	High speed submarine cables already run between US and Asia and US and Europe, but the increasing data flow between Europe and Asia requires connectivity improvement. According to some estimations 278% is the expected growth of direct traffic flow between Europe and Asia in the next 5 years. The aim of the project is to enable and to co-finance the construction of the submarine high speed cable connection through Northeast passage between Asia and Europe as a joint venture with EU and interested Arctic and Asian countries. When connected to the Baltic Sea Cable, which is at the moment under construction, the cables would provide the most direct and fastest high capacity link from Europe to Asia. This would provide a remarkable boost to the data intensive industry which is emerging together with the development of industrial internet and wider use of big data.	no	Preparatory phase	0.8		
Knowledge and the Digital Economy	Public R&D	public private	EISCAT 3 D Incoherent Scatter Radar System	Academy of Finland, Sodankylä Geophysical Observatory, University of Oulu	EISCAT 3D measures the coupling between the space environment and the atmosphere and monitors space weather effects. Located in Norway, Sweden and Finland	Yes	Planning started in 2010, Construction phase 2015-2019	0.0	0.0	Included in national RI roadmap, however total investment lacking (Total investment 25 M€ and 10 M€ for 2015-2017)
Knowledge and the Digital Economy	Public R&D	public	National Digital Library Initiative and Long term preservation project (KDK-PAS)	Ministry of Education and Culture, Academy of Finland, CSC – IT Center for Science, National Library	KDK-PAS is a data infrastructure that covers services for the dissemination, storage, and long-term preservation of digital data	Yes	Construction phase 2010-2019	0.0	0.0	Included in national RI roadmap, however lack of funding (Total investment 31 M€ and 10 M€ for 2015-2017)
Knowledge and the Digital Economy	Public R&D	public private	National Supercomputing infrastructure, FUNET, update of library systems and development of digital education and research (e.g. Open Science) environments in Higher education institutions	Ministry of Education and Culture, Academy of Finland, CSC – IT Center for Science	Update of the national supercomputer	Yes	Construction phase 2010-2019	0.1	0.1	Ongoing initiatives for Open science and for digitalizations of higher education are hindered due to lack of funding. Supercomputer included in national RI roadmap, however lack of funding (Total investment 33 M€ and 13 M€ for 2015-2017); Prerequisite for participation in European supercomputer system PRACE.
Knowledge and the Digital Economy	Public R&D	public private	BIOECONOMY –research infrastructure	Academy of Finland, Aalto University, VTT Technical Research Centre	The research infrastructure aims to utilize renewable biomass in the development of biobased chemicals, fuels, materials and fibres.	Yes	Preparatory phase started in 2013, Construction phase 2014-2020	0.0	0.0	Included in national RI roadmap, however lack of funding (Total investment 28 M€ and 14 M€ for 2015-2017); Plan to be included in European ESFRI Roadmap

Knowledge and the Digital Economy	ICT Infrastructure	public private	Internet Economy Platform - DAISY	DIGILE, industry consortium, TEKES, sectoral institutes.	National Internet Economy Platform (IEP) as next generation digital infrastructure to solve the challenge of public private interoperability. IEP-DAISY is also a radical tool to increase the productivity in digital service development, utilization and business development.	Yes	In preparation. Roadmap with defined versions available in the beginning of 2015 and first version ready for testing in 2015.	1.0	0.5	High level private-public cooperation is needed. Radical adjacency strategy opens the way to proceed quickly. Finland is the leader in open source development and in industrial co-creation with SHOK concept. IEP-DAISY will demonstrate these kind of benefist for wider use in EU.
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Initiative 3.Sustainable Growth and well-being

3. a

Knowledge and the Digital Economy	Public R&D	public private	EduCloud	Ministry of Education and Culture, CSC – IT Center for Science, EduCloud Alliance, COSS – Centre for Open Systems and Solutions. Joint effort with Estonia.	EduCloud is a pioneering operations and technology model in which a national ecosystem is built to unite the users and buyers as well as the developers and service providers of educational services.	Yes	Construction Ongoing, productizement 2016, in use 2017. National financing under preparation, confirmed in 2015. Estimated: substantial. Finnish-Estonian Educloud a potential pilot project for future EU-level cooperation in the field of education policies	0.0	0.0	General lack of funding. 2015: Development of reusable role management and SSO authentication (3M€). 2016: Need seed money (4M€) to kickstart cloud based educational material and service markets.
Surveying, mapping, geoinformation, planning	Geoinformation	PPP	European Location Framework 2.0 (ELF 2.0)	National Mapping Agency	Development of the European spatial data infrastructure and reference data platform. Interoperability of the national core spatial data sets and the quality of the data will be developed together with private sector. The project will include several national subprojects managed by the national mapping agency (or similar).	No. The first phase of the process ('ELF 1.0') has been partly funded by the MS and partly by EC. The next phase of the process ('ELF 2.0') has no funding yet.	The first phase of the process ('ELF 1.0') is running. It has been partly funded by the MS and partly by EC. There is excellent possibility to start the next phase before 2017.	0.2	0.2	The benefits of the first phase and vision of the ELF will not be fully achieved, if there is no resources for the next phase.
Sustainable growth	Public R&D	public private	BIOECONOMY –research infrastructure	Academy of Finland, Aalto University, VTT Technical Research Centre	The research infrastructure aims to utilize renewable biomass in the development of biobased chemicals, fuels, materials and fibres.	Yes	Preparatory phase started in 2013, Construction phase 2014-2020	0.0	0.0	Included in national RI roadmap, however lack of funding (Total investment 28 M€ and 14 M€ for 2015-2017); Plan to be included in European ESFRI Roadmap
Sustainable growth	Forest/Chemical/Energy industries	private	Three (3) first-of-a kind demonstration and commercial biorefineries	Industry, the implementing companies will be selected in February 2015 through an open international competition for new biorefineries in Finland	These plants will demonstrate new technology in industrial setting or are the first commercial scale plants to utilise new technology. These plants will provide valuable experience Europe-wide.	Yes	Planning in progress. Investments taking place from 2015 onwards	1.0	0.7	Risks with new technology and lack of capital for SMEs that can be mitigated with public financing
Sustainable growth	Forest/Chemical/Energy industries	public private	New bioeconomy business ecosystems	Tekes, Academy of Finland, Finnvera, Finpro, Sitra, VTT, University of Oulu, Kokkola Industrial park	New bioeconomy business ecosystems will be created in Finland utilizing biorefinery as a starting project. Following projects inside business ecosystems are 2nd generation of biofuels, food bioprocessing, biobased materials, green mining. Europe can be leader in global standardisation and forerunner in innovations.	No	Couple of business ecosystems are starting actions, like Metsä Fibre Oy Äänekoski, Smart Chemistry Park and Turku Waste management concept. Discussions with the Netherlands and with Sweden ongoing.	2.0	1.0	Solutions: EU level and global collaboration. Finland can act as primus motor, experimentation lab and has huge potential in renewable raw materials and related skills and capabilities. New innovations in line with new business ecosystem development as a possibility and success factor. Barriers: Regulation, lack of standards.

Sustainable growth	Sustainable consumption	public private	Innovation Ecosystems for Low-Carbon Economy	Ministry of the Environment (MoE) and Demos Helsinki (thank)	To launch innovation ecosystems to create a community of startup companies to provide consumers with products and services that allow e.g. low emission and resource-smart housing, transport or food.	No	Demos Helsinki has coordinated Peloton Club (2013-2014) funded by MoE. Now the idea is to develop the model, involve a group of medium to large companies and work also together with Swedish and Norwegian counterparts. Total investment cost 3 million euros and Investment in 2015-2017 is approximately 3 million euros	0.0	0.0	Solutions: This type of ecosystem approach has proved invaluable in a number of contexts before including in Silicon Valley. These firms have benefited from their symbiotic relations to the government both in terms of research and enabling regulation. Innovation ecosystems give birth to new value chains and network effects linking companies with state, municipalities, startup-companies and local communities. Barriers: To attract big companies and SME's.
Sustainable growth	Resource efficiency		Distributed bioeconomy in rural areas	Natural Resources Center LUKE, ProAgria/Lappi, Regional Council of Lapland/City of Kuhmo, Kuhmo Ltd, Woodpolis	The target is to create added value to the regional economy by increasing self sufficiency in energy and food production through systemic change	yes	Feasibility study accomplished	0.2	0.2	In distributed bioeconomy the markets cannot be created by competition based on the price of products. Revenue logic will be based on reasonable energy prices at the local level when energy is not imported but produced locally. The local capital will grow when using local inputs instead of imported ones. The barrier is the conventional way of solving energy and food delivery and it causes resistance of the traditional providers.
Sustainable growth	Biofuels	PPP	Refinery for pyrolysis oil	VTT, Valmet, Fortum, UPM et al.	Refinery technology demonstration for forest based bio oil	No	under preparation	0.5	0.2	Solution: Finland is an excellent environment for private-public collaboration for bio oil development. A lot of key players included in this project. Focus in manufacturing industry, energy and health. Barriers: demonstration risk
Sustainable growth	Waste management	PPP	Municipal waste based biorefinery	Consortia BMH Technology, Valmet, Kuusakoski, St1, later utility	Integrated concept for municipal waste based biorefinery, including recycled materials, bioliquids and energy production	No	under preparation	0.1	0.1	Solution: Finland is an excellent environment for private-public collaboration for waste biorefineries. A lot of key players included in this project. Focus in manufacturing industry, energy and health. Barriers: demonstration risk
Sustainable growth	Waste management	private	Biorefinery and plastic treatment facility in Riihimäki	EKOKEM Oyj (Private company)	To build a biorefinery that will process mixed biowaste and a plastic treatment facility that will process and recycle plastic packings and other plastic wastes from households. The consumer plastic treatment facility would be first in kind in Finland.	Yes	Readiness to start in 2015 or 2016 Total investment cost 20 million euros and Investment in 2015-2017 is approximately 10 million euros	0.0	0.0	Lack of public investment funding, private funding available
Sustainable growth	Forest industry	Private	Modern forest biorefinery	Metsä Group and partners	Modern forest based carbon neutral biorefinery to be located in Äänekoski	No	Waiting for the environmental permit	1.1	1.1	Solution: Finland is an excellent environment for private large-scale

	Sustainable growth	Forestry/Chemistry/Metal industry	Private	Innovative biorefinery integrated to the chemical and metal industries of Kokkola industrial park	VTT, University of Oulu, Kokkola Industrial Park	Thermochemical biorefineries can be integrated to chemical and metal industries resulting in many synergistic advantages over ordinary stand-alone biorefinery concepts. The Kokkola industrial park offers an excellent platform for demonstrating this concept on industrial scale. Clean wood feedstock is used for making high-value products from charcoal, while various kinds of biomass residues and wastes are utilized in the main gasification train producing syngas for transport fuels, chemicals and value-added products such as lubricants and aromatics. The activated charcoal is used for the production of high-value products, such as adsorbents, catalyst support materials and anode materials of lithium Demoplant	No	Feasibility study ongoing	0.3	0.3	This integrated production concept has a large potential within European industrial sites and it is especially interesting for regions where there is no large-scale forest industries, since the concept is applicable also to relatively small biomass resources. The realization of first-of-a-kind classical bio-refineries has turned out to be challenging due to economic risks related to large investments and high engineering and commissioning costs. The integrated refinery concept of Kokkola can be realized in several phases, reducing the investment risks related to the new technologies.
3.b	Social Infrastructure	Health	public private	Municipalities-owned public buildings, indoor air quality improvement.	Ministry of Social Affairs and Health, Ministry of Education and Culture	Municipalities have public buildings of more than EUR 5 billion to repair the debt. Of these buildings, building renovations to support 100 million per year. The grant is provided primarily for repairs to ensure healthy and safe indoor climate conditions. The grant would be 15-25% of the project cost. The grant would include strict conditions to ensure a good indoor air quality is ensured. At the same time municipal buildings to improve indoor air quality and health problems, as well as their costs are reduced. In addition, the quality of the renovation practices are becoming more common. This grant will employ about 80 person-years per million.	No	Request for grants for renovation of public building	0.1	0.3	
	Social Infrastructure	Health	public private	Opening national health repositories for R&D	Institute for wellbeing and Health, National social insurance institute, University hospitals and biobanks, National innovation agencies, ministry level guidance from social & health, education & culture, employment & business Private participants TBD	Finland and nordic countries are global leaders in deployment of eHealth. Many national repositories (health data) exists and new ones are being built (genomic data). Repositories will be opened up for R&D activities, which will facilitate new innovations in personalised medicine and medical research as a whole. Pharmaceuticals is one identified field, which will benefit from opening of these databases.	yes	Repositories exist and contain data depending on repository from a few years to several decades. Finnish research collections have large quantities of samples that can be sequenced for genomic analysis and combined with information in the repositories. National strategy for eHealth 2020 includes this action item.	0.5	0.1	National investment existing partially (140 M invested and 100 million allocated). Further public investment is needed to build the infrastructure needed to attract private investments in R&D. Also funding for genomic reference database is insufficient. Legislative changes need to be implemented (in process) and ethical principles must have a solid basis and they must be enforced.

Social Infrastructure	Health	public private	Opening national health repositories for R&D	Institute for wellbeing and Health, National social insurance institute, University hospitals and biobanks, National innovation agencies, ministry level guidance from social & health, education & culture, employment & business Private participants TBD	Finland and nordic countries are global leaders in deployment of eHealth. Many national repositories (health data) exists and new ones are being built (genomic data). Repositories will be opened up for R&D activities, which will facilitate new innovations in personalised medicine and medical research as a whole. Pharmaceuticals is one identified field, which will benefit from opening of these databases.	yes	Repositories exist and contain data depending on repository from a few years to several decades. Finnish research collections have large quantities of samples that can be sequenced for genomic analysis and combined with information in the repositories. National strategy for eHealth 2020 includes this action item.	0.5	0.1	National investment existing partially (140 M invested and 100 million allocated). Further public investment is needed to build the infrastructure needed to attract private investments in R&D. Also funding for genomic reference database is insufficient. Legislative changes need to be implemented (in process) and ethical principles must have a solid basis and they must be enforced.
Social Infrastructure	Health	public private	mHealth, wellbeing and selfcare services for the citizens'	Institute for wellbeing and health, National social insurance institute, health care providers (public and private) Private participants TBD through innovation programs	mobile healthcare (mHealth) is growing as global business area. Market size will increase dramatically and technology will also manage and reduce rising health care costs. This program will create a european competency center in Finland for assesment and evaluation and mobile healthcare technology (standards, health benefits etc). Long term funding will be private. A development infrastructure that is compatible to real world will be created. Cross border collaboration is important and Finland is in on-going discussion with several countries.	No	Identified as a priority area in the national eHealth strategy. Implementation planning in process.	0.2	0.1	Current technology is developed out-of-sync with healthcare system and legislation. Results of innovation programs can therefore be slim. Nokia and Microsoft cutbacks caused many mobile experts unemployment. This expertise can be educated in health issues and serves as a basis for implementing mHealth solutions. Public funding is insufficient.
Social infrastructure	Built environment and urban services	public private	Plus Energy (non-carbon) Residential area - Concept for new and existing residential areas	Lappeenranta, Porvoo, Lohja, YIT Ltd, Finnish Environment Institute	The intention is to create attractive and sustainable urban environments by building housing, business premises, infrastructure and entire areas in three towns (Lappeenranta, Porvoo and Lohja). Elements for Plus Energy Residential Area: Smart Plus Energy System (district Heating and/or local CHP and hybrid solutions with solar & heat pumps, local energy storage & networks and energy management tool to optimize energy production & consumption emission), Energy & Resource Efficient Design, Sustainable Materials, Smart Waste Management, Water Efficiency, Mobility and Sustainable Lifestyle, Shared Services.	No	The pilot towns and 'test beds' have been employed. All of them don't have yet local detailed plans approved by the local city council. Total investment cost 6 million euros and Investement in 2015-2017 is approximately 3 million euros	0.0	0.0	Solution: Potential for scaling up in other towns and areas in Europe. Three towns in the pilot can act as experimentation environment and lab for sustainable design and energy solutions in urban areas. Concept goes beyond typical "green housing" yet being competitive and affordable and thus inspiring for a new desirable living experience with positive impact on earth. Barriers: Technology risk while some of the applications (hybrid energy solutions, local energy storage as well as energy management tool) need also testing and tuning up. Lack of confidence and risk-taking in the municipal sector.

Resources and Environment	Natural resources: efficient and secure availability	public	The procurement of oil- and chemical response vessels	The Finnish Environment Institute	The new vessels would be multipurpose vessels with an ability to collect oil- and chemical spills and to prevent the pollution of nature and shorelines at the Archipelago. Finland's minimum objective for 2015 is to be able to respond to 30-ton oil spill at the Gulf of Finland, 20-ton at the Archipelago Sea and 5-ton at the Gulf of Bothnia in three days when waters are open and in ten days under icy conditions.	No	Possible start 2016-2017, if national funding and decisions are made Total investment cost 100 million euros and Investment in 2015-2017 is approximately 50 million euros	0.1	0.1	Barriers: Lack of national funding and decisions
3. c Resources and Environment	Natural resources: efficient and secure availability	public private	Strategy for Restoration of Waters	Ministry of Environment	Restoration of waters support the targets of good status of waters as in Water Framework directive. The total sum of implementation is 70 million euros and 2015-17 needed investments are 20 million euros	yes	Strategy paper of the Ministry of Environment	0.1	0.0	Both EU finance together with private sector allocation would secure the implementation of restoration programme
Resources and Environment	Natural resources: efficient and secure availability	public private	National plan of Sewers	Ministry of Environment and Ministry of Agriculture and Forestry	Plan for developing infrastructure of sewers in agglomerations and scattered settlements.	yes	plan is accepted by Ministry of Environment and Ministry of Agriculture and Forestry	0.2	0.1	lack of finance has slowed down the implementation. Investment finance from EU would help the private sector to allocate finance.
Resources and Environment	Natural resources: efficient and secure availability	public	Refurbishing of prioritized contaminated areas for economic use	Centre for Economic Development, transport and the Environment	Prioritized contaminated areas are remedied. This means that their negative impacts and risks are investigated and assessed, and either eliminated or significantly reduced to enable economic use.	No	National action plan available. Total investment cost 3 million euros and Investment in 2015-2017 is approximately 1.5 million euros.	0.0	0.0	Barriers: Lack of national public funding
Resources and Environment	Natural resources: efficient and secure availability	public private	National Fish Passage Strategy	Ministry of Agriculture and Forestry	Finland's National Fish Passage Strategy aims to strengthen our threatened and endangered migratory fish stocks. Implementation of the strategy will support our goal to strengthen biodiversity and fisheries opportunities in a sustainable way. The total sum of implementation is 100 million €. Needed investment in 2015-2017 is 30 million €.	yes	Finland's National Fish Passage Strategy - Government resolution	0.1	0.0	Barrier: Lack of public funding, somewhat private funding available. Solution: Including investment allocation of private sector (mainly hydropower companies), EU finance ensures the implementation of strategy.
Resources and Environment	other	public	Beef register	Ministry of Forestry and Agriculture	Administration register of animal information for farmers	yes	2014-2018	0.0		
Resources and Environment	other	public	Information and business programme of basic food	Ministry of Forestry and Agriculture	Information and business system for entrepreneurs which directs to the correct public services based on the information provided	yes	2014-2016	0.0		
Resources and environment	Resilience to Climate change	PPP	Municipal waste based biorefinery	Consortia BMH Technology, Valmet, Kuusakoski, St1, later utility	Integrated concept for municipal waste based biorefinery, including recycled materials, bioliquids and energy production	No	under preparation	0.1	0.1	Solution: Finland is an excellent environment for private-public collaboration for waste biorefineries. A lot of key players included in this project. Focus in manufacturing industry, energy and health. Barriers: demonstration risk

Resources and Environment	Natural resources: efficient and secure availability	private	Biorefinery and plastic treatment facility in Riihimäki	EKOKEM Oyj (Private company)	To build a biorefinery that will process mixed biowaste and a plastic treatment facility that will process and recycle plastic packings and other plastic wastes from households. The consumer plastic treatment facility would be first in kind in Finland.	Yes	Readiness to start in 2015 or 2016 Total investment cost 20 million euros and Investment in 2015-2017 is approximately 10 million euros	0.0	0.0	Lack of public investment funding, private funding available
Resources and Environment	Resilience to Climate Change	public private	Innovation Ecosystems for Low-Carbon Economy	Ministry of the Environment (MoE) and Demos Helsinki (think tank)	To launch innovation ecosystems to create a community of startup companies to provide consumers with products and services that allow e.g. low emission and resource-smart housing, transport or food.	No	Demos Helsinki has coordinated Peloton Club (2013-2014) funded by MoE. Now the idea is to develop the model, involve a group of medium to large companies and work also together with Swedish and Norwegian counterparts. Total investment cost 3 million euros and Investment in 2015-2017 is approximately 3 million euros	0.0	0.0	Solutions: This type of ecosystem approach has proved invaluable in a number of contexts before including in Silicon Valley. These firms have benefited from their symbiotic relations to the government both in terms of research and enabling regulation. Innovation ecosystems give birth to new value chains and network effects linking companies with state, municipalities, startup-companies and local communities. Barriers: To attract big companies and SME's.
Resources and Environment	Natural resources: efficient and secure availability	public	The procurement of oil- and chemical response vessels	The Finnish Environment Institute	The new vessels would be multipurpose vessels with an ability to collect oil- and chemical spills and to prevent the pollution of nature and shorelines at the Archipelago. Finland's minimum objective for 2015 is to be able to respond to 30-ton oil spill at the Gulf of Finland, 20-ton at the Archipelago Sea and 5-ton at the Gulf of Bothnia in three days when waters are open and in ten days under icy conditions.	No	Possible start 2016-2017, if national funding and decisions are made Total investment cost 100 million euros and Investment in 2015-2017 is approximately 50 million euros	0.1	0.1	Barriers: Lack of national funding and decisions
Resources and Environment	Natural resources: efficient and secure availability	public private	Strategy for Restoration of Waters	Ministry of Environment	Restoration of waters support the targets of good status of waters as in Water Framework directive. The total sum of implementation is 70 million euros and 2015-17 needed investments are 20 million euros	yes	Strategy paper of the Ministry of Environment	0.1	0.0	Both EU finance together with private sector allocation would secure the implementation of restoration programme
Resources and Environment	Natural resources: efficient and secure availability	public private	National plan of Sewers	Ministry of Environment and Ministry of Agriculture and Forestry	Plan for developing infrastructure of sewers in agglomerations and scattered settlements.	yes	plan is accepted by Ministry of Environment and Ministry of Agriculture and Forestry	0.2	0.1	lack of finance has slowed down the implementation. Investment finance from EU would help the private sector to allocate finance.
Resources and Environment	Natural resources: efficient and secure availability	public	Refurbishing of prioritized contaminated areas for economic use	Centre for Economic Development, transport and the Environment	Prioritized contaminated areas are remedied. This means that their negative impacts and risks are investigated and assessed, and either eliminated or significantly reduced to enable economic use.	No	National action plan available. Total investment cost 3 million euros and Investment in 2015-2017 is approximately 1,5 million euros.	0.0	0.0	Barriers: Lack of national public funding
Resources and environment	Resilience to Climate change	Private	Modern forest biorefinery	Metsä Group and partners	Modern forest based carbon neutral biorefinery to be located in Äänekoski	No	Waiting for the environmental permit	1.1	1.1	Solution: Finland is an excellent environment for private large-scale biorefineries. A lot of key players included in this project. Focus in manufacturing industry and energy. Barriers: none

Resources and Environment	Natural resources: efficient and secure availability	public private	National Fish Passage Strategy	Ministry of Agriculture and Forestry	Finland's National Fish Passage Strategy aims to strengthen our threatened and endangered migratory fish stocks. Implementation of the strategy will support our goal to strengthen biodiversity and fisheries opportunities in a sustainable way. The total sum of implementation is 100 milj. €. Needed investment in 2015-2017 is 30 milj. €.	yes	Finland's National Fish Passage Strategy - Government resolution	0.1	0.0	Barrier: Lack of public funding, somewhat private funding available. Solution: Including investment allocation of private sector (mainly hydropower companies), EU finance ensures the implementation of strategy.
Resources and Environment	other	public	Beef register	Ministry of Forestry and Agriculture	Administration register of animal information for farmers	yes	2014-2018	0.0		
Resources and Environment	other	public	Information and business programme of basic food	Ministry of Forestry and Agriculture	Information and business system for entrepreneurs which directs to the correct public services based on the information provided	yes	2014-2016	0.0		

Initiative 4. Transport infrastructure

4. a

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 - 2017 (EUR bn)	Barriers/solutions
Digital infrastructure										
Transport	Business enablers	Digital infrastructure ecosystem for automated vehicles and V2X communication in 2015 - 2020 in Finland	Nokia Networks, HERE, Elektrobit (Oulu), Ixonos (Jyväskylä), ITS Factory (Tampere), ITS Finland (Helsinki), Aalto University, University of Helsinki, Finnish Transport Agency, Finnish Transport Safety Agency, Ministry of Transport	Digital infrastructure for managing high data volumes associated with automated vehicles on public roads -EDGE computing connectivity for infotainment, safety and security messages -Real time High Definition map (HD map) collection and delivery "on-the-go" to road users -Hazard warnings and other low latency-sensitive message delivery system to and between cars (V2X) -Low latency alerts to between vulnerable road users, like pedestrians and cyclists and vehicles (Internet of Things) -Mobility management via Automotive Cloud big data management, computational and analytical capabilities. Project provides a testbed and piloting for future European wide intelligent transport systems.	No		550 M€ - 700 M €			Removing barriers from private investors

	Transport		Business enablers	ITS innovations and piloting in Finland 2014-2020	Ministry of Transport and Communications, Finnish Transport Agency, cities, and other public sector actors	Innovative and multimodal mobility as a service concepts making full use of European state of the art technology solutions.			-2 M € for years 2014-2016		
						This will be piloted in the Helsinki-Tallinn hub connecting the Scan-Med and North Sea - Baltic Sea corridors			-20 M€ for years 2016-2019		
	Transport	Transport	Corridors and missing links	I_HeERO	Finnish Transport Agency/Finnish Transport Safety Agency/Emergency Response Centre Administration	Preparing the necessary PSAP infrastructure to realise pan-European eCall, boosting Member States investment in the PSAP infrastructure and interoperability of the service, and performing PSAP conformity assessment.	No	Proposal planning phase	56 M € in total (including all the partners)	56 M €	PSAP infrastructure is not yet capable of realising pan-European eCall, so reference implementations and funding for this is needed
4. b	Major infrastructure projects										
	Transport	Transport	Business enablers	Industrial policy projects that increase employment and competitiveness	Finnish Transport Agency	Industrial policy projects that increase employment and competitiveness. Transport infrastructure requires a overhaul in order to ensure Finland's competitiveness.	No		1 billion € in total		
	Transport	Transport	Urban transport	Urban rail transport in Helsinki node West Metro, phase 1 and 2	City of Espoo, Ministry of Transport and Communications	Construction of the west metro (1 st phase and 2 nd phase). (Scan-Med Corridor and North-Sea Baltic Corridor)	Yes		-Phase 1. 500 -Phase 2. 850 M €		
	Transport	Transport	Urban transport	Urban rail transport in Helsinki node City Rail Loop	Finnish Transport Agency	Construction of City Rail Loop improves the functionality of railway network in Finland by giving more capacity to Helsinki Node. (Scan-Med Corridor and North-Sea Baltic Corridor)	No		950 M €		

4. c	Small projects										
	Transport	Transport	Corridors and missing links								
	Transport	Transport	Corridors and missing links	Railway Yard of Helsinki	Finnish Transport Agency	The functional improvement of the railway yard of Helsinki. Railway is in a node of two Core Network Corridors (Scandinavian-Mediterranean Corridor and North-Sea Baltic Corridor)	Yes		60 M €		
	Transport	Transport	Corridors and missing links	Western track of Pasila	Finnish Transport Agency	Railway is in a node of two Core Network Corridors (Scandinavian-Mediterranean Corridor and North-Sea Baltic Corridor).	Yes		40 M €		
	Transport	Transport	Corridors and missing links	Bothnia railway	Finnish Transport Agency	The project increases the capacity of TEN-T Core Rail Network (Bothnian Corridor) and removes remarkable bottleneck of the railway (including construction of double track). Part of Bothnian Corridor.	Yes		674 M €		
	Transport	Transport	Corridors and missing links	Railway Helsinki-Riihimäki, 1st and 2n phase	Finnish Transport Agency	The project increases the capacity of TEN-T Core Rail Network (Bothnian Corridor) and removes remarkable bottleneck of the railway.	Yes (1st phase)		150 M € 1st phase, 200 M€ 2nd phase		

Transport	Transport	Corridors and missing links	E 18 Ring Road III Lahdenväylä-Porvoonväylä	Finnish Transport Agency	Construction of additional lanes, ramps and telematics improves the functionality of Scan-Med Corridor.	Yes		150 M€		
Transport	Transport	Urban transport	Urban rail transport in Tampere node/ Tampere light railway project	City of Tampere, Ministry of Transport and Communications	Construction of light railway (tram) in City of Tampere to promote the use of public transportation in Tampere City Region. (Bothnian Corridor)	No		250 M€		
Transport	Transport	Urban transport	Helsinki Urban Node, Rail Joker Line 1st phase	Helsinki Regional Transport, municipalities	A three phase project to connect east-west urban rail to long distance rail, Helsinki airport and port. (Scan-Med Corridor and North-Sea Baltic Corridor)	No		180 M€ (total investment 300 M€ 2018-2022)		
Transport	Transport	Business enablers	Intermodal transport network Development of logistics of Äänekoski bioproduct mill	Finnish Transport Agency	Improvements on Road 4 and electrification of Äänekoski- Jyväskylä railway enables the operation and logistics of Äänekoski bioproduct mill. The project gives remarkable growth to Central Finland. Road 4 is part of TEN-T Core road network (Bothnian Corridor). Supports the logistics of prioritized European growth sector.	No		148 M€		
Transport	Transport	Business enablers	Transport connections to Sokli phosphate mine	Finnish Transport Agency	Renewing railway line Kemijärvi-Kellosekä, new railway Kellosekä-sokli enables the operation and logistics of Sokli phosphate mine. Benefits the exploitation of the Arctic resources.	No		-renewing 120 M€, new line 265 M€ total 385 M€		part of the investment costs of the new railway line financed by private firm (mining company)
Transport	Transport		Electrification of Ylivieska-lisalmi railway	Finnish Transport Agency	Electrification of railway enables the efficient use of existing railway infrastructure and responds to the objectives of TEN-T regulation.	No		60 M€		
Transport	Transport		Electrification of Hanko-Hyvinkää railway	Finnish Transport Agency	Electrification of railway enables the efficient use of existing railway infrastructure and responds to the objectives of TEN-T regulation.	No		50 M€		
Transport	Transport	Corridors	Development of the Turku-Helsinki railway	Finnish Transport Agency	Planning of new rail line at Scan-Med-Corridor between Helsinki and Turku.			0,3 M€		
Transport	Transport	Business enablers	Passenger terminal of Helsinki West Harbour	Port of Helsinki	Construction of a new passenger terminal in Helsinki with land traffic connections improves the functions and operations of the Port.	No		275 M€		
Transport	Transport	Business enablers	Development of the Vuosaari harbour fairway	Port of Helsinki	Project includes deepening the Vuosaari harbour fairway that improves the safety issues and enables bigger vessel to enter the port.	No		26 M€		
Transport	Transport	Business enablers	Acquisition of a new icebreaker	Finnish Transport Agency / Arctia Shipping	Acquisition of a new icebreaker increases the ice breaking capacity at the Baltic Sea and promotes the maritime safety and efficient transport.	No		128 M€		
Transport	Transport	Business enablers	Acquisition of a new icebreaker	Finnish Transport Agency / Arctia Shipping	Acquisition of a new icebreaker increases the ice breaking capacity at the Baltic Sea and promotes the maritime safety and efficient transport.	No		128 M€		



FRANCE



Introduction

Comme prévu dans le calendrier des travaux de la task force, nous présentons une liste indicative de projets et programmes, dans le format demandé, qui selon nous satisfont les critères agréés par la task force (et notamment valeur ajoutée européenne, viabilité économique, projets démarrant dans les trois ans). Cette liste appelle les commentaires suivants :

- 1- Cette liste est à vocation illustrative, comme évoqué au sein de la Task Force. Elle est donc sans préjudice d'autres projets et programmes dont les autorités françaises seraient amenées à demander le moment venu un financement au titre du plan d'investissement européen (ou d'un autre instrument européen).
- 2- Etant donné le temps imparti pour constituer la liste, il n'était pas possible de tendre à l'exhaustivité et en particulier d'identifier et d'inclure des projets portés par les collectivités territoriales et les collectivités d'outre-mer susceptibles de remplir les critères. Ensuite, toujours en raison du calendrier très serré, il n'a pas été possible d'associer et de consulter pleinement les différentes parties prenantes sur cette liste (collectivités locales, parlementaires, opérateurs etc). Enfin, certains projets devront être approfondis et affinés. Nous nous réservons donc le droit de compléter et amender cette liste.
- 3- La liste jointe se caractérise par une proportion importante de programmes plutôt que de projets spécifiques. Nous pensons en effet qu'une relance rapide des investissements en Europe impose de centrer notamment les efforts sur des projets granulaires mais facilement répliquables. C'est par exemple le cas de la rénovation thermique des bâtiments, ou les programmes de prêts aux PME (usine du futur) et de soutien à l'innovation partenariale ("SISME"). Nous sommes convaincus que ce type de programmes peut rapidement être mis en œuvre et produire ses effets, pourvu qu'une organisation adaptée et simple soit mise en place. Notre expérience montre que plus les procédures sont simples et rapides, plus les projets présentés sont de bonne qualité.
- 4- Certains programmes ne sont qu'esquissés (instituts de recherche technologique européens, usines pilotes KETS par exemple). Nous avons des projets précis en tête, mais ils demanderaient d'être discutés plus avant au niveau européen. Nous transmettons d'ailleurs en annexe des fiches sur ces programmes pour compléter la description succincte qui en est faite dans le tableau.
- 5- Certains projets, minoritaires, peuvent apparaître coûteux en subventions. Nous les avons sélectionnés tout de même, soit parce que ils offrent un effet de levier rapide et substantiel, soit parce que leur valeur socio-économique apparaît très élevée. C'est le cas notamment de l'injection massive du numérique dans les méthodes éducatives.
- 6- Une part importante des projets et programmes concernent le développement durable. C'est en effet un thème qui offre de larges opportunités pour concilier effet de relance et intérêt économique à long terme.

- 7- Nous souhaitons également insister sur l'importance d'inclure, aux côtés des projets d'infrastructures, des volets substantiels de soutiens et incitations aux investissements des entreprises, notamment dans l'industrie, dont la compétitivité est fondamentale pour l'UE.
- 8- Enfin, un « pipe » de projets d'investissement importants pour la France ne figurent pas dans ce tableau, soit parce qu'un financement « classique » par la BEI est envisagé (pour les hôpitaux par exemple) soit parce qu'un financement sur le budget européen est déjà sérieusement envisagé, notamment au titre du mécanisme européen d'interconnexions (canal Seine Nord et Lyon Turin par exemple), soit encore parce que la France s'est déjà organisée pour en assurer le financement complet pour les 3 prochaines années. Ces sujets, comme les réseaux numériques à très haut débit, constituent néanmoins un investissement clé pour l'Europe et pourraient figurer dans le plan européen.

I – Connaissance et économie numérique

<i>Secteur</i>	<i>Sous-secteur</i>	<i>Nom du projet</i>	<i>Entité chargée de la mise en œuvre</i>	<i>Description</i>	<i>Inclus dans un programme d'investissement national (oui/non)</i>	<i>Statut</i>	<i>Coût d'investissement total (Md€)</i>	<i>Investissement en 2015 – 2017 (Md€)</i>	<i>Barrières/solutions</i>
Connaissance et économie numérique	R&D publique - R&D privée et innovation	SISME Programme : Smart Innovation for SMEs (cf. annexe)	Ministère de l'Economie, de l'Industrie et du Numérique	Soutenir des projets collaboratifs de R&D au niveau des EM impliquant au minimum une entreprise, en priorité une PME, et un centre de recherche, portant sur des enjeux d'intérêt national/européen, et susceptibles d'aboutir à la commercialisation de nouveaux produits et services, créateurs d'emploi et de valeur. La génération de chiffres d'affaires supplémentaire est estimée à 7 fois en moyenne l'investissement initial en R&D. Des liens forts existent avec Horizon 2020 et COSME.	Non, mais lié à des actions existantes (pôles de compétitivité, programme PSPC des Investissements d'avenir)	Avant-projet, susceptible d'être lancé rapidement.	0,9 Md€ (si expérimentation sur 3 ans) en France.	0,9 Md€ en France.	De nombreuses PME ont des difficultés d'accès aux financements, ou des ressources internes insuffisantes pour innover. Pour y remédier, et outre la mise en relation des entreprises avec les centres de recherche, des subventions avec redevance sur chiffre d'affaires induit et prêts à hauteur de 50% des investissements en R&D. (soit 0,45 Md€ en France sur 3 ans par exemple).

<i>Secteur</i>	<i>Sous-secteur</i>	<i>Nom du projet</i>	<i>Entité chargée de la mise en œuvre</i>	<i>Description</i>	<i>Inclus dans un programme d'investissement national (oui/non)</i>	<i>Statut</i>	<i>Coût d'investissement total (Md€)</i>	<i>Investissement en 2015 – 2017 (Md€)</i>	<i>Barrières/solutions</i>
Connaissance et économie numérique	R&D publique – R&D privée et innovation	European technological partnerships institutes (cf. annexe)	En France, Ministère de l'Education Nationale, de l'Enseignement Supérieur et de la Recherche et Ministère de l'Economie, de l'Industrie et du Numérique	<p>Soutenir des instituts partenariaux (labos publics/groupes d'entreprises) de R&D.</p> <p>A titre d'exemple, création de l'Institut Européen d'Hydrométallurgie (développement de nouvelles technologies, nouveaux procédés – enjeu des métaux critiques). Cette initiative s'inscrirait dans le prolongement du PEI Matières Premières.</p> <p>A titre d'exemple, soutenir l'ouverture des données et le Big Data en santé (développement de bases de données fiables UE, de services adaptés aux besoins des patients (investissements matériels et immatériels dans des infrastructures de plateformes de données, production d'interfaces applicatives,</p>	Passage à l'échelle européenne d'un programme français, limité par son aspect national	Au moins un avant-projet existant. Appel à projets nécessaires (procédure compétitive)	2 Mds sur 10 ans	0,4 Md	<p>Cofinancement public à 50 % (subventions plus apport en nature des labos publics)</p> <p>Pour 10 ETPI : 1Mds sur 10 ans, 0,2 sur 3 ans (subventions)</p>

				<p>outils d'anonymisation, documentation des données)</p> <p>A titre d'exemple, Très Grande Infrastructure de Recherche européenne numérique. (rassemblement des grands centres de données thématiques (santé génomique, environnement, physique, énergie), le réseau et le cloud, et l'apport du calcul haute performance et haut débit.)</p>					
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Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un progr. d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Connaissance et économie numérique	R&D privée et Innovation	Soutien aux investissements dans les usines pilotes de nouvelle génération, notamment sur les technologies clés (cf. annexe)	En France, Ministère de l'Education Nationale, de l'Enseignement Supérieur et de la Recherche et Ministère de l'Economie, de l'Industrie et du Numérique	Il s'agirait de lancer un plan d'investissement facilitant l'installation sur le territoire européen d'usines pilotes, permettant de transformer en création d'emplois et d'usines de nouvelle génération les investissements initiaux soutenant la R&D et l'innovation. Ces investissements pourraient être en partie ciblés sur les technologies clés génériques (micro-électronique, photonique, nanotechnologies, matériaux avancés, procédés de fabrication, biotechnologies). Les pays hors Union Européenne apportent un soutien massif à l'industrialisation des nouvelles technologies. Ce plan serait mis en œuvre en lien étroit avec les actions entreprises par Horizon 2020.	Non, mais liens étroits avec le Programme d'investissement d'avenir sur les technologies clés génériques en France.	Avant-projet, pouvant s'appuyer en France sur un programme existant. – Un lancement en 2015 peut être envisagé	15 Md€	15 Md€	Des obstacles réglementaires existent pour l'installation et la rénovation d'unités de production (notamment le régime d'aides d'Etat pour les soutiens publics nationaux), et un lourd besoin de subventions, prêts, garanties de prêts et avances remboursables existe, de l'ordre de 5 Md€.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Connaissance et économie numérique	R&D publique et privée – Infrastructure TIC	Filières européennes de composants critiques	En France, Ministère de l'Education Nationale, de l'Enseignement Supérieur et de la Recherche	<p>Ce projet vise à permettre le développement de filières européennes de composants critiques, notamment dans le spatial, afin de réduire la dépendance de l'Europe vis-à-vis des importations de ces composants. Cette dépendance se traduit aujourd'hui par une perte significative de chiffres d'affaires à l'export de l'industrie européenne vers certains pays.</p> <p>Liens avec Horizon 2020.</p>	Non, pas actuellement.	Phase d'avant-projet. – Un lancement en 2015 peut être envisagé	1 Md€ UE.	1 Md€ UE.	Un soutien public sous forme de subvention permettrait d'accroître l'accès autonome de l'Europe aux composants critiques. L'ordre de grandeur du financement européen souhaitable est de 500 M€.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Connaissance et économie numérique	R&D privée et innovation	Fonds de fonds paneuropéen de capital-risque (cf. annexe)	Groupe BEI et fonds d'investissement européens	<p>Mise en place d'un fonds de fonds paneuropéen de capital risque susceptible de souscrire dans plusieurs fonds paneuropéens directs en capital risque, de taille suffisamment importante pour pouvoir répondre aux besoins des entreprises industrielles innovantes.</p> <p>Le ciblage de certaines priorités sectorielles stratégiques pour le développement de l'Europe industrielle (biotechnologies, ingénierie, numérique, valeurs technologiques,) permettrait de développer une stratégie d'investissement pan-européenne.</p> <p>La stratégie d'investissement pourrait faire utilement émerger des ETI européennes dans une stratégie de rapprochement</p>	<p>Non, pas actuellement.</p> <p>Ce programme serait complémentaire à la démarche nationale, sur fonds du Programme des Investissements d'Avenir, de création d'un fonds de fonds multithématique de capital-risque/capital-développement technologique.</p>	<p>Phase d'avant-projet.</p> <p>– Un lancement en 2015 peut être envisagé</p>	5 Md€ UE pour initier la mise en œuvre du fonds (apport en capital)	5 Md€ UE pour initier la mise en œuvre du fonds (apport en capital)	<p>Les conclusions du Conseil européen depuis 2011 font régulièrement état de la nécessité de redynamiser le capital-risque en Europe pour répondre à la faiblesse structurelle des investissements en fonds propres par le capital-risque dans les jeunes entreprises et les entreprises innovantes.</p> <p>Une stratégie d'investissement pan-européenne pourrait répondre à cette faiblesse structurelle, renforcée par la crise de 2008.</p>

				d'entreprises innovantes et rentables des différents EM. Réponse à un besoin européen en termes de soutien au capital-risque.					
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Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Connaissance et économie numérique	Infrastructure TIC	Création de Campus universitaires européens équipés pour et en pointe de la révolution numérique	Ministère de l'Education Nationale, de l'Enseignement Supérieur et de la Recherche	<p>Favoriser les investissements numériques au niveau de groupement d'établissements d'enseignement supérieur, éventuellement appartenant à plusieurs EM.</p> <p>Mise en place de communautés d'établissements d'enseignement supérieur virtuelles en Europe (visioconférences, téléprésence, télétravaux et télé amphithéâtres), notamment grâce à l'installation de la fibre optique très haut débit.</p> <p>Cet investissement favoriserait la mise en réseau des universités européennes, en accroissant la standardisation des infrastructures et des contenus pédagogiques (MOOCs)</p>	Oui, certaines communautés ont été mises en place (notamment via les Contrats de Plan Etat/Région), mais les besoins en investissement restent massifs.	Les campus universitaires pourraient être équipés dans les 2 prochaines années.	0,9 Md€ en France.	0,9 Md€ en France.	<p>Lourds besoins d'investissements publics.</p> <p>Des subventions additionnelles seraient nécessaires pour équiper les universités à la hauteur des besoins.</p>

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Economie digitale et de la connaissance	Infrastructure TIC	E-éducation	En France : le Ministère de l'Education Nationale, de l'Enseignement Supérieur et de la Recherche Et le Ministère de l'Economie, de l'Industrie et du Numérique	Généraliser le numérique dans l'enseignement en déployant à grande échelle en Europe des terminaux et des contenus éducatifs numériques auprès des élèves, des enseignants et des établissements d'enseignement. Ce projet permettrait de rationaliser les actions prises actuellement sur une base individuelle par les Etats membres.	Oui, en France, mais uniquement partiellement (collèges).	Phase d'avant – projet – déploiement possible à compter de 2015. Mise en œuvre sur 6 ans.	24 Md€ UE	6 Md€ UE	Ce type de projets requière des financements publics importants, essentiellement sous forme de subventions et, le cas échéant, sous forme de prêts.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un progr. d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Connaissance et économie numérique	R&D privée et Innovation	Investissement dans le développement de la filière industrielle européenne des thérapies géniques	A définir. En France, ministère de la santé et ministère de l'économie, de l'industrie et du numérique	<p>Les acteurs de la santé ont déjà investis dans le domaine des thérapies géniques (en France, ex. de l'AFM Téléthon) et ont permis de disposer d'un grand portefeuille de candidats médicaments pour des maladies génétiques sans traitement disponible. La construction des premiers sites de production a permis de lancer des essais cliniques. L'enjeu est aujourd'hui d'accélérer le changement d'échelle pour assurer la poursuite des essais cliniques en Europe (financement des études de phase II et III ; augmentation des capacités de production).</p> <p>Il s'agirait d'assurer l'investissement dans des plates-formes d'industrialisation des thérapies géniques.</p>	Non. Prolongement d'une infrastructure existante opérationnelle, développée par l'AFM Téléthon à Evry.	Projet déjà avancé : les collaborations de recherche sont nombreuses, avec des essais multicentriques et des capacités de production pour les premiers lots cliniques. Démonstrateur industriel déjà financé à Evry.	0,4 Md€ UE.	0,3 Md€ UE.	Des prêts de la BEI seraient utiles pour ce projet, en complément des financements privés.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Connaissance et économie numérique	Infrastructure TIC	Usine du futur : diffusion du numérique dans les PME (cf. annexe)	Banque Européenne d'Investissement	<p>Promouvoir l'intégration de technologies du numérique dans les entreprises (robotique, logiciels, objets connectés, outils de simulation numérique, outils d'échange de données), en recourant aux prêts numériques.</p> <p>Prolongation d'un dispositif national (plan d'investissement d'avenir).</p>	Oui, amplification et généralisation d'un programme expérimental	Une année nécessaire pour la mise en place.	1 Md€ en France.	1 Md€ en France.	<p>Des prêts BEI seraient utiles pour soutenir ce programme, dans une logique de cofinancement de 50%.</p> <p>La garantie de ces prêts nécessite de l'ordre de 10% du coût d'investissement total.</p>

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Connaissance et économie numérique	Infrastructure TIC	Equipement numérique des hôpitaux – territoires de soins numériques	Ministère des Affaires Sociales et de la Santé	<p>Promouvoir l'intégration de technologies du numérique au sein des établissements de santé et dans une logique de parcours de soin. (réduction et rationalisation des systèmes d'information de soins ; extension des territoires de soins numériques)</p> <p>Prolongation d'un dispositif national (plan d'investissement d'avenir).</p>	Oui, amplification et généralisation d'un programme expérimental	Avant-projet	0,4 Md€ en France.	0,3 Md€ en France.	Des prêts BEI et des subventions seraient utiles pour soutenir ce programme.

II- Union de l'énergie

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un progr. d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Union de l'énergie	Efficacité énergétique	Plan d'investissement pour la performance énergétique des bâtiments publics (cf. annexe)	En France, ministères du logement et du développement durable, collectivités et partenaires privés.	<p>Destiné à réduire la consommation énergétique des bâtiments publics, hors logement social, (10 à 15% des surfaces, 3% des émissions de gaz à effet de serre en France), le programme permettrait de financer le développement des contrats de performance énergétique public-privé en drainant des financements privés vers ces projets.</p> <p>Le programme permettrait donc d'assurer la diffusion du contrat de performance énergétique défini par la directive sur l'efficacité énergétique en ciblant dans un premier temps les bâtiments publics présentant le retour sur investissement le plus rapide.</p>	Non.	Projet.	Jusqu'à 120 Md€ de travaux économiquement viables pour l'Union européenne	Jusqu'à 40 Md€ par an pour l'Union européenne	<p>Difficulté à financer l'investissement des collectivités publiques.</p> <p>Le contrat de performance énergétique offre un outil adapté.</p> <p>Garanties et refinancement de très long terme permettraient d'orienter des fonds privés vers ces contrats pour rendre possible de nombreux projets avec un effet de levier majeur (400 M€ de fonds propres devraient suffire à garantir 100 Md€ de travaux compte tenu du très faible risque de défaut des collectivités locales).</p>

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Union de l'énergie	Efficacité énergétique	Rénovation thermique des logements des propriétaires occupants en situation de précarité énergétique	Ministère du logement, de l'égalité des territoires et la ruralité Agence nationale de l'habitat	Ce projet vise à fournir des incitations financières pour les propriétaires (personnes physiques), sous plafond de ressources, investissant en vue d'accroître significativement (+25%) la performance énergétique de leur logement principal. Le programme dispose d'un effet de levier attesté sur la dépense privée des propriétaires pourtant modestes et d'un fort impact sur la structuration de la filière de rénovation du bâtiment et sur l'emploi sur l'ensemble du territoire.	Oui.	Généralisation d'un programme expérimental exemplaire par ses vocations environnementale et sociale.	1,45 Md€	1,45 Md€	Absence d'incitations financières ou d'épargne privée suffisantes des ménages concernés pour financer ces investissements dans l'efficacité énergétique des logements. Les subventions aux propriétaires (personnes physiques) réalisant des travaux en vue d'améliorer la performance énergétique des bâtiments permettraient d'augmenter ces investissements avec un fort levier pour les financements européens (1 pour 5 à 6 sur la base de 125 M€ annuels européens en 2016 et 2017).

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Union de l'énergie	Efficacité énergétique	Usine du futur : Programme d'appui à l'investissement productif concourant à la transition énergétique (cf. annexe)	Banque Européenne d'Investissement	Soutien aux investissements matériels et immatériels des entreprises engagées dans les projets d'efficacité énergétique, acquisition d'équipements plus performants, systèmes de mesure, de gestion, de télégestion et automatismes, mise en place de procédés de gestion de l'énergie et/ou de process.	Oui, amplification et généralisation d'un programme expérimental.	Une année nécessaire pour la mise en place.	A l'échelle de la France, 1 Md€.	A l'échelle de la France, 1 Md€.	Prêts et garanties de la BEI, dans une logique de cofinancement de 50%. La garantie de ces prêts nécessite de l'ordre de 10% du coût d'investissement total.

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Union de l'énergie	Connections et production	Projet de déploiement de réseaux électriques intelligents	En France, Electricité Réseau Distribution France (ERDF) et collectivités territoriales.	<p>Afin de maîtriser la consommation énergétique en optimisant la gestion des réseaux grâce au numérique, le projet vise à développer les réseaux intelligents d'électricité.</p> <p>Le projet finance des surcoûts du déploiement de réseaux électriques intelligents sur l'ensemble d'une maille de réseaux électriques (de la très haute tension à la basse tension, hors infrastructures de comptage communicant Linky), voire de dispositifs de maîtrise de la demande en énergie dans les bâtiments équipés de compteurs communicants.</p> <p>Liens avec la directive sur l'efficacité énergétique.</p>	Oui, plan industriel de la nouvelle France industrielle. Néanmoins, absence de financements à ce stade.	Projet susceptible d'être lancé à court terme.	Ce montant dépendra de l'ampleur du déploiement : entre 0,2 et 0,8 Md€ à l'échelle de la France. Besoins publics à hauteur de 50%.	A préciser, potentiellement 0,05 Md€.	<p>Réglementation et régulation désincitative pour les gestionnaires de réseaux, et absence de pérennité des financements publics.</p> <p>De 75 à 150 M de financements publics (tous financeurs) nécessaires.</p>

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Union de l'énergie	Connections et production	Déploiement massif de points de charge rapide pour véhicules électriques	En France, le Ministère de l'Ecologie, du Développement Durable et de l'Energie	Programme européen d'investissements pour le déploiement massif de points de charge normalisés sur le réseau transeuropéen de transport (RTE-T) afin d'accélérer l'interopérabilité matérielle entre les pays et faciliter la diffusion du véhicule électrique.		Mise en œuvre possible dès 2015, sur 5 ans.	0,2 M€ pour 5.000 bornes en France.	0,12 Md€	Ce déploiement massif requière des prêts à long terme à taux réduits ainsi que des garanties.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Union de l'énergie	Connections et production	Réalisation d'une interconnexion électrique entre la France et l'Espagne pour porter l'échange de capacités de transport à 5.000 MW (THT de Golfe de Gascogne)	Gestionnaires des réseaux d'électricité français et espagnol	Financement d'études et d'équipements industriels (câbles, stations de conversion, contrat de génie civil et de déroulage de câble). Effet structurant en Europe. Liens avec le MIE-énergie.	Oui.	Lancement des appels d'offres du projet pour une mise en service en 2024. Possibilité d'une forte accélération	1,6 à 1,9 Md€	<i>A affiner</i>	Besoin de prêts à taux bonifiés et de subventions.

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Union de l'énergie	Connections et production	Projet de gazoduc Val de Saône	Société GRTgaz	Achats de tubes et travaux de pose du gazoduc Val de Saône permettant la création d'une zone de marché unique de gaz en France. Contribution à la réalisation du corridor Nord-Sud de l'ouest européen.	Oui.	Projet approuvé par le régulateur français en mai 2014. Mise en service escomptée pour 2018.	0,7 Md€, dont 0,3 Md€ à financer.	0,7 Md€, dont 0,3 Md€ à financer.	Subvention escomptée, par exemple du Mécanisme d'Interconnexion en Europe.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Union de l'énergie	Connexions et production	Déploiement de compteurs communicants gaz France	Gaz Réseau Distribution France	<p>Financement du déploiement de 11 millions de compteurs communicants gaz en France, permettant de remplacer les relevés semestriels sur place, chez les particuliers comme chez les professionnels. Ce projet permettrait d'améliorer la qualité de la facturation, de renforcer la maîtrise de la demande d'énergie, et de structurer une offre de services numériques.</p> <p>Réponse à l'objectif européen de déploiement des smart grids.</p>	Oui.	Déploiement à partir de 2016 et ce jusqu'en 2022.	1 Md€	<i>A affiner</i>	Au-delà du prêt de la BEI accordé pour 2014-2018, une subvention permettrait de réduire le coût pour les consommateurs.

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Union de l'énergie	Connexions et production	Garantie des risques réglementaires dans le cadre du déploiement des Energies Renouvelables	En France, ministère de l'environnement, du développement durable et de l'énergie	Destiné à favoriser le développement des énergies renouvelables, le programme vise à garantir les investisseurs contre le risque d'évolution défavorable de la réglementation. Les garanties couvriraient donc la fraction de l'investissement qui ne correspond pas à la construction (couverture de 60% de l'investissement)	Non	En projet	2 à 3 Mds par an	6 à 9 Md€	Les investisseurs privés hésitent à investir dans le développement des énergies renouvelables en raison de craintes sur le maintien dans la durée des engagements des Etats membres. Le programme vise donc à garantir les investisseurs privés contre le risque réglementaire. 3,6 à 5,4 Md€ de garanties seraient donc nécessaires pour orienter les capitaux vers ce secteur prioritaire pour l'Union européenne

III- Transport

<i>Secteur</i>	<i>Sous-secteur</i>	<i>Nom du projet</i>	<i>Entité chargée de la mise en œuvre</i>	<i>Description</i>	<i>Inclus dans un programme d'investissement national (oui/non)</i>	<i>Statut</i>	<i>Coût d'investissement total (Md€)</i>	<i>Investissement en 2015 – 2017 (Md€)</i>	<i>Barrières/solutions</i>
Transport	Transport urbain / Nœuds urbains / ferroviaire	Charles-de-Gaulle Express	Ministère de l'Ecologie, du Développement Durable et de l'Energie Filiale commune entre Aéroports de Paris et Réseau Ferré de France.	Issu d'un montage original associant une société privée et l'opérateur public d'infrastructures ferroviaires, ce projet vise à améliorer la liaison entre l'aéroport Charles-de-Gaulle (2ème aéroport de l'UE) et Paris et revêt un enjeu crucial pour la structuration du réseau des aéroports européens. Il permettrait également de répondre à l'un des objectifs fixés par le MIE-transport : « mettre en œuvre des infrastructures de transport dans des nœuds du réseau central, y compris des nœuds urbains ».	Non, pas à ce stade.	Démarrage des travaux possible en 2017 – Mise en service attendue en 2023.	1,6 Md€	0,3 Md€	Insuffisance de financements à long-terme (en partie liée aux risques commerciaux inhérents aux projets d'infrastructure à long-terme de ce type) et montage juridico-financier à finaliser. Le soutien attendu prendrait la forme de subventions, d'apport en fonds propres et de prêts. Une discussion est par ailleurs nécessaires avec la Commission européenne sur le montage envisagé.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Transport	Transport urbain / Nœuds urbains / ferroviaire	Grand Paris Express et Eole	Ministère de l'Ecologie, du Développement Durable et de l'Energie Société du Grand Paris Syndicat des Transports de la région Ile-de-France	<p>Inséré dans un programme de métro automatique qui vise à relier le quartier d'affaires de la Défense, les deux aéroports internationaux d'Ile-de-France, l'aéroport d'affaire du Bourget, le pôle de recherche du plateau de Saclay et les gares parisiennes, la ligne 15 sud entre le Pont de Sèvres et Noisy/Champs, d'une longueur de 33 km, peut déboucher sur des travaux rapides.</p> <p>Par ailleurs, la prolongation de la ligne E du RER vers le quartier d'affaires de La Défense contribue aux mêmes objectifs.</p> <p>Le programme représente un puissant outil reliant l'Europe à la métropole parisienne.</p> <p>Il permettrait également de répondre à l'un des</p>	Oui.	<p>Accélération très nette des projets.</p> <p>Démarrage des travaux pour Grand Paris Express en 2015 – mise en service complète envisagée pour 2030.</p> <p>Démarrage des travaux pour Eole en 2015 – mise en service envisagée pour 2020.</p>	8,6 Md€	4,2 Md€	<p>Insuffisance de financements à long-terme.</p> <p>Dans l'attente de la perception de redevances sur les usagers, et en complément de recettes fiscales affectées, un mixage de prêts à taux bas et de subventions s'avère indispensable à l'équilibre financier du projet.</p>

				objectifs fixés par le MIE-transport : « mettre en œuvre des infrastructures de transport dans des nœuds du réseau central, y compris des nœuds urbains ».					
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<i>Secteur</i>	<i>Sous-secteur</i>	<i>Nom du projet</i>	<i>Entité chargée de la mise en œuvre</i>	<i>Description</i>	<i>Inclus dans un programme d'investissement national (oui/non)</i>	<i>Statut</i>	<i>Coût d'investissement total (Md€)</i>	<i>Investissement en 2015 – 2017 (Md€)</i>	<i>Barrières/solutions</i>
Transport	Corridors et liens manquants	Autoroute ferroviaire atlantique	Ministère de l'Ecologie, du Développement Durable et de l'Energie Réseau Ferré de France Régions partenaires	Aménager le réseau ferroviaire national entre la région lilloise et le sud de l'Aquitaine et construire deux terminaux (Dourges et Tarnos), bénéficiant au transport ferroviaire de fret et de passagers. Lien avec le MIE-transport, car cet axe permet de relier plus facilement le nord de l'Europe à l'Espagne.	Oui, pour partie.	Contrat de concession signé et études d'aménagement en cours, conclusions de l'enquête publique en septembre 2014, accord de la Commission sur les aides d'Etat aux concessionnaires, et finalisation du plan de financement en cours. Démarrage des travaux à compter de 2015. Ouverture du service à compter de 2016.	0,28 Md€ en France, dont 0,05 Md€ attendu du plan.	0,28 Md€	Barrières financières (infrastructures de réseaux impliquant un financement public, en plus des fonds propres du concessionnaire). Un apport de subventions européennes est attendu car la valeur actuelle nette du projet est négative pour la France mais positive pour l'Europe.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Transport	Corridors et liens manquants	Projet d'extension du port de Calais	Conseil régional Nord-Pas de Calais	<p>Premier port français de passagers et premier port continental pour le trafic maritime transmanche de passagers, le port de Calais doit être étendu afin de faire face à l'essor du trafic de passagers escompté au cours des prochaines années.</p> <p>Ce projet prévoit la construction de nouveaux ouvrages et équipements pour faire face à ces besoins, ainsi que la modernisation des installations (infrastructures de gaz naturel liquéfié, accessibilité multimodale).</p>	Oui, pour l'essentiel.	Premiers travaux envisagés en 2015.	0,7 Md€ en France.	0,7 Md€ en France.	<p>Les travaux sont prêts à être lancés, une fois le plan de financement finalisé.</p> <p>Garantie d'emprunt demandée.</p>

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Transport	Corridors et liens manquants	Plan de rénovation du réseau ferroviaire français	Ministère de l'Ecologie, du Développement Durable et de l'Energie Réseau Ferré de France	Ce projet vise à assurer le maintien dans la durée des performances sur le réseau ferroviaire français, partie essentielle du réseau ferroviaire européen, par des investissements visant à moderniser le réseau (interopérabilité, renforcement des infrastructures au niveau des nœuds ferroviaires). Lien avec les corridors européens du MIE-transport.	Oui	Accélération très nette du programme national	40 Md€ d'ici 2025.	5,5 Md€, dont un besoin de financement additionnel de 1,2 Md€.	Enjeux de financements, car l'ingénierie est maîtrisée. 1,2 Md€ nécessaires sous forme de subvention. Ce financement permettrait de lever d'autres sources de financement, tels que des prêts voire des project bonds.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Transport	Transport urbain	Modernisation de la ligne ferroviaire Serqueux-Gisors.	Réseau Ferré de France	Création d'un itinéraire de fret alternatif permettant de desservir le port du Havre en évitant la voie historique Le Havre – Rouen – Paris en limite de saturation, et permettant de développer les trafics fret du port de Rouen donc le report modal (objectif de transition énergétique). La modernisation de la ligne Serqueux-Gisors assurera l'interconnexion avec le port du Havre au reste du réseau transeuropéen de transport (corridor trans-européen Atlantique). Goulet d'étranglement ciblé par le MIE.	Oui.	Le projet devrait être mis en œuvre à court terme. La signature de la convention de financement des travaux est prévue pour février 2016 permettant l'engagement de travaux fin 2016 et une mise en service à l'horizon 2020.	0,3 Md€ en France	0,3 Md€ en France	Le passage en zone urbaine induit des inquiétudes des populations concernées (nuisances sonores, écologiques, environnementales, économiques et sanitaires). Le principal obstacle au lancement du projet est néanmoins le bouclage du plan de financement, reposant sur des subventions (90 M€) de collectivités publiques : une subvention additionnelle permettrait un effet de levier sur la mobilisation des autres acteurs.

IV- Infrastructure Sociale

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un progr. d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Infrastructure sociale	Education et formation	Accueil des jeunes en apprentissage.	En France, Ministère de l'Education Nationale, de l'Enseignement Supérieur et de la Recherche	<p>Ce projet viserait à soutenir la création ou la rénovation de centres de formation et de structures d'hébergement des apprentis.</p> <p>Lien étroit avec l'Initiative pour l'emploi des Jeunes et la Garantie Jeunesse.</p>	Oui, mais uniquement partiellement, en France, via un programme d'investissement d'avenir.	Prolongement et renforcement d'initiatives existantes.	5 Md€ UE	<i>A affiner</i>	Ce type de projets nécessite des subventions et prêts.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Infrastructures sociales	Environnement construit et services urbains	Fonds d'investissement dans les Grandes Opérations d'Aménagement pour le logement (GOAL)	Etablissements publics d'aménagement	<p>Constitution d'un fonds d'investissement destiné à favoriser la libération de foncier, le financement de voiries, d'ouvrages d'art et d'équipements structurants pour déclencher de grandes opérations d'aménagement et de production de logements.</p> <p>Le programme contribuerait significativement à la relance de l'activité et de l'emploi.</p> <p>L'effet de levier des fonds publics oscille entre 1 pour 20 et 1 pour 50 selon les opérations.</p>	Non.	Discussions préparatoires sur la création du fonds, lequel porterait toutefois sur des opérations qui sont intervenues sur une base régulière au cours des dernières années	0,5 Md€	0,5 Md€	<p>Insuffisance des fonds publics et privés disponibles.</p> <p>Prêts, subventions et fonds propres seraient nécessaires pour déclencher les projets en contribuant à équilibrer le bilan des aménageurs.</p>

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un programme d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Infrastructure sociale	Environnement construit et services urbains	Fonds d'accroissement et de réhabilitation des capacités d'hébergement et d'accueil des populations transfrontalières	En France, Ministère du logement et Société Nationale Immobilière	Afin de répondre aux besoins d'hébergement de migrants et demandeurs d'asile notamment aux frontières, ce projet vise à créer un fonds d'investissement pour financer la création de 10.000 places et la réhabilitation de 20.000 places d'accueil en France.	Oui.	Lancement possible dès 2015.	1,8 Md€	1,8 Md€	Un soutien sous forme de subventions et de prêts au niveau européen permettrait de compléter les contributions nationales et régionales et d'assurer l'équilibre financier du projet.

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Infrastructure sociale	Environnement construit et services urbains	Nouveau programme national de renouvellement urbain	En France, Ministères du logement, de la Ville et Agence Nationale pour la Rénovation Urbaine	Ce programme vise à régénérer 200 quartiers populaires parmi les plus dégradés pour prévenir et enrayer les mécanismes ségrégatifs et favoriser l'inclusion sociale. Le programme finance notamment les projets de rénovation et de reconstruction d'ensembles de logement, comme une meilleure desserte par les transports collectifs des quartiers enclavés	Oui.	Programme initié par la loi de programmation pour la ville et la cohésion urbaine du 21 février 2014. Environ 25% des projets sont prêts mais ne pourront être financés immédiatement	25 Md€ sur 10 ans.	5 Md€	Insuffisance à court terme des financements publics pour accélérer les projets déjà prêts. Ce programme pourrait faire l'objet de prêts de la BEI (performance énergétique des bâtiments) et de project bonds (infrastructures de transport collectifs desservant les quartiers) pour accélérer très fortement les investissements des projets matures.

V- Ressources et environnement

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un progr. d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Ressources et environnement	Résilience au changement climatique	Connaissance des océans et prévention des submersions marines	Ministère de l'environnement, du développement durable et de l'énergie Service Hydrographique National Météo-France	<p>Ce programme comporterait deux actions :</p> <p>La mise en place d'une flotte océanographique commune appuyée sur un réseau de bouées instrumentées pour mettre en œuvre la directive cadre stratégie pour le milieu marin, pour laquelle un programme de surveillance du milieu et des pressions qui s'y appliquent est requis.</p> <p>Une action qui gagnerait également à être européenne visant à mieux anticiper les submersions marines en métropole et dans les outre-mer, en capitalisant sur l'expérience de prévision altimétrique Jason. Les utilisations de ce second projet sont multiples : sécurité de la navigation pour tous les types de navires, évaluation du potentiel des Energies Marines Renouvelables (EMR) sur</p>	Oui, de manière expérimentale et partielle.	Projet en cours de définition, pour poursuivre et amplifier les efforts nationaux	<p>1 Md€ pour la première action sur 10 ans</p> <p>0,06 Md€ pour la seconde dont 0,02 Md€ sollicités au titre du plan</p>	<p>0,3 Md€ en Europe pour la première action</p> <p>0,06 Md€ pour la seconde</p>	Une subvention permettrait de créer un effet de levier important.

				les territoires en lien avec les futurs exploitants (atterrage des câbles) notamment.					
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Problématique européenne de lutte contre le changement climatique, projet Interreg *Mapping European Seabed Habitats*.

Secteur	Sous-secteur	Nom du projet	Entité chargée de la mise en œuvre	Description	Inclus dans un progr. d'investissement national (oui/non)	Statut	Coût d'investissement total (Md€)	Investissement en 2015 – 2017 (Md€)	Barrières/solutions
Ressources et environnement	Ressources naturelles	Systèmes d'irrigation économes en eau	Ministère de l'Ecologie, du Développement Durable et de l'Energie Collectivités locales Agriculteurs	Le programme vise à développer les systèmes d'irrigation enterrés et la réutilisation après traitement de certaines eaux usées (zones littorales notamment) afin de réduire la consommation d'eau dans l'agriculture, de limiter certains prélèvements.	Non	Mise en œuvre sur trois ans	0,15 Md€ en France.	0,15 Md€ en France.	Appui escompté sous forme de prêts.

MEMO

ETPI Programme : European Technological Partnership Institutes

Rationale: Partnership between public laboratories and companies in R&D are a good way to capitalize more on public R&D to the benefit of economic development, i.e to fill the well-known “death valley”. In France we have supported, under the Programme des Investissements d’Avenir, the creation of 8 partnership institutes. This experience appears positive: mutualisation of equipment and research programmes, easier association of SMEs, strong acceleration of research programmes, easier sharing and management of intellectual property. But in many strategic sectors, the right level is not one country like France, but Europe, to gather a sufficiently large partnership.

Scope: The ETPI programme should focus on sectors with high potential at international level, where public laboratories and companies from several EU Members are able to design a convincing partnership, with a robust business plan.

Financial Aid: Financial aids could be granted in the form of **subsidies, with one key principle: the public commitment (subventions + contributions from laboratories) must be kept at 50 % max, and commitment (money) of companies at a minimum of 50% for 10 years.** The financial aids should then be stopped, the goal is indeed to reach a financial equilibrium thanks to IP and financing of research program by companies (either founders or not).

Procedure and governance: The selection process should be competitive, based on the respect of the rules, and on the economic potential of the proposed partnership, assessed by an expert team. The call for projects could last 6 months, and the selection process 3 months, to generate the beginning of investment at the latest one year and an half after the launching of the call for project. Each 3 years the projects are assessed, and stopped if the intermediate targets (research programming, realization of private commitments, economics...) are not met.

Sizing: A typical ETPI would need on average **100m€ grants for 10 years. 10 ETPI could be targeted. The whole program would amount for 1bn€, with a disbursement of around 200m€ the next 3 years.**

Expected leverage: the direct leverage is 1 to 1, but of course the indirect leverage on economic development should be much more important.

Examples:

- Creation of a **European Technological Partnership Institute dedicated to Hydrometallurgy:** a large array of EU laboratories and companies are already working on the design of ETPI-like project. The aim is to develop new process and technologies for more efficient production-process and more independence of the European industries, regarding critical raw material access. The Institute would allow boosting innovation for the companies and laboratories involved. Its creation would be a concrete suite for the European Innovative Programme Raw Materials.
- **Big data applied to health care ETPI.** The creation of a European Technological Partnership Institute dedicated to this field would allow opening massive health care data, with respect of deontological rules and personal life protection needed. Combined with big data technologies, this Institute would allow massive innovation and individualized medical care progress.
- **Digital High Performance Computing ETPI.** The objective of this ETPI would be to create a pan European network of up-to-date High Performance Computing facilities, allowing an access for both EU laboratories and companies to the integrated digital infrastructure needed, considering the big data revolution.

MEMO

SISME Programme : Smart Innovation for SMEs

Rationale : Many small companies are confronted with harsh market conditions. The current economic crisis has weakened their financial health, especially in industries that are globalizing rapidly. These changing market conditions force them to look for new ways to differentiate their products and services or create new businesses. Because they lack the required internal resources, SME's need to collaborate with external partners, either industrial or academic, in order to innovate successfully and reach more profitable positions in the competitive landscape. It is understood that firms that know how to manage a network of innovation partners can seize new business opportunities ; they can become key players in growth industries and turn themselves into profitable companies.

Scope : The SISME programme **primarily targets SMEs** involved in open innovation projects, that is to say, **collaborative R+D projects involving at least one other company and a research laboratory**. These projects need to be ambitious in scope, answer a nationwide strategic issue (as well as respond to regional smart specialization). They explicitly **need to target new marketable products or services** and, as such, bear the promise for future value and job creation. Expected projects need to be based on at least 5m€ in R+D spending.

Financial Aid : Financial aids could be granted in the form of **subsidies** (to address industrial research) and **reimbursable loans** (to address experimental development). They will follow the orientations of the new GBER (general block exemption regulation). An enhanced financial aid could be granted for trans-border projects, although trans-border projects should not be a requirement to enter the SISME programme.

The relevancy of the business plan implementing the R+D projects submitted for funding under SISME should be a key analysis factor. This also helps asserting the ability of the project partners to reimburse the loans, once the R+D project is completed, as well as **contribute to additional royalty payments** based on achieved sales targets.

Procedure : Because it targets time-to-market sensitive SMEs, the SISME programme needs to be implemented very efficiently. To that end, a **"Fast Track"** procedure should be implemented under which no longer than 3 months should separate the presentation of a complete case by a SME from the signature of the contract granting the public funding. This implies a significant amount of **administrative process streamlining**, backed by **simple and standardized procedures**.

Governance : To achieve the expected level of operational efficiency, as well as manage the industrial confidentiality that is required when handling such projects, the SISME program should be **implemented mainly at the at the State member level**, under guidelines and scrutiny at EU level.

Sizing : Medium size project could be around 10m€ in financial aid. For France, a target of 15 projects to be funded per year seems to be a reasonable one, leading to an overall funding requirement of **150m€ per year**, and **450m€ for a 3-year period**. At EU level, it could be around 2,5 bn for a 3-year period?

Expected leverage : A typical project would include half a dozen partners and represent 20m€ in spending, half of it being funded by SISME. 5 to 10 years after the end of the R+D project (that is to say typically 10 to 12 years after the start of the project), it is expected that the sales of the products and services developed under the R+D project will represent **7 times the total amount of the R+D project**. The portfolio of projects funded under SISME over a 3 year period could therefore generate **up to 2b€ in additional sales**.

A €120bn investment program for the European Union 3-year Juncker Plan Massive financing of the energy transition in schools, hospitals, etc. for a competitive EU

I. Background and issues

1. Prioritising the energy efficiency of public buildings as a quality investment

Since buildings represent 40% of energy consumption in Europe, they are a major segment of the energy transition, accounting for hundreds of billions of euros. The share of public buildings (excluding social housing) is estimated at around 10% of total surface area. The program builds on the duty of European, national and local authorities to set an example and stimulate quality investment. In Europe, public buildings (schools, offices, hospitals and so on) are estimated to be a largely untapped source of potential of financially sustainable renovation (entirely funded by energy savings as opposed to subsidies) of at least €120bn over the next 3 years, that is to say €100bn more than the current investment trend (BAU of €20bn or even less over the next 3 years). This untapped potential, which urgently needs to be more accurately assessed in the EU, is reason enough for a public intervention:

- The public finance situation is heavily constrained and could deteriorate in most European countries, hindering public building retrofit projects and lowering the BAU trajectory.
- public accounting standards in the EU and member states (MS) are a burden on these projects and their “conventional” financing mechanisms;
- project finance mechanisms remain ill-suited to these medium-sized operations;
- stimulating demand (currently weak and politically undervalued) calls for a clearly articulated long-term real estate strategy by MS and key projects to achieve it;
- current financing capacities and regulations would be insufficient for such a proactive policy.

The €120bn investment program consists in financially long -or very long- term financially viable projects, with a 3% IRR objective.

2. Support of EU objectives

Energy renovations in public buildings would contribute to many EU goals:

- exemplary reduction of CO2 emissions in the context of COP21, in accordance with European targets¹;
- improvement of the EU's highly skewed energy trade balance;
- energy independence²: the EU28 imports more than 50% of the energy it consumes and the Ukraine crisis is currently underlining Europe's vulnerability;
- investment spurring the EU's competitiveness: fossil-fuel imports represent more than €1bn per day but energy savings would enable the EU to use these resources to generate more added value;

According to economic estimates, investing €120bn over 3 years in public buildings would reduce their energy consumption by 10-15% and would reduce their CO2 emissions by the same percentage.

These French proposals respond to the need for long-term financing of the European economy³ focusing on the “real economy” without increasing the public debt, thus responding to today's market failures. They will improve the traceability of that financing to facilitate safe and transparent monitoring of the scheme by public authorities.

3. Unrivalled socio-economic benefits

Energy renovations bring key non-financial socio-economic benefits besides those previously mentioned:

- local job creation, in part through SMEs: with about 15 jobs/year per million euros invested, a €120bn program of investment in public buildings would result in more than 600,000 additional yearly jobs during 3 years;

¹ European Commission. [2020 climate and energy package](#) and [2030 framework for climate and energy policies](#).

² Energy consumption for heating in public buildings: 50% gas and 20% fuel oil (France).

³ European Commission. [Communication on long term financing of the European economy](#). March 2014.

- the development of an industry of excellence which would boost EU exports to globally expanding energy efficiency markets, which would also benefit energy efficient strategic programs in residential buildings.

4. 3 years time horizon

It is estimated that €120bn of potential projects are already financially viable in the EU⁴. The level of readiness of member states may vary among them, but operations could be launched in most EU MS within a year. A dedicated task force will provide technical, legal and financial advice to some countries, so that operations could be started the following year.

5. Leverage

The financial mechanisms proposed are conceived in order to maximize leverage, with private financing benefiting from the EU guarantee: banks first ; followed by institutional investors after securitization.

6. Scalability

Between Y+4 and Y+10, there will be around 60 Bn€ of BAU and financially viable project still available. Besides, according to the study, there should still be +240 Bn€ of non financially viable projects, that could aim at more ambitious energy and CO2 reduction targets. In globo for 420 Bn€ on 10 years (120 Bn€ in 3 years, then +60 €Bn + 420 €Bn), energy as well as CO2 reduction would reach -40% on these buildings. The minimum IRR would then be slightly negative at -3%.

II. A French proposal for an EU economic recovery plan

1. Financial, industrial and political tools

At the core of the scheme, the program will provide a high-quality guarantee (counter-guaranteed by the European Union)⁵ for dedicated loans by commercial banks. Given the intrinsic low-level of projects risk, the EU's guarantee will be a risk sharing participation mechanism (junior capped guarantee at 10% of the loan). The implementation will be entrusted to the EIB by means of indirect management. The EU's guarantee (with payment of a commission fee by banks) is necessary in order to improve the investment climate and enable the creation of a new market of green securitised assets. The level of guarantee should decrease in the medium term, with an improving appraisal of the low level of intrinsic risk by financial markets and rating agencies.

Simple, transparent and safe securitisation will enable the refinancing of these very long-term loans, high- quality "green bond" infrastructure assets, by the EIB and by institutional investors.

2. Energy Performance Contracting (EPC) as a key public policy tool

EPC is perfectly adapted to investment in the energy renovation of public buildings. It is based on a contractual commitment to achieve a given energy-efficiency target, subject to actual and systematic *ex post* monitoring. The program proposes several adaptations to EPC that will increase its integrity and enable to justify European and national investment through demanding impact assessments. Moreover, EPC benefits from strong European support ("EPC Campaign" of DG Energy, Energy Efficiency Directive, IEE, JRC work on the ESCOs market, EESI 2020, etc.). In a nutshell, the French proposal represents a shift from tailor-made to standardised, ready-made EPC projects, for wide-scale use with the help of the EU guarantee.

3. A massive impact without increasing the public debt

The program will benefit from: (1) an off-balance sheet EU guarantee and (2) the funding of projects under EPC partnerships (PPP-EPCs) that really transfer a significant level of risk to private operators or semi-public companies. This program needs for a technically limited evolution of the European accounting framework so as to better adapt it to energy-efficiency improvement projects: the accounting of PPP-EPCs outside the scope of public debt is paramount to bringing about a change of scale in Europe.

⁴ Estimate based on France case study: €20bn of financially viable projects in 2014, for a €1bn BAU. Factor 6 multiplier for EU/France.

⁵ See the PF4EE (Private Financing for Energy Efficiency instrument) initiative.

On the basis of a 10% junior guarantee, the capped guarantee for +€100bn projects would amount to €10bn. Given that the intrinsically low level of risk being guaranteed consists mainly in default risk of governments and of local authorities, risk weighted assets (RWA) calculations should imply very low level of equity.⁶

III. The proposal of a quality investment program for an EU economic recovery plan

A strong commitment from European and national public authorities

The program requires a strong mobilisation of public authorities in the EU and Member States. Their commitment is essential to improve public project management capacity, pool operations, promote economies of scale, standardise projects, and ultimately to significantly increase the volume of operations. "Governments should build public sector institutional capability in project development and implementation, and foster greater knowledge sharing and transparency across levels of government, jurisdictions, the private sector and other stakeholders."⁷ In addition, energy savings performance commitments will provide for reliable and demanding public policy assessments.

The program should be widely publicised to make it easier for local elected representatives to politically promote their energy efficiency projects.

IV. EU NEXT STEPS

The program now requires a strong mobilisation of all stakeholders, especially from European and MS public authorities.

1. European Union

- Public buildings selected as a quality investment program for the EU
- Creation of a dedicated task-force by the Commission ; technical assistance programs to MS
- Creation of a European knowledge-sharing platform: observatory network on energy expenses, renovations, EPCs, costs/savings, RFPs, energy-efficiency techniques, etc.
- Fine-tuning of the Eurostat methodology to enable an accurate treatment of PPP-EPCs
- Specific business plan and creation of the program : bylaws, analysis of existing national state-guarantee mechanisms, potential shareholders, governance, team, regulator approval, etc.
- EIB intervention and balance sheet optimisation: loans, equity, expertise, etc.
- Calibration and assessment of the intrinsic level of risk in operations: National Central Banks & ECB

2. National public authorities

- National public building guidance and appraisal strategy. strengthening of public project development capacity
- Massive pipeline of projects selected and budgeted by national and local authorities, based on consumption track-records
- Projects implementation (PPP tenders) ; and evaluation and audit of projects (especially in EPCs)

3. Industry players, SMEs, banks and institutional investors

- Ramp-up of operations, productivity gains and development of a European industry
- Securitisation Funds bringing together energy efficiency medium-sized projects for investors

⁶ without taking into account the capped guarantee mechanism ; nor the State/local authorities buildings shares ; a [2%-20%] RWA on 8% for €100€ of guaranteed risks would give a [€0.16bn - €1.6bn] target. €400m of capital should be an accurate estimate.

⁷ G20. [A set of Leading Practices on Promoting and Prioritising Quality Investment](#). September 2014.

European Investment Programme: European Advanced Manufacturing Programme

Proposition

To boost competitiveness through the current digital and energy transition phase, firms have to renew their production facilities. The aim of the « European advanced manufacturing program » is to support investment in European SMEs and mid-caps production tools and methods: through a facilitated access to finance for tangible and intangible investments, SMEs and mid-caps would be able to take advantage of the digital and green revolutions.

Typology of projects

- Eligible expenses: tangible and intangible investments of firms implementing comprehensive refurbishing projects. These projects could imply the integration of digital solutions, automated production equipment, such as robots, into the firm processes. They could also cover new production designs and processes to optimize energy or raw materials consumption, or reduce waste or pollution.
- The objective is to offer funding for investments that cannot be used as collateral on the market (e.g. very specialized automated equipment, training or engineering expenses, integration costs etc.)
- Modalities : EIB loans with a guarantee from the European Commission budget
- Implementation schedule : 12 months (design of the scheme by the EIB- EC and launching of the partnership with commercial banks)
- Maturity of the project: such guaranteed loans already exist in France and are managed by Bpifrance. This scheme could be potentially transposed at the European level.

Potential budget and impact on investments

This measure would need a budget of € 10-20 billion loans in order to target € 20-40 billion investments.

The shares for the three thematic targets (digital, automation and environment) would have to be determined.

A guarantee funded by the EC budget- COSME, Environment, Connect budgets - (around 10% of the volume of loans) would cover part of the EIB risk and thus contribute to the leverage effect on private funding.

The scheme would target circa 10 000 to 20 000 firms at the European level.

The EC/EIB would delegate the implementation of the scheme to national promotional banks or commercial banks.

Main issue

The objective is to incentivize banks to fund industrial investments, to increase their loans volume towards green transition or digital/ automation investments.

Basel III rules are a disincentive for long term investments, especially for industrial projects mixing tangible and intangible investments. SME and mid-caps do not have an easy access to bond financing and many find it difficult to fund such large projects.

European added value

The European Union and the new Commission have voiced their support for a strengthened industrial base. This implies a determined action to encourage industrial investments. One instrument for a renewed industrial policy could be a facilitated access to finance for large growth- generating projects in industrial firms. Such projects could contribute to the success of the European digital or energy strategies and to the competitiveness of the European industry and economy.

**European Investment Programme:
Pan European venture capital fund(s) of funds, targeting strategic sector priorities
and big-tickets investment decisions**

Proposition:

Consolidate or create a pan European investment dynamic in venture capital, particularly through the setting-up of one or several pan European venture capital fund(s) of funds likely to target the most critical phases of innovative companies financing, mostly the industrial ones.

Stakes:

Since 2011 the European Council conclusions regularly recognize the need to boost venture capital in Europe to address the structural weakness of equity investments in start-ups and innovative companies. Furthermore, the targeting of certain strategic sector priorities for the industrial development of Europe, such as biotechnologies, engineering, clean technologies or digital, is expected to enhance a pan European investment strategy, likely to give substance to the Europe 2020 strategy. It is therefore necessary to strengthen all the means needed to achieve this goal.

The resources could be deployed throughout the whole chain of venture capital – seed, early stage VC, late stage VC.

A specific envelop could target this last segment, essential to boost investment in Europe. In this context, it is proposed to set up a pan European venture capital fund of funds, whose purpose would be to invest in several venture capital multi-national funds, large enough to meet the needs of innovative industrial companies. **These pan European funds would have a size greater or equal to € 500 million and would target certain strategic sector priorities, such as biotechnologies, engineering, health, clean technologies, digital or creative industries by investing amounts up to € 10-30 million or more in companies.**

This investment strategy could have a great impact in building up competitive European intermediate-sized companies.

Typology of projects :

- Eligible expenses : growth of technological companies, in particular in the industrialization phase of their innovations
- Project initiator and partners : EIB group, European investment funds
- Budget : € 5 billion (EIF or other operator managing a dedicated EIB envelop – based on the *Risk Capital mandate* model entrusted to the EIF), including a dedicated part for the late stage VC segment
- Implementation : as soon as possible

Investment amounts targeted: € 15 billion of equity investments in European innovative companies for 3 years (the EIB/ EIF share representing 1/3 of the whole amount).

Main issue:

Many SMEs and start-ups involved in innovation and R&D activities, and forming the backbone of our future industrial strength, cannot find adequate funding (e.g. equity) for their investments and activities.

There is a growing awareness of the urgency to support risk financing in general for innovative firms, and SMEs in particular. The European Commission, as well as the EIB group, including EIF have already taken significant actions whether financial or regulatory, but this might not be enough to set off European private investment in venture capital.

The European venture capital market is not dynamic enough to provide an adequate answer to the needs of many potential future European leading businesses. This is particularly obvious when one compares the situation of venture capital in Europe to that in the USA.

- The first obvious difference concerns the volume of funds raised or invested in venture capital. Fund raising in 2013 reached € 4 billion in Europe¹ while the amounts in the USA were about € 12.4 billion². As far as investments are concerned, the amounts in Europe reached € 3.4 billion in 2013 while they were about € 21.8 billion in the USA³.
- In terms of trend, the situation is not very good either. Since the financial crisis, new venture capital investments have declined in Europe from almost € 6 billion in 2007 (€ 72.8 billion for private equity investment in general) to about € 3.4 billion (€ 37.7 billion for the whole private equity investment) in 2013.
- The differences between Europe and the USA translate also at micro economic level: the average size of the venture capital investments made into innovating firms is around €1 million in Europe, while it reaches more than €6 million in the USA⁴.

This is becoming a pressing matter as very recent figures from Clipperton European Innovation Financing Update show an acceleration of venture capital financing for the first quarters of 2014, underlining the rising demand for venture capital in Europe. However, the largest rounds of financing are being mostly undertaken by US investors, showing a need for mobilization in Europe towards late stage venture capital.

European added value:

The venture capital funds targeted by the measure should develop a pan European or multi-national investment strategy, only likely to give substance to the Europe 2020 strategy. Such a strategy could also help to attract management teams, as well as non-European investors.

¹ Source : European Venture capital Association (EVCA)

² Source : National Venture Capital Association (NVCA), USA

³ Source : EVCA, NVCA

⁴ Source : EVCA, NVCA



GERMANY



Country : Germany
Project list

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
Knowledge and the Digital Economy	Public R&D	public private	Leading Edge Cluster Competition	Federal level	The Federal Ministry of Education and Research launched the Leading-Edge Cluster competition in the summer of 2007 under the slogan "Germany's Leading Edge Clusters - more innovation, more growth, more employment". Up to five winners per round of the competition are funded by the Ministry for a period of five years in the implementation of their strategies. There will be a total of three rounds - with up to 200 million euros per round. Two rounds have already been successfully completed. The implementation envisages a matching level of financial participation on the part of businesses and private investors. www.spitzencluster.de	Yes	Start 2007 - funding foreseen until end of 2017	0.6	0.1	Total public funding 600 Mio. Euro; 2015-2017: 140 Mio. Euro
Knowledge and the Digital Economy	Public R&D	public private	Internationalization of Leading Edge Clusters, "Zukunftsprojekte" and comparable networks	Federal level	Building on existing funding programs this initiative aims to strengthen international ties of German innovation clusters.	Yes	About to start	0.1	0.0	Public funding total: 120 Mio. Euro; 2015-2017: 17 Mio. Euro
Knowledge and the Digital Economy	Public R&D	public private	Forschungscampus	Federal level	Public private partnership for innovation with the aim to foster cooperation between science and industry. Nine public-private partnerships have been awarded the title of Forschungscampus. www.forschungscampus-deutschland.de	Yes	Start 2012 - Funding of 2 Mio. Euro per year for each of the nine selected campuses for a duration of up to 15 years.	0.3	0.1	Public funding 2015-2017: 54 Mio. Euro
Knowledge and the Digital Economy	Public R&D	public private	Wachstumskerne (Innovative Regional Growth Cores)	Federal level	Innovative Regional Growth Cores: This programme is aimed at regional cooperations with either a platform technology at their disposal or the potential to develop one and which show important features that make them unique in their field of	Yes	on-going	0.5	0.2	solution for innovation in SME's

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
Knowledge and the Digital Economy	Public R&D	public private	Zwanzig20 - partnership for innovation (Twenty20 – Partnership for Innovation – The Programme)	Federal level	The program supplements the promotion programme of “Unternehmen Region” (Entrepreneurial Regions) targeted at the Eastern German Länder with a new approach geared to national, inter-, trans- and multi-disciplinary cooperations between the partners, and which is committed to openness and transparency.	Yes	started in 2013	0.5	0.5	interruptive innovation
Knowledge and the Digital Economy	Public R&D	public	Zentren für Innovationskompetenz (Centres for Innovation Competence)	Federal level	The programme "Centres for Innovation Competence" turns outstanding research approaches at universities and research institutions in the New German Länder into internationally renowned centres. Excellent and internationally competitive research as well as "innovation competence" or the ability to transfer research findings to the economy are decisive for these centres, which should also act as a magnet for young scientists.	Yes	announced	0.2	0.2	high-level research
Knowledge and the Digital Economy	Public R&D	public private	„Nationale Innovationsprogramm Wasserstoff- und Brennstoffzellentechnologie II“ (NIP II)	Federal level	Extension of the National Innovation Program "Hydrogen and fuel cell technology II" between the federal government and industry beyond 2016 with the aim to speed up the marketability of the technology.	no	preparatory negotiations	3.0	1.0	financial barriers

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
Knowledge and the Digital Economy	Private R&D	private	ALPHAKAT	Private developer (Alphakat GmbH)	ALPHAKAT offer an alternative to the usual processes of pyrolysis, incineration, gasification and organic disposal: a modern Imitation of the way oil was produced by the planet Earth; a catalytic process during which a toxic CO2 atmosphere was converted into the life-supporting high oxygen atmosphere of today. The current methods of combustion of fossils fuels such as oil, gas and waste are arduous with complex filters to remove harmful residues from exhaust gases. Thanks to a process learned from nature itseif, it is now possible to dispose of fossil waste without emissions, toxic substances or toxic residues. It can be applied to the waste resulting from domestic waste, plastic such as bottles or packaging, organic waste such as fruit or plants, or the waste resulting from crude oil processing, e.g. bitumen.	no	planning and building of a pilot plant	5.0	5.0	Lack of long term finance and coordination and permitting problem.
Knowledge and the Digital Economy	ICT Infrastructure	private	Extending broadband coverage.	Federal level	privat investment required to extend broadband coverage			20.0		low profitability
Knowledge and the Digital Economy	ICT Infrastructure	private	Broadband NRW	private developers	extension of broad band for fixed networks in NRW for 100% households and covering a large area of industrial estates with 100 Mbit/s	yes	planning and starting in 2015	3.4	2.8	lack of long-term financing
Knowledge and the Digital Economy	ICT Infrastructure	public private	Rollout of smart digital networks in basis sectors in under-served areas along the Franco-German border	Federal level	With a partnership for the rollout of smart digital networks in basis sectors such as education, health, transport, energy and public administration we will push forward the rollout of broadband networks in under-served areas along the Franco-German border. Additionally, we stimulate demand for brandband access with a crossborder regional test area for eHealth, eLearning, eMobility, eGovernment, eProcurement etc.	No	planning process just started	0.5	0.2	Low population density in regions along the French-German border, High investment costs in infrastructure, but unnecessary redundances, if there was no border, different technical Standards, Language barrier
Knowledge and the Digital Economy	ICT Infrastructure	Private	Maritimer Daten-Higway Norddeutschland	dasNetz AG in cooperation with the federal state of Schleswig-Holstein	Mobile coastal broadband services for ships and mobile customers.	no	in development	0.0	0.0	Open questions concerning locations for infrastructure and necessary permissions. Total investment costs of 5 mio. Euro over 5 years.

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
Knowledge and the Digital Economy	ICT Infrastructure	private	Digitisation of road transport	Federal level	Digitisation of road transport to improve traffic guidance.		Different elements of digitized vehicle traffic are already being tested. Federal highway already feature fiber cable to a large extent.	0.3		Lack of a common standard and investment need in digital infrastructure. Defining certain frequencies for traffic related data flows will enable further development.
Energy Union	Connections and production	private	Connecting off-shore windparks	Private	Connecting off-shore windparks.			5.0		technological and administrative burdens
Energy Union	Connections and production	private	Crosslinks in the offshore-grid	Federal level	Grid connections to offshore windparks are usually single connection (onshore to one windpark). To increase grid reliability, cross-linking sections between the various onshore-to-offshore connections are needed. This has already been done in the Baltic Sea where the well established alternating current technology is in use. In the North Sea wind parks are being connected via the new direct current technology making cross-linking connections more costly.		Under assessment within the national network development plan.	0.2		
Energy Union	Connections and production	private	Deutsche Bucht (Offshore windpark)	Private	Offshore windpark development			1.0		technological risks
Energy Union	Connections and production	private	Nordsee 1 (Offshore windpark)	private developers	Project financing (up to 0.15 EUR bn) / main sponsor is Northland Power (RWE developed the project and will remain minority sponsor holding 15 %)			1.2		Start of construction: Feb 2016 IPEX not yet officially mandated
Energy Union	Connections and production	private	Sandbank (Offshore windpark)	private developers	Offshore windpark			1.3		technological risks
Energy Union	Connections and production	public private	Renewable Energy - regional cooperation projects - Offshore wind	Federal level with cooperating MS	regional cooperation projects together with other neighboring countries, i.e. e.g. 400 MW wind offshore park with northsea neighbours		projects can be developed based on the concept developed for the PV pilot and according to financial resources	3.0	0.7	financial support by EIB (soft loans, grants) would be of particular importance since EEG opening for the time being only possible for PV pilot tender; but need to start enhanced regional cooperation already now; much higher overall financial costs
Energy Union	Connections and production	private	Wind farm I	Private	Finance of a Windpark in Germany through a Luxembourg investment vehicle		Bidding	0.3	0.3	German Investment Code (KAGB) does not offer suitable investment vehicle. Changes in KAGB to enable investment via vehicle under KAGB
Energy Union	Connections and production	public private	Wind farm II	Municipal company	Finance of a small Windpark		Canceled	1.5	1.5	Rating of the borrower too low. Possible solution could be a guarantee from a higher rated institution or a credit enhancement by such an institution (similar to EIB project bonds).

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
Energy Union	Connections and production	private	European GWp Fab for Advanced Cell Technologies (Scenario 1)	Private	Strategic project to bolster the European Solar Cell manufacturing industry thus preserving a domestic European PV-industry. The project would accelerate the commercialization of high-efficiency solar cells.		Fab-layout and production upgrade measures defined and ready for implementation.	0.0	0.0	
Energy Union	Connections and production	private	European GWp Fab for Advanced Wafer, Cell and Module Technologies (Scenario 2)	Private	Strategic project to bolster the European PV-module manufacturing industry thus preserving a domestic European PV-industry. The project would accelerate the commercialization as well as the testing of innovative PV-modules and systems		Fab-Layout and production upgrade measures defined and ready for implementation	0.2	0.2	The remaining, cash-strapped European industry lacks liquidity for investing in next-generation technologies for Wafer-, Solar Cell and PV-module processing. Funding would support the Capex necessary for implementing novel technologies thus re-gaining technology lead
Energy Union	Connections and production	private	xGWp – European Gigawatt Fab	Fraunhofer Institut f. Solare Energiesysteme ISE	Highly efficient photovoltaic products with two production sites: one cross-border France - Baden Württemberg and one cross-border Netherlands - NRW	No	2015: establishment and full use of capacity for 90 MW p/a 2017: expansion of up to 1,000 MW p/a	0.6	0.6	lack of long-term financing
Energy Union	Connections and production	public private	Haitabu	Federal level	LNG-Terminal incl. regasification for vessels up to 150,000 m ³ ; capacity of about 6 to 8 bcm. Storage capacity would be 300,000 m ³ . The terminal would be important for our strategic orientation to diversify sources and infrastructure for the supply of natural gas. The terminal could be a key project on the path of achieving a less vulnerability in energy supply by too little gas producing countries. It is not only important for the security of supply in Germany but also in the neighbouring countries that are connected by pipelines with Germany.	No	Conception and planning; part of the strategic decision that probably will be felled in 2015;	1.0	0.6	Lack of short term roi will lead to financing problems. A combination of EC grants, EIB and special national regulation could overcome these problems.
Transport	Corridors and missing links	public private	BAB A1/A30 (Highway)	Federal level	A 1 AS Münster/Nord – AK Lotte/Osnabrück und A 30 AS Rheine – AK		announced (not yet in tender)	0.5	0.1	administrative barriers
Transport	Corridors and missing links	public private	BAB A44 (Highway)	Federal level	A 44 Diemelstadt – Kassel/Süd		announced (not yet in tender)	0.1	0.0	administrative barriers
Transport	Corridors and missing links	public private	BAB A6 (Highway)	Federal level	A 6 Wiesloch-Rauenberg – AK Weinsberg		in tender	0.5	0.1	administrative barriers
Transport	Corridors and missing links	public private	BAB A61/A650/A65 (Highway)	Federal level	A 61 Landesgrenze Rheinland-Pfalz / Baden-Württemberg-Worms		announced (not yet in tender)	0.2	0.1	administrative barriers
Transport	Corridors and missing links	public private	BAB A7 (Highway)	Federal level	Development and upgrade of the A7 motorway between Salzgitter and Göttingen			0.4		

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
Transport	Corridors and missing links	public private	BAB A94 (Highway)	Federal level	A 94 Pastetten – Heldenstein The aim of the project is to close the gap and build the motorway between the two existing Sections Pastetten and Heldenstein (approx. 33km). Post completion of the gap the project comprises the operation and maintenance of the whole section between Forstinning and Marktl (77km) for 30 years.		in tender	0.6	0.2	Expected Return Target <3% in combination with an expected BBB Rating reflects not our risk/return requirements. Long construction period, construction risk, contractant risk
Transport	Corridors and missing links	public private	Neue Generation ÖPP (Highway)	Federal level	670 km Autobahn: A 3 six-lane extension: AK Biebelried – AK Fürth/Erlangen A 4 maintenance: AS Gotha – LGr TH/SN A 6 six-lane extension: AK Weinsberg – AK Feuchtwangen/Crailsheim A 8 six-lane extension: Rosenheim - Bundesgrenze D / A A 10/A 24 six-lane extension (A 10) and overhaul (A 24): AS Neuruppin (A 24) – AD Pankow/LGr BB (A 10) A 49 gap closing / new construction: AK-Kassel/W – Anschluss A49 A 57 six-lane extension: Köln - Moers E 233 four-lane extension: AS Meppen (A 31) – AS Cloppenburg (A 1) B 247 new construction: Bad Langensalza – A 38 A 20: Elbe-crossing (F-Modell) A 26 four-lane extension and new construction, F-Modell: Hamburg (A1) - Rübke			7.5		
Transport	Corridors and missing links	public	Deepening of the river Elbe	Federal level	Bottlenecks in links with seaports threaten to become an obstacle to growth. In the light of increasing ship sizes which make the transport by sea more efficient and environmentally friendly, overhauling the seaward approaches is a vital step to be taken.	Yes	Currently on hold. Plannings are finished. Project awaits judgement by the Federal Administrative Court and the European Court of Justice on the case of the deepening of the river Weser. Similar to that case, environmental NGOs initiated proceedings as to whether Planning considered the provisions of the EU Water Framework Directive appropriately.	0.4	0.4	Planning law and legal practice, associations initiating proceedings against planning permissions

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
Transport	Corridors and missing links	public	Deepening of the river Weser	Federal level	Bottlenecks in links with seaports threaten to become an obstacle to growth. In the light of increasing ship sizes which make the transport by sea more efficient and environmentally friendly, overhauling the seaward approaches is a vital step to be taken.	Yes	Currently on hold. Plannings are finished. Project awaits judgement by the Federal Administrative Court and the European Court of Justice as to whether Planning considered the provisions of the EU Water Framework Directive appropriately. Case was brought forward at the national level by environmental NGOs.	0.1	0.1	Planning law and legal practice, associations initiating proceedings against planning permissions
Transport	Corridors and missing links	public	DEK-Nordstrecke (waterways)	Federal level	Construction of five new locks.	Yes	Ongoing planning approval procedure.	0.4	0.4	administrative barriers
Transport	Corridors and missing links	public	Kleine Schleusen am WDK (waterways)	Federal level	Replacement of the locks.	Yes	Detailed planning	0.1	0.1	administrative barriers
Transport	Corridors and missing links	public	Schleuse Erlangen (waterways)	Federal level	Replacement of the lock.	Yes	Pre-planning	0.2	0.2	administrative barriers
Transport	Corridors and missing links	public	Schleuse Kriegenbrunn (waterways)	Federal level	Replacement of the lock.	Yes	Pre-planning	0.2	0.2	administrative barriers
Transport	Corridors and missing links	public	Staustufe Kachlet (waterways)	Federal level	Maintenance of the dam.	Yes	Pre-planning	0.3	0.3	administrative barriers
Transport	Corridors and missing links	public	Wehr Koblenz (waterways)	Federal level	Reconstruction of embankment.	Yes	Pre-planning	0.2	0.2	administrative barriers
Transport	Corridors and missing links	public private	Nord-Ostsee-Kanal (waterways)	Federal level	Repairs and expansion of the existing Nord-Ostsee-Kanal and locks. The NOK is the busiest water route in the world and an important connection between the West and the East of Germany and Europe.	Yes	Planning	1.5	0.5	So far national project, PPP not yet envisaged
Transport	Business enablers	public	Highway bridge Leverkusen	Federal level	Speeding up the construction of a new highway bridge to replace the current one that had to be closed for heavy vehicles due to its ailing state. A new law proposal foresees that only the federal administrative court will decide over potential lawsuits. Construction to be finished by 2020.		Construction to start in 2017.	0.5	0.2	Legal hurdles: high risk of law suits
Transport	Business enablers	public private	Highway bridge Karlsruhe-Maxau	Federal level	Build new bridge to replace the current bridge (Karlsruhe - Maxau) and expand capacity - current bridge would be overhauled after construction of new bridge and thus provide additional capacity.	no	Construction could start in 2017 and would take 3 years total.	0.1	0.1	Financial constraints

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
Transport	Business enablers	private	Waterways	Federal level	Political decision to either expand existing locks to allow for bigger ship sizes or overhaul locks without expansion. Ship owners are awaiting decision before fleet renewals with either smaller or bigger ships depending on the outcome.		Currently ship modernization is on hold with goods transport moving to rails and roads due to uncertainty about future lock sizes. Expanding existing locks to allow for bigger ships would require investments of 1 bn. Euro. Alternatively fleet modernization with smaller ships could be encouraged through fiscal incentives (0.4 bn.)	1.0	1.0	administrative coordination problems (standards, permits)
Transport	Business enablers	public private	Pre-Gate	Federal level	Providing parking and sorting opportunities for trucks between highways and ports would enable more effective loading and unloading processes. In addition, a common (pan-European) data interface for the registration of trucks would increase efficiency and safety (resting times for truck drivers could be optimized).		Plans for individual ports are in different states of realization. The land necessary for developing pre-gate often lies in different territorial jurisdictions making the involvement of numerous stakeholders necessary. A lack of coordination between ports hampers the development of a common digital interface for registering trucks at terminals.	0.4	0.4	Administrative coordination problems and financing needs. Solution: Creating a task force to coordinate work flows and standardization. Development of digital standard should be pushed on European level.
Transport	Business enablers	private	Expansion of Airport Frankfurt: Terminal 3	Fraport AG	Extension of the existing Frankfurt Airport by a third terminal building	no	Plannings are finished. Construction can start immediately.	3.0	1.5	Political decision at federal state level to re-assess the need of the project.
Transport	Urban transport	public	Tunneling the Mittlerer Ring Munich	Municipal level	Tunneling part of the Münchner Mittlerer Rings between Landshuter Aller and Tegernseer Landstrasse.	No	offen	1.5	0.5	n/a
Social Infrastructure	Education and training	public	University buildings	regional level (NRW)	Construction of buildings and accompanying facilities/equipment for universities of Bonn, Bochum, Dortmund, Duisburg-Essen, Aachen, Düsseldorf, Wuppertal, Siegen, Bielefeld, Münster, Paderborn, Hagen.	No	modernisation and reconstruction within the framework of the specialised university construction programme;	1.8	0.5	budget constraints
Social Infrastructure	Health	private	Establishment of ambulant, local residential communities	private and municipal initiatives	building of new ambulant, local residential communities due to demographical changes to avoid nursing homes as long as possible	No	demand for 5.000 units in NRW until 2030	4.0	1.0	lack of long-term financing; solution seen in reduced interest rates for investments
Social Infrastructure	Health	private	Investments in hospitals	privately owned hospitals and municipality owned hospitals	investments in medical equipment	No	high investment lag in NRW	4.9	2.1	lack of long-term financing
Social Infrastructure	Health	public private	Landeslabor Berlin Brandenburg	Regional level (Berlin)			in tender	0.1	0.1	
Social Infrastructure	Health	public private	Universitätsklinikum Schleswig-Holstein (UKSH)	Regional level	University Hospital Schleswig-Holstein in Kiel and Lübeck / Reconstruction and refurbishment of the hospital buildings			0.6	0.3	Financial close: Sept 2014; start of construction: 2015 (6 year construction period) IPEX participation: 0.82 EUR bn

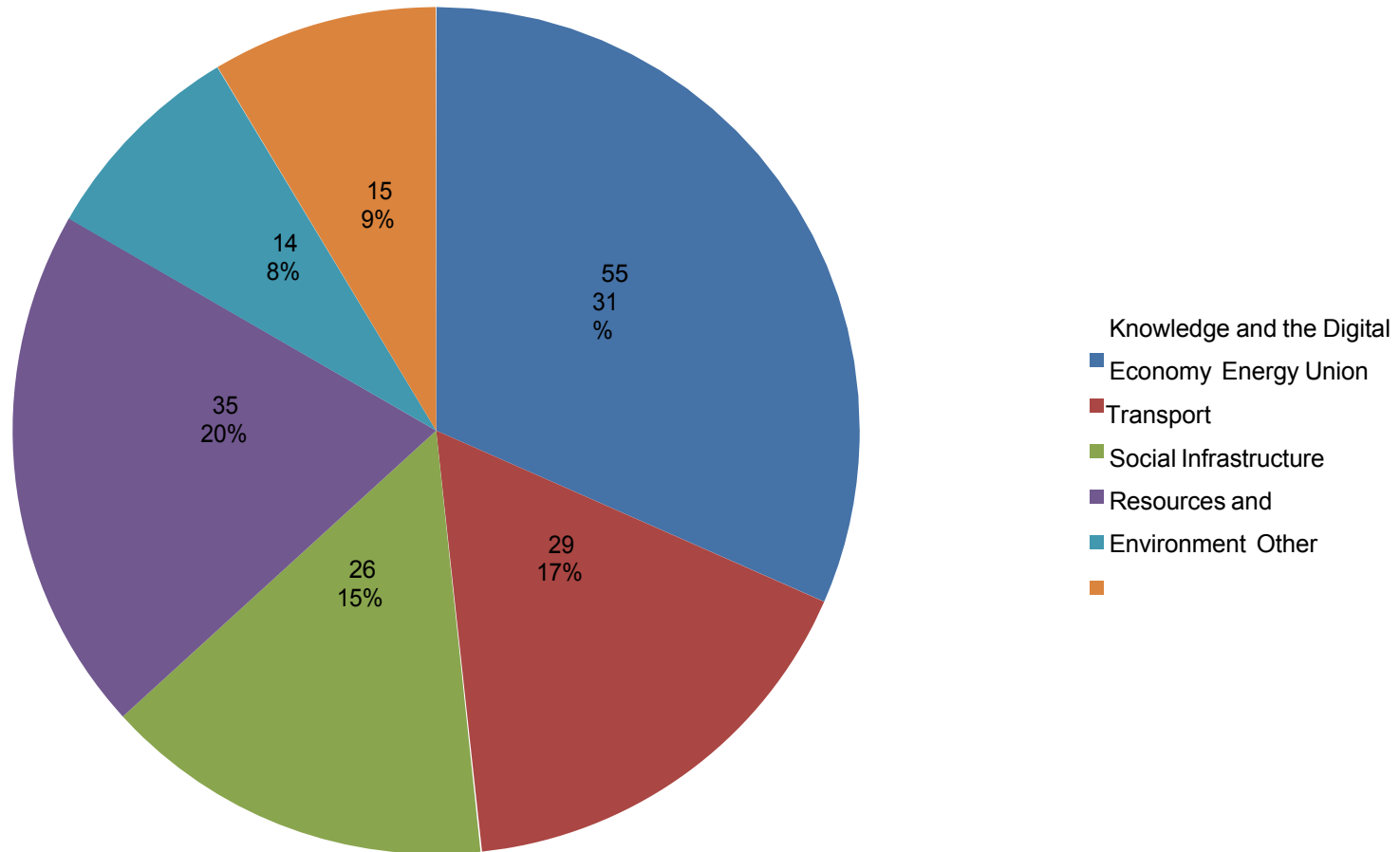
Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
Social Infrastructure	Built environment and urban services	public	Restoration of social buildings in cities and communities	Federal/regional level	The goal of the "social infrastructure regeneration programme" is to help dismantle the municipal investment backlog and promote social cohesion and integration, especially in deprived neighbourhoods, through the general refurbishment of public buildings. The support will fund the comprehensive modernisation of public buildings (also incorporating, e.g., energy upgrades and heritage conservation law) and facilities of the Länder or local authorities (e.g. kindergartens, schools and universities, hospitals and other services of general public interest).			1.5	1.5	
Social Infrastructure	Built environment and urban services	public private	Police Headquarters Aachen	Regional level (NRW)			in tender	0.1	0.1	
Social Infrastructure	Built environment and urban services	public private	Police Headquarters Southeast Hesse	Regional level (Hessen)			in tender	0.1	0.1	
Resources and Environment	Natural resources: efficient and secure availability	private	Carbon monoxide pipeline	Private	Connecting chemical industry sites		The pipeline is built but not yet operational due to judicial and administrative barriers.	0.1		ongoing multi-year judicial processes
Resources and Environment	Resilience to Climate Change	public	National Flood Protection Programme	Federal/regional level	Flood protection measures are large scale building projects. As they protect regions from major disasters they support all sectors mentioned in Annex 1, especially transport, social infrastructure as well as resources and environment.		Decision Conference of German Environment Ministers 2014 Oct 24th	5.4	0.8	Main barriers for the measures' implementation are financing and duration of proceedings. Potential for improvement is currently under discussion.
Resources and Environment	Resilience to Climate Change	public private	Infrastructure for alternative fuels	Federal/regional/municipal level	To build a comprehensive infrastructure for alternative fuels private investors need to be incentivised.	no	political discussion	1.0	1.0	financial barriers



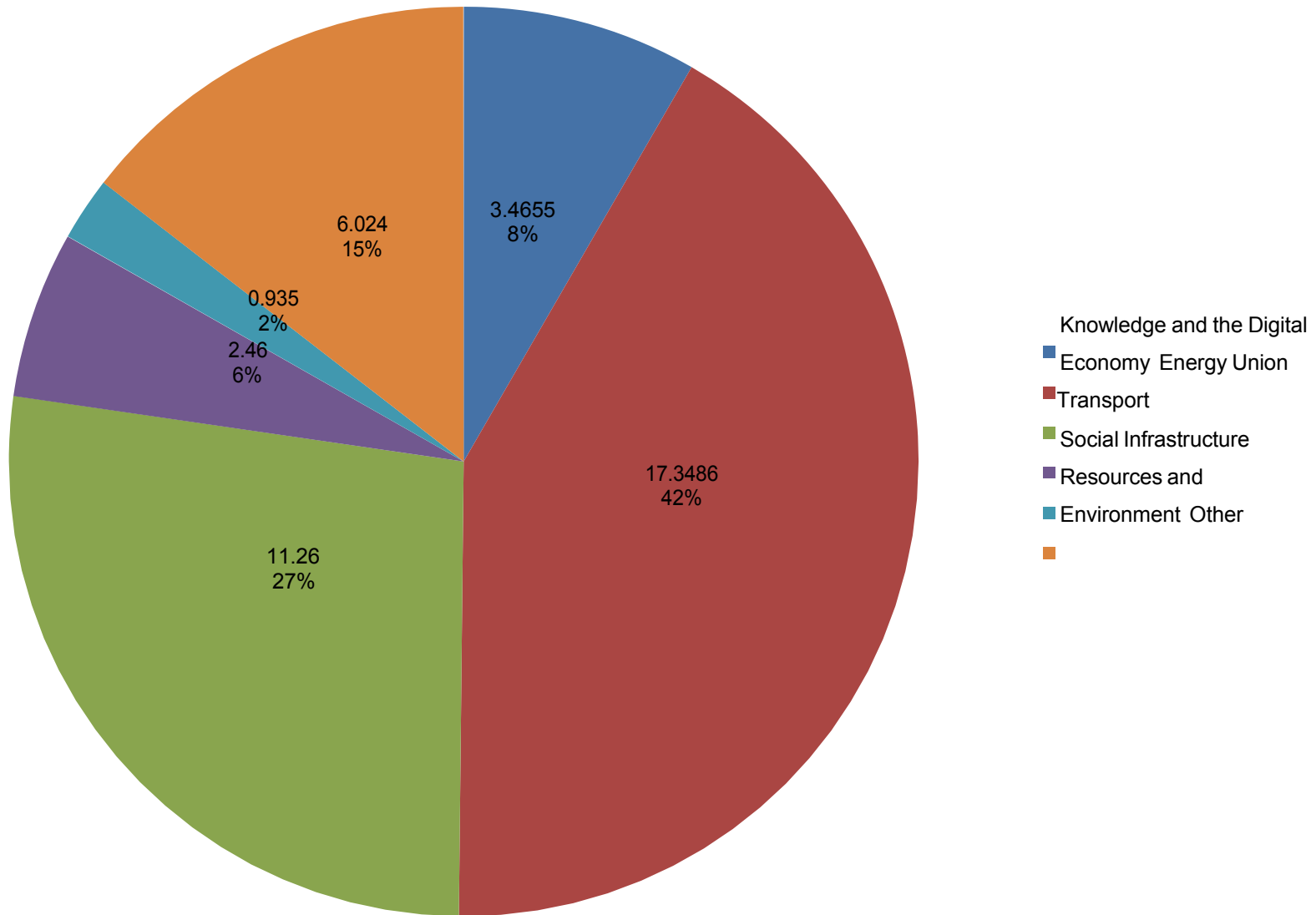
GREECE



Number of projects per sector- TOTAL : 174 projects



Investment cost per sector (billion Euro) - Total estimated cost EUR 41.49 bio



A/A	Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
1	Energy Union	Energy Efficiency Buildings	Energy Efficiency Buildings	Ministry of Environment, Energy and Climate Change	The project concerns public, residential and commercial buildings with a view to implement interventions improving energy performance. Priority should be given to buildings (in all the above mentioned sectors) with poor energy performance. Financing through ESCO's is also included.	Part of the cost (~400m public expenses) will be covered by the structural funds (programming period 2014-2020)	Implementation schedule 2014-2020	2.4		Lack of funding
2	Knowledge and the digital economy	ICT Infrastructure	Development of "smart meters" and "smart grids"	HEDNO	The project concerns the replacement of existing metering systems with new "smart" ones that take full advantage of ICT	Part of the cost (~24.7m public expenses) will be covered by the structural funds (7.8m by the programming period 2007-2013 and the rest by the programming period 2014-2020)	2013-2020	1		Lack of funding
3	Energy Union	Connections and production	Interconnection between Maritsa East 1 (BG) and N. Santa (EL)	IPTO	Construction of a new AC 400 kV single-circuit interconnector (OHL) with a length of 130 km and a capacity of 2000 MVA between Maritsa East 1 (BG) and Nea Santa (EL) (onshore)	Potential funding under CEF	2015-2020	0.01		Lack of funding
4	Energy Union	Connections and production	Euro Asia Interconnector	PPC Quantum Energy Ltd - IPTO	The project consists of a 600 kV DC underwater electric cable and any essential equipment and/or installation for interconnecting the Cypriot, Israeli and the Greek transmission networks (offshore). The project will have a capacity of 2000 MW and a total length of around 820 nautical miles/around 1518 km (329 km between CY and IL, 879 km between CY and Crete and 310 km between Crete and Athens) and allow for reverse transmission of electricity.	Potential funding under CEF	2015-2020	1		Lack of funding
5	Energy Union	Connections and production	Hydro-pumped storage in Greece - Amfilochia	TERNA	Pumped Storage Complex with two independent upper reservoirs: Agios Georgios and Pyrgos, using as lower reservoir the artificial reservoir of Kastraki (owner Public Power Corporation). The equipment for energy production and energy pumping will be installed in two independent power houses, near Kastraki reservoir.	Potential funding under CEF	2015-2020	0.5		Lack of funding

6	Energy Union	Connections and production	<i>Natural gas Interconnector Greece - Bulgaria – IGB</i>	DEPA	The interconnector between Komotini and Stara Zagora is 3 bcm expandable up to 5bcm.It is designed to function in reverse mode and its projected length is 180 km, of which 150 in Bulgarian territory. It is being developed by ICGB AD (50% BEH EAD, 50% IGI POSEIDON)	The IGB is included in the EERP. ICGB AD has concluded a framework agreement with the EBRD for financing the project up to amount of € 130 M. Potential funding under CEF	0.22	0.22	
7	Energy Union	Connections and production	<i>Aegean LNG</i>	DEPA	The Aegean LNG is designed as an offshore terminal (FSRU) with a capacity of 3-5 bcm/year, including all the necessary storage regasification and berthing facilities for LNG tankers of at least 150.000 cm capacity. The project will impact positively security and diversification of supply of the entire SEE region	Potential funding under CEF 2014-2016	0.27		
8	Energy Union	Connections and production	<i>Independent Natural Gas System LNG Greece</i>	GASTRADE	New offshore LNG FSRU near Alexandroupolis (mooring position 17.6 km) and a system of subsea and onshore pipeline with a length of 29 km (4 km onshore and 25 km offshore), with a daily capacity of 16.8 MCM/day.	Potential funding under CEF 2016-2018	0.34		
9	Energy Union	Connections and production	<i>Permanent reverse flow at Greek – Bulgarian border between Kula (BG) – Sidirokastro (EL)</i>	DESFA	The project consists in interventions on the already existing transmission pipelines and above ground installations in BG and EL and, in addition, construction of new above ground installations.	Completion 2015	0.0013		
10	Energy Union	Connections and production	<i>South Kavala storage</i>	DESFA	New underground storage facility in depleted gas field, connected via a 34 km pipeline (of which 32 km offshore) to the National Natural Gas System (NNGS) operated by DESFA. The facility is planned to have the following technical characteristics: Working Gas Volume 360 MCM; Withdraw capacity 4 MCM/day; Injection capacity 5 MCM/day; Cycling rate 2 times/year.	Potential funding under CEF 2015-2018	0.4		
11	Energy Union	Connections and production	<i>INTERCONNECT OR GREECE- ITALY (IGI)</i>	DEPA	A 200 km off-shore pipeline for the transportation of 10 bcm/year and constitutes a direct link between Greece and Italy (from the Thesprotian coast of Greece to Otranto). The project is being promoted by IGI Poseidon S.A a 50-50 Joint Venture between DEPA S.A. and Edison SpA.	The IGI's development has been supported by the EU's Trans European Network (TEN-E) as well as through the European Energy Plan for Recovery (E.E.P.R). Potential funding under CEF	1		

12	Energy Union	Connections and production	<i>Trans-Adriatic Pipeline* (TAP)</i>	TAP	New onshore and offshore pipeline between Greece/Turkey and Italy with a total length of 871 km (766 km onshore and 105 km offshore), with a normal daily capacity of 27.1 MCM/day and a maximum daily capacity of 30.1 MCM/day. Initial throughput capacity of 10 BCM/year. The power of the compressor station(s) is 90 MW.	Potential funding under CEF	2015-2019	1.5	
13	Energy Union	Connections and production	<i>Eastern Mediterranean Pipeline</i>	DEPA	The Pipeline is designed for the transportation of initially 8bcm/year new sources of gas from the offshore fields in the East Mediterranean. It is being promoted by DEPA and the Ministry of Energy, Commerce, Industry and Tourism of Cyprus. It's routing will be from the source via Cyprus, a landfall in Crete and into mainland Greece. From there, in conjunction with the IGI and/or the IGB gas from the Eastern Mediterranean could be effectively delivered to the markets of other European states and interconnectivity in the SEE will be promoted.	Potential funding under CEF	Cost configuration up to IGI Poseidon tie in for period 2015-2019	5	
14	Energy Union	Connections and production	<i>Compressor Station at Kipi (Turkish Greek Border)</i>	DESFA	The Project aims at increasing the Transmission Capacity of the NNGTS, in order to increase the supply of natural gas in the Greek market, as well as the supply of transit gas to the European market, by connecting to upstream natural gas systems having the form of an independent Natural Gas System (INGTS) that may develop in the area (Trans Adriatic Pipeline, IGB, etc). The Project has been included in 2010-2014 Development Plan, as approved by the Ministerial Decision n. Δ1/A/12721 of the Deputy Minister of Environment, Energy & Climate Change, (Official Gazette 1399 B/16.06.2011), subsequent to the assenting decision n. 07/2011 of Regulatory Energy Authority	Estimated amount of loan from EIB: 35.000.000 EURO Other sources: Own equity and eu/state co-financing: 35.000.000 EURO. Potential funding under CEF	2016-2018	0.07	
15	Energy Union	Connections and production	<i>Net metering</i>	Ministry of Environment, Energy and Climate Change	Installation of RES units from autoproducers (to meet their own needs), by applying energy compensation. Net metering allows customers with distributed generation systems to be compensated when their systems generate more electricity than the customer is using onsite	Part of the cost will be covered by the structural funds (programming period 2014-2020)		0.05	0.05
16	Energy Union	Connections and production	<i>RES Projects</i>	Ministry of Environment, Energy and Climate Change	The project concerns support of RES installations.	Part of the cost will be covered by the structural funds (programming period 2014-2020)	2015-2018	0.1	
17	Energy Union	Connections and production	<i>Development of electricity and natural gas transmission and distribution network</i>	IPTO, HEDNO, DESFA	It concerns projects included in the 10-year development plans.		2015-2023	2	

18	Transport	Urban transport	1. Athens Metro Line 4 – Core line	Attiko Metro S.A.	The core section of new Line 4 servicing the most densely populated areas in Athens. Section 12 km long with 14 stations from Veikou to Goudi.	Yes (Athens Metro Regulatory Plan)	Call for tender 12/14. Preliminary studies completed. Final studies underway. Construction 2016 Commissioning 2022	1.10	0.25	<p>1. Hire & pay freeze imposed on Attiko Metro SA due to the crisis constrains available resources necessary for new projects; staff left the company to work abroad due to lack of incentives</p> <p>2. Insufficient funding for the full line imposes the division of the project in phases thus increasing costs</p> <p>SOLUTIONS:</p> <p>a. Change law to allow the company to contract staff for limited duration on market rates and in accordance with project needs</p> <p>b. Provide EU Technical Assistance to leverage existing resources</p> <p>c. Confirm EU funding for core line before end of 2014</p> <p>d. Secure additional funding for the full line (see below phases)</p>
19	Transport	Urban transport	2. Athens Metro Line 4 – Extension to Maroussi (Phase B)	Attiko Metro S.A.	Extension of Line 4 to Maroussi (NorthEast of Athens). Section 9 km long with 8 stations and possible interconnection to lines 1, 3, and suburban rail system (Proastiakos). Line alleviates heavily congested road traffic on the Kifissia avenue business axis and district	Yes (Athens Metro Regulatory Plan)	Geotechnical and Topographical Studies in place. Option analysis, preliminary, final studies and designs due in 2015. Call for tender summer 2015. Construction 2017. Commissioning 2023/24.	0.90	0.15	<p>1. No EU grant available despite project's high socio-economic returns</p> <p>2. EU funding precondition for implementation of the project</p> <p>3. Phasing of line due to insufficient funding</p> <p>4. Not enough capacity in Attiko Metro SA to develop and fully design the extension due to hire & pay constrains (see above)</p> <p>SOLUTIONS:</p> <p>a. Secure EU funding up to 90% of investment costs through EU loans in Juncker package</p> <p>b. Change law to allow the company to contract staff for limited duration on market rates and in accordance with project needs</p> <p>c. Provide EU Technical Assistance support to leverage existing resources</p> <p>d. Carry new option analysis to seek cost reductions</p> <p>e. Tender project before summer 2015 to enable tendering consortia to take the project into account in their financial offers for the core line.</p>
20	Transport	Urban transport	3. Athens Metro Line 4 – Extension to Ilion (Phase C)	Attiko Metro S.A.	Extension of Line 4 to Ilion (Northwest of Athens). Section 4 km long with 3/4 new stations, servicing densely populated areas.	Yes (Athens Metro Regulatory Plan)	Topographical Studies are underway and tender in progress for geotechnical designs. Option analysis, preliminary and final studies and designs on hold. Call for tender envisaged in 2016. Construction in 2018	0.50	0.03	<p>1. No EU grant available for the Northeast extension despite project's high socio-economic returns</p> <p>2. Lack of overall financing for the full line is putting the project on hold.</p> <p>SOLUTIONS:</p> <p>Secure EU funding up to 90% of investment costs through EU loans in Juncker package</p>

21	Transport	Urban transport	4. Thessaloniki Metro – Extension to Stavroupoli	Attiko Metro S.A.	Extension of basic metro line to Stavroupoli (West line) servicing densely populated areas. Section, 5km long with 5 new stations plus extension of the Pylaia depot.	Yes (Thessaloniki Metro Regulatory Plan)	Geotechnical and Topographical Studies in place. Option analysis, preliminary and final studies and designs on hold. Call for tender envisaged in 2016. Construction 2018	0.60	0.03	1. No EU grant available for the extension despite project's high socio-economic returns 2. Lack of financing is putting the project on hold. <u>SOLUTIONS:</u> a. Secure EU funding up to 90% of investment costs through EU loans in the framework of the Juncker package b. Despite delays in the basic line the extension is considered of low risk c. Attiko Metro SA can rely on the experience gained on the basic line d. Additional human resources necessary for Attiko Metro SA
22	Transport	Urban transport	5. Athens Tram - Extension from Syntagma to Egyptou Square (city Center)	Attiko Metro S.A.	Extension of Athens tram line from Syntagma to Egyptou Square in Ano Patisia. Section 4.4 km long with 8 stops, servicing Athens city centre. Part of the "Rethink Athens" urban revival project.	Yes (Rethink Athens)	Topographical designs completed. Preliminary and final designs underway. Call for tender 01/2015. Construction 2017. Commissioning 2019.	0.09	0.03	1. No EU funding secured for implementation of the project <u>SOLUTIONS:</u> a. Secure EU grant before end of 2014 b. A combination of EC grants and EIB lending envisaged up to 90% of investment costs
23	Transport	Urban transport	6. Athens Tram - Extension from Fix Metro Station to Faliron Bay	Attiko Metro S.A.	Extension of Athens tram line from Fix Metro Station to Faliron Bay to the south. Section 4.5 km long with 9 stops. Part of the Athens sea front rehabilitation project which includes a new sea front park, Niarchos Opera House and New national Library	Yes (Project linked to "Rethink Athens" and Niarchos Foundation donation)	Preliminary designs and studies in 2015. Call for tender 2016 Construction 2018 Commissioning 2019/20	0.09	0.01	1. No EU funding secured for implementation of the project 2. Project preparation on hold due to the lack of funding <u>SOLUTIONS:</u> a. Confirm EU grant funding for the tram before end of 2014 b. A combination of EC grants and EIB lending envisaged up to 90% of investment costs
24	Transport	Urban transport	7. Patras Tram	Municipality of Patras and PPP Unit in Ministry of Development	Establishment of Tram in Patras from ATEI to Patras University Hospital crossing the city centre. Line 13 km with 20 stops	Yes	Feasibility and viability studies completed. Call for tender 2016 Construction 2018 Commissioning 2019/20	0.28	0.05	1. Project preparation on hold as no EU funding secured 2. No inter-ministerial decision for inclusion in PPP list <u>SOLUTIONS:</u> Secure EU funding support in Juncker package
25	Transport	Urban transport	8. Ioannina Tram	Municipality of Ioannina and PPP Unit in Ministry of Development	Establishment of Tram in Ioannina linking the main city poles from the airport to Ioannina University Hospital Line 12 km with 20 stops	Yes	Feasibility and viability studies completed Call for tender 2016 Construction 2018 Commissioning 2019/20	0.12	0.03	1. Project preparation on hold as no EU funding secured 2. No inter-ministerial decision for inclusion in PPP list <u>SOLUTIONS:</u> Secure EU funding support in Juncker package

26	Transport	Corridors	CRETE NORTH ROAD AXIS (BOAK)	Ministry of Infrastructures, Transport and Networks	Motorway concession to build and operate 330km of motorway network, completing, transforming and upgrading the road axis linking the four main urban agglomerations, their main ports and airports in the North of Crete	Yes	Sections totalling 110 km have already been built. Many preliminary studies completed Feasibility and route study to integrate sections and fix motorway standards ready to be tendered. Call for tender for motorway concession due in 2015. Construction 2017 Completion 2022	1.80	0.25	1. Insufficient EU funding from Structural Funds to complete the full motorway 2. Very high land prices for expropriations thus limiting capacity to develop parallel secondary network 3. Insufficient public sector capacity in Crete to develop the full motorway SOLUTIONS: a. Secure funding for the full project in the framework of the Juncker package b. Tender the project as a concession c. Apply "availability payments" model without tolls, thus reducing costs for secondary network as access open to all users d. Provide EU Technical Assistance to leverage existing resources
27	Transport	Corridors	IOANNINA – ALBANIAN BORDERS MOTORWAY	Ministry of Infrastructures, Transport and Networks	Construction of 35 km of new motorway linking the national motorway network with Albania	Yes	Feasibility and technical studies completed. Project on hold due to the lack of EU funding in the region of Epirus for transport infrastructure projects. Tender 2015 Construction 2016 Completion 2018	0.28	0.2	1. Lack of public funding as there is no room to increase Public Investment Programme SOLUTIONS: Secure backing for the project in the framework of the Juncker package
28	Transport	Corridors and missing links	Thessaloniki Internal Ring Road - Makedonia Airport	Egnatia Odos SA under the Ministry of Infrastructure, Transport and Networks	Upgrade and new construction of the 20 km long ring road, as follows: construction of new 2-lane corridors per direction added to the existing 3 lanes from interchanges I/C K5 to I/C K10 and upgrade of the existing Thessaloniki Internal Ring Road - Makedonia Airport, from 3-lane to a 5-lane corridor from I/C K10 to the Airport. A very important transportation project to connect the national road network with IV - European corridor and the Egnatia motorway with Makedonia airport and the greater touristic area of Chalkidiki. The upgrade and the new road construction will also promote traffic safety and alleviate urban and suburban traffic in the city of Thessaloniki.	Yes	Sections totalling 3 km have already been built. Most preliminary studies completed. Detailed designs and feasibility studies under tender preparation. Call due in 2015. Construction 2016 Completion 2020	0.40	0.180	Barriers: - Lack of public funding as there is no room to increase Public Investment Programme - Difficulty and complexity of construction methodology due to the existing heavy traffic conditions. Solutions: - Secure funding for the full project in the framework of the Juncker package - Secure the least possible required expropriation - Detailed design and monitoring of construction works

29	Transport	Missing links	SALAMINA ISLAND SUBMARINE ROAD LINK	Ministry of Infrastructures , Transport and Networks	Concession to build and operate a 1.1km road link between Salamina island and Perama in Attica to replace the inadequate ferry links. The project includes 16.4 km of additional road works to improve accessibility and safety of the road network on both sides of the new route	Yes	Competitive dialogue tender procedure underway. Preferred bidder 2015 Construction 2016 Completion 2020	0.35	0.08	<ol style="list-style-type: none"> 1. Project on hold due to the lack of financing sources 2. Local interests linked to the ferry connection trying to defer the project 3. Technical, Legal and financial not yet fully defined as Competitive Dialogue not yet concluded <p><u>SOLUTIONS:</u></p> <ol style="list-style-type: none"> a. Secure backing for the project in the framework of the Juncker package b. Provide EU Technical Assistance to leverage existing resources c. Accelerate Competitive Dialogue procedure
30	Transport	Missing links	ATHENS RING ROAD SOUTHERN EXTENSION	Ministry of Infrastructures , Transport and Networks	Concession to connect the Athens ring road to the Southern Suburbs of Elliniko, Voula, Vouliagmeni etc. in order to bypass the city centre and divert transit traffic to the ring road. The project involves the construction of a tunnel and upgrading of existing roads to connect Attica Odos with Vouliagmenis Avenue on a 12 km stretch	Yes	Feasibility studies demonstrating the feasibility of the project completed. Tender for Design Competition to propose best route underway. Call for tender for motorway concession due in 2015. Construction 2017 Completion 2022	0.35	0.05	<ol style="list-style-type: none"> 1. Lack of public funding to co-finance the construction of the connection by private promoters 2. Project on hold due to the lack of funding 3. Environmental permit not yet requested <p><u>SOLUTIONS:</u></p> <ol style="list-style-type: none"> a. Secure backing for the project in the framework of the Juncker package b. Provide EU Technical Assistance to leverage existing resources
31	Transport	Missing links	CHALKIS RING ROAD	Ministry of Infrastructures , Transport and Networks	Construction of 16 km Chalkis bypass to alleviate traffic congestion and improve the Evia's island interconnection with the national motorway network which is already built	Yes	Feasibility and technical studies completed. Project on hold due to the lack of EU funding in the region of Sterea for transport infrastructure projects. Tender 2015 Construction 2016 Completion 2018	0.18	0.15	<ol style="list-style-type: none"> 1. Lack of public funding as there is no room to increase Public Investment Programme <p><u>SOLUTIONS:</u></p> <ol style="list-style-type: none"> a. Secure backing for the project in the framework of the Juncker package

32	Transport	Missing links	E65 I/C TRIKALA - I/C EGNATIA	Ministry of Infrastructures , Transport and Networks	Construction of the remaining approximately 63 km of the northern part of E65 motorway	Yes	Feasibility completed. Preliminary technical studies under review and modification. Project on hold due to the lack of EU funding for transport infrastructure Tender 2016 Construction 2017 Completion 2022	0.40	0.2	1. Lack of public funding as there is no room to increase Public Investment Programme SOLUTIONS: a. Secure backing for the project in the framework of the Juncker package
33	Transport	Missing links	GIANNITSA BYPASS	Ministry of Infrastructures , Transport and Networks	Construction of 9 km Giannitsa bypass to alleviate traffic congestion and improve traffic conditions between Pella and Thessalonica		Feasibility and technical studies completed. Project on hold due to the lack of EU funding in the region of Central Macedonia for transport infrastructure Tender 2015 Construction 2016 Completion 2018	0.115	0.095	1. Lack of public funding as there is no room to increase Public Investment Programme SOLUTIONS: a. Secure backing for the project in the framework of the Juncker package
34	Transport	Missing links	DRAMA -AMFIPOLI ROAD LINK	Ministry of Infrastructures , Transport and Networks	Construction of 52 km express way from city of Drama to Amfipoli		Feasibility and technical studies to be tendered in 2015 Public works Tender 2017 Completion 2022	0.250		1. Insufficient maturity of studies 2. Lack of public funding as there is no room to increase Public Investment Programme
35	Transport	Rail corridors	Electrification and signalling of the rail corridor Alexandroupoli- Ormenio	OSE - ERGOSE	Upgrading of superstructure and infrastructure on the existing single line corridor of 195 km from Alexandroupoli to Ormenio			0.150		1. Insufficient maturity of studies 2. Lack of public funding as there is no room to increase Public Investment Programme
36	Transport	Rail corridors	Electrification and signalling of the rail corridor Strymonas- Toxotes- Alexandroupoli	OSE- ERGOSE	Upgrading of superstructure and infrastructure on the existing single line corridor of 367 km from Strymonas to Alexandroupoli	Yes	Feasibility and technical studies in 2015 Tender 2017 Construction 2017 Completion 2021	0.300		1. Insufficient maturity of studies 2. Lack of public funding as there is no room to increase Public Investment Programme

37	Transport	Rail corridors	Electrification and signalling of the rail corridor Florina - Edessa - Thessalonica	OSE- ERGOSE	Upgrading of superstructure and infrastructure on the existing single line corridor of 170 km from Florina to Thessalonica	Yes	Feasibility and technical studies in 2015 Tender 2017 Construction 2017 Completion 2021	0.250	-	1. Insufficient maturity of studies 2. Lack of public funding as there is no room to increase Public Investment Programme
38	Transport	Business enablers Airports	New Kasteli Airport in Crete	Ministry of Infrastructures, Transport and Networks	Concession to design, build and operate of new airport at Kasteli in Crete to replace the existing Kazantzakis airport which will close definitely after the opening of the new airport	Yes	Tender Launched 2014 Preferred bidder 2015 Construction 2016	0.800	0.15	1. Lack of public funding to co-finance the private investments as there is no room to increase Public Investment Programme SOLUTIONS: a. EIB has expressed interest in co-finance the project b. Secure EU backing in the framework of the Juncker package
39	Transport	Business enablers Logistics	Gonos railway freight center in Thessalonica	GEAOSE	Development of a rail freight center in Gonos in Diavata area of Thessalonika through PPP project	Yes	Preliminary feasibility and viability studies and draft masterplan completed Tender 2015 Construction 2017	0.200	0.05	1. Lack of public funding to co-finance the private investments as there is no room to increase Public Investment Programme 2. Insufficient maturity of studies 3. Railway privatisation not yet completed SOLUTIONS: a. Secure EU backing in the framework of the Juncker package b. Complete railway privatisation to enable larger private sector involvement
40	Knowledge and the digital economy	ICT Infrastructure	Superfast Broadband (FTTB/H)	Private sector - Ministry of Infrastructure, Transport and Networks	Development of Fiber to the Building/Home (FTTB/H) infrastructure (NGA network) covering at least 2.2 million households (61% population coverage) in the major cities of Greece, providing speeds of more than 100Mbps. Indicatively, this project refers to 51 metropolitan areas including Athens, Piraeus, Thessaloniki, Heraklion, Larissa, Patras and smaller urban centres like Lamia, Kavala, Ioannina, Tripoli, Nafplion, Serres, Kozani, Kalamata, Ksanthi, Alexandroupoli Veroia, Chania etc.	Yes (National Broadband Plan)	Planning into final stages. Project on hold due to the lack of funding. Tender 2015. State aid notification clearance 2015. Construction 2016. Completion 2020.	1.200	0.3	1. Project on hold due to the lack of available financing 2. Access to capital for long-term maturity investment projects is difficult for telecom operators in Greece due to the crisis 3. Uncertainty for the end-users disposable income for Superfast Broadband services. SOLUTIONS: a. Private sector-led selection of areas to define investment priorities thus fostering business viability b. Secure EU funding for the full project in the framework of the Juncker package c. State aid scheme to reduce private sector capital costs and mitigate demand risk d. Provide EU Technical Assistance to leverage existing resources e. Establish project steering unit to supervise the implementation of the project.

41	Knowledge and the digital economy	ICT Infrastructure	Connected Islands	Private sector - Ministry of Infrastructure, Transport and Networks	Development of a dense submarine fiber network connecting major islands to the mainland, providing island interconnection and backhauling. The majority of the islands though have very limited or no fiber connection to the Greek mainland, making the provision of NGA broadband services almost impossible. Lack of fiber infrastructure makes the provision of 4G and above cellular services not possible as there is a lack of backhauling capable for next generation cellular data services.	Yes	Planning into final stages. Project on hold due to the lack of funding. Tender 2015. State aid notification clearance 2015. Construction 2016. Completion 2020.	0.100		<ol style="list-style-type: none"> High Capex cost per km for submarine fibre infrastructure Lack of public funding as there is no room to increase Public Investment Programme Isolated islands with small population and seasonal demand around the year and low penetrations. Complicated licencing procedures to land the submarine cables, especially in areas of high touristic interest. Economic crisis squeezed further the Average Revenues Per User SOLUTIONS: <ol style="list-style-type: none"> Facilitate co-investments reducing the necessary risk of such long term investments. Minimize the licencing procedures for landing submarine cables within the scope of the project. Secure EU backing for the project in the framework of the Juncker package leveraging private investments by also building up fibre infrastructure interconnecting Europe with middle east.
42	Knowledge and the digital economy	Public and Private R&D	Metropolitan Innovation Campus of Attica (MIC)	Ministry of Education	The proposed Metropolitan Innovation Campus of Attica (MIC) aims to create a common umbrella of Research Centers and Universities (Point of Excellence) in the region of Attica for both basic and applied research, to reach critical mass to effectively compete on EU and global scale and to bridge the gap between research and industry, lab and market.	No	Mapping of scientific fields, infrastructure, and services of Attica region Negotiate business with academic institutions of Attica. Planning for starting up in 2015	0.0123	0.0123	<ol style="list-style-type: none"> Significant fragmentation of the R&D effort in Attica. Research doesn't find its way to the market: disconnect between industry and labs, lack of product market-pull, lack of industry-research centers synergies. Research centers and universities lack in technology spin-out and startup culture and funding. SOLUTIONS: <ol style="list-style-type: none"> A common umbrella of research activities of the Research Centers and Universities of the Attica region. Services / Products of MIC will feel the gaps between academia and industry.
43	Energy Union	Connections and production	Energy Corridors: Backbone for Sustainable Growth	CERTH	The "Energy Corridors" flagship vision is to activate a critical number of resources, located in the broader area of Macedonia-Thrace, and to create synergies among them with the aim of establishing an innovation-ecosystem of renewable/zero or low carbon footprint' production oriented, small and medium enterprises and technology, research and development providers, that will transform the Region and foster economic development through the production of novel commercial products.	Yes, partially. Currently elements of the "Energy Corridors" project related to Research Infrastructures are included in the National Roadmap with an estimated budget of 30 Million Euros.	Planning and action taken to include elements of the "Energy Corridors" project to the National Research Infrastructures and other initiatives such as the EUSAIR (EU Strategy for the Adriatic and Ionian Region)	0.1500	0.1	<p>Lack of public financing and some regulatory barriers in the energy sector</p> SOLUTIONS: <p>A combination of public, private and institutional funding sources is under exploration</p>

44	Knowledge and the digital economy	Private R&D	Crete Innovation Initiative -CII	Educational and Research Producing Organizations (RPO) of Crete in collaboration with the Prefecture of Crete	A project for the transformation of the Region of Crete into a pilot innovation ecosystem by galvanizing the research and educational capacity together with the industrial and business world. Main objective is the capitalisation of the existing resources for creating wealth at regional and national level by: 1) attracting high tech companies, 2) incubating innovative student entrepreneurship, 3) stimulating interaction between RPOs and local industry and businesses, and 4) attracting new capital and skills.	Yes	Investigating the legal form of the new structure. Searching for funding opportunities/private investments	0.1000	0.045	The current legislative framework which is rigid and restrictive in terms of research related governance and financial management. SOLUTIONS: Relaxation of overregulation, flexibility in handling financial issues, and an attractive taxation system are the three most essential components for the success of this initiative.
45	Knowledge and the digital economy	Public R&D	New, ocean-going, multi-purpose Research Vessel	General Secretariat for Research and Technology(GSRT)/Hellenic Centre for Marine Research	Construction and commissioning of a new, ocean-going, multi-purpose, state-of-the-art equipped research vessel which will replace the 30years old research vessel AEGAEON b) the purchase and installation on the new vessel of a full set of advanced marine research equipment including a new, deep-water remotely operated vehicle rated for 4,500m depth	No	Repeatedly included in all National RI Roadmaps since 2007 but never included in any national investment funds. HCMR and NTUA's School of Naval Engineering have elaborated fairly complete architectural plans of the new vessel, including special designs for the installation of large and hull-mounted scientific devices.	0.0650	0.045	Lack of both, public and private, financing. The budget of the construction and equipment of the new research vessel exceeds the total public funds allocated annually to the research & technology sector in Greece. Private bodies, including marine industry, shipowners etc, in Greece are either too small to cover even part of the budget or not interested in investing on a large research vessel.
46	Knowledge and the digital economy	Public R&D	BBMRI-GR & EATRIS-GR	Special Agency for OP Competitiveness & Entrepreneurship (EYD-EPAE) & General Secretariat for Research & Technology (GSRT) /Biomedical Research Foundation of the Academy of Athens	Research Infrastructure for the development of a biobank network and a Translational Research Network in Greece	Yes	Initial planning provided for funding through the current programming period. However, due to delays concerning planning permissions for new buildings and renovations and subsequent exhaustion of funds from the ESPA (2007-2013) the projects could not be funded. These problems have now been solved and the projects are ready for implementation upon allocation of funds.	0.0040	0.004	slow procedures regarding building permits obstructed the project approval and funding through the current programming period. These problems have now been solved and the projects are now ready for implementation.

47	Knowledge and the digital economy	Private and Public R&D	BIOTECHNOPO LIS "ALEXANDER FLEMING" A Center of Excellence in research, innovation and training in the biomedical sciences	General Secretariat for Research and Technology Biomedical Sciences Research Center "Alexander Fleming"	Creation of the first Biotechnology Park in Greece. The concept involves strengthening and expansion of FLEMING's activities across three dimensions: (a) Research excellence and international relevance, (b) Innovation and services and (c) Advanced Training Center and Culture as well as renovation of its Museum based on historic Alexander Fleming items.	Yes, only for needed improvements in existing building infrastructures with a budget of approx. 2 M€	The drawing up of a business plan for the development of Biotechnopolis Park and extension of Center's activities has been already approved through the KRIPIS Action Pending of application submitted to the Regional Operational Programme of Attica and preparation for submitting a new one	0.015	0.015	1. Lack of public and/or private funding 2. Bureaucratic and slow procedures re. land use and project approval <u>Solutions:</u> acceleration of bureaucratic procedures and funding through public/private investment
48	Knowledge and the digital economy	Public R&D	Bio-Based & Low-Carbon Economy Hub	Patras Science Park S.A.	The Bio Based and Low-Carbon Economy Hub is a partnership to develop and implement a sustainable strategy in important sectors of the Western Greece economy like energy, food, chemicals and pharmaceuticals. It will involve experts from business and industry, knowledge and technology transfer institutes, public authorities. The objective of the project is to deliver a platform that will act as a 'Think Tank', stimulate project development, promote partnerships (PPPs), quickly recognize and acknowledge future technological developments and business opportunities.	No	Initial Planning – Workshops with international advisors and regional stakeholders.	0.02	0.02	Barriers/Prerequisites: Adequate quantity and quality of resources (staff and financial. Stability of Political will. A robust pipeline of projects. A well conceived and flexible business plan. Finance of the required Feasibility Studies and the Business Plans is the next stage. EIB and Bank Institutes will assist.
49	Knowledge and the digital economy	ICT Infrastructure	GRNET Research e-Infrastructure	General Secretariat for Research & Technology (GSRT)/GRNET SA	Major extension and scale-out of the GRNET network and computing infrastructures to enrich the Greek research ecosystem with a competitive advantage in conducting cutting edge research at international level.	Yes	Planning in final stages. Investment proposal under evaluation	0.02	0.02	The lack of commitment from government agencies on a definite budget and the slow progress in the funding procedures put projects like this at the edge of technology in jeopardy, requiring new updated plans before the project initiation.

50	Social Infrastructure	Health	Athens Science & Technology Park (ASTP)	National Hellenic Research Foundation (NHRF) as coordinator, with the following potential partners: Institute Pasteur Hellenique, Hellenic Federation of Enterprises (SEV), Pfizer Inc, Pharmaten, Lavifarm, Evaggelismos Hospital, University of Athens Medical School, Advent Technologies, E-Nios, S&B Corporation	The proposal is to create the ATHENS SCIENCE & TECHNOLOGY PARK (ASTP), a concept that includes an R&D hub, an incubator and an investment fund that will invest in the activities of the Park. The primary activities of the Companies that will be hosted in the Park will be in the area of life science applications, energy/photonic applications as well as information and communications technologies (ICT) applications.	Yes	The project is in the initial phase of preparation. The private investors that have shown interest in the project are expecting the details regarding the public contribution and the reference scheme under which ASTP will operate. ASTP will run under its own legal presence and its own management team.	0.02	0.01	A project like this is long overdue in Greece and in Athens in particular. The partners are Research Centers of private interest plus Corporations with extended R&D activities. All of the above mentioned hurdles (lack of public and/or private financing, regulatory barriers, slow project preparation) were obstacles to implemented a project like this in the past but we are now optimistic we will use the "best practices" from similar project implemented abroad to make rapid progress in Greece as well.
51	Knowledge and the digital economy	Private R&D	HUMAB Project	Private promoter – The Hellenic Pasteur Institute	The Hellenic Pasteur Institute has planned the development of infrastructure for the large-scale production of fully-human naturally-occurring monoclonal antibodies expressing biological activities that are suitable for clinical therapeutic applications	No	Under planning	0.01	0	Lack of long-term finance. A combination of EC grants and private funds is envisaged. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter.
52	Social Infrastructure	Health	BIO-SECURE Project	Private promoter – The Hellenic Pasteur Institute (HPI)	The Hellenic Pasteur Institute is pursuing the development of a Next Generation Sequencing (NGS) Technology and Bioinformatics Unit for improved diagnosis, surveillance and control of infectious diseases	No	HPI is currently organizing a Bioinformatics core facility with emphasis in the analysis of NGS data.	0.01	0.007	Lack of long-term finance. A combination of EC grants and private funds is envisaged.

53	Knowledge and the digital economy	Public R&D	Observatory Hub Incubator	General Secretariat for Research & Technology (GSRT)/ National Observatory of Athens	The key objective is to establish a dedicated Business Incubator targeted towards space physics, earth observation and associated applications within NOA. This will foster the creation of interdisciplinary startups and establish closer links with SMEs active in the field of space data analysis developing products with societal and commercial impact. It will thus promote excellence and creativity in the relevant business environment, indicatively relating to Big Data management g. Downstream products and services to meet societal and environmental challenges, Sensor SW/HW development, Prototyping & demonstrating sensor Cal/Val activities.	No	Starting at 2015. Ending at 2018	0.008	0.005	The incubator, provides an initial place of operation equipped with supportive environment in which services as access to new technology and data, mentoring, business plan development, exposure to Venture Capital and Institutional Capital, and all other operational business/finance related needs involved in starting and growing a technology company. Thus the vision for establishing the technology incubator within NOA requires the following important infrastructures to build up and startup supportive actions to contribute to the incubatees' success.
54	Social Infrastructure	Education and Training	1. digital equipment kindergartens	Ministry of Education	The digital equipment of kindergartens with new cutting edge technology is of particular importance. A significant number of kindergartens in the country participates in European projects using NT (eg eTwinning) without having the proper equipment. The Greek School Network already provides Internet connection services. The appropriate equipment in accordance with international practice for nursery consists of interactive teaching systems (eg, interactive whiteboards, interactive tables, etc.)	No, Relative study already exists.	Not started	0.066	0.0001	Lack of finance. Need for teachers training in such technologies. Usual training is not enough.
55	Social Infrastructure	Education and Training	2. Robotics	Ministry of Education	In recent years the subject of robotics has been introduced in the curricula of many European countries. Parallel initiatives have been launched in both International (Olympiad in Informatics, 11-17 October 2014 - European Week of Planning) and national level (National Contest for Educational Robotics Regional Competitions Educational Robotics etc.). In Greece, since 2009, the Hellenic Competition of Educational Robotics enables schools and students to participate in the Robotics Olympiad and win many awards. It is estimated that more than 400 schools across the country have introduced different ways of robotics technology in their educational process.	No, Relative study already exists. Small private funding	Small private funding in approximately 400 schools	0.050	0.0005	Need for teachers training in such technologies. Usual training is not enough. Not included in national curriculum.
56	Social Infrastructure	Education and Training	3. Introduction of mobile devices and mobile programming in education	Ministry of Education	Due to the enormous growth of mobile devices, mobile phones, tablet pc etc, programming of these devices is of huge growth and interest. The demand for professional developers is enormous. Also, it offers an opportunity for the development of entrepreneurship among young people, as applications are available directly in the market through appropriate platforms, (i.e android application store, apple application store). These devices also offer many opportunities to further development of existing infrastructures (i.e mobile labs, IWBs etc)	No, funding had been requested by the NSRF, Relative study already exists	Small private funding in a small number of schools	0.030		Need for teachers training in such technologies. Usual training is not enough. Not included in national curriculum. Need for appropriate platforms and Network infrastructure

57	Knowledge and the digital economy	Public R&D	4. MOOC for Adult Education	Ministry of Education	MOOCs (Massive Online Open Courses) have revolutionized the way university courses are offered through the www, for the first time breaking geographical, financial and social barriers. The proposal entails all steps towards the development (also examining synergies with very famous representatives like edX and Coursera) of the first Greek MOOC, aiming at lifelong education for adults.	No	-	0.010	0.001	Provision of broad-band Internet to all Greek areas under reasonable cost
58	Social Infrastructure	Education and Training	5. Open Source School Computer Labs, a step to the Open Systems era	Ministry of Education	Computer labs in Schools are usually based on proprietary Operating Systems (OS). The main reasons for this are: Teachers familiarity with these OS (and related Software) and Inadequate promotion and support of Open Source solutions. Students on the other hand tend to adopt Open Source Software easily (sometimes even better than proprietary SW) The aim of the project is twofold: a) to minimize the cost of adoption of ICT in education, using Free/Open Source b) to promote adoption of Open Source Software and thus give EU a competitive advantage in Computer Science and SW development Both are very important , especially in the new era of handheld/mobile devices as many of them are based on Open Source systems (a multi Billion € market)	Partly	The Ministry of Education and Religion supported a large scale pilot program to create a hybrid cloud infrastructure in School Computer Labs using Free/Open Source Software (Ubuntu and Linux Terminal Server Project), instead of traditional proprietary OS based solutions. As a result almost 1.000 school labs are based on Open Source solutions and Greece now has one of the largest LTSP implementations in the world : http://www.ltsp.org/stories/	0.010	0.0005	1. lack of an long term initiative to support Open Source solutions in School Computer Labs As a result decision makers tend to adopt expensive proprietary solutions instead. An EU initiative will easily cover such needs. 2. lack of familiarity and training of decision makers, Old decision makers tend to decide based on brand familiarity. This way, proprietary brand familiarity is passed to students and so on. A new culture can easily be adopted by young students
59	Social Infrastructure	Education and Training	6. Upgrade technology infrastructure in vocational schools	Ministry of Education	upgrade of the technological infrastructure of technological applications sectors of vocational schools i.e computer labs automation labs engineering labs etc	Partly	The latest upgrade of the technological infrastructure of vocational schools was made in the early 2000s. The need for upgrading the technological infrastructure is immense.	0.100		Lack of finance.
60	Social Infrastructure	Education and Training	7.a) Bioclimatic and energy renovation of existing school buildings	Ministry of Education-Building Infrastructure	Bioclimatic upgrade, utilization of renewable energy, energy independence schools		Relative fund is expected from NSRF 2014-2020 0,06 bn	0.200	0.08	Lack of finance.
61	Social Infrastructure	Education and Training	7.b) New school buildings with bioclimatic and energy design	Ministry of Education-Building Infrastructure	Bioclimatic design, utilization of renewable energy, energy independence schools		Possible fund is expected from NSRF 2014-2020	0.200	0.08	Lack of finance.

62	Social Infrastructure	Education and Training	7.c) <i>New special schools</i>	Ministry of Education-Building Infrastructure	Bioclimatic design, current functionality specifications		Possible fund is expected from NSRF 2014-2020	0.050	0.05	Lack of finance.
63	Social Infrastructure	Education and Training	7.d) <i>Equipment for special schools</i>	Ministry of Education-Building Infrastructure	Innovative technology programs (computers and software for children with special needs), special equipment (desks etc.)			0.010	0.01	Lack of finance.
64	Social Infrastructure	Education and Training	7.e) <i>School Labs Update</i>	Ministry of Education-Building Infrastructure	Laboratories (computer, physics etc) have special specifications in order to meet safety standards. In Greece for the most of them, typical classrooms are used		~1000 out of 20000 school labs meet the special safety standards.	0.040	0.04	Lack of finance.
65	Social Infrastructure	Education and Training	7.f) <i>Damaged schools from earthquake</i>	Ministry of Education-Building Infrastructure	Repairs in school which have been damaged from earthquake		Partly funded from EIB loan.	0.080	0.02	Lack of finance.
66	Social Infrastructure	Education and Training Health	8. <i>Visible Light Communications (VLC) systems for school indoor wireless coverage</i> <i>LIGHT</i>	Ministry of Education & Religious Affairs	Visible Light Communication (VLC) Systems provides a reliable and biologically friendly, green communication network that allows the creation and expansion of seamless computing and communication applications using large bandwidth high-frequency pulsed light instead of radio frequencies. Initially, a pilot installation of VLC systems will be performed to selected school units (both primary and secondary education), thus allowing a large scale deployment of VLC technology to the whole Greek territory. This technology is developed in this phase by European research organizations, such as Fraunhofer Institute (DE).	No	Installation of a pilot Visible Light Communication testbed expected in 2015. Large scale deployment of the project will be performed in 2016.	0.200	0.1	The perceived negative health consequences of existing wireless radio technologies especially for health sensitive human groups such as children in schools or elderly – is a severe issue. From health perspective basic and advanced communication services based on the VLC technology might relax indoor space from radio emissions which in certain cases are critical (i.e., school, hospitals, elderly areas, etc). This project potential establishes synergies with the other subsectors (i.e., health and built environment and urban services).
67	Social Infrastructure	Education and Training	9. <i>Enabling Innovative Digital School Environments</i> <i>IDEal</i>	Ministry of Education & Religious Affairs	Formulation of an ICT-enabled school environment considering: a. the networking infrastructure to support the Bring Your Own Device (BYOD) to both primary and secondary schools, b. the infrastructure of virtual labs / environments for conducting experiments with the participation of geographical distributed school units, c. the infrastructure for Virtual Desktop Infrastructure (VDI), in order to provide an modern educational environment to pupils, using (possibly old) school Labs d. the utilization of 3-D printing systems and programmable robotic and artificial models.	No	Initiation of the project is expected in 2016.	0.550	0.2	Traditional and lecture dominant-methods provide a less attractive and flexible learning environment. Redesign of existing and potential definition of new learning models regarding the broad use of innovative and state –of the art information and communication technologies

68	Knowledge and the digital economy	ICT Infrastructure	10. Educational Next generation networks (EDeN)	Ministry of Education & Religious Affairs	<p>This project focuses on providing and enabling next generation access networks (NGA) to schools (Primary & Secondary degree) all over Greece, in order to fulfil the growing needs in bandwidth.</p> <p>Moreover it targets a specific network resources infrastructure and promotes the educational network in Greece as a key player in the new era of NGA.</p> <p>Through this project, schools will be able also to acquire new network equipment that will fulfil its growing needs and features support that can't be met with their current network infrastructure and thus be able to achieve goals of the Digital Agenda 2020.</p>	No	<p>Digital Agenda for Europe (DAE) 2020, aims through Pillar IV: Fast and ultra-fast Internet access, to provide:</p> <ol style="list-style-type: none"> 1. By the year 2020, network access of more than 30Mbps to all European citizens 2. By the year 2020, network access of more than 100Mbps for at least 50% of EU citizens. <p>This project aims to make great use of such technologies.</p>	0.100	0.05	<p>Lack of private investments in order to build Next Generation Access Networks (NGA) prior 2020.</p> <p>This project will raise the demand for NGA and thus promote private investment.</p>
69	Knowledge and the digital economy	ICT Infrastructure	11. uNified Educational Datacenter & Services (NeEDS)	Ministry of Education & Religious Affairs	<p>This project aims to unify all education services under one dominant datacenter infrastructure, providing the necessary facilities in order to host, design and develop current and future cutting edge educational services.</p>	No	<p>Currently there are various services regarding education, dispersed among various datacenters and administered from various entities.</p>	0.010	0.01	<p>Complexity due to the variety of public partners involved in the development/design and implementation of the educational services (utilized either by schools either by administrative entities). Providing a powerful platform/equipment through a single datacenter can greatly help towards the unification of educational services.</p>
70	Social Infrastructure	Education and training	12. enhancing Recruitment and mobility Among youth EU Citizens (RaCE)	Ministry of Education & Religious Affairs	<p>All over Europe, there are numerous Private or Government Recruitment Agencies. This project focuses on enhancing the different data/recruitment announcements made by each one of them and act as a central point of job seeking.</p> <p>Through this system, it would be possible, especially for young people of Europe to find an as close as possible qualification matching job, which on the long term will increase people mobility.</p>	No		0.100	0.05	<p>Possible barriers are the lack of long-term planning and commitment on behalf of either Private or Government parties involved. Moreover, the data/information for such systems are heavy complex, so the use of big data analytics should take place.</p>

71	Social Infrastructure	Education and training	13. Towards a paperless e-gov model for school and teacher management	Ministry of Education & Religious Affairs	<p>The Greek educational system is permeated by a tree-structured administrative hierarchy starting at the Ministry level, through the regional and prefectural authority levels, down to the school (leaf) level. The educational community currently consists of 14.000 public schools, 150.000 permanent teachers and 1.400.000 students, in primary and secondary education.</p> <p>The aim of the project is twofold:</p> <p>a) To provide full informatization in order to cover the needs of all levels of the afore-mentioned hierarchy with respect to every-day administrative support, and</p> <p>b) To further develop digital workflows (as opposed to current exchange of documents) for all inter-level and intra-level communication/administration of educational entities, under the e-gov paradigm.</p> <p>This effort should be further extended to all public administration entities providing and/or receiving data to/from schools in order to eventually achieve a paperless, transparent and efficient administration in the educational community.</p>	Partly	The Ministry of Education and Religious Affairs has recently adopted 'myschool' (http://myschool.sc.h.gr) as the official information system that mainly provides support to all Greek schools regarding the management of students, teachers and curricula. The proposed project is a straight-forward extension of 'myschool'.	0.010	0.003	<p>1. lack of long term finance for the support of the infrastructure</p> <p>2. complex and fragmented legal and regulatory framework that relates to the administration of education</p> <p>3. lack of long-term planning and commitment on behalf of decision makers</p>
72	Social Infrastructure	Education and training	14. The development of a repository for academic qualifications of all citizens	Ministry of Education & Religious Affairs	<p>The project aims to a) standardize and b) then collect (and verify) in a single repository the academic qualifications (degrees of all academic ranks, foreign language certificates, etc.) of all Greek (eventually, European) citizens. Such an action should significantly facilitate the exchange of information among administrative transactions (e.g. applications for various positions) while canceling the need for the candidate's physical presence and ensuring information validity. It is further expected to yield a reduction in bureaucratic costs related to the mobility of professionals.</p> <p>The repository is expected to be distributed geographically to each member state and "certification" should be provided to any legal entity in the form of web services.</p>	No		0.010	0.002	Involvement of a high number of legal entities (universities, education/training providers, etc.)
73	Social Infrastructure	Education and training	15. Connecting VET & work-based learning	Ministry of Education & Religious Affairs	<p>A project combining Vocational Education and Training (VET) that takes place in classrooms (in secondary and post-secondary level) with worked-based learning that occurs at workplaces.</p> <p>Benefits:</p> <p>a. strengthen cooperation between education and business,</p> <p>b. link VET with labour market needs: produce higher-quality skills that are more relevant to real work,</p> <p>c. increase the link between learners and the labour market and so improve their chances of getting a job after they complete their training,</p> <p>d. involve employers in designing VET, thus increasing their confidence in the system,</p> <p>e. use of plant and equipment on employer premises for training and so reduce the need to purchase expensive training equipment for public VET schools.</p>	Yes	Part of the national strategic policy framework for increasing the quality and efficiency of VET	0.200	0.15	<p>Barriers: a) Coordination problems, leading to possible delays. b) Need for accreditation of work-based learning.</p> <p>Solutions: a) A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry of Education and Religious Affairs. b) EOPPEP, the National Organisation for the Certification of Qualifications and Vocational Guidance, that operates under the supervision of the Greek Minister of Education & Religious Affairs, develops and implements comprehensive national systems for the accreditation of non-formal & informal learning.</p>

74	Energy Union	Energy Efficiency in Buildings Connections and production	16. SUN-Power <i>Schools Up with Nature for making their own electric power from Sun and Wind and MicroGrid-aggregation into Virtual Power Plants</i>	Ministry of Education & Religious Affairs	<p>Schools hosted in public buildings can install photovoltaic panels on their roofs and/or a vertical axis windmill on their yards for producing green solar and wind electricity.</p> <p>These schools will be joined in a network providing electricity to a public or private company cutting off their expenses.</p> <p>Each school can be a small energy producer. In average a school can produce yearly 1300 kWh per installed kWp from panels and 200kWh from windmills. That means for an average 20kWp of solar panels for the 70% of schools and a 5 kWp of windmills (5m/s wind blow) for 30 % of schools there is a 270 TWh of electric power produced.</p> <p>That is 350 Tera-Tones of CO2 not polluting atmosphere and a 67,5M€ earning per year (0,25€/kWh estimated selling price). Investment is breaking even in 10years.</p> <p>Also, the current production of renewably energy from small producers (microgrids) is fragmented and relies on the feed-in-tariff policy. The project will use ICT technologies (like those developed in VIMSEN project) to help aggregate School Microgrids into a few Virtual Power Plants (VPP). Each VPP will have the size required to participate as a separate big player in the energy market, unifying the microgrids and removing the need for subsidies. In addition pupils will actively learn about sustainable development, green electricity, economics, physics, computer programming, etc by getting involved in monitoring and evaluating the different parameters (location, solar radiation, sunshine hours, climate, etc) that affect power production and consumption.</p>	No	Can start in a years	0.800	0.4	<p>Barriers: a) Lack of finance, b) school properties details not in records yet c) luck of legislation for solar panels in public buildings.</p> <p>Solutions: a) EC grants EIB and private investment funds b) the electronic system "myschool" is ready to gather detailed info for school buildings. c). A project management committee will supervise the project's planning and implementation under the close supervision of Ministry of Education and relevant Ministries.</p>
75	Energy Union	Energy Efficiency in Buildings	17. Energy Monitoring infrastructure for SchoolS and public buildings <i>EMBOSS</i>	Ministry of Education & Religious Affairs	<p>Smart energy meters can be placed in all public buildings in order to provide a real-time energy consumption information. This information will be collected to a central system and will be correlated with other data (number of occupants, area in square meters and meteorological data) to produce an energy auditing and recommendation system for the buildings' occupants to reduce energy consumption and CO2 emissions.</p> <p>The project includes:</p> <p>a) Procurement and installation of energy monitoring sensors in all school building and administration offices</p> <p>b) Procurement and installation of weather conditions parameters sensors in selected school buildings</p> <p>c) Selection of school buildings in each Greek prefecture and installation of a small photovoltaic system to produce energy.</p> <p>The energy monitoring, combined with data from the local weather parameters will provide the Ministry with valuable information to design and implement measures/soft projects/ initiatives to reduce energy consumption from its buildings and organize relevant education activities for primary and secondary education.</p> <p>Such infrastructures and relevant projects have been implemented and/or planned to be implemented also in other EU countries. CTI is in contact and in close collaboration with Organizations planning and implementing such projects within EU.</p> <p>The project can be extended to significant non-public buildings.</p>	No	A pilot project has already implemented from the Greek Ministry of Education in a small number of school buildings. Similar projects have been developed or are planned from Organizariions around Europe. A pilot project to install photovoltaic is a school building is under implementation within 2014 in a selected school building	0.110	0.05	<p>Infrastructure to monitor the energy load of Ministry of Education buildings (school buildings and administrative offices) and to produce sustainable energy.</p>

76	Social Infrastructure	Education and training	18. Development of Telecenters Infrastructure for enhancing Lifelong Learning opportunities in remote rural areas TELECENTERS	Ministry of Education & Religious Affairs	<p>The main object of the investment is related with the creation of the needed infrastructure to establish "telecenters" in available spaces of remote schools that are in most cases not functioning (or not work at all anymore).</p> <p>The categories of beneficiaries, depending on the area of intervention will include farmers, local businesses, Students, Teachers-Teachers, Women, Tourists, Unemployed.</p> <p>Based on this infrastructure the local authorities in collaboration with the Ministry of Education will have additional opportunities to design additional soft projects for intervention to enhance the opportunities for lifelong learning and addressing the problem of "digital exclusion" in remote rural areas.</p>	No	CTI is a member of the European Telecenters network and in collaboration with partners from several EU countries have established such rural telecenters in several EU countries (e.g. Hungary, Italy, Bulgaria, Poland, Croatia)	0.005	0.005	Development of Telecenters Infrastructure for enhancing Lifelong Learning opportunities and addressing the problem of "digital exclusion" in remote rural areas
77	Social Infrastructure	Education and training	19. Localization of open educational resources (OERs) for school education OPENER	Ministry of Education & Religious Affairs	<p>Digital repositories of open educational resources (OER) have gained significant growth. A large number of OERs has been developed in many EU countries in the context of National and EU initiatives and projects. For school education (K12), and in order to meet the requirements of national curricula goals, culture, and language, the development of educational resources happens in most cases at a National Level.</p> <p>For the effective use and reuse of OERs in different contexts and countries, effective localisation and adaptation is needed. Moreover, the challenge requires bi-lateral agreements and collaboration between content providers and authorities in different countries, handling of IPR issues, selection and re-contextualisation of OERs for different curricula and target audiences.</p> <p>The project aims at setting up a European-wide initiative that will provide a framework and related services to facilitate the exchange and sharing of OERs for school education, among national digital repositories, initiatives, content-based services, content providers, and projects in various EU countries as well as to realize localisation and adaptation of OERs to meet the needs of local contexts and markets</p>	No	Photodentro LOR, the Greek National Learning Object Repository (LOR) for primary and secondary education currently hosts around 5.500 OERs while Photodentro Video, the Greek National Educational Video Repository hosts ~800 educational videos. Other OERs content providers, EU projects, initiatives and authorities (OER content providers) include Open Discovery Space, EUN LRE, PhET open, Go Lab, Scientix II, the French MoE.	0.010	0.003	Localisation of OERs for school education is a big challenge that requires collaboration among many EU national authorities, local and EU-based initiatives, content providers, etc, which cannot be effectively implemented if limited at a National level. Localisation and adaptation of existing learning resources provides the opportunity to content owners to extend the use and the exploitation of their content across borders.

78	Social Infrastructure	Education and training	20. ERMIS PROJECT	Ministry of Education & Religious Affairs	<p>ERMIS' proposal aims at funding an investment project of medium funding scale for the creation of a national center to manage an integrated supply chain considering the production and distribution of school books in Greece and in Balkan countries. The investment proposal is based on an IT infrastructure that has already been operating in our country and through which the supply chain of school books is controlled and coordinated (demand estimation, production, storage, packing, distribution) using a national e-shop for books. The proposal includes an investment on printing facilities, a center to edit the content of books, contemporary logistics' facilities and a system of controlling the distribution. In addition to that it includes the expansion of the platform for managing the school book into other languages and various supply chains for school books. The main perspective of the proposal is the collaboration of public and private sector, the implementation of an organized network of printing facilities, distribution companies etc, which they could participate in the investment and/or could have a discrete role in the implementation and the service which would operate under the coordination of single centralized management. Due to its macroscopic scale, the national center would provide the following advantages for other Balkan countries: (A) A fully automated and in time supply chain of school books, (B) A reduction of the cost and the total financial resources as well and (C) The ability to operate under various national institutional statuses of distributing school books.</p> <p>Thus it would be useful in educational systems that don't have the ability to dispose large amounts of funding for such a project. Such cases are for instance Balkan countries. The investment proposal contemplates the conclusion of discrete agreements through which the center will take in the implementation and operation of the platform, the production and distribution of school books with given budget that will on one hand provide a reduced cost, guarantee the quality of the service, the adequacy and rapidness of the supply chain in these countries and on the other hand will guarantee the sustainability of the center.</p> <p>Also, our country will benefit through the: (i) Collaboration of public and private sectors in producing and distributing school books, (ii) Stimulation of exports and the increase of foreign revenues, (iii) Modernization of the national printing industry and (iv) Increase of the employment rate.</p> <p>As a pilot program, the production and distribution of school or other e-books with educational content could be addressed to the student population.</p> <p>The investment proposal is concerned with: (a) The establishment of contemporary facilities for the conversion of books in their e-book version, (b) The development and operation of a platform to handle the provision of e-books, (c) Agreements with other countries to supply their student population with educational content and (d) Agreements with Greek and foreign publishers.</p> <p>The advantages of the investment proposal focus mainly but not solely in the following: (I) The know-how development in the publishing and administration of e-books, (II) The development of extroverted activity with economic benefits for the Greek public sector and the private sector as well (publishing companies, authors) and (III) The creation of the necessary conditions to employ specialized staff (IT engineers, software developers, graphics designers etc).</p>	No		0.100	0.04	Intellectual Property rights issues concerning school textbooks	Issues concerning the legal form of collaborating companies and Greek public sector
79	Energy Union	Connections and production	Photovoltaic station of electricity production «BRITE HELLAS A.E.»	PRIVATE SECTOR: «BRITE HELLAS A.E.»		No	Issuing of Environmental terms Overall timetable 3 years	0.204	0.204	Very low tariffs - lack of financing - environmental legislation frequent revisions - Forestry authorities' lack of personell in their regional and prefectural units	
80	Energy Union	Connections and production	SOLAR POWER PLANT LASITHI	"SOLAR POWER PLANT LASITHI" ALTERNATIVE ENERGY SOURCES	Solar photovoltaic station of electricity production	NO	Starting stage Overall timetable 3 years	0.268	0.268	Very low tariffs - lack of financing - environmental legislation frequent revisions - Forestry authorities' lack of personell in their regional and prefectural units	
81	Energy Union	Connections and production	SPES SOLARIS S.A		Development of 39 photovoltaic stations of total power: 131.074 MW	NO	The project is comprised of many small projects which are in different licensing stage	0.301	0.301	Very low tariffs - lack of financing - environmental legislation frequent revisions - Forestry authorities' lack of personell in their regional and prefectural units	
82	Energy Union	Connections and production	SPES SOLARIS S.A		Development of 12 photovoltaic stations of total power: 166.014 MW	NO	The project is comprised of many small projects which are in different licensing stage	0.332	0.332	Very low tariffs - lack of financing - environmental legislation frequent revisions - Forestry authorities' lack of personell in their regional and prefectural units	

83	Energy Union	Connections and production	SILC/O	PRIVATE SECTOR: «SILC/O PHOTOVOLT AIC PARKS S.A»	Development of 25 photovoltaic stations of total power: 126,82 MW		The project is comprised of many small projects which are in different licensing stage	0.319	0.319	Very low tariffs - lack of financing - environmental legislation frequent revisions - Forestry authorities' lack of personnel in their regional and prefectural units
84	Other	Tourism	KILLADA HILLS	PRIVATE SECTOR: «MINDCOMP ASS OVERSEAS	The investment plan refers to the construction of tourist residences and special touristic infrastructure	NO	The Strategic Environmental Assessment has been approved and we are in the process of issuing the "Plan of Spatial Development of Strategic Investment" - ESCHASE	0.345	0.2	Lack of specialized personnel in the "National Authority for the Environmental Impact " in the ministry of Environment Energy and Climate Change for the amount of projects that need to be assessed
85	Other	Tourism	ITANOS GAIA	PRIVATE SECTOR: «LOYALWARD LTD»	The investment plan is about the sustainable touristic development through the construction of tourist residences and special touristic infrastructure	NO	The Strategic Environmental Assessment has been approved and we are in the process of issuing the "Plan of Spatial Development of Strategic Investment" - ESCHASE	0.268	0.15	Lack of specialized personnel in the "National Authority for the Environmental Impact " in the ministry of Environment Energy and Climate Change for the amount of projects that need to be assessed
86	Resources and Environment	Natural Resources	« Installation of Gold Mining facilities in the area of Evros»	PRIVATE SECTOR: «THRAKI GOLD MINING»	Gold mining in the area of Evros		Issuing of Environmental terms	0.145	0.075	There has been a postponement of the licencing procedure due to the fact that ministry of Environment Energy and Climate Change hasn't approved the Environmental terms
87	Transport	Corridors and missing links, port capacity	Investment program for the development, upgrade and modernization of infra- and super-structure in Greek ports	Ministry of Shipping, Maritime Affairs & the Aegean	The program focuses mainly on the ports which will not be able to receive any TEN-T funding and have not been included in the national investment plan, although they are considered as very important for the facilitation of passenger and freight transport between the Greek mainland and the islands, the coastal shipping and cruise industry, as well as the SSS and the MoS, promoting sea based transport and securing territorial cohesion in the EU. The proposed program will offer a possibility to finance crucial small or medium scale interventions in ports according certain criteria and the priorities for each category of ports as set in the National Port Strategy 2013- 2018.	No	a) National Port Strategy 2013-2018. b) Preliminary studies identifying needs, cost and priorities	0.5	0.5	Lack of funding.
88	Transport	Port capacity	Construction of necessary infrastructure in a port (potentially in the port of Piraeus) in order to supply ships with LNG as a fuel	Involvement of private sector	The project envisages the construction of the necessary infrastructure for supplying ships with liquefied natural gas (LNG) in a Greek Port, most possible in Piraeus. The project meets a genuine market need in the years to come and is conform with the target of integrating the environmental concerns and awareness, as also promoted in the EU, in the transport policy.	No	Preliminary studies in preparation as TEN-T projects	0.5	0.5	Lack of funding. The proposed solution is a PPP.

89	Resources and Environment	Natural Resources - Water Management	INTEGRATION AND COMPLETION OF IRRIGATION PROJECTS IN ARGOLIKO FIELD (ANAVALOS) PREFECTURE OF ARGOLIDA	Ministry for Rural Development & Food - Technical Agency of the Ministry or the Region in charge	Details will be provided in the relevant Project Fiche		Ready for auction - completion of studies, part of the project is financed by the Rural Development Programme (RDP)	0.1		Financial issues
90	Resources and Environment	Natural Resources - Water Management	NETWORK CONSTRUCTION IN FILIATRINO PREFECTURE OF MESSINIA	Ministry for Rural Development & Food - Technical Agency of the Ministry or the Region in charge	Details will be provided in the relevant Project Fiche		The final project plan (financed by the RDP) is being completed and the approval of the environmental terms and conditions is being finalised fulfilling the relevant precondition for the approval of the technical project plan	0.025		Financial issues
91	Resources and Environment	Natural Resources - Water Management	ALMOPEOS DAM CONSTRUCTION ON PREFECTURE OF PELLA	Ministry for Rural Development & Food - Technical Agency of the Ministry or the Region in charge	Details will be provided in the relevant Project Fiche		The project plan (which is being financed by the RDP) is being prepared	0.07		Financial issues
92	Resources and Environment	Natural Resources - Water Management	POLIFITO IRRIGATION NETWORK PREFECTURE OF KOZANI (NORTH SECTOR)	Ministry for Rural Development & Food - Technical Agency of the Ministry or the Region in charge	Details will be provided in the relevant Project Fiche		The revised project plan is expected	0.08		Financial issues
93	Resources and Environment	Natural Resources - Waste Management	EFFICIENT AND SUSTAINABLE MANAGEMENT OF SOLID WASTE LIVESTOCK (DEAD ANIMALS)	Private sector initiative	The target of the proposed action is the attainment of an intergrated process/management of livestock waste and more specifically of dead animals. A rapid increase is witnessed recently in the number of dead animals due to catarrhal fever. The lack of infrastructure in incinerators as well as in machinery for the collection, transportation, storage and incineration of dead animals renders investment in this sector urgent. Our country is already under supervision and is being questioned by the European Union for inadequate management of animal by-products, a regulatory obligation.	It is a regulatory obligation	A study of the National Technical University of Athens concerning cost and feasibility is available. Two pilot programs concerning collection, management and disposal of dead cattle, goats and sheep in the Regions of Eastern Macedonia, Thrace and Thessaly are being implemented	0.01		Part of the project is probably not eligible for EU funding. Lack of availability of National Funds.

99	Knowledge and the digital economy	ICT Infrastructure	IT Policy	Ministry of Administrative Reform and Electronic Governance (MAREG)	The project establishes the principles and policy of Public Information, thereby establishing specifications and standards for the formation of a large number of Electronic Governance modules (e.g. portals, standard forms and equipment, electronic filing, etc.). It is an important cornerstone for the optimal development of Electronic Governance action and it should be completed as soon as possible. Then all Public Administration Bodies will take account of the principles, specifications and standards to be set by the project. Indicatively, the set of actions includes the following: 1. development of an integrated policy for the IT systems of the public administration (Policy Charter) 2. The preparation of a draft staffing plan for IT and e-government services as well as for public sector entities and units with similar object 3. The creation of the necessary institutional framework for the organisation and administration of IT and e-government services and of the entities and units of the public sector with similar object 4. The establishment of a single registry of IT infrastructure of public administration 5. The development of a Central repository of Studies and Research 6. The creation of the organisational structure (governance framework and structure) for the implementation of eGovernment at a strategic, operational, technological and controlling level.	No	RFP ready	0.002	0.002	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.
100	Knowledge and the digital economy	ICT Infrastructure	National Public Key Infrastructure (PKI) – eIDAS – National Authentication System	Ministry of Administrative Reform and Electronic Governance (MAREG)	The purpose of this project is: 1. The implementation of a National Public Key Infrastructure (PKI) fully compliant with the new European Regulation for the Electronic Identification and Trust Services for Electronic Transactions in the Internal Market (e-IDAS) 2. The implementation of a National Authentication System for the convergence between private and public sector for safe and easy access of citizens to public services using credentials for electronic identification.	No	RFP ready	0.010	0.010	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.
101	Knowledge and the digital economy	ICT Infrastructure	Electronic Document Management System – EDMS	Ministry of Administrative Reform and Electronic Governance (MAREG)	The project consists in the development of an Infrastructure to support functions of safe circulation of information and authentication, secure certified and legally acceptable exchange of documents and information/ work flow management/ electronic archiving for the public sector	No	RFP ready	0.020	0.020	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.
102	Knowledge and the digital economy	ICT Infrastructure	Electronic Governance Now (eGovNow) (ήδη σε ΕΣΠΑ)	Ministry of Administrative Reform and Electronic Governance (MAREG)	This action defines the principles and tools for interoperability of Public Sector information systems including large databases / registries as well, which are important modules of Electronic Governance. It also supports other structural elements as well, such as trafficking documents and information, certified document sharing, interoperability interfaces, etc. Its earliest possible completion will lead to better use of existing information in the registries, by promoting better collaboration between departments (e.g. Employment Agency, Ministry of Labour, Ministry of Security). The Ministry of Administrative Reform and Electronic Governance is responsible for executing the project. Then all Public Administration Bodies will take account of the principles, specifications and standards to be set by the project.	No	RFP ready	0.010	0.010	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.
103	Knowledge and the digital economy	ICT Infrastructure	Human Resources Management System (HRMS) (Πρόταση για ΕΣΠΑ)	Ministry of Administrative Reform and Electronic Governance (MAREG)	This project is associated with the development of effective and efficient management of human resources in the Public Sector. The Ministry of Administrative Reform and Electronic Governance is responsible for executing the project. Then it shall be the responsibility of Public Administration Bodies to interconnect with the system and use it. This set of actions includes the following: 1. Establishment and functioning of a single human resource management system in the public administration 2. Definition and implementation of common policies on HRM in the public administration.	No	RFP ready	0.020	0.020	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.

104	Knowledge and the digital economy	ICT Infrastructure	System for managing the relations with the citizens (CRMS) (ήδη σε ΕΣΠΑ)	Ministry of Administrative Reform and Electronic Governance (MAREG)	The aim of this project is to develop a system that promotes citizen-oriented services from the public administration across a three channel service system (telephone, physical presence, KEP, internet), providing a single and integrated management of citizen's transactions with public services, independently of the mode of access used. The action involves the creation and operation of an Integrated Management System for relations with citizens (design, development, procurement and implementation of the necessary infrastructure of equipment and software, as well as mechanisms to ensure optimal, safe and effective communication with citizens and businesses). The existence of this system will result in the Single Sign On (SSO) for every citizen. The management system of citizens is a project that relates to both the creation and operation of modules, and the possibility of user access to Electronic Governance services from a single Central Portal for Access. The Ministry of Administrative Reform and Electronic Governance is responsible for executing the project. Then it shall be the responsibility of Public Administration Bodies to interconnect with the system and use it.	No	RFP ready	0.020	0.020	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.
105	Knowledge and the digital economy	ICT Infrastructure	Enhancing digital training of ALL Public Administration executives	Ministry of Administrative Reform and Electronic Governance (MAREG)	The purpose of this set of actions is digital training of all Public Administration executives, which is a direct and important requirement, but also a key element in supporting the efforts of Electronic Governance, Administrative Reform and integration of ICTs in everyday service functions.	No	RFP ready	0.020	0.020	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.
106	Knowledge and the digital economy	ICT Infrastructure	Digital training of citizens	Ministry of Administrative Reform and Electronic Governance (MAREG)	The purpose of this set of actions is digital literacy of citizens which is important to the extent that it will help mostly middle-aged people acquire the potential to use ICTs and access Electronic Governance services.	No	RFP ready	0.020	0.020	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.
107	Knowledge and the digital economy	ICT Infrastructure	Upgrading of the Single Central Portal for Access to Public Sector Services	Ministry of Administrative Reform and Electronic Governance (MAREG)	The purpose of this project is to improve services offered to citizens through a single access portal. This project shall include measures to upgrade the Single Central Portal for Access to Public Sector Services, in order to promote the completion of 20 core European Commission services (12 for citizens and 8 for businesses). This action is directly related to the development and commissioning of the CRMS system.	No	RFP ready	0.010	0.010	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.
108	Knowledge and the digital economy	ICT Infrastructure	Dissemination actions and compulsory application of the Framework for the Provision of eGovernment services in all actions and projects of public administration bodies	Ministry of Administrative Reform and Electronic Governance (MAREG)	The main objective of the set of actions is to update the existing Framework for the Provision of eGovernment services, as well as its obligatory application in all actions and e-government projects. This framework provides an institutional basis for e-government.	No	RFP ready	0.001	0.001	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.

109	Knowledge and the digital economy	ICT Infrastructure	ICT hardware equipment for the Citizens Service Centres (CSCs), with a view to enhance the quality of services to citizens and businesses	Ministry of Administrative Reform and Electronic Governance (MAREG)	Renewal of the public administration ICT equipment including the Citizens Service Centres' ICT equipment (personal computers, servers), as well as the operation and maintenance of information systems of the public sector. ICT hardware equipment for the 1.064 Citizens Service Centres (CSCs), with a view to enhance the quality of services to citizens and businesses. These expenses are not eligible for funding by the Partnership Agreement programmes, so they must be covered by the Public Investment Programme and the regular budget.	No	RFP ready	0.200	0.200	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.
110	Energy Union	Energy efficiency in buildings	Energy Union- Energy efficiency in buildings	Ministry of Administrative Reform and Electronic Governance (MAREG)	Energy efficiency building project (transformation of the premises of the Ministry of Administrative Reform & E-government into an energy efficiency building-including a 'green' roof)	No	RFP ready	0.010	0.010	Lack of finance leading to delays. A project management unit will supervise the project's planning and implementation under the close supervision of the Ministry.
111	Knowledge and the digital economy	ICT Infrastructure	Upgrading of the "Transparency Portal", the online central platform where all Public Sector acts and decisions are being published.	Ministry of Administrative Reform and Electronic Governance (MAREG)	All government institutions are obliged to upload their acts and decisions on the Transparency Portal. Each document is digitally signed and assigned a unique Internet Uploading Number (IUN) certifying that the decision has been uploaded at the "Transparency Portal". 4.000 public authorities have published in 4 years 13.000.000 decisions. The current rate of uploads is 16.000 decisions per working day. The project objective is to build on the existing platform and upgrade it in order to cover new functionality and the increasing infrastructure requirements.	No	RFP ready	0.001	0.001	There is a huge amount of online documents that are daily added to the portal which provides advanced search and reporting functionality with an increasing visits rate. Along with this, new functionality and new Public Bodies will be added in the platform. The above requirements require an upgrade to the platform infrastructure
112	Resources and Environment	Natural Resources: Efficient and secure availability	a) Water supply, Sewerage completion and Sewage treatment for anhydrous Aegean islands.	Ministry of Shipping and the Aegean (MSA)	Securing water supply exploiting conventional and non conventional water resources (desalination) for anhydrous Aegean Islands. Completion and operation of sewerage and sewage treatment in the context of an integrated water management plan	A number of Desalination installations is included in NSRF (ΕΣΠΑ)	First phase feasibility studies completed	0.08	0.05	Funding shortage
113	Resources and Environment	Natural Resources: Efficient and secure availability	b) Integrated interventions in traditional settlements, listed buildings and monuments of the Aegean islands	MSA-General Secretariat for the Aegean and Insular policies	Studies and works to maintain and restore natural and built environment in the Aegean Island Complex	Partly ,in NSRF	Feasibility Studies	0.01	0.01	Funding shortage

114	Transport	Business enablers	Vessels retrofit and coastal refueling infrastructures to facilitate the adoption and use of alternative fuels, especially LNG, in passenger shipping	MSA	Conversion of passenger vessels (machinery and fuel storage systems) to LNG fueled ships. Coastal refueling infrastructure according to feasibility studies	NO	Feasibility studies. Studies on the impact of reduced fuel costs (when e.g. using LNG) on the transport cost of passengers and commodities as well as on the investments & economic life in the islands	0.5	0.1	Substantial funding needed, due to high costs associated to vessels conversion
115	Other	SMEs and Midcaps	Promoting and enhancing the economic activities of maritime cluster enterprises	MSA	Assessment of the current situation of the maritime cluster enterprises. Study and set in place of a coherent plan for removing administrative burdens and optimizing incentives for technical and business innovation	Partly, in NSRF	Feasibility studies	0.1	0.03	State aid approval difficulties
116	Knowledge and the digital economy	ICT Infrastructure	e-Governance, ICT infrastructure and services upgrade program, by the Ministry of Shipping and the Aegean.	MSA	Implementing ICT projects and e-Governance program to serve maritime safety, security and surveillance as well as to upgrade services to citizens and maritime sector enterprises	Partly in NSRF	Technical Specifications Studies	0.055	0.02	Funding shortage
117	Social infrastructure	Built environment and urban services	Purchase of Fireplanes	Hellenic Fire Brigade Headquarters	Supply of sufficient number of firefighting aircrafts, with the ability to operate in other EU member-states, where and when it is requested for their assistance. This procurement is a very important project for combating forest fires with direct impact to the intended protection of the natural environment.	No	A decision is required for: a) the determination of the exact number of the firefighting aircraft, b) the financing decision and c) the preparation of technical specifications in order to be launched the specific procurement in 2016	0.35	0.035	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
118	Social infrastructure	Built environment and urban services	Rapid response to urban and rural disasters / HSS preservation	Hellenic Police	Procurement of new generation vehicles (eco-friendly, low emissions, hybrid vehicles) in order to support the transition towards a low carbon dioxide emissions economy in all sectors. Indicative we refer to the procurement of 150 special type vehicles for transportation and 13 mobile OPS centres in order to prevent disasters (natural or human caused) and to ensure Health, Safety and Security (HSS) Regulations implemented in both national and cross-bordering challenges that might arise.	No	Planning	0.0515	0.0515	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged

119	Knowledge and the digital economy	ICT Infrastructure	e-FRS	First Reception Service/Ministry of Public Order & Citizen Protection/ KEMEA/ Private promoter	Introduction of digital systems that include an e-ID control system of migrants without travel or other ID documents, monitoring the referrals from first to open reception centers, their stay at the open reception centers and the development of a tool for the implementation of co-funded projects concerning all the projects that FRS handles regarding the management of the migration flows entering irregularly EU territory.	No	Currently all data are printed in paper. Different documents have different data on them.	0.015	0.015	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
120	Transport	Urban transport	Procurement of Police Vehicles	Hellenic Police	Procurement of new generation vehicles (eco-friendly, low emissions, hybrid vehicles) in order to support the transition towards a low carbon dioxide emissions economy in all sectors. Indicative we refer to the procurement of 2702 police vehicles, 2115 police motorcycles, 88 cranes, 252 van type vehicles, 459 pick-up vans, 116 SUV, 139 buses, 25 armoured vehicles	No	Planning	0.26	0.2566641	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
121	Resources and Environment	Natural resources: efficient and secure availability	Supply and Maintenance drone (UAV) for surveillance of the road network.	Hellenic Police	Supply of seven UAV clusters (each cluster consists of two aircrafts electrically powered). This project will contribute in a more effective management of crisis and disasters.	No	Planning	0.0132	0.0132	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
122	Knowledge and the digital economy	ICT Infrastructure	Creation of a joint operational picture (COP) in three-dimensional digital mapping environment.	Hellenic Police	Create three-dimensional Digital Image Environmental Satellite (3D) which can display automatically composed maps or individually prominent linear map data in three-dimensional geographic space. The end user will be able to have through network connection except digital vector maps, the actual image of an area (satellite image superimposed on the elevation model of Greece) and search at any time depending on the information that interests them, either Vector, or cell form data (Raster). In this interoperability context there will be an interaction with aircraft monitoring systems, maritime traffic -AIS, cameras border crime mapping system, etc.	No	Planning	0.00985	0.00985	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
123	Knowledge and the digital economy	ICT Infrastructure	Extension of Automated Plate Number Recognition (APNR) System	Hellenic Police	Creation of a peripheral joint operations centre (JOC) in each prefecture, Delegate two Mobile sensors (APNR MS) in each JOC and placement of fixed sensors in each one.	No	Planning	0.012302	0.012302	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
124	Knowledge and the digital economy	ICT Infrastructure	Modernization of the main equipment Operational Data Centre of the Police	Hellenic Police	1. Procurement of Equipment and Software Central Systems - Virtualization Servers - Database Servers - Servers interface - Warehouses (SAN) performance. - System backup of all systems and databases. - The necessary software for the proper operation of all of the above. - Software for managing devices and users of the information system of the Police (domain). - FC switches to interconnect servers for storage 2. Infrastructure of data center: - Generating sets (H / Z) - Uninterruptible Power System (UPS) - Air Conditioning - walkways networks of weak and strong current - Fire prevention - Physical Security	No	Planning	0.0032	0.0032	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged

125	Knowledge and the digital economy	ICT Infrastructure	Secure wireless access to computer applications	Hellenic Police	Secure wireless access to computer applications	No	Planning	0.00035	0.00035	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
126	Knowledge and the digital economy	ICT Infrastructure	Hellenic Police Network Upgrade with additional security measures for the handling of classified information at the level of "CONFIDENTIAL"	Hellenic Police	Hellenic Police Network Upgrade with additional security measures for the handling of classified information at the level of "CONFIDENTIAL"	No	Planning	0.0009	0.0009	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
127	Knowledge and the digital economy	ICT Infrastructure	Green / eGovernment teleconferences	Hellenic Police	Upgrade aiming the homogeneity of the videoconferencing network and other information technologies of the Hellenic Police Services and other state authorities / EU agencies and institutions or other International entities. Procurement of videoconferencing devices.	No	Planning	0.0005	0.0005	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
128	Knowledge and the digital economy	ICT Infrastructure	Radio Systems (TETRA type)	Hellenic Police	Operating (purchase, installation, operation support and maintenance) modern wireless radio systems, TETRA standardisation, for the Hellenic police and other Government Agencies.	No	Planning	0.009	0.009	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
129	Knowledge and the digital economy	Public R&D	Website Development and Learning Management Platform of the Hellenic Police Academy	Hellenic Police	Installation of an electronic computer central unit (server) that will support the Police Academy Schools (Police Academy, National Safety School, School of Further Education and Training).	No	Planning	0.0005	0.0005	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
130	Knowledge and the digital economy	Public R&D	Procurement of Police Simulators	Hellenic Police	Procurement of Police Simulators (shooting and scenario simulators- 55 items). The level of training of the Hellenic Police staff will be enhanced, upgrading thus, the level of effectiveness of services provided to the public (foreign and domestic).	No	Planning	0.0066	0.0066	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged
131	Social infrastructure	Education and training	Foreign Languages Centres	Hellenic Police	Foreign Language Centres in the context of lifelong learning for the Hellenic police in order to increase the quality of services provided to the public and enhance the feeling of safety and security (especially, for example, in the sector of tourism and cross-agency exchange of knowledge)	No	Planning	0.00265	0.00265	Lack of long term finance from the State budget as well as from other EU financing programmes. A combination of EC grants, EIB and MS finance as well as private capital is envisaged

137	Social Infrastructure	Built environment and Urban Services	Construction of detention facilities	Ministry of Justice	Construction of Detention Facilities with a capacity of about 600 seats each for addressing the problem of overpopulation in Greek prisons. The detention facilities will be constructed in the following cities : a)Judicial Prison of Athens (There is no land. New zoning plan must be approved , procedures of finding land must be launched.) (app. 100.mil. €) b) Korinthia (D.F AGIOS IOANNIS) (Ground (land) has been found. Approved geological suitability. Geotechnical study has been carried out. Approval of environmental terms on the final stage. Architectural preliminary study has been carried out.)(app.50.mil €) Kalamata c) Volos (D.F KASSAVETIA)(There is private land. Approved geological suitability. Geotechnical study has been carried out. Approval of environmental terms on the final stage. Architectural preliminary study has been carried out.) (app.50.mil €) d) Chios (JUDICIAL PRISON OF CHIOS)(In principle suitability of one of the proposed fields. Supportive studies for the completion of suitability will have to be carried out.)(app.30.000€) e) D.F OF PELOPONESE (MESSINIA - ARKADIA)(In principle suitability of one of the proposed fields. Supportive studies for the completion of suitability will have to be carried out.)(app.30.000€) f) Agrinio D.F PF WESTERN GREECE (In principle suitability of one of the proposed fields. Supportive studies for the completion of suitability will have to be carried out.)(app.30.000€)	no	As already described ("cell" Description)	0.2		Lack of long-term financing
138	Social Infrastructure	Built environment and Urban Services	Development of establishments in rural detention facilities	Ministry of Justice	Reconstruction of wings in order to address overpopulation in Greek prisons. Wings will be reconstructed in the following Rural Detention Facilities: a) of Cassandra b) of Tiryntha g) of Agia	no	Planning on initial levels	0.00075		Lack of long-term financing
139	Social Infrastructure	Built environment and Urban Services	Construction of Detention facilities for mild crime offenders	Ministry of Justice	Conversion of Former Hospital facilities and Military Camps in Detention facilities for mild crime offenders	no	Planning on initial levels	0.015		Lack of long-term financing
140	Knowledge and the digital economy	ICT Infrastructure	Electronic surveillance of indictees, convicts and prisoners on leave	Ministry of Justice	Supply, installation and configuration of equipment for the implementation of dismissal of convicts under the condition of house arrest with electronic surveillance	No national program proposal. Its inclusion to the process PPP (public-private partnerships) is proposed	Under planning	0.01	0.01	Increased security requirements. Wide range of supervision, lack of mentality. Transfer of know-how from the pilot implementation of the measure, Increased technical specifications requirements Training of members of the judiciary

141	Social Infrastructure	Built environment and Urban Services	Construction of courthouses	Ministry of Justice	Construction of Courthouses. They will be constructed in the following cities :a) RELOCATION OF JUDICIAL SERVICES OF PIRAEUS + RENOVATION OF SKOYZE BUILDINGS (It is regarding relocation of 1st instance Court and Court of Appeal in the unfinished building "Ralleios" and housing of other services in Skouze street building. It includes completion of the building of "Ralleios" and complete renovation of the building of Skouze Philonos streets. Architectural preliminary study is being carried out.) (app. 30 mil.€) b) NEW BUILDING IN THE COURT OF FIST INSTANCE OF ATHENS (It is regarding a new three-storey building with. There have been urban settings. Studies are being carried out.) (app.9mil €) c) NEW COURT HOUSE OF PATRAS (PPP) (There privately owned land within the urban fabric featured on Court House building. All studies regarding environmental terms, urban settings and geotechnicals have been approved.) (app.35. mil€) d) NEW COURT HOUSE OF HERAKION (PPP) (There privately owned land within the urban fabric featured on Court House building. All studies regarding environmental terms, urban settings and geotechnicals have been approved.) (app.25 mil€) e) NEW COURT HOUSE OF LAMIA (It involves the construction of a new Court building on land owned by TA.CH.DI.K. Part of the excavation has been executed, including clearance of munitions and excavation of archaeological finds. It is required to complete the excavation in cooperation with the Ministries of Defence and Culture and then the project can be auctioned. The studies are being finalized.) (app.12mil€) f) NEW COURT HOUSE OF EDESSA (There privately owned land within the urban fabric featured on Court House building. Studies are being carried out) (app.9 mil€) g) NEW COURT HOUSE OF CHANIA (It will be constructed in the area of the old prison, aiming towards relieving the judicial services.) (app. 6mil€) h) ATHENS COUNTY COURT SQUARE (Studies have been completed. The project can be auctioned.) (app. 1.8 mil€) i) ARTA COUNTY COURT (It is regarding reconstruction of the old Court House of Arta aiming towards hosting the County Court and the misdemeanour court. Studies have been completed. The project can be auctioned.) (app. 1 mil €)	no	As already described ("cell" Description)	0.13		Lack of long-term financing
142	Knowledge and the digital economy	ICT Infrastructure	Consolidated databases of greek case-law and indexation / anonymisation of court decisions work	Ministry of Justice	Creation of case-law databases, which will include decisions of greek courts Digitalisation of selected material, implementation of portal and infrastructure for providing electronic services and procuring anonymisation and indexation of the material during the transition to the new systems.	Its inclusion to the national program "Public Sector Reform" has been proposed (new National Strategic Reference Framework- NSRF 2014-2020)	Under planning	0.005	0.005	Difficulties in estimating the volume of the existing archive. Dispersed files. Lack of interoperability of systems.
143	Knowledge and the digital economy	ICT Infrastructure	Digitalization of documented files and data of courts	Ministry of Justice	Digitalization of data and archives of courts throughout the country aiming towards their transformation to executed information systems	Its inclusion to the national program "Public Sector Reform" has been proposed (new National Strategic Reference Framework- NSRF 2014-2020)	Under planning	0.015	0.015	Difficulties in estimating the volume of the existing archive. Difficulties in data-migration due to the age of the files.
144	Knowledge and the digital economy	ICT Infrastructure	Digitalization of documented files of land registries and providing electronic services	Ministry of Justice	Digitalization of files and data of land registries	Its inclusion to the national program "Competitiveness" has been proposed (new National Strategic Reference Framework- NSRF 2014-2020)	Under Planning	0.020	0.020	Dispersed files. Difficulties in data-migration due to the age of the files.

145	Social infrastructure	Built environment and urban services	Renovation of Courthouses	Ministry of Justice	Renovation of Courthouses.. They will be constructed in the following cities: a) COURT HOUSE OF KARDITSA (There is a complete study for full renovation and construction of a new building)(app.3 mil€) b) COURT HOUSE OF KOZANI (Preliminary study has been carried out.)(app. 2 mil. €) c) COURT HOUSE OF DRAMA (There is a study for the full renovation of the building)(app. 0.8 mil. €) d) COURT HOUSE OF EGION (Study is being carried out.)(app.0.5 mil. €) e) COURT HOUSE OF AGRINIO (No study from "THEMIS CONSTRUCTIONS") (app.0.5 mil. €) f) COURT HOUSE OF CORINTHOS (Study is required.) (app.0.5 mil. €) g) REPAIRS TO ABK 16 PREVEZA FOR THE HOUSING OF PREVEZA COUNTY COURT (Part of property granted by the Ministry of Finance for housing the Preveza County Court.)(app. 0.1 mil. €)	no	As already described ("cell" Description)	0.08		Lack of long-term financing
146	Social infrastructure	Built environment and urban services	Construction of courthouses	Ministry of Justice	Construction of Courthouses. They will be constructed in the following cities : a) COURT HOUSE OF RHODES (It involves the relocation of Judicial Services in the building of the old Hospital of Rhodes. It required assignment of the property by the Ministry of Health in the Ministry of Justice.(app.0.8 mil. €) b) LAGADAS COUNTY COURT (Public property has been proposed to rehouse the County Court. Suitability of land has been examined.)(app. 70.000€) c) ADMINISTRATIVE COURT OF FIRST INSTANCE OF NAFPLION (Public property has been proposed to rehouse the Administrative Court of Nafplio. Suitability under examination)(app. 70.000€)	no	As already described ("cell" Description)	0.01		Previous Administrative Matters must be solved
147	Knowledge and the digital economy	ICT Infrastructure	Application of video-conference in courts and penitentiary centres	Ministry of Justice	Supply, installation and configuration of equipment for the use of teleconference in courts and penitentiary centre	Its inclusion to the national program "Public Sector Reform" has been proposed (new National Strategic Reference Framework- NSRF 2014-2020)	Under planning	0.005	0.005	Application of "special" technical standards, insufficient network bandwidth for streaming services, poor infrastructure in courtrooms and prisons penitentiary centres Legislative/Administrative Actions and Initiative. Expansion of the "Assemblation" network, selection of the most compatible sites
148	Social Infrastructure	Built environment and Urban Services	Reintegration of ex-prisoners	Ministry of Justice	Rental of facilities for meals and accomodation. Development of programs for educations, training and employment of ex - prisoners	no	Planning on initial levels	0.001		Lack of long-term financing
149	Social Infrastructure	Built environment and Urban Services	Implementation of legislation regarding day-release of prisoners	Ministry of Justice	Construction of new detention facilities that will accommodate prisoners who will return to prison after delivering work during working hours of the day. The new sites will be built near the prison in Athens, Patras, Thessaloniki and Chania	no	Planning on initial levels	0.03		Lack of long-term financing

150	Social Infrastructure	Built environment and Urban Services	<i>Construction of morgues</i>	Ministry of Justice	Construction of ATHENS MORGUE	no	Studies have been prepared for the project. The field choice was annuled. We need to find land and carry out studies again	0.08		Lack of long-term financing
151	Knowledge and the digital economy	ICT Infrastructure	<i>Development of G2C, G2B, G2G Digital Services</i>	Ministry of Foreign Affairs		EU structural funds	Approved under current programming period-implementation expected to be extended	0.008		
152	Knowledge and the digital economy	ICT Infrastructure	<i>Standardization and development of Economic Diplomacy tools and Services (G2B)</i>	Ministry of Foreign Affairs		EU structural funds	Approved under current programming period-implementation expected to be extended	0.0008		
153	Knowledge and the digital economy	Public R&D	<i>Human Resource Development</i>	Ministry of Foreign Affairs		EU structural funds	Approved under current programming period-implementation expected to be extended	0.0008		
154	Knowledge and the digital economy	ICT Infrastructure	<i>Modernization of Consular IT Infrastructure (Visa Information System)</i>	Ministry of Foreign Affairs		European Internal Security Fund	Project proposal submitted	0.53		
155	Knowledge and the digital economy	ICT Infrastructure	<i>Support to Consular Services (training and field work on visa policy issues)</i>	Ministry of Foreign Affairs		European Internal Security Fund	Project proposal submitted	0.0028		
156	Other		<i>Integrated actions combatting Human trafficking</i>	Ministry of Foreign Affairs		European Internal Security Fund	Project proposal submitted	0.001		

157	Knowledge and the digital economy	ICT Infrastructure	EXELIXIS	Ministry of Finance - General Secretariat of Information Systems (GSIS)	The project includes the supply & licensing of updated Oracle s/w in database, application and web level, as well as the assurance of the productive operation of the uniform IT infrastructure of GSIS (Data Centre) which hosts Ministry of Finance' operating systems, applications and e-services. The project's main objective is the assurance that any application and e-service in the economic field will be available at 99.9% with the most updated s/w, enabling high limit of concurrent users to access e-services even at peak (due to submission deadlines).	No (was initially included in NSRF 2007-2013 but excluded in August 2014 due to delays in procedures prior to publishing the rfp)	RFP ready	0.0066	0.066	The project demands specific products (Oracle s/w) due to the implementation choices of all operating systems installed at GSIS Data Centre.
158	Knowledge and the digital economy	ICT Infrastructure	Governmental Disaster Recovery Site	Ministry of Finance - General Secretariat of Information Systems (GSIS) in cooperation with Ministry of Public Order & Citizen Protection - Hellenic Police	GSIS, in cooperation with Hellenic Police, have found a Public-owned building of special standards for Data Centres (in Markopoulos, Attica) to host their Disaster Recovery Sites forming the Disaster Recovery Site of the General Government. The building requires construction/formation indoor work to be able to host Governmental Disaster Recovery Site, since it was initially used to host sports events. Moreover, the project includes the supply and the installation of the required h/w infrastructure to form a Governmental Disaster Recovery Site. The purpose of the project is to result to a Disaster Recovery Site, able to host any Public Sector's operating system and assure its high availability (99.9%) even when a disaster is performed in their primary site.	Proposed to be included in structural funds during the period 2014-2020	RFP preparation	0.013	0.0065	It seems to be extremely difficult to be funded through NSRF 2014-2020. It is an extremely crucial project since it will be the main Governmental Disaster Recovery Site covering the respective deficiency.
159	Knowledge and the digital economy	Public R&D	Modernization of customs department	General Secretariat for Public Revenue	Use R&D to create or/and implement more efficient customs control	NO	Specifying needs	0.008	0.002	Large number of entry points, Implementation of new procedures through R&D
160	Knowledge and the digital economy	Public R&D	Re-engineering of the TAX authority processes	General Secretariat for Public Revenue	Adoption of Business Process Management Technology in order to succeed in the reengineering of the TAX authority processes	NO	Specifying needs	0.007	0.007	Best practices in EU countries.
161	Knowledge and the digital economy	Public R&D ICT Infrastructure	Financial Project Management processes	General Secretariat for Public Revenue	Implementation of Financial Project Management processes. R&D in the area of Project Management specifically for IT and Financial Projects in the Public Sector	NO	Specifying needs	0.006	0.004	Out dated procedures and processes, implementation / adaptation to the countries environment
162	Knowledge and the digital economy	Public R&D	Antifraud Framework	General Secretariat for Public Revenue	A system that uses various techniques for fraud detection, to uncover hidden relations between economic entities and to identify suspicious activity (e.g. regarding VAT collection in EU transactions)	NO	Initiating phase completed / Planning started	0.003	0.003	Existing systems in other countries (preferably within EU)
163	Knowledge and the digital economy	Public R&D	Mobile Cargo X-RAY units for customs auditing	General Secretariat for Public Revenue	10 Mobile Cargo X-RAY units for customs auditing of loaded trucks and containers at country borders	YES	Specification are available	0.09	0.033	
164	Other	Tourism Private Investments	Investment in new and current accommodation	Ministry of Development and Competitiveness	New accommodation and enrichment of current accommodation offering, so that bed mix approaches 55% for 5* and 4* and 45% for other categories instead of today's 40-60 % mix. Total investment cost = 14 bn €, public funds needed = 2,8 bn €	no	Implementation schedule 2014-2020	2.8	0.7	EU State aid rules restrict considerably state financing possibilities. Amendment of or exemption to regulations needed.
165	Other	Tourism Infrastructure necessary to Tourist sector	Airtransport	Ministry of Infrastructures, Transport and Networks	Targeted necessary upgrades of international airports in privatization process. (Heraklion, Corfu, Thessaloniki, Santorini). Total cost= 100 m €. Public funds = 100 m €	No	Preliminary studies for Heraklion, Corfu	0.1	0.1	Current EU regulations forbid or restrict considerably financing by EU funds airtransport projects. Lack of funding by state resources.

166	Other	Tourism Infrastructure necessary to Tourist sector	Various Infrastructure projects	Ministry of Infrastructures, Transport and Networks & Ministry of Environment, Energy and Climate Change & regional authorities	A list of necessary new supporting infrastructure to accommodate tourist demand and upgrade requirements in key destinations (roads, energy, water, waste, sewage etc) is being prepared with the technical assistance of TFGR for all regions of Greece. Requirements may exceed PA resources.	Partly	Detailed assessment finalised. Implementation schedule 2014-2020.	0.5	0.1	Lack of funding
167	Other	Tourism Infrastructure necessary to Tourist sector	Transport nodes and Gateways	Ministry of Infrastructures, Transport and Networks & Regional authorities	Major inland transportation nodes and gateways (e.g. upgrades to Main Train and Bus terminals, renovation works at main entry points along the continental border). PPP projects.	No	Project definition and initial assessment. Implementation schedule 2015-2021	0.5	0.05	Lack of funding
168	Other	Tourism Athens City Break	Upgrade of the Athens coastline	Ministry of Infrastructures, Transport and Networks, Ministry of Environment & Regional Authority	The Faliron Project is the last stage of a major land reclamation intervention that forms part of projects aiming to create a seafront destination pole for Athens by upgrading an area of 40 hectares while incorporating flood protection works for the adjacent dense urban communities. The project provides for leisure and recreation activities and a landsea interface for sea transport and linkages to coastal communities and the islands. It complements other initiatives and projects in the pipeline as the Niarchos Cultural Centre, the Athens Convention Hall, the Alimos Marina and the Hellinikon site, integrating the development of additional high-end accommodation.	Yes (uncertain)	Final studies OK. Tender to be tendered. documents being drafted. Project ready	0.25	0.15	Funding not yet secured.
169	Other	Tourism Athens and Thessaloniki City Break	City destinations upgrade	Regional municipal authorities	Development of thematic walks, refurbishment of select landmark buildings. Upgrade of historic centre. Urban renewal PPP projects.	No	Projects identified, operational plans in progress. Implementation schedule 2014-2021. Final studies for certain projects	0.4	0.1	Lack of funding
170	Other	Conference Tourism	Conference centre	Ministry of Development and Competitiveness	Leveraging of the planned conversion of the Tae Kwon Do stadium to an international Conference Centre as a flagship project, including commercial space development. PPP project of total cost = 70 m Euros, gov. contribution = 40 m Euros	yes	Project ready to be tendered in one step PPP procedure substituting an earlier tender that was annulled.	0.04	0.04	State participation not yet secured. Comp and Internal Market approvals sought.
171	Other	Tourism Marinas -Yachting	Tourist ports privatisation and upgrades	Ministry of Development and Competitiveness	Development of new marinas and berths to increase capacity Upgrade the infrastructure of existing marinas through a PPP privatization process. Total investment cost estimate = 340 m Euros, Public participation =200m	No	Programme in the process of being elaborated in cooperation with the Special Secretariat for PPPs	0.2	0.05	programme in the process of being elaborated. Public funding unavailable.

172	Other	Tourism Cruises	<i>Cruise infrastructure</i>	Ministry of Infrastructures, Transport and Networks	1. Development of infrastructure and additional large cruise ship berths in major destinations. 2. a dedicated cruise terminal in the Attica area. Piraeus Port Authority final study proposal of 100 million euros	No	Needs assessment with Ministry of Maritime Affairs. Priorities: Santorini, Katakolon, Rhodes, Myconos. Private interest in financing a dedicated facility in the Faliron area.	0.3	0.02	Funds not secured
173	Other	Tourism Projects mature for implementation prepared for previous programming period 2007-13	<i>Promoting Tourist assets</i>	Ministry of Development and Competitiveness	investments in promoting and enhancing major tourist assets in areas of environmental importance: natural reserves, cultural sites, wetlands	Uncertain	Mature projects for immediate implementation	0.1	0.1	Funds not secured
174	Other	Tourism Regeneration of Athens downtown centre	<i>Creation of touristic complex in Keramikos-Metaxourgio. KM Oliaros private investor</i>	Region of Attica- Ministry of Environment Energy and Climate Change	Urban touristic village in the Athens historic Centre that will offer 700 beds, in the form of Hotel rooms, studios, furnished apartments, with an urban context that will house retail, art, theatre and offices. Public contribution in urban infrastructure and financial incentives. Private investment ca 70 m €, Additional funding required.	Uncertain	Mature project	0.12		Urban and regional authorities must approve the project and give all necessary licenses, permits etc. Additional funding required.

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HUNGARY



INDICATIVE PROJECT LIST OF HUNGARY TO THE SPECIAL TASK FORCE

Note that the table contains projects that were proposed as illustrative projects for the Ecofin Task Force on Developing Investment Project Pipeline in the EU. The implementation of the projects is subject to a case by case decision of the Government of Hungary, taking into account availability of funding (including European Structural and Investment Funds and Connecting Europe Facility). The table is not intended to be an exhaustive list of projects that could benefit from EU support.

No.	Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan	Status	Total investment cost (EUR)	Investment in 2015 – 2017 (EUR)	Barriers/solutions
1.	Knowledge and the digital economy	Public R&D	Jedlik Ányos Plan	Ministerial commissioner	The objective of the project is to support the spread of electric mobility in Hungary. In order to reach this objective there is a need for significant development to reach the European average of electric vehicle stock in Hungary. Defining the regulations and support framework is also required. In order to enable electric car to become a realistic alternative and improve the accessibility of the country by electric vehicle it is inevitable to develop the domestic filling station system. (currently there are 30-40 filling stations across the country, but in order to reach the objective there is a need to build up thousands of them.) Moreover in order to maximize the industrial development potential of electric mobility it is important to prepare the Hungarian vehicle industry and in broader terms the related economic actors to be able to get involved in the implementation of the Plan at supplier and manufacturer level as well.	No	Under ministerial-level control, the Jedlik Ányos Cluster was founded by companies engaged in various activities in the field of electric mobility, whose members are involved in the development of the plan. The next step is when the government approves the plan.	0.11	0.05	Beyond the essential social awareness-raising, the financial incentives of using vehicles alternatively fuelled the development of filling station network and the review of the operational and control system is required
2.	Knowledge and the digital economy	Public R&D	ELI Science Park	Ministry of Human Resources	The ELI – Extreme Light Infrastructure – will be one of the large research facilities of the European Union. Through this, the first structure in the world for studying the interaction between light and matter with ultrahigh intensity laser will be created with Hungarian cooperation by Szeged. The most significant centre for attosecond pulse light research will operate in Szeged, a research university center in Hungary. In order to make full use of the ELI investment in Szeged and to ensure that the technology and knowledge transfers are conducted in an effective manner supporting facilities have to be created in the form of a science-park and incubator house. This way ELI will not only be basic research infrastructure but a catalyst of economic growth.	Yes	Investment decision taken has been prepared. The project is planned within the EDIOP.	0.6	0.6	Lack of long term finance.A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
3.	Knowledge and the digital economy	Public R&D	European-wide E-mobility Strategy to be conducted and implemented	Ministry of Human Resources (public & higher education) Ministry for National Economy (vocational)	The promotion of e-mobility is our common interest and therefore joint action has to be taken.	No	No investment decision taken has been prepared, concept is to be developed	0.8	0.3	Lack of long term finance.A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
4.	Knowledge and the digital economy	Public R&D	Open Laboratories	Ministerial commissioner	The meaning of an "open lab" is that a laboratory or a research infrastructure or a related research service in a public research organisation or a large enterprise is open to everybody, i.e., from private persons through individual entrepreneurs to SMEs. Access will be thus granted to such equipment that can help everybody develop a new technology, product or service. The "open laboratory" promotes the networking and partnering between higher education institutions, academic research organisations, public non-profit research organisations, other public research organisations, research and technological centres, large enterprises and micro-, small- and medium-sized enterprises. "Open laboratories" enable a local content, which is higher than the current one, and the increase in Hungarian value-added deliveries to multinational companies. Furthermore, "open laboratories" could be an implementation site for "open innovation" efforts (they can also play the role of a so-called "living lab"). This includes in particular the cases where a company opens up a problem to be solved or a R&D. The research and development task can be carried out by the innovative SMEs in the "open lab". Another aim of the "open laboratories" is to support the studies and researches and contribute to the education and training of the "personnel" working in the laboratory, i.e., the talented students, doctoral students carrying out their research there. New undertakings, spin-offs can be established a result of the R&D outcomes achieved in the "open laboratories".	Yes	An "open lab" and – for the use of it – a so-called "voucher" system will be introduced in the framework of the "pilot" project to be established along the national priorities developed in the smart specialisation strategy (S3) process. "Open lab" may be a laboratory with technological equipment, engaged in a research direction stipulated in the national priorities. A laboratory would be established by opening an already existing research infrastructure during the "pilot". In this context, the "open lab" should be designed as a pilot program in the Operational Programmes (e.g. EDIOP)	(an approximated amount will be available)	(an approximated amount will be available)	Problems: The SME's are either inadequately or not equipped with modern equipment. The SME's have not sufficient money to finance such kind of services. Solutions: The introduction of "open laboratories" will significantly increase the number and success of undertakings and organisation engaged (also) in R&D and innovation. They support the innovation activities of undertakings (mainly SMEs) that are either inadequately or not equipped with modern equipment. The small- and medium-sized enterprises could win vouchers by tendering procedure, which would serve as a means of payment in order to obtain various RDI services (order of R&D, measurements, support for the development and marketisation of a new prototype, ensuring technical/engineering background) from the "open laboratories". The sources required for extending and maintaining the "open laboratories" could be obtained from the operating income of the voucher system.
5.	Knowledge and the digital economy	Public R&D	Higher Education and Industrial cooperation Centre (FIEK)	Ministerial commissioner	In the framework of FIEK, a broad cooperation between the industry and higher education sectors will be established along the national priorities formulated in the smart specialisation strategy. The aim of the FIEK is to develop sectorial training and R&D&I activities in a co-ordinated way, which is aligned with economic interests. Several higher education institutions, research institutes, sectorial large enterprises and small- and medium-sized enterprises participate in the cooperation. The participants in FIEK aim to jointly develop the curricula and education methods of subjects that meet the technological needs of the sector, to harmonize their accreditation activities, to develop the common structure and content of the practice-oriented (so-called dual) education.	Yes	FIEK program will be introduced in the framework of the "pilot" project to be established along the national priorities developed in the smart specialisation strategy (S3) process.	0.17	n.a	Problems: • The weaknesses of knowledge bases and knowledge production: knowledge-intensive economic processes with higher added value will be slow to emerge if the supply of researchers is weak, scientific and technological education faces difficulties, and internationally competitive research centres are missing. Knowledge production will be alienated from society if it fails to reflect society's needs. • The shortcomings in knowledge flow, knowledge and technology transfer: if the institutions and organisations of knowledge transfer are weak or are unable to transfer the knowledge created by research and development in an economically usable way, this can create a bottleneck which complicates the production of higher added value or, in a broader sense, the economic catching-up of the country Solutions: • FIEK is to be expected that the the cooperation will promote the strengthening of the Hungarian industry in the field of European R&D&I. The participants in FIEK build a strong relationship with state institutions, professional organisations, in order to facilitate the development of the sector and to ensure to meet economic interests in the best way possible. • It is also the aim that participants in FIEK should jointly take part in European Union tenders, reinforcing each other to have a higher chance of winning.
6.	Knowledge and the digital economy	Public R&D	paperless higher education and e-learning promotion	Ministry of Human Resources	The full digitalisation of the higher education system is aiming to reduce costs and improve effectiveness.	No	Investment decision taken has been prepared	0.4	0.4	Lack of long term finance.A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
7.	Knowledge and the digital economy	Public & Private R&D	New KIC to be launched in 2017 on Automotive Industry	European Commission-EIT	The Automotive Industry has a significant part in the European Economy, where most of the Member States are affected. Globally (Japan, South Korea, US, China) there is an increasing competition in this industrial sector. A Top-down RDI focuses program, such as a KIC, could contribute greatly to the competitiveness of this industry.	NO	No investment decision taken has been prepared, concept is to be developed	2.0	1	Lack of long term finance.A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
8.	Knowledge and the digital economy	ICT Infrastructure	Super fast internet	Ministry of National Development	To cover the whole country with a big bandwidth (minimum 30 Mbps) already in 2018. This will be achieved by the construction of New Generation Networks (NGA, NGN).	No	Planning and preparation in progress The tender concerning the project will open in Q2 2015	0.7	0.6	Lack of private investment on certain areas The decrease the number of NGA "white spots" in order to enable Hungary's new generation broadband networks and their capacities throughout the country's settlements to satisfy increased intensity of use and bandwidth Lack of adequate information about New Generation infrastructures A detailed broadband infrastructure registration system and a map-based database is needed to establish Regulatory barriers it is necessary to remove the obstacles from the regulatory environment of network building, to elaborate a competition and investment incentive regulatory model.
9.	Energy Union	Connections and production	Romanian – Hungarian reverse flow at Csanádpalota or	Natural Gas Transmission Closed Company (FGSZ Ltd.)	New onshore pipeline of 6km and with a daily capacity of 4.55 MCM/day. The power of the compressor station located in either Algyő or Csanádpalota will be of 17.1MW	no	pre-feasibility	0.02	n.a	No obstacles known presently

No.	Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
10.	Energy Union	Connections and production	Croatian-Hungarian reverse flow	HR TSO: Plinacro Ltd.	Project is part of the cross-border North - South Gas Corridor, submitted by the Members of V4. Technical delivery of the pipeline carried out in 2011 on the Városföld – Slobodnica line with a 2,6 BCM/year capacity. Bidirectional flow is assured only from Hungary to Croatia. A compression station is required on both sides of the interconnection point at Dravaszerdahely – Donji Miholjac in order to realize the bidirectional firm capacity from Croatia to Hungary.	No	feasibility study in progress	0.02		According to the Croatian side, financial barriers put obstacle in front of the realization of a compressor station at Donji Miholjac which would assure the bidirectional firm capacity, and lack of sufficient amount of gas sources makes the project unfeasible.
11.	Energy Union	Connections and production	Allegro fourth generation nuclear reactor	EURATOM	ALLEGRO is the Gas cooled Fast Reactor (GFR) demonstrator as identified in the roadmap for the development of the Gas Fast Reactor technology. ALLEGRO is the Gas cooled Fast Reactor (GFR) demonstrator as identified in the roadmap for the development of the Gas Fast Reactor technology. In 2010, three research institutes from the Czech Republic, Hungary and Slovakia, stepped into the ALLEGRO development, with the aim of creating an ALLEGRO Consortium and hosting the demonstrator in one of these countries. The CEA contributes to the preliminary phase of the project. Consecutively the formation of the international Consortium is underway. The Consortium members agree to use their own financial resources in combination with the expected governmental support in their countries and international support from the EU Framework. The Consortium assumes the establishment of a GFR Research Centre of Excellence.		A Memorandum of Understanding was signed on 20 May, 2010 between ÚJV Rež, a.s. (Czech Republic), MTA-EK Budapest (Hungary) and VUJE, a.s. (Slovakia). The National Centre of Nuclear Research (NCBJ) Warsaw (Poland) signed the Memorandum of Understanding in 2012 as associated member.	n.a	n.a	
12.	Energy Union	Connections and production	Hungary – Slovakia interconnection between Sajóvénka (HU) and Rimavská Sobota (SK)	Hungarian electricity transmission system operator MAVIR ZRT. jointly with the Slovak TSO, SEPS a.s.	2x400 kV tie line between Sajóvénka (HU) and Rimavská Sobota (SK) to increase the cross-border capacity on the HU – SK profile and to support market integration.	yes	Feasibility study in progress	0.02		No obstacles known presently. Following a feasibility study and based on the study a Governmental approval will be needed to implement the project.
13.	Energy Union	Connections and production	400/120 kV transformer in Sajóvénka	Hungarian electricity transmission	Second 400/120 kV transformer and 2x70 Mvar shunt reactors in station Sajóvénka to accommodate new system needs arising from the establishment of the Sajóvénka - Rimavská Sobota interconnector	yes	pre-feasibility/feasibility	0.01		No obstacles known presently. Following a feasibility study and based on the study a Governmental approval will be needed to implement the project.
14.	Energy Union	Connections and production	Romanian-Hungarian-Austrian Gas Corridor	Natural Gas Transmission Closed Company (FGSZ Ltd.)	The corridor includes the following projects: Városföld-Ercsi- Győr 210 km long power transmission + extension of Városföld compressor station's performance by 5.7 MW + odour modification along the 6 km long Ercsi- Százhalombatta line and the extension of the compressor station's performance by 52MW. Extension of compressor station at Csanádpalota or Algyó by 5.6Mw and building the transmission between Győr, Mosonmagyaróvár and HU/AT border in the length of 188 km. Capacity: 4.55-31.2 million m3/day.	No	Still under planning.	0.4		Financial barriers may occur. Implementation of the project will depend on the Black Sea gas exploitation as well.
15.	Energy Union	Connections and production	Agri project (Azerbaijan- Georgia - Romania interconnector)	Hungarian Electricity Ltd. (MVM)	The Constanta (RO) - Arad Csanádpalota (EN) line development and expansion with sections both onshore and offshore.	No	Feasibility Study			The content of the feasibility study is not known, currently no obstacles seen.
16.	Energy Union	Connections and production	Interconnection between Gönyű (HU) and Gabčíkovo (SK)	Hungarian electricity transmission system operator MAVIR ZRT. jointly with the Slovak TSO, SEPS a.s.	New interconnection (new 2x400 kV tie-line) between SK and HU starting from Gabčíkovo substation (SK) to the Gönyű substation on Hungarian side (preliminary decision) to increase the cross-border capacity on the HU – SK profile	yes	Feasibility study in progress	0.03		No obstacles known presently. Following a feasibility study and based on the study a Governmental approval will be needed to implement the project.
17.	Energy Union	Connections and production	400/120 kV transformer in Győr	Hungarian electricity transmission	Third 400/120 kV transformer and 70 Mvar shunt reactor in station Győr to accommodate new system needs arising from the establishment of the Gönyű - Gabčíkovo interconnector	yes	pre-feasibility/feasibility	0.01		No obstacles known presently. Following a feasibility study and based on the study a Governmental approval will be needed to implement the project.
18.	Social Infrastructure	Education and training	Semmelweis University's Clinical Background	Ministry of Human Capacities	In order to ensure that the future doctors gain sufficient experience, and have a possibility to gain practical experience, the current Szt. Janos Hospital will be transformed into a training clinic. The goal is to ensure a long term clinical background for the medical education within SOTE (the leading medical university in Hungary, with a huge international student community), thus resulting that the university will become self-sustaining. Moreover the development would ensure health care service for the entire western Budapest agglomeration area.	No	Investment decision taken has been prepared	0.3	0.3	Lack of long term finance. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
19.	Social Infrastructure	Education and training	Development of the tools and the framework of the dual vocational education system	Ministry for National Economy	The project aims to develop and renew the institutions and tools required for the dual training, which is considered a priority for Hungarian economy. The development of the business and school workshops, prerequisite asset investments and ICT system upgrades, as well as the renovation/expansion of buildings are emphasized. The goal of the investments is to improve the efficiency and modernity of dual training in both SME, enterprise and school arenas.	No	The investment decisions can be made according to the targets approved by the EDIOP.	0.24	0.24	Due to constraints in order to meet the fiscal deficit target, the funds devoted to trainings have been reduced. On the other hand, according to the Parliamentary decision (I/2011.3), the promotion of employment, SME support and the development of dual vocational training is of high importance.
20.	Social Infrastructure	Health	Energy and public work reconstruction with innovative technologies of the Hungarian hospitals	National Innovation Office and Ministry of Human Resources	As part of the energy and climate targets of the Europe 2020 strategy, in 2010 Hungary agreed to raise the proportion of renewable energy sources to 14.65 per cent, to achieve a 18 per cent overall energy saving and increase its greenhouse gas emissions in sectors outside the EU Emission Trading Scheme by no more than 10 per cent (compared with the 2005 level) by 2020. Also the Commission Directive 2012/27/EU requires the energy efficiency reconstruction of 3% of the public buildings increase its greenhouse gas emissions in sectors outside the EU Emission Trading Scheme by no more than 10 per cent (compared with the 2005 level) by 2020. Also the Commission Directive 2012/27/EU requires the energy efficiency reconstruction of 3% of the public buildings In accordance with this obligation the survey of the hospitals has been completed and the planning of the reconstruction is in process.	Yes	The overall healthcare sector asset valuation with a special focus on the energy reconstruction of the hospitals is completed the planning is in process	0.3	0.1	Lack of long term finance + coordination and legal problems, leading to possible delays. A combination EU of MFB and, EIB financing as well as private capital is envisaged.
21.	Social Infrastructure	Education and training	Providing the conditionality's of dual education and the synchronisation of dual higher and vocational	Ministry of Human Capacities	A project which would lead to an educational system where all levels of education are back and forth permeable. The aim of the project is to define and develop the curriculum of the vocational (company based) part of the education at every level so not only the theoretical elements are built on and connected properly to each other.	No	Investment decision taken has been prepared	0.15	0.15	Lack of long term finance. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
22.			Providing the conditionality's of dual education and the synchronisation of dual higher and vocational	Ministry for National Economy (vocational training)	A project which would lead to an educational system where all levels of education are back and forth permeable. The aim of the project is to define and develop the curriculum of the vocational (company based) part of the education at every level so not only the theoretical elements are built on and connected properly to each other.	No	Investment decision taken has been prepared	0.15	0.15	Lack of long term finance. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
23.	Resources and Environment	Resilience to Climate Change (Built environment and urban)	Rainwater harvesting in urban areas to reduce flood risk	Ministry of Interior & Ministry of National Development	The urban runoff systems cannot drain flash floods and the usage of collected and stored rainwater should be improved from water management point of view. The support of public should be solved to catch rain at their area before it reaches collection system.	No	-	1.00	0.1	lack of public and private financing, affordability of high construction cost A combination of EC grants, EIB and MS finance. A project management unit can supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
24.	Resources and Environment	Natural Resources: efficient and secure availability	CO2 capture by Dunaföldvár	Pannonia Ethanol Ltd..	Installing an equipment to capturing CO2 emission of the plant for further industrial use. Hence, the CO2 emission would be eliminated and the GHG balance of the plant would be exceptional in the EU.	No	Engineering team is secured. The potential technology providers and contractors have been identified. Own resources are available.	0.02	0.01	Lack of available EU funds to cover the capital expenditure. The project (in full size) will be viable only if the extra CO2 will be used in an innovative and economically efficient way. E.g. through a new investment in Hungary
25.	Resources and Environment	Natural Resources: efficient and secure availability	Cellulosic plant in Dunaföldvár or Mohács	Pannonia Ethanol Ltd..	Construction of a cellulosic ethanol plant in Dunaföldvár or Mohács that would process 300.000 tons of ILUC-free raw material harvested from marginal fields. The project would create 1.000 jobs in the construction sector.	No	Eligible land and the lead engineering team is secured. Existing agreement with the potential technology providers. Pannonia's shareholder is the world's leading constructor of advanced biofuel plants. Main contractors have been identified and approached. Own sources are available.	0.2	0.15	Lack of available EU funds to cover the CAPEX.
26.	Resources and Environment	Natural Resources: efficient and	Plasma waste processing project (with renewable)	n.a	Waste disposal based on household waste and biomass.	No		0.1	0.05	Contribution to increase renewable energy rate and to cut residential energy costs.

No.	Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
27.	Resources and Environment	Natural Resources: efficient and secure availability	Combined cycle gas turbine power plant operating on biodiesel produced from algae (CCGT)	n.a	The construction of CCGT power plant based on biodiesel produced by algae.	No		0.07	0.03	Contribution to increase the use of renewable energy rate and to cut residential energy costs.
28.	Resources and Environment	Natural Resources: efficient and secure availability	Remediation of the "Csepel" old industrial site	Ministry of Agriculture	Remediation and multifunctional use of the area.	NO	Investment decision taken, preparation of the project	0.05	0.01	Lack of long term finance, ownership problems
29.	Resources and Environment	Natural Resources: efficient and secure availability	Solid-waste capacity	Ministry of Agriculture	In order to reach the waste recycling targets (in particular in line with the Circular Economy Communication of the European Commission and to reach the even more ambitious new targets) the significant extension of the utilization capacities is needed.	No	The investment decision is in process.	0.27	0.1	Lack of financing
30.	Resources and Environment	Natural Resources: efficient and secure availability	Remediation of "Budapesti Vegyi Művek" industrial	Ministry of Agriculture	Remediation and multifunctional use of the area	No	Investment decision taken, preparation of the project	0.05	0.01	Lack of long term finance, ownership problems
31.	Resources and Environment	Natural resources: efficient and secure availability	Reduction of leakage in public water supply systems – network reconstruction	Ministry of National Development & Ministry of Interior	Optimising leakage reduction is a crucial part of water demand management. In Hungary the average loss of drinking water supply systems is 19% according to the 1 st River Basin Management Plan. By leakage reduction not only the water but resources energy can be used more efficient. Leakage in public water supply systems results in loss of purified drinking water but also means wasting the energy and material resources used in abstraction and treatment.	No	Investigation on necessary investments in reconstruction of infrastructure is ongoing	0.6	0.2	Lack of public finance, affordability of users, slow project preparation. A combination of EC grants, EIB and MS finance. A project management unit can supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
32.	Resources and Environment	Resilience to Climate Change & Natural resources: efficient and secure availability	Improvement of water retention and water management systems for IWRM[1]	Ministry of Interior	The large infrastructures (reservoirs, channels, dams, etc.) should be improved due to more extreme weather events (torrent rains and longer droughts). At the moment the facilities are not quite appropriate to reduce risk of floods and droughts. Due to location of Hungary transnational/trans-boundary projects are welcomed as well.	Yes	Ongoing construction, planning, permitting, preparation for several projects but still a lot of demand nationwide (projects of KEHOP reserve list)	0.6	0.15	Lack of public finance, slow project preparation. A combination of EC grants, EIB and MS finance. A project management unit can supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
33.	Resources and Environment	Natural resources: efficient and secure availability	Effective use of thermal waters as renewable energy source	Ministry of National Development	Construction of reinjection wells at thermal water heating systems for groundwater resource augmentation. Development of reinjection technology for cost efficiency. Development of monitoring of thermal water aquifers.	Yes	a few construction project under CAP	0.2	0.1	lack of public and private financing, affordability of high construction and maintenance costs A combination of EC grants, EIB and MS finance. Strengthening research on reinjection technics. National programme and project management for project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
34.	Resources and Environment	Resilience to Climate Change & Natural resources: efficient and secure availability	Drinking water safety program	Ministry of Human Capacities & Ministry of Interior	Establishment of safeguard zones and implementation of safety measures according to the risk based Safety Management Plans.	Yes	ongoing projects under CA	0.2	0.1	Lack of public finance, slow project preparation. A combination of EC grants, EIB and MS finance. A project management unit can supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
35.	Resources and Environment	Resilience to Climate Change & Natural resources: efficient and secure availability	Improvement of hydromorphological status of surface waters for resilience to CC	Ministry of Interior & Ministry of National Development	The water retention in surface water systems should be improved regarding to the EU Water Framework Directive due to more and more extreme weather events.	Yes	Ongoing construction, planning, permitting, preparation for several projects but still a lot of demand nationwide	1.00	0.2	Lack of public finance, slow project preparation. A combination of EC grants, EIB and MS finance. A project management unit can supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
36.	Resources and Environment	Natural resources: efficient and secure availability	Improvement of sewage treatment to meet environmental quality of surface waters	Ministry of Interior & Ministry of National Development	The environmental objectives of the Water Framework Directive can meet if the urban and industrial point source pollutions are reduced by more efficient treatment. In addition there are a lot of small settlements where sewage management should be solved.	Yes	Ongoing strategic planning	0.7	0.1	Lack of public finance A combination of EC grants, EIB and MS finance.
37.	Resources and Environment	Resilience to Climate Change & Natural resources: efficient and secure availability	Capacity building of water management institutions	Ministry of Interior	The monitoring & informatics (databases, modelling, etc.) infrastructure should be improved and to support appropriate decision making and controlling the capacity of human resources should be developed at water management institutions (directorates, authorities)	Yes	Ongoing strategic planning	0.23	0.1	Lack of public finance, many times changing regulations, organisation structure A combination of EC grants, EIB and MS finance
38.	Resources and Environment	Resilience to Climate Change	Reorganisation and reconstruction of channel systems for improved water retention, storage and allocation	Ministry of Interior & Ministry of Agriculture	The waterlogged areas should be drained to reduce damages but some areas are good for water retention and storage. The channel systems of Hungary recently unsuitable for retention or reservation of significant amount of water. The stored water can be allocated for irrigation or other usage in drought periods	yes	Ongoing strategic planning	1.00	0.2	Lack of public finance A combination of EC grants, EIB and MS finance
39.	Resources and Environment	Natural Resources: efficient and secure availability	RDF (Residue Derived Fuel)	Ministry of Agriculture	Energy recovery of appr. 500 000 tons of RDF	No	Investment decision taken	0.7	0.1	Lack of long term finance, preparation of the project was very slow
40.	Transport	Business enablers	M30	Ministry of National Development/National Infrastructure Developing Co. Ltd.	Project is part of the Express road and motorway programme -North-South transponnt corridor, submitted by Members of V4. Construction of the M30 clearway is scheduled in 4 stages. Construction aid contract of the first – between Tornyosnémeti and the border - 1,7 km long and consisting of 2x2 lane stage has been signed, implementation is due by the end of 2015. Second stage is almost 12 km long between Szikszó and Aszaló and between Forró and Abaújvegyes; third stage is 22,6 km long between Miskolc and Szikszó and between Ujaszaló and Forró; fourth stage is 24,2 km long between Abaújvegyes and Tornyosnémeti. Route connects on the Slovakian side to the R4 highway. Place of border crossing was defined by government decree 120/2011 (VII. 15.).	-	Part of the National Transport Infrastructure-development Strategy; road already exists, route has to be developed into highway in full length.	0.4		Realization study of stages 2-4 has been completed. Full resolution of preliminary licencing procedures (construction, environmental, etc.) is required. Construction of the northern stretches of the clearway is planned in the form of 2x1 line roads, as a cost-effective solution. After this the construction of further 2x1 lanes in the northern stretches is necessary.
41.	Transport	Business enablers	M3	Ministry of National Development/National Infrastructure Developing Co. Ltd.	The route stretches between Vásárosnamény and Beregdaróc , 25 km long. From Vásárosnamény to the Ukrainian border in 2x2 lane Crossing of the Tisza and the Budapest-Záhony railroad is achieved by construction of a new bridge. Construction studies are ready.		Part of the National Transport Infrastructure-development Strategy	0.3		
42.	Transport	Business enablers	Szeged-Subotica-Baja railway line development	National Infrastructure Developing Co. Ltd. / MÁV Hungarian State Railways Private Company and Serbian Railways (Železnice Srbije)	The technical documentation of preparation of railway section design has been started from 2013 (study plans, impact studies, licensee plans, etc); the more detailed tender documentation required to the Szeged-Subotica section is being prepared in line with Hungarian and Serbian legal requirements. Section s: Hungary Szeged – Rószke- border (modernization); Baja-Bácsalmás (modernization); Bácsalmás-Csikéria- border (construction); Republic of Serbia-Subotica - Horgos- border(modernization); Subotica- Horgos- border -		1. Preliminary study / feasibility study has been completed; 2. Process of design and preparation of the tender are in progress; 3. There has been no investment decisions, the design of the concept is in progress	0.33	Estimated gross cost of the whole project for the period of EUR 0.22 billion	EU could provide a non-refundable source (CF) for the cost of the investment. The financing of the Serbian section is uncertain.
43.	Transport	Corridors and missing links	M4 expressway in the Central Hungarian Region and upgrading main road 405. between Úihartván (M5)	Ministry of National Development, MA	A flagship TEN T project, being both of highest national and international strategic importance, as it connects Bulgaria, Romania and western part of EU	Yes	Under construction	0.3		

No.	Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
44.	Transport	Corridors and missing links	Upgrading main road 23 and 25 between Bátonyterenye and	Ministry of National Development, MA	The project will cross an important natural barrier between cities between Bátonyterenye and Ózd, being both national strategic important	yes	planning start expected in 2015	0.07		
45.	Transport	Corridors and missing links	Building new M44 motorway to Békéscsaba	Ministry of National Development, MA	The project will cross an important natural barrier between cities between Kecskemét and Békéscsaba being both national strategic important	yes	environmental impact assessment, building permit, partial buying of territory on the track	0.4		
46.	Transport	Corridors and missing links	Main road no. 471 between Debrecen and Mátészalka	Ministry of National Development, MA	The project will cross an important natural barrier between cities Debrecen and Mátészalka being both national strategic important	yes	planning start expected in 2014	0.12		
47.	Transport	Corridors and missing links	Main road no. 102 between Esztergom and M1 motorway	Ministry of National Development, MA	The project will cross an important natural barrier between cities Budapest and Esztergom.	yes	feasibility study, EVD is under preparation	0.11		
48.	Transport	Corridors and missing links	M85 between Csorna and	Ministry of National	Being both of highest international strategic importance, between HU and AT	yes	environmental impact assessment under preparation	0.21		
49.	Transport	Business enablers	M15	Ministry of National Development/National Infrastructure Developing Co. Ltd.	Project is part of the Express road and motorway programme -North-South transport corridor, submitted by Members of V4. M15 – D2 Rajka-Rusovce (Oroszvár) clearway ,Project implementation due in 2016-2017.	yes	Part of the National Transport Infrastructure-development Strategy; road already exists, route has to be developed into highway in full length.	0.04		Reconstruction of the pre-schengen border infrastructure between the two countries has to be carried out as part of the project.
50.	Transport	Business enablers	Komárom Danube bridge	Ministry of National Development/National Infrastructure Developing Co. Ltd.	Construction of a road traffic bridge between Komárom (Hungary) and Révkomárom (Slovak Republic) over the Danube. The bridge is constructed in the 1770.6 marker sector, between landmarks II.19M and II.13/1S on the Hungarian-Slovakian border. Parties build the bridge together, the Hungarian party conducts the tender in line with Hungarian tender rules. Agents of both parties take part in the tender proceedings. Costs of the bridge is covered by both parties on an equal footing. Carriageways leading to the bridge will be constructed by the parties from their own resources in their own territory. Tender procedures will be carried out by the parties independently and by their national legal requirements.	yes	2012 CLXV. act on the proclamation of the agreement of the Danube construction public bridge between city of Komárom and Révkomárom, on the common border of the Government of Hungary and the Government of the Slovak Republic; There has been no investment decisions, the concept design is in process.	0.11	-	European Union non-refundable CEF source (CF) can provide the investment cost.



IRELAND



**Country : IRELAND
Task Force Project
list**

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment co	Investment in 2015 – 2017 (EUR)	Barriers/solutions
Energy Union	Connections and production	private	Cross Border Interconnector	Eirgrid/RTE (French Transmission system owner)	Interconnector with France of high cross border strategic importance creating surety of supply and greater competition. Total project size is EUR 1,200 million but Eirgrids share is EUR 600 million.	No	planning stage			
Energy Union	Connections and production	private	Cross Border Interconnector	Bord Gais Networks	Twinning of the Ireland/Scotland gas interconnector at Moffat. Improve cross border security of supply to Irish and Northern Ireland markets.	No	planning stage			
Energy Union	Connections and production	private	Cross Border Interconnection	Eirgrid	Interconnector with Northern Ireland. High strategic importance for better security of supply and increased market competition	No	planning stage			
Energy Union	Connections and production	private	Shannon LNG Terminal	private sector company	Security of supply and greater competition.	No	planning stage			
Energy Union	Connections and production	private	Energy Efficiency Fund	Department of Communications, Energy and Natural Resources / Sustainable Energy Authority of Ireland	Public Sector buildings. Increasing energy efficiency in the public sector is a key element of EU energy policy and will play a major role in delivering on the 2020 and 2030 energy and climate change targets. There are approximately 10,000 buildings in the Irish public sector, with a total annual energy cost of 600m. This investment would reduce Ireland's energy consumption, help to meet our legally binding climate targets and replace imported fossil fuels	No	project design stage			
Energy Union	Connections and production	private	Energy Efficiency Fund	Department of Communications, Energy and Natural Resources / Sustainable Energy Authority of Ireland	Private Sector Poverty Retrofit Programme. Improve energy efficiency, reduce energy use and make energy more affordable. More than 400,000 homes in Ireland are in receipt of income support payments due to being in energy poverty. A large scale deep renovation programme would lower national energy consumption, reduce energy poverty and the need for ongoing income supports and boost domestic employment	No	project design stage			

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR million)	Investment in 2015 – 2017 (EUR million)	Barriers/solutions
Energy Union	Connections and production	private	Grid West	EirGrid & ESB	400kv transmission line Facilitate renewable energy from West of Ireland.	No	Following the set up of an expert panel in January 2014, EirGrid is conducting a detailed assessment of a fully underground option for both the Grid West and Grid Link projects. Panel's opinion on it planned for early 2015. Funding responsibility of ESB.			
Energy Union	Connections and production	private	Grid Link	EirGrid & ESB	Reinforcement of the Transmission Network Between Munster and Leinster. May facilitate possible future interconnection with either Great Britain or France.	No	See Grid West for January 2014 project review.			
Energy Union	Connections and production	private	Semi State Windfarm	Bord na Móna, Coillte and ESB	Renewable energy generation.	No	Projects have planning permission and some are in			
Energy Union	Connections and production	private	Renewable Integration	EirGrid & ESB	Removal of transmission constraints	No	Early stages			
Energy Union	Connections and production	private	Ireland-Scotland Gas Interconnection	Gaslink	Physical Reverse Flow at Moffat Interconnection Point in Scotland	No	Consideration of need for project by Regulator - perception of lower need for project at present.			
SUBTOTAL								361	241	

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017 (EUR)	Barriers/solutions
Knowledge and the Digital Economy	ICT Infrastructure	public private	National Broadband Plan	Private sector companies post tender process	Programme to deliver High Speed Broadband to rural areas where there is market failure. Ireland faces a significant demographic challenge as nearly 40% of premises in the State are in rural areas. This is unique in Europe and creates a significant cost barrier to building quality broadband infrastructure. A detailed Cost Benefit Analysis will be available in mid 2015 assessing the extent to which Public funding can be used to remove the upfront Capital Cost barrier to investment and stimulate further commercial investment.	No	Planning stage / Detailed CBA being developed			
Knowledge and the Digital Economy	Built environment and urban services	public private	Regional Enterprise Infrastructure Solutions	Enterprise Ireland / Local Enterprise Offices/ IDA Ireland /Science Foundation Ireland	Regionally focussed enterprise funding package with 3 strands: (1) Regional Enterprise (50m) - funding innovation infrastructure and competitive collaboration. The purpose of this funding is to stimulate the enhancement of the local & regional enterprise eco-system by competitively offering to co-finance projects proposed by local/regional alliances. (2) Enhance enterprise innovative capacity within the regions (200m): Research, Development & Innovation hubs x 4. (i) Southern Region :Manufacturing Competitiveness - 1 of the 6 Key Enabling Technologies identified by the EU as areas of significant European economic potential (ii) Border (North/South/cross-border/All Island of Ireland) Smart Grids & Cities. (iii)Eastern Region : Digital platforms, content and application. (iv)Midlands - Sustainable Food production & Processing. These regional research hubs would be linked with centres of excellence across the regions & the EU. They will attract significant industry partners and associated private funding of min €65m. (3) Improve infrastructural supports (30m)to the regional enterprise base in order to increase employment opportunities & promote economic growth & social inclusion.	No	At present, only very minor elements of what is proposed could be delivered due to funding constraints.			
Knowledge and the Digital Economy	ICT Infrastructure	public private	Fibre to the Building	ESB and Vodafone	Supply high speed internet access within Ireland.	No	JV agreement signed in 2014. First customers to be in place from the start of 2015.			
SUBTOTAL								153	917.	

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment	Investment in 2015 – 2017 (EUR)	Barriers/solutions
Resources and Environment	Natural resources: efficient and secure availability	public private	Agri Food Loan Fund	Irish Strategic Investment Fund (ISIF)	Agri-Food Loan Fund, with EIB as senior partner, and Iri	No	At discussion stage with EIB			
Resources and Environment	Resilience to Climate Change	public private	Afforestation capital investment	Department of Agriculture, Food and the Marine	Afforestation and the creation of woodland: Capital investment required to fund an additional 8,000 hectares of forestry planting per annum. Forestry planting is in line with EU environmental priorities. It provides a long term economic return on investment, but private planting needs to be incentivised to increase the area under forest in Ireland from its current low base of 10.7% (EU average 38%) to contribute, inter alia, towards climate change mitigation; to produce timber; to provide a sustainable source of roundwood for wood product manufacture; to provide biomass for energy production; and to provide sustainable jobs in the rural economy.	Yes	Included in Forestry Programme 2014-2020 Ireland; submitted to the European Commission in accordance with EU Guidelines on State Aid for agriculture and forestry.			
Resources and Environment	Resilience to Climate Change	private	Afforestation and thinning	DAFM	Afforestation	No	Assessment of potential methods to encourage further private sector investment in afforestation.			
Resources and Environment	Natural resources: efficient and secure availability	public	Investment in State owned Fishery Harbour Centres	Department of Agriculture, Food and the Marine	Capital projects in Fishery Harbour Centre (no individual project expected to exceed €40m) Further development of the Fishery Harbour Centres underpins the Government Strategy to provide international best practice facilities for a modern offshore fishing fleet and develop a modern on shore processing industry, in addition to attracting increased numbers of landings from foreign vessels from inside and outside the European Union. Investments will lead to diversification of industry and support job creation	No	Public capital expenditure allocation is insufficient.			

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment co	Investment in 2015 – 2017 (EUR)	Barriers/solutions
Resources and Environment	Natural resources: efficient and secure availability	Public	Irish Digital Ocean	Marine Institute	Research and Infrastructure Initiative, the Irish Digital Ocean (IDO), to develop the research and innovation capacity to put in place an operational ocean observation and predictive capacity and promote Ireland as a centre and test-bed for ocean observation, modelling and prediction and support the development of advanced marine technologies in Ireland. The IDO initiative will provide the data and information services platform to underpin the SmartOcean Ireland 2014-2020 Strategy which is being developed by the Marine Coordination Groups Development Task Force. This is in line with EU priorities to improve public R&D spending, and to lead the development of innovative and environmentally sustainable research.	Yes	Included in Government Marine Strategy ('Harvesting our Ocean Wealth') but public capital expenditure allocation is insufficient.			
Resources and Environment	Natural resources: efficient and secure availability	private	New Dublin Water Supply	Irish Water	Potential Water Storage, treatment plant and pipeline. Irish Water is currently undertaking specialist surveys to reassess the range of potential new supply options. Previous preferred option involved abstraction of water from Shannon, pumping it through a new pipeline to a storage reservoir and then piped to the Dublin Region.	No	Specialist surveys to reassess the range of potential new supply options being undertaken.			
Resources and Environment	Natural resources: efficient and secure availability	private	New Dublin Sewerage Plant	Irish Water	Treatment of Sewage	No	Site has been chosen for the project however Timeline uncertain.			
SUBTOTAL								1861.	461	

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment co	Investment in 2015 – 2017 (EUR)	Barriers/solutions
Transport	Business enablers	private	Cork Port - Ringaskiddy Development	Port of Cork Company. Large Tier-1 port on South Coast.	Port Quay Infrastructure, Cruise Terminal,	No. No State funding is provided to Ports. Project is in line with National Ports Policy and TEN- T objectives.	At planning			
Transport	Business enablers	private	Dublin Port - Alexander Basin Redevelopment	Dublin Port Company. Largest Tier 1 Port in Ireland located on East Coast.	Redevelopment /reconfiguration of Alexandra Basin to accommodate larger ships and to provide for a substantial increase in port capacity.	No. No State funding is provided to Ports. Project is in line with National Ports Policy and TEN- T objectives.	At planning			
Transport	Business enablers	private	Limerick Shannon Foynes Port - Improvement of the access and hinterland	Shannon Foynes Port Company. Large Tier 1 Port west coast.	Reinstatement of the existing rail line to the port, improvement works to existing quay and jetty infrastructure and removal of internal transport bottlenecks within the port.	No. No State funding is provided to Ports. Project is in line with National Ports Policy and TEN- T objectives.	At planning			
Transport	Business enabler	private	Waterford Port - improvement works	Port of Waterford. Tier 2 Port in the South East	New training walls and pilot facilities	No. Part of EU TEN-T	Pre planning			
Transport	Business enabler	private	Regional Port Development	Galway Port. Medium Port on west Coast	reclaim and develop a new port adjacent to existing port. Port Quay Infrastructure, Cruise Terminal	No.	At planning			
Transport	Business enabler	private	Regional Port Development	Drogheda. Medium size port - North East Coast	New training walls	No	Pre-planning			
Transport	Business s	private	Regional Port	Dun Laoire. Medium size port on East	Quay Infrastructure, Cruise Terminal,	No	pre-planning			
Transport	Business enabler	public	Sallins Bypass & Osberstown Interchange	Kildare County Council	New Interchange and bypass needed to address congestion, facilitate development of important business centre and access to public transport links. Benefit to cost ratio of 13		An Bord Pleanála approved			
Transport	Corridors and missing links	public private	Rosslare Europort/N2 5 Access	NRA / Rosslare Europort	Modifying the access arrangements at Rosslare Europort	No	At design			
Transport	Corridors and missing links	public	M7 Naas to New bridge Bypass Widening	NRA	Bottleneck on the N7 with 6 lanes at northern end & 8 lanes at southern end feeding into 4 lanes on the TEN- T/CEF Core Corridor. Positive benefit to cost ratio of 6	No	An Bord Pleanála approved			
Transport	Corridors and missing links	public private	N8/N25 Dunkettle Interchange	NRA	New Interchange to address congestion on TEN- T/CEF Core Corridor. Will facilitate future development of Tier I Port of Cork. Benefit to cost ratio of 5	No	An Bord Pleanála approved			

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment co	Investment in 2015 – 2017 (EUR)	Barriers/solutions
Transport	Corridors and missing links	public	Coonagh/Knockalishen	Limerick Council	Road Link needed for urban regeneration in western regional city of Limerick. Benefit to cost ratio of 3.7	No	An Bord Pleanála approved			
Transport	Corridors and missing links	public private	N22 Ballyvorney to Macroom	NRA	Road upgrade to main road link between Cork and Kerry regions- part of the TEN-T comprehensive network. Benefit to cost ratio of	No	An Bord Pleanála approved			
Transport	Corridors and missing links	public	Moycullen Bypass	NRA	Bypass to address congestion on tourist route and business access to west coast city of Galway. Benefit to cost ratio of 2.3	No	An Bord Pleanála approved			
Transport	Corridors and missing links	public private	N5 Westport to Turlough	NRA	Road upgrade to link between western regional centres of Castlebar and Westport. Benefit to cost ratio of 2.0	No	An Bord Pleanála approved			
Transport	Corridors and missing links	public private	N4 Collooney to Castlebaldwin	NRA	Road upgrade to link with high accident record between north western towns of Collooney and Castlebaldwin. Benefit to cost	No	An Bord Pleanála approved			
Transport	Businesses	public	N59 Mulranny to Westport	NRA	Road upgrade needed on west coast tourist route. Benefit to cost ratio of 1.2	No	An Bord Pleanála			
Transport	Business enabler	public	N56 Dungloe to Glenties	NRA	Road upgrade needed on tourist route in the north western region of Donegal. Benefit to cost ratio of 1.2	No	An Bord Pleanála approved			
Transport	Business enabler	public	Sligo East Garvogue link	Sligo Council	Road link needed for urban regeneration in north western town of Sligo. Positive benefit to cost ratio	No	An Bord Pleanála approved			
Transport	Corridors and missing links	public	N28 Cork to	NRA	Road Link on TEN-T/CEF core corridor to connect with a Tier 1 Port at Cork	No	At Planning Stage			
Transport	Corridors and missing links	public private	N6 Galway City Outer	NRA	Bypass to address congestion on tourist route and business access to Galway	No	At Planning Stage			
Transport	Business enablers	public	Project Hangar	Shannon Group plc	Construction of a c.6,751 square metre wide body hangar to facilitate the creation of jobs and development of the aviation cluster in Shannon, County Clare, Ireland.	No	Appointment of the design team is in progress with the construction contract projected to be published on OJEU in March 2015			
Transport	Corridors and missing links	private	Project Runway	Shannon Group plc	Full renewal of the Shannon Airport runway to maintain the airport's operating status and its' position on the comprehensive Trans-European Transport Network.	No	Investigative works currently being initiated to determine the detailed specification of the works required			
Transport	Business enablers	private	Project Corporate	Shannon Group plc	Development of corporate-aviation and cargo terminal infrastructure in Shannon, County Clare, Ireland, as well as establishment of corporate aircraft register. Project is designed to leverage Free Zone status increase total EU MRO activity for corporate aircraft with associated benefits for employment, as well as facilitating cargo transshipment through EU and associated export processing.	No	Feasibility analysis has been performed with positive outcomes projected			
Transport	Business enabler	private	Project Hangar II	Shannon Group plc	Construction of a second c.6,751 square metre wide body hangar to facilitate the creation of jobs and development of the aviation cluster in Shannon, County Clare, Ireland.	No	To be commenced once Hangar I is completed			

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment co	Investment in 2015 – 2017 (EUR)	Barriers/solutions
Transport	Business enablers	private	Project Office	Shannon Group plc	Construction of a number of fourth generation office blocks in the Shannon Free Zone, County Clare, Ireland. The blocks will be constructed to provide comparable office space to current non-EU offerings such as Dubai and to ensure Europe remains a leading player in global aviation.	No	Master plan currently being developed			
Transport	Business enablers	private	Project Airport	Shannon Group plc	Refurbishment of Shannon Airport terminal building to safeguard the airport's ability to continue to operate as a part of the Trans-European Transport Network, implement the highest levels of energy efficiency and ensure a positive customer experience.	No	Initial assessment of works required has been performed			
Transport	Business enablers	private	Project Hangar III	Shannon Group plc	Construction of a third c.6,751 square metre wide body hangar to facilitate the creation of jobs and development of the aviation cluster in Shannon, County Clare, Ireland.	No	To be commenced once Hangar II is completed			
Transport	Business enablers	private	New Parallel Runway at Dublin Airport	daa plc	New parallel runway (10/28) to the north of the existing 10/28 runway.	No	Dependant on growth in passenger numbers over next two years. Planning permission received however seeking changes to this permission.			
Transport	Urban transport	public	Swiftway BRT on Swords Airport Corridor	National Transport Authority	Scheme to meet short -medium term needs of Swords, Dublin Airport to City Centre corridor with 24 stops identified at key locations.	No	Consultation on preferred route in train. Preliminary Business case being prepared. Earliest Planning Appl Q2 2015.			
Transport	Urban transport	public private	DART Underground	National Transport Authority	This project is made up of 2 elements – 1. The development of an underground tunnel (the DU project) between Docklands and Inchicore which will serve a number of key locations in the city centre with underground stations (previously known as the “Interconnector” tunnel) 2. A series of associated/related works including the City Centre Resignalling project (Resignalling and electrification of the Maynooth line, Electrification to Drogheda, a new Centralised Traffic Control Centre (CTC), Elimination of level-crossings, the Kildare Route Project Phase 2, and the expansion of the DART fleet and associated depot facilities.	No	Railway Order in place for tunnel element. PPP postponed in 2011. 2010 Business Case being updated for review Q2 2015.			

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment co	Investment in 2015 – 2017 (EUR)	Barriers/solutions
Transport	Urban transport	public private	North Dublin Swords Airport Corridor Rail Link	National Transport Authority	Rail project on Swords/Airport corridor to meet long term needs of one of the fastest growing regions	No	Options, including Metro North, under review for decision in Q2 2015.			
Transport	Urban transport	public	Swiftway (BRT) Blanchardstown	National Transport Authority	Scheme will serve corridor between Blanchardstown and UCD including the City Centre with 34 stops identified at key locations.	No	At route selection phase.			
Transport	Urban transport	public	Swiftway BRT Clongriffin to Tallaght	National Transport Authority	Scheme will serve the corridor linking Clongriffin, the City Centre and Tallaght, no of stops to be finalised.	No	Route selection & preliminary design on hold as 2 other BRT routes being prioritised.			
Transport	Urban transport	public	SUB -SET of DART U -- DART Extension	National Transport Authority	Part of the DART Underground Programme, which will contribute towards the removal of the bottleneck at Connolly station, including for the Enterprise cross- border train service.	No	Requires planning approval. Outline proposal prepared in 2013.			
Transport	Urban transport	public	SUB -SET of DART U -DART Extension to	National Transport Authority	Part of the DART Underground Programme, involving the removal of Level-Crossings, Re-signalling & Electrification, it will have capacity & frequency benefits in and of itself.	No	Requires planning approval.			
Transport	Corridors and missing links	public	SUB -SET of DART U -Central Traffic Control Centre but required whether DART U goes ahead	National Transport Authority	Part of DART U Programme -New Central Traffic Control Centre required to increase capacity and improve safety	No	At design stage			
SUBTOTAL								10346	1446	

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment co	Investment in 2015 – 2017 (EUR)	Barriers/solutions
Social Infrastructure	Built environment and urban services	public private	Cork Event Centre	Cork City Council	6,000 seat event centre located in Cork City. Tourism potential.	Yes	Cork City Council currently running a tender process for the construction and management of event centre. Decision on successful consortium due by Dec 2014.			
Social Infrastructure	Built environment and urban services	public private	Social Housing	Local Authorities/ Approved Housing Bodies/Dept of the Environment, Community & Local Government	Social Housing- 18,000 units delivered through a range of measures over 2015 - 2017.	Yes	Budget 2015 provision for Social Housing announced. Social Housing Strategy to be considered by Government shortly and when approved, launched immediately thereafter			
Social Infrastructure	Built environment and urban services	public	Retrofit Local Authority Housing Stock	Energy Efficiency	Energy Efficiency Measure Reduce Carbon Footprint, retrofit 2000 apartments	Yes	Social Housing Strategy to be launched shortly.			
Social Infrastructure	Education and training	Public	Modernisation of educational facilities - Bundle 1	Department of Education & Skills	Development of 11 Primary & Post Primary Schools	No	Planning complete. Ready to go to Tender & Construction. Construction can commence in 2015			
Social Infrastructure	Education and training	Public	Modernisation of educational facilities - Bundle 2	Department of Education & Skills	Development of 18 Primary & Post Primary Schools	No	Planning complete. Preparing to go to Tender & Construction. Construction can commence in 2015			
Social Infrastructure	Education and training	Public	Modernisation of educational facilities - Bundle 3	Department of Education & Skills	Development of 18 Primary & Post Primary Schools	No	Planning not yet complete. Construction can commence in 2015			

Sector	Subsector	Private / Public / PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment	Investment in 2015 – 2017 (EUR)	Barriers/solutions
Social Infrastructure	Education and training	Public	Modernisation of educational facilities - Bundle 4	Department of Education & Skills	Development of 13 Primary & Post Primary Schools	No	Planning not yet complete Construction expected to commence in 2017			
Social Infrastructure	Education and training	Public	Modernisation of educational facilities	Department of Education & Skills	Replacement of school temporary accommodation with permanent	No	Planning not yet complete. Can commence in			
Social Infrastructure	Education and training	Public	Modernisation of educational facilities	Department of Education & Skills	Schools ICT Programme	No	Planning not yet complete. Can commence in			
Social Infrastructure	Education and training	Public	Modernisation of educational facilities	Department of Education & Skills	Modernisation of Further Education and Training Facilities	No	Planning not yet complete. Can commence in			
Social Infrastructure	Universities	public private	Modernisation of educational higher education facilities	Department of Education & Skills	New and replacement facilities in Universities (higher education), programmes to allow for new buildings, libraries, teaching facilities, enhancement of IT infrastructure and strategic property acquisitions. Total programme of €2.4b of which €1.653b is sought from public sources and €756m coming from private sources.	No	Various - mostly approved but can not be advanced due to lack of funding			
SUBTOTAL								545	507	

SME Lending	SME lending	private	The Strategic Banking Corporation of Ireland (SBCI)	SBCI	A new strategic SME funding company the SBCI; its role is to ensure access to flexible, lower cost, longer term funding for Irish SMEs. The funding will be made available to SMEs through both banks and non-bank specialist lenders.	No	SBCI established September 2014; initial phase of pilot loans to be provided by end of 2014; full roll out of lending products in 2015			
SUBTOTAL								800.0	800.0	



ITALY



Pipeline of projects

A. Knowledge, SMEs and the digital economy

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/m)	Investment in 2015 – 2017 (€/m)	Barriers/solutions
A. Knowledge, SMEs and the digital economy	ICT Infrastructure	Electronic invoice and payment by public administration and Management System of Administrative Proceedings	Agency for Digital Italy	The program supports the adoption of digital payments and electronic invoice in the Business-to-Government economic transactions in accordance with in the European strategy for growth and development Europe 2020, the establishment of the Italian Civil Status Registry (a centralized data base that concentrates the 8057 Italian municipality Civil Status registries and the Registry of Italians Resident Abroad), and an organizational and technological reference model with the aim to: i) map services for citizens and enterprises; ii) reverse engineer, standardize and digitize the main administrative proceedings	Yes	Most components of the program are under implementation	0.240	0.240	Barriers: 1) businesses and governments suffer for digital divide, e-invoice could be a driver for a massive adoption of digital technologies; 2) lack of financial resources for innovation of business processes by businesses and PA; 3) coordination problems more than 5M businesses involved. 4) system adaptation in accordance with the European Directive 55/2014; 5) low adoption electronic payment in Italy and few on line egovernment services available ready for e- payment. Solution: 1) e-invoice to public administration started he electronic invoice to the PA started, within one year e-invoice will be adopted by all businesses; 2) strong partnership between government and business PA; 3) strong expertise on e-invoice owned by government task force (AgID, Ministry of Economy and Finance).
A. Knowledge, SMEs and the digital economy	Public R&D	National Aerospace Plan	ASI - Italian Space Agency	VEGA (space rocket project), ISS (contribution to international space station), CSG (COSMO second generation)	yes	negotiation/development	1100	1100	Risky investments for high R&D activities and developments of high technologies and Lack of long term finance + coordination and permitting problems, leading to possible delays / Risk sharing mechanism - A combination of EC grants, EIB and MS finance as well as private capital is envisaged. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
A. Knowledge, SMEs and the digital economy	A.2. SMEs, Private R&D	ABS	CDP, EIB, EIF	Development of the covered bond market related to receivables from SMEs, to ease Bank's capital constraint, which limits access to credit for SMEs	Yes, national law (Stability Law 2014)	to be implemented (waiting for the issuing of the operative decree by the MEF)	200*	200	Barriers: ABS market is characterized by high placement costs and difficulties in the placement of the junior tranches at specialized investors; Solutions: providing State Guarantee and access to the resources of the Central Guarantee Fund established by the Italian Government to allow the intervention of CDP, in connection with EIB/EIF
A. Knowledge, SMEs and the digital economy	A.2. SMEs, Private R&D	SMEs Financial Instruments Fund-of-Funds (Minibond, Venture Capital, ...)	CDP, Private promoters	Fostering the creation, through a selective process, of minibond and private equity funds and leveraging the resources deployed in support of SMEs	No	implemented	700	300	Lack of innovative financial instruments to support SMEs Solutions: setting up a Fund-of-funds instrument to co-invest with the EIF and other private international investors
A. Knowledge, SMEs and the digital economy	Public R&D	Construction of a Divertor Tokamak Test Facility for fusion energy research	ENEA and Ministry of economic development	The Divertor Tokamak Test facility will foster the development of fusion energy being devoted to provide the solution for one of the main issue impacting on the operation of fusion reactor, i.e. the efficient power handling.	no	The Divertor Tokamak Test facility design is currently under finalization at European level.	500	250	Necessary to guarantee properly skilled Team during the entire project period, which would last for at least 25 years (7 of which for construction). However, international involvement reduce substantially this risk. No issues concerning the technology required to build the facility which are well developed even though quite complex.
A. Knowledge, SMEs and the digital economy	Public R&D	SKA - Industrial Astronomy	INAF - Italian National Institute for Astrophysics+LEs, SMEs	SKA (square Kilometer Array) is a new approach to radio-astronomy, with thousands of antennae distributed in the Southern Hemisphere by an International Collaboration. INAF has developed a strategy for the Italian presence in SKA based on our capacity for industrial design and production of a number of antennae, in part already built and qualified at prototype level. We also plan to work on the ICT dimension of the project, a challenge for dimensions and throughput.	no	The SKA collaboration consists of 4 European and 6 extra European countries organized as a UK Ltd company. The project development for each country is moving from the concept to the design state and Italy joins the development phase with an eye to the future.	500	20	Several technical design and construction problems

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/m)	Investment in 2015 – 2017 (€/m)	Barriers/solutions
A. Knowledge, SMEs and the digital economy	Private R&D	Silicon Technologies	Industry (LE & SMEs), Universities, Public and Private Research	Development of electronic systems integration on silicon; Technologies for photovoltaic applications; Technologies for alternative materials to silicon; integration of heterogeneous technologies; Technologies for sensors; Technologies for "Silicon Photonics"	no	project of national table for microelectronics (Ministry of Economic Development)	800	800	Lack of long term finance / Risk sharing mechanism The EIB presently requires sovereign recourse for considering financing
A. Knowledge, SMEs and the digital economy	Private R&D	SMEs R&D	Ministry of economic development	"Key enabling technologies " public support incentive scheme in order to promote R&D projects (admissible expenditures: 800.000<X<3mln euro) oriented to the production of new or significantly improved products, processes or services	yes	Active	300	300	Private firms under-investment due to positive spillovers associated to R&D activities, to uncertainty of developing high technologies, to lack of long term finance due to the reduction of investor payback period , in a time of economic crisis, in the R&D Kets private market. A combination of EC grants, EIB - through the Banking System - and MS finance as well as private capital is envisaged
A. Knowledge, SMEs and the digital economy	Private R&D	Smart and Sustainable Manufacturing	Ministry of economic development	Public support incentive scheme related to " Smart Manufacturing " aiming to promote KETS projects (admissible expenditures: 5mln<X<40 mln euro) able to achieve a significant technological advancement and that are strategic in the national industrial context and to " Italian digital agenda " for ICT R&D /Kets projects of relevant scale (investments between 5 and 40 mln euro), initiative in line and coherent with Horizon2020 and European Digital Agenda	yes	Approved , but to be implemented	400	400	Private firms under-investment due to positive spillovers associated to R&D activities, to uncertainty of developing high technologies, to lack of long term finance due to the reduction of investor payback period, in a time of economic crisis, in the R&D Kets private market. A combination of EC grants, EIB - through Banking System - and MS finance as well as private capital is envisaged.
ICT Infrastructure	ICT Infrastructure	Ultrabroadband National Plan	Ministry of Economic Development	Ultrabroadband NGA Networks compliancy to the European Digital Agenda. Scope of the project is investment in access network in FTTB architecture to be opened at the operator for the 100 Mbits services	Part of the investments envisaged in structural european funds	Project is ready to the public consultation to the stakeholders (operator, Agcom, european commission etcc..)	12300 and 1200 for the migration to the new 100 mbits services (demand migration)	7200	At the moment Italian telecommunication operators have not any investment plan on NGA infrastructure for 100 Mbits connection. Without public investment the NGA infrastructure cannot be available in Italy. At moment public finance cannot assure the total investment in NGA ultra Broadband infrastuctres. The total plan is 12 Bn of euros with a participation of 50% of private investment. Partnership of public and private operator can guarantee the development of this project.
A. Knowledge, SMEs and the digital economy	SMEs	Access to finance	Ministry of economic development, banking system, Regional Entities	"Smes National Guarantees Fund " public support incentive scheme aiming to grant Smes access to finance (up to a maximum of 80% on a 2,5 mln euro loan cut-off level)	yes	Active	30000	2000	Access to finance (credit crunch), Basel III constraints, Streamlining of EC regulation, Deleveraging, Actual business economic cycle, Lack of confidence and risk taking in the private sector, Smes under-investment. To be coinvested by Structural Funds.
A. Knowledge, SMEs and the digital economy	SMEs	Finance for machinery investments	Ministry of economic development, CDP	"New Sabatini " public support incentive scheme oriented to promote Smes fixed instrumental investments (among the others investments on hardware, software and digital technologies are included)	yes	Active	7500	7500	Smes under-investment in the fixed capital asset market due to access finance barriers and lack of domestic demand. The EIB presently requires sovereign recourse for considering financing

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/m)	Investment in 2015 – 2017 (€/m)	Barriers/solutions
A. Knowledge, SMEs and the digital economy	Private R&D	SMEs R&D and Innovation investments	Ministry of economic development, EIB	"Risk Sharing Facility " public/private support incentive scheme for promoting industrial relevant innovative projects (from 7,5 mln euro to 50 mln euro) oriented to the production of goods, services or processes. EIB will provide credit lines for 500 mln euro, on the base of a first lost guarantee issued to EIB by the "Smes National Guarantees Fund" that will cover 20% of the loan (max. 100 mln euro guaranteed)	yes	Signed the general agreement between Ministry of Economic Development and EIB, ongoing the adoption of ministerial decree	500	500	Access to finance (credit crunch), Actual business economic cycle, Lack of confidence and risk taking in the private sector, Firms under-investment.
A. Knowledge, SMEs and the digital economy	SMEs	Innovative startups development	Ministry of economic development, Invitalia	"Smart & Start " public support incentive scheme oriented to promote new entrepreneurial activities and to support technological (or knowledge) transfer for innovative start-up	yes	Active	220	220	Startups financing gaps, Barriers to market entry; solutions: potential EIF intervention to solve the financing gap
A. Knowledge, SMEs and the digital economy	Public R&D	USSP	Ministry of economic development, Ministry of Education, University and Research	Development of a multipurpose submarine supportship	yes		500	500	Risky investments for high R&D activities and developments of high technologies and Lack of long term finance + coordination and permitting problems, leading to possible delays / Risk sharing mechanism. The EIB presently requires sovereign recourse for considering financing A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
A. Knowledge, SMEs and the digital economy	A.2. SMEs, Private R&D	Social Economy Fund	Ministry of Labour, Private promoters, EIB, EIF, CDP	Supporting the initiatives in the social economy sector by fostering and promoting the activity of specialized funds and by financing specific investment	Yes	to be implemented	500	500	Lack of financial instruments dedicated to social economy. Solutions: provision of a first loss facility from the government or EU instruments to attract private investors and long term support from CdP and the EIB
A. Knowledge, SMEs and the digital economy	Private R&D	National Technological Clusters Programme	MIUR	CLUSTER Initiative was founded in line with the objectives of the Europe 2020 Strategy and Horizon 2020 to relaunch competitiveness in research, development and innovation, in line with the Communication COM (2008) 652 def, the project includes the "Internet of things" initiative	Yes	Planning and investment decision taken, activities partially started, average duration 3 years. The Programme is currently partially financed	409	359	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors. 4) public budgetary constraints; 5) investment risk profile and credit rationing Solution: potential EIB financing through Banking System

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/m)	Investment in 2015 – 2017 (€/m)	Barriers/solutions
A. Knowledge, SMEs and the digital economy	Public R&D	Research Infrastructures Programme	MIUR	Financing initiatives of international relevance and research infrastructures and projects implemented by CNR and CONSORZIO AREA RICERCHE TRIESTE including the establishment of a national central repository of organic chemicals and The European Spallation Source ESS Infrastructure, the most intense neutron source operating in the world. The projects are all included in the National Plan for Research Infrastructures, due to be delivered to the European Commission by the end of November 2014.	Yes	Planning and investment decision taken, on going activities	3278	178	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors The EIB presently requires sovereign recourse for considering financing
A. Knowledge, SMEs and the digital economy	Private R&D	National Technological Clusters Programme	MIUR	Italian Cluster for Aerospace Technology (CTNA is the Italian acronym) synthesizes and focus all needs and priorities that the national aerospace stakeholders have developed over the last years based on global market trends and sector policies at European and international level. The initiative includes the CTA (Cerenkov Telescope Array) project.	No	The Programme is currently partially financed and is included in the national Cluster Initiative	4271	4221	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors 4) public budgetary constraints; 5) investment risk profile and credit rationing Solution: potential EIB financing through Banking System
A. Knowledge, SMEs and the digital economy	Public R&D	Smart cities and Social Innovation	MIUR	Public support incentive scheme oriented to promote Smart Cities and Communities, and Social Innovation. Among the research areas there are: Materials and Sustainable Architecture, Cloud computing technologies, Water Resources Management, Justice, Health, School, Transport and mobility, Waste and others field of strategic activities	Yes	Planning and investment decision taken, on going activities	329	329	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors The EIB presently requires sovereign recourse for considering financing
A. Knowledge, SMEs and the digital economy	Private R&D	National Technological Clusters Programme	MIUR	SmartCommunitiesTech is the National Technology Cluster dedicated to "Technologies for Smart Communities". It develops advanced technological solutions to implement innovative models for solving social challenges on a urban and metropolitan scale. The Cluster is participated by 100 subjects (medium and large enterprises, research bodies). http://smartcommunitiestech.it/	Yes	The Programme is currently partially financed and is included in the national Cluster Initiative	188	188	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors 4) public budgetary constraints 5) investment risk profile and credit rationing The EIB presently requires sovereign recourse for considering financing

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/m)	Investment in 2015 – 2017 (€/m)	Barriers/solutions
A. Knowledge, SMEs and the digital economy	Private R&D	National Technological Clusters Programme	MIUR	The main issues placed at the core of the Cluster strategy are Biotech, Pharma, Nutraceutical and food chain, Diagnostic and robotic technologies, Technologies for quality of life (domestic and assisted living), Telemedicine and E-Health. The objectives coincide with the new concept of Smart Specialization Strategies, flexible and dynamic innovations in the direction of entrepreneurial discovery, cross fertilization, and aggregation of persons in possession of the key skills to meet the technological challenges of the future. The cluster aggregates different subjects on a national scale, in particular there are 2 entrepreneurial associations, 4 national research institutions, 12 Regions.	Yes	The Programme is currently partially financed and is included in the national Cluster Initiative	450	450	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors 4) public budgetary constraints; 5) investment risk profile and credit rationing The EIB presently requires sovereign recourse for considering financing
A. Knowledge, SMEs and the digital economy	Private R&D	National Technological Clusters Programme	MIUR	The National Technology Cluster of "Green Chemistry" SPRING – Sustainable Processes and Resources for Innovation and National Growth, has the objective of triggering the development of biobased industries in Italy, through an holistic approach to innovation, aimed at revitalising Italian chemistry in the name of environmental, social and economic sustainability. The purpose is to stimulate research and investments in new technologies, in constant dialogue with the actors of local areas, and to pursue the European	No	The Programme is currently partially financed and is included in the national Cluster Initiative	1685	1685	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors 4) public budgetary constraints; 5) investment risk profile and credit rationing The EIB presently requires sovereign recourse for considering financing
A. Knowledge, SMEs and the digital economy	Public-Private R&D (included investments by state owned companies).	Research Infrastructures Programme	MIUR	The Programme will finance research infrastructures of international relevance implemented by the national research actors, among them CNR and CONSORZIO AREA di RICERCA di TRIESTE. The Programme will support, among others, the establishment of a national central repository of organic chemicals and the European Spallation Source (ESS) Infrastructure, the most intense neutron source to be operating in the world (see below for details since ESS is one of the projects for which details are provided in this document). The information is coherently extracted from the PNIR (the National Research Infrastructure Programme) that is currently under a very advanced state of definition. By offering high quality research services to users from different countries, by attracting young people to science and by networking facilities, research infrastructures help structuring the scientific community and play a key role in the construction of an efficient research and innovation environment. Research Infrastructures, including RI of pan-European interest such as the European Strategy Forum on Research Infrastructures (ESFRI) roadmap projects, represent also an essential component of a genuine European	Yes	Planning and investment decision taken, on going activities	3278	1780	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors The EIB presently requires sovereign recourse for considering financing

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/m)	Investment in 2015 – 2017 (€/m)	Barriers/solutions
A. Knowledge, SMEs and the digital economy	Public R&D	Smart cities and Social Innovation	MIUR, Regions, Private promoters	Public support incentive scheme oriented to promote Smart Cities and Communities, and Social Innovation. Among the research areas there are: Materials and Sustainable Architecture, Cloud computing technologies, Water Resources Management, Justice, Health, School, Transport and mobility, Waste and others field of strategic activities. The scheme is strategical in the national context and to "Italian digital agenda" for ICT R&D, and is in line with Horizon2020 and European Digital Agenda.	Yes	Planning and investment decision taken, on going activities	329	329	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors The EIB presently requires sovereign recourse for considering financing
A. Knowledge, SMEs and the digital economy	Public-Private R&D	National Technological Clusters Programme	MIUR, Regions, Private promoters	The National Technological Cluster Programme was launched in 2012 in line with the objectives of the Europe 2020 Strategy and Horizon 2020, to relaunch competitiveness in research, development and innovation, in line with the Communication COM (2008) 652 def. The call was aimed at the creation and strengthening of technological clusters focused in 12 specialization sectors: 1. Aerospazio, 2. Agrifood 3. Blue growth, 4. Green Chemistry, 5. Design, creativity and made in Italy, 6. Energy, 7. Smart Manufacturing, 8. Mobility, 9. Life Science, 10. Smart, Secure and Inclusive Communities, 11. Life environment Technologies, 12. Cultural Heritage Technologies. The reported financial need includes the "Internet of Things" initiative and the "Smart Manufacturing" initiative, which aims at addressing the transformation of the Italian manufacturing sector towards new systems product, processes/technologies, production systems.	Yes	Planning and investment decision taken, activities partially started, average duration 3 years. The Programme is currently partially financed	409	359	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors. 4) public budgetary constraints; 5) investment risk profile and credit rationing Solution: potential EIB financing through Banking System
A. Knowledge, SMEs and the digital economy	Public-Private R&D	AEROSPACE- National Technological Clusters Programme	MIUR, Regions, Private promoters	Italian Cluster for Aerospace Technology (CTNA is the Italian acronym) synthesizes and focus all needs and priorities that the national aerospace stakeholders have developed over the last years based on global market trends and sector policies at European and international level. The initiative includes the CTA (Cerenkov Telescope Array) project.	No	The Programme is currently partially financed and is included in the national Cluster Initiative	4271	4221	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors 4) public budgetary constraints; 5) investment risk profile and credit rationing Solution: potential EIB financing through Banking System
A. Knowledge, SMEs and the digital economy	Public-Private R&D	GREEN CHEMISTRY - National Technological Clusters Programme	MIUR, Regions, Private promoters	The National Technology Cluster of "Green Chemistry" SPRING – Sustainable Processes and Resources for Innovation and National Growth, has the objective of triggering the development of biobased industries in Italy, through an holistic approach to innovation, aimed at revitalising Italian chemistry in the name of environmental, social and economic sustainability. The purpose is to stimulate research and investments in new technologies, in constant dialogue with the actors of local areas, and to pursue the European	No	The Programme is currently partially financed and is included in the national Cluster Initiative	1685	1685	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors 4) public budgetary constraints; 5) investment risk profile and credit rationing The EIB presently requires sovereign recourse for considering financing

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/m)	Investment in 2015 – 2017 (€/m)	Barriers/solutions
A. Knowledge, SMEs and the digital economy	Public-Private R&D	Life Science (ALISEI) - National Technological Clusters Programme	MIUR, Regions, Private promoters	The main issues placed at the core of the Cluster strategy are Biotech, Pharma, Nutraceutical and food chain, Diagnostic and robotic technologies, Technologies for quality of life (domestic and assisted living), Telemedicine and E-Health. The objectives coincide with the new concept of Smart Specialization Strategies, flexible and dynamic innovations in the direction of entrepreneurial discovery, cross fertilization, and aggregation of persons in possession of the key skills to meet the technological challenges of the future. The cluster aggregates different subjects on a national scale, in particular there are 2 entrepreneurial associations, 4 national research institutions, 12 Regions.	Yes	The Programme is currently partially financed and is included in the national Cluster Initiative	450	450	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors 4) public budgetary constraints; 5) investment risk profile and credit rationing The EIB presently requires sovereign recourse for considering financing
A. Knowledge, SMEs and the digital economy	Public-Private R&D	SMART COMMUNITIES TECH - National Technological Clusters Programme	MIUR, Regions, Private promoters	SmartCommunitiesTech is the National Technology Cluster dedicated to "Technologies for Smart Communities". It develops advanced technological solutions to implement innovative models for solving social challenges on a urban and metropolitan scale. The Cluster is participated by 100 subjects (medium and large enterprises, research bodies). http://smartcommunitiestech.it/	Yes	The Programme is currently partially financed and is included in the national Cluster Initiative	188	188	1) extreme fragmentation of small investments; 2) barrier due to the current rules of public accountability 3) delays due to multiple actors 4) public budgetary constraints 5) investment risk profile and credit rationing The EIB presently requires sovereign recourse for considering financing
A. Knowledge, SMEs and the digital economy	A.3. ICT Infrastructure	Metroweb	Private	Metroweb is the owner of the licence connected to the implementation of the broadband infrastructure in the main Italian cities (i.e.150). One fifth of the total investment amount will be placed in the Convergence Regions.	Yes	to be implemented	4000	1500	Barriers: 1) significant investments needs; 2) private operators usually decide to invest only in larger cities' networks; 3) existence of a partial market failure in the Convergence Regions; Solutions: 1) provision of a tax break; 2) potential eligibility to the Project Bond Initiative; 3) possible use of Structural Fund in the Convergence Regions' cities;

* Initial phase

Pipeline of projects
B. Energy Union

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
B. Energy Union	Security of supply	LNG Terminal to export gas towards EU	LNG Med Gas	LNG Terminal is a facility located in Gioia Tauro - Calabria at which liquified natural gas is turned back into a gaseous state. It has a regasification capacity of 12 bcm/year	No - the national Energy Strategy foresees an increase of regasification capacity for security of supply	Project fully authorised	1000	500	Lack of long term finance in uncertain market and regulatory framework (strategic infrastructure)
B. Energy Union	Security of supply	LNG Terminal to export gas towards EU	EnelProduzione	LNG Terminal is a facility located in Sicily (near Agrigento) at which liquified natural gas is turned back into a gaseous state. It has a regasification capacity of 8 bcm/year	No - the national Energy Strategy foresees an increase of regasification capacity for security of supply	Project fully authorised Construction started in 2011 with preliminary works and site preparation. Estimated completion end 2019.	1000	500	Lack of long term finance in uncertain market and regulatory framework (strategic infrastructure)
B. Energy Union	Security of supply	LNG Terminal to export gas towards EU	Api nova Energia	LNG Terminal is a facility located in Falconara Marittima at which liquified natural gas is turned back into a gaseous state. It has a regasification capacity of 4 bcm/year	No - the national Energy Strategy foresees an increase of regasification capacity for security of supply	project Fully authorised	700	580	Lack of long term finance in uncertain market and regulatory framework (strategic infrastructure)
B. Energy Union	Environment management	primary ore stockyards coverage	ILVA	Projects are related to: - primary ore stockyards coverage (relevant reduction of diffuse dust emissions due to wind erosion); - steelworks slag treatment (internal material recovery maximization with a lowering of the waste production); - deployment of a sludge and dust reuse plant (sludge and dust from steelworks and blast furnaces) in order to lower material usage and resulting emissions.	yes	planned in the framework of table for crisis	1660	1660	
B. Energy Union	B.2 Energy	Energy Efficiency	private/public promoters and ESCOs	Energy efficiency interventions on public lighting systems spread throughout Italy	No	Feasibility studies/permitting/tendering	1000	200	(i) budget constrains for the local administration and limited development of the ESCO market in Italy
B. Energy Union	B.2 Energy efficiency	EE initiatives supported by TA instruments (ELENA)	private/public promoters and ESCOs	EE interventions in public buildings, including cooling/heating systems and other investments with different PB periods	No	Feasibility studies/permitting/tendering	220	220	(i) budget constrains for the local administration and limited development of the ESCO market in Italy; (ii) lack of a stable and long term energy policy; (iii) projects are financed and supported by a variety of sources and incentives usually characterized by contradiction and overlapping.
B. Energy Union	B.2 Energy efficiency	EEEF	EC / EIB / CDP	EEEF contributes with a layered risk/return structure to enhance EE and foster RE in the form of a targeted private public partnership, primarily through the provision of dedicated financing	No	Operative / Promoters' commitment period expiring / going to expire in short time frame	300	300	(i) too short rump up period; (ii) limited duration of Promoters' commitment periods; (iii) wide geographical span / very diverse underlying; (iv) fund manager organisational plan vs actual fund rump up Future development depends, inter alia, on the availability of First Loss Piece from EU
B. Energy Union	B.2 Energy efficiency	energy efficiency for steel production	ILVA	Improvement of energy efficiency and the implementation of the BAT, such as the following revampings: - one entire blast furnace; - several coke batteries; - the power plants.	yes	planned in the framework of table for crisis	670	670	risky investment related to R&D content and administrative complexity risk sharing mechanism /project bonds and simplification
B. Energy Union	B.2 Energy efficiency	National Energy Efficiency Fund	Ministry of economic development	The National Fund for Energy Efficiency has been established by Article 15 of Legislative Decree 102/2014. Fund aimed at stimulating larger energy efficiency investments. To this end, Fund provides guarantees and soft loans to projects aimed at improving energy efficiency of public buildings (including social housing), implementing district heating networks, improving energy efficiency of public infrastructure (including lighting). Italian government has allocated up to 70 million Euros per year (2014-2020) for the National Fund for Energy Efficiency.	Yes The establishment of the Fund was carried out by Legislative Decree 102/2014.	In the next few months is expected to be published a implementing decree to kick off disbursement of financial facilities. The program will be activated with the resources currently available, since 2015.	2250	700	Barriers are the following: - Difficulty in obtaining loans and financial support; - High rates of interest charged and the lack of low-interest loans; - Separation of concerns: the economic benefits and costs of investment compete in different subjects; - In the case of default, which tends to discourage the same ESCo due to possible problems in the recovery of credit resulting from the energy savings achieved.
B. Energy Union	B.2 Energy efficiency	EE in public buildings	ESCOs/Demanio	EE interventions in public buildings to comply with the 3% obligation foreseen under the EED 2012.	No	to be launched	2000	1000	(i) budget constrains and limited development of the ESCO market in Italy; (ii) lack of a stable and long term energy policy; (iii) Projects are financed and supported by a variety of sources and incentives are usually inconsistent and overlapping.

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/m)	Investment in 2015 – 2017 (€/m)	Barriers/solutions
B. Energy Union	B.1 Connection and Production	Magenta (IT) substation Upgrade	TERNA + SWISSGRID	PCI Project (#2_15_2). New 400 k V DC/AC link between Airolo, Bappanzeno and Baggio - of about 160 k m and with a capacity of over 2.000 MW/1500 MVA between Italy and Switzerland (onshore), including the following network items: 1. 400k V AC connection between Airolo (CH) and Pallanzeno (IT); 2. HVDC connection between Pallanzeno (IT) and Baggio (IT) Re inforcement with new 400 k V section in Magenta substation (IT)	n.a.	Permitting	30	30	
B. Energy Union	B.1 Connection and Production	HV interconnector between Lienz (AT) and Veneto region (IT)	TERNA + Austrian Power Grid	PCI Project (#3_2_1). The reconstruction of the existing 220 kV interconnection line between Soverzene and Lienz as a 400 kV AC insulated tie-line of about 100-150 km (approximately 35 km on AT and the rest on IT side) and with a capacity of 1500 MVA between Lienz and Veneto region substations, along an optimized route, which minimizes the environmental impact (onshore).	n.a.	Feasibility / FEED	155	155	
B. Energy Union	B.1 Connection and Production	Internal line Foggia and Villanova	TERNA	PCI Project (#3_19_3), north-south electricity interconnection in Central Eastern and South Eastern Europe. New 400 kV AC double circuit overhead line (OHL) with a length of 178 km and a capacity of 3.000 MVA. The project located in the Adriatic backbone is aimed at removing bottlenecks and increasing market integration as well as at improving integration of RES in the EU interconnected system.	Yes	Construction (2015-2019)	340	340	1. Delay in the authorization process; permitting phase of the second part still on-going. 2. final investment decision subject to completion of permitting phase
B. Energy Union	B.1 Connection and Production	Development for new imports from the South	Snam Rete Gas	The project will create new transmission capacity of approximately 24 MSm ³ /d to facilitate gas from future entry points in the South of the country. The project includes the construction of an approximately 430 km new pipeline DN1200 and a compression plant of approximately 33 MW, along the South – Nord line, known as the "Adriatica Line".	Yes - Snam Rete Gas Ten Years Network Development Plan	Multiple projects in different phases: - Under realization - Planned	1560	380	Permitting problems, leading to possible delays.
B. Energy Union	B.1 Connection and Production	Support to the North West market and bidirectional cross-border flows	Snam Rete Gas	The project continues on from the previous empowerments and integrates the expansions to facilitate an increase in export capacity by 2018. The capacity at the exit point of Passo Gries will increase to up to 40 MSm ³ /d, or up to 22 MSm ³ /d with a simultaneous exit flow at the Tarvisio exit point of up to 18 MSm ³ /d.	Yes - Snam Rete Gas Ten Years Network Development Plan	Multiple projects in different phases: - Under realization - Planned	710	460	Permitting problems, leading to possible delays.
B. Energy Union	B.1 Connection and Production	Elettrodoto HVDC di interconnessione Italia – Francia	Terna TSO	Cross-border Interconnection	Yes	The project is included in the company's 2014-18 business plan and the authorization procedure has been already completed.	480	480	Regulatory issues for the crossborder allocation of cost and environmental authorizations. Long term finance needed. EU-EIB financing support would allow to boost its realization compared to the scheduled work plan, with a beneficial impact on employment and socio-economic recovery.
B. Energy Union	B.1 Connection and Production	LNG infrastructure development	Ministry of economic development, Ministry of Infrastructures and transport, Agency for electric energy and gas	Development and implementation of a national infrastructure for LNG fuel distribution at main TEN-T ports, and on main road nodes, for heavy transport	no	Under cost benefit analysis for a National Plan for LNG, committed by the Italian Parliament	500	500	Establishment of a specific fund for supporting dedicated investments

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
B. Energy Union	B.1 Connection and Production	Sardegna-Corsica-Italia	Terna TSO	Cross-border Interconnection	Yes		640	640	This is a relevant project, included in the National Transmission Grid Development Plan, but not yet considered in the 2014-18 business plan, mainly due to a lack of adequate financing resources in the short-medium term, and authorization procedure issues. The EU financing support would allow the inclusion of the project in Terna's business plan and, thus, boosting its realization, with a beneficial impact on employment and socio-economic recovery.
B. Energy Union	B.1 Connection and Production	ItBioraref: Third generation Biorefineries integrated in the Italian territories dedicated to the production of added value products, such as chemicals, bioplastics, etc	Private Promoter (Novamont) (complete value chain from agro players to end-users. It should be envisaged that a critical mass of SMEs both in agro sectors and in manufacturing sectors (especially plastic converters and new start up in bio-based chemicals sectors have been, and will be more and more, engaged)	The project in details: Recovery of abandoned land due to desertification, pollution, salinity, etc. through innovative dry crops able to produce oil, feed, active molecules and biomass. 100000 ha of abandoned land, according to the research results already achieved and tested by means of the build-up of first demonstrators and flagships, it is possible to produce: Proteins for animal feed (26%): 110.000 -200.000 ton/year (only Sardinia imports 140000 ton/year of soy) (one key aspect of CAP); Vegetable oil: 40000 – 80000 ton/anno (Italy imports more than 50% of the total vegetable oils used); Active molecules: 3000 – 5000 ton/year ; Lignocellulosic biomass: 1,5Ml ton/year (about 1Ml ton for energy and the rest for sugars); second generation sugars for proprietary new chemicals obtained by means of chemical and biotechnological processes: 370000-500000 ton/year Bioplastics/biolumbricants and other added value products: 250000 -350000 ton/anno. The direct turnover produced will be of about 1Bl € with about 20000 new jobs all over the chain. The use of biolumbricants, bioplastics from natural origin, polymeric plasticizers as replacement for phthalates, etc. This initiative is in line with the Bioeconomy strategy, Commission circular economy Package, the Lead Market Initiatives, Communication for an European Industrial Renaissance	No	Part of the project is in the construction phase. An important part of the initiative will start in 2015 and minor part are still in investment decision phase. It is important to underline that about 0,5 billion have been already invested by Novamont and its partners in 3 flagships and 1 demo plant, with research and innovation activities closely linked). Start-up of specific and low impact agricultural value chains, not competing with food production; Reindustrialization of 6 deindustrialized sites, for a total of more than 1.500 employees: Terni; Taticca (Fr), Porto Torres (Ss), Novara, Adria (Ro). New bioproducts at eu level: a virtuous chain of high quality compost with extraordinary cases of excellence (Milan champion in quantity and quality of organic waste)	1200	700	Barriers: uncertainty of policies and legislative framework, lack of quality standards protecting innovative products developed in the territories, market measures to pull innovative products; need to promote, according to the Bioeconomy Strategy, Sustainable Regions programs to orient education, research, structural funds; promote ways to reduce the cost of energy for a limited period of time in case of innovative investments as in the case of added value products: the purpose is to avoid that private companies, already risking their capital in innovative initiatives in Italy, had to pay the costs of subsidies given to not competitive realities. Access to structural funds, connection between Structural Funds and PSR Funds as well as energy efficiency funds should be explored
B. Energy Union	B.1 Connection and Production	Bio-gas and Bio-chemicals	NOVAMONT and Public private partnership at regional level	Zero organic waste in landfill with full reuse as compost for soil fertility, biogas and chemicals	no	cost/benefit analysis	1500	700	
B. Energy Union	B.1 Connection and Production	Pilot battery storage systems in Central South Italy	TERNA	PCI Project (#3_25). Installation of 250 MW of storage systems (Batteries) on critical 150 kV transmission network in South Italy. Batteries are characterized by removable, modular and flexible installations; these characteristics allow installations in a wide variety of sites and the possible replacement depending on the needs that could arise in the medium / long term. Permitting has already started for the first experimental stage concerning 35 MW, while the remaining part of the project is under prefeasibility studies.	Yes	Construction	750	750	
B. Energy Union	B.1 Connection and Production	HV interconnector Villanova (IT) and Lastva (ME)	TERNA + CGES (ME)	PCI Project (#3_19_1). New HVDC interconnection line with a capacity of 1000 MW between Italy and Montenegro via 375 km of 500 kV DC subsea cable and converter stations at both ending points in Villanova (IT) and Lastva (ME) (offshore)	n.a.	Construction	800	800	1. Strengthen of interconnection capacity among Balkan countries. 2. lack of electricity surplus to be exported to Italy could result in a lower utilisation for the cable till 2020.
B. Energy Union	B.1 Connection and Production	Bio-refineries	Mossi & Ghisolfi	Development of 3 bio refineries for the production of 80.000 ton a year (for each biorefinery) bioethanol from lignocellulosic biomasses TPG Capital (Texas Pacific Group). The technology is Italian and it has been developed by Biochemtex - Gruppo Mossi e Ghisolfi (M&G)	no	cost/benefit analysis	900	900	Risky investment related to R&D content and administrative complexity risk sharing mechanism /project bonds and simplification
B. Energy Union	B.1 Connection and Production	"CAR fluff" valorization (resulting from end of life vehicles)	Car makers, suppliers, steel sector, Ministry of Environment and Ministry of Economic Development		no	Under cost benefit analysis by national framework program for end of life vehicles (car manufacturers, supply chain, steel sector)	1000	1000	Fees for production of energy from recycled materials (car fluff) not sufficient to attract investments; support to investments by project bonds or dedicated investment fund (or PPP)
B. Energy Union	B.1 Connection and Production	Interconnection HVDC Italia – Montenegro	Terna TSO	Cross-border Interconnection	Yes	The project is included in the company's 2014-18 business plan and the authorization procedure has been already completed.	1100	1100	The EU financing support would allow to boost its realization compared to the scheduled work plan, with a beneficial impact on employment and socio-economic recovery
B. Energy Union	B.1 Connection and Production	Urban Networks and smart cities	Ministry of economic development, Municipalities	The project aim at: a) realizing large scale urban smart grids in order to integrate renewable production, prompt demand side management and diffuse electric vehicles; b) diffusing smart home technologies; c) modernizing public lighting and traffic lighting; d) diffusing district heating from renewables	Yes, indirectly: all activities are considered and supported in national legislation as important tools to reach the	A comprehensive feasibility study has been conducted. More detailed intervention projects, referred to specific territories, have been developed	8400	2000	

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
B. Energy Union	Security of supply	Gas Storage Bordolano - Emilia Romagna Region	Private promoter - STOGIT	The project consists in expanding the capacity of the Italian gas storage by means of an underground gas storage in a depleted field with a capacity of 1200 million cubic meter and a withdrawal peak capacity of 20 million cubic meter per day	Yes - Storage activities are operated under a regulatory regime according EU Directives for the Energy Market. The gas storage development plan is included in the National Energy Strategy approved by Government on March 2013	Multiple project in different phases: - Under realization - Planned	560	560	Permitting problems, leading to possible delays. Budget restrictions. Long term finance needed. Insufficient remuneration under regulatory regime
B. Energy Union	Security of supply	Gas Storage Cugno Le Macine - Basilicata Region	Private promoter - Geogastock	The project consists in expanding the capacity of the Italian gas storage by means of an underground gas storage in a depleted field with a capacity of 1000 million cubic meter and a withdrawal peak capacity of 10 million cubic meter per day	Yes - Storage activities are operated under a regulatory regime according EU Directives for the Energy Market. The gas storage development plan is included in the National Energy Strategy approved by Government on March 2013	Multiple project in different phases: Planned	600	600	Permitting problems, leading to possible delays. Budget restrictions. Remuneration under regulatory regimes unsatisfactory
B. Energy Union	Security of supply	Gas Storage Comegliano - Lombardia Region	Private promoter - Italgas Storage	The project consists in expanding the capacity of the Italian gas storage by means of an underground gas storage in a depleted field with a capacity of 1300 million cubic meter and a withdrawal peak capacity of 27 million cubic meter per day	Yes - Storage activities are operated under a regulatory regime according EU Directives for the Energy Market. The gas storage development plan is included in the National Energy Strategy approved by Government on March 2013	Multiple project in different phases: Planned	600	600	Permitting problems, leading to possible delays. Budget restrictions. Remuneration under regulatory regimes unsatisfactory

Pipeline of programs and projects
C. Transport

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/bn)	Investment cost in 2014 - 2020 (€/bn)	Investment in 2015 – 2017 (€/bn)	Barriers/solutions	Available funds			
											Public funds	Private Funds		
C. Transport	Cross-border projects-RAILS	Torino-Lione railway line project	Ministry of Transport project promotor: LTF SAS	A flagship TEN T project, connecting countries Italy and France, being both of highest national and international strategic importance, as it connects two Member countries, while at the same time two major economic centres.	Yes	Construction on-going	11.700	1.500	0.700		143m	0		
C. Transport	Cross-border projects-RAILS	Railway Brenner Base tunnel project IT-AT-crossing (link Fortezza-Verona included)	Ministry of Transport project promotor: BBT SE	A flagship TEN T project, connecting countries Italy and Austria, being both of highest national and international strategic importance, as it connects two Member countries, while at the same time two major economic centres.	Yes	Construction on-going	12.200	2.580	1.378		888m	0		
C. Transport	Cross-border projects-RAILS	Trieste-Divaca railway line project	Ministry of Transport	A flagship TEN T project, connecting countries Italy and Slovenia, being both of highest national and international strategic importance, as it connects two Member countries, while at the same time two major economic centres.	Yes	Preliminary project	to be determined				0	0		
C. Transport	Corridors railway projects -RAILS	Rhine-Alpine Corridor (3° valico dei Giovi, technological upgrading of Chiasso-Monza, potenziamento strutturale Voltri- Brignole) railway projects	Ministry of Transport project	projects aimed at the implementation of the corridor	Yes		6.200	2.792	1.000	Barriers: 1.Lack of long term finance + coordination and permitting problems, leading to possible delays. 2. Separation of funding obligation according to national quota might create uncertainty on financing plan and/or implementations delays; 3. Approval processes (especially environmental) carried out by different national authorities Solutions: 1. A combination of EC grants, EIB and MS finance as well as private capital is envisaged. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries. 2. Streamline approvals	719,52m	0		
C. Transport	Corridors railway projects -RAILS	Mediterranea Corridor (AV/AC Milano-Venezia tratta 1) Treviglio-Brescia, Linea AV/AC Milano-Verona tratta 2) Brescia- Verona-Padova, 3)potenziamento tecnologico Torino-Padova tratta Milano-Padova, 4) cintura di Torino e connessione al collegamento Torino-Lione, 5) PRG e ACC di Lambrate, 6) ripristino linea dei bivi 1^ fase, 7) collegamento ferroviario aeroporto di Venezia) railway project portfolio	Ministry of Transport project promotor: RFI		Yes		8.050	1.800	1.000		1) 2019m 2) 1137m 3) not available 4) not available 66m 5) not available 310m 6) not available 7) 0			
C. Transport	Corridors railway projects -RAILS	Scandinavian Mediterranean Corridor (potenziamento di linee di accesso al Brennero tratta Fortezza-Verona, potenziamento tecnologico e infrastrutturale del nodo di Roma) railway project portfolio	Ministry of Transport project		INCLUDED SUB C.2							111m	0	
C. Transport	Corridors railway projects -RAILS	Scandinavian Mediterranean Corridor Napoli - Bari (1) variante Napoli-Cancello,2) raddoppio Cancello-Frasso Telesino,3) raddoppio Frasso Telesino-Vitulano, 4) nodo di Bari : Bari sud - Bari c.le-Bari Torre a mare, 5) raddoppio Bovino-Orsara) railway line	Ministry of Transport project		Yes		6.195	2.580	0.600		1) 813m 2)730m 3) 0 4) 391m 5)768m			
C. Transport	Corridors railway projects -RAILS	Scandinavian Mediterranean Corridor Messina - Catania - Palermo (1) raddoppio Bicocca-Catenanuova, 2) raddoppio Catenanuova-Raddusa Agira) railway line	Ministry of Transport project		Yes		5.250	0.740	0.740		1)81m 2) 415m			
C. Transport	Corridors railway projects -RAILS	Baltic Adriatic Corridor (1) upgrading tecnologico Bologna- Padova 1^ fase, adeguamento a modulo corridoio baltico, 2) sistemazione nodo di Udine, 3) upgrading infrastruttura ferroviaria del porto di Trieste, 4) nodo di Bologna bretella AV per Venezia) railway project portfolio	Ministry of Transport project promotor: RFI		Yes		0.160	0.108	0.108		1) not available 2) 55m 3) 26m 4) not available			
C. Transport	Other strategic projects-PORTS	Genova	Ministry of Transport project promotor: Port Authority		Port projects	Yes		0.360	0.360		0.302	Barriers: Fragmentation of state contributions not concentrated on core investments for a number of identified strategic ports Solutions: 1.Extend duration of concession after tender / to current concessionaries in exchange for new capex. 2. Identify clear strategic ports and increase / make more certain the financial support	1)12mln (APGE) 2) 20mln (APGE+ BEI) 3) not available 4)11,5 mln (APGE + TEN-T funds) 5)not available 6) 11 mln (APGE) 7) 124 mln (National Funds + ASPI)	30 mln (ASPI)
C. Transport	Other strategic projects-PORTS	Ravenna, Trieste, Venezia	Ministry of Transport project promotor: Port Authority		Port projects	Yes		2.500	2.500		1.000			
C. Transport	Other strategic projects-PORTS	Corridoio Scandinavia-Mediterraneo	Ministry of Transport project promotor: Port Authority	Port projects	Yes		1.200	1.200	0.600					
C. Transport	Other strategic projects-PORTS	Livorno - "Europa Platform"		Port projects. Flagship TEN-T projects aiming at improving container handling capacity in the Italian west coast.The project together with the planned freight rail accessibility will be part of the Sandinavian - Mediterranean Corridor.	Yes		0.640	0.640	0.250	Barriers: Fragmentation of state contributions not concentrated on core investments for a number of identified strategic ports Solutions: Regional grants and soft loans, Livorno PA funding, approval of PPP schemes with partial private financing; Long term financing by IFIs				
C. Transport	Other strategic	Gioia Tauro					INCLUDED SUB C.12					8m		

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/bn)	Investment cost in 2014 - 2020 (€/bn)	Investment in 2015 – 2017 (€/bn)	Barriers/solutions	Available funds	
C. Transport	Other strategic	Palermo					INCLUDED SUB C.12					
C. Transport	Other strategic projects-AIRPORTS	Milano, Venezia, Roma Fiumicino (rail links)	Ministry of Transport project promotor: Airport infrastructure manager	Airport projects			2.600	1.800	0.450			
C. Transport	Other strategic projects-AIRPORTS	Venezia, Bologna (rail links)	Ministry of Transport project promotor: Airport infrastructure manager	Airport projects			INCLUDED SUB C.16					
C. Transport	Other strategic projects-AIRPORTS	Roma Fiumicino (rail links)	Ministry of Transport project promotor: Airport infrastructure manager	Airport projects			INCLUDED SUB C.16					
C. Transport	Other strategic projects-	Catania Fontanarossa (rail links)					0.480	0.238	0.238			
C. Transport	Missing links and bottlenecks-ROADS	A4 Venezia-Trieste	Ministry of Transport project promotor: Road infrastructure manager				2.400	2.400	0.120	Barriers: (i) concession duration for road projects; (ii) economic-financial viability to be assessed on the basis of new Business Plan and traffic study update; (iii) equity commitment to be verified.	0,130 bn	
C. Transport	Missing links and bottlenecks-ROADS	Salerno-Reggio Calabria	Ministry of Transport project promotor: Road infrastructure manager				2.900	1.100	0.600	Traditional procurement approach (not concession), public funding is still to be entirely covered	7909m	
C. Transport	Missing links and bottlenecks-ROADS	Orte-Mestre	Ministry of Transport	Modernization and implementation of safety measures of the section E45 (262 km) and new construction of the section E55 (134 km)	Yes	Preliminary draft submitted by the private promoter pending approval by the CIPE. Afterwards an international tender will be called for identifying the dealer. The promoter has the right of first refusal.	7.300	7.300	1.300	Barriers: (i) concession duration for road projects; (ii) economic-financial viability to be assessed on the basis of new Business Plan and traffic study update; (iii) equity commitment to be verified. Solutions: Project execution by constructive functional lots. Long term funding availability is the consequence of the demonstrated sustainability of the project. Potential IFIs/NPB lending commitment is conditioned on, inter alia, (i) economic-financial viability once the Final Design is approved and an independent traffic study is available (barriers' solution) and (ii) co-financing from commercial banks on the same risk taking approach (including maturity of the debt facilities).	1,1 bn (present value tax benefit)	8,2 bn
C. Transport	Missing links and bottlenecks-ROADS	Pedemontana Veneta	Veneto region	Construction of a toll highway 94 km long linking the motorways A4 (Brescia-Padova) and A27 (Venezia- Belluno)	Yes	Dealer already identified and final design approved by the Grantor; work in progress (about 10%); expected completion 31/12/2018	2.300	2.300	1.300	Barriers: The financing structure is still under definition. Solutions: Involvement in the pool of lenders of BEI / Cassa Depositi e Prestiti. Possible use of the financial instrument "bridge to bond".	1,05 bn	2 bn
C. Transport	Missing links and bottlenecks-ROADS	Campogalliano - Sassuolo	Ministry of Transport	Construction of a toll highway (18,3 km) linking the motorways A22 and A1 with Sassuolo population centre (direttrice Nord-Sud) and connection of Rubiera population centre with Modena ring road (direttrice Est-Ovest)	Yes	In April 2014 final award and in August 2014 creation of the Società di Progetto. At present the signing of the agreement with the Società di Progetto is pending	0.430	0.430	0.400	Barriers: Updating of the transport study considering the reduction in production in the Ceramics district and the construction of the adjacent non-toll highway Modena-Sassuolo. Solutions: Evaluation of possible incorporation of the concession with that of the adjacent A22 motorway, after sharing with the European Commission services	0,215 bn	0,247 bn

D. Social Infrastructure

Sector	Sub-sector	Program name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	TOTAL INVESTMENT SOUGHT (€/bn)	TOTAL INVESTMENT IN 2015 – 2017 (€/bn)	Barriers/solutions
D. Social Infrastructure	D.1 Education and Training	La Buona Scuola PLAN (LBS) (D1, D2, D3 and D4 are part of such plan).	MIUR	<p>La Buona Scuola is a long-term vision and framework for school reform in Italy. The related investment plan identifies five main areas of investment:</p> <ul style="list-style-type: none"> - Human resources: an extraordinary recruitment plan, to hire 150 thousands teachers by September 2015 in order to close the current waiting list system, stop the recurring malpractice of yearly fixed-term contracts, provide schools with a stable staff of teachers to cover vacant positions and leaves, to ensure teaching continuity for students and to extend teaching hours to full-time in primary education. - National training infrastructure for teachers: the creation of mandatory professional development schemes, centred on peer-collaboration and the consolidation of a resilient national "network of networks" for didactic innovation (tying school networks and local innovators among each other). Training schemes system will focus particularly on: language skills and internationalization, digital skills and new media literacy, laboratory, creativity and problem-solving skills, and a fourth area of didactic innovation. - Innovating curricula: introducing coding, music and physical education in primary schools, and extending the teaching of arts and cultural heritage, informatics and computational thinking, making, economics and financial literacy in secondary schools. - Digitalizing every school: connecting every school in the country with high-speed internet, Wi-fi and devices for digital education by 2018, in conjunction with regional investments, private investments and the Government's ultra-broadband plan. - School for Jobs: mandatory vocational training in the last 3 years of technical and professional curricula for at least 200 hours per year and renewing all school labs. - Advanced facilities for education: extending current national investments to modernize and/or build modern, safe and enriching school facilities for pupils and NETs dedicated to digital making, social inclusion, culture and creativity and industrial integration. The European Commission recently stated that meeting "La Buona Scuola" targets would allow Italy to respond to all Country Specific Recommendations 	Yes	Plan published on September 3rd, and on public consultation between September 15th and November 15th. Resources up to 1bn€ for the current year and 3bn€ from 2015 in Stability Law. Currently, 8 "delivery units" are working to implement various parts of the plan or adjusting them when needed according to consultation results. Decree and d.m. (administrative decrees) on January 2015 for implementing the work of delivery units between January and September 2015 and September 2018.	8.750	6.750	The Italian government has set-up a single management unit to coordinate and supervise the implementation of the project as well as facilitate financial partnership with the EIB, in coordination with CdP and local authorities. The EIB presently requires sovereign or regional recourse for considering financing.
D. Social Infrastructure	D.1 Education and Training	La Buona Scuola - National Training Infrastructure	MIUR	<p>National Training Infrastructure: permanent and mandatory training for 800,000 teachers across various schemes through consolidation of a resilient national "network of networks" for didactic innovation, focused on language skills, digital skills, special educational needs, career guidance and school-to-work schemes support</p>	Yes	Executive working group at MIUR to set up a permanent National Training Infrastructure consistent with "La Buona Scuola" objectives and with European Structural funding	2.050	2.050	Barriers: fragmented governance of teachers' education; scarce and fragmented investments would inhibit the timely and efficient deployment of La Buona Scuola plan at national level. Regular training schemes already in place. Solutions: need to extraordinary financing coupled with a substantially streamlined governance and deployment of training schemes.
D. Social Infrastructure	D.1 Education and Training	La Buona Scuola - National School Building Renewing Plan	MIUR, Regions, Local Authorities	<p>Advanced facilities for education: extending current national investments to modernize and/or build modern, safe and enriching school facilities for pupils and NETs dedicated to digital making, social inclusion, culture and creativity and industrial integration - measures in order to prevent any damage caused by earthquakes</p>	Yes	Partially implemented with BEI	6.000	4.000	Barriers: 1) Fragmented policy solutions, layered over time; 2) Budgetary cuts and scarce investments, especially for mid and long term projects 3) multi-centered decision system for several core processes
D. Social Infrastructure	D.1 Education and Training	La Buona Scuola - Full Digitalization of Schools	MIUR	<p>Digitalizing every school: equipping every classroom in the country with high-speed internet, Wi-Fi and devices for digital education by 2018, with a cohesive joint plan of central and local authorities together with private investments</p>	Yes	New National Plan for Digital Schools under revision based on La Buona Scuola. Ongoing collaboration with Agency for Digital Italy (AGID)	0.670	0.670	Barriers: Fragmented policy solutions, layered over time; cuts and scarce investments; multi-centered decision system for several core processes
D. Social Infrastructure	D.1 Education and Training	La Buona Scuola - Innovative School-to-work schemes	MIUR	<p>Innovative School-to-work schemes: developing and funding a set of innovative school-work schemes, in order to sustain compulsory school-to-work training in technical and professional secondary school. Schemes include "didactic enterprise", "school for craftsmanship" and experimental apprenticeship</p>	Yes	Consultations with main industrial partners and associations. Experimental apprenticeship scheme launched on May 2014	0.030	0.030	Barriers: high costs for entrepreneurs, low rewards for schools. Solutions: ad hoc schemes for different partners, dedicated resources
D. Social Infrastructure	D.1 Education and Training	University Infrastructural capacities improvement	MIUR	<p>Improve overall infrastructural capacities of the tertiary Education System and all infrastructures devoted to students welfare towards full integration within the European Higher Education Area.</p>	Yes	Planning and investment decision taken, activities partially started, average duration 3 years, with some actions also reaching year 2021	0.813	0.454	Barriers: Budgetary constraints; current rules of public accountability; current administrative procedures; low perception of the added value of a PHD holder within the industrial and SME's context; Solutions: exclude public/local debt/guarantees provided for tertiary education institutions from stability pact; use of EU funds to absorb credit risk on tertiary education financing; general simplification of bureaucratic procedures
D. Social Infrastructure	D.2. Health	Trento new hospital hub	Autonomous Province of Trento, Private investors	<p>Construction and operation scheme of a new hospital, having capacity of over 600 beds</p>	Yes (regional)	After the recent annulment of first tendering/awarding of the scheme, the awarding authority is expected to launch a new public tender soon	0.310	0.310	Barriers: length of tendering process. Solutions: partially financed with public (regional) resources € 160 mln

*= already matched by MIUR - BEI School Upgrade Extraordinary Programm

**= Financed by DM 351/2014

***= financed by DM 351/2014

Pipeline of projects
E. Resources and Environment -

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/bn)	Investment in 2015 – 2017 (€/bn)	Barriers/solutions
E. Resources and Environment	E.1. Natural resources: efficient use and secure availability	CAP Settore Idrico Milano	CAP Holding	Investments in water and wastewater schemes in line with EU environmental directives	No	Investment programme 2015-2033 with multiple schemes, with planning and permitting at different stages, and with annual capex occurring every year	1.100	0.210	Barriers: Regulatory uncertainties on standard costs (benchmarking) and termination value, affecting the economic and financial plan of the operator. Potential solutions: Operation of EUR 70 million already financed by EIB / Cassa Depositi e Prestiti.
E. Resources and Environment	E.1. Natural resources: efficient use and secure availability	SMAT Settore Idrico Torino	SMAT S.p.A.	Investments in water and wastewater schemes in line with EU environmental directives	No	Investment programme 2015-2023 with multiple schemes, with planning and permitting at different stages, and with annual capex occurring every year	0.560	0.250	Barriers: Regulatory uncertainties on standard costs (benchmarking) and termination value, affecting the economic and financial plan of the operator. Potential solutions: Operation of EUR 100 million to be financed by EIB / CDP (signature expected by end 2014).
E. Resources and Environment	E.1. Natural resources: efficient use and secure availability	Publiacqua Settore Idrico Firenze	Publiacqua S.p.A.	Investments in water and wastewater schemes in line with EU environmental directives	No	Investment programme 2015-2021 with multiple schemes, with planning and permitting at different stages, and with annual capex occurring every year	0.460	0.210	Barriers: Project financing with end of the concession in 2021 does not allow long-term financing beyond 2021. Regulatory uncertainty on the level and payment mechanism of the Termination Value (TV) due at the end of the concession. Potential solutions: (i) Establish and certify the current level (in EUR) of the Regulated Asset Base (RAB) and the level of the Termination Value for each remaining concession year; (ii) Establish the principle that the concessionaire maintains the right to provide the service until the full receipt of the TV in cash; (iii) Ensure grandfathering in case of changes to the future regulatory framework; or (iv) Obtain "corporate guarantee" from private partner ACEA S.p.A. for TV.
E. Resources and Environment	E.1. Natural resources: efficient use and secure availability	Acquedotto del Fiora	Acquedotto del Fiora S.p.A.	Investments in water and wastewater schemes in line with EU environmental directives	No	Investment programme 2015-2026 with multiple schemes, with planning and permitting at different stages, and with annual capex occurring every year	0.290	0.110	Barriers: Project financing being structured with relatively small operator, with high unit costs due to low population density and wide area. Regulatory uncertainty linked to the future definition of standard and environmental costs and of the TV. Potential solutions: (i) Define standard costs and environmental costs foreseen by AEEGSI; (ii) ensure grandfathering of the economic plan of the concessionaire in case of unexpected future changes to standard and environmental costs
E. Resources and Environment	E.1. Natural resources: efficient use and secure availability	CIIP Settore Idrico Ascoli	CIIP S.p.A.	Investments in water and wastewater schemes in line with EU environmental directives	No	Investment programme 2015-2032 with multiple schemes, with planning and permitting at different stages, and with annual capex occurring every year	0.220	0.050	Barriers: Relatively small operator. Regulatory uncertainty linked to the future definition by the AEEGSI of standard and environmental costs and related to the Termination Value. Potential solutions: (i) Establish and certify the current level (in EUR) of the Regulated Asset Base (RAB) and the level of the TV for each remaining concession year; (ii) Establish the principle that the concessionaire maintains the right to provide the service until the full receipt of the TV in cash; (iii) Ensure grandfathering of the concession and economic and financial plan in case of changes to the future regulatory framework; (iv) Define standard and environmental costs; (v) ensure grandfathering of the economic plan of the concessionaire in case of unexpected future changes to the standard and environmental costs.

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (€/bn)	Investment in 2015 – 2017 (€/bn)	Barriers/solutions
E. Resources and Environment	E.2. Resilience to Climate Change	Program for mitigation of hydrogeological hazard	Varios Regions	Flood hazard mitigation measures, landslide hazard mitigation measures, coastal protection measures.	yes	At various phases of project cycle	9.584	7.657	Barriers: financial resources shortage, stability pact, requested time for advice acquisition. The EIB presently requires the implementation of the program to be coordinated and supervised by a single implementing agency. Difficulties for the EIB to reach out local authorities and/or small size projects in the face of increasing devolution of responsibility on investment. <u>Potential solutions</u> : ruling acts and bills, simplification and reduction of bureaucracy's burden. Considering reviewing EIB policies, structure, and mandate to reach out local authorities and small size projects and enhancing partnership with NPBs and regional financial institutions.
E. Resources and Environment	E.2. Resilience to Climate Change	Program for remediation of contaminated sites	Varios Regions under the supervision of the Ministry of the Environment and Protection of Land and Sea of Italy	Investments in remediation of contaminated sites and asbestos removal	yes	At various phases of project cycle	2.806	2.532	Barriers: Procedural complexity in terms of the administrative and technical; financial constraints in spending at the local level due to EU stability pact. The EIB presently requires the implementation of the program to be coordinated and supervised by a single implementing agency. Difficulties for the EIB to reach out local authorities and/or small size projects in the face of increasing devolution of responsibility on investment. Lack of implementing projects capacity at local level. Solutions: Legislative and regulatory measures (being adopted and to be adopted) aimed at procedural simplification and for overcoming difficulties in spending at the local level. Considering reviewing EIB policies, structure and mandate to reach out local authorities and small size projects and enhancing partnership with NPBs and regional financial institutions.



LATVIA



Country : LATVIA

Project list

No	Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
Knowledge and the digital economy										
1.	Knowledge and the digital economy	Public R&D	Creative Industries R&D Cluster	Innovation infrastructure will be supervised and managed by Triple Helix of academy (i.e. Latvian Art Academy, Latvian Music Academy, Latvian Culture Academy), public authority and representatives of creative industry	Project Creative Industries R&D Cluster is intended as innovation infrastructure that will provide creative industries with three components: human resources, technological resources and research and development services. Project Creative Industries R&D Cluster will be implemented in the subsequent creative economy areas: design, cinema, visual arts, music, printing and publishing industry, computer games and interactive	No	Formulated in accordance with National Development Plan of Latvia for 2014–2020 (Goal 3 Development of commercial creative industries) Timing 2015-2020	75 million EUR	37 million EUR	<u>Barriers:</u> lack of enabling government (infrastructure) investment; lack of confidence and risk-taking in the private sector; <u>Solutions:</u> Project is related to ICT and also will facilitate tourism sector.
2.	Knowledge and the digital economy	Private R&D	Venture capital investments in innovative SMEs for expansion	JSC “Single Development Institution”	Pan Baltic venture capital fund should be continued following success of currently active Baltic	Yes	Timing 2016 - 2017	100 million EUR	25 million EUR	<u>Barriers:</u> Venture capital market in Baltic states is undeveloped thus

			internationalization		investments in high growing SMEs, will provide development of innovations in Baltics and will promote the development of the					SMEs with high growth potential is limited.
3.	Knowledge and the digital economy	Private R&D	Loans for SMEs growth	JSC "Single Development Institution"	Providing investments in all forms (loans, guarantees, mezzanine) and attracting additional co-funding SMEs with economic viable projects will be able to grow and become more competitive.	Yes	Timing 2016 - 2017	50 million EUR	20 million EUR	Even with a good and economically viable business plan SMEs have a limited opportunities to acquire funding from market. It is due to higher risks, insufficient collateral, credit
4.	Knowledge and the digital economy	Private R&D	Financial instruments for innovations	JSC "Single Development Institution"	To boost new technologies, access to finance to innovations loans should be provided.	Yes	Timing 2016 - 2017	85 million EUR	10 million EUR	Even with a good and economically viable business plan SMEs have a limited opportunities to acquire funding from market. It is due to higher risks, insufficient collateral, credit history, SMEs operating history, unstable cash flow.
5.	Knowledge and the digital economy	Public R&D Private R&D	Infrastructure for research, education and innovation of smart	Non-governmental organization – the Society "Baltic Institute of Research, Technology and Innovation – BIRTI" (the cluster	The primary aim of the project is to increase competitiveness of Baltic countries and the Baltic Sea region by creating environment where innovations and new	Yes (National Development Plan of Latvia for 2014	Timing 2015-2020 The Society BIRTI is establish	130 million EUR (This includes funding for the development of	10 million EUR	<u>Barriers:</u> Lack of funding for the infrastructure which promotes innovation and cooperation between the research

			engineering and ICT (BaltSmartTech cluster)		and ICT are generated based on human capital, research and innovation competence within the smart specialization fields of the region. To reach the aim, the objective is to develop concentrated infrastructure for interdisciplinary research, higher education, technology transfer and innovation within the determined areas of smart specialization of engineering and ICT.		research and higher education institutions and industry; initial assessment and project description (BIRTI project Fiche) are prepared; the areas of smart specialization are identified in collaboration with industry.	research infrastructure; (2) technology transfer infrastructure; (3) the infrastructure for the experimental production used in industry)		Due to the small size of companies the possibilities of the industry to invest in the technology transfer infrastructure is limited. The funding from the State is practically absent. <u>Solutions:</u> Project will create the infrastructure required to establish better cooperation between research, education and industry within the areas of smart specialization. The project will promote
6.	Knowledge and the digital economy	Public R&D Private R&D	BioPharm - Alliance	Latvian Institute of Organic Synthesis, Biomedicine Study and Research Centre, Latvian University, Riga Technical University	BioPharmAlliance cluster is a component of Modernization and Integration platform of Higher Education, Research, Development and Innovation (RDI) Resources of the Baltic States into European Research Area (ERA) and	Yes	Feasibility studies of certain activities	97,3 million EUR	97,3 million EUR	<u>Barriers:</u> Lack of public and private financing.

					and Innovation (BIRTI). BioPharmAlliance cluster infrastructure includes Research centre of molecular and structural biology, Scale- up and pilot facilities of chemical and					
7.	Know-ledge and the digital economy	Public & Private R&D partnership	Multifunctional cyclotron centre in Salaspils and the Research Platform of European relevance in Nanostructured Materials, High Energy Radiation Technologies and Innovation	University of Latvia, private investors – Intera GmbH, Austria	The main foreseen activities/goal: Revitalization of former Research Nuclear reactor territory in Salaspils and construction of 30 MeV cyclotron facility with the auxiliary equipment for the production of PET and SPECT isotopes, radiopharmaceuticals , material research, liquid metal and nano powder technologies. Supporting unit of PET/CT/MRI medical diagnostics and	Included in the National Guidelines for the Development of Environment Protection Measures	Sketch project for cyclotron unit and supporting Medical unit prepared, revitalization concept approved by the Cabinet of Ministers, feasibility studies started for individual activities.	80 million EUR + 250 million EUR if proton therapy unit is developed	55 million EUR	<u>Barriers:</u> Insufficient funding <u>Solutions:</u> Partially financing from EU funds and attraction of private investors for commercialization of research.

					therapy unit.					
8.	Knowledge and the digital economy	Public R&D Private R&D	Development of Pilot Production Units	Latvia University of Agriculture	Pilot production units are needed for entrepreneurs and researchers to work out innovative products and test them. In regulatory basis it is not possible to do in big factories where all the production lines work with specific products and where no space to test new products is. Pilot production units is planned to develop	No	Feasibility study	8 million EUR	8 million EUR	The main barriers are lack of public and/or private financing.
9.	Knowledge and the digital economy	Public R&D Private R&D	Development of Prototyping laboratory	Latvia University of Agriculture	Development of Prototyping laboratory for all research branches (mostly for engineers) where to develop small prototypes of new elaborations which could be used for	No	Feasibility study	3 million EUR	3 million EUR	The main barriers are lack of public and/or private financing
10.	Knowledge and the digital economy	ICT Infrastructure	Next generation network development in rural areas	State Joint-Stock Company "Latvia State Radio and Television Centre"	To ensure the realisation of „Europe 2020“ initiative „Digital Agenda for Europe“ goals, a national state aid programme Nr.SA. 33324 “Next-generation networks in rural areas” (C (2011)7699),	Yes (NDP2014-2020)	Feasibility study	119 million EUR	40,8 million EUR	<u>Barriers:</u> Insufficient funding <u>Solutions:</u> Partially financing from EU funds.

					<p>infrastructure, has been created and approved by the EC on 9 November 2011.</p> <p>The programme envisages the development of optical fibre cable network and access points, in order to provide any electronic communications operator with an opportunity to create loop („last mile”)</p>					
11.	Knowledge and the digital economy	ICT Infrastructure	Riga radio and TV station modernization	State Joint-Stock Company “Latvia State Radio and Television Centre”	<p>Planned to update and expand the provision of the direct functions of infrastructure, its quality and availability to existing and potential customers at national and international level thus increasing the development potential of the sector and enhancing expansion opportunities to provide competitive services.</p> <p>Furthermore, it is planned to update, modernise and make a more friendly and accessible environment for visitors to this major</p>	No	A complex technical expertise is being carried out. LSRTC has started the procedure of the local plan development. Timing 2016-2018	17 million EUR	11 million EUR	<p><u>Barriers:</u> Insufficient funding.</p> <p><u>Solutions:</u> Project is related to ICT and also will facilitate tourism sector.</p>

					unique building, because project plan includes Innovation and Science center building in this territory next to Riga radio and TV station tower. Basic activity which Innovation and Science center includes is "Little Latvia" interactive theme park; safety area around the tower is occupied by semi underground premises, hosting a science park - mostly dedicated to Media, IT and Telecommunications.					
12.	Knowledge and the digital economy	ICT Infrastructure	Broadband Access Development	"Unistars", Ltd.	First in the region broadband access network development based on LTE 3500 technology	Yes (NDP2014-2020)	Feasibility Study	20 million EUR	6 million EUR	<u>Barriers:</u> Insufficient funding. <u>Solutions:</u> EIB
13.	Knowledge and the digital economy	ICT Infrastructure	Network services users guaranteed identification system development and manufacturing	Baltic Agses international Group SIA	Development and construction of research-manufacturing enterprise, oriented on guaranteed level personal identification and access to network and internet resources. Main target to protect the loss prevention and decrease crime level in network and internet operations, including internet-	No	In process of patents and licenses purchasing	35 million EUR	25 million EUR	<u>Barriers:</u> Insufficient funding. <u>Solutions:</u> EIB loan.
14.	Knowledge and the	ICT Infrastructure	DEAC Data	Digitālās Ekonomika	DEAC Data Center Riga	No	Design	10 million	10 million	<u>Barriers:</u> Insufficient

	economy	e	Stage 2		4MW electricity installation, second floor construction works. Air conditioning systems-chillers & units. Electrical ATS panels, UPS systems. RACK systems with PDU 400 pieces. Raised floor					funding. <u>Solutions:</u> EIB loan.
Energy Union										
15.	Energy Union	Connections and production	330kV High Voltage Network interconnection „Kurzemes loks” 3.stage: 330kV line „Ventspils – Tume – Imanta”	Latvijas elektriskie tīkli AS (that is transmission system management subsidiary of 100% Latvian state owned company “Latvenergo” AS, supervised by Ministry of Economics) currently implements the project, but TSO (AS Augstsprieguma tīkls) will take over implementation role (except financing) starting from 2015	The project is being implemented under BEMIP and is include in the ENTSO-E TYNDP 2012 project Nr.4.4.1. as part of NordBalt connection between Sweden and Lithuania, being both of highest national and international strategic importance, as it facilitates energy market development in the Baltics.	Yes, planned	Project start expected in 2015. The projects will be completed in 2019.	127,42 million EUR	64,89 million EUR	<u>Barriers:</u> Capital intensive investment with lack of sufficient returns leads to shortages of long term finance. A combination of EC grants 58.71 mio eur in total (17.613 mio eur for 2015-2017) and “Latvijas elektriskie tīkli” AS own funds is envisaged. Starting from 2015 TSO will supervise the project’s planning and
16.	Energy Union	Connections and production	Modernization	AS "Latvijas Gāze"	Implementation of this project is significant to ensure compatibility with	Yes	Timing 2014–2020	190 million EUR	72,45 million EUR	<u>Barriers:</u> Insufficient funding

			Underground Gas		infrastructure.			(1.stage 72.45 million		
17.	Energy Union	Connections and production	Construction of LNG terminal	BW Maritime	Latvian gas supply system is not connected with the EU's total natural gas supply system and as a result has developed an isolated	Yes	Timing 2017	120 million EUR	120 million EUR	<u>Barriers:</u> Insufficient funding
18.	Energy Union	Energy efficiency in buildings	Increase of energy efficiency for final consumers	JSC "Single Development Institution"	The need to increase energy efficiency in final consumers is bigger than opportunity to support these projects from ESI funds. In planning period 2007-2013 only 2.3% of all Latvian multi-apartment residential buildings where renovated from ESI funds. While the actual number of buildings can be increased up to 36,6 thousand buildings if sufficient funding provided. The industry is second sector with a big potential to	Yes (NDP 2014 - 2020)	Timing 2014–2020	2,1 billion EUR	400 million EUR	<u>Barriers:</u> Feasible if additional funding for grants is provided
19.	Energy Union	Connections and production	Improvement of security of	Sadales tikls	Investments in the reconstruction and optimization of	No	Implementation is divided	11 million EUR	11 million EUR	<u>Barriers:</u> Low density of customers in

			and safety.		old (constructed during "Soviet time" mostly at 60's and 70's) electricity infrastructure to provide customers with safe and secure electricity supply according today needs for voltage quality and power capacity. Decrease of SAIDI/SAIFI measures is crucial to meet the level of other European		smaller investment programs corresponding to smart grid, automation and underground cabling.			areas requires long power lines for electricity supply. Construction of new high voltage substations could be the alternative for optimization of the grid.
20.	Energy Union	Connections and production	The 3rd interconnection between Estonia and Latvia	"Augstsprieguma tīkls" AS / "Latvijas elektriskie tīkli" AS / "Elering" AS	The project is being implemented under BEMIP and is include in the ENTSO-E TYNDP. The Project has strong positive impacts and demonstrates significant externalities for the whole Baltic Sea region, especially in terms of ending energy isolation, enhancing market functioningand	Yes, planned	Procurement for 330 kV transmission line is scheduled for 2016-2018 and commissioning is planned for 2020.	173 million EUR	17,3 million EUR	<u>Barriers:</u> Capital intensive investment with lack of sufficient returns leads to shortages of long term finance. A combination of EC grants 112.3 mio eur in total and "Latvijas elektriskie tīkli" AS own funds is envisaged.
Transport										
21.	Transport	Corridors and missing links	Reconstruction of Shipping Channel within the	Freeport of Riga Authority	Dredging of the channel will be executed according to the technical project – deepening	Yes included in NDP2020 ¹	Timing 2015-2017 have technical	90 million EUR	90 million EUR	<u>Barriers:</u> Insufficient funding <u>Solutions:</u>

¹ Latvian National Development plan 2014 – 2020

			port of Riga		channel up to – 17 m and widening of the channel up to 135 m.	and TDG20 ²	project				The project will grant safe entry and operation of heavy tonnage ships (till 130 000 dwt A fromax and 175 000 dwt cape size ships into Riga port, therefore removing a missing link for cargo flow through the port. The project will also create necessary preconditions for development of new territories in the port and enhancement of port's competitiveness in the Northeast region of the Baltic Sea. During the last 5 years number of ships with greater GT has grown considerably, therefore the existing parameters of the shipping
22.	Transport	Corridors and missing links	Integration of Riga city and Freeport of Riga into TEN-T network	Riga City Council	Integration of Riga city and Freeport of Riga into TEN-T network: Eksporta street reconstruction	Yes included in TDG20 ²	Timing 2014-2016	5 million EUR	5 million EUR	<p><u>Barriers:</u> Insufficient funding.</p> <p><u>Solutions:</u> There's a possibility to</p>	

			street reconstruction							ESI funds. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the
23.	Transport	Corridors and missing links	Integration of Riga city and Freeport of Riga into TEN-T network : Riga Northern transport corridor	Riga City Council	Integration of Riga city and Freeport of Riga into TEN-T network: Riga Northern transport corridor	Yes Included in Sustainable Development Strategy of Latvia until 2030 ³ (<i>in order to follow up the particular objective project has been indicated in the Riga long-term development strategy until</i>	Timing 2014-2022 completed feasibility studies, environmental impact assessment, project incorporated in the spatial plan (for example - Development plan of the Riga city). According to indicative implementation plan of the project until the end of	Estimated 1,5 billion EUR	Construction (works) of 1 st segment of the Riga Northern transport corridor. Estimated financial investment 150 million EUR.	<u>Barriers:</u> Insufficient funding; long period of project implementation; requires acquisition of land <u>Solutions:</u> There's a possibility to evaluate to attract CEF financing and combination with EIB loans Possibly PPP financing mechanism. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.

³ Objective - To strengthen international competitiveness of Latvia and its regions by increasing the role of Riga as metropolis of Northern Europe and international role of other largest cities of the state

							1 st , 3 rd and 4 th segment of Riga Northern			
24.	Transport	Corridors and missing links	Integration of Riga city and Freeport of Riga into TEN-T network	Riga City Council	Removing bottlenecks, increasing interoperability: Eastern motorway.		Timing 2014- 2020	100 million EUR	35 million EUR	<p><u>Barriers:</u> Insufficient funding, considering the total investment cost.</p> <p><u>Solutions:</u> There's a possibility to evaluate to attract ESI funds. A project management unit will supervise the project's planning and implementation under the close</p>
25.	Transport	Corridors and missing links	Integration of Riga city and Freeport of Riga into TEN-T network	Riga City Council	Riga port connection to VIA Baltica (Ranka Dambis and Vienibas gatve, Mukusalas street connection)		Timing 2014- 2020 Status: elaborate d technical design	155 million EUR	31 million EUR	<p><u>Barriers:</u> Insufficient funding, considering the total investment cost.</p> <p><u>Solutions:</u> There's a possibility to evaluate to attract ESI funds. A project management unit will supervise the project's planning and implementation</p>

										relevant Ministries.
26.	Transport	Corridors and missing links	Integration of Riga city and Freeport of Riga into TEN-T network	Riga City Council	Daugavgrivas street reconstruction		Timing 2014-2020	22 million EUR	4 million EUR	<p><u>Barriers:</u> Insufficient funding, considering the total investment cost.</p> <p><u>Solutions:</u> There's a possibility to evaluate to attract ESI funds. A project management unit will supervise the project's planning and implementation under the close</p>
27.	Transport	Corridors and missing links	The expansion of the existing terminal of the JSC Riga International Airport (Stages 5 and 6)	SJSC RIGA International Airport	The expansion of the existing terminal of the JSC Riga International Airport (Stages 5 and 6)	Yes included in TDG2020	Timing 2014-2023 identifying the possible terminal expansion technical solutions and the approximate cost.	5 th stage: 23 million EUR 6 th stage: 60 million EUR (2020-2023)	<p>First part of 5th stage (construction works) – 13 million EUR (financed by Pohjola bank loan) (2015)</p> <p>Second part of 5th stage (construction works) – 10 million</p>	<p><u>Barriers:</u> Insufficient funding to complete all project phases. ESI funding only for environment investments.</p> <p><u>Solutions:</u> There's a possibility to evaluate to attract CEF financing as well as loan taken by the airport is envisaged. Possibly PPP financing mechanism. A project management unit will supervise the project's planning</p>

										promoter and the relevant
28.	Transport	Corridors and missing links	Electrification of the East-West rail corridor and the passenger train route network of Pieriga with 25 kV alternating current	SJSC Latvian Railways	Electrification of the East-West rail corridor and the passenger train route network of Pieriga with 25 kV alternating current	Yes included in NDP2020 and TDG2020	Timing 2014-2022 The review of the feasibility study along with the calculations of the traction power supply of the examined technical options has been completed. Ongoing the technical preliminary design of the preferred solution; environmental impact assessment	549,2 million EUR	46 million EUR	<p><u>Barriers:</u> Insufficient funding, considering the total investment cost.</p> <p><u>Solutions:</u> There's a possibility to attract ESI funds and CEF. Taking into account the long period of project implementation necessary evaluate other sources of financing. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministry.</p>
29.	Transport	Corridors and missing links	Renewal of railway rolling stock for freight operators	SJSC Latvian Railways	Rolling stock renewal for freight operators in accordance with the requirements of the new infrastructure		Timing 2019-2030	567 million EUR	0	<p><u>Barriers:</u> The main project risks are compared to the investment size. This means that even financially viable project</p>

										realized without external financial support. Also barrier is a long period of project implementation and freight operators' possible reluctance to use electric traction instead of diesel traction and diesel prices for the electricity price sensitivity. <u>Solutions:</u> Therefore necessary public
30.	Transport	Corridors and missing links	Renewal of railway rolling stock for passenger operators	JSC "Pasažieru vilciens" (Passenger train)	Rolling stock renewal for passenger operators in accordance with the requirements of the new infrastructure		Timing 2016-2020	300 million EUR	100 million EUR	<u>Barriers:</u> The main project risks are compared to the investment size. This means that even financially viable project cannot be realized without external financial support. <u>Solutions:</u> Therefore necessary public co-financing and /
31.	Transport	Corridors and missing links	Construction of GSM-R wireless communication	SJSC Latvian Railways	The project comprises the deployment of GSM-R along the railway infrastructure of Latvian railways to	Yes included in TDG2020	Timing 2014-2017 Completed initial feasibility	106,7 million EUR	36 million EUR	<u>Barriers:</u> Insufficient funding, considering the total investment

					communication platform for voice and data communication based on the European standard of GSM-R. The GSM-R network will be equipped to support the radio signal coverage level for voice and data communication (train radio)		indicating further actions.			<u>Solutions:</u> There may be a possibility to evaluate to attract CEF financing with low co-financing rate. A project management unit will supervise the project's planning and implementation under the close supervision of the
32.	Transport	Corridors and missing links	Modernisation of railway passenger infrastructure	SJSC Latvian Railways	The passenger railway infrastructure modernization will provide for all categories, including passengers with special needs, safe and convenient service to the platforms like boarding and exiting from the train and station buildings, as well as access to the passenger infrastructure facilities and the safe movement of trains within the station range.	Yes included in TDG2020	Timing 2015-2019	24,2 million EUR	4 million EUR	<u>Barriers:</u> Insufficient funding, considering the total investment cost. <u>Solutions:</u> A combination of ESI funds as well as private financing is envisaged. A project management unit will supervise the project's planning and implementation under the close
33.	Transport	Corridors and missing links	Development of centralized traffic scheduling and management	SJSC Latvian Railways	Project foresees: Ensure all operational public-use railway infrastructure and	Yes included in NDP2020 and TDG20	Timing 2014-2020	0,5 million EUR (study) 21,3 million	2 million EUR	<u>Barriers:</u> Insufficient funding. <u>Solutions:</u> A combination of ESI funds,

			system		including emergencies by integrating the system with other security and monitoring systems.			(works)		CEF (study) as well as private financing is envisaged. A project management unit will supervise the project's planning and implementation under the close supervision of the
34.	Transport	Corridors and missing links	Reconstruction of the Riga railway junction	SJSC Latvian Railways	Reconstruction of the Riga railway junction	Yes included in NDP2020 and TDG2020	Timing 2014-2019	19,4 million EUR	4 million EUR	<p><u>Barriers:</u> Insufficient funding, considering the total investment cost.</p> <p><u>Solutions:</u> A combination of ESI funds as well as private financing is envisaged. A project management unit will supervise the project's planning and implementation under the close</p>
35.	Transport	Corridors and missing links	Reconstruction of Daugavpils marshalling station	SJSC Latvian Railways	Reconstruction of Daugavpils marshalling station	Yes included in NDP2020 and TDG2020	Timing 2014 - 2020	39,6 million EUR	10 million EUR	<p><u>Barriers:</u> Insufficient funding, considering the total investment cost.</p> <p><u>Solutions:</u> A combination of ESI funds as well as private financing is</p>

										management unit will supervise the project's planning and implementation under the close supervision of the promoter and the
36.	Transport	Corridors and missing links	Reconstruction of Daugavpils acceptance station and passenger station	SJSC Latvian Railways	Reconstruction of Daugavpils acceptance station and passenger station	Yes included in NDP2020 and TDG2020	Timing 2014 - 2020	46,6 million EUR	10 million EUR	<u>Barriers:</u> Insufficient funding, considering the total investment cost. <u>Solutions:</u> A combination of ESI funds as well as private financing is envisaged. A project management unit will supervise the project's planning and implementation under the close
37.	Transport	Corridors and missing links	Construction of new European gauge line (with related infrastructure) in Latvia as part of Rail Baltica corridor	Ministry of transport of the republic of Latvia (Joint venture involving representatives of three Baltic countries)	Construction of a new railway line, including land acquisition, design and construction of the new Railway infrastructure (including Intermodal cargo logistics center which should be connected with the railway, both 1520 and 1435 gauges; Riga Central integrated multimodal passenger station; connections to the	Yes included in NDP2020 and TDG2020	Timing 2016-2024 Feasibility studies ongoing	Estimated total cost for LV is 1,5 billion EUR	Up to 300 million EUR	<u>Barriers:</u> Insufficient funding; additional risk due to the fact that this is a large-scale long term cross-border project. <u>Solutions:</u> A combination of CEF funds, possibly PPP financing models is envisaged.

					International Airport and the Port of Riga, to be decided in accordance with the results of the study currently in course) and a reconstruction of the related infrastructure (crossings with roads, energy transmission etc.)					increase cargo and passengers flow by rail in to the North Sea /Baltic Core Network Corridor and therefore remove a bottleneck and missing links for cargo and passengers flow; provide appropriate infrastructure. As well integration of two international railway gauges the 1520 mm
38.	Transport	Corridors and missing links	E67/A7 Riga – Kekava Road	Latvian State Roads (Private partner)	Completed feasibility studies, environmental impact assessment, project incorporated in the spatial plan and have design project, are developed land survey projects and carried out land cadastral survey. Project foresees: the existing single carriageway two-lane motorway reconstruction to the four traffic lanes (dual carriageways) - length of section 2.2 km. A new high-speed road construction: with four lanes (dual	Yes included in TDG2020	Timing 2017–2020 Completed feasibility studies, environmental impact assessment, project incorporated in the spatial plan and have design project, are developed land survey projects and	74 million EUR	9 million EUR	<u>Barriers:</u> Insufficient funding due to high investment cost and impact on state deficit. <u>Solutions:</u> Possibly PPP is envisaged. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.

					level traffic nodes in the main					
39.	Transport	Corridors and missing links	E67/A4 Baltezers – Saulkalne (Road)	Latvian State Roads (Private partner)	Project foresees: existing two-lane road reconstruction on the dual carriageway with four lanes including construction of two-level traffic nodes in the main intersections.	Yes included in TDG2020	Timing 2018 – 2019 Completed feasibility studies, environmental impact assessment, project incorporated in the spatial plan and	116 million EUR	0	Barriers: Insufficient funding due to high investment cost and impact on state deficit. Solutions: Possibly PPP is envisaged. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the
40.	Transport	Corridors and missing links	E67/A1 Riga – Lilaste (Road)	Latvian State Roads	Baltezers bypass construction and A1 rebuilding from 2 to 4 lanes (two carriageways) in section Adazi – Lilaste	Yes included in TDG2020	Completed feasibility studies, environmental impact assessment, project incorporated in the spatial plan. 2016 – 2018 (sketch)	1,5 million EUR (sketch design) 157 million EUR (works)	1,5 million EUR	Barriers: Insufficient funding for total project cost. Solutions: Possibly CEF (sketch design); not defined (works). A project management unit will supervise the project's planning and implementation under the close supervision of the
41.	Transport	Corridors and missing links	The purchase of the ship for the depth maintenance	Freeport of Ventspils Authority	The purchase of the ship for the depth maintenance in Freeport of Ventspils	Yes included in TDG2020	Timing 2015-2017	19,9 million EUR	19,9 million EUR	Barriers: Insufficient funding considering the project total cost.

			of Ventspils							The project will secure safe entry and operation of heavy tonnage ships in Ventspils port, remove the formation of future bottlenecks and missing links, create preconditions for sustainable and efficient multimodal transportation and increased efficiency and
42.	Transport	Corridors and missing links	Electrification of piers of the Ventspils Freeport	Freeport of Ventspils Authority	Electrification of piers of the Ventspils Freeport	Yes included in TDG2020	Timing 2014-2020	7,1 million EUR	2 million EUR	Barriers: Insufficient funding. considering the project total cost <u>Solutions:</u> There's a possibility to evaluate to attract CEF financing. The project will reduce CO2 and noise emissions, promote clean fuel and integrate urban areas into
43.	Transport	Corridors and missing links	Development project of the Northern port in the Freeport of Ventspils	Freeport of Ventspils Authority	Development project of the Northern port in the Freeport of Ventspils	Yes included in NDP2020 and TDG2020	Timing 2016-2020	99,6 million EUR	9 million EUR	Barriers: Insufficient funding considering the project total cost. <u>Solutions:</u> There's a possibility to evaluate to attract CEF financing. The project

										integration and interoperability, remove formation of future bottlenecks and missing links, create preconditions for sustainable and efficient transportation, as well as development of port area and extension of port capacity. The project will help to enhance port's competitiveness in the Northeast
44.	Transport	Corridors and missing links	Development of electromobility, decrease of transport emissions	SJSC "Road Traffic Safety Directorate"	The secondary network charging stations and individual charging points development.	Yes included in NDP2020 and TDG2020	Timing 2014-2020 adopted Latvian Electromobility development plan	3 million EUR	0,5 million EUR	<u>Barriers:</u> Currently electromobility in the Latvia is in early stage phase. <u>Solutions:</u> Possibly PPP
45.	Transport	Corridors and missing links	Heavy hydrocarbon s-to-diesel processing complex in Ventspils (Baltic EcoFuels Project)	Private Partner	Baltic EcoFuels Project is unconventional hydrocarbons processing facility, based on innovative technology Veba-Combi-Cracking (VCC). VCC uses heavy hydrocarbon residues and coal as feedstock converting them into high-quality		Timing 2014-2018 Feasibility Study completed. Negotiation with licensor and engineering	420 million EUR	420 million EUR	<u>Barriers:</u> Insufficient funding <u>Solutions:</u> EIB loan is envisaged.
46.	Transport	Corridors and	International Regional	Municipal government	Daugavpils Airport is the most eastern	Yes	Currently a report	19,1 million	19,1 million	Lack of long term finance

		links/ Urban transport	Airport "Daugavpils"		in the territory of EU. Thus it has a unique geopolitical location providing a link between EU, Russia and Belarus. At the moment airport airfield is certified as general aviation airfield, airfield code 2C. Development vision of Daugavpils Airport is to become an international regional airport by 2025 providing services for regular national and international air traffic, business, charter and private aviation flights, offering passenger, cargo and mail transportation to		"Evaluation of Daugavpils Airport Development's influence on environment" is being prepared. Next step shall be the development of technical project.	EUR	EUR	coordination and permitting problems, leading to possible delays. Seeking for potential investors in order to involve an enterprise in the role of airport operator.
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Social Infrastructure

47.	Social Infrastructure	Education and training	Development of the second phase of the University of Latvia campus: Life Sciences and Technology transfer.	University of Latvia, (UL), private investors	The main foreseen activities/goal: Development of the project and construction of Life Science academic campus, Stem Cell, Laser and Nanotechnology process transfer and innovation units	Information on the development plan of the UL approved by the Cabinet of Ministers in Aug. 2011. First	Concept project developed and approved by the Riga City authorities and the UL Senate.	100 million EUR total expenses of the construction of the UL campus in Tornaklans	60 million EUR	<u>Barriers:</u> Insufficient funding <u>Solutions:</u> Partially financing from EU funds, attraction of private investors for technology transfer units, mobilization of funds from conversion of existing real estate objects operated by the university.
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						(Natural Science building, 34 M EUR value) to be finished in 2015.				
48.	Social Infrastructure	Education and training	Campus for the students of Riga Stradins University	Riga Stradins University	Campus will allow completing competitive excellent higher educational environment at Riga Stradins University. The University has shown permanent increase of incoming student share from the EU, and efficient integrated study and living environment will substantially increase the competitiveness of	No	University already owns the land necessary for campus development. Completed initial feasibility study, Project sketch design ready, approval by building	9,5 million EUR	6,5 million EUR	<p><u>Barriers:</u> Insufficient long-term funding, ESIF does not cover such activities in Riga, but only universities in Riga are really competitive.</p> <p><u>Solutions:</u> Appeal for ESIF funds (questionable), PPP evaluation (can</p>
49.	Social Infrastructure	Education and training/ Health	Establishment and operation of the radiopharmaceutical production facilities and nuclear medicine clinics	"Kodolmedicīnas klīnika" Ltd (Partners: „LU Medicīniskās pēcdiploma izglītības institūts” Ltd, NGO „Latvijas sabiedrības veselības fonds”	In Latvia unused (internationally approved) radiopharmaceutical production facilities with positron emission tomography - computed tomography (PET-CT) equipment establishment for	Yes (NDP 2014 - 2020, Public Health Guidelines 2014-2020,	Feasibility study and Planning: premise reconstruction, equipment installation, staff training	4,6 million EUR	2015 – 3,22 million EUR, 2016 – 0,92 million EUR, 2017 – 0,46 million EUR	The project is currently financed from private funds and borrowing from Latvian companies. The purpose of the application is the loan from the EIB under this program to get better conditions for the loan.

					Organization European Region Strategy „Health 2020“		Patients			Insufficient funding. Solutions: Partially financing from EU
50.	Social Infrastructure	Health	Nuclear Medicine regional centre's	Municipal hospitals and Arbor Medical Korporacija	To implement the radioactive isotope technology in nuclear medicine imaging field for cancer diagnosis and cancer therapeutic treatment with radioactive isotopes. Technology involves Positron emission tomography (PET) and isotope	no	Feasibility studies for market opportunities	27 million euro	16 million euro	Barriers: Insufficient funding considering total investment cost. Lack of the proper specialists in nuclear medicine field. Solutions: Partially financing from EU funds
51.	Social infrastructure	Health	Medical centre for personalised medicine, early cancer screening and innovative treatment of oncology patients	Medical Company « ARS » LTD.	Development of private clinic for early diagnostics and innovative treatments of oncologic patients with emphasis on development of minimally invasive and personalized treatment strategies. Development of cross border cooperation with partners in Baltics and other EU countries. Providing treatment for “medical tourists” from Russia, Ukrain	No	Ongoing project. Building of the department of diagnostics in process. Financing for the first stage of the project (7.78 bn) already existent: 2,45 bn private	32 million EUR	29 million EUR	Barriers: Lack of finance in state health system for financing of infrastructure and development of new cancer treatment technologies.
52.	Social Infrastructure	Health	New generatio	Latvian Maritim	Construction of a new generation	Yes (include	Timing	7 million EUR	7 million EUR	Barriers: Lack of long term

			radiology department		department (including equipment and building) Improvements of patients health care (including developments of a new treatment methods for cancer diagnosis) Technical support (including	in NDP2020)				finance
53.	Social infrastructure / Resources and environment	Health, Built environment and urban services/ Resistance to climate	Multifunctional pharmaceutical and chemical manufacturing unit	Private promoter – JSC Grindeks	The project envisages increase in manufacturing capacity and development/ implementation of new product.	No	Planning	30 million EUR	7 million EUR	<u>Barriers:</u> Lack of long term finance. A combination of EC grants, EIB and MS finance as well as private capital is envisaged.
54.	Social Infrastructure	Built Environment and Urban Services	Judicial infrastructure	Ministry of Justice	<u>Construction of a courthouse</u> (including equipment, security, the creation of witness protection facilities, the creation of special facilities for children hearings) <u>Improvements of the court information system</u> (including developments of a software that converts audio recording protocols into written documents, the development of a	No	Project development stage. Execution of the project is planned for 2016-2022	101 million EUR	Estimated costs – 15 million EUR	<u>Barriers:</u> Lack of long term finance leading to possible delays. A combination of EC grants, EIB and MS finance as well as providing necessary co-financing. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and

					comprehensive court quality systems which would measure court visitors satisfactions, with the aim to monitor the work of the judicial system) <u>Technical support</u> (including hardware, equipping of the judge workplaces in all of the courtrooms, acquisition and installation of a united control panel in all of the courtrooms,					
55.	Social Infrastructure	Built Environment and Urban Services	Prison system	Ministry of Justice	Building five new prisons in the Republic of Latvia, because the existing prison infrastructure does not allow a full re-socialization of the prisoners (including education and employment) and raises concerns about the deterioration of public safety	Yes (the first prison)	Preparation of a tender on building the first prison 2015 – designing the first prison, 2016-2018 building the first prison	394,8 million EUR	38,4 million EUR	<u>Barriers:</u> Lack of long term finance leading to possible delays. A combination of EC grants, EIB, MS finance and Norwegian financial instruments as well as providing necessary co-financing. A project management unit will supervise the project's planning and
56.	Social Infrastructure	Education and training/	Development of Business	Latvia University of Agriculture	Development of Business laboratory – first stage for	No	Right now is started work	1 million EUR	1 million EUR	The main barriers are lack of public and/or

		Environment and Urban Services			incubator - where students can work and generate business ideas with mentoring from entrepreneurs. There is need for premises and equipment and training.		legal base for such establishment in Latvia University of			financing.
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Resources and Environment

57.	Resources and Environment	Natural resources: efficient and secure availability	Upgrading of small wastewater treatments plants in Latvia (capacity 30-150 m3/day)	Municipal water companies/municipalities	There are more than 500 settlements in Latvia with PE below 2000. These small settlements will not be eligible to receive EU ERDF or CF financing for construction of new water system elements to ensure nutrients reduction, odour reduction and overall life quality in their neighbourhood. The scope of the proposed project includes construction of wastewater treatment plants in these settlements as well as construction of waste water collection systems	No	Timing 2015-2020	25 million EUR	3 million EUR	<u>Barriers:</u> Insufficient funding Lack of appropriate staff for managing of waste water treatment process. Lack of investments to construct new wastewater treatment plant./long term government investment plan-upgrade could be done within 15 years.
58.	Resources and Environment	Resilience to Climate Change	Waste water sludge treatment and processing thus producing thermal energy	Providers of water management public services, for example, the providers of water management public services in Riga city „Rīgas ūdens”	The main foreseen activities/goal: The planned project foresees the reduction of the disposal of organic waste mass and ensures production of heat energy using cogeneration	No	Feasibility studies started for individual activities	100 million EUR	40 million EUR	<u>Barriers:</u> Insufficient funding

					<p>will also help to reduce CO₂ emissions.</p> <p>Reference to EC directives: Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently</p>					
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LITHUANIA



Country : Lithuania
Project list

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
Electricity sector									
Energy	Electricity	Estonia / Latvia / Lithuania synchronous interconnection with the Continental European networks	Ministry of Energy	The PCI project Estonia/Latvia/Lithuania synchronous interconnection with the Continental European networks is aimed at infrastructure development for deeper market integration and synchronous operation of the power systems of the Baltic States with the Continental European networks.	Yes	Feasibility Study “Interconnection Variants for the Integration of the Baltic States to the EU Internal Electricity Market” completed in 2013. A joint regional political decision on most feasible synchronisation scenario is pending.	0.35	0.01	1 st Barrier: National political decision is taken, however regional political decision on most feasible scenario is needed for further implementation of the project. 2 nd Barrier: lack of EU financing. 1 st Solution: a joint regional political decision on most feasible synchronisation scenario is convened by European Commission in BEMIP dedicated task force. 2 nd Solution: project financed by EU grants, from CEF, EIB, ESF and/or MS finance.
Energy	Electricity and heating	Vilnius CHP (KoGen	“Lietuvos energija”, UAB	Infrastructure to be financed is high	Yes, in draft of	1. Lease agreement for	0.328	0.328	1. Imbalance of National strategic

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
	production	Vilnius.LT)		<p>efficiency co-generation (heat and power production) power plant up to 145 MW of the estimated capacity in Vilnius. CHP will be fueled only with local resources and RES, including waste. Scope of the infrastructure to be financed is limited to infrastructure, necessary for power and heat generation and connection of this infrastructure to the grid. Effective investments from state, municipal and private entities are expected to ensure higher level of national energy independence and security as well as level of environmental protection, and further energy-efficiency improvements.</p>	<p>National Heat Sector Development Programme for 2014 – 2020.</p> <p>Project is declared an economic project of national importance to the country.</p>	<p>the lease of a state-owned land plot signed;</p> <ol style="list-style-type: none"> 2. Environmental impact assessments procedures launched; 3. Tender procedure to select project partners launched and pre-qualification bids received; 4. Renewed tendering to purchase feasibility study preparation services launched; 5. Project is identified in the Operational Programme for 2014-2020 as Major project. 6. Agreed on JASPERS consultancy during Project preparation. 			<ol style="list-style-type: none"> 1. planning procedures in energy sector and programming of 2014-2020 ESI funding. 2. Permitting challenges. 3. Complexity of combined financing from different sources: grants from 2014-2020 EU investment funds; private capital from partners to be selected as well as the State or State owned company. 4. Delayed delivery and uncertainty about interconnected projects financed from 2007-2013 programming period. 5. Uncertainty of results from ex-ante assessment of financial instruments for energy sector. 6. Challenges in set-up of new programming period for 2014-2020.

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
									7. Challenges in set-up of new (or amend the existing) legal environment enabling activity of CHPs using waste and products from waste as a renewable source.
Energy	Electricity and heating production	Kaunas CHP (KoGen Kaunas.LT)	“Lietuvos energija”, UAB	Infrastructure to be financed is high efficiency co-generation (heat and power production) power plant in Kaunas. The estimated capacity is up to 53 MW. CHP will be important only with local resources and RES, including waste. Effective investments from state, municipal and private entities are expected to ensure higher level of national energy independence and security as well as level of environmental protection, and further energy-	Yes, in draft of National Heat Sector Development Programme for 2014 – 2020. Project is declared an economic project of national importance to the country.	In progress: 1. Tender procedure to select project partners launched and pre-qualification bids received; 2. Renewed tendering to purchase feasibility study preparation services launched; 3. Project is identified in the Operational Programme for 2014-2020 as Major project; 4. Agreed on JASPERS consultancy	0.138	0.138	1. Imbalance of National strategic planning procedures in energy sector and programming of 2014-2020 ESI funding. 2. Permitting challenges. 3. Complexity of combined financing from different sources: grants from 2014-2020 EU investment funds; private capital from partners to be selected as well as the State or State owned company. 4. Delayed delivery and uncertainty

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				efficiency improvements.		during Project preparation.			<p>about interconnected projects financed from 2007-2013 programming period.</p> <p>5. Uncertainty of results from ex-ante assessment of financial instruments for energy sector.</p> <p>6. Challenges in set-up of new programming period for 2014-2020.</p> <p>7. Challenges in set-up of new (or amend the existing) legal environment enabling activity of CHPs using waste and products from waste as a renewable source.</p>
Energy	Electricity storage	Kruonis Pumped Storage Power Plant Extension	"Lietuvos energija", UAB	Currently Kruonis PSPP has 4 units with total installed capacity of 900 MW and provides generation, secondary reserve and system balancing services. However, it has only	Yes	All preparatory work (incl. feasibility, environmental assessment studies, procurement documentation, technical specification of work and	0.11-0.16	0.017-0.024	Uncertainty of electricity prices and trading opportunities in the market after NordBalt and LitPol Link interconnections are commissioned.

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				<p>limited power generation and regulation flexibility (current units can operate at fixed 220 MW pump mode), which will not be sufficient for the system stability in the future due to the increasing share of the intermittent generation, i.e. the growing share of the renewable energy sources in the system. To deal with this issue it is planned to extend Kruonis PSPP with a new 225 MW asynchronous unit. The new unit will have pump mode ranging from 110 to 225 MW and the cycle efficiency of up to 78%. The positive regional effect of the new flexible asset will be the most significant after LitPol Link and NordBalt interconnections are built. The extended</p>		equipment) is already done.			

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				Kruonis PSPP will contribute significantly to the flexibility and reliability of the whole Baltic transmission system.					
Energy	Electricity	330 kV ETL Alytus-Kruonis	Ministry of Energy	Double circuit 330 kV ETL, ensuring 500 MW transfer capacity via Lithuanian-Polish OHL interconnection project LitPol Link.	Yes	Investment decision taken, environmental impact assessment completed, design works on the way.	0.02	0.02	Barrier: lack of EU financing.
Energy	Electricity	Smart Metering Mass Roll-out	Ministry of Energy	The Third Energy Package requires Member States to ensure implementation of intelligent metering systems for the long-term benefit of consumers. This implementation may be conditional on a positive economic assessment of the long-term costs and benefits (cost-benefit analysis – CBA). For electricity, there is a target of rolling out at least 80% by 2020, of the positively	No	Preparation process for Smart Metering pilot project is ongoing. Pilot will be conducted during 2015-2016. The results of pilot project will be used to check the assumptions of Smart Metering CBA (2012 m.). Decisions of	0.252-0.38 (depending on the evaluations after the pilot and the scenario chosen)	Investment needed in 2017 will be evaluated after the Pilot project at the end of 2016	The economic analysis of the scenarios in CBA (published in 2012) has also demonstrated that none of the scenarios is economically viable, so it should be concluded that the smart metering roll-out in Lithuania is not beneficial under any scenario. Final decision regarding Smart

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				assessed cases. CBA for large-scale roll-out in Lithuania by 2020 was negative, but the final decision for mass roll-out could be made after the pilot project is conducted.		mass-rollout possibilities will be made after the final results of the pilot.			metering mass roll-out will not be made until the results of pilot project is clear and approved.
Energy	Electricity	330 kV ETL Panevėžys-“Mūša”	Ministry of Energy	Single circuit 330 kV ETL, ensuring 700 MW transfer capacity via interconnection Lithuania-Sweden NordBalt.	Yes	Pending	0.02	0.0	Barrier: lack of EU financing.
Gas Sector									
Energy	Gas	Gas Interconnection Poland – Lithuania (GIPL)	AB Amber Grid / Gas-System S.A.	Gas interconnection Poland-Lithuania is one of the strategic energy infrastructure projects that will ensure diversification of gas supply to Lithuania and enable integration of the Baltic states into EU gas market. Implementation of this project will increase Lithuanian energy security. Diversification of gas supply (together with LNG terminal in Klaipėda) will allow	Yes	The Project milestones: 1. Business Case Analysis (prepared in 2011), 2. Feasibility Study (prepared in 2013), 3. Securing a Project of Common Interest status (2013), 4. Environmental Impact Assessment (2013–2015)	0.136 (LT side)	0.05	In relation with the project implementation the excessive burden on consumers due to the increase of the gas transmission tariffs (according to the initial calculations, in case that the CEF subsidy is granted, the tariffs in Lithuania will increase by 16.5%, without external support

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				<p>the creation of competitive gas market in Lithuania which will result in consumer friendly prices.</p> <p>The Project is implemented by AB Amber Grid and the Polish Gas Transmission System Operator GAZ-SYSTEM S.A.</p> <p><u>Goals of the Project</u></p> <ul style="list-style-type: none"> • integrate the isolated gas markets of the Baltic countries into a single EU gas market, • diversify gas supply sources and routes, • security and reliability of gas supplies, • provide access of the Baltic countries to the global liquefied natural gas (LNG) market, • create preconditions for a competitive regional gas market. 					the tariffs in Lithuania would increase by 43.1%).
Energy	Gas	LNG small-scale	SC Klaipėdos nafta	A project being analysed and	Yes	Received EU financing for	0.055-0.06 bn. EUR	0.055-0.06	<ul style="list-style-type: none"> • Lack of LNG mature

<i>Sector</i>	<i>Sub-sector</i>	<i>Project name</i>	<i>Implementing agency</i>	<i>Description</i>	<i>Included in national investment plan (yes/no)</i>	<i>Status</i>	<i>Total investment cost (EUR bn.)</i>	<i>Investment in 2015 – 2017 (EUR bn.)</i>	<i>Barriers/solutions</i>
		infrastructure and logistics chain in the port of Klaipėda.		developed in Lithuania with an intention to construct a LNG small-scale infrastructure and logistics chain in the port of Klaipėda in order to facilitate break-bulk cargoes from the Klaipėda LNG terminal. The mentioned small-scale infrastructure includes LNG on-shore reloading station for LNG bunkering and LNG auto-trailer transshipment and a LNG bunkering and transportation vessel for distribution and to bring LNG from the floating Klaipėda LNG terminal.		preparations - started front-end engineering design (FEED), risk analysis, environmental impact assessment, EPC contracting expected to start during 2015.	which includes LNG on-shore reloading station for LNG bunkering and LNG auto-trailer transshipment and an LNG bunkering and transportation vessel for distribution.		<p>demand in the region which might cause off-take issues.</p> <ul style="list-style-type: none"> • High initial infrastructure costs may lead to high pricing and may not be competitive on regional and national scale. • High market entry costs. • Lack of long term financing facilities from EU. • Lack of EU wide standardization and experience in the sector could lead to permitting problems which could cause delays. • EU support for competing energy sources (for example biomass). • Lack of EU support for LNG off-takers - LNG marine fuel, on-shore fuel users,

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
									off-grid regasification.
Energy	Gas	Syderiai underground gas storage project	Lietuvos energijos gamyba, AB / Ministry of Energy	A project being analysed and developed in Lithuania with an intention to construct a gas storage with a working capacity of 500 mcm capable of guaranteeing the Sops and allowing to balance the flows of Klaipėda SGD terminal. Project is included in TYNDP and received TEN-E financial aid in 2008 (G150/08) and 2011 (G192/11).	Yes	Geological feasibility studies and CBA completed in 2014. Currently regional cooperation potential and financing from CEF possibilities are being assessed.	0.313	Unconfirmed	High investment costs, unclear payback potential, necessity of implementation of Lithuanian-Polish gas interconnection (GIPL) project.

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
Oil Sector									
Energy	Oil	Petroleum products pipeline from SC Orlen Lietuva refinery to terminal of SC Klaipedos nafta.	SC "Orlen Lietuva" together with SC "Klaipėdos nafta"	A project being analysed and developed with an intention to construct a gas a petroleum products pipeline from AB "Orlen Lietuva" refinery to the oil terminal in Klaipėda, Lithuania (AB "Klaipėdos nafta"). The pipeline would allow Orlen Lietuva to decrease it transportation costs and encourage for further investments. The State controlled transshipment company Klaipedos nafta would ensure its long term activities and the State would ensure for viability of the largest tax payer in the Country.	Yes	SC Orlen Lietuva has already started the initial phase of pipeline project including analysis various scenarios and preparation of project. Also discussions of the both entities and government are in progress regarding the investment into the project.	Approx. 0.085	0.020	<ul style="list-style-type: none"> Investment questions: both parties (Refinery - SC Orlen Lietuva and port terminal - SC Klaipedos nafta) have to agree on the proportion of investments. Uncertainty of SC Orlen Lietuva future refining and sales volumes of petroleum products. Legal barriers in acquiring the servitudes for pipeline track.
Energy	Oil	Building of the new petroleum product tankers in the facility of SC Klaipedos	SC "Klaipėdos nafta"	A project being analysed and developed in Lithuania with an intention to construct new petroleum products tankers for	Yes	Technical feasibility study.	Up to 0.055 bn EUR for building the new oil product tankers with the capacity	0.030	<ul style="list-style-type: none"> The current tankers storing the Lithuanian governmental reserve of oil products were built more than

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		nafta.		the petroleum products State reserve storage and transshipment services both for exporting and importing petroleum products in/from Lithuania.			up to 350 thousand cubic meters. The tankers shall be used both for the purpose of transshipment of the oil products as well as for the storage of the government compulsory reserve of State petroleum products.		50 years ago; they are not friendly ecologically and raise accident risks. • The financing of the building of new tankers should be initiated by the government but there are no funding programs initiated.
RES									
Energy	RES	BioLNG production plant pilot project (2 MW)	tbc	BioLNG infrastructure would be beneficial first of all for greening the public transport and helping to increase renewable energy share in transport in Lithuania.	No	Biogas production capacity forecast	0.006	0.006	There are no customers until refueling (recharging) infrastructure is not properly developed
ICT									
ICT	Data centers	Construction of substation	Lietuvos energijos gamyba, Invest Lithuania	The project's aim is install a transforming substation in Kruonis technology park to	No (In 2010, the Lithuanian	Planning	0.0015	0.0015	The electricity consumption of the target projects is

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				make the park's territory more attractive for setting up large data centers and developing high-tech, energy production and research projects. These investments are essential for large scale data centers involved in data processing, hosting and related activities	government declared the project of the Kruonis park as extremely significant for Lithuanian economy and included it into the list of state industrial park infrastructure projects)				extremely high (up to 100 MW), but currently the sufficient capacity can't be insured.
ICT	Data centers	Baltic Sea Backbone Cable (Sea Lion project)	Authorized institution (to be confirmed), Invest Lithuania	Baltic Sea Backbone Cable will be built between Finland and Germany with one possible branching element to include Lithuania (Klaipeda). The cable would connect Finland's and Lithuania's data transfer to global networks from whole Europe. By joining this Finnish Government initiated project, a branch to Klaipeda	No	Planning			Baltic Sea Backbone Cable project is an important contribution to the implementation of "A Digital Agenda for Europe" targets at EU level. In addition, access to very high speed, robust and resilient connectivity is critical for foreign

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				<p>would be build. Lithuania would have a new shortest route to Germany and this would ensure a reduced time lag for data traffic. This would be of significant benefit for the operations of data center/cloud service providers and other international businesses in Lithuania.</p> <p>A new submarine route would guarantee that a high capacity separate route remain open in the unlikely event that current connections in Poland become severed.</p> <p>Submarine cables have the benefit of being more secure as they are free from some of the problems faced by terrestrial cable, such as the accidental cutting of cables during</p>					<p>direct investment in the areas such as data centers, web services applications server nodes, post production businesses in digital media as well as financial transaction centers. Furthermore, data center investors prioritize countries where telecommunications have been secured with several alternative traffic routing possibilities.</p>

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				<p>excavation works.</p> <p>The cable would offer an alternative connection to the current link to Germany which runs through Poland. By having one more alternative route Lithuania would become less isolated in terms of international fiber connectivity and would become more attractive for large data companies.</p> <p>The project would also provide a number of opportunities to existing Lithuanian fiber operator(s) and local contractors from ancillary industries, and would make Lithuania a Baltic hub for ICT services.</p> <p>By having its own network, Lithuania would benefit from having control over quality, improved gross margins and the possibility for</p>					

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				flexible cost allocation in negotiations for larger service contracts. A core network is an important strategic asset which enables the control of the quality of telecommunications. Digital economy growth and technological progress would bring direct and indirect economic and social benefits as well as create new jobs.					
SCIENCE									
High-tech	IT, optoelectronics and lasers, environmental engineering, sustainable energy, health technology, energy sector	Technology centers: Multi-function experimental development center for high-tech sectors: IT; Photonics Technology; Health Technology; Electronic, sustainable energy, environmental	Science and technology parks and private sector/Agency for Science, Innovation and Technology	In Lithuania, there is no sufficient infrastructure for experimental development activities and trial production seeking to promote the commercialization of research results. Therefore, it is planned to set up several technology centers to address the industry needs. It will help reduce the	No	Planning	0.0579	-	The regulations which define access to the Structural Funds only allow 50 % of the maximum financing intensity for R&D infrastructure, which condition constitutes a disadvantage for the applicants (the business sector and science and

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
		engineering and others.		<p>existing 'valley of death' and encourage companies to develop experimental activities as well as create and commercialize new products. R&D and innovation are extremely risky areas, thus technology centers for R&D must comply with the highest requirements. Not all companies are able to invest in such high-level centers. The sectors are chosen based on their strong scientific potential and with due regards to the industrial potential. Two centers are planned to be established in the locations which are most developed in terms of science and research as well as industrial potential. The centers will be a platform for R&D</p>					<p>technology parks). Moreover, the administrative requirements applicable to the structural support projects as well as the insufficient level of information which is disposed by applicants makes the situation even more difficult.</p>

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				collaboration with the neighboring countries, as these centers have no analogues in Estonia and Latvia.					
ENVIRONMENTAL/ENERGY EFFICIENCY SECTOR									
Energy	Energy efficiency	Renovation of buildings – residential and public	Ministry of Energy and Ministry of Environment	Energy efficiency of some 24 000 multi-apartment blocks and 1000 public buildings across the nation need to be renovated. While a vigorous renovation effort with financing scheme based on financial instruments was launched in 2009 and will continue through 2014-2020, it will result in only some 5000 buildings renovated.	Yes	On-going	7.2	0.3	1. Relatively low borrowing capacity of apartment owners; 2. Banking sector cautious to augment the scheme due to the above and demonstrate only a limited interest to put in its own resources; 3. Construction market failure – shortage of skilled and potent undertakers to tap the demand.
Environment	Adaptation to climate change/water resources management	Storm water management	Municipalities	Storm water systems in urban areas across the country have not been designed to address the ever increasing storm water load due	Yes	On-going	1.0	0.1	1. High investment needs as opposed to revenue streams raised by network owner and operators; 2. Legislation

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				growing severity of inclement weather occurrences and need to be expanded and renovated and augmented with proper water treatment units.					providing for collection of user charges for storm water management not fully enforced as yet.
TRANSPORT SECTOR									
Transport	Air transport	Reconstruction and modernization of infrastructure of Lithuanian airports	SE Lietuvos oro uostai (Lithuanian Joint Airports)	Implementation of this group of projects will enable the mitigation of environmental impact, improvement of flight safety and aviation security.	Yes	Planning and permitting in final stages. Construction start expected between 2015 - 2018.	0.1	0.1	Challenges in set-up of new programming period for 2014-2020, due to notification process of state aid. Lack of financing, both – private and national budget.
Transport	Railway transport	<u>IXB corridor modernisation</u> Electrification of the whole TEN-T network Building of the secondary roads along the corridor Monitoring of the infrastructure condition <u>Rail Baltica project</u>	AB „Lietuvos geležinkeliai“ State Railway Inspectorate under the Ministry of Transport	The railway infrastructure is physically worn out; furthermore, the key technical parameters of railway infrastructure (e. g. the curve radius) limit the speed in many sections, therefore, modernisation of the upper part of the infrastructure (tracks, ties, communication systems) does not resolve the speed problem – that is why	Yes	Planning and permitting in final stages. Some of the projects have high maturity level - already ready to start. Construction start expected between 2015-2018.	2.0	1.7	Lack of long term finance, long preparatory work - land acquisition processes, public procurement documentation, technical documentation, etc. Challenges in set-up of new programming period for 2014-2020, especially in the CEF

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
		<p>implementation ERTMS implementation Signaling systems Monitoring of the infrastructure condition Building of the secondary roads Intermodal infrastructure (terminals)</p>		<p>we need improve our railway infrastructure entirely. The network of electrified lines is underdeveloped. The current Lithuanian railway sector significantly lags behind the modern and interrelated railway transport systems of the EU Member States from technical, economic and technological points of view – all of those mention projects will help Lithuanian railway infrastructure to meet existing requirements.</p>					<p>programme. To implement those projects a combination of public and private capital/funds, is envisaged, but still there is a lack of finances. Challenges in set-up of new programming period for 2014-2020, especially in the CEF programme. Considering the amount of the works in the railway sector (and other sectors too) we see lack of competent companies to implement those projects in time. Other possibilities to invest through European Union</p>

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
									grants are far less attractive, considering low co-financing rate, and lack of public and private capital/funds.
Transport	Road transport	<p><u>VIA Baltica corridor</u> Road safety and security measures Road crossings Improvement of roads (including cross border sections) Traffic management and monitoring systems</p> <p><u>IXB corridor improvement</u> Road safety and security measures Road crossings Improvement of roads (including</p>	Lithuanian Road Administration under the Ministry of Transport and Communications of the Republic of Lithuania	New EU transport policy (the White Paper of 2011) requires building or upgrading of the existing infrastructure of the core network in order to meet the TEN-T criteria by 2030. This is a very complex and difficult task for many Member States of the EU. Many sections of the transport network are missing or are in a very poor condition due to the lack of sufficient level of maintenance in the late 1980's and 1990's and require serious upgrading or rehabilitation. We fully support the European Policy to strengthen the development of	Yes	<p>Planning and permitting in final stages.</p> <p>Some of the projects have high maturity level - already ready to start.</p> <p>Construction start expected between 2015-2020.</p>	1,4	1,2	<p>Lack of long term finance, long preparatory works – land acquisition processes, public procurement documentation, technical documentation, etc.</p> <p>Challenges in set-up of new programming period for 2014-2020.- especially in the CEF programme</p> <p>To implement those projects a combination of public and private capital/funds, is envisaged, but still there is a lack of finances.</p>

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
		cross border sections) Traffic management and monitoring systems		railway infrastructure, but roads are also an infrastructure of national importance, and there is a necessity to allocate necessary investments into road infrastructure so that the infrastructural differences between Western European and Eastern European countries (unlike in Western European countries, railway and road freight volumes are quite similar in Lithuania) would be reduced or even eliminated.					Other possibilities to invest through European Union grants are far less attractive, considering low co-financing rate, and lack of public and private capital/funds.

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
Transport	Water transport	<u>State sea port improvement</u> Dredging of the canal Deep-water port infrastructure Enhance navigation systems <u>Inland waterways infrastructure</u> Modern harbours Interaction with other transport means	Klaipėda State Seaport Šventoji seaport Directorate of Inland Water Roads	The efficiency of the interaction between the Lithuanian railway network and the Klaipėda State Seaport has to be increased: the seaport has an underdeveloped railway network. There is an insufficient depth of the water area, the port cannot accept big container vessels, and the general-cargo vessels are not fully loaded. This limits the opportunities for competing with deep-water ports that can accept BALTMAX and PANAMAX vessels. It would be expedient to build an outer deep-sea port which could accept vessels with larger draft. The inland waterways infrastructure is in poor condition, outdated and in many cases do not fit for	Yes		0.3	0.15	Lack of long term finance, long preparatory works – land acquisition processes, public procurement documentation, technical documentation, etc. Challenges in set-up of new programming period for 2014-2020.- especially in the CEF programme Other possibilities to invest through European Union grants are far less attractive, considering low co-financing rate, and lack of public and private capital/funds.

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				use; the harbours do not meet modern requirements.					

CONSTRUCTION SECTOR

Construction	Construction	Survey of the possibilities to implement Building information modelling (BIM) Methodology and principles	Ministry of Environment/Public body "Skaitmeninė statyba"	The project is a part of the initiative to implement of Building Information Modelling (BIM) technologies in the construction sector of the Republic of Lithuania, by:	No	Preparation process of the pilot project has just started. Pilot will be conducted during 2015-2016. The	0.01-0.03 (depending on the evaluations after the pilot and the scenario chosen)	Investment needed in 2017 will be evaluated after the Pilot project at the end of	Barrier: lack of EU financing. Solution: project financed by EU grants, from CEF, EIB, ESF and/or MS finance.
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		of digital construction in the Republic of Lithuania		<ul style="list-style-type: none"> • forming a single information structure and coding (classification system) of the construction sector; creating an e-environment and to ensure preconditions for improving labour productivity in the business enterprises of the Lithuanian construction sector; • analysing the e-solutions of digital construction available in the world, the EU and Lithuania. Selecting the most appropriate solutions and applying them to the Lithuanian market in order to integrate a single classification system into these solutions; • developing and promoting the experience of e- 		results of pilot project will be used to make the decisions on scope, methods and tools (classification systems) of the implementation of the principles of digital construction in the Republic of Lithuania.		2016	

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn.)	Investment in 2015 – 2017 (EUR bn.)	Barriers/solutions
				<p>entrepreneurship in the Lithuanian construction sector; promoting the introduction and use of already available digital construction e-solutions and creation of the new ones;</p> <ul style="list-style-type: none"> • developing international cooperation; promoting local and international relations among business and educational establishments with a view to developing e-construction solutions; • Carrying out the activities of education and training in the area of e-construction solutions. <p>The goal of the project is twofold:</p> <ul style="list-style-type: none"> • To explore the possibilities of the 					

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				<p>digitization of all the related procedures and tools representing the different stages of entire lifecycle of the building (design, construction, use and demolition) in the Republic of Lithuania</p> <ul style="list-style-type: none"> • the implementation of a pilot project to assess the possibilities of the use of BIM methodology in design and construction of the buildings in the Republic of Lithuania, as well as to assess the use of different single information structures and coding (classification systems). 					



LUXEMBOURG



Country : Luxembourg
Project list

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment	Status	Total investment cost	Investment in 2015	Barriers/solutions
								(EUR mn)	(EUR mn)	
Energy Union	Energy efficiency in buildings	public private	Klimabank	MoF/MinEco	Lending facility to facilitate energy efficiency measures for households	Yes	planning	300	1	Small Luxembourg market makes it difficult to attract funds. Corporate Banks do not engage in energy efficiency related lending.
Energy Union	Energy efficiency in buildings	public	School modernisation/energy efficiency	MDDI	Improve energy efficiency in buildings serving educational purposes (currently 18 specific projects identified)	Yes	planning and partly under construction	457	329	
Energy Union	Connections and production	private	Luxembourg-Belgium Interconnector	Creos Luxembourg	<p>The aim of the project is to strengthen the high voltage network and to guarantee electrical power supply of Luxembourg. The project envisions the realization of an interconnection between Luxembourg and Belgium allowing to increase the transfer capability between LU, DE, BE and FR and contributing to the security of supply of both countries.</p> <p>The interconnection is realized in two steps</p> <ul style="list-style-type: none"> - On short-term (2016) a phase shift transformer is integrated and connected to existing overhead line via an additional cable, in order to control the transit flows from Germany to Belgium - On longer-term (2020) a solution with cables is under study envisioning a 1000 MVA path between Belgium and Luxembourg <p>In parallel a 1000 MVA reinforcement of the internal Luxembourg network is being constructed in order to create a loop around Luxembourg city, including substations for in feed in lower voltage levels.</p>	No	Loop around Luxembourg City is under construction, Phase shift transformer ordered and should go in operation end of 2015	163	32	
Energy Union	Connections and production	public private	Déploiement de chaudières à énergie-bois	MinEco	The projects aims at implementing wood energy on a large scale in Luxembourg, increasing energy efficiency and security, reducing risks of climate change, and positively impacting employment. The projects aims at delivering wood energy related infrastructure on the local level and within enterprises. Order of magnitude: 0-1MW per installation, 100 installations.	No	development ongoing	36	5	Lack of financial means, and return on invest. Massive deployment could increase experience and reduce future investment costs and increase acceptance of new technology.
Resources and Environment	Natural resources: efficient and secure	public	Beggen; collecteur Bonnevoie-Beggen	MDDI-Département de l'environnement	wastewater treatment project	Yes	85%	93	12	
Resources and Environment	Natural resources: efficient and secure	public	Agrandissement, modernisation STEP SIDEN à Blesbruck	MDDI-Département de l'environnement	wastewater treatment project	Yes	6%	46	26	
Resources and Environment	Natural resources: efficient and secure	public	Heiderscheidergrund (y compris assainissement du Lac de la Haute-Sûre, réseau de collecteur)	MDDI-Département de l'environnement	wastewater treatment project	Yes	73%	59	9	
Resources and Environment	Natural resources: efficient and secure availability	public	Assainissement de la vallée de l'Attert Système de collecteur - phase 2 + surcoût phase 1 5)	MDDI-Département de l'environnement	wastewater treatment project	Yes	10%	58	23	

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment	Status	Total investment cost	Investment in 2015	Barriers/solutions
								(EUR mn)	(EUR mn)	
Resources and Environment	Natural resources: efficient and secure availability	public	Divers + STEPS < 2.000 EH (Schlindermanderscheid, Hersberg, Hoesdorf, Boudelerbaach, Christnach, Perlé, Urspelt, Hoscheid..)	MDDI-Département de l'environnement	wastewater treatment project	Yes	52%	20	5	
Resources and Environment	Natural resources: efficient and secure availability	public	Divers + STEPS >2.000 EH (Bech, Bourscheid, Folschette, Feulen, Beaufort, Biwer, Clervaux, Steinfort, Medernach, Mamer..)	MDDI-Département de l'environnement	wastewater treatment project	Yes	67%	132	21	
Resources and Environment	Natural resources: efficient and secure	public	Travaux sur le bassin tributaire de la STEP de Mersch/Beringen	MDDI-Département de l'environnement	wastewater treatment project	Yes	46%	28	10	
Resources and Environment	Natural resources: efficient and secure	public	Agrandissement STEP SIACH	MDDI-Département de l'environnement	wastewater treatment project	Yes	4%	29	15	
Resources and Environment	Natural resources: efficient and secure	public	Agrandissement-modernisation	MDDI-Département de l'environnement	wastewater treatment project	Yes	7%	24	12	
Resources and Environment	Natural resources: efficient and secure	public	Travaux d'aménagement de bassins de rétention, modernisation du réseau de collecteurs du bassin tributaire du SIDEST	MDDI-Département de l'environnement	wastewater treatment project	Yes	35%	18	8	
Resources and Environment	Natural resources: efficient and secure	public	Travaux sur le bassin tributaire de la STEP de Bettenbourg	MDDI-Département de l'environnement	wastewater treatment project	Yes	42%	22	9	
Resources and Environment	Natural resources: efficient and secure	public	Travaux sur le bassin tributaire de la STEP de Schifflange	MDDI-Département de l'environnement	wastewater treatment project	Yes	42%	27	9	
Resources and Environment	Natural resources: efficient and secure	public	Construction d'une STEP à Troisvierges (y compris bassin d'orage)	MDDI-Département de l'environnement	wastewater treatment project	Yes	13%	12	8	
Resources and Environment	Natural resources: efficient and secure	public	Collecteurs et bassins d'orage dans le bassin tributaire de la STEP Perl - Phase 2	MDDI-Département de l'environnement	wastewater treatment project	Yes	19%	11	8	
Resources and Environment	Natural resources: efficient and secure	public	STEP Schifflange agrandissement, raccordement Belval, Reckange et Dippach	MDDI-Département de l'environnement	wastewater treatment project	Yes	8%	29	9	
Resources and Environment	Natural resources: efficient and secure	public private	Modernisation de la station de traitement des eaux du barrage d'Esch-sur-Sûre	MDDI-Département de l'environnement	modernisation of water purification infrastructure	Yes	50%	120		
Transport	Corridors and missing links	public	Trains Station "Pont Rouge"	MDDI	New train station close to main Business centre (Kirchberg)	Yes	Works to commence 2015, end 2017	116	76	
Transport	Corridors and missing links	public	Adaptation of train linkage into the main central train station from the North	MDDI	New rail lines, increases in capacity (regional development)	Yes	Under construction	384	86	
Transport	Corridors and missing links	public	Doubling of train lines between Hamm-Sandweiler	MDDI	Doubling the rail link Hamm-Sandweiler (improving connection with DE)	Yes	Under construction	152	53	

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment	Status	Total investment cost	Investment in 2015	Barriers/solutions
								(EUR mn)	(EUR mn)	
Transport	Corridors and missing links	public	Train line Luxembourg-Bettembourg	MDDI	New rail link (improving connection with FR)	Yes	works commence 2015	589	85	
Transport	Corridors and missing links	public	EuroCap Rail	MDDI	Improve/Modernize train service between Brussels, Luxembourg and Strasbourg (BE, LU, FR)	Yes	Phase 1 started. Phase 2 to commence soon	286	76	
Transport	Corridors and missing links	public	Adaptation of train linkage into the main central train station from the South and West	MDDI	New rail lines, increases in capacity	Yes	Works commence 2015	290	40	
Transport	Urban transport	public	Tramways in Luxembourg City	MDDI	Construction of Tramways Infrastructure (improving commuter traffic)	Yes		565		
Transport	Urban transport	public	Global telematics project for public transport	MDDI, Verkeiersverbond	The realisation of an ITCS for the regional busses, the extension of the central infrastructure of the Verkeiersverbond in order to allow the PTO's to connect to a central national information exchange platform for operational aspects and passenger information, extension of the internet portal « mobiliteit.lu », the introduction of dynamic displays at selected stops, the modernization of the national e-ticketing system e-go, a common handling of both the ITCS project and the e-go modernization project, the automation of information flows, the integration of the PTO's systems in the ICT concept, setup and use of all necessary quality assurance processes.	Yes	45%	23.0	10.0	
Transport	Business enablers	public	Single window for logistics Luxembourg	Ministère de l'Economie / Administration des Douanes et accises / Centre des technologies de l'information de l'Etat	Conception and development of an international trade facilitation e-platform linking all Government agencies and economic operators in one single window	Yes	feasibility study ongoing development starting 2015	6.0	4.5	reconciliation of public and business interests/work processes within a common e-logistic platform
Social Infrastructure	Built environment and urban services	public private	Belval	Agora	Cross-boarder (LU-FR) urban development project, including R&D activities	Yes	ongoing		60.0	
Social Infrastructure	Built environment and urban services	public private	Agora sites	Agora	Reconversion of former industrial sites	No	planning		20.0	administrative procedures, economic feasibility
Social Infrastructure	Built environment and urban services	public	Anciennes friches de Wiltz	Fonds pour le développement du logement et de l'habitat / Etat luxembourgeois	Reconversion of former industrial sites with the goal to create around 700 new housing at moderate costs	Yes	preparations ongoing, construction start: 2016	300	7	administrative procedures (note: figures are estimations)
Social Infrastructure	Built environment and urban services	public	Site Olm	Société des Habitations à Bon Marché / Luxembourg Government	Construction of a new site for around 800 housing projects including necessary infrastructure	Yes	preparations ongoing, construction start: 2016	200	2	administrative procedures (note: figures are estimations)
Social Infrastructure	Built environment and urban services	public	Laminoire Dudelange	Fonds pour le développement du logement et de l'habitat / Luxembourg Government	Reconversion of former industrial sites with the goal to create around 1000 new housing at moderate costs	Yes	preparations ongoing, construction start: 2016	500	5	administrative procedures (note: figures are estimations)

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment	Status	Total investment cost	Investment in 2015	Barriers/solutions
								(EUR mn)	(EUR mn)	
Social Infrastructure	Health	public	Plateforme eSanté (eHealth Platform)	Agence eSanté / Luxembourg Government / Luxembourg Health Insurance Fund (CNS)	The project aims to build a national eHealth platform, which includes as a main brick the so-called Shared Care Record (Dossier de Soins Partagé) (DSP). The DSP is an online eHealth file at national level that enables cross-institutional sharing of important health and administrative data of patients, bridging the electronic health records of healthcare providers and social care providers. It offers patients a access to the national eHealth platform, enabling the patient to take an active role. The project is fully compliant with EU level guidelines and implements interoperability standards (IHE profiles mainly). The platform includes upholding a national contact point supporting cross-border sharing of data with other MS.	Yes	Under construction. Some bricks delivered. Cross-border tested within EU epSOS pilot project. Pilot for DSP in first quarter 2015	17.0	Stakeholder Involvement (Diversity of actors implied) / Small market / Long term investment with return on invest which is difficult to quantify (quality and safety of care)	



MALTA



INTRODUCTION

THE SECTORS

THE PROJECTS

PROJECT NO. 1 –

Construction of Breakwater for Valletta's second harbour – Marsamxett including land reclamation and quay development inside both Valletta harbours.

PROJECT NO. 2 –

Construction of rural airfield in Gozo – the second island in the Maltese Archipelago.

PROJECT NO. 3 –

Construction of mono rail project involving mixed over-ground and underground lines running North- South and West-East intersecting at key traffic junction and feeding at its various stops into other above ground public transport means.

PROJECT NO. 4-

Developing infrastructure for procurement, handling, storage and distribution of medicines under public health services

PROJECT NO. 5-

Social housing and community centres for Adult Persons with Disability (PWD)

RECAPITULATION

ALFRED MIFSUD – MALTA Representative

Valletta MALTA, 14 November 2014

List of Key Investment Projects that are economically viable and whose implementation may start before 2018 but cannot be realised now due to identified bottlenecks or barriers.

Introduction

Following participation in the first two Task Force (TF) meetings and having considered the views of the Secretariat and the inputs of colleagues from other Member States (MS), the list of potential projects to be submitted by Malta was discussed by the Ministry For Finance (MFF) with other Ministries who are somehow connected with such projects and were referred for final consideration to the Office of the Prime Minister (OPM).

Malta has decided that in choosing the projects recommended for consideration by the TF it should adopt the following parameters:

1. Projects being considered under other EU initiatives or programmes should not be included in the recommended list to the TF and should be allowed to run their course under existing programmes or initiatives.
2. Projects recommended in the TF list are on the long term infrastructure project list co-ordinated within the OPM without a fixed time frame for lack of the necessary enabling resources.
3. Projects recommended have broadly to be suitable for execution within a PPP framework with government contribution being mostly non-financial, mainly in the form of :
 - a. Non-financial assets e.g. land, buildings and intangible rights
 - b. Research and technical studies bringing projects to shovel-ready state from technical aspects.
 - c. Permits and approvals from regulatory and environmental aspects.
 - d. Commitment for cash flows streams based on competitive economic considerations at the operational stage of the projects in cases where government is expected to be a user of projects' services.
 - e. Other risk sharing structures to stimulate private sector participation.

4. Projects identified will need to have their economic viability leveraged by means of new financial instruments that the EIB and the Commission will develop by way of equity finance, mezzanine finance and other debt finance on terms which would offer private investors attractive risk/reward relationships for their equity investment co-participation in the identified projects. A solid equity base composed by government share as in 3. above, private equity participation and EIB special terms financing would also enable projects to access commercial bank and development finance through traditional financing channels.
5. Projects should ideally be offered for public participation for co-financing through bonds and equities issued on the capital markets to make the public as much as possible participants and supporters of the execution of the projects. This will also address somewhat the excess liquidity prevailing on domestic financial markets.
6. Projects should directly and indirectly contribute to growing the country's economic capacity and potential.

The Sectors

Having considered the above criteria the identified projects fall under the following Sectors:

Transport

Being an Island State on the periphery of Europe Malta does not share hard borders with other EU states and is disadvantaged both by its insularity and by the inability to co-ordinate with other MS for cross-border projects.

However to overcome its insularity Malta needs strong transport links with the rest of the Union as well as efficient urban transport within its own borders. Malta is small enough to render practically all urban internal transport subject to the 'last mile' syndrome.

Consequently the suggested list contains three Transport related projects – one involving air transport and links to other MS, one related to harbour development to leverage our natural resources in the form of beautiful and deep harbours which have practically defined our history, and one related to urban transport which in its present state is a complex problem of economic inefficiency, traffic congestions, high carbon emissions and absence of clean air contributing to inadequate health protection environment.

Social Infrastructure

Traditionally social infrastructure was financed within mainstream budgets as it does not normally generate sufficient cash flows streams at the operational stage to permit other more commercially oriented means of financing.

We have however identified two rather smallish projects which cannot be financed through mainstream budget within a medium term perspective but which demand fixed capital investment in order to address inefficiencies in current state of operations.

Whilst these projects do not generate their own cash flow streams we still strongly believe that if the projects are financed via a Special Purpose

Vehicle (SPV) under a PPP framework Government would make substantial savings in the current operational expenditure and part of such savings that will be generated can be channelled to revenue streams that government will pay to the SPV on a performance budget basis.

One of the two projects involves procurement, handling and inventory management and overall logistical control of free medicine distributed under government's social/health policies. This can be conducted under PPP basis on strict commercial terms.

The other social project involves the construction of communal care houses specifically to attend to the social needs of adult Persons With Disability (PWD). Here again this can be done on a PPP basis, partially on a no profit basis involving NGO's and other Civil Society organisations already involved in such social work.

The Projects

Project No 1

TRANSPORT – Corridors and missing links- other strategic projects

Business Enablers:

Construction of Breakwater for Valletta's second harbour – Marsamxett including land reclamation and quay development inside both Valletta harbours.

Project details:

Valletta, Malta's capital city, is endowed with deep natural harbours one on each side of the peninsula. Malta's history is very much linked to the existence of these harbours which were an attraction to naval forces that from time to time (starting even in pre-history) ruled the Mediterranean.

The British occupied Malta early in the 19th century and established their Mediterranean military base in the Grand Harbour which served as a natural habitat for the Mediterranean navy also acting as a service base and ship repair base with shipyard docks built in the various inlets of the Grand Harbour.

Early in the 20th century when torpedo technology was developing the British needed to defend their fleet inside the harbour and decided to build a breakwater to protect the Grand Harbour. This was built between 1904 and 1908.



This breakwater permitted full exploitation of the potential of the Valletta Grand Harbour. In colonial days its potential was to serve the military needs of the Colony masters. After Independence and following the closure of the military base the Grand Harbour was exploited for commercial ship repairing and other industrial activities (e.g. grain handling and storage). More recently the Valletta side of the Grand Harbour was especially exploited for touristic purposes with particular reference to its role as a Cruise Liner port of call and hub.

Malta is now proposing to build a breakwater to render Valletta's second harbour – Marsamxett – an all-weather port like the Grand Harbour which can supplement the Cruise Liner activity, yacht marinas and Super yacht facilities for which there is strong and unsatisfied demand.



The question is not why Malta is proposing to build a breakwater for Marsamxett harbour now, but why Malta had to await over a century to come up with initiatives to protect Valletta's second harbour with a breakwater when it had a clear life example of the great economic returns of the investment generated by the breakwater to the Grand Harbour.

As can be seen from the pictures above whilst the Grand Harbour is in full bloom use thanks to its status as an all-weather port directly resulting from Colonial legacy breakwater of 1904 -1908, the Marsamxett harbour has only its inner inlets that can be commercially exploited in the absence of a breakwater at the harbour entry.

A breakwater would enable the development of the whole of Marsamxett harbour for touristic purposes with particular emphasis on Cruise-liner business and Super Yacht hub for private use and for chartering.

The project involves the construction of two arms one on the Tigne' side (right hand of the harbour entry in the above picture) 222 metres long and the other arm on the Valletta side 137 metres long.

Estimated Cost:

The Project is being spearheaded by Transport Malta, the national authority in charge of Transport issues, mostly as a Regulator but in exceptional cases it has had to take-over also the role of an Operator.

<http://www.transport.gov.mt/>

Transport Malta estimate the cost of the breakwater and the development of the harbour quays inside the harbour to render it commercially ready for operations in the region of Euro 130 million. A further Euro 10 million is required to upgrade the quays of the Grand Harbour to accommodate larger vessels.

Current Status:

Technical studies are underway to establish the best location for the breakwater. Land contour maps and bathymetric maps have been attained. Once the financing and the commercial aspects are brought to a level of confidence for the project to deserve further investment there will be need for :

- Environment Impact Studies
- Traffic impact studies
- Wave and current modelling including a physical model and stress testing for the extreme once in century storm.

Barriers to execution:

- Technical studies to confirm technical viability and budget costs.
- Regulatory and environmental issues
- Financing

Solutions:

The success of the tourist industry in Malta is almost entirely based on private sector initiatives and investment. Even the operations inside the

Grand Harbour are all private sector initiatives that have been enabled by Government creating the right investment environment.

Breakwaters do not generate their own cash flows directly but they enable in-harbour development in which the private sector would be ready to invest and exploit commercially.

Malta government believes that given the in-harbour potential the building of the breakwater could be modelled to involve private sector co-financing if the following measures are including in the offering package:

- Government will co-finance the investment by conducting all technical, environmental and regulatory studies.
- EU – EIB will co-finance with equity and mezzanine finance
- Private sector will invest enough to bring the government/ private/EU- EIB equity/mezzanine funding up to 50% of the project costs.
- Any equity shortfall could be offered to Development Banks, Private Equity Funds and Sovereign Wealth Funds.
- The remaining 50% end project financing will be raised through a mix of traditional financing sources including long term loans from banks and bonds raised on the Malta capital markets which are very liquid.
- Some sort of government guarantee / insurance cover will have to be procured for delay in completion and budget overruns due to storm damage during construction.

Time Frames:

Technical Studies and regulatory / environmental approvals could be completed within 24 months so that the project will become shovel ready late 2016 if the financing is in place.

In the beginning of the 20th century it took 4 years to finish the job even though storms forced restart for each breakwater arm of the project. With 21st century technology completion within 2 years from start of construction should be feasible.

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Project No 2

TRANSPORT – Corridors and missing links- other strategic projects

Ports and Airports:

Construction of rural airfield in Gozo – the second island in the Maltese Archipelago.

Project details:

Gozo is the second largest island of the Maltese Archipelago that consists of three islands known as Gozo, Comino and mainland Malta. Roughly circular in shape, 14km by 7km in area, Gozo is hilly and from the south-west to the north-west, the coast is entirely surrounded by cliffs. The highest point on the island rises 190 metres above sea level. The southern part of the island facing Malta, is low lying, but it rises near the coast and forms the vertical cliffs of Ta' Cenc that jut out like a bastion into the sea. Several narrow valleys cut through and dissect the plateau – the best known being Marsalforn, Xlendi and Ramla l-Hamra.

Gozo is rural and simple, its culture and way of life rooted in fishing, and in primitive pastoral and agricultural activity. Tomatoes, potatoes, onions, melons, grapes, figs, oranges, and tangerines are the island's prime agricultural produce.



Ggantija Temples in Xaghra, Gozo, are one of the most important archaeological sites in the world, and they date back to 3600 -3000 BC. In fact these temples are documented as the oldest free standing structures in the world.

Gozo though separated from mainland Malta by just a 5km stretch of Mediterranean sea is distinctly different from Malta. The soil is fertile as much blue clay is present. This means that rain water does not sink through the ground quickly and is the reason why Gozo always looks greener for most part of the year.

Gozo's population of approximately 29,000 is not so much in evidence as with 7% of the population but 30% of the land mass the population density is much less in Gozo than in Malta.

Gozo is tranquil, and treasures its peace. For some, the silence can be overwhelming, but not to those for whom it spells a blessed respite from the trials and tribulations of everyday life. Gozo is not for those who like wild clubbing, but for those who treasure their peace of body and soul and a slow rhythm of life.

Change is slow in Gozo, which adamantly sticks to its tortoise-like pace. Gozo has still succeeded in retaining its dream-like qualities of peace and solitude. If Ulysses were to come here today, he would find it even harder to leave.



Economically Gozo suffers from double insularity. Its potential for high quality tourism remains largely untapped as in spite of policies to market Gozo as distinct location from Malta, lack of direct access renders Gozo in the eyes of the tourist as a place to visit on a day trip from Malta rather than a place to spend a tranquil holiday in the high quality tourist accommodation already available in Gozo being 4/5 star hotels of private farmhouses.

Government believes it could reach its aim to render Gozo as a distinct tourist destination attractive for high quality tourists who treasure tranquillity, scenery and history over city bustle and tiring transportation by giving Gozo direct access by air.

Tourist statistics - Gozo				
	2011	2012	2013	
No. of Tourist visiting Malta	1422269	1455615	1590991	
No. of tourist day trips to Gozo	723572	743252	843630	
Percentage of day trip visitors	51%	51%	53%	
Malta Total Tourist bed nights	11241272	11859521	12890268	
Gozo Tourist bed nights	770339	848523	972709	
Percentage of Gozo Tourist bed nights	7%	7%	8%	
Malta Tourist spend per night €	109	112	112	

Gozo average spend per night €	99	118	108
Source: Malta Tourism Authority and National Statistics Office Malta			

As can be seen from the above Table more than 50% of the Tourists that visit the Maltese Islands actually visit Gozo on a day trip. However, only 7% to 8% of the tourist bed nights are spent in Gozo.

Efforts to market Gozo as a distinct destination are having some success especially in the quality of tourists as evidenced by the growth in tourist spend per night which has closed the gap with Malta and in 2012 it actually exceeded it.

Facilitated by having its own airfield Gozo's identity as a distinct destination from Malta will be enhanced and it will attract more and better quality tourists to bring the tourist bed nights spent in Gozo closer to 25% of the overall tourist visitors to the Maltese Islands.

Presently Gozo has 12% of the total licensed bed capacity but only 8% share of the total bed nights. With the airfield project and other promotions and incentives both percentages can be raised to the targeted 25%. Increase in bed capacity in Gozo to meet such demand (practically doubling the present capacity) will be undertaken directly by the private sector. Maltese private investors have always been ready to make whatever investment is necessary to satisfy perceived demand without recourse to any government subsidies.

A rural airfield in Gozo would accommodate both internal flights from Malta's main airport as well as direct flights from nearby regions in particular Sicily and Southern Italy.

The rural air-strip will be grass-stripped, circa 860 m. long making use of ground stabilisation system. It will be fully licensed aerodrome facility.

Taking into account environmental considerations to conserve Gozo's unique character it will be green and potentially reversible (non-permanent). This will be in line with Gozo's ambition to be a model for eco-tourism by 2020:

<http://www.ecogozo.com/>

Estimated Cost:

The Project is being spearheaded by the Ministry for Gozo:

<http://mgoz.gov.mt/en/Pages/Home.aspx>

Total estimated Budget is Euro 14 million

Current Status:

Technical, socio-economic and financial feasibility studies are underway and expected to be completed by end 2014.

Project has broad support from the Gozo community especially the tourism operators who have a direct interest in improving the Island's accessibility. But it is also under-pinned by general popular approval as project is pregnant with potential to deliver a step-change stimulus to Gozo's economy enabling job opportunities for Gozitans to work in Gozo rather than daily commute by ferry vessels to Malta or outright relocation to the main Island.

Barriers to execution:

- Technical studies to confirm technical viability and budget costs
- Regulatory and environmental issues
- Financing

Solutions:

The success of the tourist industry in Malta is almost entirely based on private sector initiatives and investment. Tourist operations in Gozo are all private sector initiatives that have been enabled by Government creating the right environment for investment. Only the ferry crossing service is publicly owned given its strategic importance. The airport could generate its own revenues to generate its commercial success if it really makes a difference to up-grade and exploit Gozo's potential as a distinct tourist destination where up-market tourists stay rather than just visit.

Malta government believes that given Gozo's untapped tourist potential this project that can be successfully financed on a PPP framework provided:

- Government will co-finance the investment by conducting all technical, environmental and regulatory studies.
- EU – EIB will co-finance with equity and mezzanine finance
- Private sector will invest enough to bring the government/private/EU- EIB equity/mezzanine funding up to 50% of the project costs.

- Special incentives will be given to Gozo tourist operator to invest equity in the project so as to leverage the potential of their own existing investments.
- Any equity shortfall could be offered to Development Banks, Private Equity Funds and Sovereign Wealth Funds.
- The remaining 50% end project financing will be raised through a mix of traditional financing sources including long term loans from banks and bonds raised on the Malta capital markets which are very liquid.
- Some sort of government guarantee / insurance cover will have to be procured for delay in completion and budget overruns.

Time Frames:

Technical Studies and regulatory / environmental approvals and detailed financial feasibility studies could be completed within a maximum of 12 months so that the project will become shovel-ready late in 2015 if the financing is in place.

Total execution period will be not more than 24 months from start of construction.

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Project No 3

TRANSPORT – Urban Transport: Metro and Trams

Construction of mono rail project involving mixed over-ground and underground lines running North- South and West-East intersecting at key traffic junction and feeding at its various stops into other above ground public transport means.

Project details:

Malta has a very high concentration of motor vehicles (332,455 licenced motor vehicles, as at 30 September 2014 approximately 0.75 units per capita)¹ and this causes substantial traffic congestion at peak times in main traffic intersections. As at 2013 licensed vehicles for population over 18 years (driving age) was 0.928 per capita and vehicles per driving license holders was 1.375 per capita².

In spite of efforts to render public transport services accessible and reliable, efforts that have so far largely failed due execution and policy mishaps, vehicle private ownership remains the preferred means of transport. Passenger cars between Q3/2012 and Q3/2014 increased by 5.42% in spite of a license given to a foreign company ARRIVA (UK registered subsidiary of DB-Germany) to deliver state-subsidised better public transport starting operations in July 2011 and folding up in December 2013 after incurring substantial losses and general quality failure.

In contrast, Malta has one of the lowest number of facilities for multi-level traffic inter-section systems. Many key traffic junctions are badly served with antiquated colonial roundabout legacy systems which cause traffic jams, road accidents and general loss of economic efficiency as it takes a long time to travel even a handful of kilometres.

Whilst government is undertaking several projects (in different stages of planning/implementation) at key traffic intersections, financed under TEN-T/CEF, it is believed that although such projects will be palliative to the

¹ National Statistics Office, Motor Vehicles: Q3/2014,

<http://www.nso.gov.mt/statdoc/document_file.aspx?id=4258>; last accessed 27 October 2014

² National Statistics Office, Transport Statistics 2014

<http://www.nso.gov.mt/statdoc/document_file.aspx?id=4173> page 109 Table 3.25 last accessed 12 November 2014

traffic congestion problem, a further complimentary more drastic solution is required to address the issue at its core for the longer term.

The ultimate solution for efficient urban mobility needs investment in a monorail mixed over-ground/underground system, with two lines running north/south and west/east of the main island. Such would intersect at a core traffic junction, with various stops feeding into other over-ground public transport services. This will bring a cataclysmic change to daily commute, making public transport the preferred means of urban transport, generating efficiency and economic growth as people will spend less time wasted in traffic congestions.

It will also bring a step-change improvement to urban clean air by drastically diminishing a main source of carbon dioxide emissions, and will deliver general improvement in environmental conditions, especially in urban centres where parking congestion devalues the historical and cultural esteem of Malta's historical urban centres.

Malta is the country with the highest population density in the EU. According to the Census 2011³ Malta had a population density average of 1325 persons per sq. km. compared to the EU average 117 persons per sq. km and far ahead second placed Netherlands at 495 persons per sq. km. In the northern harbour area density shoots up to 5015 persons per sq. km.

This renders Malta's main island as a place where the 'last mile' syndrome apply to a very large portion of the daily commute and not just to the last mile.

Such density of population makes efficient urban transport as key for economic development. Absence of efficient urban transport means and systems, is a serious impediment to Malta's economic potential and the proposed monorail project is meant to address this issue in a definitive manner for several decades ahead. In the process it will also deliver a sharp leap in the quality of life of the population through better environmental protection, more open spaces, cleaner air and a reliable means of getting from point to point (generally a matter of just a few kilometres) in a short time.

Estimated Cost:

³ National Statistics Office, Census of Population and Housing 2011
http://www.nso.gov.mt/statdoc/document_file.aspx?id=3998 page xiv chart 2 1st visited 12 November 2014

The Project is being spearheaded by Transport Malta, the national authority in charge of Transport issues, mostly as a Regulator but in exceptional cases it has had to take-over also the role of an Operator.

<http://www.transport.gov.mt/>

Transport Malta estimate the project to have 79 km of service involving a total budget in the region of EUR 1,420,000,000 which will be planned in four phases.

Current Status:

Technical, socio-economic and financial feasibility studies are underway and expected to be completed by June 2015.

Following that, execution studies will have to be extremely well planned to ensure that the project is sequenced in a way which, in conjunction with other works being executed at traffic junctions under other EU programmes, allows traffic problems to remain manageable during the execution phase.

The Project will have broad popular support. A survey carried by private media in November 2014 shows that traffic/parking has become the top concern for the population even overtaking illegal immigration:

http://www.maltatoday.com.mt/news/data_and_surveys/45926/maltatoday_survey_traffic_overtakes_migration_as_top_concern#.VGNEHDTF8g0

Barriers to execution:

- Technical studies to confirm technical viability and budget costs
- Technical studies to confirm best execution sequencing in phases
- Regulatory and environmental issues
- Financing

Solutions:

The monorail could generate its own revenues if properly executed to deliver what the population is strongly yearning for i.e. a reliable, efficient and environmental friendly means of urban transport.

Government believes that successful implementation of this project will unlock substantial economic potential as travellers will add at least 30 minutes per day to productive work or social quality time, which is currently being wasted blocked in traffic. It will stimulate the much desired increase in female labour participation as parents can reliably plan the daily

commute of their children to school/kindergartens rather than having to drive them back and forth individually.

Efficient public transport will further enhance the attraction of other productive sectors of the economy especially tourism, manufacturing and services.

This project is capable of being financed on a PPP framework, provided:

- Government will co-finance the investment by conducting all technical, environmental and regulatory studies.
- EU – EIB will co-finance with equity and mezzanine finance
- Private sector will invest enough to bring the government/private/EU- EIB equity/mezzanine funding up to 50% of the project costs.
- Any equity shortfall could be offered to Development Banks, Private Equity Funds and Sovereign Wealth Funds.
- The remaining 50% end project financing will be raised through a mix of traditional financing sources including long term loans from banks and bonds raised on the Malta capital markets which are very liquid.
- Some sort of government guarantee / insurance cover will have to be procured for delay in completion and budget overruns.

Time Frames:

Technical Studies, execution plans and regulatory / environmental approvals and detailed financial feasibility studies could be completed within a maximum of 18/24 months so that the project will become shovel-ready in the second half of 2016 or early 2017 if financing is in place.

Execution will be planned in four phases each involving a duration of 24 months so that the first phase will be completed by end 2018. It is yet to be established whether some overlap of the phases would be possible bearing in the mind the need to keep traffic flows manageable during the execution stage of the monorail project.

Consideration will be given to using the rails and tunnels of the Malta Railways which was a train service from Valletta to Mdina which started in 1882 and was mothballed in 1931 when private car transport rendered train service superfluous.

Project No 4

Social Infrastructure – Health : Data handling and decision making (e-health):

Developing infrastructure for procurement, handling, storage and distribution of medicines under public health services

Project details:

This Project involves reducing carried stock levels of medicine through proper procurement and handling systems. Stock turnover per annum is planned to be quadrupled from the present 3 times to 12 times and involving as much as possible systems for direct delivery from suppliers to consumers at point of use. This would reduce storage and handling costs (especially by shifting expiry date risks on to suppliers) and would improve traceability of proper use of the medicine.

Technology based systems would be introduced including new central storage depot for centralised control of medicines that pass through the stores, Radio Frequency Identification (RFID) to monitor movements of stock till its end use (and detect abuse), and introducing tech-based medicine systems within state hospitals through dispensing machines in wards which will register the staff user, the patient/bed end user and will register automatic stock use and re-order to replenish stocks in dispensing machine at regular intervals. There will also be automatic control with medicines levels authorised by medical specialists to ensure that dispensing levels match authorised levels.

Estimated Cost:

The Project is being spearheaded by The Ministry for Energy and Health through the Parliamentary Secretariat for health and through the latter's Medicine Division:

<https://www.gov.mt/en/Services-And-Information/Business-Areas/Health%20Services/Pages/Medicine.aspx>

Estimated Project Costs are Euro 15 million.

Current Status:

This project forms part of a larger endeavour to bring back order to the system for procurement and distribution of medicine which the present

administration on takeover in March 2013 found a non-system plagued with lack of controls and regular out of stock mishaps.

A lot of work has already been done to regularise payments to suppliers and to change the procurement systems to reduce stock-holding and increase stock turnover without suffering out of stock situations.

However a point has now been reached where further enhancement depend on capital investment in technology based system and central stores.

Barriers to execution:

- Financing is the only bottleneck as fiscal compression does not permit financing of such projects even though it will bring self-financing economies over the medium term.

Solutions:

1. Consolidate all warehouses into a centralised warehouse that facilitates efficient operational procedures - Budget approx. EUR 2 million
2. Implement a solid stock keeping IT system that underpins all the interacting systems and create an architecture that provides total control and visibility throughout the supply chain – Budget approx. EUR 5 million
3. Control all movements and transactions as well as physical cycle counting through the use of RFID where all individual stock keeping units (SKUs) will have an RFID tag and radio frequency equipment will automatically read all the legal and illegal movements of stocks - Budget approx. EUR 2 million
4. Implement Automated Dispensing Cabinets (ADCs) to create better workflow and improve stock management. ADC's empower nurses to work more efficient; keeping medicines more secure, reduce interruptions, reduce medication errors, and support compliance with evolving regulation. 210 units will be required for a total budget of EUR 6 million.

Typical Automatic Dispensing Cabinet



This project is capable of being financed on a PPP framework, provided:

- A Special Purpose Vehicle (SPV) is created to undertake and finance this project.
- EU – EIB will co-finance with equity and mezzanine finance
- Government will co-finance through provision of land for locating the new central stores and provision of technical studies already undertaken.
- Private sector will invest enough to bring government /private/EU-EIB equity/mezzanine funding up to 50% of the project costs.
- Any equity shortfall could be offered to Development Banks, Private Equity Funds and Sovereign Wealth Funds.
- The remaining 50% end project financing will be raised through a mix of traditional financing sources including long term loans from Maltese banks which are very liquid.
- A long term agreement is entered into between the SPV and government whereby government will channel to the SPV the greater part of the savings made through efficiencies generated by the new system on an agreed performance based budgeting basis.

Malta has a social system which offers free medicine to all inpatients in state hospitals and old age residential facilities, free medicine to all persons suffering from long term medical conditions (e.g. cholesterol control), and free medicine for all conditions to the lower economic strata of society on a means tested basis.

Medicine cost is one of the main expenditures of the health budget (costs of medicinal products, appliances and equipment in absolute terms: 2012 – €75.32 m.; 2013 – €73.50 m.; 2014 €84.00 m. being approx.22% of the Health Operating Budget - and as a percentage of GDP: 2012 – 1.10%; 2013 – 1.02%; 2014– 1.13%)⁴.

The implementation of a new tech based system for medicine procurement, control and distribution is a high priority project both to improve the service to end users (by avoiding out of stock mishaps) and to break the growth in the operational cost of operating the system.

Even a small 5% efficiency system gain would generate complete capital recovery in under 4 years making the proposed SPV an attractive project for private sector to invest in and for government to promote.

Time Frames:

Project is ready for implementation as soon as finance is confirmed.
Execution time will be between 24/30 months with gradual rollout.

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⁴ Financial Estimates 2014 – page 317 – Ministry for Finance – 2013 figure provisional, 2014 figure estimate.

Project No 5

Social Infrastructure – Built environment and urban services: Social housing

Social housing and community centres for Adult Persons with Disability (PWD)

Project details:

The 2012 National Census identified 4,500 persons with intellectual challenges and 22,000 disabled persons that require some sort of full or part-time residential care. Often adult PWD live with their parents until their family can take care of them. When parents pass away PWD lose their life support and often have to be accommodated in public residential old peoples' homes which are unsuitable and unequipped to attend to their care needs.

It is government policy to empower PWD who reach adulthood to live independently in safe, secure and comfortable accommodation with support staff to help as necessary, and as close as possible to the rest of society.

Apart from promoting human rights for the disadvantaged it will save the public purse more expensive institutional care as residential services could be run jointly with private/NGO/Volunteer services. Such would reduce operational costs and deliver quality services at lower costs.

The Project includes the following elements:

1. One Disability Inclusion Centre to be located at the heart of a residential community catering for 100 residential PWD , 15 PWD with emergency respite and 85 PWD who attend the day centre. Budget estimate EUR 12 million.
2. 25 small Community Homes catering for 25 residents each spread all over the country to keep PWD as close as possible to their communities. Budget estimates EUR 20 million
3. 5 Regional Inclusion Cluster Houses consisting of 4 apartments per block accommodating 4 persons per apartment = 80 resident PWD. Budget estimates EUR 5 million
4. One Transition Hostel to serve for purposes of screening and giving rehabilitation training to PWD before they are transferred to residential units, catering for 20 PWD. Total Budget Estimate EUR 3 million.

Estimated Cost:

The Project is being spearheaded by The Ministry for the Family and Social Solidarity through the Parliamentary Secretariat for rights of persons with disability and active ageing.

<http://mfss.gov.mt/en/Pages/MFSS%20EN%20homepage.aspx>

Estimated Project Costs are Euro 40 million.

Current Status:

Requests for Expression of Interest have already been issued for some Cluster Housing Units and Small Community Homes being elements 2 and 3 of the Project as above described.

Barriers to execution:

Financing is the only bottleneck as fiscal compression does not permit financing of such projects even though it will bring self-financing economies over the medium term.

Government is considering enticing defaulted tax payers who are asset rich in terms of real estate but do not have financial liquidity to honour their tax obligations (including tax and social security contributions deducted from employees' salaries but not paid to Revenue) to settle their dues in kind and apply such acquired real estate for purpose of executing some elements of this project.

Solutions:

This project is capable of being financed on a PPP framework, provided:

- A Special Purpose Vehicle (SPV) is created to undertake and finance this project.
- EU – EIB will co-finance with equity and mezzanine finance.
- Government will co-finance through provision of land/ buildings for locating elements of the Projects and by assisting in procurement of all necessary regulatory and environmental permits and approvals.
- Private sector will invest enough to bring government /private/EU-EIB equity/mezzanine funding up to 50% of the project costs.

- Any equity shortfall could be offered to Development Banks, Private Equity Funds and Sovereign Wealth Funds.
- The remaining 50% end project financing will be raised through a mix of traditional financing sources including long term loans from Maltese banks which are very liquid.
- A long term agreement is entered into between the SPV and government whereby government will channel to the SPV the greater part of the savings made through efficiencies generated by the new system on an agreed performance based budgeting basis.

Government payments to the SPV could be financed by costs saved from mainstream budget to house such PWD in totally inadequate old people's homes.

Time Frames:

Project is ready for implementation as soon as finance is confirmed.

Execution time will be in various phases for the four different elements of the Project.

- Element No 1 Central Disability Inclusion Centre : 24/36 months from shovel-ready state.
- Element No 2: 25 small community homes – spread over 8 years to permit gradual roll out in four 2 year phases.
- Element No 3: Inclusion Cluster Housing – spread over five years to permit gradual roll out of one Cluster House each year.
- Element No 4: Transition Hostel: this is priority element to be completed within 12 months from shovel ready state.

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Recapitulation

The five projects listed by MALTA have a projected budget costs of :

Project 1	EUR 140 million over 2years from shovel ready
Project 2	EUR 14 million over 1 year from shovel ready
Project 3	EUR 1420 million over 8 years from shovel ready
Project 4	EUR 15 million over 2 years from shovel ready
Project 5	EUR 40 million over 8 years from shovel ready.
Total	EUR 1629 million

Assuming uniform project process over the indicated terms the following would be the expected spend per annum over the maximum 8 year term:

Year 1: EUR 274 million = approx. 3.51% of 2014 nom. GDP

Year2: EUR 260 million = approx. 3.20% of 2015 nom. GDP

Years 3 to 8 EUR 182.5 million p.a. = approx.. 2.15% of 2016 GDP and reducing thereafter.

Proper digestion and capacity for execution of the listed project within the set time frames is corroborated by their size in relation to the size of the economy.



NETHERLANDS



PROJECT LIST CONTRIBUTION - THE NETHERLANDS

INTRODUCTION

In line with the other replies of The Netherlands to elements of the Task Force questionnaire and its interventions in the Task Force meetings, The Netherlands underlines the importance it attaches to stimulating investment, notably in the private sector. Structural reforms are key for Europe's future economic growth and competitiveness and will allow Member States to establish a sustainably improved investment climate, resulting in a higher level of available market financing for viable investments. Furthermore, improved access to mezzanine finance and equity for SME's and Midcaps, flexibility and higher risk capacity of European financing facilities, as well as bundling of fragmented financing needs are among the solutions suggested by The Netherlands to further stimulate investment.

The list below aims to present **an illustrative sample** of potential and existing projects, programs and instruments (from now on all referred to as 'projects'), which The Netherlands considers to illustrate bottle necks and/or potentially viable possibilities for investment in the Dutch and EU context. This list illustrates some of the issues mentioned in the Task Force, it is however not limited to them. This list has been composed guided by the sectors and cross cutting issues mentioned in the Task Force Terms of Reference and the questionnaire template. Not all bottle necks for investment in these sectors could be reflected in this list, moreover bottle necks to investment and other negative factors outside these sectors exist and do not necessarily have less impact on growth and competitiveness. It is also important to note that the order in which the list has been drawn up does not imply any differentiation regarding the importance The Netherlands attaches to the projects themselves or the underlying issues they represent.

Although this list has been composed with the greatest level of care possible within the time constraints of the Task Force process, it remains important to stress its illustrative and non exhaustive character. As was agreed in the Task Force, this is a contribution to an indicative Task Force list. Given the short time frame, unfortunately only a limited group of stake holders could be consulted, mainly, though certainly not exclusively, national government ministries. Their input was largely based on the existing information and contacts at their disposal. This limited process was only deemed acceptable by all involved in view of the mentioned illustrative and non exhaustive character of the list. Moreover, to irrevocably establish the economic, financial and social-economic viability and impact of some of these projects, their assessment should take place through a more extensive process using appropriate and clear criteria, taking more time than was available to compose this list. The list is therefore in no way to be regarded as an exhaustive, formal or final pipeline of investment possibilities in the Netherlands.

When projects appear on this list, this does not imply or exclude current or future commitment of public funding from the Dutch national government, nor from any other level of government, private parties, or the European level. Nor does it imply or exclude current or future endorsement of or commitment to these projects by Dutch political decision makers. Projects not included in the list are not excluded from any Dutch public funding, European funding or political endorsement. Commitment of any public funding to the listed projects will require them to comply with the same criteria and processes as applied to non-listed projects requesting the same funding. In short, no rights can be derived from appearance or omission of a project on this list.

Finally, while we have avoided the selective listing of individual investments by private enterprises, we wish to signal the existence of several potential investments that could be unlocked/facilitated by a less restrictive policy of the European Investment Bank (either directly or as a result of the use of EU funds) with regard to – for example - the following issues:

- Limited risk capacity/appetite, often forcing them to be more conservative than many of the large commercial banks.
- Limited (EU supported) EIB firepower for innovative/growth companies in the Midcap category, and only for loan amounts until 25 mln. No EIB appetite or even eligibility for loan amounts between 25 and 70 mln. This is a very important size-category for Midcaps or companies just beyond the Midcap limits, in particular for growth and innovation, who are often in real need of medium term financing from the EIB.
- A rigid model for the loan agreement, which in some cases makes it hard to co-finance projects together with local banks, including promotional banks, or under certain state guarantees.
- Restrictive sector policies, for example in transport, even where EIB financing is highly additional to private financing possibilities.
- Demanding requirements for intermediaries, for example with regard to reporting and the definition of certain eligible client categories (eg. SME's)

PROJECT LIST

CROSS CUTTING

<i>Sector</i>	<i>Sub-sector</i>	<i>Project name</i>	<i>Implementing agency</i>	<i>Description</i> <u>ISSUES</u>	<i>Included in national investment plan (yes/no)</i>	<i>Status</i>	<i>Total investment cost (EUR bn)</i>	<i>Investment in 2015 – 2017 (EUR bn)</i>	<i>Barriers/solutions</i>
SME's	SME's with a stable growth path	Non-bank financing alternatives – Development of alternative financing platforms	Non-bank market parties with a focus on SME finance	For SME's alternatives for bank financing are needed. E.g. crowdfunding, credit unions, SME bond issuers and supply chain finance are on the rise, but lack the funds to reach out to a bigger part of the SME market	Related to national programme	In development	Based on a 400 mln Dutch partial guarantee instrument, the intention is to mobilize a multiple of this amount in private financing	Depending on market development, 1-5 bln (rough estimate) EU wide	Non-bank alternatives lack the track record to get the funding they need to lend to SME's. EIB could be a corner stone investor to kick start investment platforms and catalyze private funding.
SME's	SME's in growth fase	IMF-SME : International Mezzanine Fund for SME's	Financial intermediary, different semi-private-public actors possible	International fund for mezzanine finance targeting financial needs of viable and (fast) growing SME's.	SME Action Plan	Early stage of development. Could be set up within one year.	For 5-year fund in total € 1 bln funding for Dutch market. For EU-market a x? multiple	€ 600 mln for NL. X? multiple EU wide.	There is scarce availability of mezzanine finance for fast growing companies in the EU. Solution could be a European corner stone investment in a mezzanine fund operating at EU level.
SME's	Very fast growing / expanding innovative SME's	Expansion phase co-investment fund	Potentially EIF	Large scale co-investment vehicle for fast expanding phase. Deal size range €5-€40 mln.	SME Action Plan	Early stage of development	For 5-year fund in total € 500 mln to €800 mln. for EU-market	€ 250 mln to €500 mln. for EU-market € 100 mln in NL.	Lack of large scale investment funds/rounds in EU compared to the US. Now it happens regularly that US-funds benefit from the EU early stage investments. Solution would be an EU-wide co-investment fund managed by the EIF.
SME's	SME's in growth fase	Renewable raw	Ministry of Economic	In Europe the urgency to move to a biobased economy	Yes		0,1 (5 years, 20 million a	0,06	Biomass investments are often too big for local

		materials. Biomass investments.	Affairs	is higher than in the rest of the world, because of the price difference of fossil fuels compared to the US (shale gas) and the Middle East (oil). The project offers support for SME's to Expand their business with the use of renewable raw materials.			year)		banks (€ 20 - € 30 mln.), but too small for specific financing projects. Biomass is a very specific market and bankers lack knowledge of it. The prices of biomass raw materials are quite volatile. Finally, the cascaded value chains are not yet closed and this makes investment for the whole value chain difficult.
Innovative companies	Mainly innovative SME's and midcaps with substantial investment in innovation projects for new products, processes and services	IPFS : Innovation Project Finance Scheme	National Promotional Bank / NPB Funding from Investment Platform vehicle/EIB group	Debt funding through a portfolio strategy for innovative SME's and midcaps with substantial investments in projects for new products, processes and services. With this approach, instead of a subsidy instrument, it is feasible to create an investment capacity of more than five times. Similar to the RSI-concept.	yes	Under development, possible to implement within 1 year	Yearly investment cost 50 up to 100 mln. Private capital leverage 2 times or higher	Depending on market developments between 150 -300 mln	Bank and other private investors are very reluctant to invest in private innovation projects of these companies. European matching of national instruments which accept a small but predictable loss of a small part of the investment portfolio enables private investments for activities with substantial economic return and spin off. No such facilities exist at the moment. EIB-group funding of this project portfolio with limited loss taking by EC-instruments could enable these innovation investments.

KNOWLEDGE AND THE DIGITAL ECONOMY

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Knowledge and the Digital Economy	Public and Private R&D	Smart Industry	FME, VNO-NCW, Chamber of Commerce, Ministry of Economic Affairs	As part of an Action Plan Smart Industry 10 fieldlabs will be started. Goal is to invest in the digitalisation of the Dutch Industry. We aim to cooperate with several countries, like Germany, Belgium, France, UK and Denmark.	Yes	Action plan is ready. Smart Industry 10 fieldlabs will be started in 2015.	0,09 (first 10 fieldlabs, 20 more to come)	0,09 (first 10 fieldlabs, 20 more to come)	International standardization of industrial supply chains. Cybersecurity and privacy. Business models in respect of big data. Fieldlabs will be the main part of the solution. International cooperation is essential. Financing the international standardization only by private investments is difficult, so initial public financing is needed to kick-start these investments.
Knowledge and the Digital Economy	Public and Private R&D: Health	PALLAS	Pallas foundation	PALLAS is the future, multi-purpose nuclear research reactor which will ensure the European security and independence of the supply of medical radioisotopes beyond 2020. PALLAS is set to replace the High Flux Reactor in Petten which currently supplies 60% of the European demand for medical radio-isotopes and 30% of global demand. PALLAS will provide nuclear research and irradiation services for public and private R&D in medical isotopes, industrial isotopes and nuclear security.	National and regional governments provided EUR 80 mln financing for early development stages (design and licensing)	Preparations have started early 2014 and a project organisation is in place (PALLAS foundation) Design (procurement) licensing will start in 2015. Procurement for construction and start construction planned for 2017-2018 period.	0,6	0,2	Barriers: Assessment of PALLAS business case is positive. However historically low pricing of medical radioisotopes, market failure and lack of European policy have made private investors hesitant. A combination of predominantly private financing and EC and EIB financing is envisaged. Solutions: 1. a EUR 0.2 bn European investment will leverage private financing for PALLAS. 2. Implementing EU-policy on the security of supply of medical radioisotopes will further improve the business case of PALLAS and other European

Knowledge and the Digital Economy	Public and Private R&D	QuTech	EC for core project; Partnering projects by participating countries and industry	Next wave of innovation: Quantum Technologies Research & Venture Initiatives. A novel partnering approach to boost innovation in Europe through excellence in quantum science and engineering to ensure safe and secure communication and to boost ICT industry and employment in Europe. This way EU can regain leadership compared to US and Asian ICT industries.	Yes	Planning in EU quantum community started in 2014. Member States recently initiated several initiatives that can join forces, starting in 2015. Venture Capital in Europe has started to investigate this topic in 2014.* Setting up a joint public private investment fund could take shape in 2015. (*draft report available)	1	0.4	research reactors. Barriers: lack of high-risk investments from existing industries (more risk averse than US counterparts) and the absence of early-stage angel-investors and venture funds. Additionally national research initiatives are fragmented. Solution: In Quantum Technology, Europe has a lead scientific position. If the EU can synergize existing national programs by adding a joint core research programme directly coupled to strong venture capital / angel investment stimulating measures, the EU can stay ahead in innovation as well. This will create growing private capital investments in EU and leverage the birth of a new industry.
Knowledge and the Digital Economy	ICT infrastructure	Fast broadband roll-out in rural areas	Regional authorities	Roll-out of fast broadband (>30MB/s), both fixed and mobile, in less densely populated areas.		Planning stage	0,4	0,2	Barriers: The return to investors from subscriptions is lower than needed to justify the investments. Benefits to society from including these areas in the digital single market do not accrue to investors. Public money to fill the gap is scarce. Solutions: use of financial instruments to better leverage scarce public money, as well as risk-sharing operations to support local broadband

Knowledge and the digital economy	Public and Private R&D	Investments in science: Large scale research Infrastructure and e-infrastructure	Ministry of Education Culture and Science/ NWO (Dutch research council)	Investments in research infrastructures and in e-infrastructures		Investment decisions have to be taken. NL has a roadmap aligned with ESFRI-roadmap for pan-European Infrastructures. Regarding e-infrastructures a plan for e-science is present at NWO	1.5	0.5	infrastructure projects. Despite EU support for feasibility studies contributing to the maturity projects, and existing EIB-facilities, national MS investments have been too low to implement ambitions. Additional European investments will leverage the national considerations and especially private sector contributions to implement the ESFRI roadmap. The same holds for <u>e-infrastructures</u> . Using public funds (from the existing available resources) to catalyze private sector financing could be considered. To enable increased private participation reviewing state aid regulations could also be considered.
Knowledge and the digital economy	Public R&D	Investments in science: 1. Thematic technology transfer	Ministry of Education Culture and Science/ NWO (Dutch research council), Ministry of Economic Affairs, Ministry of Health	Pool excellent science and professionals and dedicated technology transfer from several universities and knowledge institutes together along the lines of a theme, such as cardiovascular research or oncology	Yes, on a small scale together with stakeholders related to the theme.	On a national scale there are pilots. The health foundations like to invest as well.	0,2	0.1	The model is proven by the VIB (Vlaams Institute for Biotechnology). Now a scaling up of a pilot in some sectors would result in much more translation of science into innovation. These are modest initiatives with high EU wide public and private spin off. Current EU eligibility criteria for EU-level R&D resources (e.g. requirement to involve other MS) present a barrier for further investments.
Knowledge and the Digital Economy	Public and Private R&D	Investments in science : industrial doctorates	Ministry of Education Culture and Science/ NWO (Dutch research	Programme to increase the number of phd's in the private sector to increase the use of knowledge by the government. The aim is		Initiative has been announced by Dutch Government	p.m.	p.m.	More effective links are needed between higher education, research and business, including effective knowledge

			council)	several hundreds of phd's.		in September 2014 (Growth Letter), to pursue a charter with the private sector (2015-2025).			transfer activities and business-academia staff exchanges. EU funding could contribute to planned agreements with the Dutch private sector, resulting in considerable private investments in phd's.
Knowledge and the Digital Economy	Public	Applied research infrastructure Examples : Phase Transition Lab, DATA science center, Geocentrifuge, Testing facilities, ICT big data & sensor lab, high energy systems integration lab, smart cities fieldlab	RVO	Research infrastructure		New.	0,1 p.y.	0,03	Applied Research Institutes are developing a Strategic Research Facilities plan. Part of the investments in facilities will however not be profitable, without risking to outprice the use of the facilities towards third parties on an international playing field. Fully privately funded facilities are hard to realized. The Strategic Research Facilities Plan will therefore have to take into account new and modern ways of financing.
Knowledge and the Digital Economy	Public R&D	R&D investment fund (toekomstfonds)	Ministry of Economic Affairs	Revolving fund for research infrastructure and public private partnerships		New	0,1	0,1	Investments in R&D require public participation to attract interest of private parties. Non- revolving investments should be covered by additional public budgets. The total investment package of € 100 does not cover the investment needs in research infrastructure and public private partnerships.
Knowledge and the Digital Economy	Applied Research Infrastructures Example 1	Grand Design, Dutch Food & Biobased Centre	Public and private parties	TKI Agri&Food, Top Institute Food and Nutrition, the applied research institutes DLO en TNO build bridges between academic research and product development.		Business plan has been developed in 2014 as a Public Private Partnership.	0,03	First round financing of € 8 mln in 2015-2016.	To bring existing research together, a new research centre including facilities needs to be built. Precompetitive research programmes on Food and

	Public and Private R&D: Agri&Food			Innovation is stimulated to meet societal and industrial needs. Research infrastructures, research programmes and valorisation activities will be joined. A new 'open innovation' research centre, including research infrastructure and ICT facilities, will be built in Wageningen. New research programmes in Food and Nutrition and Biobased will be developed.		About 200 private international companies participate. Links to other Dutch universities and academic hospitals. Links with European programs, such as EIT are envisaged. Start in 2015.			Nutrition and Biobased need additional investments to match current public and private investments and build a world class research infrastructure. Public funding can contribute to scarcely available private investments.
	Applied Research Infrastructures Example 2 Public and Private R&D: Agri&Food	Protein Competence Centre	Public and private parties	Seven companies from the food and feed business and six knowledge institutes from Holland combine their knowledge on proteins.		New research programme on proteins is needed focussing on the societal need resulting in increasing demand for high quality protein world-wide. Start in 2015.	0,006	0,006	Benefits to society and industry exceed the benefits to individual public and private research partners. Initial public financing is needed to kick-start private investments and balance investment costs and benefits of the partners.
	Applied Research Infrastructures Example 3 Public and Private R&D: Agri&Food	Carbohydrate Competence Centre	Public and private parties	CCC is a centre of expertise on carbohydrates. CCC is cooperation of 6 knowledge institutes with 19 (bigger) companies. Goal is to improve the innovation power of Agro&Food, Chemistry, Life Sciences and Health and Energy industries.		New research programme on carbohydrates is needed to perform research on the societal need resulting in increasing demands for carbohydrates for healthy food and biobased	0,006	0,006	Benefits to society and industry exceed the benefits to individual public and private research partners. Initial public financing is needed to kick-start private investments and balance investment costs and benefits of the partners.

						applications world wide.			
	Applied Research Infrastructure s Example 4 Public and Private R&D: High Tech Systems and Materials	Holst	Public and private parties	This partnership from TNO and IMEC is a world class innovation centre on micro/nano technology and fonotica. Holst is established in the High Tech Campus in Eindhoven and is supported by 40 industrial companies. Holst has 180 employees with 28 nationalities. Holst is a good example of the situation at several public/private R&D centres.		Holst needs certainty about funding after 2016. This is necessary for the facilities, development s of demo plants and long term research programs. This certainty will improve the position of Eindhoven as high tech region (Brainport).	0.04	0.02	Benefits to society and industry exceed the benefits to individual public and private research partners. Public financing is needed to kick-start private investments and balance investment costs and benefits of the partners. This problem occurs in many other public-private R&D partnerships. Holst should therefore be seen as an example out of many.
All	Private and Public R&D : Smart specialisation	Vanguard initiative	Regional and local governments in partnership with private parties	A fund of funds for piloting the Industrial Renaissance. Three pilot actions to develop networks of demonstrators: high performance production through 3D printing, efficient and sustainable manufacturing, off shore energy applications.		new	100 mln	10 mln	In the present business climate, barriers for investing can be reduced by appropriate mechanisms for co- creation and risk sharing. Therefore the Vanguard Initiative for new growth through smart specialisation has engaged its partners in exploring solutions to leverage public-private investments through EIB/EIF. The Vanguard Initiative proposes to start a process for a co-investment mechanism which combines regional/national risk capital funds with a European fund of funds, sharing risks and sharing futures.

ENERGY UNION

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and Production / Energy Efficiency: Better use of industrial heat	Regional heat-infrastructure: Rotterdam; Amsterdam; Arhem-Nijmegen; Geleen; Noorden NB : Examples below !	Local government, province; energy-, chemistry-horticultural, -housing sector	Construction of large scale heat infrastructure in 6 regional clusters for the efficient use of industrial heat and use of residual heat for horticultural clusters and housing. Connection of geothermal heat. Combination with CO2 delivery for horticultural use.	Part of Dutch energy agreement	Design, study, business case, investment plan ready.	1.5	1.0	Investment barrier: Return on investment takes long. Public funds may be needed to catalyze private investment.
	Example 1 : Chemical Industry	Steam pipeline in Eemsdelta	Private parties	Private parties are planning to build a steam pipeline with residual heat. This residual heat is beneficial for the whole chemical cluster in the Eemsdelta. The pipeline will reduce steam prices and make the cluster more competitive. There are environmental benefits. The investment in the new steam pipe line will double the amount of Green Energy produced.	Part of Dutch energy agreement	Private parties are ready for the investment but financial hurdles exist.	0,15	0,15	Investment barrier: Return on investment takes long. Public funds may be needed to catalyze private investment.
	Example 2: Chemical Industry	Steam pipeline in Port of Rotterdam	Private parties	Project building steam pipelines that make sharing of residual heat possible. The pipeline will reduce steam prices and make the whole chemical en energy cluster in the Port of Rotterdam more competitive. There are environmental benefits as well.	Part of Dutch energy agreement	The first pipelines have been built, but there are opportunities for more. Companies are reticent to make these extra	0,37	0,2	Investment barrier: Return on investment takes long. Public funds may be needed to catalyze private investment.

Energy Union	Connections and Production	Off shore wind	Ministry of Economic Affairs and private partners	Realisation off 5x700 MW off shore wind.	Part of Dutch energy agreement	investments. First tender will be granted in the period 2015-2019. Start construction will be 2017, start energy production in 2019.	12	2	These are large ticket investments requiring long term financing and potentially also subordinated facilities at different stages of development. Availability in the market is scarce, and the EIB has limited capacity in particular where size and risk taking has to be combined. EIB as a corner stone financier also with mezzanine financing is important to catalyze private financing (also after construction phase), including institutional investors. Cooperation between EIB and National Investment Institute (NII) could be explored.
Energy Union	Connections and Production: Geothermal steam	Deep geothermal energy	Dutch Enterprise Agency	Deep bore-holes for geothermal energy 4-6 projects. This pilot at ultra deep level would reduce the technical risks for future projects and gives more insight in geological risks. Project has considerable spin off effects regarding know how for future projects and is scalable.	Part of Dutch energy agreement	Business case, investment plan ready.	0.5	0.1	High technological and geological risk present an investment barrier for current business cases. Sufficient risk capacity and availability of European funds needed.
Energy Union	Connections and Production: Geothermal heat	Acceleration geothermal horticulture plan	Dutch Farmers Organisation	Geothermal heat for green house horticulture: 5 PJ reduction fossil energy in 2020 by circa 60 bore-holes.	Part of Dutch energy agreement	Business case, investment plan ready.	0.45	0.2	Insufficient financial buffer of horticulture enterprises; front loaded spending is high; return on investment takes long. Bundling/structuring of investments and equity investments in horticulture enterprises needed.

Energy Union	Connections and Production: Port	ROAD	Private parties	Project for CO2 capture, transport, and storage from the Port of Rotterdam in the sea.		Ready to start.	0.2	0.2	The current CO2 price is too low to make this project economically profitable. This issue applies to a broader range of projects involving CO2.
Energy Union	Energy Efficiency: Steel sector	Hisarna	ULCOS	<p>In 2009 the Public Private Partnership ULCOS (Ultra Low CO2 Steelmaking) started with testing new technologies for pig iron. This is called the Hisarna-proces. This process costs 20% less energy and results in a reduction of 20% of CO2-emissions.</p> <p>The consequence of a possible delay in scaling of the pilot phase is that qualified employees will leave and the installation will become obsolete.</p>		After four phases of testing a European partnership (GER, LUX, NL) will start scaling of the pilot phase to produce pig iron from the beginning of 2015 for a period of 6 months. This requires big investments.	0.3	0.3	The project can help the European steel sector to improve its competitiveness, especially v-a-v competitors in low-cost energy countries like the US. Banks are reluctant with financing and it's hard for the companies to invest because of the low margins on the steel market. Low CO2-prices are a factor.
Energy Union	Energy Efficiency in Buildings	Energie Sprong (« Energy jump »)	Energie sprong	<p><i>Energiesprong</i> an independent, non-for profit market development team, supports greater scale and reinforces the existing energy efficiency market structuring energy efficiency refurbishment programs for buildings. The program created the market conditions to broker a deal for 111.000 Net Zero Energy refurbishments for social housing in the Netherlands. <u>Refurbishments are done within 10 days per house, financed off the energy bill savings and come with a 30- year energy performance warranty from the builder.</u></p> <p>This deal is driving the construction sector into a transformative innovation trajectory, based on prefabrication and</p>		Pilot phase (without refurbishment subsidies) starts to transition into scaling up delivery in 2015.	<p>Social housing deal implicates 6 bln for Dutch market.</p> <p>Making that succeed will be the catalyst for offerings in the private market. Implicating additional 2 bn / year market.</p>	<p>Until 2017: 1.5 bln for Dutch market only for social housing.</p> <p>Additional 1.5 bln for private homes.</p>	<p>Barriers: Sufficient affordable financing, also for the non-guaranteed investments in the affordable housing and private home owners category. Solution: Existing EIB funding for targeted funds could be expanded.</p>

				<p>industrialisation. Current solutions are based on a new building envelope, which integrates production, insulation, ventilation and efficient consumption. An impression: https://www.youtube.com/watch?v=5Do2IMB8xQs&list=PLjsYYZd8-kqH7npZw37P830BozqKeCLGd&index=3</p> <p>Additional funding is needed to:</p> <ul style="list-style-type: none"> - drive suppliers of builders to develop better components for the retrofit package - Piloting support for the private homeowner market 					
Energy Union	Energy Efficiency in Buildings	“EnergieRijk Den Haag”	Ministry of the Interior and Kingdomrelations, local government in partnership with private parties	<p>Within the project “EnergieRijk Den Haag” the national government cooperates with the municipality of The Hague for more reliable, cleaner and cheaper energy. Its focus is on properties owned by the national government, the municipality and any other parties around the Hague Central Station. The Hague and the government will explore how sustainable energy can be realized with an area-specific approach. Consider integration of existing thermal storage systems, the use of district heating for energy exchange between buildings and the use of decentralized technologies such as geothermal energy generation and solar panels. The experience gained in the field of finance, procurement, technology and organization may in the</p>	Part of Dutch energy agreement	Business case, investment plan ready.	PM	PM	High technological risk is currently a barrier for the business case. Sufficient risk capacity and availability of European funds needed in order to catalyze private financing.

				future be applied in similar projects.					
Energy Union	Industrial processes	Green growth SME energy efficiency booster	Public/private	Investment facility for energy efficiency investments in small industry (incl retail and multi-tenant building).		Early	0,1	0,05	<ul style="list-style-type: none"> • Insufficient access to finance for SMEs, causing economically viable solutions to remain on the shelf • Insufficient access to expertise • Split incentives between owners and users • Fragmented financing needs requiring bundling

TRANSPORT

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Transport	Maritime and inland shipping	Greening the shipping sector (energy mix and exhaust gas cleaning)	Private	<p>Maritime shipping is to comply with (IMO/EU) emission standards, requiring major investments for the industry (e.g. scrubbers, new engines).</p> <p>Inland shipping can reduce its environmental impact by retrofitting vessels to LNG</p>		Combined with high investments the shipping and barge industry is faced with low margins. These extra requirements are (financially) difficult to achieve. Mature: technology can be applied directly	1,0	0,2	<p>Because of the relatively low margins in the industry banks are reluctant to finance the extra investments that are needed to meet the extra environment requirements. The industry is important for the logistical function of the Netherlands in Europe. Financial support in meeting these extra requirements is needed.</p> <p>In particular for inland shipping, shipping is an SME activity: bundling of smaller financial needs may be necessary. EIB could contribute to structuring and financing.</p>
Transport	Corridors and Missing Links	PPP Road Programme	Public/private	<p>The full rolling PPP road programme amounts to 8,3 bln. Of this 2,1 is off the TEN-T network:</p> <ul style="list-style-type: none"> - 1,3 national roads (see below) - 0,8 is regional (Rijnlandroute). 	Yes	Mature	7,0	2-3	<p>PPP's are facilitated against more favourable terms if private financing can be combined with long term corner stone financing from EIB with generous volume (especially with sizable projects) and risk taking capacity or new financial instruments such as EIB/EU enhanced project bonds</p>
Transport	Corridors and Missing Links	PPP Road Programme	Public/private	<p>The rolling PPP road programme includes various heavily used sections that</p>	Yes	Mature	1,3	<0,5	<p>Regulatory restrictions: EIB is heavily restricted in its capacity to finance</p>

				are arbitrarily off the TEN-T network, such as nearby Utrecht (Ring Road and A27/A1 connection)					crucial infrastructure not within the narrowly defined TEN-T network. PPP's are facilitated against more favourable terms if private financing can be combined with long term corner stone financing from EIB with generous volume (especially for sizable projects) and risk taking capacity or new financial instruments such as EIB/EU enhanced project bonds
Transport	Corridors and Missing Links	PPP Lock Programme	Public/private	The programme includes two complete lock complex renewals, the Amsterdam locks and the Beatrix locks, increasing the transport capacity to/from the Port of Amsterdam (4 th in EU) on the North Sea - Baltic and Rhine - Alpine corridors	Yes	Mature	1,4	0,6	PPP's are facilitated against more favourable terms if private financing can be combined with corner stone long term financing from EIB with generous volume (especially for sizable projects) and risk taking capacity or new financial instruments such as EIB/EU enhanced project bonds
Transport	Corridors and Missing Links	ERTMS Deployment	Public/private	The programme includes full implementation of ERTMS on TEN-T core network until 2028. The technology is available and the revenues are high, in particular in densely populated areas.	Yes	Mature	2,8	0,5	The use of PPP is under development. If a PPP is to be used, it could be facilitated by combining private financing with corner stone financing from EIB with generous volume and risk taking capacity or new financial instruments such as EIB/EU enhanced project bonds.
Transport	Corridors and Missing Links	Road capacity management	Public/private	A large scale programme is under implementation to optimize the use of existing road infrastructure by smart logistic interventions, often using intelligent transport	Yes	Mature	2,0	<0,5	In particular smaller ITS firms face problems raising capital due to uncertain returns on investment. More risk capacity needed.

				systems (eg real-time traffic information systems)					
Transport	Corridors and Missing Links	Multimodal terminals	Private	Whereas rail, road and navigation infrastructure is a government responsibility, the multimodal facilities at their junctions are fully private. With increasing freight volumes, in particular on rail and inland navigation, there is a large need for more multimodal terminals, with clear long term viability		Mature	0,8	0,2	Investors have insufficient certainty when freight streams will indeed relocate and revenues will start. More risk capacity needed. Potential for EIB cornerstone financing or project bond enhancements, if terminals combine efforts.
Transport	Corridors and Missing Links	Clean Fuel infrastructure – in Road Transport (Hydrogen, biogas and e-mobility)	Public/Private	Fuel infrastructure is fully private responsibility, with limited government resources to assist frontrunners. Given the policy goals for alternative clean fuels such as electricity, hydrogen and biogas, such investments are bound to be viable	Yes	Mature	1,9	0,5	Investors have insufficient certainty when the new technology will become large-scale. More risk capacity needed. EIB would be cornerstone investor.
Transport	Corridors and Missing Links	Clean Fuel infrastructure – in Aviation	Private	A programme under the heading <i>BioPort Holland</i> is in operation to accelerate deployment of bio-kerosine in civil aviation. Very limited public resources available.	Yes	Mature	0,1	0,03	Investors have insufficient certainty about long term and large scale supply of biokerosine. More risk capacity needed. EIB would be cornerstone investor.
Transport	Corridors and missing links: Transport in Harbour	Multicore Line	Private parties	The construction of a cluster of pipelines in the Port of Rotterdam. Clusters of pipelines make the transport of raw materials more efficient, safer, quicker and better for the environment. The pipelines benefit the energy efficiency of energy intensive industries in the port through improved transport system of raw materials.		At the moment there is already one cluster of pipelines. The capacity of this cluster is too small for demand. The plans for building a second cluster exist. A few interested parties are in the planning stage, but	0,015-0,02	0,015-0,02	The investment benefits the chemical and refinery cluster as a whole. It is difficult to organize cooperation between the parties because there is a lack of appropriate incentives for early stage investments because the pipeline will not be fully exploited in the beginning. A revolving fund might be needed to bridge the gap between short term users and future users.

						have difficulties with financing.			
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SOCIAL INFRASTRUCTURE

<i>Sector</i>	<i>Sub-sector</i>	<i>Project name</i>	<i>Implementing agency</i>	<i>Description</i>	<i>Included in national investment plan (yes/no)</i>	<i>Status</i>	<i>Total investment cost (EUR bn)</i>	<i>Investment in 2015 – 2017 (EUR bn)</i>	<i>Barriers/solutions</i>
Social Infrastructure (but with positive impact on all sectors)	Education and Training	Life long Learning fund	Ministry of Education, Science and Culture and / or Ministry of Social Affairs and Employment	The fund provides public co-financing for employers who invest substantially in their employees' education and training. Aim is to generate human capital and skills required for job transition. This will also enable close cooperation between employers and Higher Education institutions and VET providers.		Inception phase (but aligned with recent government initiative)	NA	NA	Investments in education during working life are lagging behind and are decreasing in the Netherlands, while job mobility is expected to become more important. Availability of public co-investments from EU level could catalyze private investments.
Social infrastructure	Built environment and urban services	Affordable housing (i.e. housing in the non-regulated segment, with rents between € 700 and 1000)	Ministry of the Interior and Kingdom relations	<p>Demand for affordable housing has been increasing substantially. Growth of the affordable housing segment will improve the performance of the housing and labour market. OECD and EU have recommended housing market reforms in the Netherlands, including support for the private rental sector.</p> <p>The government is actively promoting the sale of rental housing stock by housing associations to private investors. Rules regarding these sales have been significantly reduced, providing private investors with opportunities to acquire sizeable amounts of rental stock and a position on the</p>		Dependent upon coming legislation on housing corporations , due for 2015.	<p>10 bln in loans over a 15 yr period to be refinanced for affordable homes currently owned by housing corporations</p> <p>Additionally up to € 10 bn in loans to be refinanced for sale of housing corporation social housing to private entities</p>	<p>Refinancing is now expected to start in 2017</p> <p>(< 1 bn)</p>	<p>Investments in the rental sector offer good returns. Between 1995-2012, the average total return of residential investments in the Netherlands was around 9%. The affordable housing category nevertheless faces financing difficulties as the EIB and other public entities are not able to finance this category according to current eligibility criteria and/or without a state guarantee, which is conform EU legislation reserved for social housing only. Until now two sectorbanks (BNG and NWB) financed the affordable houses of housing associations. Unclear is if commercial</p>

				<p>Dutch rental market. The private sector will also invest in building new affordable homes. The affordable housing segment will therefore face considerable financing and investment needs.</p> <p>Moreover due to legislative adjustments expected in 2015, housing associations are required to move a part of their housing stock from the social to the affordable housing segment, to be commercially financed after a 15 yr transition period.</p>					<p>banks are interested in financing the affordable housing segment in the future.</p> <p>Financing by the EIB would enhance the needed growth of the affordable housing segment. The EIB is not allowed to do refinancing at the moment, even if this would enhance the capacity of housing corporations so build social homes by selling off affordable housing.</p>
Social infrastructure	Built environment and urban services	New concepts for elderly homes, student housing and housing of start-ups	Various : municipalities, housing corporations, private sector	<p>As a result of aging of the population and reform in the health care-sector, new forms of housing for the elderly are required.</p> <p>Investments to adapt the housing stock to changing demand contribute to a more dynamic housing and construction market. Redundant homes for elderly can be transformed into (for example) student homes. Similar concepts exist for start ups.</p>		Small scale initiatives on local level	<p>5 bn (2014-2040). 40.000 homes have to be adapted to meet demands of the elderly (annually).</p> <p>Investment needs for student housing are estimated at 1 bln.</p>		<p>The business case for new housing concepts for the elderly is underdeveloped. Solutions are to be found in developing aggregators/organizational intermediates to develop business cases and attract financing. EIB financing could be possible if several smaller projects are combined. Similar issues exist for student and start up housing.</p>
Social infrastructure (structural reform)	Urban innovation	Urban Agenda (EU programme) (« Agenda Stad »)	Ministries of the Interior and Kingdom Relations, Infrastructure and the Environment, and Economic Affairs ; in cooperation with city councils and entrepreneurs.	<p>Cities face complex challenges that cannot be solved by spatially blind sectoral policies. To tackle these challenges cities need a set of social, economic, governmental, and spatial interventions. "Agenda Stad" aims to stimulate policies, investments and innovations that contribute to resilient and thriving cities in line with the EU Urban Agenda.</p>	Agenda Stad was announced in the National budget 2015.	The Agenda Stad will be launched in 2015.	Unknown. To be presented in the Agenda Stad.		<p>Solutions to stimulate investments in the field of "Agenda Stad" are to be found in developing aggregators/organizational intermediates to develop business cases and attract financing.</p> <p>E.g. Dutch entrepreneurs are organizing themselves to develop "value cases" around smart cities solutions which cannot be marketed individually. An</p>

									<p>investment fund could offer opportunities to accelerate smart cities solutions around energy grids or smart mobility.</p> <p>Example (also mentioned in this list): Circular city concept, using excess industrial heat for homes in Rotterdam. Requires investments of several 100 mln. This concept promotes energy saving and carbon reduction.</p>
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RESOURCES AND ENVIRONMENT

Sector	Sub-sector	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Resources and environment	Natural Resources	Circular economy facility	Public/private	Financing mechanism for investments in large scale high tech recovery of materials like rare-earth metals, concrete, phosphate from solid or liquid waste streams		Early	1,0	0,3	Investors face high initial investments with long returns on investment. More risk capacity needed. Furthermore uncertainty whether recovered materials can be transported and re-used or are regarded as waste (<u>regulatory</u> bottleneck: waste is defined too widely) Possibly a combination of existing EU programmes (H2020, EFRO, LIFE) can be used.
Resources and environment	Natural Resources : Waste, retail, logistics, high-tech industries, cities	Circular clusters	Netherlands Enterprise Agency	In a circular economy, energy and materials are used far more intelligently by creating multiple uses, closing material loops and use of renewable energy. This generates innovation, new jobs because of longer value chains and stimulates resource independency. Economic opportunities arise on the scale of European regions (enough resources, complementary business and innovation networks, developed markets). Coordination problems, lack of integral system analysis to identify large scale economic opportunities and lock-in investments in linear production processes hamper creating new value chains across borders. Creating a		New	0,3	0,3	Vested interests benefiting from current linear production modes (recycling industry, municipalities, dominant market parties). Public funding is needed to kick start private investments.

				research call in which EU knowledge and business networks are challenged to build one regional circular business case would showcase the opportunities a circular economy can bring to the EU.					
Resources and environment	Resilience to Climate Change: Climate adaptation	Flood protection linked to energy supply and urban development	Public/private	The Delta Programme includes a range of innovative and integrated investments with flood protection as a driver. In open water areas tidal power plants (Brouwersdam, Afluitdijk) are planned, in urban areas combinations with urban project development are anticipated.	Delta Programme	Mature	2	<0,5	Investors have insufficient certainty on the future revenues. More risk capacity needed.



POLAND



Country : POLAND

Project list*

* The following project list illustrates only investment potential and is not binding for implementation.

Sector	Subsector	Private / Public / PPP <small>† includes investment by state-owned companies</small>	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Transport	Corridors and missing links	private	Construction of high-speed railway lines Warsaw – Łódź – Poznań/Wrocław	PKP Polskie Linie Kolejowe S.A.	Construction of high-speed railway lines Warsaw – Łódź – Poznań/Wrocław	Yes	Feasibility study on the construction of a high-speed railway line Warsaw – Łódź – Poznań/Wrocław ready.	7.50000	0.75000	Lack of financing
Transport	Corridors and missing links	public	Upgrading of the Odra Waterway (OW) at least to navigation class 4.	KZGW (National Water Management Authority) and competent RZGW (Regional Water Management Authority)	Upgrading OW to meet parameters of a class 4 waterway at least, thus becoming part of the TEN-T (Trans-European Transport Network).	Yes	TDS (Transport Development Strategy)	5.00000	0.30000	Lack of funding
Transport	Corridors and missing links	public	Border Modernisation Programme	Ministry of Interior	Comprehensive programme of border infrastructure modernisation (including rail border crossing points) and required transport corridors, to increase accessibility and efficiency of functioning of the external border of the European Union.	No	In conceptual phase.	4.03500	0.50000	Lack of financing disallowing to comprehensively develop border infrastructure and transnational transport corridors connecting border crossing points on external European Union border; Necessity to allow implementation of selected investments also on territory of third countries (RUB, BY, UA)
Transport	Corridors and missing links	public	S19 Białystok – Lublin	Ministry of Infrastructure and Development	construction of 238.6 km of an expressway corridor as part of the TEN-T comprehensive network	No	one section close to Lublin - awaiting approval - will be on the reserve list	2.40123	TBD	Institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S19 Rzeszów – national border	Ministry of Infrastructure and Development	construction of 85.4 km of an expressway corridor as part of the TEN-T comprehensive network	No	one section in the Rzeszów agglomeration - awaiting approval - will be on the reserve list	2.22010	TBD	Institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S6 Słupsk - Gdańsk	Ministry of Infrastructure and Development	construction of 133.7 km of an expressway corridor as part of the TEN-T comprehensive/core network	No	awaiting approval - will be placed on the priority list (implementation)	2.18348	TBD	Institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	Construction of the Silesian Canal.	KZGW and competent RZGW	Construction of an East-West connection between the canalised Upper Vistula waterway and the Odra Waterway	Yes	TDS	2.00000	0.10000	Lack of funding
Transport	Corridors and missing links	public	S74 Kielce – Nisko	Ministry of Infrastructure and Development	construction of 127.3 km of an expressway corridor as part of the TEN-T comprehensive network	No		1.93678	TBD	Institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S17 Lublin – Hrebenne	Ministry of Infrastructure and Development	construction of 113.3 km of an expressway corridor as part of the TEN-T comprehensive network	No		1.43013	TBD	Institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	private	Construction of the Podłęże – Szczyrzyc – Tymbark/Miszana Dolna railway line and modernisation of the existing railway line no. 104 Chabówka – Nowy Sącz as part of the project Construction of the Podłęże – Szczyrzyc – Tymbark/Miszana Dolna railway line and modernisation of a section of the Nowy Sącz – Muszyna – national border and Chabówka – Nowy Sącz railway line	PKP Polskie Linie Kolejowe S.A. (Polish State Railways Joint Stock Company)	The project will improve the Poland's railway connection with Slovakia. The new line Podłęże – Szczyrzyc – Tymbark is part of the TEN-T comprehensive network.	Yes	Feasibility study and environmental impact assessment report in progress.	1.41867	0.01200	Lack of financing
Transport	Corridors and missing links	public	S61 Ostrow Mazowiecka – ring road of Augustów	Ministry of Infrastructure and Development	construction of 153 km of an expressway corridor as part of the TEN-T core network – Baltic-Adriatic Corridor	No	awaiting approval - will be placed on the priority list (implementation)	1.36700	TBD	Institutional and legal conditions not determined when preparing and implementing the investment; lack of funding. // Project included in ID on the CEF list. The call is competitive and obtaining funding is not certain.
Transport	Corridors and missing links	public	S11 Keppno – Katowice	Ministry of Infrastructure and Development	construction of 165.8 km of an expressway corridor as part of the TEN-T comprehensive network	No		1.34215	TBD	Institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S7 Gdańsk – Warsaw, the Płońsk – Warsaw section	Ministry of Infrastructure and Development	construction of a missing section of the expressway corridor measuring 238.2 km. The section itself measures 97 km. It is a part of the TEN-T core network – Baltic-Adriatic Corridor	No	awaiting approval - will be placed on the reserve	1.20000	TBD	Institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S2/A2 Sedlice – national border	Ministry of Infrastructure and Development	construction of 86.7 km of an expressway corridor as part of the TEN-T core network	No		1.16595	TBD	Institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.

Sector	Subsector	Private ¹ /Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Transport	Corridors and missing links	public	S10 Półtak – Toruń	Ministry of Infrastructure and Development	construction of 137.4 km of an expressway corridor as part of the TEN-T comprehensive network	No		1.19955	TBD	institutional and legal conditions not determined when preparing and implementing the investment; private sector lacking trust and not ready to take risks; lack of funding
Transport	Corridors and missing links	public	S11 Poznań – Kępno	Ministry of Infrastructure and Development	construction of 109 km of an expressway corridor as part of the TEN-T comprehensive network	No		1.05000	TBD	institutional and legal conditions not determined when preparing and implementing the investment; private sector lacking trust and not ready to take risks; lack of funding
Transport	Corridors and missing links	public	1st stage of construction of the Dunaj-Odra-Laba waterway: the Koźle-Ostrawa border-adjacent section	KZGW and competent RZGW	Construction of a waterway of international importance (at least class 4) from Kedzierzyn-Koźle to Ostrawa, by-passing meanders of the Odra, which currently cannot be used for transport purposes.	Yes	TDS	1.00000	0.10000	Lack of funding
Transport	Corridors and missing links	private	Construction of a high-speed railway - project documentation and land purchase	PKP Polskie Linie Kolejowe S.A.	Missing section of the TEN-T core passenger network, belonging to the TEN-T core network corridor North Sea – Baltic.	Yes	Feasibility study and environmental impact assessment report ready, timetable agreed	1.00000	0.02000	Lack of financing
Transport	Corridors and missing links	public private	A1 Tuszyn - Pyrzyce, Tuszyn-Częszochowa-section	Ministry of Infrastructure and Development	construction of 81.6 km of a motorway (the north part) as part of the TEN-T core network – Baltic-Adriatic Corridor	No	awaiting approval – will be on the reserve list (the south part)	1.00000	TBD	institutional and legal conditions not determined when preparing and implementing the investment; private sector lacking trust and not ready to take risks; lack of funding // Project included in ID on the Operational Programme Infrastructure and Environment (OPIE) list. Included in Annex 5 to the National Roads Construction Programme (NRCP) for 2007-2013 and in the draft NRCP for 2014–2020. Consequently, the project should be first and foremost submitted to OPIE.
Transport	Corridors and missing links	public private	Expansion of port infrastructure at Ostrow Grabowski and Ostrow Mielenski	Zarząd Morskich Portów Szczecin i Świnoujście S.A (Szczecin and Świnoujście Seaports Authority)	The project encompasses the development of the land in the area of Medrzycaze and adapting it to port and industrial functions in the Maritime Port of Szczecin by increasing its ordnance up to 2.5 m over sea level, deepening the adjacent port basins down to 12.5 m, piling, building and expansion of port infrastructure (including: quays with rail tracks, storage as well as waiting manoeuvre yards; onshore power supply to vessels and ferries; construction of rail tracks and rail side tracks at the central part of the area; construction of roads enabling road transport, construction of two crossings (ex. a dike or a bridge) across the Dunajca River connecting Ostrow Grabowski with Ostrow Mielenski and across the Panica River to Gornoslaska Street, together with fitting the grounds with power grid, heating network, teletechnical/water supply/fire fighting/sanitary and drainage system networks. The Ostrow Grabowski area will be adopted to enable performing transhipment and storage services for break bulk cargos, including ones in intermodal units (semitrailers, containers, rail wagons) and project cargos. The central part of Ostrow Grabowski will be used as a logistic support area for break cargo berths. The Ostrow Mielenski area will be designed for handling bulk cargos and for construction of industrial objects together with their technical support background (ex. for the needs of the energy sector). The investment is possible to be realised in co-operation with an external investor. In the scope of the above mentioned investments there are two investment tasks which have been submitted within the EU new financial perspective 2014-2020: - Improvement of water based port access in Dębicki Canal area in Szczecin port. - Development of port infrastructure in Dębicki Canal area in Szczecin port. The total cost of the two tasks amounts 0.08 EUR bn.	No	In conceptual phase.	1.00000	1.00000	Lack of financing in the long time perspective
Transport	Corridors and missing links	public	S11 Pila – Poznań	Ministry of Infrastructure and Development	construction of 94.3 km of an expressway corridor as part of the TEN-T comprehensive network	No		0.94750	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S12 Lublin – Doruchów	Ministry of Infrastructure and Development	construction of 75.3 km of an expressway corridor as part of the TEN-T comprehensive network	No		0.92100	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S1 Pyrzyce – Bielsko Biala	Ministry of Infrastructure and Development	construction of 56.1 km of an expressway corridor as part of the TEN-T core network – Baltic-Adriatic Corridor	No	awaiting approval – will be placed on the reserve	0.91743	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S12 Poddębice Tryb. – Radom	Ministry of Infrastructure and Development	construction of 91.5 km of an expressway corridor as part of the TEN-T comprehensive network	No		0.88175	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S14 Sulejów – Kielce	Ministry of Infrastructure and Development	construction of 72.3 km of an expressway corridor as part of the TEN-T comprehensive network	No		0.84920	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S7 Warszawa – Kraków, the Kraków (Igołomska) – border region section	Ministry of Infrastructure and Development	construction of a missing section of the expressway corridor. The section itself is 55 km long and is part of the TEN-T comprehensive section	No	awaiting approval – will be placed on the reserve	0.80000	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S3 Legnica – Lubawka, the Bolków-Lubawka section	Ministry of Infrastructure and Development	construction of a missing section of the corridor, measuring 67.2 km. The corridor itself is 31.4 km long as is part of the TEN-T core network; trans-border project to be implemented with the Czech Republic	No	awaiting approval – will be placed on the reserve	0.80000	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding. // Project included in ID on the CEF list. The call is competitive and obtaining funding is not certain.

Sector	Subsector	Private ¹ /Public/PPP ¹ includes investment by state-owned companies	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Transport	Corridors and missing links	public	S19 national border – Białystok (S8)	Ministry of Infrastructure and Development	construction of 83.7 km of an expressway corridor as part of the TEN-T comprehensive network	No		0.79653	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S10 Pila – Szczecin	Ministry of Infrastructure and Development	construction of 114.1 km of an expressway corridor as part of the TEN-T comprehensive network	No		0.78638	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S10 Bydgoszcz - Pila	Ministry of Infrastructure and Development	construction of 71.8 km of an expressway corridor as part of the TEN-T comprehensive network	No		0.71668	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S11 Koszalin - Pila	Ministry of Infrastructure and Development	construction of 80.5 km of an expressway corridor as part of the TEN-T comprehensive network	No		0.81880	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S12 Radom – Lubin	Ministry of Infrastructure and Development	construction of 79 km of an expressway corridor as part of the TEN-T comprehensive network	No		0.80680	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	private	Works covering the Białystok – Suwałki – Trakazki (national border) section of railway line E 78	PKP Polskie Linie Kolejowe S.A.	Trans-border section of a railway line belonging to the TEN-T core network, connecting Poland and Lithuania. An element of Rail Baltica and the North Sea – Baltic (NSB) corridor	Yes	Procedure of selecting contractor to prepare a feasibility study (FS).	0.69111	0.01478	Project included in the implementation document (ID) on the Connecting Europe Facility (CEF) list. The call is competitive and obtaining funding is not certain.
Transport	Corridors and missing links	public	S3 Świnoujście - Szczecin	Ministry of Infrastructure and Development	construction of 53.3 km of an expressway corridor as part of the TEN-T core network – Baltic-Adriatic Corridor	No		0.56388	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S10 Toruń - Bydgoszcz	Ministry of Infrastructure and Development	construction of 50.4 km of an expressway corridor as part of the TEN-T comprehensive network	No		0.51290	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S8 Słupsk – Koszalin	Ministry of Infrastructure and Development	construction of 66.1 km of an expressway corridor as part of the TEN-T comprehensive network	No	awaiting approval – will be placed on the priority list (implementation)	0.48148	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S2/A2 Warsaw – Siedlce, the Minsk Mazowiecki-Siedlce section	Ministry of Infrastructure and Development	construction of a missing section of the corridor, measuring 79.4. The section itself is 31.9 long km and is part of the TEN-T core network	No	awaiting approval – will be placed on the reserve	0.48000	TBD	institutional and legal conditions not determined when preparing and implementing the investment; private sector lacking trust and not ready to take risks; lack of funding
Transport	Corridors and missing links	public	S17 Warsaw – Lubin, the Warsaw - Eastern Warsaw section, the Drawicz-Zakrzki section	Ministry of Infrastructure and Development	construction of a missing section of the corridor, measuring 126.4 km. The section itself is 16 km long and is part of the TEN-T core network	No	awaiting approval – will be placed on the priority list (implementation)	0.44600	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S69 Białsko - Biala - national border	Ministry of Infrastructure and Development	construction of a missing section measuring 8.5 km (tunnels) as part of the TEN-T core network – Baltic-Adriatic Corridor	No	reserve list	0.42046	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding. / Project included in ID on the CEF list. The call is competitive and obtaining funding is not certain.
Transport	Corridors and missing links	public	S7 Warszawa – Kraków, The Warsaw - Grójec section	Ministry of Infrastructure and Development	construction of a missing section of the expressway corridor. The section itself is 29.1 km long and is part of the TEN-T comprehensive network	No	awaiting approval – will be on the priority list (implementation)	0.42000	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	S14 Western ring road of Łódź (A2-S8)	Ministry of Infrastructure and Development	construction of 29 km of an expressway corridor as part of the urban node on TEN-T core network	No		0.41408	TBD	institutional and legal conditions not determined when preparing and implementing the investment; private sector lacking trust and not ready to take risks; lack of funding
Transport	Corridors and missing links	private	Works covering the Poznań Główny – Szczecin Dąbie section of the railway line E 69 STAGE 2	PKP Polskie Linie Kolejowe S.A.	Section of a railway line belonging to the TEN-T core network, providing access to the Szczecin Świnoujście port complex which also belongs to the TEN-T core network, from Poland and the Czech Republic. Part of the core network corridor Baltic – Adriatic.	Yes	Feasibility study and environmental impact assessment report ready, preparations to announce a tender for project documentation.	0.40000	0.05000	Lack of financing
Transport	Corridors and missing links	public	Construction of the North ring road of the Tricity Agglomeration	The Gdynia City Commune		Yes	TDS	0.37500	TBD	Lack of funding
Transport	Corridors and missing links	public	A18 Olsztyn - Gołnicze	Ministry of Infrastructure and Development	construction of 70.9 km of a motorway as part of the TEN-T comprehensive network	No	awaiting approval – will be on the reserve list	0.29410	TBD	institutional and legal conditions not determined when preparing and implementing the investment; private sector lacking trust and not ready to take risks; lack of funding
Transport	Corridors and missing links	private	PKP Intercity SA stock renewal for connections between the Łódź and Warsaw agglomerations.	PKP Intercity S.A.	PKP Intercity SA stock renewal for connections between the Łódź and Warsaw agglomerations.	NO	Preparatory stage. In the letter dated 10.09.2013 r. PKP Intercity SA presented a list of projects planned for implementation in the 2014-2020 financial perspective. On 31.08.2013 announcement of the tender procedure.	0.28542	TBD	Lack of financing
Transport	Corridors and missing links	private	Works covering primary passenger transport routes (E 30 and E 65) in Silesia, stage 3: line E 30, section Czerwony Bąsów – Gliwice Łabędy	PKP Polskie Linie Kolejowe S.A.	The line is an important element of the Baltic – Adriatic Corridor and is part of the TEN-T core network.	Yes	Regarding the Katowice Node: feasibility study (ready) and decision on environmental requirements (expected in Dec. 2014)	0.26009	TBD	Project included in the implementation document (ID) on the Connecting Europe Facility (CEF) list. The call is competitive and obtaining funding is not certain.
Transport	Corridors and missing links	public	S2/A2 Warsaw – Siedlce, the Warsaw - Minsk Mazowiecki section	Ministry of Infrastructure and Development	construction of a missing section of the corridor, measuring 79.4 km. The section itself is 14.6 km long and is part of the TEN-T core network	No	awaiting approval – will be placed on the priority list (implementation)	0.23500	TBD	institutional and legal conditions not determined when preparing and implementing the investment; lack of funding.
Transport	Corridors and missing links	public	Modernisation of the Wisłoka waterway from kilometre 0+000 to 50+600 and improvement of hydrotechnical structures' safety	KZGW and RZGW in Kraków		Yes	TDS	0.22750	TBD	due to lack of funding it is impossible to rebuild hydrotechnical structures necessary to keep the waterway navigable
Transport	Corridors and missing links	private	Works covering the Malbork – Ełbląg – Bogaczewo – Braniewo section of railway line no. 204	PKP Polskie Linie Kolejowe S.A.	Trans-border section of a railway line belonging to the TEN-T core network, connecting Poland and Russia, and providing access to the ports of Gdańsk and Gdynia, also belonging to the TEN-T core network, from Russia (Kaliningrad Oblast) Project includes electrification.	No	Initial conceptual work.	0.20000	0.05000	Lack of financing
Transport	Corridors and missing links	private	Works covering the Szczecin Dąbie – Świnoujście section of railway line no. 401	PKP Polskie Linie Kolejowe S.A.	Section of a railway line belonging to the TEN-T core network and providing access to the Świnoujście port, part of the Szczecin-Świnoujście port complex which also belongs to the TEN-T core network, from Poland, Germany, and the Czech Republic. Part of the core network corridor and Rail Freight Corridor (RFC) Baltic – Adriatic. Adapter to meet the TEN-T core network requirements, in particular handling 750-metre long trains.	No	Initial conceptual work.	0.20000	0.05000	Lack of financing
Transport	Corridors and missing links	private	Works covering the Kosciuszyn – Gdynia Główna section of railway line no. 201	PKP Polskie Linie Kolejowe S.A.	Section of a railway line belonging to the TEN-T core network, providing access to the Gdynia port complex, which is part of the TEN-T core network, from Poland, Germany, and the Czech Republic. Part of the core network corridor and Rail Freight Corridor Baltic – Adriatic. The project covers the development of two tracks and electrification.	Yes	Advanced works on a feasibility study.	0.20000	0.05000	Lack of financing
Transport	Corridors and missing links	private	Works covering the Górzki Mazowiecki - Zawiercie section of railway line no. 4 to make adaptations necessary to handle trains travelling over 200 km/h.	PKP Polskie Linie Kolejowe S.A.	Section of the TEN-T core passenger network, belonging to the core network corridor Baltic – Adriatic. Constitutes a connection between Warsaw, Poland's capital city, and GOP (Upper Silesian Industrial Region), the country's largest agglomeration, as well as Kraków, second largest city in Poland. It is a key element of the railway network connecting Warsaw with the south of Poland, and handles traffic to Vienna, Prague, Bratislava, and Budapest.	Yes	In the course of the implementation, works on the adaptation of selected sections to handle trains travelling over 200 km/h.	0.20000	0.10000	Lack of financing
Transport	Corridors and missing links	private	Construction of a ring railway of Zbąszynek as part of E20	PKP Polskie Linie Kolejowe S.A.	Missing section of the TEN-T core network that would enable by-passing the Zbąszynek station and part of core network corridor and Rail Freight Corridor North Sea – Baltic.	No	Feasibility study and environmental impact assessment report ready; timetable agreed.	0.20000	0.05000	Lack of financing

Sector	Subsector	Private ¹ /Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 - 2017 (EUR bn)	Barriers/solutions
Transport	Corridors and missing links	private	Works covering the Bydgoszcz Główna - Pia Główna Krzyż section of railway line no. 18 and 203; stage 2: works covering the Pia Główna - Krzyż section, incl. electrification	PKP Polskie Linie Kolejowe S.A.		Yes	The feasibility study tender is to be announced in the first half of 2015.	0.15369	TBD	Lack of financing
Transport	Corridors and missing links	private	Works covering the Skawina - Sucha Beskidzka - Chabówka - Zakopane section of railway line no. 97, 98 and 99, including the construction of line	PKP Polskie Linie Kolejowe S.A.		Yes	Procedure of selecting contractor to prepare a feasibility study (FS).	0.12481	TBD	Lack of financing
Transport	Corridors and missing links	public	Construction of the Niepolonice barrage on upper Visłula	KZGW and RZGW in Kraków		Yes	TDS	0.12500	TBD	due to lack of funds, it is impossible to build the barrage, which would extend the existing class 4 waterway on upper Visłula.
Transport	Corridors and missing links	private	Works covering the Oleśnica i Łukawiec - Kotszary - Jarocin - Wierzętna - Grzeczno section of railway line no. 281 and 786	PKP Polskie Linie Kolejowe S.A.		Yes	Initial conceptual work.	0.09458	TBD	Lack of financing
Transport	Corridors and missing links	private	Works covering the Czechowice Dziedzice - Belska Beła - Zwardon (national border) section of railway line no. 139	PKP Polskie Linie Kolejowe S.A.	The line is part of the core network and an element of the Baltic - Adriatic Corridor	Yes	Initial conceptual work.	0.08323	TBD	Project included in the implementation document (ID) on the Connecting Europe Facility (CEF) list. The call is competitive and obtaining funding is not certain.
Transport	Corridors and missing links	private	Works covering the Bydgoszcz Główna - Pia Główna Krzyż section of railway line no. 18 and 203; stage 1: works covering the Bydgoszcz Główna - Pia Główna section	PKP Polskie Linie Kolejowe S.A.		Yes	The feasibility study tender is to be announced in the first half of 2015.	0.08276	TBD	Lack of financing
Transport	Corridors and missing links	private	Works covering the Sława Wola Rozwadów - Przeworsk section of railway line no. 68	PKP Polskie Linie Kolejowe S.A.		Yes	Initial conceptual work.	0.08110	TBD	Project included in ID on the Operational Programme Development of Eastern Poland (EPD OP) list. Obtaining funding is not certain. Yet, the project should first and foremost be financed from EPD OP.
Transport	Corridors and missing links	private	Works covering the Kamieniec Zabłocki - Męczyłskie section of railway line C-E 59	PKP Polskie Linie Kolejowe S.A.	Trans-border section of a railway line belonging to the TEN-T comprehensive network, connecting Poland and the Czech Republic	Yes	The feasibility study tender is to be announced in the first half of 2015.	0.07568	TBD	Lack of financing
Transport	Corridors and missing links	private	Construction of a deepwater quay in the external harbour in Świnoujście	Szczecin and Świnoujście Seaport Authority S.A.		Yes	TDS	0.07500	TBD	Lack of financing
Transport	Corridors and missing links	public	Modernisation of hydrotechnical structures on canalised lower Noteć from kilometre 38.9 to 176.2	KZGW and RZGW in Poznań		Yes	TDS	0.05950	TBD	due to lack of funding it is impossible to rebuild hydrotechnical structures necessary to keep this waterway navigable. Quotation from ORP: "In terms of activities concerning the construction or upgrading of water facilities co-financed can only only be projects specified in the Annexes to Master Plans for the river basin of the Oder and Visłula, which do not adversely affect the achievement of good water status or do not impair the status of water (note: Projects identified in the Lists 1 - Investments that do not adversely affect the achievement of good water status or do not impair the status of water), the co-financing of projects identified in the Annexes to the Master Plans, as likely to result in failure to achieve good status or deterioration / potential of water bodies (footnote: Projects indicated in the Lists No. 2 - Investments that may lead to failure to achieve good status or deterioration / potential and which should be considered for exemptions) will not be allowed until the present sufficient evidence to meet the conditions laid down in art. 4 7 water Framework Directive in the update Waste plans for the river basin. Filing the condition will depend on confirmation by the European Commission of compliance of the prepared updates of Plans for Water Management in River Basins with the requirements of Water Framework Directive. In selecting projects to improve flood safety, also flood risk management plans will be taken into account." Project included in the Implementation Document (ID), but beyond the allocation under OPME 14-20.
Transport	Corridors and missing links	private	Works covering the Kraków Płaszów - Skawina - Oświęcim section of railway line no. 94	PKP Polskie Linie Kolejowe S.A.	Improved infrastructure will make it possible to reduce traffic on line E30 (between Kraków and Katowice), which is now the primary connection with Ukraine	Yes	Procedure of selecting contractor to prepare a feasibility study (FS).	0.09911	TBD	Lack of financing
Transport	Corridors and missing links	private	Works covering the Szczecin Główny - Szczecin Gurniecki - PL/DE border section of railway lines no. 408 and 409	PKP Polskie Linie Kolejowe S.A.	Trans-border section of a railway line belonging to the TEN-T core network, connecting Poland and Germany, and providing access to the Szczecin-Świnoujście port complex, also belonging to the TEN-T core network, from Germany. Project includes electrification.	No	Initial planning works. An international agreement was signed by Poland and the Federal Republic of Germany on the project's preparation and implementation.	0.05000	0.05000	Lack of financing
Transport	Corridors and missing links	private	Works covering the Patyczki - Łuków section of railway line no. 30	PKP Polskie Linie Kolejowe S.A.		Yes	Initial conceptual work.	0.04778	TBD	Project included in ID on the Operational Programme Development of Eastern Poland (EPD OP) list. Obtaining funding is not certain. Yet, the project should first and foremost be financed from EPD OP.
Transport	Corridors and missing links	private	Works covering the Kutno - Plock section of railway line no. 33	PKP Polskie Linie Kolejowe S.A.		Yes	Initial conceptual work.	0.04729	TBD	Lack of financing
Transport	Corridors and missing links	private	Works covering the Kielce - Zetalskiewice section of railway lines no. 61 and 567	PKP Polskie Linie Kolejowe S.A.	The line is part of the TEN-T comprehensive network. Alternative connection between Katowice (important node of the Baltic - Adriatic corridor) and Warsaw (a node of the North Sea - Baltic corridor)	Yes	Initial conceptual work.	0.04729	TBD	Lack of financing
Transport	Corridors and missing links	private	Works covering the Czerwieńsk - Gubin (national border) section of railway line no. 358	PKP Polskie Linie Kolejowe S.A.	Railway section connection PL and DE. Improved infrastructure will make it possible for trains to travel along a route alternative to the North Sea - Baltic corridor. What is more, the railway is used for the purposes of trans-border movement between Cottbus (German network) and lines CE-59 and E-20. This is suggested as an alternative course for freight corridor no. 8.	Yes	Initial conceptual work.	0.04658	TBD	Lack of financing
Transport	Corridors and missing links	private	Works covering the Korfuski - Szarzynsko section of railway line no. 25	PKP Polskie Linie Kolejowe S.A.		Yes	Initial conceptual work.	0.04374	TBD	Project included in ID on the Operational Programme Development of Eastern Poland (EPD OP) list. Obtaining funding is not certain. Yet, the project should first and foremost be financed from EPD OP.
Transport	Corridors and missing links	public	Upgrading of the Bydgoszcz Canal and canalised lower Noteć shipping line (from kilometre 14.8 to 176.2) to meet parameters of a class 2 waterway	KZGW and RZGW in Poznań		Yes	TDS	0.04350	TBD	due to lack of sufficient funding it is impossible to rebuild regulating structures necessary to keep this waterway navigable
Transport	Corridors and missing links	public	Construction of a barrage on the Visłula below Włocławek, a lock	KZGW and RZGW in Gdańsk		Yes	TDS	0.04250	TBD	Lack of financing
Transport	Corridors and missing links	private	Works covering the Kutów - Rakoniewice - Płanica section of railway lines no. 13 and 513	PKP Polskie Linie Kolejowe S.A.	A by-pass line serving the Warsaw agglomeration. This is suggested as the primary course of freight corridor no. 8.	Yes	Initial conceptual work.	0.03547	TBD	Lack of financing
Transport	Corridors and missing links	public	Rebuilding of regulating structures and regulating works on the Warta from kilometre 0.0 (the town of Kostrzyn nad Odrą) to 68.2 (the town of Santka) and on free-flowing lower Noteć (from kilometre 176.2 to 226.1) to restore parameters of a class 2 waterway	KZGW and RZGW in Poznań		Yes	TDS	0.03000	TBD	due to lack of sufficient funding it is impossible to rebuild regulating structures necessary to keep this waterway navigable
Transport	Corridors and missing links	private	Works covering the Padew - Mielec - Dębica section of railway line no. 25	PKP Polskie Linie Kolejowe S.A.		Yes	Initial conceptual work.	0.02908	TBD	Project included in ID on the Operational Programme Development of Eastern Poland (EPD OP) list. Obtaining funding is not certain. Yet, the project should first and foremost be financed from EPD OP.
Transport	Corridors and missing links	public	Better access to the port of Kolobrzeg from land. Stage 3	The City of Kolobrzeg Commune		Yes	TDS	0.02500	TBD	Lack of funding
Transport	Corridors and missing links	public	Rebuilding of regulating structures on the Lower Visłula, between kilometre 847 and 772	KZGW and RZGW in Gdańsk		Yes	TDS	0.02400	TBD	due to lack of funding it is impossible to rebuild regulating structures necessary to keep the waterway navigable
Transport	Corridors and missing links	public	Rebuilding of regulating structures on the Lower Visłula, between kilometre 772 and 718	KZGW and RZGW in Gdańsk		Yes	TDS	0.02400	TBD	due to lack of funding it is impossible to rebuild regulating structures necessary to keep the waterway navigable
Transport	Corridors and missing links	public	Rebuilding of regulating structures on the Lower Visłula, between kilometre 933 and 847	KZGW and RZGW in Gdańsk		Yes	TDS	0.01700	TBD	due to lack of funding it is impossible to rebuild regulating structures necessary to keep the waterway navigable
Transport	Corridors and missing links	public	Modernisation of hydrotechnical structures on the Bydgoszcz Canal between kilometre 14.8 to 38.9, including the locks of Okole, Czyżkowo, Prądy, Osowa Góra, Józefki, Nakoło Wschód, and the Józefki weir	KZGW and RZGW in Poznań		Yes	TDS	0.01480	TBD	due to lack of funding it is impossible to rebuild hydrotechnical structures necessary to keep this waterway navigable
Transport	Corridors and missing links	private	Construction of port infrastructure for collecting sanitary sewage and providing ships with electric power.	Port of Gdynia Authority S.A.		Yes	TDS	0.01250	TBD	Lack of funding
Transport	Corridors and missing links	public	Revitalisation of canalised Brda and rebuilding of the infrastructure of the Bydgoszcz Waterway Node	KZGW and RZGW in Gdańsk		Yes	TDS	0.01000	TBD	due to lack of funding it is impossible to rebuild hydrotechnical structures necessary to keep the waterway navigable
Transport	Corridors and missing links	public	Modernisation of locks on the Nogal, Szarpanowa, and Marwa Waterway	KZGW and RZGW in Gdańsk		Yes	TDS	0.00500	TBD	due to lack of funding it is impossible to rebuild hydrotechnical structures necessary to keep the waterway navigable and improving inland navigation
Transport	Business enablers	public	Laying of optical fibre cables on the route between Warszawa and Kraków (310km)	TK Telekom Sp. z o.o.	Aim of the project is to grow the optical fibre cable web in order to improve market competitive position and increase the sales potential	No	To be started	0.00450	0.00450	lack of financing
Transport	Business enablers	public	ROSCO (Rolling Stock Company)	Ministry of Infrastructure And Development	Purchase of new passenger and modernisation of old vehicles and long term lease to carriers.	Yes	Project expected in 2015.	3.00000	1.50000	Lowering the costs for carriers, resulting in higher capacity of acquiring new cars. More flexible and quicker possibility of acquiring rolling stock by carriers. Consolidation of purchasing - the scale effect. Uniformation of the carrier's stock - lower maintenance costs. Higher performance quality due to specialization in managing rolling stock. High costs of purchasing and/or modernising stock and the difficult financial situation of carriers forces them to look for alternative sources of financing investments. Finally, the carriers will not only lower their purchasing costs of new stock, but also, due to the use of leasing, will be able to spread their costs through time.
Transport	Business enablers	public	Laying of optical fibre cables on the route between Warszawa and Łowicz (80km), and between Kutno and Korin (80km)	TK Telekom Sp. z o.o.	Aim of the project is to grow the optical fibre cable web in order to improve market competitive position and increase the sales potential	No	To be started	0.00240	0.00240	lack of financing
Transport	Business enablers	public	Modernisation of optical fibre cables on the route between Tczew, Bydgoszcz and Inowrocław (140km)	TK Telekom Sp. z o.o.	Aim of the project is to grow the optical fibre cable web in order to improve market competitive position and increase the sales potential	No	To be started	0.00210	0.00210	lack of financing

Sector	Subsector	Private ¹ /Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 - 2017 (EUR bn)	Barriers/solutions
Transport	Business enablers	public	Laying of optical fibre cables on the route between Czeszochowa and Katowice (90km)	TK Telekom Sp. z o.o.	Aim of the project is to grow the optical fibre cable web in order to improve market competitive position and increase the sales potential	No	To be started	0.00135	0.00135	Lack of financing
Transport	Business enablers	public	Laying of optical fibre cables on the route between Piotrków, Radomsko and Czeszochowa (85km)	TK Telekom Sp. z o.o.	Aim of the project is to finalise the fibre optic ring and to build a mesh network. As a result an alternative connection between Warszawa and Kraków will be created and the sales potential will be increased.	No	To be started	0.00128	0.00128	Lack of financing
Transport	Business enablers	public	Laying of optical fibre cables on the route between Gdynia and Hel (77km)	TK Telekom Sp. z o.o.	Aim of the project is to increase the sales potential	No	To be started	0.00122	0.00122	Lack of financing
Transport	Business enablers	public	Laying of optical fibre cables on the route between Kalisz and Kraków (80km)	TK Telekom Sp. z o.o.	Aim of the project is to grow the optical fibre cable web in order to improve market competitive position and increase the sales potential	No	To be started	0.00120	0.00120	Lack of financing
Transport	Business enablers	public	Laying of optical fibre cables on the route between Legnica and Wrocław (60km)	TK Telekom Sp. z o.o.	Aim of the project is to finalise the Silesian fibre optic ring and to build a mesh network. As a result the sales potential and service quality will be increased.	No	To be started	0.00090	0.00090	Lack of financing
Transport	Business enablers	public	Laying of optical fibre cables on the route between Wałbrzych and Świdnica (47km)	TK Telekom Sp. z o.o.	Aim of the project is to increase the sales potential	No	To be started	0.00066	0.00066	Lack of financing
Transport	Business enablers	private	Purchase of 30 electric multiple units to operate trans TLK	PKP Intercity S.A.	Purchase of 30 electric multiple units to operate trans TLK	NO	Preparatory stage. In the letter dated 10.09.2013 r. PKP Intercity SA presented a list of projects planned for implementation in the 2014-2020 financial perspective.	0.39246	TBD	Lack of financing
Transport	Business enablers	private	MUZA II (Modernisation of Power Systems)	PKP Energetyka S.A.	Construction or replacement of high voltage power lines (HV) and medium voltage (MV); Upgrading or construction of high and medium voltage switchgear for alternating current and HV; Construction or replacement of rectifier units, control and protection automation equipment and inclusion of traction substations and sectioning the remote control system.	NO	Planned project	0.23000	0.07000	Lack of financing
Transport	Business enablers	private	Development of the S-Bahn system (improved throughput at section Rumia - Wejherowo) Expansion of the Gdansk-Gdynia-Sopot agglomeration rail system in the direction of the Metropolitan Area Wejherowa	PKP SKM w Trójmieście Sp. z o.o.	The investment is recommended for close cooperation (partnership) with PKP PLK SA. Due to the preparation of the national rail infrastructure managers to the investment project "Modernization of railway line No 202 on the section of Gdynia Chryzonia - Słupsk" (Feasibility Study in preparation), we see a strong link between projects. The project involves the elimination of bottlenecks in the corridor of the railway line No. 202 (motion separation, agglomeration for the S-Bahn in the Tri-City and the extension of the railway line No. 200 to Wejherowa). The variant indicated in the pre-study, recommended for implementation, envisages an extension of railway line No 200 of Rumia, through Breda, to Wejherowo, as a double-track electrified line, with separation of two tracks to handle the agglomeration traffic, also at the stations. On the basis of the throughput analysis it is clear that such a solution will be characterised by a similar capacity to the capacity of the existing railway line No. 200, and therefore, will cease to be a bottleneck in the S-Bahn system. The technical solutions proposed in the draft are based on proven technologies in Poland and Europe. It is anticipated to use the superstructure that has a favourable ratio of stability and its price. There are no prerequisites for the use of another type of unconventional surfaces. In terms of subgrade, the proposed solutions include the construction of embankments and dredging of the slopes generally not reinforced. The designed speed on the lengthened line No. 250 will reach 120 km / h and at a converted railway line No 202, the speed will be 160 km / h.	NO	In 2014 development of a Pre-Feasibility Study. Envisaged implementation period 2015-2023	0.16200	TBD	Lack of financing
Transport	Business enablers	private	Modernisation of 250 passenger coaches for the TLK trains	PKP Intercity S.A.	Modernisation of 250 passenger coaches for the TLK trains	NO	Preparatory stage. In the letter dated 10.09.2013 r. PKP Intercity SA presented a list of projects planned for implementation in the 2014-2020 financial perspective.	0.14866	TBD	Lack of financing
Transport	Business enablers	private	Purchase of 10 new electric multiple units to operate in agglomeration transport and reconstruction of Gdynia Cisowa Parking Station towards modernisation and expansion of the track, catenary, power and railway traffic control facilities and modernizing of rolling stock maintenance and construction of departure to the north (Rumia)	PKP SKM w Trójmieście Sp. z o.o.	The project involves in the rolling stock part: Purchase 10 brand new electric multiple units to operate transport within the region, with a particular designation to handle the agglomeration traffic in the rail corridor Puzoszcz Gdansk - Lebowo. Due to the specific requirements of the urban area traffic it is assumed to acquire vehicles that meet the following minimal requirements: - Multiples (minimum five wagons) - Undivided interior, - Interior layout and the number and width of the entrance door allowing for quick movement of passengers at stations and stops. - Accelerating at the start at least at the level of 1 m / s ² . - The maximum speed min. 120 km / h, - Air Conditioning in driver cab and the passenger compartments, - The floor at the level of 960 mm with a sliding out step at the height of 760 mm above the rail head. The project in the infrastructure part involves preparation of project documentation and implementation of tasks: - Rehabilitation and modernisation of the substructure and the superstructure (including the track and tunnels), energy infrastructure (power, supporting structures, catenary), traffic control devices; - Modernisation of objects (buildings and structures), equipment and installations for the implementation of the maintenance of the rolling stock by maintenance levels of P1 - P4 and other activities related to the service (car wash, laundries, specialist workshop equipment); - Construction of the northern end from the Gdynia Cisowa Parking Station in the direction of Rumia with plugging into the tracks 501 and 502 line No. 250, construction (reconstruction) of railway traffic control devices and centralisation of railway traffic control in this part of the Gdynia Cisowa Parking Station from the GdAControl.	No	In 2015 a feasibility study to be developed, envisaged implementation period 2015-2023	0.07600	TBD	Lack of financing
Transport	Business enablers	private	Modernisation of technical infrastructure for rolling stock (workshop facilities and parking rolling stock), to adapt to the requirements of environmental protection and new rolling stock.	PKP Intercity S.A.	Modernisation of technical infrastructure for rolling stock (workshop facilities and parking rolling stock), to adapt to the requirements of environmental protection and new rolling stock.	NO	Preparatory stage. In the letter dated 10.09.2013 r. PKP Intercity SA presented a list of projects planned for implementation in the 2014-2020 financial perspective.	0.04757	TBD	Lack of financing
Transport	Business enablers	private	Purchase of 10 electric dual system locomotives	PKP Intercity S.A.	Purchase of 10 dual system electric locomotives.	NO	Preparatory stage. In the letter dated 10.09.2013 r. PKP Intercity SA presented a list of projects planned for implementation in the 2014-2020 financial perspective.	0.03806	TBD	Lack of financing
Transport	Business enablers	private	Modernisation of 30 diesel shunting locomotives, to adapt to the requirements of environmental protection	PKP Intercity S.A.	Modernisation of 30 diesel shunting locomotives, to adapt to the requirements of environmental protection	NO	Preparatory stage. In the letter dated 10.09.2013 r. PKP Intercity SA presented a list of projects planned for implementation in the 2014-2020 financial perspective.	0.02497	TBD	Lack of financing

Sector	Subsector	Private ¹ /Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Transport	Business enablers	private	Construction of an integrated system of safety monitoring and information management on the railway line No. 250 in the Gdansk-Gdynia-Sopot agglomeration, together with modernisation of the Suburban Station building in Gdynia Main Station and platforms on the railway line No. 250	PKP SKM w Trójmieście Sp. z o. o.	The project concerns modernisation of the railway infrastructure on line 250 operated by the Company PKP SKM in the Gdansk Gdynia Sopot agglomeration. Under the project it is planned to design documentation and implement tasks a) Adaptation of the platform at SKM Gdynia Main for the check in of travelers with reduced mobility and modernisation of the Suburban Station Gdynia Główna. b) Creation of an integrated safety monitoring system and establishment of Monitoring Centre in the Suburban Station building at Gdynia Main. c) Modernisation of platform infrastructure located on the railway line No. 250: Gdańsk Shipyard (passenger stop), Gdynia Orlowo (station) Redłowo Gdynia, Gdynia Shipyard (passenger stop), Gdynia Grabowski (passenger stop), Gdynia Leszczyki (passenger stop), Gdynia Chylonia (become), in Rumia Jarosław (passenger stop). The works involve inter alia: - modernisation of the track, along with modernisation of railway surface and other infrastructure, modernisation of the platform (the elements of construction, restructuring) - construction of a new / upgrade existing shelters with lighting, - modernisation of infrastructure of the entrance to the platform, - application of solutions for persons with disabilities or persons with reduced mobility to access the platform (including the construction of lifts, paths lead to the blind and visually impaired and markings for the blind and visually impaired) - assembly of passenger information system, - installation of street furniture (benches, trash cans).	NO	In 2015 planned preparation of project documentation for the location of Gdynia Chylonia Rumia Jarosław in 2015 plans to prepare project documentation to adapt the platform of the Gdynia Main Station, modernise Suburban Station, and the space in front of the Station and to create 250 Envisaged implementation period 2015-2023	0.02300	TBD	Lack of financing
Transport	Business enablers	private	Acquisition of locomotives	PKP Linia Hutnicza Szerebotkowa Sp. z o.o.	The acquisition of diesel locomotives with a capacity of more than 3 000 hp that meet the emission requirements of the environment.	NO	Consideration of alternative options for locomotives acquisition.	0.01784	0.01784	Lack of financing
Transport	Business enablers	private	Expansion and management of Hubusów Station LHS (Metalurgic-Sulphuric Railway Line)	PKP Linia Hutnicza Szerebotkowa Sp. z o.o.	Realizacja zadania obejmuje: 1) the construction of two additional main track of a minimum length of 792 mb to 111 mb 1, 2) the construction of two sidings with a minimum construction length from 504m to 952m, located at the phytosanitary ramp 3) the construction of two sidings with a minimum construction length of 692 meter to 792 mb, necessary for withdrawal of wagons, 4) construction of bilateral phytosanitary ramps length 383 m with shelter for inner track track No. 21 and No. 23, and with dehydrator, 5) development of electric heating for 16 pcs. Of newly built turnouts, 6) the inclusion of newly-built turnouts in control of a computer system EBILOCK 950, 7) the construction of track lighting pole, 8) the construction of an access road to the ramp phytosanitary.	NO	Preliminary concept works	0.01186	0.00866	Lack of financing
Transport	Business enablers	private	Installation of ERTMS in 45 EP09 locomotives, to operate on lines upgraded and outfitted with ERTMS	PKP Intercity S.A.	Installation of ERTMS in 45 EP09 locomotives, to operate on lines upgraded and outfitted with ERTMS	NO	Preparatory stage. In the letter dated 10.09.2013 r. PKP Intercity SA presented a list of projects planned for implementation in the 2014-2020 financial perspective.	0.01070	TBD	Lack of financing
Transport	Business enablers	private	Installation of computer equipment at the station SRK Stawok LHS (Metalurgic-Sulphuric Railway Line)	PKP Linia Hutnicza Szerebotkowa Sp. z o.o.	Execution of the task includes: 1) development of documentation for reconstruction of signaling devices, 2) development of computer traffic control devices, 3) construction of a storey building provided with the control room, 4) construction of the CCTV system, 5) construction of data illumination, 6) construction of fiber-optic cable linking the building of a new control room the administration building.	NO	Preparation of project documentation.	0.00775	0.00737	Lack of financing
Transport	Business enablers	private	Expansion of the LCS at the station Zamosc Bortatycze LHS with development path for emergency withdrawal of damaged wagons carrying dangerous goods	PKP Linia Hutnicza Szerebotkowa Sp. z o.o.	Execution of the task includes: 1) the construction of the track for the emergency withdrawal of damaged rail cars carrying dangerous goods 2) development of computer traffic control devices in the station and trail Zamosc Bortatycze LHS - Szczepanowicz LHS 3) the construction of the CCTV system to monitor passing cat. And at km 58.950 and both stations heads 4) construction of a building storey control room for the needs of the Local Control Center station Zamosc Bortatycze LHS 5) construction of a new station lighting.	NO	Preparation of project documentation.	0.00535	0.00523	Lack of financing
Transport	Business enablers	private	Construction of fiber optic cable section at Zamosc Bortatycze LHS - Zwierzyniec LHS and passing place at Zwierzyniec LHS - Wola Baranowska LHS (Metalurgic-Sulphuric Railway Line)	PKP Linia Hutnicza Szerebotkowa Sp. z o.o.	Execution of the task includes: 1) Construction of the fiber optic cable connector at the section Headquarters LHS Zamosc - Zamosc Bortatycze with a control room, turnout Zwierzyniec LHS - Wól Baranowska LHS 2) an analysis of the occurrence of "bottlenecks" at communications at the Company, ultimately up to Sławok	NO	Continuation of investment	0.00476	0.00352	Lack of financing
Transport	Business enablers	private	Developing documentation and SRK construction equipment at passing places Raczyce LHS and Drozdów-Lęczyn LHS (Metalurgic-Sulphuric Railway Line)	PKP Linia Hutnicza Szerebotkowa Sp. z o.o.	Execution of the task includes: 1) budowę przekablnikowych urządzeń sruk wraz z systemem monitorowym na mijance, 2) zabudowę urządzeń zasilających oraz stacyjnych, 3) budowę systemu liczników osi, 4) zabudowę półsamoczymnej blokady linowej Eap, 5) budowę instalacji elektrycznej w kontenerze oraz w nastawni, 6) zabudowę oświetlenia zewnętrznego terenu, 7) instalację urządzeń elektrycznego ogrzewania rozjazdów EOR, 8) budowę urządzeń TVU iś Sto, urządzeń TVU w kontenerze, 9) zabudowę rlinej infrastruktury łowarzyszczej, 10) dostarczenie i montaż kontenerów pod potrzeby oferowanych urządzeń	NO	Preliminary concept works.	0.00285	0.00285	Lack of financing
Transport	Business enablers	private	Development of documentation and construction of transhipment base at Zamość Bortatycze Station, LHS	PKP Linia Hutnicza Szerebotkowa Sp. z o.o.	Execution of the task includes: 1) The dehydrator and hardening the area and of internal roads, 2) equipping the terrain with power equipment, water and sewage disposal, 3) construction of a crossover in track No. 4 with building the track into the lease area of about 450.00 m 4) construction of a high ramp at the internal track 5) lighting and monitoring of land 6) the construction of an office building - social, 7) the construction of a warehouse with dimensions of 90.00 x 12.00 m, 8) the construction of the side ramp at the planned track with dimensions of 80.00 x 6.00 m.	NO	Plan for 2015	0.00198	0.00190	Lack of financing
Energy Union	Connections and production	private	Nuclear Power Plant	N/A - responsible authority: Minister of Economy in cooperation with the Minister of State Treasury.	Launching new sector of the Polish economy - nuclear power. Investment project construction of a nuclear power plant with approx. 3000MWe capacity. The project is included in the following national strategies: - Energy Policy for Poland until 2030, - Middle-term development strategy: Poland 2020, - Long-term development strategy: Poland 2030, - Energy Security and Environment Strategy, - Polish Nuclear Power Programme, - draft Energy Policy for Poland until 2050.	The project is included in the following national strategies: - Energy Policy for Poland until 2030, - Middle-term development strategy: Poland 2020, - Long-term development strategy: Poland 2030, - Energy Security and Environment Strategy, - Polish Nuclear Power Programme, - draft Energy Policy for Poland until 2050. Planned start of works TBD.	12.00000	0.60000	The implementation of the project is impeded by a number of barriers and failures, including: - lack of market incentives for the investment implementation (common for all new investments in the power sector). Need for a support mechanism. - market failures linked to the lack of long-term economic predictability for investments in new capacity, affecting in particular capital-intensive investments characterized by long investment cycles; - regulatory barriers linked to highly restrictive licensing requirements as regards nuclear safety, which elongate the investment process in comparison with conventional power investments. Detailed characteristics, costs and timetable of the investment is to be found in the Polish Nuclear Power Programme.	
Energy Union	Connections and production	private	Gubin lignite mine and power plant	PGE Polska Grupa Energetyczna S.A.	The project aims at developing new lignite mine (based on strategic Gubin deposit) and new nine-month power plant.	No	Planning and permitting in early stage aiming at obtaining the mining licence.	5.00000	0.01000	Taking into account the large capital expenditure, long project lead-time and imperfection of electricity market (so called "market failure"), there is a high risk that without appropriate support mechanisms, financial closure and investment implementation may not be feasible. Numerous stakeholders (especially environmental organizations) to managed.

Sector	Subsector	Private ¹ /Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 - 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	private	Offshore wind farms development programme	PG&E Polska Grupa Energetyczna S.A.	Programme provide offshore investment project in early stage of development situated in three parts of Baltic Sea Economic Zone (3 locations, total capacity 1 050 MW)	No	Planning and permitting in early stages.	3.75000	0.19000	Significant regulatory barriers. Implementation of government support for renewables is necessary.
Energy Union	Connections and production	private	Construction of power unit of about 1000 MW in Łaziska.	TAURON Polska Energia S.A.	Supercritical, coal powered, power unit replacing eliminated 4 blocks of 200 MW class each.	No	Concept is currently being prepared. The launch of 2018.	1.50000	0.01000	The barrier is the ratio of Debt / EBITDA of the TAURON Group which does not allow to increase the debt. The solution is to get involved partner (s) to form entities that are not consolidated in the TAURON balance sheet and will not affect the debt / EBITDA ratio.
Energy Union	Connections and production	private	Construction of the Power Unit No. 11 1075 MWe in Kozienice Plant	ENEA Wytworzenie	Power Station Unit will be designed and constructed with highly efficient pulverized coal fired boiler with supercritical steam parameters, meets the most recent requirements of the BAT, with efficiency 45,0%. Power Station Unit will be equipped with close cooling system with a cooling tower. The new Power Unit is designed as a "capture-ready" installation and is adopted for future cooperation with CO2 capture installation. Main goal and expected benefits - increasing the production capacity of the company and to improve market position of the ENEA Capital Group. Currently, the ENEA Capital Group has a "short" position on the market for the sale of electricity market.	No	Realization ongoing - completion date of project 21th July 2017	1.50000	0.80000	Legal (at local level) and financial constraints (own resources and internal bonds issuance)
Energy Union	Connections and production	private	Construction of power unit with a capacity of about 850 MW in Blachowia.	TAURON Polska Energia S.A.	Gas power unit of 850 MW capacity.	No	Concept is currently being prepared. The launch of this can take place in 2018.	0.83000	0.01000	The barrier is the ratio of Debt / EBITDA of the TAURON Group which does not allow to increase the debt. Another barrier is the uncertainty in the access and the price of gas and the risk of energy prices on the market. The risk results in difficulties in obtaining financing.
Energy Union	Connections and production	private	Construction of wind power plants	TAURON Polska Energia S.A.	Purchase and realization of investment projects in wind farms with a total capacity of about 500 MW in various locations in Poland.	No	By the end of 2015 the implementation of the first 200 MW. Currently review of possible project is being made. Next execution of another 300 MW to 2023.	0.75000	0.30000	The barrier is the ratio of Debt / EBITDA of the TAURON Group which does not allow to increase the debt. The solution is to get involved partner (s) to form entities that are not consolidated in the TAURON balance sheet and will not affect the debt / EBITDA ratio.
Energy Union	Connections and production	private	OnShore wind farms development programme	PG&E Polska Grupa Energetyczna S.A.	Programme includes dozen of onshore investment projects in various stages of development situated in different parts of Poland (12 locations, total capacity 993 MW)	No	Planning and permitting in middle stages.	0.60000	0.07000	Significant regulatory barriers, lack of (government) support, uncertainty disabling final investment decisions and leading to possible delays.
Energy Union	Connections and production	private	Pipeline infrastructure development on the Gdansk-Rock route	PERN «Przyjaźń» S.A.	Project important for safe functioning of the energy sector in Poland and European Union. Infrastructure include both crude-oil pipeline and product pipeline. Crude-oil pipeline will transport about 30 mln ton per year, its length - 240 km, diameter - 800 mm. Product pipeline with a total capacity 4.3 mln ton per year will connect Nalport and PERN's storage depot in Gdansk with bases in central part of Poland. Key benefits is providing main refineries (Lotos, BP, Shell, etc.) more efficient distributor of fuels to another parts of Poland where the pipeline is reaching. The investment is strategic project in PERN.	No	Design and preparation work will be last till 2016.	0.41963	0.14126	High investment risk compared to costs. Legal barriers - mainly land without legal regulation of its ownership leading to difficulties in investment preparing. Solution can be accelerate legislation works.
Energy Union	Connections and production	private	CCGT Plock	Private promoter PKN ORLEN	Implementation of the most efficient technology for gas utilization in power and heat production - combined cycle gas turbine with net power output up to 600 MW	No	End of business case analysis and procurement process.	0.40000	0.40000	Lack of (government) support for the gas fuel cogeneration. Introduction of "yellow certificates" is necessary.
Energy Union	Connections and production	private	Cogeneration power plant with capacity of 135 MWe and 180 Mwt in Kalisz.	TAURON Polska Energia S.A.	Cogeneration unit using coal or gas necessary to cover the heat demand. Increased heat demand results from the implemented measures for the liquidation of the so-called low emissions (home furnaces and small local heating plants).	No	Concept is currently being prepared. The launch of 2018.	0.35000	0.02500	The barrier is the ratio of Debt / EBITDA of the TAURON Group which does not allow to increase the debt. The solution is to get involved partner (s) to form entities that are not consolidated in the TAURON balance sheet and will not affect the debt / EBITDA ratio.
Energy Union	Connections and production	private	Incineration plant with a capacity of about 300,000 tons / year in Kalisz.	TAURON Polska Energia S.A.	Incineration plant producing electricity and heat.	No	Concept is currently being prepared. The launch of 2018.	0.25000	0.02500	The barrier is the ratio of Debt / EBITDA of the TAURON Group which does not allow to increase the debt. The solution is to get involved partner (s) to form entities that are not consolidated in the TAURON balance sheet and will not affect the debt / EBITDA ratio. Comment: As part of the OPPE it is possible to support such facilities if they will be consolidated in the investment plans, which are likely to be created only in 2016. Such a project is to be implemented under the responsibility local governments units.
Energy Union	Connections and production	private	Crude Terminal in Gdansk	PERN «Przyjaźń» S.A.	Crude Terminal is a link in the system ensuring the country's energy security, creating possibilities for storing and handling products for refining. The Terminal, as a modern HUB, will provide a broad scope of services within the logistics of crude oil and petroleum products, including: storage, composition, blending, enrichment. In the case of crude oil the Terminal will allow to perform (import and export) sea handling via Nalport as well as overland handling via Friendship pipeline to refineries in Plock, Gdansk and to German refineries of Lufosa and PCK Schwedt. In the case of fuels, it will be possible to load onto railway and road tankers. Technologically, the Terminal will be integrated with Nalport's quay, allowing us to handle vessels with a displacement up to 300 thous. DWT. During the project, 20 tanks for storage crude oil and other products will be built (8 of them for crude oil). Total capacity of tanks - 697 000m ³ . The investment is strategic project in PERN, it will be realised in two parts (first concerns crude-oil, second - oil-based products).	Yes	Documentation for the first part of investment is made; work has begun and will be continued till 2015; second part of investment will be last to 2016, now is in planning stage.	0.20659	0.09818	Lack of long term finance for second part of the project.
Energy Union	Connections and production	private	Construction of the cogeneration plant in Radom City 39MWt, 33 MWe	ENEA Wytworzenie	Realizacja of GK ENEA strategy related to development of cogeneration	No	Conception	0.07520	0.07520	Legal and administrative barriers. Lack of (government) support for combined heat and power plants.
Energy Union	Connections and production	private	Wind farm Taczalin 45 MW	ENEA Wytworzenie	The purchase of 100% of the company shares. Realization of Enesa Group strategy.	No	Planned signing of the purchasing agreement in December 2014	0.07110	TBD	Legal and administrative barriers
Energy Union	Connections and production	private	Wind farm Skoczyn 36 MW	ENEA Wytworzenie	The purchase of 100% of the company shares. Realization of Enesa Group strategy.	No	Planned signing of the initial purchasing agreement in March 2015	0.06943	0.06943	Legal and administrative barriers
Energy Union	Connections and production	public private	Flue gas desulfurization system 800MW no. IV in Kozienice Plant	ENEA Wytworzenie	Adaptation of boilers to the SO2 emission standards specified in the IED Directive	No	Expected completion of construction in June 2015	0.06833	0.01780	Administrative and regulatory barriers
Energy Union	Connections and production	private	Wind farm Wroblew 36 MW	ENEA Wytworzenie	The purchase of 100% of the company shares. Realization of Enesa Group strategy.	No	Planned signing of the purchasing agreement in March 2015	0.06564	0.06564	Legal and administrative barriers
Energy Union	Connections and production	private	Modernization of power unit No. 9	ENEA Wytworzenie	Increase in efficiency and life extension	No	Realization in 2018	0.04805	0.04776	Lack of government regulatory support
Energy Union	Connections and production	private	Reworking of the high-pressure gas network as part of the "Lódz bypass" - Stage 1 project ("Obwodnica Lodzi - Etap 1") at a segment of 48 km in order to improve the supply conditions for the Lódz agglomeration	Polska Spółka Gazownictwa sp. z o.o.	An investment supporting the objectives of the national energy policy. The implementation of the project will enable to adjust the parameters of the distribution system for receiving gas from new sources of supply from the west and the LNG terminal. A key objective of the project is to remove bottlenecks in the natural gas infrastructure. The project will positively influence the development of the gas market in the region.	No	The project is being prepared for implementation	0.04000	TBD	- legal - access to grounds - Obtaining rights to land often requires negotiation with local governments and / or private property owners. Negotiations may cause an increase in the value of investments, extend the time of its preparation and implementation ; - economic - Providing sufficiently large capital, guaranteeing timely, on-schedule implementation of the investment. Without financial support from EU funds, the investment may not be realized, or will be implemented to a limited extent.; - regulatory - Gas distribution services are subject to the tariff, the tariff change by an administrative decision may affect the profitability of the investment and the business.
Energy Union	Connections and production	private	Modernization of power unit No. 10	ENEA Wytworzenie	Increase in efficiency and life extension	No	Realization in 2018	0.03257	0.01120	Lack of government regulatory support
Energy Union	Connections and production	private	HV Power Line_Morzyczyn - Drawski Mlyn	ENEA Operator	HV power line modernization	Yes	2012-2019 (ongong)	0.05102	0.01130	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative - particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfil the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	CCGT Trzebnia	Private promoter PKN ORLEN	Implementation of the most efficient technology for gas utilization in power and heat production - combined cycle gas turbine with net power output up to 12 MWe (and ca. 80 MWh)	No	Ongoing business case analysis and procurement process	0.02500	0.02500	Lack of (government) support for the gas fuel cogeneration. Introduction of "yellow certificates" is necessary.
Energy Union	Connections and production	private	Flue gas desulfurization system (FGD) for the boilers K7 i K8 (in Białystok Plant)	ENEA Wytworzenie	Adaptation of boilers to the SO2 emission standards specified in the IED Directive	No	Commencement of the project in 2015. The expected completion in September 2017	0.02500	0.02500	Administrative and regulatory barriers

Sector	Subsector	Private ¹ /Public/PPP <small>¹includes investment by state-owned companies</small>	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 - 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	private	Wind farm Baczyzna 10 MW	ENEA Wytwarzanie	The construction of 10 MW wind farm in Baczyzna Realization of Enea Group strategy.	No	Planned completion of the project in March 2016.	0.02457	0.02315	Administrative barriers Lack of government support system dedicated to renewables.
Energy Union	Connections and production	private	Modernization of power unit No. 1	ENEA Wytwarzanie	Increase in efficiency and life extension	Yes	Realization in 2016	0.02388	0.02388	Lack of government regulatory support
Energy Union	Connections and production	private	DeNOx installation for boiler 9 In Kozienice Plant	ENEA Wytwarzanie	Adaptation of the boiler to the Nox emission standards specified in the IED Directive	No	Planned realization in 2017	0.02133	0.02133	Administrative and regulatory barriers
Energy Union	Connections and production	private	DeNOx plant for boiler 10 In Kozienice Plant	ENEA Wytwarzanie	Adaptation of the boiler to the Nox emission standards specified in the IED Directive	No	Planned realization in 2018	0.02133	0.02133	Administrative and regulatory barriers
Energy Union	Connections and production	private	Modernization of power unit No. 5	ENEA Wytwarzanie	Increase in efficiency and life extension	Yes	Realization in 2016	0.02104	0.02068	Lack of government regulatory support
Energy Union	Connections and production	private	Modernization of power unit No. 2	ENEA Wytwarzanie	Increase in efficiency and life extension	Yes	Realization in 2015	0.01901	0.01901	Lack of government regulatory support
Energy Union	Connections and production	private	DeNOx installation for boiler 1 In Kozienice Plant	ENEA Wytwarzanie	Adaptation of the boiler to the Nox emission standards specified in the IED Directive	No	Expected completion of construction in June 2015	0.01160	0.01045	Administrative and regulatory barriers
Energy Union	Connections and production	private	DeNOx installation for boiler 2 In Kozienice Plant	ENEA Wytwarzanie	Adaptation of the boiler to the Nox emission standards specified in the IED Directive	No	Expected completion of construction in June 2015	0.01160	0.01045	Administrative and regulatory barriers
Energy Union	Connections and production	private	DeNOx installation for boiler 3 In Kozienice Plant	ENEA Wytwarzanie	Adaptation of the boiler to the Nox emission standards specified in the IED Directive	No	Planned realization in 2017	0.01010	0.01010	Administrative and regulatory barriers
Energy Union	Connections and production	private	DeNOx installation for boiler 4 In Kozienice Plant	ENEA Wytwarzanie	Adaptation of the boiler to the Nox emission standards specified in the IED Directive	No	Planned realization 2017	0.00966	0.00966	Administrative and regulatory barriers
Energy Union	Connections and production	private	DeNOx installation for boiler 5 In Kozienice Plant	ENEA Wytwarzanie	Adaptation of the boiler to the Nox emission standards specified in the IED Directive	No	Expected completion in August 2016	0.00966	0.00966	Administrative and regulatory barriers
Energy Union	Connections and production	private	DeNOx installation for boiler 7 In Kozienice Plant	ENEA Wytwarzanie	Adaptation of the boiler to the Nox emission standards specified in the IED Directive	No	Expected completion in January 2015	0.00966	0.00557	Administrative and regulatory barriers
Energy Union	Connections and production	private	Modernization of power unit No. 4	ENEA Wytwarzanie	Increase in efficiency and life extension	Yes	Realization in 2017	0.00817	0.00782	Lack of government regulatory support
Energy Union	Connections and production	private	Modernization of power unit No. 6	ENEA Wytwarzanie	Increase in efficiency and life extension	Yes	Realization in 2018	0.00792	0.00035	Lack of government regulatory support
Energy Union	Connections and production	private	HV_Power_Line_Kuzzewo - Barlink	ENEA Operator	HV power line modernization	Yes	2012-2017 (ongoing)	0.00786	0.00368	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_22011015_Pomorzany	ENEA Operator	Substation construction	Yes	2011-2016(ongoing)	0.00761	0.00406	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_22011015_Leszno Gronowo	ENEA Operator	Substation construction	Yes	2012-2017(ongoing)	0.00758	0.00757	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Reclaw - Goleniów	ENEA Operator	HV power line modernization	Yes	2014-2016(ongoing)	0.00730	0.00261	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Modernization of power unit No. 3	ENEA Wytwarzanie	Increase in efficiency and life extension	Yes	Realization in 2017	0.00719	0.00719	Lack of government regulatory support
Energy Union	Connections and production	private	Modernization of power unit No. 8	ENEA Wytwarzanie	Increase in efficiency and life extension	Yes	Realization in 2017	0.00676	0.00676	Lack of government regulatory support
Energy Union	Connections and production	public private	Construction of a power plant using alternative energy sources	ARP S.A., Gemex Polska Sp. z o.o., EURO-EKO Sp. z o.o.	Construction of an electric power plant using waste heat recovery and thermal recovery from alternative fuels.	No	Project planned for the years 2015-2017	0.06	0.06	As a new technology, it entails many operational risks. Thermal processing of waste (RDF as the energy source) may prove to be a sensitive subject among the society – there is a risk of potential protests of the local residents
Energy Union	Connections and production	private	HV_Power_Line_Dzawski Młyn - Wronki	ENEA Operator	HV power line modernization	Yes	2012-2017(ongoing)	0.00534	0.00497	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.

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Energy Union	Connections and production	private	HV_Power_Line_GorzówW Iłnica	ENEA Operator	HV power line modernization	Yes	2012-2018 (ongoing)	0.00528	0.00093	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Modernization of power unit No. 7	ENEA Wytwarzanie	Increase in efficiency and life extension	Yes	Realization in 2015	0.00506	0.00083	Lack of government regulatory support
Energy Union	Connections and production	public private	DeNOx installation for boiler K8 in Białystok Plant	ENEA Wytwarzanie	Adaptation of boilers to the NOx emission standards specified in the IED Directive	No	Expected completion of construction in June 2015	0.00491	0.00154	Administrative and regulatory barriers
Energy Union	Connections and production	private	HV_Power_Line_Srem HCP -Srem Helenki - Leszno Gronowo	ENEA Operator	HV power line modernization	Yes	2012-2017 (ongoing)	0.00488	0.00422	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Pakosć - Zain	ENEA Operator	HV power line modernization	Yes	2012-2017(ongoing)	0.00453	0.00382	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Priewy - Wronki	ENEA Operator	HV power line modernization	Yes	2014-2018(ongoing)	0.00409	0.00122	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_110/15_łachcice	ENEA Operator	Substation modernization and construction	Yes	2013-2017 (ongoing)	0.00389	0.00308	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	New_Customer_Connection	ENEA Operator	New customer connection	No	2016-2017 (initially)	0.00387	0.00387	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_W_ak2-Mirosławiec	ENEA Operator	HV power line modernization	Yes	2013-2017(ongoing)	0.00373	0.00288	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_110/15_Dąbie	ENEA Operator	Main substation modernization	No	2014-2017 (ongoing)	0.00365	0.00351	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.

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Energy Union	Connections and production	private	HV_Power_Line_Wrońki - Czarnków ZPP	ENEA Operator	HV power line construction	Yes	2012-2018 (ongoing)	0.00357	0.00290	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Dolina Odra - Chlebów	ENEA Operator	HV power line construction	No	2012-2015 (ongoing)	0.00352	0.00230	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Rawicz- Góra	ENEA Operator	HV power line modernization	No	2013-2018(ongoing)	0.00332	0.00100	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Wischnowa-Woszakowice - Leszno Gronowo	ENEA Operator	HV power line modernization	Yes	2013-2017(ongoing)	0.00320	0.00208	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Międzychód-Sieraków	ENEA Operator	HV power line modernization	Yes	2011-2016 (ongoing)	0.00318	0.00129	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Zelomyśl-Międzychód	ENEA Operator	HV power line modernization	Yes	2014-2016 (ongoing)	0.00309	0.00262	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_11010_Lobez	ENEA Operator	Substation modernization	No	2014-2017(ongoing)	0.00304	0.00262	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Lobez-Resko	ENEA Operator	HV power line modernization	Yes	2013-2015 (ongoing)	0.00302	0.00190	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_110156_Srem_HCP	ENEA Operator	Main substation modernization	Yes	2012-2015(ongoing)	0.00302	0.00294	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.

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Energy Union	Connections and production	private	HV_Power_Line_Przyw - Sieraków	ENEA Operator	HV power line modernization	Yes	2011-2017 (ongoing)	0.00299	0.00247	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Morzyczyn - Żydowce	ENEA Operator	HV power line modernization	Yes	2013-2018 (ongoing)	0.00292	0.00086	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Smigiel Leszno	ENEA Operator	HV power line modernization	Yes	2013-2017 (ongoing)	0.00291	0.00255	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_110/15_Pakość	ENEA Operator	Substation modernization and construction	Yes	2013-2017 (ongoing)	0.00285	0.00238	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Nowogród Bobrzański-Zary Zakładowa	ENEA Operator	HV power line construction	No	2014-2017 (ongoing)	0.00270	0.00270	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Olki-Zelchowo	ENEA Operator	HV power line modernization	Yes	2014-2018 (ongoing)	0.00270	0.00075	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Bema - Żegrze	ENEA Operator	HV power line construction	No	2015-2019 (initiation) ²	0.00270	0.00003	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Skewczyne - Miedzyniec	ENEA Operator	HV power line modernization	Yes	2013-2018 (ongoing)	0.00268	0.00078	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Zabom-Golenów	ENEA Operator	HV power line modernization	No	2012-2015 (ongoing)	0.00255	0.00248	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.

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Energy Union	Connections and production	private	HV_Power_Line_Miedzyrzecz - Zielony	ENEA Operator	HV power line modernization	Yes	2013-2018 (ongoing)	0.00255	0.00084	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_110/15_Kozbia	ENEA Operator	Main substation construction	No	2014-2017 (ongoing)	0.00244	0.00244	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Kostrzyn-Górzycza	ENEA Operator	HV power line modernization	Yes	2014-2015(ongoing)	0.00238	0.00182	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_110/15_Zalom	ENEA Operator	Main substation modernization	Yes	2012-2016(ongoing)	0.00235	0.00158	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Zdroje-XS2	ENEA Operator	HV power line construction	Yes	2016-2018 (initial?)	0.00230	0.00070	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_110/15_Tanowska	ENEA Operator	Main substation modernization	Yes	2012-2016 (ongoing)	0.00208	0.00195	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Wischowa - Huta Glogow	ENEA Operator	HV power line modernization	Yes	2013-2017(ongoing)	0.00203	0.00202	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_110/15_Tamowo Podgórne	ENEA Operator	Main substation construction	No	2015-2016 (initial?)	0.00195	0.00195	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Resko - Lobeż	ENEA Operator	HV power line construction	No	2012-2017(ongoing)	0.00191	0.00104	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.

Sector	Subsector	Private ¹ /Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	private	HV_Power_Line_Gostyn - Pappowo	ENEA Operator	HV power line construction	No	2014-2017 (ongoing)	0.00182	0.00182	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Górzycza-Słubice	ENEA Operator	HV power line modernization	Yes	2011-2017 (ongoing)	0.00181	0.00152	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_110/15_Krzyż	ENEA Operator	Main substation construction	No	2013-2016(ongoing)	0.00164	0.00160	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Main_Substation_110/15_Nemierzyn	ENEA Operator	Main substation modernization	Yes	2012-2016(ongoing)	0.00151	0.00135	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Wind_Farm_connection	ENEA Operator	New customer connection	No	2014-2016 (ongoing)	0.00149	0.00143	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Letnów - Przyłp	ENEA Operator	HV power line modernization	Yes	2016-2018 (initiation)*	0.00142	0.00043	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	HV_Power_Line_Dąbie-Morzyca	ENEA Operator	HV power line modernization	Yes	2012-2018(ongoing)	0.00129	0.00038	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Substation_110_Czarnków ZPP	ENEA Operator	Main substation modernization	No	2015-2016 (initiation)*	0.00126	0.00126	There are many risks affecting planning and investment process in distribution networks. Risks affect deadlines and costs of projects. The most important problems are complicated procedures and legislative – particularly obtaining formal approvals and permissions which are necessary in the process of energy infrastructure modernization and construction. Existing laws and lack of permission to use the property for construction purposes extend the duration of energy infrastructure projects. Moreover the cost of permission to use the property for construction purposes is often much bigger than market price. Investments are blocked and cancelled in extreme cases. Another problem is lack of Law of transmission corridors. Power line investments must fulfill the environmental criteria. Proving that the investment is not harmful to the environment takes time and requires special studies and permissions.
Energy Union	Connections and production	private	Czercoń Power Plant Construction Plan	Kompania Węglowa S.A.	1.KW S.A. plans to build a coal-fired, supercritical power plant (together with a business partner) with a capacity of up to 1,000 MW 2.The investment is to ensure KW S.A. the demand for coal with a calorific value of about 19 MJ/kg. Location of the plant is associated with a very convenient transportation of coal from mines Piast and Ziemowit thus minimizing its cost of delivery.	No	Analytical and design phase	TBD	TBD	
Energy Union	Connections and production	private	The project to build a mine in the Lublin Coal Basin	Kompania Węglowa S.A.	1. Achieving the stability of production in subsequent years. 2. Magnification of the resource base. 3. Acquisition of cheaper coal, improving the company's competitiveness on the markets.	No	Analytical and design phase	TBD	TBD	
Energy Union	Connections and production	private	Construction of the fluidized bed boiler in the coal mine Żołówka.	Jastrzębska Spółka Węglowa S.A.	One of the goals of the project is the use of coal slurry and eliminating its negative environmental impact by avoiding future market sale of this type of by-products of coal production that are affecting the low emissions.	No	The project is in the initial phase of operation.	TBD	TBD	
Energy Union	Connections and production	private	Construction of power plants based on use of alternative fuels (garbage, waste coal etc.).	Jastrzębska Spółka Węglowa S.A.	The economic use of waste to generate energy.	No	Currently the project is in the phase of conceptual analysis and preparation of documentation.	TBD	TBD	Procurement procedures, all problems recognized for investment projects -ensuring financial engineering, long lasting administrative procedures (obtaining building permits, public consultation, social and NGO resistance), need to update strategic documents
Energy Union	Connections and production	private	Construction of tar processing plant.	Jastrzębska Spółka Węglowa S.A.	1. The final product will include soot used in the tire industry. 2. Tar is an intermediate product yield by the group JSW coking plants.	No	Currently the project is in the phase of conceptual analysis and preparation of documentation.	TBD	TBD	

Sector	Subsector	Private ¹ /Public/PPP ¹ includes investment by state-owned companies	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	private	Energy use of methane from old mines	Jastrzębska Spółka Węglowa S.A.	Increasing the efficient use of methane from coal.	No	Analytical and design phase	TBD	TBD	
Energy Union	Connections and production	private	Construction of the power plant (fluidized bed boiler) fed by a low calorific value coal dust (as coal dust that is difficult to be placed on the market).	Katowicki Holding Węglowy S.A.	Management of coal dust in an efficient manner.	No	Analytical and design phase.	TBD	TBD	
Energy Union	Connections and production	private	The use of methane as an energy carrier through the construction of a ground drainage.	Katowicki Holding Węglowy S.A.	The use of methane from coal (Coal bed methane)	No	Analytical and design phase.	TBD	TBD	
Energy Union	Connections and production	private	Methane removal from coal to the surface (before exploitation phase) using directional drilling techniques in conjunction with the recovery of methane and its economic use.	Katowicki Holding Węglowy S.A.	The use of methane from coal. Increase in the safety of miners by a partial removing methane from the operational area.	No	Analytical and design phase.	TBD	TBD	
Energy Union	Energy efficiency in buildings	public private	Smart Grid Programme		An area of investing in energy efficiency, better use of available capacities, possibility of managing the energy demand structure for households. A relative reduction in energy demand means more economical consumption of resources, less emissions and less pressure on the natural environment. The smart grid programme could trigger a modernisation of more than 500 thousand km of power networks in Poland, which are depreciated in more than 50%.			5.00000	TBD	
Energy Union	Energy efficiency in buildings	public private	Infrastructure for alternative fuels		Construction and deployment of charging points for electric vehicles and refueling stations for natural gas vehicles in the form of CNG or LNG. Thanks to realization of the project there will be possible to reduce the emission in transportation sector. In addition, the problem of absence of the trans-European infrastructure for alternative fuels in transport will be solved. The increase energy security through diversification of transport fuels. Implementation of the program of infrastructure development for alternative fuels is indicated in the Directive of the European Parliament and of the Council 2014/94 / EU of 22 October 2014 on the development of infrastructure for alternative fuels.		concept phase	TBD	TBD	Lack of financing
Energy Union	Energy efficiency in buildings	private	Gas Smart Grid Development	Gaz - System S.A., PGNiG S.A., Polska Spółka Gazownictwa Sp. z o.o.	The overall concept of the Smart Grid plays an important role in transforming the functionality of the current energy market. The future energy market is consumer-oriented market and will support the achievement of the objectives of the energy policy of the European Union in 2020 (3x20). Gas grids, due to the fact that they store large amounts of energy, have a high flexibility to changes in power demand. The concept of smart gas networks is based on the future convergence and interoperability of gas systems and power systems as well as facilitating the "intelligent" use of energy.		In an embodiment	TBD	TBD	
Energy Union	Connections and production	private	DeNOx installation for boiler 8 in Koźmierz Plant	ENEAWytwarzanie	Adaptation of the boiler to the NOx emission standards specified in the IED Directive	No	Expected completion in September 2017	0.00966	0.00966	Administrative and regulatory barriers
Resources and Environment	Natural resources: efficient and secure availability	public private	petroPROJECT	Grupa LOTOS S.A.	New petrochemical complex with a steam cracker unit as a basic unit and chemical processing plants at the premises of Grupa LOTOS and Grupa AZOTY. It will be the 2nd petrochem complex in Poland and it will reduce the need for importing chemicals/polymers.	Yes	Feasibility phase -2014	3.25000	0.50000	A main barrier for this project is the very high TIC and lack of long term financing. Current members: the consortium of polish companies (Grupa LOTOS S.A. and Grupa Azoty S.A.) are unable to raise adequate equity to secure financing of the project. There is too low attractiveness IRR for private banking or investment fund comparing to similar projects arranged in other part of world such as USA (cheap shale gas). The project is profitable and very attractive due to a very huge NPV and will have a significant part in creating future GDP. One of the solution to assure financing of the project is a combination of EC grants, EIB and MS finance as well as private capital and contribution of international business partners as members of the consortium. There are certain risks related to big volumes of products to be imported from countries outside EU mainly US - areas where there are no so stringent environmental requirements. A project management will supervise the project and seek business partners.
Resources and Environment	Natural resources: efficient and secure availability	private	North - South Gas Corridor	Gas System S.A.	North - South Gas Corridor will connect the LNG terminal in Samsøe through southern Poland, the Czech Republic, Slovakia and Hungary to the proposed Adria LNG terminal in Croatia. The corridor consists of a number of bidirectional interconnections and domestic gas pipelines. The main benefits of the project are increase of the integration of regional gas markets, increase of security of supply, access to new sources of supply (LNG, Norway) for Eastern Europe and the coordination of regional infrastructure projects.		In an embodiment	2.86000	0.86300	
Resources and Environment	Natural resources: efficient and secure availability	public private	Water and soil quality protection	Voivodship Funds for Environmental Protection and Water Management	Support for investments in individual households wastewater treatment systems / sewage disposal in the areas of scattered settlements in the surroundings of urban areas or close to water reservoirs	NO	Conceptual phase +technical/environmental documentation for some single small projects	1.00000	1.00000	Project preparation phase (documentation for scattered projects)
Resources and Environment	Natural resources: efficient and secure availability	public private	Project Wisła	-	Phase I investment preparation: Feasibility studies for construction of second barrage with hydro power plant on the Wisła River including Environmental Decisions obtaining. Phase II investment realization: Construction of the barrage. Economic viability for Phase II of the project is dependent on the positive completion of Phase I and provided that majority of the cost of hydro engineering works is covered by public funds.	No	Phase I in progress. Phase II This phase of project will be started after taking of the investment decision.	0.83400	TBD	• Lack of public funds for realization of the project. • Project long term financing problems. • Regulatory barriers i.e. lack of inclusion of the Lower Vistula Cascade in national strategies, lack of special act for the food protection, • European Agreement on Main Inland Waterways of International Importance (AGN Convention) was not adopted by Poland. • Potential engagement of ecological communities.
Resources and Environment	Natural resources: efficient and secure availability	public private	Waste-to-energy plants	National Fund for Environmental Protection and Water Management,	Building 3 waste-to-energy plants	YES	Conceptual phase	0.50000	0.02000	Procurement procedures, all problems recognized for investment projects, state aid
Resources and Environment	Natural resources: efficient and secure availability	public private	Geothermal heating	National Fund for Environmental Protection and Water Management,	Investments using the heat from geothermal sources, providing the sufficient infrastructure	Yes	Conceptual phase	0.60000	0.10000	Lack of environmental and geological documentation
Resources and Environment	Natural resources: efficient and secure availability	private	Bioethanol production of second generation with biogas plant and boiler house on lignin		Production of bioethanol from cellulosic feedstocks is an innovative technology that will be working in a commercial installation of an integrated system of plant producing first generation ethanol. This will allow the production of second generation ethanol by 98% GHG reduction potential and first generation ethanol of potential exceeding 90%. This technology should be integrated with the existing plant producing ethanol from starch raw materials so as to maximize the benefits of logistics and energy.	Yes	The investor does not make progress with the investment or procurement procedures related to the present project. Planned date of obtaining a building permit is 2015, and expected date of implementation of the investment the years 2016 - 2020. In the years 2015-2017 the cost of the investment will be up to 10% of the total value of the project. For the purpose of the investment was selected location, which is located in the immediate vicinity of the existing Ethanol Production Plant. The land is owned by the investment company BIOGRA S.A. Additionally, the Company proceeds to purchase another adjoining parcel, which will allow for the development of its directly to the objectives of the project. Lot adjacent to the existing Ethanol Production Department were chosen deliberately so that it was possible to logistics-energy integration of the plant. The company has a staff qualified in terms of knowledge: production processes, quality control, law duty etc. which will be responsible for the conduct of the investment process. At present, the company has a fully prepared and equipped laboratory for research of the process and product quality control. The company has a building permit for the construction of biogas plants and has developed a project to build biomass boiler. The Company has identified the technology suppliers for the production of second generation ethanol, and has signed a contract with them about confidentiality.	0.23000	0.02300	1. Due to the very high investment costs, the investment in question without external support is not justified for implementation. The project is cost-effective to implement the level of funding in the amount of PLN 315 million (EUR 0.7 billion), which will result in profitability at the level of IRR 9 - 10% and NPV of 17 million PLN with a payback period 16 years. 2. The need to notify the measure, which is associated with prolongation of the procedure. 3. Lack of directional decisions at EU level. At present, work is underway on the amendment of Directive 2009/29 / EC on the promotion of energy from renewable sources, in which planned mandatory target for biobutels of second generation - until the end of the work of the lack of clear regulations in this respect (formal barrier) .

Sector	Subsector	Private ¹ /Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Resources and Environment	Natural resources: efficient and secure availability	private	Construction of bioethanol production unit of second generation	ORKEN Eko Co. Ltd Member of ORLEN group	ORKEN Orlen SA intends to expand its current activities in the field of refinery segment bioethanol production based on non-food raw materials and waste, the so-called second-generation bioethanol. Produced by PKN Orlen SA ethanol will be used for the production of gasoline E5, E10 is a partial substitute for the currently used first-generation bioethanol supplied to the market, which is produced from cereals and root crops, and so these categories of biomass, which is used for food production. PKN Orlen SA has taken action to implement the project for the construction of production units of second generation bioethanol capacity of 60 000 tonnes / year based on raw materials such as straw, wood waste and other. Technology of production of bio-EDH is based on enzymatic fermentation technology. The raw material is a non-food biomass from agriculture and forestry (straw, energy crops, forest biomass, etc.).	Yes	The investor did not start the investment phase of procurements related to the present proposal. Planned date of obtaining a building permit is 2016 and expected date of implementation of the investment is the years 2017 - 2020. In the years 2015-2017 will be implemented in the initial phase of the investment, the cost of which will amount to 5% of the total value of the project. Currently, efforts to project evaluation has been made the details available in the world of technology for the possibility of adopting in Poland due to the nature of use of the contribution of raw materials. In order to obtain the best knowledge of the field of second generation bioethanol production has been carried out discussions with potential technology providers and reference visits took place in units of commercial / pilot / demonstration / production of second generation bioethanol, among others, visit the reference to the installation of commercialized (60 thous. tons / year of bioethanol) - Cressentino - Italy - installation launched in September 2013. It was made a qualitative assessment of the finished product – second-generation bioethanol for consistent quality requirements in the Regulation of the Minister of Economy of 17 December 2010 on quality requirements for biocomponents, biocomponents quality testing methods and the method of sampling biocomponents. In addition, PKN Orlen SA sent an inquiry to the market (RFI). On the basis of tenders obtained from the suppliers of technology assesses the profitability of investments, taking into account both raise external funds to finance investment, as well as taking into account financing from own resources of the Company. As a result, a number of studies regarding the possible availability of biomass for use in the production technology of second generation bioethanol made a preliminary selection of the location of	0.14000	0.00700	1. Technology of production of second generation bioethanol is not an innovation in the world, in Poland, however, the units producing bioethanol on the basis of the said technology is not yet available. Due to the very high investment costs of second-generation bioethanol unit compared to a comparable unit, the first generation bioethanol production the investment in question without external support is not justified for implementation. PKN Orlen SA based on RFI obtained from the market assessed the profitability of the investment. Presented below investment efficiency evaluation indicators suggest that the project is cost-effective to implement only the assumption of obtaining external funding in the absence of co-financing investment internal rate of return IRR is - 0.45% and indicates a lack of profitability. However, when obtaining financing at 50% of eligible costs IRR is 6.55%. The size of the grant will be crucial in the decision to implement the project. 2. The need to notify the measure, which is associated with prolongation of the procedure. 3. Lack of directional decisions at EU level. At present, work is underway on the amendment of Directive 2009/29 / EC on the promotion of energy from renewable resources, in which planned mandatory target for biofuels of second generation - until the end of the work of the lack of clear regulations in this respect (formal barrier)
Resources and Environment	Natural resources: efficient and secure availability	public private	Syngas Generating Plant Trzebnia/Chrzanow	ORKEN Eko Co. Ltd Member of ORLEN group	Syngas Generating Plant out of MSW and industrial waste based on gasification technology and/or gasification with use of plasma. Product in form of syngas planned to be utilized as the fuel as substitute of natural gas or other natural resources. No emission and no waste technology (remains after process in form of vitrificate is building material) Technology environment friendly (contrary to classical waste incineration plants).	No	Performed Feasibility Study, received Environmental Decision and an Decision of Public Goal Investment. Actually detailed economic analysis are undertaken. Internal corporate decisions are proceeded.	0.07500	0.07500	Considerable investment risks resulting from: Innovative technology in world scale few installations of comparable scale and solutions all over the world - only one in Europe). High cost of investment at long term return period and necessity to provide uninterrupted stream of waste in long period of time.
Resources and Environment	Natural resources: efficient and secure availability	public private	Syngas Generating Plant Plock	ORKEN Eko Co. Ltd Member of ORLEN group	Syngas Generating Plant out of MSW and industrial waste based on gasification technology and/or gasification with use of plasma. Product in form of syngas planned to be utilized as the fuel as substitute of natural gas or other natural resources. No emission and no waste technology (remains after process in form of vitrificate is building material) Technology environment friendly (contrary to classical waste incineration plants).	No	Feasibility study performed. Prepared application for Environmental Decision. Detailed economic analysis in progress	0.07500	0.07500	Considerable investment risks resulting from: Innovative technology in world scale few installations of comparable scale and solutions all over the world - only one in Europe). High cost of investment at long term return period and necessity to provide uninterrupted stream of waste in long period of time.
Resources and Environment	Natural resources: efficient and secure availability	public private	Extension of the value chain for biodiesel products	Trzebnia Refinery	Building new plant for bio-products production	No	Preparing pre-feasibility study for investment	0.03500	TBD	Lack of financing for building plants for implemented technology. Financing available only for building plants for non-implemented technology
Resources and Environment	Natural resources: efficient and secure availability	public private	Recovery of rare earth metals	National Fund for Environmental Protection and Water Management, Ministry of Env.		No	Conceptual phase	0.00200	0.00200	
Resources and Environment	Resilience to Climate Change	public private	EU steel industry revitalisation program	Minister of Economy /Agencja Rozwoju Przemysłu SA	The EU steel industry is in retreat. More and more blast furnaces are closed. The high-emission blast furnace production is replaced by even more high-emission imports. The modernisation programme for the EU's steel industry could reverse this unfavourable process. At the same time, a complementary industrial use of blast-furnace gas and coke-oven gas would be possible, along with the development of the related industries. The European automotive industry would be improved by a stronger base of competitive development in relation to Asian and American industry.	No	Analytical and design phase	2.00000	0.33000	
Resources and Environment	Resilience to Climate Change	public private	Ecological heating	Ministry of the Environment, National Fund for Environmental Protection and Water Management, Voivodship Funds for Environmental Protection and Water Management	Replacing the conventional coal-fired stoves by environmental friendly and safe (to lower the level of pollution). One element of the project will support the production of such installations in Poland using best practice and technology and research on innovation in this area.	No	Conceptual phase and experiences from programmes financed by NERPFWM	1.00000	1.00000	
Resources and Environment	Resilience to Climate Change	public private	Ecological vehicles in cities	Ministry of the Environment, National Fund for Environmental Protection and Water Management, Voivodship Funds for Environmental Protection and Water Management	Set up the sufficient urban infrastructure for ecological fleet (charging stations, the rental system, hybrid and electric vehicles, public transportation using such power sources as gas, hybrid, electricity)	YES	Conceptual phase and experiences from foreign projects (know-how transfer from e.g. Paris)	1.00000	1.00000	Bureaucratic burdens
Resources and Environment	Resilience to Climate Change	private	Building new waste water treatment plant	Trzebnia Refinery	Building new waste water treatment plant with division wastes on process wastewater and raining wastewater.	No	Administrative permits, contractor selection procedure (EPC)	0.00750	0.00750	A lack of possibility for financing for building plants for implemented technology
Social Infrastructure	Built environment and urban services	public private	Post-industrial land revitalisation	Minister of Economy /Agencja Rozwoju Przemysłu SA	Most EU countries have entered a post-industrial phase. A result of this process is the growing size of the areas once occupied by old factories and mine heaps or workings. The accumulated waste pollutes the environment, is being treated, or further processed. It often occupies land suitable for construction. Rehabilitation of that land would create an attractive investment area, contributing to the further development of cities and various areas of low-emission services and industry. In the case of Poland, it would be a great opportunity for revival in the Upper and Lower Silesia.	No	Conceptual phase	15.00000	3.00000	
Social Infrastructure	Built environment and urban services	public	Comprehensive offer of care and activities for seniors		The main goal of the project is to develop centres providing 24-hour and day care for seniors at local levels. Such a centre would provide a broad range of services, depending on the required level of specialist care services of welfare and medical nature. The centre would serve as a welfare and medical service point for seniors inhabiting a municipality/poviata region. A centre would include: 1. A retail part: a. A senior activity facility b. A day care facility 2. A co-housing part – apartments for seniors enabling them to live independent lives with small support provided by the retail part of the centre e.g. in relation to food, interesting leisure activities, social integration or rehabilitation services. The offer of the centre would be coordinated by an interdisciplinary team analysing: a) regular geriatric assessment – senior's demand for medical and rehabilitation services b) the offer of day-time activities c) diet d) hobbies' pursuit e) availability, by means of ensuring transport to and from the activity facility	yes		0.35190	TBD	Currently, no funds are available to be allocated for this objective
Social Infrastructure	Built environment and urban services	public	Developing accommodation for people requiring support, including sheltered housing		Developing a system of sheltered/supported/assisted/training apartments for adult individuals and families requiring temporary or permanent support, together with a system of services adjusted to individual needs and aimed at making these individuals or families independent or ensuring them dignified life. Possible beneficiaries include individuals and families requiring temporary or permanent support aimed at enabling them to participate in social life, which will contribute to their liberation from the zone of social exclusion or protect them against falling into it.	yes		0.24882	TBD	Currently, no funds are available to be allocated for this objective

Sector	Subsector	Private ¹ /Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Social Infrastructure	Built environment and urban services	public	Creating child care institutions for children under the age of 3		Due to a highly insufficient number of child care institutions for children under the age of 3 (crèches, children's clubs, day care) and an insufficient number of places in them, the project's objective is to support municipalities in their creation (this is the role of municipalities). It is planned to allocate funds for the creation of new care facilities (e.g. space adaptation, renovation, furnishing) and their everyday operation.	yes		0.2083	TBD	Organising infant/toddler care systems is the responsibility of municipalities financed from their budgets. Nevertheless, municipalities are not very active in this field. In spite of the implementation of several editions of the Departmental programme of development of child care institutions for children under 3 "Maluch" ("Toddler") (subsidised from the state budget), the current increase in the number of care facilities is insufficient. Moreover, funds allocated to the programme funds are determined on a yearly basis (it is not a multiannual programme) and are related to budgetary constraints – since 2012, every year PLN 101 million has been planned. In fact, in 2013, the total expenditure (from state and municipal budgets) amounted to PLN 073.9 million and in 2014 will amount to PLN 631.6 million (estimate).
Social Infrastructure	Education and training	public private	Support fund for the development of dual vocational training systems – creation of clusters composed of vocational schools and local employers		The project's objective will be to provide financial support for created vocational education clusters, encompassing cooperation agreements concluded between vocational schools and/or vocational training centres and employers operating in a given field/industry; owing to the cooperation of cluster partners, students will acquire both high-level up-to-date theoretical knowledge, and practical skills during classes run in working conditions, and employers will gain access to graduates of vocational schools with qualifications suited to their needs. The project will provide financial support for cluster partners: <ul style="list-style-type: none"> to create/equip simulation workstations for vocational training practice; to create/equip training workstations at employer's companies enabling vocational training practice (without occupying actual workstations); to train vocational school teachers at employers' companies in terms of practical aspects of the taught profession and/or placement mentors (instructors) assigned by employers in terms of teaching theory and methodology; for employers organising workstations for vocational training practice (e.g. tax reliefs, subsidies, bonuses for taking care of a trainee); for people who study during vocational training and the first 12 months of employment (e.g. covering the costs of travel and accommodation, co-financing employment, additional vocational training sessions and other courses aimed at developing soft skills). 	no		0.23294	TBD	Currently there are no incentives for cooperation between vocational schools and employers, what results in no little commitment from both sides in developing such cooperation. The Fund will allow for actions leading directly to the cooperation between education and training sectors, which in consequence will reduce the mismatch between skills and qualifications and the labour market needs. Investment in the skills of teachers and profession trainers will improve the quality of education and training process on various levels of attaining the education.
Knowledge and the Digital Economy	ICT Infrastructure	public private	Data-driven economy		Creation of the main data warehouse and building of a network of gauges covering all EU countries, which will allow for continuous monitoring of key parameters, e.g.: <ul style="list-style-type: none"> motorway traffic information, weather conditions; water levels and river flows; info about natural disasters, road and rail accidents etc. In each EU country – creation of a national data warehouse and building of local gauges networks, used in specific projects, e.g. 'smart cities'. Financial support for investments using intelligent data processing in EU large cities ('smart cities'): <ul style="list-style-type: none"> -intelligent energy management systems; -intelligent transport management systems. The core element of the project is designing and building a common sensor network (MGM) covering all EU countries, responsible for collecting and transmitting data. Some data, e.g. satellite and spatial data, will have to be purchased. All data collected in warehouses, should be, as far as possible, available free of charge, implementing the principle of reuse. Data are an economy driver in many areas, including energy, transport, the environment. The results of intelligent data processing are: <ul style="list-style-type: none"> - innovative products; - efficient use of existing energy infrastructure, communications, water supply; - saving energy and water; - lower pollution. The idea of the project encapsulates the message of the 2014 Communication from the Commission 'Towards a thriving data-driven economy'.	No	Conceptual phase	4.00000	0.50000	
Knowledge and the digital economy	ICT Infrastructure	private	Deployment of FTTH access network in Greater Poland (with possible replication to other voivodships)	INEA	Development of backhaul and FTTH access networks in NGA "white areas" which will not be covered by the projects implemented under Operational Programmes 2007-2013 and the Operational Programme Digital Poland (PODP) 2014-2020. The project includes the construction of ducts and fiber infrastructure in order to provide broadband in areas where NGA infrastructure is not currently available, and there are no reliable operators' investment plans.	No	The project at the stage of pre-investment studies	0.25000	0.05000	Barrier: NGA infrastructure deficit in the "white areas" due to the high cost of network construction and the lack of return on investment. Solution: Co-financing of infrastructure by the European Union, open up networks for all operators under equal conditions.
Knowledge and the digital economy	ICT Infrastructure	private	Construction of transmission corridors in rural areas in Greater Poland (with possible replication to other voivodships)	INEA/ WSS	In accordance with Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the costs of deploying high-speed electronic communications networks hereinafter referred to as the Directive on the reduction of the cost of building broadband networks, it is advisable to create a common infrastructure in large areas, particularly rural areas and in public roads, in which it will be possible to place multiple public infrastructure, including energy, telecommunications and infrastructure serving traffic lights, including e-call. Passive infrastructure accounts for over 80% of the cost of building infrastructure. Combination of these investments and giving the infrastructure an open nature will let achieve synergies and address the needs of many infrastructures, including those related to future services. Capex calculation: Technical ducts construction in urban areas Construction includes: 2 x DUK 160 pipes 4 x IEPiE 40 pipes (primary material) 4 x prefabricated pipe of 7 microducts SKO-2 manhole every 50 m SKAP-2 manhole every crossroads Technical documentation Labour	No	In no region of Poland, due to the legal terms but primarily due to costs, are conducted construction works including a common technical infrastructure for various transmission networks, including technical sewage for extended use.	0.18000	TBD	Barrier: No act on transmission corridors, inadequate regulations of the law on supporting telecommunication networks and services – the lack of implementation by the empowered authority. Lack of funds for communication conduits for extended use. Solution: The approaching completion of the draft of the law and the implementation of the directive on the reduction of the cost of building broadband networks arranges legal basis but does not settle funds.
Knowledge and the digital economy	ICT Infrastructure	private	Upgrade of HFC network to FTTH (step change) in Greater Poland (with possible replication to other voivodships)	INEA	In HFC networks, there is a trend to shorten coaxial cable links and to extend optical cable links (fiber deep). Consequently, this should lead to an evolutionary transformation of the HFC network to FTTH. The process can be long and it may turn out that operators incur higher overall expenditures upgrading the HFC network in the evolutionary way than if it is modernized by leaps and bounds. In addition, the gradual modernization still maintains all the disadvantages of HFC network in relation to FTTH, particularly to passive network (i.e. higher operating costs, higher failure rates, weaker prospects for meeting the requirements for the network in the future). Modernization of all HFC resources to FTTH is a very big financial effort for the operator and for this reason the operator carry a long-term scenario of its network upgrade. The gradual upgrade is unfavourable for both the operator and the end users. In order to break the investment barrier, additional financing should be involved in the project that will enable shortening of the process. The project will trigger a step change in technology and the transformation of the network. Although HFC network is able to meet the requirements of EAC2020, FTTH network is at the moment the highest technology in the field of telecommunication networks.	No	None of the operators in Poland has yet made attempts to modernize HFC network to FTTH.	0.05700	0.03500	Barrier: modernization costs. Solution: external financing
Knowledge and the digital economy	ICT Infrastructure	private	Regional deployment of LTE in 3.4-3.8 GHz band.	INEA	Polish regional and national availability of 3.4-3.8 GHz band creates compelling scenario for deployment of wireless LTE networks. Especially Greater Poland is willing to provide coverage in this band, but the same applies to other polish voivodships as well	No	Pending	0.00680	TBD	High technology cost when compared with low service ARPU Lack of support of LTE in 3.4 – 3.8GHz band on majority of mobile subscriber modules
Knowledge and the Digital Economy	Private R&D	private	Continuation of research on industrial application of graphene, and launching its production on an industrial scale	Warsaw University of Technology (Politechnika Warszawska), Nano Carbon Sp. z o.o. and Institute of Electronic Materials Technology (Instytut Technologiczny Materiałów Elektronicznych)	Graphene: is a form of a very thin, nearly transparent sheet of hexagonal structure of carbon atoms. It is remarkably strong for its very low weight and it conducts heat and electricity with great efficiency as well as displays other special electrical characteristics. The fields of its application can be indicated basing on related patent activity, which include: automotive industry (16 patents), chemical sensors (7 patents), composite materials (158 patents), batteries (57 patents), fuel cells (47 patents), integrated circuits (35 patents), LED diodes (17 patents), liquid crystal devices (13 patents), Li-Ion cells (54 patents), memory (56), solar cells (38 patents), touchscreens (12 patents), supercapacitors (24 patents), transistors (62 patents), polarisation of light (4 patents), medical devices (D sequencing – 1 patent), molecular sensors (1 patent), spintronic (2 patents) or thermoplastic materials (31 patents).	no	ongoing	0.09000	0.02500	World leading research institutes and big enterprises operating in electronic sector that compete in starting the production of high quality graphene.

Sector	Subsector	Private ¹ /Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (Yes/No)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Knowledge and the Digital Economy	Private R&D	private	Saule Technologies/Wrocław Research Centre EIT* (Wrocławskie Centrum Badań EIT*)	Perovskites - similarly to silicon - absorb visible light (300-800 nanometer long) in a way that electrical energy can be produced. It can be linked to another material - clothes, a synthetic fibers or even wood. Moreover, its layer can be even up to 10 times thinner than the layer of silicon (e.g. 200-300 nm) and can be applied with spray. The production of perovskite cells - contrary to traditional cells - is very fast and cheap.				TBD	TBD	
Knowledge and the Digital Economy	Public R&D	public	IFMIF/ELA-MAT Laboratory	Ministry of Science and Higher Education / Rzeszów University of Technology	Building in Poland an international research infrastructure IFMIF/ELA-MAT will be a crucial step for Poland to increase its position in the field of advanced technology materials in the world. The infrastructure will be complementary to ITER and DEMO projects which, to gain their research and commercial goals, require construction of an unique research infrastructure in Europe dedicated to development of advanced materials.	No	Planning in preparatory phase	1.00000	0.00000	High risk related to the research activities and lack of long term finance, low propensity of private sector to co-fund research infrastructures, compliance with the EC requirements for the financial perspective 2014-2020 (smart specialization, commercial use of the infrastructure, state aid rules), long standing public procurement processes and unknown level of financial involvement of international partners (currently negotiated). To overcome these barriers the project management team to supervise the project's implementation will be established and the continuous monitoring will be carried out by the implementing agency.
Knowledge and the Digital Economy	Public R&D	public	KCIRKS - National Center of Space and Satellite Engineering	Ministry of Science and Higher Education / Military University of Technology	The mission of the Centre is to support innovation activities of the national authorities concerning space sector development and training of engineers and researchers. The main objective of NCSSE is to become the country's leading center for the development of space technologies and satellite techniques and to be recognized as an important partner in the European space program. The National Center of Space and Satellite Engineering aims at creating conditions for effective cooperation in science, research and teaching in the field of aerospace engineering and satellite applications. The consolidation and strengthening of the research potential of the network members will result in a faster development, implementation and commercialization of solutions in the area of aerospace engineering, satellite manufacturing, application services, and research.	Yes	Planning in preparatory phase	0.11000	0.05000	High risk related to the research activities and lack of long term finance, low propensity of private sector to co-fund research infrastructures, compliance with the EC requirements for the financial perspective 2014-2020 (smart specialization, state aid rules, limited EU funds for Mazovia region) and long standing public procurement processes. To overcome these barriers the project management team to supervise the project's implementation will be established and the continuous monitoring will be carried out by the implementing agency.
Knowledge and the Digital Economy	Public R&D	public	CERAD - Center of Design and Synthesis of Radiopharmaceuticals for Molecular Targeting	Ministry of Science and Higher Education / National Centre for Nuclear Research	The main objective of the CERAD project is to improve and expand the research infrastructure located at design and pre-clinical evaluation of new drugs carrying the radioactive probe (radiopharmaceuticals) and other multidisciplinary probes, suitable for diagnostic or therapeutic application, with the particular focus on the biologically active carrier molecules which can be traced at the cellular and molecular level.	Yes	Planning in preparatory phase	0.04000	0.02000	High risk related to the research activities and lack of long term finance, low propensity of private sector to co-fund research infrastructures, compliance with the EC requirements for the financial perspective 2014-2020 (smart specialization, state aid rules, limited EU funds for Mazovia region) and long standing public procurement processes. To overcome these barriers the project management team to supervise the project's implementation will be established and the continuous monitoring will be carried out by the implementing agency.
Knowledge and the Digital Economy	Public R&D	public	SeCuRe - Strain and Culture Resources, Polish Virtual Bioresource Centre	Ministry of Science and Higher Education / Institute of Agricultural and Food Biotechnology	SECURE initiative will provide grounds for a long-term, core funding to centres that will qualify as biological resource centres and ensure an integrated approach to development, technology transfer and - compliant to law - access to bioresources and their commercial exploitation. It will also boost research in strategic areas encompassed by Poland's National Research Programme. SECURE network will result in setting up a unique virtual bioresource centre providing open access to the data and allowing for distribution via web-based interface.	Yes	Planning in preparatory phase	0.04000	0.02000	High risk related to the research activities and lack of long term finance, low propensity of private sector to co-fund research infrastructures, compliance with the EC requirements for the financial perspective 2014-2020 (smart specialization, state aid rules, limited EU funds for Mazovia region) and long standing public procurement processes. To overcome these barriers the project management team to supervise the project's implementation will be established and the continuous monitoring will be carried out by the implementing agency.
Knowledge and the Digital Economy	Public R&D	public	INMOL-CELL - Research Infrastructure of Molecules and Cells	Ministry of Science and Higher Education / International Institute of Molecular and Cell Biology	The rationale behind this research infrastructure proposal involves the extension of the IMCB premises along with the extension of the Institute's areas of interest towards biomedical problems, with a greater focus on translational research. To this end six new research groups will be recruited and core facilities will be expanded to provide cutting edge technology support. By expanding the present infrastructure and expertise IMCB will be able to create an integrated multidisciplinary research platform to span the spectrum from molecules to organisms, aiming to decipher the molecular basis of diseases and provide preclinical therapeutic options.	Yes	Planning in preparatory phase	0.02500	0.01200	High risk related to the research activities and lack of long term finance, low propensity of private sector to co-fund research infrastructures, compliance with the EC requirements for the financial perspective 2014-2020 (smart specialization, state aid rules, limited EU funds for Mazovia region) and long standing public procurement processes. To overcome these barriers the project management team to supervise the project's implementation will be established and the continuous monitoring will be carried out by the implementing agency.
Knowledge and the Digital Economy	Public R&D	public	Industrial Property Centre for Analyses, Consultations and Trainings	Patent Office of the Republic of Poland	IP Centre for Analyses, Consultation and Trainings will provide the following services: A) Patent landscape analyses for supporting strategic governmental decisions conducted in a broad context to identify key sectors for economic growth of national EU economy. Analyses of patent landscapes to facilitate valuation of Key Enabling Technologies (KETs) and identification of key sectors with highest investment potential (including patenting activity of e.g. Polish and foreign applicants, market leaders, market niches, development directions, R&D, monetization of patents etc.) and thus increasing high socio-economic returns. Size and Scalability. The analyses can be conducted on both macro (EUMS) as well as micro-level (business intermediaries, sectors, entities such as companies etc.) Patent landscape analyses/studies could be used across all areas of Task force. Currently pilot project is being prepared by the Polish Patent Office, in the fields of energy (in particular renewable sources of energy) and health (nanomedicine, bio-tech). Exemplary areas to be analysed include for instance: big data, eco-innovation, synthetic biology, regenerative and medicine, agro-science, nanotechnology, commercial solutions for aeronautics and space administration, design in innovative processes, as well as more detailed studies on e.g. Polish graphite, technology of coal gasification, technology of shale gas excavation etc. Timeframes: Proposed project can within 3 years (depending solely on funding granted). Goal: Supporting strategic decisions on the EU as well as Member State's level. B) Industrial Property for effective co-operation between science and business. Organization of consultations and training sessions of experts from the Patent Office with industry (entrepreneurs and companies) with a view to assisting them in development of strategies for IP strategies and valorization, increasing number and quality of IP applications (especially patent applications) with the use of worldwide patent information. Dedicated trainings, consultations and workshop (as per target group and their knowledge level and needs) on commercialization, technology transfer, business use of patent information, valuation of IP assets, internationalization of innovative activity. Provision of advanced IP services (such as: state of the art searches, legal status, monitoring of competitors). Trainings on the TRIZ method ("the theory of inventive problem solving") which is utilized by global leaders on the market from the US and Asia and successfully applied in the development of effective strategies for innovation and development of companies.		Project in the concept phase prepared for pilot project.	0.00600	0.00300	Lack of long term funding and human resources to implement the project from national budget, structural funds and EU funds as well as international institutions such as WIPO or the European Patent Office (EPO). Identified need to finance advanced commercial patent databases, finance and/or train skillsets with advanced knowledge in analytics, patents, IT and statistics. Identified need to change institutional regulations as well as internal organization scheme to provide the services in the proposed projects. Identified need to develop administrative potential.
Knowledge and the Digital Economy	public	public	NLEJ - National Laboratory for Nuclear Energy	Ministry of Science and Higher Education / National Centre for Nuclear Research	NLEJ will provide a European-class infrastructure in nuclear research, with a high level of scientific and engineering expertise and with open access for national and European collaboration. The introduction of nuclear power in Poland has created a new situation requiring strengthened research support for the Polish Nuclear Energy Programme.	Yes	Planning in advanced phase, the consortium is ready to prepare the feasibility study	0.13000	0.00000	High risk related to the research activities and lack of long term finance, low propensity of private sector to co-fund research infrastructures, compliance with the EC requirements for the financial perspective 2014-2020 (smart specialization, state aid rules, limited EU funds for Mazovia region) and long standing public procurement processes. To overcome these barriers the project management team to supervise the project's implementation will be established and the continuous monitoring will be carried out by the implementing agency.
Knowledge and the Digital Economy	public	public	POLFEL - Polish free electron laser	Ministry of Science and Higher Education / National Centre for Nuclear Research	Polish contribution to the EurFEL consortium including participation in the research and technology development works performed at the existing and planned European facilities as well as the design and development studies of the infrastructure in Poland. The benchmark and ultraviolet range FEL facility named POLFEL is planned to be built at Swierk, near Warsaw.	Yes	Planning in advanced phase, the consortium is ready to prepare the feasibility study	0.10000	0.05000	High risk related to the research activities and lack of long term finance, low propensity of private sector to co-fund research infrastructures, compliance with the EC requirements for the financial perspective 2014-2020 (smart specialization, state aid rules, limited EU funds for Mazovia region) and long standing public procurement processes. To overcome these barriers the project management team to supervise the project's implementation will be established and the continuous monitoring will be carried out by the Ministry.

132.8 17.5



PORTUGAL



Strategic and supported sources of funds of the	Yes	Assessment complete	0,320	0,250	Funding
ation of smart of knowledge, based on CIT	no	under preparation	0,010	0,005	Funding
fixed and	Yes	Study/preparation	0,300	0,150	EU Funding + Private/bank funding
ities and w	No	Not Applicable	0,054	0,050	Fluctuating demand; cost and terms of funding;
ormation	No	Not Applicable	0,145	0,096	Cost and terms of funding
l education s old	no	Study	0,015	0,008	EU Funding (solution/ enabler)
tem	no	Study/preparation	0,020	0,020	Funding
; workshops, training le robots,	Yes	Study/preparation	0,160	0,120	Funding
nd b-learning; digital	Yes	Study/preparation	0,120	0,090	Funding
to the	Yes (partially)	On-going	0,085	0,060	Funding

ability among	Yes (partially)	On-going	0,005	0,005	Funding / stakeholders' involvement
	Yes	Study/preparation	0,095	0,053	environmental impact assessment
	Yes	Study/preparation	0,417	0,269	environmental impact assessment
launched in	Yes	Stand By	0,680	0,680	F+K35unding
launched in					
80 MW d in 2006	Yes	In the licensing process	0,160	0,160	
stations that	Yes	In the licensing process	0,160	0,160	
o to 2018	Yes	Stand By	1,210	0,605	Lack of risk taking willingness from private sector, lack of investment funding, lack of social
or integration bles and	Yes	Study/preparation	0,223	0,148	Environmental impact assessment
	Yes	Study/preparation	0,370	0,164	
	Yes	Study/preparation	0,159	0,143	
s in high voltage	Yes	Study/preparation	0,022	0,000	
the the	Yes	Study/preparation	0,268	0,110	

of the poorest of Seia, is relevant to non ossil e. Direct on period. en Portugal and	Yes	In Preconstruction Stage (construction of access and setup works) Study/preparation	0,434 0,266	0,187 0,135	E+K51nvironmental impact assessment
	Yes	Under study	0,600	0,600	
4 MW, f 650 000 rtation and Leiria, in gas	Yes	Study/preparation	0,025	0,019	
n Carriço increase the e natural gas al, will provide ative access	Yes	Study/preparation	0,045	0,001	Environmental impact assessment
ry points	Yes	Study/preparation	0,016	0,010	
Complex	Yes	In the commissioning phase	0,044	0,003	
Complex. for	Yes	Study/preparation	0,049	0,019	Environmental impact assessment
Carriço	Yes	Study/preparation	0,073	0,017	Environmental impact assesement
o other safety	Yes	Study/preparation	0,029	0,008	

	Yes	Study/preparation	0,021	0,010	
	Yes	Stand By	0,500	0,500	Lack of risk taking willingness from private sector, lack of investment funding, lack of social
Energy	Yes	Stand By	0,200	0,200	Lack of risk taking willingness from private sector, lack of investment funding, lack of social awareness
Renovation in Buildings	Yes	Under implementation	0,050	0,050	Lack of risk taking, lack of investment funding, lack of social awareness
Energy efficiency optimization; Machinery and	No	Not Applicable	0,022	0,021	Cost and terms of funding; Requirements to access State Aid
Energy efficiency optimization; Quality of buildings	Yes	Study/preparation	0,210	0,140	Funding
Energy efficiency optimization; Energy centres and Energy centres	no	Not Applicable	4,045	1,235	Cost and terms of funding; Requirements to access State Aid; Bureaucracy accessing IEFP support
Energy efficiency optimization; Energy centres	Yes	Construction undergoing	0,150	0,150	Funding
Energy efficiency optimization; Energy centres	Yes	Construction undergoing	0,030	0,030	Funding
Energy efficiency optimization; Energy centres	Yes	Study/preparation	0,070	0,070	EU Funding (Solution/ enabler)

ts,	Yes	Constructio n undergoi g	0,440	0,290	Budget constraints is slowing implementation. EU funding can help to overcome existing barrier
ea of	Yes	Study/preparation	0,600	0,300	EU Funding (Solution/ enabler)
outs separated	Yes	Constructio n undergoi g	0,170	0,170	EU Funding (Solution/ enabler)+K72
	Yes	Study/preparation	0,020	0,010	EU Funding (Solution/ enabler)
	Yes	Study/preparation	0,040	0,020	EU Funding (Solution/ enabler)
	Yes	Study/preparation	0,020	0,010	EU Funding (Solution/ enabler)
ay Spanish	Yes	Study/preparation	0,010	0,005	EU Funding (Solution/ enabler)
	Yes	Study/preparation	0,020	0,010	EU Funding (Solution/ enabler)
	Yes	Constructio n undergoi n	0,010	0,010	EU Funding
	Yes	Constructio n undergoi n	0,010	0,005	EU Funding
g terminal +	Yes	Constructio	0,400	0,200	EU Funding (Solution/ enabler)

structure and	Yes	Study/preparation	0,100	0,050	EU Funding (Solution/ enabler)
structure and	Yes	Study/preparation	0,030	0,015	EU Funding (Solution/ enabler)
structure and	Yes	Study/preparation	0,030	0,015	EU Funding (Solution/ enabler)
improvement aveness of the	No	Study/preparation	0,035	0,035	Funding
ing Lisbon	Yes	Study/preparation	0,800	0,400	EU Funding (Solution/ enabler)
ain railway o and Vigo	Yes	Constructio n undergoin	0,600	0,300	EU Funding (Solution/ enabler)
	Yes	Study/preparation	0,020	0,010	EU Funding (Solution/ enabler)
	Yes	Study/preparation	0,080	0,040	EU Funding (Solution/ enabler)
garve airport.	Yes	Study/preparation	0,050	0,025	EU Funding (Solution/ enabler)
	Yes	Study/preparation	0,150	0,075	EU Funding (Solution/ enabler)
	Yes	Study/preparation	0,030	0,015	EU Funding (Solution/ enabler)
	Yes	Study/preparation	0,060	0,030	EU Funding (Solution/ enabler)

for urban d in	Yes	Study/preparation	0,150	0,075	EU Funding (Solution/ enabler)
ow approach t for children condition. This rships with	No	Study/preparation	0,030	0,030	Cost and terms of funding; Bureaucracy accessing support
tional and essentially in atronics and partnerships	No	Study/preparation	0,045	0,025	Cost and terms of funding; Bureaucracy accessing support
rises, on a resources and	Yes	Assessment complete	0,411	0,300	Funding
t from the need pment and n the market, g the new					
and creasing the h a higher resources , namely					
veral	Yes	Stand By	0,383	0,383	Financial markets shortcomings due to (i) access of private partners to international financial markets is very limited and
le Gaia-Espinho	No	Stand By	0,073	0,073	Funding
hospitals in	Yes	Stand By	0,160	0,160	Funding

cities	Yes	Stand By	0,100	0,050	Funding
which seeks the promoting strongly management	Yes	Assessment completed	0,330	0,250	Counterpart of the projects national guarantee
with the that concerns the targets major plans of of the existing of TMs into in waste waste; ty, gas)					
the provided	Yes	Assessment completed	3,700	2,000	Financing the national compensation of projects; Financing Gap; Cost of funding
urban g	yes	In preparation	1,500	0,200	Funding
entation of at allow for face combating	no	In preparation	1,000	0,100	Funding

		implementation:			
ions.	Yes	Under implementation	0,020	0,020	Funding
ezíria aixo	Yes	Stand By	0,335	0,173	Public funding;; long lead time of the projects due to the number of studies required.
o	Yes	Study/preparation	0,020	0,020	uncertainty regarding economic viability
DER					
rising from the ich result from d by the Water Act and l programs on with other r (DARU)	Yes	Assessment completed	1,900	0,500	Financing the national compensation of projects; Studies on-going to assess contamination
n of activities, public health solution, which rity sites for	Yes	Assessme nt complete d	0,560	0,300	Financing the national compensation of projects; Studies on-going to assess contamination
ation works the Decree- al regime	Yes	Assessment completed	0,053	0,026	Funding
ting aircraft also in the m	No	Stand By	0,070	0,070	Access to EU funds is critical.

<p>and prevention the , the promoting the interrupting the gement ent promotion e DFCI e and cost, it</p>		<p>n undergoin g</p>			
<p>ast line sively s to protect the ic activities hlighted: (akwaters, etc.)</p>	<p>Yes</p>	<p>Assessme nt complete d</p>	<p>1,200</p>	<p>0,300</p>	<p>Lack of projects national co-financing technical complexity of the projects and solutions</p>



ROMANIA



Sector	Sub-sector	Private / Public/	Project Name	Implementing	Description	Included in national investment plan	Status	Total investments cost (EUR)	Investment 2015-2017 (EUR million)	Barriers/solutions
TOP PRIORITIES										
Energy Union	Connections and production	Public	The development of the NTS on the Romanian territory along the route Bulgaria – Romania – Hungary – Austria	Transgaz	The project shall connect Podi to the Gas Metering Station – Horia (Arad county).According to TRANSGAZ' envisaged development plan, the project shall ensure the possibility for permanent physical bi-directional flows through the interconnections with Bulgaria and Hungary as well as the completion of the Giurgiu – Nadlac corridor aiming to materialize the supply of Caspian gas to Romania and Europe. The project envisages the achievement of the following:- Podișor-Corbu pipeline, 81 km;- Băcia-Hățeg-Jupa-Recaș pipeline, 167 km; three compressor stations (CS Corbu, CS Hățeg I and CS Horia I) with a total installed power of Pinst = 33 MW, and amplification up to 49.5 MW;- Corbu–Hurezani–Hățeg pipeline, 250 km;- Recaş–Horia pipeline, 47 km./After the project commissioning, a maximum gas transmission capacity of 1.5 m bcm/year towards Bulgaria and of 4.4 bcm/year towards Hungary will be possible.	yes	ongoing feasibility study	560	168	validation of the Funding Request by the EC
Energy Union	Connections and production	Public	The NTS development project for taking over Black Sea gas by means of the extension of the Southern Corridor in the East –West direction.	Transgaz	The project implies the construction of a new gas transmission pipeline in the area of the town Tuzia (Constanța county) up to the technological node Podișor (Giurgiu county) to connect the offshore gas to be available at the Black Sea shore and the Bulgaria – Romania – Hungary – Austria corridor.The Tuzia – Podișor pipeline of approximately 247 km shall be designed for 55 bar maximum pressure and 48" diameter (Dn 1200) and 40" (Dn 1000)..	yes	ongoing feasibility study	254	38	validation of the Funding Request by the EC , this project is related to the actual exploitation of the off-shore Black Sea gas
Energy Union	Connections and production	Public	Project for the development of the Central corridor in the East-West direction for taking over Black Sea gas	Transgaz	The achievement of the project entails the following : - the use of the existing transit pipelines T1/T2; - the use of the existing NTS pipelines of approximately 210 km; - the upgrading of the existing NTS pipelines of approximately 400 km; - the replacement of the existing NTS pipelines or the construction of new pipelines up to a total length of approximately 430 km. The gas pipeline system shall be equipped with 4 new compressor stations with a total installed power of approx. 66 MW: - CS Onești, located in Bacău county; - CS Coroi, located in Mureș county; - CS Hațeg II, located in Hunedoara - CS Horia II, located in Arad county.	yes	pre-feasibility study	550	0	nomination as PCI under the second PCI list this project is related to the actual exploitation of the off-shore Black Sea gas
Energy Union	Connections and production	Public	the project for the development of NTS interconnection with the dedicated pipelines part of the international gas transmission corridor	Transgaz	The project implementation is based on the following rationale and involves works such as:- The building of a connection between the dedicated pipelines currently transiting Russian gas across Romania towards the Balkan corridor and the National Gas Transmission System; This project is part of the first list of European projects of common interest. A feasible technical solution for this project is presently under analysis.	yes	A feasible technical solution for this project is presently under analysis.	0.7	0.7	the compliance with the relevant applicable EU Regulations , coordination with the validity terms of the relevant contracts
Energy Union	Connections and production	Public	National Transmission System development in North East Romania for enhancing gas supply to the region and ensuring gas transmission capacity to Moldavia	Transgaz	The project consists of the development of the following objectives: - New compressor station at Onești - New compressor station at Gherăiești - New transmission pipeline, Dn 700, Onești – Gherăiești, 103 km long - New transmission pipeline, Dn 700, Gherăiești – km	yes	ongoing feasibility study	110	55	validation of the Funding Request by the Romanian funding entities
Energy Union	Connections and production	Public	Reverse flow at the Medieșu Aurit Gas Metering Station (Satu Mare County)	Transgaz	The works aim at creating the technical conditions enabling gas filtration and commercial metering in both flow directions.The project will enable bidirectional flows between the Romanian and Ukrainian gas transmission systems.	yes	A feasible technical solution for this project is presently under analysis	0.7	0	this project depends upon the implementation of the above-mentioned projects

Resources and Environment	Natural resources efficient use and secure availability (Water management)	public	The rehabilitation of land consolidation infrastructure owned by the state with direct effects in terms of defending the population, settlements and biodiversity conservation from drought risk in the most exposed areas in Romania (south and east) on an area of 823 000 ha	Ministry of Agriculture and Rural Development	The rehabilitation of land consolidation infrastructure owned by the state with direct effects in terms of defending the population, settlements and biodiversity conservation from drought risk in the most exposed areas in Romania (south and east) on an area of 823 000 ha, corresponding to a total of 56 irrigation systems economically viable, 16 counties (38 % of the total), is a measure that helps achieve the specific objective mentioned above, while being a strategic component for sustainable development at national level contributing to the sustainable conservation of natural heritage. The impact of environmental rehabilitation and the foreseeable effects regarding the defense from drought risk of population, settlements and biodiversity conservation are the following: A population of 1.097.433 inhabitants from 190 settlements will no longer be affected by draught, therefore lowering the population vulnerability to this phenomenon. The project will also solve the problems related to the lack of water on: an area of 823 000 ha, 56 industry plants, 12.382 households, 162 schools and kinder-gardens, 57 medical facilities, 32 churches and monasteries, 329 other social facilities, 3.529 km national and county roads, 290 km electrical networks over 20kv. The water supply for Romania's ecosystems would have a large impact on preserving the biodiversity, especially in the current situation, where large surfaces of land in the southern and eastern part of Romania are at high risk of drought and are arid or even affected by desertification. The dissolution of the soil vegetation as a result of the drought leads to the soil degradation. In some areas of Romania, mostly in the southern and eastern part, natural habitats, flora and fauna are severely affected by the water scarcity, caused mainly by the low level of precipitation and high soil and air temperature. As the water imbalance is already present on approximately 7.1 mil. hectares, representing 48% of the total	Yes		982	982	Long-term budgetary constraints Getting more funding sources such EC grants, EIB, public-Privatee partnership.is also envisaged
Resources and environment	Natural resources efficient use and secure availability	PUBLIC	<u>PROGRAM I</u> <u>Ensuring new water sources by completion of reservoirs within hydrographic basins in Romania</u>	ANAR	Runcu Reservoir, Seinel Reservoir, Poiana Reservoir, Corbesti Reservoir, Mihoiesti Reservoir, Isalnita Reservoir, Pecineagu Reservoir, Varfu Campului Reservoir, Mihaileni Reservoir, Moneasa Reservoir, Ogrezeni Reservoir, Golesti Reservoir, Bilcuresti Reservoir, Mihoveni Reservoir.	YES	-	121.15	121.15	Lack of funding sources./ Inclusion of the project in foreign grants or loans
Resources and environment	Natural resources efficient use and secure availability	public	<u>PROGRAM II</u> <u>Strengthening flood protection capacity by securing existing reservoirs in the hydrographic basins in Romania</u>	ANAR	Calinesti Reservoir, Cuca Reservoir, Gillau Reservoir, Colibita Reservoir, Surdac Reservoir, Sanminaiul Roman hydrotechnic knot, Albesti Reservoir, Lesu Reservoir, Valea de Pesti Reservoir,	NO	-	176.41	176.41	Lack of funding sources.
Resources and environment	Natural resources efficient use and secure availability	public	<u>PROGRAM III</u> <u>Danube dykes rehabilitation according with the National Strategy in flood protection in Romania</u>	ANAR	Dyke reinforcement, waterproofing dykes, increased dykes, breaches closing, new dykes, nonpermanent accumulations	NO	-	420	420	Lack of funding sources.
Resources and environment	Natural resources efficient use and secure availability	public	<u>PROGRAM IV</u> <u>Rehabilitation and flood protection works completion within hydrographic basins in Romania</u>	ANAR	In each hydrographic basin in Romania will be realized: - New dykes; - Increased dykes; - Bank reinforcements; - Nonpermanent accumulations	NO	-	385	385	Lack of funding sources.

Resources and environment	Natural resources efficient use and secure availability	public	<u>PROGRAM V Ecological and economical resizing in the Romanian sector of the lower Danube meadow</u>	ANAR	Works and developments within the premises: - suitable for agriculture, suitable for mixed uses (polders), suitable for revegetation. Works types: <u>dyke reshaping and increasing; dyke reinforcement in the sectors with possible soakings and suffusion; maintenance and intervention roads on the crests of dykes, forrest curtains ; protection dykes, perimeter dykes and horseshoe dykes, weirs.</u>	NO	Study	392	392	Lack of funding sources.
Transport	Cooridors and mission links	public	Construction of the road corridor connection between Rep Moldova / Ukraine and Hungary / Central Europe by motorway 'Montana' on the route Ungheni - Iasi - Tg. Mures - Turda - Gilau - Bors. (Annex 1)	MT / CNADNR	The 'Montana' motorway longitudinally crosses Romania in the northern part. It completely overlaps with the TEN-T Core Network, connecting Hungary and Western Europe with the north of Romania, Republic of Moldova (Chisinau) and Central Ukraine (Kiev). The motorway is 584 km long (between Bors and Ungheni), from which 52 km have been built (Gilau – Campia Turzii), 8 km are under construction (Gilau – Nadasel) and 37 km in preparation (Campia Turzii – Tg. Mures). At national level, the motorway connects regions of high economic and touristic appeal (North of Transilvania, Bucovina and North of Moldavia). It connects first rank economic growth poles at national and European level (Oradea, Zalau, Cluj Napoca, Targu Mures, Iasi).	Yes	Works carried out (52 km), Works in progres (37 km), Feasibility study prepared for 495 km	7515	7515	<u>Barrier no. 1:</u> <u>Limited implementation time of the project during the 2015-2017 period</u> <u>Solution:</u> <u>Dividing the motorway works into sections of approximately 50-100 km. This solution will allow the execution in the 2015-2017 period.</u> <u>Barrier no. 2:</u> <u>Organizing the procurement procedure for attributing the works contract</u> <u>Solution:</u> <u>Elaboration of the public procurement documentation and implementation of the procedure by the use of contracted experts.</u> <u>Barrier no. 3:</u> <u>Constructors' poor technical capacity for performing the works</u> <u>Solution:</u> <u>Setting criteria for the selection of constructors able to prove that they have the necessary resources for performing the works</u> <u>Barrier no. 4:</u> <u>Reduced administrative capacity of the beneficiaries</u> <u>Solution:</u> <u>Procurement of consultancy services for experts specialized in project implementation</u>
Transport	Cooridors and mission links	public	Construction of the road corridor connection between the Black Sea and the neighboring countries (Serbia, Bulgaria, Hungary) by Highway Danubis - Black Sea on the route Constanta Port - Constanta - Bucharest - Alexandria - Craiova - Drobeta Tr. Severin - Lugoj - Timisoara - Arad - Nadlac with important branches to Moravita (SRB), Calafat and Giurgiu (BG) and to Pitesti (important center of car engineering industry). (Annex 1)	MT / CNADNR	The 'Danubius – Black Sea' motorway is part of the southern branch of the IVth Corridor Orient East-Med and mostly overlaps with the TEN-T Core Network. The Corridor features two connectivity components, both at national and international level: a connection between Central/Western Europe and the largest port at the Black Sea – Constanta, and with the southern (Sofia, Atena), south-eastern part of Europe (Istanbul) and Asia Minor. The motorway has a length of 1209 km (between Nadlac and Constanta Port), from which 286 km in operation (Arad-Izvin and Bucharest-Constanta Port) and 74 km under construction (Nadlac-Arad and Izvin-Lugoj). At national level, the motorway connects regions which are attractive from a touristic and economic perspective (Banat, Oltenia and Dobrogea), and important socio-economic centres such as Arad, Timisoara, Drobeta Tr. Severin Port, Craiova, Pitesti, Giurgiu, Bucharest, Constanta and Constanta Port. As a result, Bucharest would become a first size road junction at European level and a link between the north and south and between the west and east in road transport. It features four connections with neighbouring countries (Hungary, Serbia and two with Bulgaria) and a connection with the largest Black Sea port.	Yes	Works carried out (286 km), Works in progress (74 km), Feasibility study prepared for 310 km Preparation of feasibility study for 539 km	6289	6289	<u>Barrier no.1:</u> <u>Limited implementation time of the project during the 2015-2017 period</u> <u>Solution:</u> <u>Dividing the motorway works into sections of approximately 50-100 km.</u> <u>Barrier no.2:</u> <u>Long period of time in organizing the procurement procedure for attributing the works contract</u> <u>Solution:</u> <u>Elaboration of the public procurement documentation and implementation of the procedure by the use of contracted experts.</u> <u>Barrier no.3:</u> <u>Constructors' poor technical capacity for performing the works</u> <u>Solution:</u> <u>Setting criteria for the selection of constructors able to prove that they have the necessary resources for performing the works</u> <u>Barrier no.4:</u> <u>Reduced administrative capacity of the beneficiaries</u> <u>Solution:</u> <u>Procurement of consultancy services for experts specialized in project implementation</u>

Transport	Cooridors and mission links	public	Creating a fast road connection between 5 motorways which converge with the capital Bucharest, by implementing the project 'Bucharest Ring' Motorway (Annex 1)	MT / CNADNR	The Bucharest Bypass at motorway profile represents a vital investment for the largest urban centre in Romania and South-Eastern Europe, with a very high economic potential. The Bucharest ring road is situated on the TEN-T Core Network and it will connect five motorways, being at the junction of corridors with important flows (North-South and East-West). The motorway bypass of a urban and economic centre of the size of Bucharest would have a positive economic impact, with perspectives for the multiplication of major benefits. The project encompasses two motorway sectors (North Ring 53 km and South Ring 48 km) with a total length of 101 km.	Yes	Preparation of feasibility study for 101 km	1560	1560	<p>Barrier no. 1: Relatively short time for preparing the feasibility study Solution: Elaboration of terms of reference for the study and selection of a consultant Barrier no. 2: Long period of time in organizing the procurement procedure for attributing the works contract Solution: Elaboration of the public procurement documentation and implementation of the procedure by the use of contracted experts Barrier no.3: Constructors' poor technical capacity for performing the works Solution: Setting criteria for the selection of constructors able to prove that they have the necessary resources for performing the works Barrier no.4: Reduced administrative capacity of the beneficiaries Solution: Procurement of consultancy services for experts specialized in project implementation</p>
Transport	Cooridors and mission links	public	Upgrading the rail corridor connection between Europe and Ukraine / Rep. Moldova by modernizing the railway 'Euro Transylvania Rail' at a European standard, on the route Episcoplia Bihor - Oradea - Cluj Napoca - Dej - Vatra Dornei - Suceava - Pascani - Iasi - Ungheni with the branch to Vicsani. (Annex 2)	MT / CN CFR	The railway is part of the northern link which connects two old Romanian provinces: Transilvania and Moldavia. It represents an old route connecting major economic centres of Romania such as Oradea, Cluj Napoca, Suceava and Iasi, with high economic development potential and with high human potential specialized in the above mentioned university centres. The railway is electrified on two thirds of its 655 km length and double track on approximately one third of its length. It overlaps with the TEN-T Comprehensive Network between Ep.Bihor and Cluj Napoca with the TEN-T Core Network between Cluj Napoca and Iasi.	Yes	Preparation of feasibility study for 655 km	4315	4315	<p>Barrier no.1: Reduced time for the implementation of projects and preparing of the technical – economical documents Solution: Dividing the railway works into sections of approximately 50-100 km and elaboration of terms of reference with expert assistance Barrier no. 2: Long period of time in organizing the procurement procedure for attributing the works contract Solution: Elaboration of the public procurement documentation and implementation of the procedure by the use of contracted experts Barrier no.3: Constructors' poor technical capacity for performing the railway works Solution: Setting criteria for the selection of constructors able to prove that they have the necessary resources for performing the works Barrier no.4: Reduced administrative capacity of the beneficiaries Solution: Procurement of consultancy services for experts specialized in project implementation</p>
Transport	Cooridors and mission links	public	Upgrading the railway corridor connecting southern Europe with Ukraine / Rep. Moldova to European standards by modernizing the railway 'North - South Rail' on the route Vicsani - Suceava - Bacau - Focsani - Buzau - Ploiesti - Bucharest - Giurgiu, overlapping with the Pan European Corridor IX. (Annex 2)	MT / CN CFR	The railway is part of the IXth PanEuropean Corridor which connects the North of Europe with the South-East of the continent. At European level, it connects Ukraine and Moldavia with Bulgaria, Greece and Turkey, via Romania. The railway corridor services urban centres of both economic and socio-human importance, with high development potential. The existing rail track is double and electrified between Suceava North and Bucharest – 450 km from the total of 579 km. The entire Corridor between Vicsani and Giurgiu is situated on the TEN-T Core Network.	Yes	Rehabilitated railway sector Bucuresti – Ploiesti (59 km) Preparation of feasibility study for 520 km of rehabilitation	2800	2800	<p>Barrier no.1: Lack of technical – economical documents necessary for the implementation of the project Solution: Elaboration of terms of reference for the technical – economical documents and immediate organization of consultant procurement Barrier no. 2: Reduced time for the implementation of projects Solution: Dividing the railway works into sections of approximately 50-100 km Barrier no. 3: Organizing the public procurement for the works Solution: Elaboration of procurement documents and implementation of procedure through specialized consultancy Barrier no.4: Constructors' poor technical capacity for performing the railway works Solution: Setting criteria for the selection of constructors able to prove that they have the necessary resources for performing the works Barrier no.5: Reduced administrative capacity of the beneficiaries Solution: Procurement of consultancy services for experts specialized in project implementation</p>
Transport	Cooridors and mission links	public	Closing the gap in the road connection corridor between the Black Sea and the northern part of the continent and between the Port of Constanta / Romanian Black Sea coast and Moldavia, Rep. Moldova and Ukraine through the construction of the Danube road bridge at Braila - Galati. (Annex 1)	MT / CNADNR	The road bridge links Constanta Port with the IXth Pan European Corridor, through the connection between the Expressway Constanta – Tulcea – Braila and the Expressways Braila – Buzau and Braila – Focsani which are situated on the TEN-T Comprehensive network. The bridge will have 4 traffic lanes on a length of 2500 m, with a span of 1500 m over the Danube.	Yes	Feasibility study prepared for the construction of the bridge	496	496	<p>Barrier no.1: Organizing the public procurement for works Solution: Elaboration of procurement documents and implementation of procedure through specialized consultancy Barrier no. 2: Constructors' poor technical capacity for performing the railway works Solution: Setting criteria for the selection of constructors able to prove that they have the necessary resources for performing the works Barrier no. 3: Reduced administrative capacity of the beneficiaries Solution: Procurement of consultancy services for experts specialized in project implementation</p>

Transport	Cooridors and mission links	public	Increasing the mobility of the population and business environment between the TEN – T networks of Romania and neighboring states by construction of connecting road bridges over natural boundaries (Danube, Tisza and Prut), located as follows: Turmu Magurele - Nicopole, Calarasi - Siliistra, Ungheni, Sighet Marmatiei. (Annex 1)	MT / CNADNR	The proposed road bridges facilitate the road mobility of people and goods between neighbouring countries, connecting the TEN-T Networks.	Yes	Pre-feasibility study has been elaborated Preparation of feasibility study	1500	1500	Barrier no.1: Reduced time for the elaboration of technical – economical documents necessary for the implementation of the project Solution: Elaboration of terms of reference for the technical – economical documents and organizing of specialized consultancy procurement. Barrier no.2: Organizing the public procurement for works Solution: Elaboration of procurement documents and implementation of procedure through specialized consultancy Barrier no.3: Constructors' poor technical capacity for performing the railway works Solution: Setting criteria for the selection of constructors able to prove that they have the necessary resources for performing the works Barrier no.4: Reduced administrative capacity of the beneficiaries Solution: Procurement of consultancy services for experts specialized in project implementation
Transport	Cooridors and mission links	public	Improvement of navigation conditions on the Danube by increasing the number of navigable days on the common Romanian – Bulgarian sector. (Annex 3)	MT/ ACN	The Danube is part of the XIth Pan European Corridor which connects the Black Sea with the North Sea through the Main and Rhine waterways. Navigation on the Danube is affected by clogging as well as low water depth or frost. The conditions will be improved by dredging the waterway as well as by the procurement of icebreaker ships.	Yes	Feasibility study for the project	207	207	Barrier no. 1: Long period of time in organizing the procurement procedure for attributing the works contract Solution: Elaboration of the public procurement documentation and implementation of the procedure by the use of contracted experts Barrier no.2: Constructors' poor technical capacity for performing the railway works Solution: Setting criteria for the selection of constructors able to prove that they have the necessary resources for performing the works Barrier no.3: Reduced administrative capacity of the beneficiaries Solution: Procurement of consultancy services for experts specialized in project implementation.
Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Vrancea county	S.C. Compania de Utilități Publice Focșani S.A.	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	On-going technical assistance for the preparation of the Financing Application and Tender Documents.	94.76	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged
Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Valea Jiului region (Hunedoara county)	S.C. Apa Serv Valea Jiului S.A.	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	On-going technical assistance for the preparation of the Financing Application and Tender Documents.	58.09	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged
Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Turda- Cămpia Turzii region	S.C. Compania de Apă Arieș S.A.	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	On-going technical assistance for the preparation of the Financing Application and Tender Documents.	70.7	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged
Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Teleorman county	S.C. Apă Canal Alexandria S.A	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	Technical assistance for the preparation of the Financing Application and Tender Documents to be started in 2015.	108.84	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged
Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Galați county	S.C. Apă Canal S.A. Galați	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	Technical assistance for the preparation of the Financing Application and Tender Documents to be started in 2015.	78.77	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged
Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Iasi county	S.C. Apavital Iași S.A.	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	Technical assistance for the preparation of the Financing Application and Tender Documents to be started in 2015.	195.45	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged
Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Dolj county	S.C. Compania de Apă Oltenia S.A.	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	Technical assistance for the preparation of the Financing Application and Tender Documents to be started in 2015.	254.54	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged
Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Dâmbovița county	S.C. Compania de Apă Târgoviște - Dâmbovița S.A.	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	Technical assistance for the preparation of the Financing Application and Tender Documents to be started in 2015.	144.56	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged
Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Olt county	S.C. Compania de Apă Olt S.A.	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	Technical assistance for the preparation of the Financing Application and Tender Documents to be started in 2015.	133.1	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged

Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Bihor county	Compania de Apă Oradea	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	Technical assistance for the preparation of the Financing Application and Tender Documents to be started in 2015.	74.76	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged
Resources and environment	Natural resources: efficient and secure availability	Public	Regional project for the development of water and wastewater infrastructure in Vaslui county	S.C. AQUAVAS S.A.	Extension/rehabilitation of water and wastewater networks, construction/extension of water and wastewater treatment plants, pumping stations, equipments.	Included in the Master Plan of the county	Technical assistance for the preparation of the Financing Application and Tender Documents to be started in 2015.	161.45	-	Insufficient funds available through Operational Programme to support all the investments/Other financing sources to be envisaged
Resources and environment	Natural resources: efficient and secure availability	Public	Completion of Giina wastewater treatment plant, rehabilitation of main sewerage collectors and of Dambovită water main (Caseta) in Bucharest	Bucharest City Hall	Completion of Giina wastewater treatment plant, rehabilitation of main sewerage collectors and of Dambovită water main (Caseta) in Bucharest municipality	Included in the Master Plan of the county	Supporting documents of the Financing Application under revision	158.5		
PRIORITIES										
Social Infrastructure	Education and training	Public	Education, research, conference and accommodation spaces; International Conference Center in Constanța, FN3 Bucovinei str., plot 1, Constanța county	Ministry of National Education/ National School of Political and Administrative Studies	In order to facilitate the preparation of students from the provinces, NSPAS has created territorial centers which carry out their activity in areas more or less compliant with the activity of a higher and research-based education, which it does not own and burden the university's funds. In Constanța municipality, the university holds a land area, under ownership, where one could build a premises with the above functions. Considering the dynamics of this center, by increasing the number of programs and the number of students, as well as the fact that there is available land, there are grounds to erect a building which would host those spaces required to carry out specific higher education and research activities. This building would benefit from a triple purpose, serving the Constanța Territorial Center, but also operating as a NSPAS regional research and conference center. The Research and Conference Center shall be used during the entire year for research activities involving academia, Ph.D. students, MA students and regular students. In addition to these, it shall organize activities such as: science communication sessions, national and international conferences, themed summer/winter schools. The building shall host accommodation and cafeteria areas.	Yes	A feasibility study exists	8.45	8.45	The regularity of funding assurances; Changes subsequently occurred in the systematic planning of the area influencing the investment site and requiring modifications in its layout; Legislative changes on investment funding and execution.
Social Infrastructure	Education and training	Public	Consolidation and extension of education and research premises in Bucharest, 6 Povernei Str., district 1	Ministry of National Education/ National School of Political and Administrative Studies	The building no longer ensures operational safety on A1 and A2 sections, as was ascertained by the competent institutions according to Laws 10/1995 and 50/1991. In this case, sections A1 and A2 must be urgently reinforced. In accordance with the feasibility study, provisions also include the extension of the building hosting sections B1 and B2 so that all the academic activities may be performed.	No	A pre-feasibility study exists	6.8330	6.8330	The regularity of funding assurances; Legislative changes on investment funding and execution, as well as the achievement of investments in the vicinity of monuments.
Social Infrastructure	Education and training	Public	Sports Hall Building and Swimming Pool, University campus, Pantelimon town, no 25 Biruinței Blvd., Ilfov County	Ministry of National Education/ National School of Political and Administrative Studies	The educational process also includes attending sports classes. The university does not possess a sports base for either carrying out the sports-related didactic process or having the students practice leisure sports. The campus comprises the land required to erect a sports and a professional swimming pool to host the learning process and the harmonious development of the youth attending the NSPAS academic courses.	No	There is a case study and the approval of NSPAS management	0.362	0.362	The regularity of funding assurances; Legislative changes on investment funding and execution.
Social Infrastructure	Education and training	PUBLIC	EXTENSION-MODERNIZATION OF TJCN build, 15 C Daicoviciu str.	Technical University of Cluj-Napoca	building wing with a height regime 2B(basement levels)+GF(ground floor)+2S(storeys)+RF(receding floor), intended for Education and administration spaces. Spaces shall be created for seminar halls, laboratories, classrooms, offices for the academia, administrative spaces, business and public food service spaces, whereas the two basements shall be fitted for the archive. The built area shall be 220 sm and the developed built area shall be 1485 sm	No	design	0.922	0.922	lack of funding from own sources/ request of community funds and a close supervision and coordination of their use

Social Infrastructure	Education and training	PUBLIC	Multipurpose building in Cluj Napoca, 2 Observator str.	Technical University of Cluj-Napoca	Educational building with a height regime SB(semi-basement)+GF+6S, the built area shall be 1100 sm, the developed built area will be around 8800 sm <ul style="list-style-type: none"> the semi-basement houses the power plant, halls for multiplication, printing works and UTC-N archive issues the ground floor houses the library and the reading hall, the technical books library and the academic records archive the 1st floor has two amphitheatres with 200 seats each, bathrooms, two staircases, the elevator shaft the 2nd floor has 2 conference halls with 200 seats each, bathrooms, two staircases, the elevator shaft the 3rd and the 4th floors host the offices of Ph.D students, research laboratories the 5th and the 6th floors host seminar halls and didactic laboratories 	No	design	2.95	2.95	lack of funding from own sources/ request of community funds and a close supervision and coordination of their use
Social Infrastructure	Education and training	PUBLIC	CONFERENCE AND EXHIBITION MINIHALL in Cluj Napoca, 28-30 Rene Descartes str.	Technical University of Cluj- Napoca	Building with a height regime GF+1S and the following characteristics: <ul style="list-style-type: none"> the ground floor houses a 120-seat conference room, lounge, staircase, bathroom the 1st floor hosts an exhibition area, bathrooms, the staircase The built areas shall be 200 sm, the developed built area shall be around 400 sm, and the Building shall comply with the norms by employing facilities for people with disabilities.	No	design	0.55	0.55	lack of funding from own sources/ request of community funds and a close supervision and coordination of their use
Social Infrastructure	Education and training	Public	The Faculty of Geography building	BabeşBolyai University of Cluj-Napoca	The future monoblock wing shall have a height regime of 2B+GF+2S. One of the main goals is ensuring the space necessary to refit the library as per the regulations in force: reading halls, book warehouse, rare book warehouse, a hall where maps and periodicals may be referred to. Theoretical courses are reserved the theatre, 8 course classes, a multimedia hall, test paper halls, seminars, offices for the academia. The building system has insulated reinforced concrete foundations under the pillars, reinforced concrete strip foundation, reinforced concrete frames + diaphragms, partition walls made of ACC or similar materials (Yong), terrace roof. The developed area of the new building is set to 3585.6 sm.	Yes	drawn	2.5580	2.558	
Social Infrastructure	Education and training	Public	The Faculty of European Studies and the Theatre and Television Faculty	BabeşBolyai University of Cluj-Napoca	The new extension building of the Faculty of European Studies shall have a height regime of 2B+GF+3S, the two basements shall host warehouses/technical room, the lower one also operating as a civil protection shelter. The ground floor houses the coffee shop with the related extensions. Each of the 3 floors shall have one classroom, bathrooms and hallways. The extension building of the Theatre Faculty shall have a height regime of B+GF+1S+R2F(receding 2nd floor). The basement shall host the space required to preserve and display the stronghold wall. Next to it there shall be a warehouse, a civil protection shelter, related spaces and performance halls, a carpenter's and a mechanic's workshop, the technical room and a secondary staircase. The ground floor shall host the performance hall, whose height shall cover two floors. At the 1st floor – the technical cabin reserved for the performance hall, which is reached via a catwalk that perimetally surrounds the lounge. In the opposite corner – a classroom. At the 2nd receding floor there shall be a coffee shop cu extensions. One shall place in the receded area a photo studio and a video studio. The recess at the 2nd floor shall house offices and bathrooms. The total developed	Yes	drawn	3.552	3.552	
Social Infrastructure	Education and training	Public	The simulation and clinical skills centre of MPU Craiova	Medicine and Pharmacy University of Craiova	The project aims at achieving a material base designed to implement a new study concept dedicated to the students and residents' acquiring the practical clinical skills necessary to ensure a smooth transition towards the European healthcare labour market. The healthcare services system shall benefit from human resources with solid practical training since as early as their studentship, the wish here being to lower the risk of occurring medical errors during the graduates' first years of employment with various European healthcare systems (considering the elevated mobility rate of young physicians).	No	Project	6	6	The necessity that MPU Craiova enter among medical higher education institutions whose learning is focused on the students and the practical these have acquired. Students will have access to a perfectly simulated hospital outpatient, both in terms of layout, as well as the inclusion of intensive care and emergency medicine and, following the activities to be carried out, they shall increase their practical training level, in accordance with the European standards. Additionally, residents and young academia shall benefit from the new infrastructure, thus a bridge being created between the theoretical and the practical training.
Social Infrastructure	Education and training	Public	Modernisation of C2 Hostel - UASVM Iaşi	University of Agricultural Sciences and Veterinary	The restoration of operational capacities as a result of the new sanitary norms	Yes	Elaboration of FS and TP in 2015, the works may commence in 2016	2	1	The risks which might occur during project implementation can be both financial and technical in nature
Social Infrastructure	Education and training	Public	Modernisation of A4 Hostel - UASVM Iaşi	University of Agricultural Sciences and Veterinary	The restoration of operational capacities as a result of the new sanitary norms	Yes	Elaboration of FS and TP in 2015-2016, the works may commence in 2017	2	1	The risks which might occur during project implementation can be both financial and technical in nature
Social Infrastructure	Education and training	Public	Modernisation and overhaul of veterinarian clinics (p2, p3, p4, p5, p6, p7)	University of Agricultural Sciences and Veterinary	The necessity of creating a new flow and a new functionality imposed by the necessity of accrediting the Faculty of Veterinary Medicine	Yes	Elaboration of FS and TP in 2015, the works may commence in 2016	5	2	The risks which might occur during project implementation can be both financial and technical in nature

Social Infrastructure	Education and training	Privat / Public	"Gr. T. Popa" Iași University Museum, with adequate presentation areas and underground parking	Medicine and Pharmacy University of Iași	Underground parking areas spread over two levels for around 230 cars Cultural premises with luminary areas covering around 1000 sm. Exhibition areas and cafeteria available to students	Yes	FS has been contracted - in progress	9.637	6.465	
Social Infrastructure	Education and training	Privat / Public	The Fundamental Skills Center MPU Iași	Medicine and Pharmacy University of Iași	The centre for increasing the students' practical training level in the use of specific outpatient instruments	Yes	FS has been contracted - in progress	1.523	1.523	
Social Infrastructure	Education and training	Privat / Public	Extension of "Gr. T. Popa" Iași University Library	Medicine and Pharmacy University of Iași	Doubling the capacity of study halls, increasing the storage capacity of library stocks and encouraging the use of said library stocks in printed format	Yes	investment approved in the university's strategic plan	1.137	1.137	
Social Infrastructure	Education and training	Privat / Public	"1 Decembrie 1918" Medical Recovery and Physical Education Center - MPU Iași	Medicine and Pharmacy University of Iași	The practical training clinical base for students enrolled in the balneo-physio-kinotherapy specialization	Yes	FS has been contracted - in progress	2.506	2.506	
Social Infrastructure	Education and training	Privat / Public	Stomatological Hospital MPU "Gr. T. Popa" Iași	Medicine and Pharmacy University of Iași	The clinical base fitted to European standards, designed to be the launch platform of future doctor of dental surgery	Yes	Ongoing project	3.580	3.580	
Social Infrastructure	Education and training	Privat / Public	"Gr. T. Popa" University Campus	Medicine and Pharmacy University of Iași	Diminishing the issues related to the insufficient number of accommodation spaces	Yes	investment approved in the university's strategic plan	7.47	0.2567	
Social Infrastructure	Education and training	Privat / Public	Modern Languages Center "Gr. T. Popa" Iași University	Medicine and Pharmacy University of Iași	The creation of a centre in which foreign students are to study Romanian, and Romanian students English, French and German	Yes	ongoing procurement procedure for the execution of the works	1.865	1.865	
Social Infrastructure	Education and training	Privat / Public	Conference Center "Gr. T. Popa" Iași University	Medicine and Pharmacy University of Iași	The construction of a multipurpose complex with an exhibition area and a conference hall with 1000 seats, an area covered by hotels and an area with open service restaurants	Yes	investment approved in the university's strategic plan	9.875	2.546	
Social Infrastructure	Education and training	Privat / Public	Methodical and didactic spaces by means of overhauling the Main Body of MPU Iași	Medicine and Pharmacy University of Iași	Acquiring optimal capacity for the laboratory and practical works areas and ensuring the quality of the educational and medical activities	Yes	ongoing procurement procedure for the execution of the works	3.016	3.016	
Social Infrastructure	Education and training	Privat / Public	Assessment and Examination Centre "Gr. T. Popa" Iași University	Medicine and Pharmacy University of Iași	Increasing the quality of the assessment process and carrying it out under a maximum objectivity environment	Yes	investment approved in the university's strategic plan	2.455	2.455	
Social Infrastructure	Education and training	Privat / Public	E1 Hostel MPU Iași	Medicine and Pharmacy University of Iași	Rehabilitation and repartitioning of accommodation spaces	Yes	There are a project and a building permit	1.478	1.478	
Social Infrastructure	Education and training	Privat / Public	1 Mai A Hostel MPU Iași	Medicine and Pharmacy University of Iași	Rehabilitation, consolidation, repartitioning and garret works	Yes	Ongoing project	1.478	1.478	
Social Infrastructure	Education and training	Privat / Public	1 Decembrie Hostel - wing 9 MPU Iași	Medicine and Pharmacy University of Iași	Rehabilitation, consolidation, repartitioning and garretworks	Yes	Ongoing project	1.478	1.478	
Social Infrastructure	Education and training	Privat / Public	C9 Physicians' hostel MPU Iași	Medicine and Pharmacy University of Iași	Rehabilitation, repartitioning of accommodation spaces	Yes	There are a project and a building permit	1.478	1.478	
Social Infrastructure	Education and training	Public	Building rehabilitation/consolidation/modernisation. The premises at 29 Cuza Vodă str., Iași	University of Arts Iași	The works consist in reinforcing supporting structures, rehabilitating and modernising study areas	Yes	FS and TP may be elaborated in 2015, the works may commence in 2016	4.50	4.50	The risks which might occur during project implementation can be both financial and technical in nature.
Social Infrastructure	Education and training	public	Modernisation and extension of Sports Base no. 1	Poliitehnică University Timișoara	Improvement of sport center no 1 (handbal, football, parking)	Yes	Pre-feasibility study	3.201	3.201	Lack of funding
Social Infrastructure	Education and training	public	Erection of a car garage and storage and administrative spaces	Univ. Politehnica Timișoara	Car garage, storage spaces, administrative spaces	Yes	Feasibility study	0.567	0.567	Lack of funding

Social Infrastructure	Education and training	Public	Foundation of the National Center of Excellence - Differentiated and Specialized Training - Valcea	MEN	The building no longer ensures operational safety on A1 and A2 sections, as was ascertained by the competent institutions according to Laws 10/1995 and 50/1991. In this case, sections A1 and A2 must be urgently reinforced. In accordance with the feasibility study, provisions also include the extension of the building hosting sections B1 and B2 so that all the academic activities may be performed.	No	Intention	50	50	Lack of funding
Social Infrastructure	Education and training	Public	Land-based education, providing a chance to many young people	MEN	Revitalization of 12 land-based high schools, from different development regions, from different landforms and from areas with different agricultural particularities. Such revitalization would involve, in addition to creating modern learning conditions (mending and refitting study areas, hostels, cafeteria, as the case may be), especially the purchase of specialization-specific agricultural equipment and machinery, both for carrying out training stages, as well as for one's own production.	No	Intention	50	50	The risk of investing in educational units which might have difficulties reaching the number of student places - solution: financial support during study years, and after graduation, so that students choosing these high schools may find employment
Social Infrastructure	Education and training	Public	Didactic and conference spaces within the premises	Medicine and Pharmacy University of Tg.Mures	Increasing the educational and the research results dissemination capacities by erecting a building with didactic areas and conference rooms. Such an investment could soon become the center of meetings and debates with educational and medical purposes, thus contributing to a better visibility of the Romanian education and research in the world and the development of international collaborations to a truly competitive level.	No	F.S.	4.34	4.34	Lack of funding
Social Infrastructure	Education and training	Public	Accommodation spaces within the premises of MPU Tg.Mures	Medicine and Pharmacy University of Tg.Mures	The increase of life quality for the persons involved in the educational process, respectively, regular students, Ph.D. students, resident physicians and researches by reducing the accommodation space deficit and improving dwelling conditions. The construction of a university hostel in this area would have the following advantages: - placement of the accommodation areas within the University campus premises where the didactic and research activity takes place. - the existence in the area of an institution micro-cafeteria. - the existence of sports fields - the assurance of all necessary conditions for carrying out educational activities. - the existence abroad of the conditions required by educational activities - the existence of all the necessary conditions for educational activities. - the existence of the County Emergency Clinical Hospital in the vicinity	No	F.S.	3.9	3.9	Lack of funding
Social Infrastructure	Education and training/Universities	Public	Central University Library, Biblioteca Centrala Universitara, 23, Marinescu St., 4-6 Pasteur St.	Ministry of National Education	Due to the existing narrow premises, and to the fact that the activity is split into several locations, the desire is to have a new building which would provide the necessary environment to access, use and preserve the pool of books.	Yes	2015-2016 elaboration of SF and PT Building of objective may start in 2017	5.5	3.5	Potential risks include financial and technical risks: financial risks consist in the financing being delayed or suspended, which would require finding other sources of funds, including own sources, to prevent the interruption in execution. Technical risks, such as design errors or delays in obtaining authorizations or permits, which could be managed by selecting consulting teams with expertise in this field which can check the documents and select suppliers/implementors with a technical and financial potential so that the services/works may be at the required standards. A close cooperation of the management team with the representatives of IB, the ministries in charge of providing
Social Infrastructure	Education and training/Universities	Public	Amfithatre Building, 8 V. Babes St. (Cluj)	Ministry of National Education	Improve the education infrastructure by creating new education halls is a must. Given that the number of UMF students is growing, the existing halls are insufficient.	Yes	2015-2016 elaboration of SF and PT Building of objective may start in 2017	12	3	Potential risks include financial and technical risks: financial risks consist in the financing being delayed or suspended, which would require finding other sources of funds, including own sources, to prevent the interruption in execution. Technical risks, such as design errors or delays in obtaining authorizations or permits, which could be managed by selecting consulting teams with expertise in this field which can check the documents and select suppliers/implementors with a technical and financial potential so that the services/works may be at the required standards. A close cooperation of the management team with the representatives of IB, the ministries in charge of providing
Social Infrastructure	Education and training	Public /Private	Training Centre for Children and Young People in the town of Gropni	Ministry of Regional Development and Public Administration	The completion stage of the training centre started in 2010		The project has been frozen due to the lack of funds from the state budget	10.00	6.00	Project to be transferred from under the authority of SNN to the Ministry of Development, as the project is not specific to the SNN line of business
Social Infrastructure	Built environment and urban services	Public	National Center for Improving the protection and conservation of genetic resources of freshwater aquaculture.	RSFD Nucet	The Center aims to develop breeding programs, protection and conservation of genetic resources for both the crop species and the rare species, threatened and endangered. Carried out specialized labs for investigations and specific facilities to ensure reproduction and growth controlled progenies maintaining genetic purity. Designing modernization of existing capacities within the unit for fish reproduction and selection in order to achieve agreement with the built in project activities and EU requirements. Realization of the project will ensure necessary biological material popular fish aquaculture development and maintaining biodiversity in natural and artificial ecosystems.	No	Proposal	1.5	1	Insufficient funds / Acceptance to finance an objective of national and European interest that contribute to increasing the competitiveness of the fisheries sector.
Social Infrastructure	Built environment and urban services	Public	Mass engraftment complex for nucifers	Ministry of Agriculture and Rural Development	Construction of a hall with 4 compartments used as CA storage cells, other storage and sorting rooms. Se urmărește obținerea pomilor de nuc altoit, deficitar pe piața europeană.	No	Provide the material needed to establish the nucifers plantations, with new homologated species	0.78	0.78	Insufficient funds/ Sale market and high demand for seeding material

Social Infrastructure	Built environment and urban services	Public	Pilot regional center of relaunching mountain economy (agro-silvo-pastoral) according to the E.U. requests	ICDM Cristian-Sibiu	<p>1. Designing, modernising the existant capacities within our unit, having in view the achievement of the frame built in accordance with the activities of the project and the requirements of the E.U.</p> <p>2. Acquiring valuable genetic material (vegetal and animal) having in view the establishment of a bank of vegetal and animal genetic resources for the mountain area.</p> <p>3. Conservation of the biodiversity of the mountainous environment and protection of the environment by applying good practice.</p> <p>4. Applying some innovative technologies and processes in order to obtain high quality mountainous products, in accordance with the European Carta of High Quality Mountainous Products</p> <p>5. Promoting a net of valuing the mountainous products by developing new instruments and by the integration into the unique market.</p> <p>6. Developing the human capital by creating new working places in</p>	No	2015-2018	1	1	Changes of the law and of the organisation, absence of financing/ norms which are supposed to support the financing of the research.
Social Infrastructure	Built environment and urban services	Public	Excellence Center for horticultural resources management regarding the climatic changing within S- E Europe	ICDMPH Horting București	<p>The project follows the development of a performing center regarding the researches for monitoring, analyzing and solution development for decreasing effects of climatic changings of horticultural sector from S-E Europe for increasing the alimentary safety and security of area The propused project creates by modernizing, endowment and infrastructure development a integrated researching platform, consisted from two laboratories able to develop new technologies in production-consumer branch for horticultural products, completing with a biochemical and microbiological laboratory, which realize with accuracy measurements for alimentary safety of fresh and processed horticultural products and experimental identification for new active biochemical compounds.</p> <p>Quantifiable results will be:</p> <ul style="list-style-type: none"> -decreasing the climatic effects; - decreasing the energetic consumption; - decreasing the morbidity of population and increasing the life hope -increasing the research and development capacity regarding the integration in high scientific level consortia for development of specific UE policies 	No	In patrimony of the institute exists the necessary infrastructure for development of the project during the 2015 – 2017 period when the project can became operational from 2018	5	5	<p>Financial risks: This category includes the risks related to lack of cash at payment time for the suppliers / This type of risk can be totally decreased by elaboration of adequate strategies for acquisition contract and exact estimation of financial plan of investment.</p> <p>Economical risks: The main risk category is the inflation/ This risk is medium and for this the working costs and the future incomes was estimate in EURO.</p> <p>Human risk: In research field the human resource is the determination factor for the quality of results.</p> <p>Human risk includes : Difficulty/impossibility regarding the qualified personnel hiring for research activity (legislative restriction and poor pay for young researchers)/ Hugh personnel fluctuation/ This risk type is major and will be decreased by adequate politics of recruitment and a motivating salary</p>
Social Infrastructure	Built environment and urban services	Public	Consolidation of Administrative building of Academy for Agriculture and Forestry Sciences	Academy for Agriculture and Forestry Sciences	Strengthening administrative building (Heritage Site) whose resistance structure was affected by successive earthquakes in 1940, 1977, 1990	No	Proposal	6	2.5	<p>Barriers: Lack of funding</p> <p>Solution: Structural and national funds</p>
Social Infrastructure	Other	Public	Capacity building for reducing response time and increasing resilience in emergency situation	Ministry of Internal Affairs	Infrastructure	No	The project will be applied to be funded from FESI	116	100	The project will be financed only if the management authority agrees the project
Social Infrastructure	Health	Public	Modernizing MAI health	Ministry of Internal Affairs	Infrastructure	No	The project will be applied to be funded from FESI	19	10	The project will be financed only if the management authority agrees the project
Social Infrastructure	Health	Public	Modernization of health by equipping with diagnostic equipment and treatment of high performance	Ministry of Internal Affairs	Infrastructure	No	The project will be applied to be funded from FESI	18	10	The project will be financed only if the management authority agrees the project
Social Infrastructure	Health	Public	Modernization of health by equipping with diagnostic equipment and treatment of high performance	Ministry of Internal Affairs	Infrastructure	No	The project will be applied to be funded from FESI	20	10	The project will be financed only if the management authority agrees the project
Social Infrastructure	Education and training	Public	Modernization and development of Police Academy for providing higher education according European standards (upgrading accommodation, sports, shooting range)	Ministry of Internal Affairs	Infrastructure	No	The project will be applied to be funded from FESI	12	1	The project will be financed only if the management authority agrees the project
Social Infrastructure	Education and training	Public	Modernization and development of ISOP in order to ensure continuous training according European	Ministry of Internal Affairs	Infrastructure	No	The project will be applied to be funded from FESI	10	1	The project will be financed only if the management authority agrees the project
Social Infrastructure	Education and training	Public	Modernization school by developing the training Centre	Ministry of Internal Affairs	Infrastructure	No	The project will be applied to be funded from FESI	10	1	The project will be financed only if the management authority agrees the project
Social Infrastructure	Built environment	Public	Restoration of historic buildings under the	Ministry of Internal Affairs	Developing the infrastructures	No	The project will be applied to be funded from FESI	11	5	The project will be financed only if the management authority agrees the project

Social Infrastructure	Built environment and urban services	Public	The objective is the consolidation, restoration and improvement of the functionality of The National History Museum of Romania	Ministry of Culture - Project Management Unit	The works to be performed on the building of the National History Museum of Romania are complex and will result in the creation of a modern European space, adequate to its assigned role of depositary of our country's cultural heritage. In a nutshell, these works include: building consolidation; waterproofing renewal and internal and external aeration of the foundation; restoration of façades and interiors; replacement of the exterior carpentry, partial replacement or restoration of the interior carpentry; renewal of the floors; replacement and modernization of electrical installations (normal lighting and plugs, safety lighting, façade lighting); replacement and modernization of sanitary installations; replacement and modernization of fire warning and theft proof installations; replacement and modernization of air conditioning and ventilation installations; endowment; heating station, electric generator set, house water supply plant, air conditioning chillers, general electric board. In addition of these works necessary for the rehabilitation of the building of The National History Museum of Romanian, such building also requires specific works for the arrangement of the museum's storage, exhibition and administrative spaces, so that such spaces, of the spaces meant for heritage storage, furniture - storage shelves and display stands for exhibit presentation, etc., furniture and equipment necessary to the laboratories for the preservation and restoration of the cultural heritage etc.)	No	Pre-feasibility study	40	20	The Project Management Unit already established in the Ministry of Culture will coordinate and implement all the necessary activities within this project.
Social Infrastructure	Built environment and urban services	Public	The objective is the consolidation, restoration and functionality enhancement of The National Theatre „Lucian Blaga”	Ministry of Culture - Project Management Unit	The works intends to be an aesthetical and functional reconsideration of the entire edifice. The facades will be renewed using the initial solution to apply artistic components cast in moulds or drawn at the working bench and fixed on the walls. The capacity of certain rehearsal rooms will be increased according to the real necessary of air and natural light. The sanitary groups will be reconsidered, both in the public area, and in the area of the technical and artistic staff. Also, the heating installation will be functionally structured by changing the location of the heating station. The area destined to the public will benefit from hot air heating, and there will be an increase in the capacity to handle the heating agent in the rehearsal or administrative spaces, by means of distributing frames on separate circuits. The number of the production spaces will increase by giving up certain storage spaces and by creating rehearsal rooms. The visibility curve of the auditorium will be modified. The building will be updated according to the requirements of the firefighting norms (the actual wooden roof structure will be replaced by a metallic structure and an own water resource will be created - underground water tank).	No	The existing project needs to be updated	20	20	The Project Management Unit already established in the Ministry of Culture will coordinate and implement all the necessary activities within this project.
Social Infrastructure	Built environment and urban services	Public	The rehabilitation of the main 30 cinema halls in Romania	Ministry of Culture - Project Management Unit	The cinema halls in Romania are at the moment coordinated by a body underneath the Ministry of Culture. Most of them are old building, some are historical monuments, the majority are located in the centre of the biggest cities in Romania. Most of the cinema halls are not adequate for film projection and they are needed because many cities in Romania lack a cinema hall. For the most part, investments will focus on improving the structural stability of the buildings and modernising their installations and equipment in order to provide satisfactory and safe operation conditions of the venues and ensure comfort (lighting, sound, ventilation, sanitation etc.) and security (access, including for disabled, fire protection) for the audience and the administration. Depending on the edifice concerned, original functional and aesthetic qualities may be restored or updated, additional construction done and interiors refurbished accordingly. All envisaged investment for structural consolidation and modernisation of installations and equipment will comply with current technical norms and standards - in particular those for public assembly buildings - and for construction in earthquake prone areas. In addition to the above, the project will finance the update or elaboration of feasibility studies, technical design, supervision of works, authorizations and permits and the provision of equipment of goods, as well as project administration cost (such as staff salaries and consultants fees, supplies, goods and equipment, communications and travel costs etc.)	No	Pre-feasibility study ongoing	300	100	The Project Management Unit already established in the Ministry of Culture will coordinate and implement all the necessary activities within this project.
Social Infrastructure	Built environment and urban services	Public	Restoration, conservation and valorization of the historic monument building "Tobacco Warehouse – Cigarette Factory in Iasi" in order to found the Museum of Industrial Archaeology of	Ministry of Culture	The project intends to save from destruction an industrial heritage building on the site of the Cigarette Factory, found on the List of historic monuments at the position 1140 IS-II-m-B-03953 and its transformation into the first Romanian Museum of Industrial Archaeology	No	Making the necessary preparations and initiating the works in 2015 and finalizing the project in 2018	6	6	The Project Management Unit already established in the Ministry of Culture will coordinate and implement all the necessary activities within this project.

Social Infrastructure	Built environment and urban services	Public	The "Prison of silence" Memorial in Râmnicu Sărat and the Educational Center on communism in Romania	The Institute for the Investigation of Communism Crimes and Memory of the Romanian Exile	IICCMRE aims to transform a former place of isolation into one of reflection about the criminal nature of Communism. The "Prison of silence" Memorial in Râmnicu Sărat consist of the restoration of the prison and its opening to the public, setting up exhibition spaces inside the prison to commemorate the personalities imprisoned here. The Educational Center on Communism in Romania is a permanent exhibition space inside the former prison in Râmnicu Sărat	No	Planning	6	6	Obtaining the funds
Social Infrastructure	Built environment and urban services/Education and training	Public	Business Incubator Program	Department for SMEs, Business environment and tourism	Establishing and development of incubators centers	Yes		50	50	The main barrier is financing. Solution is finding sources of financing.
Social Infrastructure	Health	Public	Extension of the oncology units with radiotherapy wards from the Emergency University Hospital Bucharest	Ministry of Health	Oncology units of the hospital will be extended with a new radiotherapy ward built between two wings of the buildings partially underground. The technic- economic indicators approved.	Yes	The technical design required to obtain the construction permits is under preparation and it will be followed by the launching the procurement for the works execution. The works are expected to start in 2015 and completed within 24 months subject to getting	34	34	Lipsa finantare
Social Infrastructure	Health	Public	Demolishing of the existing zoo base and in its place build of a hematology building - Oncology Institute (Prof. Dr.Ion Chiricuta-Cluj Napoca)	Ministry of Health	The building of the Hematology Ward on the same site of Zoobase	Yes	Technic – economic indicators are under approval. The works are expected to start in 2015 and to be completed within 36 months, subject to getting financing.	7	7	
Social Infrastructure	Health	Public	Emergency regional hospital Cluj	Ministry of Health	The hospital will provide medical care for the Cluj county, as well as the neighbour counties, and will host the activity of the current Emergency County Hospital (multi block buildings).	Yes	These are included in the Partnership Agreement 2014 – 2020 under Regional Operational Programme 2014 – 2020, Tematic Objective 9- Promote the social inclusion and poverty mitigation, Axis 8 – Health and social Infrastructure, financing for the entire axis amounting to EUR 400	200	200	
Social Infrastructure	Health	Public	Emergency regional hospital Iasi	Ministry of Health	The hospital will provide medical care in Iasi county, as well as for the neighbour counties, and will host the activity of the current Emergency County Hospital (multi block buildings).	Yes		200	200	
Social Infrastructure	Health	Public	Emergency regional hospital Craiova	Ministry of Health	The hospital will provide medical care for Dolj county, as well as the neighbour counties, and will host the activity of the current Emergency County Hospital (the current building needs consolidation)	Yes		200	200	
Social Infrastructure	Health	Public	Regional Oncology Institute Timisoara	Ministry of Health	Establishment of the Regional Oncology Institute to provide specific medical care in the western region of the country	Yes	Technic – economic indicators are under approval. The works are expected to start in 2015 and to be completed within 36 months, subject to getting financing.	115	115	
Energy Union	Connections and production	Private	Refurbishment and modernization of Iernut power plant, Mures County	SNGN Romgaz SA	Replace the low power generation technology with a high co-generation technology, with a high power, taking into account the market conditions. The process involves building a new power unit with installed capacity of 400 MWe, equipping two generators with a capacity of 200 MWe, with the possibility for co-generation and resilient operation through an easy adjustment to the market needs.	Yes	The feasibility study was developed.	300.00	200.00	Need for market research, because of the low predictability in the electricity sector.
Energy Union	Connections and production	Private	Increase the storage capacity of the pit gas underground storage unit in Ghercesti, Dolj County	SNGN Romgaz SA	Improve the capacity of the storage unit from 150 mil. cm/cycle to 600 mil. cubic meters/cycle to secure the supply to household consumers, especially during peak consumption times. The works needed to reach this target are: build a compression station, interlinking with high pressure SNTs, gas treatment installations, a gas measurement unit and a SCADA system to transfer data and orders.	No	The feasibility study was developed.	140.00	140.00	Link to the investment policy of SNTGN TRANSGAZ SA in the area

Energy Union	Connections and production	Private	New thermal power production capacity based on natural gas within SE Craiova II stage CT black oil to provide the thermal power after the closure of MA 2014	Energy Complex Oltenia	Establishing of a database for National Fund of Geological data and Information from existing records and digital information on oil and gas and mineral resources (energetic and non-energetic), in an international standard open system, and support software	No	Develop the design documentation	25.60	14.50	Cash-flow deficit
Energy Union	Connections and production	Private	Limestone grinding plant	Energy Complex Oltenia	The investment is required to comply with the environment requirements of the European legislation	No	About to be initiated	20.00	20.00	Cash-flow deficit
Energy Union	Connections and production	Private	Jilt - Turceni Coal Conveyor Belt	Energy Complex Oltenia	The investment is required to comply with the European Community Energy Policy	No	About to be initiated	100.00	100.00	Cash-flow deficit
Energy Union	Connections and production	Private	Flue Gas Desulphurisation Plant - Power Unit No. 5 - S.E. Rovinari	Energy Complex Oltenia	The investment is required to comply with the environment requirements of the European legislation	No	In course of being started	41.00	41.00	Cash-flow deficit
Energy Union	Connections and production	Private	Rehabilitation and modernization of energy block 5 of 330 MW, on lignite - SE Rovinari	Energy Complex Oltenia	The investment is needed to comply with the environment requirements of the European legislation	Yes	Investment is underway	168.25	168.25	Cash-flow deficit
Energy Union	Connections and production	Private	NOx Reduction Plant at Power Units No. 4, 5 and 6 - S.E. Rovinari	Energy Complex Oltenia	The investment is needed to comply with the environment requirements of the European legislation	No	About to be initiated	26.50	26.50	Cash-flow deficit
Energy Union	Connections and production	Private	Rehabilitation and Modernisation of Power Units No. 3 and 6, 330 MW - S.E. Turceni	Energy Complex Oltenia	The investment is needed to comply with the environment requirements of the European legislation	No	About to be initiated	446.35	446.35	Cash-flow deficit
Energy Union	Connections and production	Private	Reduction of nitrogen oxide emissions at 1035 t/h Boilers No. 3, 4 and 5 - S.E. Turceni	Energy Complex Oltenia SA	The investment is needed to comply with the environment requirements of the European legislation	No	About to be initiated	26.90	26.90	Cash-flow deficit
Energy Union	Connections and production	Private	Rehabilitation and modernization of energy block 7 lignite SE Turceni	Energy Complex Oltenia SA	The investment is needed to comply with the environment requirements of the European legislation	Yes	Investment is underway	32.35	25.15	Cash-flow deficit
Energy Union	Connections and production	Private	Reduce NOx emissions at blocks 7 and 8, SE Işalnița	Energy Complex Oltenia SA	The investment is needed to comply with the environment requirements of the European legislation	No	About to be initiated	26.00	26.00	Cash-flow deficit
Energy Union	Connections and production	Private	Modernize the system used to reduce nitrogen oxides emissions (NOx) SE Craiova II	Energy Complex Oltenia SA	The investment is needed to comply with the environment requirements of the European legislation	No	About to be initiated	10.00	10.00	Cash-flow deficit
Energy Union	Connections and production	Private	Put the technological load-free land plots of the Mining Division Branch back into the economic circuit	Energy Complex Oltenia SA	The investment is needed to comply with the environment requirements of the European legislation	No	About to be initiated	3.80	3.80	Cash-flow deficit
Energy Union	Connections and production	Private	Mining technological equipment to enable the extraction of hard coal from Jiu Valley to increase the availability and efficiency under safety conditions	Energy Complex Hunedoara	The intention is to purchase high-performing equipment to allow the development, the safe use and the efficiency improvement. Work flows will be provided starting with prospecting - development, use, transport and sorting of coal. Another equipment category helps improving the safety and efficiency by capturing the pit gas (CH ₄), recovering the coal from dumps and sludge beds.	No	Procurement documents are being drafted	60.00	60.00	Cash-flow deficit
Energy Union	Connections and production	Private	Mining technological equipment to enable the extraction of hard coal from Jiu Valley to increase the availability and efficiency under safety conditions	Energy Complex Hunedoara	The purpose is to purchase performing equipments to allow the generation of gas by the distillation of underground coal.	No	Procurement documents are being drafted	60.00	60.00	Cash-flow deficit
Energy Union	Connections and production	Private	Photovoltaic Park with installed capacity of 1.723 MW, in Chisnani, Braila County ; Priority project	Electrocentrale Grup	Installed Power: 1.723 MW; Power output: 2.140 MWh/year; Net updated income (NAI): 1.893 thousand EUR; Internal Rate of Return: (IRR): 12.23 % Updated Recovery Time: (URT): 9.33 years; Investment cost: 2,594.352 thousand EUR, exclusive of VAT; Specific value/MWh: 1.505.718 thousand	No	Works have been started to execute the photovoltaic park, including the two stages: design/engineering and construction, assembling and commissioning	3.220	3.220	The main reason why the project implementation has not been completed so far is that Electrocentrale Grup S.A. started operating in March 2013, and the decision regarding the investment objective was enforced in October 2013. In addition, the development vision so far has not considered a new production capacity with a new and modern technology and specifically low costs.

Energy Union	Connections and production	Private	Carrying out of new power units located on Titan Power Plant site, belonging to "Electrocentrale Titan" S.A.- Trigenation capacities;	Electrocentrale Grup	Select investors for the purpose of building new power groups, with a tri-generation technology and an installed capacity which will be determined by a feasibility study; Installed power: 1 MW Efficiency on a tri-generation contour: 90% specific investment value (network included):1200 Euro/kW Number of operating hours: 8000 ore/an Review time: 21 years Useful life: 20 years Total realization time: 1 year Natural gas price: 325 \$ / 1000 cubic meters Electricity sale price: 45(yr 1)+60(yr 20)EUR/MWh Thermal energy sale price: 40(yr 1)+45(yr	No	The main reason why the project has not been implemented so far is that Electrocentrale Titan S.A. was established in September 30, 2014, and the final decision on this investment project was applied after the presentation of the feasibility study	1.20	0.90	The main reason why the project implementation has not been completed so far is that Electrocentrale Titan S.A. was set up on September 30, 2014, and the final decision on the investment project will be enforced after the presentation of the feasibility study approved according to legal requirements. In addition, the development vision so far has not considered a new production capacity with a new and modern technology and specifically low costs.
Energy Union	Connections and production	Private	Match the electricity and thermal power output to the consumption needs in the context of reducing own consumption and production expenses;	Electrocentrale Galati Company SA	Investments in the plant consisting in performing co-generation installations, formed of gas-turbin, reservoir and steam turbin aimed at boosting economic efficiency and improving the environment conditions by improving the plants operating efficiency. The feasibility study shows an optimal equipping version for a new energy capacity formed of: 1 gas-turbin of 30 MW; 1 steam producing reservoir for recovery (60 bar(a); 470 °C); 1 steam-turbin of 10 MW.	Yes	At this time, the feasibility study and the bancable document are ready.	62.50	62.50	The lack of financing and of an investor / find funding, partners and a firm contract for the supply of thermal power with the municipality at least for the time of recovering the investment.
Energy Union	Connections and production	Private	Reengineering of hot water boiler (CAF) nr. 1 – 100 Gcal/h of CTE Bucharest West and the hot water boiler nr. 4 – 100 Gcal/h of CTE Grozăvești.	Societatea Electrocentrale București S.A.	Purpose: the need to have ELCEN units equipped with state-of-the-art thermal power producig installations working on gas, complying with the polluting emissions regulations under the legislation in force, including Directive 2010/75/UE to become effective in 2016, introduced in the Romanian legislation by the adoption of Law 278/2013 on industrial emissions. Objective: provide the thermal power needed by the Centralized Thermal Power Supplier System (SACET) of Bucharest Municipality under safe circumstances, continuity of supply and compliance with the environment requirements, in particular to cover the maximum thermal power needed in wintertime. •Duration: 12 months. •Implementation: QI 2015 – QII 2016. •Other feasibility indicators: a)CAF nr. 1 – CTE West IRR (internal rate of return): 14.66% RT (recovery time): 9.31 years. b)CAF nr. 4 – CTE Grozăvești	No	The feasibility study was developed.	10.00	10.00	Difficulties in getting the financing.
Energy Union	Connections and production	Private	Co-generation unit in a mixed cycle with gas generator engine in CTE Grozăvești	Electrocentrale București S.A.	•Purpose: the need to comply with the European and MS policy and strategy on the need to cover the electricity demand with a market in process of liberalization, which involves the increase of energy efficiency, economic efficiency, as well as reduced greenhouse gas emissions by promoting highly efficient cogeneration systems. •Objective: cover the thermal power demand for the Centralized Thermal Power Supplier System (SACET) of the Bucharest Municipality under safe circumstances, provided the continuity of supply and compliance with the environment requirements. •Time of completion: cca. 36 months. •Implementation time: 2015-2017. •Other feasibility indicators: -IRR(internal rate of return): 15.46% -RT (recovery time): 9 years.	Yes	The feasibility study was developed.	64.48	64.48	The legislation in the field of highly efficient co-generation is not attractive enough to investors involved in the project implementation together with ELCEN
Energy Union	Connections and production	Private	LEA 400 kV double circuit Smardan - Gutinas	Transelectrica	A new line 400 kV double circuit (equipped circuit) between the existing stations - Smardan and Gutinas - with a length of around 140 km. Transport capacity increase between the western coast of the Black Sea (Dobrogea Region) and the rest of the inter-connected system.	Yes	With the feasibility study endorsed by the Directorate Decision 260/2013, the project is now in the stage of obtaining the necessary permits. Estimated time of commencement: 2016. Estimated	65.00	8.00	The lack of funds may lead to delays in the project implementation. A mix of European financial assistance in the form of a grant or in financial instruments may be considered.
Energy Union	Connections and production	Private	LEA 400 kV simplu circuit Suceava - Gadalın	Transelectrica	A new line 400 kV cimple circuit between existing stations - Suceava and Gadalın - of around 260 km. Increase of the transport capacity between the production centre coming from wind energy in the Eastern Region of Romania and the rest of the inter-connected electric and enrgy system.	Yes	The feasibility study approved by the decision of the board nr.7/2010, the project is in the stage of obtaining the necessary permits. estimated time of commencement – 2017. estimated time of	95.00	12.00	The lack of funds may lead to delays in the project implementation. A mix of European financial assistance in the form of a grant or in financial instruments may be considered.

Energy Union	Connections and production	Private	Reengineering of the 400 kV unit in Isaceea	Transelectrica	Replace low efficiency equipment with modern, highly efficient equipment.	Yes	Feasibility study, estimated time of commencement – 2016, estimated time of completion -2020. The feasibility study approved by the decision of the board nr.7/2010, the project is in the stage of obtaining the necessary permits.	25.00	6.00	The lack of funds may lead to delays in the project implementation. A mix of European financial assistance in the form of a grant or in financial instruments may be considered.
Energy Union	Connections and production	Private	LEA 400 kV simple circuit Suceava (RO) – Balti (Republic of Moldova)	Transelectrica	A new line of 400 kV, 139 km long, which helps improving the exchange capacity through the eastern interface, with the Moldovan Republic.	Yes	estimated time of commencement – 2018 and estimated time of completion -2022. There are high pressures to start this project sooner than announced in the RET development plan.	23.00	4.00	The lack of funds may lead to delays in the project implementation. A mix of European financial assistance in the form of a grant or in financial instruments may be considered.
Energy Union	Connections and production	Private	Shift Portile de Fier – Resita – Timisoara – Sacalaz – Arad axis to 400 kV oltage – Stage I: LEA 400 kV Portile de Fier – Resita + 400 kV station in Resita + expansion of existing units.	Transelectrica	In order to improve the interchange capacity through the western and South-Eastern Romanian interface, the network in the area is considered for reinforcement: LEA 400 kV Portile de Fier – Resita and the expansion of the station 220/110 kV Reșița by building a new unit of 400 kV+shift to 400 kV of LEA 220 kV d.c. Reșița –Timișoara – Săcălaz – Arad, including building the units of 400 kV Timișoara and Săcălaz. This project improves the interchange capacity at the RO-HU-RS border; intensifies the N-S Corridor from N-E Europe to S-E Europe via Romania and in conjunction with other European projects it could help creating the 400 kV electricity transport corridor from Romania to Italy (via the submarine cable ME-IT).	Yes	Feasibility study endorsed by the decision of the board nr.2/2012, the project is in the stage of obtaining the necessary permits. estimated time of commencement – 2014, estimated time of completion -2017.	47.00	46.00	The main problem relates to the purchase and the ownership of the land on the electric line corridor and to obtaining the licenses/permits. The lack of funds may lead to delays in the project implementation. A mix of European financial assistance in the form of a grant or in financial instruments may be considered.
Energy Union	Connections and production	Private	Heavy water clastic installation	Nuclearelectrica National Company	The purpose of the installation is to remove the tritium form the moderating agent and the cooling agent and to store it in special containers.	No	The project is in its final stage. The feasibility study was revised, and it will be approved by the end of this year by SNN Board, and by the end of January by the General Shareholder Meeting. Licensing in process, documentation ready to obtain a comfort letter from CNCAN. The procurement documents for the selection of an IPC contractor will be prepared by mid-2015.	166.00	36.00	The first project of this kind in Europe. Insufficient staff with expertise for such a project; to go around this obstacles, a number of actions are underway to appoint an Owners' Engineer (of the beneficiary) formed of experts in this field.
Energy Union	Connections and production	Private	Post Fukushima modifications of Unit 5 existing buildings to accommodate the facilities required for severe accidents management and interventions as set up in „Romania – National Action Plan post Fukushima”.	Nuclearelectrica National Company	Set-up a new seismically qualified location on-site for hosting the On-site Emergency Control Center&Fire Fighters Facility as well as to shelter the most important intervention equipment including: mobile diesel generators, mobile diesel engine driven pumps, firefighter's engines, radiological emergency cars, heavy equipment to unblock roads. This facility will be set up in unit 5 - for which a decision has been taken that it will be used for such purposes and not as a nuclear unit anymore.	No	The procurement documentation for an IPC contract has been completed. SNN Board will approve the IPC contract by the end of 2014. The contract will be signed by March 31, 2015.	30.00	30.00	Complete the approval procedure and have the contract signed within the foreseen deadline (any postponment caused by delays in the procurement process will directly impact the foreseen time).
Energy Union	Others /Operational programme under the 'Investment for growth and jobs' goal/ Smart, sustainable and inclusive growth and the achievement of economic, social and territorial cohesion/ Enhancing institutional capacity and an efficient public administration (E-governance)	Public	Classification and evaluation of mineral resources/ reserves of solid minerals	National Agency for Mineral Resources	Update of existing mineral resources contracts information system "Mining Cadastre and Titles Registry" with development of classification and evaluation of mineral resources/ reserves of solid minerals	No	Planning	0.8	0.8	Lack of funds/
Energy Union	Other /Clean Energy and Energy Efficiency/ Investment in institutional capacity	Public	Permanent Register for Carbon Capture and Storage Sites in Romania	National Agency for Mineral Resources	Development of a permanent register containing all closed storage sites and surrounding storage complexes, including maps and sections of their spatial extent and available information relevant to assess whether carbon dioxide is stored definitively and permanently retained. The system has to be complemented by a geological and geographical monitoring module of the parameters of CO2 associated risk storage	No	The specifications are finalized and ready for a call of proposal	0.9	0.9	Lack of funds/ Lack of information, especially for the data needs analysis, due to incipient promoted legislation and new developed CCS technology in Romania/ Solutions - a close cooperation with similar Norway agency, with expertise in CCS/ An experienced project management team in NAMR

Energy Union	Other /Operational programme under the 'Investment for growth and jobs' goal/ Smart, sustainable and inclusive growth and the achievement of economic, social and territorial cohesion/ Enhancing institutional capacity and an efficient public	Public	Development of "National Fund of Geological data" Information System	National Agency for Mineral Resources	Establishing of a database for National Fund of Geological data and Information from existing records and digital information on oil and gas and mineral resources (energetic and non-energetic), in an international standard open system, and support software/ hardware/ training, in order to develop and promote oil/ gas/ mineral resources concessions under a system which facilitates Privatee sector development of natural resources, to efficient disseminate quality and timely data to public and sector agencies/ companies and to serve the data and information needs of the NAMR Conversion, scanning, digitizing and vectorization of historical physical oil and gas data (geological, geochemical, wells, seismic lines, well logs, to electronic form to allow managing and secure access to a wide range of data in a variety of different industry standard formats; and audit of the historical data Quality to enable accurate forecasts of the effort required to assess the final volumes, types of media conservation, state of the media, level of quality control desired, time constraints etc.	No	Planning	5	5	Lack of funds; Most of the data are classified as confidential / In NAMR exists a powerful project management team with more than 15 year experience in World Bank projects and over two years experience in European Funds projects; Cooperation/ partnership with a specialized company that provide software and technology services and data storage solutions
Energy Union	Other/ Operational programme under the 'Investment for growth and jobs' goal/ Smart, sustainable and inclusive growth and the achievement of economic, social and territorial cohesion/ Investment in institutional capacity and in the efficiency of public administrations and public services at the national, regional and local levels with a view to reforms. better	Public	Integrated electronic archiving systems of "National Fund of Geological data" documents	National Agency for Mineral Resources	5.000 linear meters of existing archive historical documents of all types (geological, geophysical, geochemical, magnetometrical, reports, maps, etc.) gathered from all over the country, from the former state owned geological/ geophysical companies have to be scanned and digitally converted with proper indexing and archival for easy retrieval and referenced for graphical search. Development of a tool for the management of documents providing important features for storing, searching and analyzing documents of different kinds	No	Planning	6.5	6.5	Lack of funds; Most of the documents are classified as confidential/Solutions- an experienced project management team in NAMR
Energy Union	Energy efficiency in Buildings	Public	Improving the thermal rehabilitation of MAI buildings and increase cost efficiency	Ministry of Internal Affairs	Infrastructure	no	The project will bw applied to be funded from FESI	447	100	The project will be financed only if the management authority agrees the project
Energy Union	Connections and production	Public	Implementation of renewable energy and updating or replacing the existing ones in order to ensure a proper and safety	Ministry of Internal Affairs	Infrastructure	no	The project will bw applied to be funded from FESI	20	10	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	Public R&D	public	Extension of education and research areas at the Faculty of Industrial Chemistry and Environmental Engineering	Poitehnicia University Timișoara	Spaces for research, laboratory halls, amphitheatres, presentation areas	yes	Feasibility study, technical project	10.920	10.920	Due to ADR vest exceeding the funds – ROP 2007-2014, axis 3, area 3.4, the objective funding request has been placed in stand-by.
Knowledge and the Digital Economy	Public R&D	public	Research Institute for Intelligent Transportation Systems	Poitehnicia University Timișoara	The development of the available capacities to research and operate the smart transportation systems present in the Western region	yes	Feasibility study	7.174	7.174	A partnership agreement between PUT, Timișoara Mayorship and RATT (Timișoara Transportation Autonomous Public Service Undertaking).
Knowledge and the Digital Economy	Public R&D	Public	FoodBiotech	IBA Bucuresti	Large-scale agrifood waste&residues integrated bio-refineries to develop a range of value-added products (food, food supplements, food ingredients, non-food, cosmetics, as well as third-generation biofuels) and to unlock the potential of residues, industrial by-products,	No	Proposal	100	50	Barriers: Lack of funding, optimal coordination and feasible management through implementing authority. Solutions: Structural and national funds and Privatee capital will be envisaged. Efficient monitoring and supervising by Implementing Authority
Knowledge and the Digital Economy	Public R&D	Public	Nutrition and Animal Pathology Institute of Transilvania (INPAT)	USAMV Cluj Napoca	Increase the research capacity of USAMC Cluj Napoca for a better integration with the European area of research in the medical and veterinary sector and compared medicine, increase of competitiveness in the farming sector by boosting the environment and health of livestock, and improve the food quality and safety, by the fact of ensuring: 1)modernization/expansion of existing research premises which are not suited anymore or have become insufficient to the current research needs; 2) building new research premises to finalize and develop the research capacity; and 3) purchase of modern research equipment to replace the current obsolete equipment and cover the whole range of specific interdisciplinary investigations – nutrition, welfare, etology and animal pathology, experimental and compared pathology, control of fodder, the quality, safety and security of foods.	Yes	Feasibility Study	13.50	13.50	Lack of financing

Knowledge and the Digital Economy	Public R&D	Public	Increased sanogenous capacity of food	SCDVV Murfatlar	<p>Developing new food with high nutritional capacity and antioxidant effect.</p> <p>Rice can be considered the strongest cereal in the future, because that ecological plasticity allows the cultivation of beyond the limits of 50° N and 40° S latitude, and because resistance to biotic and abiotic stress factors. The globalization of economic activities and the opening of markets, the expected climate changes and increasing world population, the main factors that influence the dynamic trends in major mode agriculture, will open favorable prospects in orizicol field in the world and in Romania.</p> <p>In Europe, 430,000 ha are cultivated with rice, the surface on which it makes an average production of about 6.5 t / ha. EU produced 2.8 million tons of rice, but is forced to import 1.4 million tons. It follows that the requirement of rice for Europe is 4.2 million tons, which provide an average consumption of rice of 5.0 kg / inhabitant.</p> <p>In this context, the European countries with tradition in orizicol are interested to reduce rice imports by increasing and developing its own production.</p> <p>In Romania, rice is not a traditional culture, but is useful in feeding the population, creating jobs, and in the context of diversification of agricultural production.</p> <p>In Romania, the minimum investment and modernization in land reclamation works, now is possible to insert in orizicultura 55,000 ha. Romania's rice requirement is of 65,000 tons at an average consumption of 3.2 kg / inhabitant. At an average production of rice 6 t / ha production that can be obtained routinely in our country, the domestic demand for rice may be covered by cultivation of 11,000 ha.</p> <p>In the context presented, if Romania would put into operation on surfaces that worked rice fields (50,000 ha), could carry about 260,000 tons of rice for export, which amount would cover 19% of EU imports. Thus, Romania could become one of the leading producers of rice in the EU.</p> <p>The project must establish conditions in which rice-producing countries in the EU can contribute to meeting their own union and rice for export and which are specific conditionality on extending this culture in order to achieve this</p>	No	Proposal	3	3	<p>Lack of long term finance and investments in sub-sector. Need to combine public with Privatee actors.</p> <p>Barriers</p> <ul style="list-style-type: none"> -Lack of a uniform and centralized databases which to base the necessity of creating conditions for expanding rice at European level and the lack of a common strategy of action. -Lack of state agricultural policies differentiated but complementary that encourage and support the culture of rice depending on the specific capabilities of each area of culture, to increase yield and decrease cost. -Development necessity of a domestic industry with processing plants and storage centers in good condition to rice. <p>Solutions</p> <ul style="list-style-type: none"> -Providing financial incentives for restoration and establishment of new rice fields, for the purchase of specific equipment for setting up the rice domain and for establishment rice processing factories. -Encouraging the expansion unit rice culture through subsidies in the EU. -Develop technologies adapted rice culture natural and social conditions in the area where it is grown. -Acceleration and expansion strategy of irrigation water use in gravitational mode at the expense of irrigation by
Knowledge and the Digital Economy (agriculture)	Public R&D	Public	"Research on expanding rice cultivation in excessive view climatic conditions, and world population growth"	SCDA Braila	<p>Forestry solution of establishing windbreaks crop has several very important benefits for both agriculture and the environment. In this context it can be estimated as:</p> <ul style="list-style-type: none"> -windbreaks forest for crop protection contributes to improving microclimatic conditions for growth and development of crops up to a distance of 25 times the height of the windbreaks forest in the sheltered and 5 times in the exposed, due to reduced wind speed by 31-55% in the shelter and by 10-15% in the exposed. -windbreaks crop protection forest shrinks diurnal amplitude of air temperature in the culture zone of 1-4 0C and the annual 1-2 0C; -windbreaks forest increase humidity and degree of ionization of the air at ground level, fertility and soil conservation protected area (pH change); -windbreaks forest reduce to stop deflation on sands and light soils, reduces the depth and duration of frost, evapotranspiration decreases; -windbreaks forest reduce the toxic gases from the atmosphere, storing the biomass 40 t / ha / year of carbon dioxide and producing 30 t / ha / year oxygen - agricultural production is a priority, and the forest is secondary; crops that are suitable for this system are cereals, soybean, sunflower, vegetables, meslin and other varieties of fodder and horticultural crops; -due to the reduction of evapotranspiration of plants, grain production in the protected area is larger by about 20%, even if a portion of the land is occupied by curtains. <p>The project aims to increase the share of forest protection belts of farmland especially in EU countries that are or will be affected by aridity and drought phenomena</p>	Yes	Planning and organizing project started in 2015. The project will open in 2018.	2	0.8	<p>Barriers</p> <ul style="list-style-type: none"> -Lack of firm policies in legislative and financially supported. -Lack of pilot blocks that promote technical and economic advantages of using protective forest curtain of farmland. - The lack of specific scientific and technical advice and activities on the design, size and spatial location of windbreaks networks of agricultural fields, identification of technical characteristics and effectiveness, in relation to environmental, social and economic. <p>Solutions</p> <ul style="list-style-type: none"> -Specification improver effect of windbreak forest about climate protection curtains on the stage framework for growth and development of plants. -Completion of protective benefits of the farm by harnessing the perimeters with degraded soils that can establish forest plantations.
Knowledge and the Digital Economy (agriculture)	Public R&D	Public	"Research on increasing the share of windbreak forest in farmland protection solutions for improving climatic conditions"	SCDA Braila	<p>This project comes instead, let us solve a de facto state of research Romanian agricultural sector.</p> <p>By investing in machinery and equipment, rehabilitation of damaged buildings will be timely and quality all tillage and maintenance of vineyards responding to the needs in research vines;</p> <ul style="list-style-type: none"> - To exploit the potential of solar; -to exploit the potential of the soil; -to exploit the potential of cultivated varieties. <p>Investments in modernization / set up of new plantations of vines will create the experiment that answers the demands of quality wine</p>	yes	Planning and organizing project started in 2015. The project will open in 2018.	2	0.8	<p>Stimulating investment across the EU;</p> <ul style="list-style-type: none"> -development infrastructure technology transfer; - Strengthening the innovation chain; -realization clusters and European network connection profile.
Knowledge and the Digital Economy (agriculture)	Public R&D	Public	Upgrading wines experimental bases as main support implementation scientific for R & D in order to align with European standards	SCDVV Bujoru	<p>The project will develop a new center, a modern for collecting of milk produced in own farm for processing and direct commercialization to various beneficiaries in accordance with the requirements and European regulations.</p> <p>The space created will be provided with equipment for quality control and sanitation of raw milk, which will be useful for the research and</p>	No	Being a project duration, start proposal investment plan in 2015 and its completion in 2019	2	1	<p>Deficiencies in providing long-term financing could lead to delays in achieving the objectives of this project. A combination of EC grants, EIB and MS Finance as well as Privatee capital is envisaged.</p>
Knowledge and the Digital Economy (agriculture)	Public R&D	Public	Developing a milk processing center for research and development activities	Research and Development Station for Cattle Breeding dancu-lasi,	<p>The project has as main objective the development of a Biogas pilot station for anaerobic treatment of manure and vegetable waste for obtaining renewable energy.</p> <p>Considering the environmental problematics and specific activity of research and development of own units, the building a biogas pilot station represents an efficient solution to resolve current environmental problems, a good pilot center for demonstration of the feasibility of such a project, training specialized personnel in the operation of such production units, as well as a source of revenue growth.</p>	Yes	The start of center construction start expected in 2015 and will open in 2018	1.5	1	<p>Deficiencies in providing long-term financing could lead to delays in achieving the objectives of this project. A combination of EC grants, EIB and MS Finance as well as Privatee capital is envisaged.</p>
Knowledge and the Digital Economy (agriculture)	Public R&D	Public	Development of a pilot center for the production of renewable energy (biogas) of manure from cattle	Research and Development Station for Cattle Breeding dancu-lasi,	<p>The project has as main objective the development of a Biogas pilot station for anaerobic treatment of manure and vegetable waste for obtaining renewable energy.</p> <p>Considering the environmental problematics and specific activity of research and development of own units, the building a biogas pilot station represents an efficient solution to resolve current environmental problems, a good pilot center for demonstration of the feasibility of such a project, training specialized personnel in the operation of such production units, as well as a source of revenue growth.</p>	Yes	The start of center construction start expected in 2015 and will open in 2018	1.5	1	<p>Deficiencies in providing long-term financing could lead to delays in achieving the objectives of this project. A combination of EC grants, EIB and MS Finance as well as Privatee capital is envisaged.</p>

Knowledge and the Digital Economy (Animal)	Public R&D	Public	Developing a growth sector of young cattle breeding females of high genetic value	Research and Development Station for Cattle Breeding dancu-	The project will develop a modern sector for breeding of young cattle female with high genetic value. It envisages the construction of a new space for young cattle, that it would provide the optimal conditions for achievement of growth and development indices and genetic potential.	Yes	The start of center construction start expected in 2015 and will open in 2018	2.5	2	Deficiencies in providing long-term financing could lead to delays in achieving the objectives of this project. A combination of EC grants, EIB and MS Finance as well as Private capital is envisaged.
Knowledge and the Digital Economy (Agriculture)	Public R&D (oenology)	Public	Developing the available CDI infrastructure in the field of viticulture and wine-making	ICDVV Valea Calugareasc	Investments in vineyards; Modernizing the research-development buildings and laboratories	Yes	Planning and analysis stages The expected start of the project in 2015. The project will	2	1	Lack of financing Involvement of the relevant Ministries in the implementation of project
Knowledge and the Digital Economy (Agriculture)	Public R&D (oenology)	Public	Development of grafted material sector in viticulture	ICDVV Valea Calugareasc	The project will provide a gradual development of grafted material sector in accordance with the national development strategy of viticulture and the EU regulations in order to avoid grapevine virus proliferation in EU. It will contribute also to spread the genuine Romanian varieties.	Yes	Planning and permitting in final stages. The expected start of the project in 2015. The project will open in 2018	1	0.8	Lack of long term finance. For this reason a contribution of Private capitals envisaged. A project management unit will supervise the project's planning and implementation in accordance with the financial resources under the close supervision of the Ministry of Agriculture and Rural
Knowledge and the Digital Economy (Agriculture)	Public R&D (oenology)	Public	Laboratory for ecological of wines and juices evaluation and production using innovative technologies	ICDVV Valea Calugareasc	Building and putting into operation the high performance laboratory for ecological wines production using innovative technologies	Yes	Planning and analysis stages The expected start of the project in 2015. The project will	1.5	0.7	Lack of financing Involvement of the relevant Ministries in the implementation of project.
Knowledge and the Digital Economy (Agriculture)	Public R&D (Fishing and aquaculture)	Public	Center for research, diagnostics and conservation of living aquatic resources from fishing and aquaculture sector	ICdaPE Galati	Research Centre aims to develop collaborative, multidisciplinary research programs for development of complex systems of assessment and examination of the state of ecosystems and aquatic products and to assist technological processes from aquaculture. Systems will ensure the transfer of know-how in the field of biological quality assessment of aquatic ecosystems and their products and will support developing policies that ensure sustainable development of the fisheries sector.	No	Proposal	0.5	0.3	Insufficient funds / Acceptance to finance an objective of national and European interest that contribute to increasing the competitiveness of the fisheries sector
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Efficiency of potato seed storage of the superior biological categories through building a performance deposit	SCDC Targu Secuiesc	Modernization of existing research to improve the preservation of biological material with a capacity of 2000 tonnes potato seed	No	Planning and permitting in final stages - construction start expected in 2015. The projects will open in	0.45	0.45	Lack of long term finance + coordination and permitting problems, leading to possible delays.
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Production of seedling and seedling material in protected specialized environments aimed for droughty areas	CCDCPNdabuleni	Greenhouses specialized in producing engraftments and virus-free seeds of fruit trees and vines, aimed for the producers in the droughting areas.	No	Proposal	0.5	0.3	Lack of long-term funding/National and Structural Funds Planning for the project implementation and an efficient monitoring and oversight by the Contracting Authority.
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Build a system to allow the use of sandy soil likely to go arid for farming or forestry purposes by a reengineered irrigation	CCDCPNdabuleni	Retechnologization of the irrigation system adjusted to the climate change and the type of farming operation.	No	Proposal	1	0.5	Lack of long-term funding/National and Structural Funds Planning for the project implementation and an efficient monitoring and oversight by the Contracting Authority.
Knowledge and the Digital Economy (Agriculture)	Public R&D (Horticulture - Fruit Growing)	Public	Increase of technical and economic competitiveness in the rural area of South Muntenia Regional Development by fruit growing developing	ICDP Pitesti Mărăcineni Regional Operational Programme -ROP	Implementation of research results (varieties, new technologies and / or upgraded) in order to obtain a high technological level in the small and medium fruit growing farms. South-Muntenia Region includes the counties of Arges, dambovita, Prahova, with tradition and favorable soil and climate conditions for most spreaded fruit growing species; The project include investment in orchards, storage and infrastructure for fruit processing.	Yes	Planning and permitting in the regional strategy	0.5	0.25	Lack of long-term funding (especially for perennial species). Credit mechanisms for farmers and possibilities of financing for small farmers to support cofinancing of the project.
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Integrated system to control the harmful agents in cereal and horticultural crops by reducing the pesticides	Development Institute for Plant Protection	Develop sustainable plant protection systems by ecological management of pests in cereals and horticultural crops to reduce the pesticides use and ensure a safe yield, both quantitatively and qualitatively. The project will promote the EU requirements and legislation on sustainable agriculture and food safety.	No	Waiting for the investment decision	4	2.5	Lack of the financing of the project / A contribution of EC, national budget and Private capital is envisaged.
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Developing Low Input Sheep Composite Breeds in Eastern and Southern Europe	Research and Development Station for Sheep and Goats from Caransebes, Romanian Academy for Agricultural and Forestry Sciences, Ministry of Agriculture and Rural	Project aims to develop new low-input sheep composite breeds. Genotypes that are well adapted to the local conditions and which to outperform the local unimproved, rustic breeds found in E and S Europe. Dual purpose genotypes are to be developed (meat and dairy), making full use of the modern biotechnological tools for the genomic selection (e.g. for scrapie, β -lactoglobulin from milk, parasitism resistance). The Caransebes R&D station has developed recently two such composite breeds, that are kept under experimental production conditions.	No	Planning for large scale project Small scale trials implemented since 2012 Start expected date 2015	1.2	1.2	In E and S Europe, over 85% of the sheep are being reared in Less Favoured Areas (LFAs) as defined in Dir.75/268/EEC. Breeds used are generally unimproved and well adapted to the environment. However, production levels (meat and milk) are significantly lower, compared to ones registered in C and W Europe. Making thus the industry noncompetitive in the region. Development and introduction of new composite breeds would have an important economic and social impact on the sheep industries from E and S Europe.
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	SEVSSE	INMA Bucharest	Complex evaluating system of security and safety level and environment impact on technologies and technical equipment used in agriculture, transport and food industry, will allow to increase the technical and economic efficiency of companies in the field for Romania as well as for riverside countries BG, HU, MD, Ukraina	No	According to INMA strategy the project will start in 2015	1.5	1	Lack of rhythmic financing of project stages

Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Development and implementation of an program to increase and improve meat production of sheep in Dobrogea.	ICDCOC Palas Constanta	Aim of the project is to redirect the sheep growth towards meat production given the requirements for mutton in the EU and potential of Romanian sheep breeds .	No	The project builds on the results of scientific research of the specialized research units and is expected to start in 2015 with a duration of three years.	200	200	<p>Barriers: The emergence of epizooty (such as bluetongue) that can stop in 2015 the beginning of the project Unclear situation on the organization and financing of the specialized research units which are a key factor in the project.</p> <p>Solutions: Core funding (salaries and utilities) of the specialized research units Strengthening the cooperation between research units and National Agency for Animal Breeding and Reproduction, Ministry of Agriculture and Rural Development ,breeders associations.</p>
Knowledge and the Digital Economy Knowledge and the Digital Economy	Public R&D	Public	Investments in increased capacity of CDI	INCDCSZ Braşov	A. Laboratory equipment	No	The domains for investment have been established and proposed for approval	0.6	0.6	Lack of medium and long term financing structure of CDI can cause shortages and delays in solving problems involved in agri-food chain. Making the investment value and the required deadline ensures overcome barriers mentioned above. Lack of medium and long term financing structure of CDI can cause shortages and delays in solving problems involved in agri-food chain. Making the investment value and the required deadline ensures overcome barriers mentioned above.
	Public R&D	Public	Investments in increased capacity of CDI	INCDCSZ Braşov	B. Field equipment for precision agricultureand experimental fields	No	The domains for investment have been established and proposed for approval	0.6	0.6	
Knowledge and the Digital Economy	Public R&D	Public	Investments in increased capacity of CDI	INCDCSZ Braşov	C. Rehabilitation sorting hallsand deposit researchfor the experimental material	No	The domains for investment have been established and proposed for approval	0.625	0.625	Lack of medium and long term financing structure of CDI can cause shortages and delays in solving problems involved in agri-food chain. Making the investment value and the required deadline ensures overcome barriers mentioned above.
Knowledge and the Digital Economy	Public R&D	Public	Investments in increased capacity of CDI	INCDCSZ Braşov	D. Rehabilitation ofexperimental animal selection infrastructure	No	The domains for investment have been established and proposed for approval	0.75	0.75	Lack of medium and long term financing structure of CDI can cause shortages and delays in solving problems involved in agri-food chain. Making the investment value and the required deadline ensures overcome barriers mentioned above.
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Securing environment, food and seed value chains by upgrading vegetable research. Vegetable Research and Development Station Buzau	Vegetable Research and Development Station Buzau	The project aims to develop new technology in order to ensure adaptation to climate changes, to reduce the negative impact of agricultural inputs and to enhance food security by strengthening the sustainable management of plant for food and agriculture.	No	Planning	0.5	0.5	<p>Barriers Limited financial resources (in present) Solutions The main <i>innovation potential of project</i> is connected to its inter-disciplinary methodological approach addressed to work in-chain Solutions The main <i>innovation potential of project</i> is connected to its inter-disciplinary methodological approach addressed to work in-chain</p>
Knowledge and the Digital Economy	Public R&D	Public	Investments in increased capacity of CDI	Vegetable Research and Development Station Buzau	Rehabilitation ofexperimental infrastructure and research laboratory	No	Planning	0.45	0.45	Lack of medium and long term financing structure of CDI can cause shortages and delays in solving
Knowledge and the Digital Economy	Public R&D	Public	Research in horizontal and vertical greenhouse who utilize nonconventional energy	Vegetable Research and Development Station Buzau	Multiplication of breeding material; 5000 sqm divided in 10 compartments with possibility of control for climatic factors (temperature, relative air humidity, light) for breeding and plant protection purposes; cover with Total area – 1 ha; 5000 sqm for multiplication of breeding material; 5000 sqm divided in 10 compartments with possibility of control for climatic factors (temperature, relative air humidity, light) for breeding and plant protection purposes; cover with polycarbonate; height 4,5 – 5 m; heating source: GAS. This objektiv will include also a chamber with refrigerating system for storage of genetic resources and a special Laboratory for	No	Planning	1	1	<p>Barriers Limited financial resources (in present) Solutions The main <i>innovation potential of project</i> is connected to its inter-disciplinary methodological</p>
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Glasshouse complex for research-development activity	ICDLF Vidra		No	Construction start expected in 2015; the project will open in 2016	25	15	In order to avoid the deley, a project management unit will supervise the project's planning and implementation Barriers Limited financial resources (in present) Solutions The main <i>innovation potential of project</i> is connected to its inter-disciplinary methodological Approach addressed to work in-chain
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Securing environment, food and seed value chains by upgrading vegetable research	Vegetable Research and Development Station Bacau	The project aims to develop new genotypes and specified technology in order to ensure adaptation to climate changes, to reduce the negative impact of agricultural inputs and to enhance food security by strengthening the sustainable management of plant genetic resources for food and agriculture.	No	Planning	3.9	2.8	<p>Main outcomes: - economical routes to develop sustainable PGR-based food and seed systems, taking into account consumers' perceptions and local farmers needs; - the creation of thematic networks aimed at promoting the durable use of local PGR.</p>
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Laborator for the maintenance of mushroom strain collection and experimental spawn testing	ICDLF Vidra	At the moment, in Romania, there is no research unit with advanced equipment destined for preserving and propagating pure cultures of mushroom strains. The purpose of the project is to set up a modern laborator for maintenance of the cultivated mushroom straines (germoplasm bank) and for producing experimental spawn. The lab will have a sterile zone (clean room) for Collection and the work with stock-, and mother- pure cultures. Microtrials with experimental spawn will be conducted in a separate distinctive section of the lab, a small mushroom unit with three cubicles well equipped for incubation and fruiting tests	No		3	3	<p>Problems are possible to appear from the authorities bureaucratic way of solving different administrative and financial aspects dealing with full implementation of this proposal. We have specialists with good expertise and experience in developing this kind of projects at our institute and we have a strong commitment to overcome all the difficulties</p>

Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Upgrading buffalos farm in relation with precision livestock farming and buffalo welfare	SCDCB Șercaia	It will upgrade the farm of the Research Institute in order to ensure the welfare and efficiency of the activity. It will implement precision livestock farming system. All technologies will be modernized so that it can control all technical and economic indicators of the farm	No	Proposal	2.5	1.5	
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Increasing the research and development capacity in production and maintenance of horticultural propagating material of superior	NRDIBH Stefanesti-Arges	Developing an integrated system for producing and maintaining of the horticultural propagating material from superior biological categories in order to achieve the excellence in horticulture field	Yes		3.5	2	Ensuring the technical and material basis required to implementing the national/regional strategies for horticulture development
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Modernization of the farming vehicle park and equipment.	Ministry of Agriculture SCDA Suceava.	Investment plan to equip the unit with highly performing farming machinery needed in the biologic material generation process (seed) from higher biological chain links	No		0.5	0.2	The modernization of the farming vehicle and equipment park of the unit creates the premises for obtaining the seeds and planting material from superior biological links for the ecologic area served by SCDA Suceava.
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Study of grain biotypes with high ecological plasticity in conditions of heat stress and high fluid in central Transylvania	SCDB Tg. Mures	Comparative crops setting lines and varieties of cereals (wheat, triticale, maize) and study on resistance to major stressors: illness, heat and drought.	Yes	Variety testing 2015-2017	0.25	0.25	
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Testing and analyzing of new species of fodder plant applying in beef cattle and milking cow feeding (sorghum grain	SCDB Tg. Mures	Set up of lots of young females and males to feed on corn silage and concentrates in parallel batches of soybean silage and concentrates.	Yes	Variety testing 2015-2017	0.35	0.35	
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Research on special skills for harnessing meat production technology "Simmental Romanian Spotted breed" cow exploited	SCDB Tg. Mures	Technology development operation "cow meal" by synchronizing calving in February-March period, the use of grazing for cows with calves in the period from May to October and exploitation for meat and cows reformed youth gained during November-December.	Yes	Year 2015: Founding a cultivated pastures Year 2016 : Acquisition of animals Year 2017 : Arranging shelter on pasture	1.6	1	
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Extensive development of technologies for the production of bovine meat for Gallowai breed in climatic conditions in central	SCDB Tg. Mures	Development of mining technologies for meat by simple solutions for housing and feeding the capitalization of secondary resources and mountain pastures for Gallowai breed.	Yes	Year 2015 : Arranging shelters Year 2016 : Acquisition of animals Year 2017 : Purchase of agricultural machinery	1.5	1	
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Preservation of genetic fund local of breed Pinzgau of Transylvania	SCDB Tg. Mures	Creating a core of Transylvania Pinzgau cows by tracking and acquisition of households and growth plan development and conservation of the nucleus.	Yes	Year 2015 : Defection and acquisition of animals Year 2016 : Arranging shelters Year 2017 : Purchasing agricultural machinery	2	0.9	
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Referential laboratory for molecular genetics of microorganisms, agricultural plants and domestic animals	Academy for Agriculture and Forestry Sciences	Large scale molecular selection and GMO transformation to obtain resistant and efficient germoplasm to the climatic change impact, with high productivity potential in low inputs resources	No	Proposal	6	2.5	Barriers: Lack of funding Solution: Structural and national funds
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Green house to testing soil microorganism efficiency in conservation of soils fertility	Academy for Agriculture and Forestry Sciences	Selection of the most efficient specialize microorganisms responsible for the fertility of soils under climatic change impact	No	Proposal	2	0.5	Barriers: lack of large scale research concerning the soil microorganism that improve/conserves the soil fertility in different climatic region of Romania; special high-protected green house for efficiency testing Solution: Structural and national funds Efficient monitoring and supervising by Implementing Authority
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Green house to pest management considering the climate changes.	Academy for Agriculture and Forestry Sciences	Dynamics of the crops pest of agricultural interest is strongly influenced by climate change. Developing monitoring systems for the pest in these conditions is of major interest to ensure effective protection of crops from both economically and environmentally point of view. The study of the pest will be provided by experimenting different climatic scenarios, under controlled greenhouse conditions.	No	Proposal	2	0.5	Barriers: Lack of funding Solution: Structural and national funds
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Upgrading wines experimental bases as main support implementation scientific for R & D in order to align with European standards	Academy for Agriculture and Forestry Sciences	This project comes Instead, let us solve a de facto state of research Romanian agricultural sector. By investing in machinery and equipment, rehabilitation of damaged buildings will be timely and quality all tillage and maintenance of vineyards responding to the needs in research vines; - To exploit the potential of solar; -to exploit the potential of the soil; -to exploit the potential of cultivated varieties.	No	Being a project duration, start proposal investment plan in 2015 and its completion in 2019	2	1	Stimulating investment across the EU; -development infrastructure technology transfer; - Strengthening the innovation chain; -realization clusters and European network connection profile. Barriers: Lack of funding Solution: Structural and national
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Improvement of the research& development infrastructure concordant with EU standards	SCda Șimnic	Allow the elaborate of some competitive research projects at European level also contacts of European partners interested in specific topics of the homegrown climatic condition. This has to consolidate also the existent infrastructure that is vital condition inside the competition with Universities and Agricultural Research Institute with higher financial, material and human resources	No	Partially Expectative for POSCCE-Az-0.2.2.1-2013- 1 competition	2	2	Financially sources are created based on the approved lows representing reallocated sums of state resources, external support and local money if is possible. Actual tendency of financial contraction at agricultural research inside public institutions is a major factor leading to significant modifications of objectives, mission and actual strategy of the Romanian research activity.

Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	Modernisation and upgrading research infrastructure to maintain genetic background vegetable species in	S.C.D.L. Iernut	Sustainable growth of competitiveness of research in the area of improving, maintaining gene pool and producing new varieties of vegetable species in the Central Region of the country.			0.95	0.95	Modernization research laboratories in accordance with European standards of research, provision of high performance equipment.
Knowledge and the Digital Economy (Agriculture)	Public R&D	Public	The increase of research – development capacity through research – development infrastructure modernization at ARDS Secuieni	SCDA Secuieni	The extension and modernization of research laboratories, equipment acquisition for the experimental fields, primary processing of yields in order to expand the research area and to deepen the existing researches, cooperation development with Research – Development institutions from EU. The increase of research capacity by develop the research – development infrastructure will contribute to the researches extension in breeding domain in order to obtain new varieties and hybrids of textile plants, cereals, medicinal and aromatic plants so as to conserve biodiversity, soil fertility and agro ecosystems protection.	No		3.2	3.2	
Knowledge and the Digital Economy	Public R&D	Public	Development of the research infrastructure through the operationalizing of the Research Development Centre – for the specific field	Ministry of Internal Affairs	Developing the infrastructures of R&D in the specific field	No	The project will be applied to be funded from FESI	20	8	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	Public R&D	Public	Development of the research infrastructure through the operationalizing of the National Operational Center Implementing a national unitary system for issuing documents for the asylum applicants, for the tolerate foreigners and management of the files in order to ensure efficient public services	Ministry of Internal Affairs	Developing the infrastructures of R&D in the specific field	No	The project will be applied to be funded from FESI	20	8	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	InfoPOL- proactive and reactive IT solution ensuring a bidirectional communication for citizens and businesses with the Romanian Privatee Cloud and Businesses Continuity to the Romania Police	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	10	3	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	ensuring a bidirectional communication for citizens and businesses with the Romanian Privatee Cloud and Businesses Continuity to the Romania Police	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	11	3	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Implementing a national on line system to registration of the foreigners to the Romanian territory and a Backup solution and Businesses Continuity, in order to ensure a	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	40	9	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Implementing an ERP solution to the Ministry of Internal Affairs level	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	10	2	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Implementing a master data management solution designed for informational flow of the intelligence products	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	25	8	The project will be financed only if it passes the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Modernization and extension of the PKI platform in order to ensure a high level e-government services and authentication in all IT system at MAI level	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	14	8	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Implementing a data Center (Centre for proving IT services), with Backup &Disaster Facility Recovery&	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	10	8	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Developing of the Tetra subsystem within the Common Tetra Platform and increasing the interoperability of the	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	50	10	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Developing of the Tetra subsystem within the Common Tetra Platform and increasing the interoperability of the	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	16	10	The project will be financed only if the management authority agrees the project

Knowledge and the Digital Economy	ICT Infrastructure	Public	Increase the operational capacity of the public order and safety structures through the extension of the DIPI IT system and ensuring their interoperability with similar EU	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	20	10	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Developing the IT&C infrastructures, use of modern electronic services in order to simplified the process and speeds the	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	12	3	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Improving the public services provided by IGI through the interconnection of the SIMS system with MAE	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	11	3	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Modernization of the integrated Communication network Voce date-Video at MAI level (RCIVDV) in order to ensure the transport capacity and availability required by MAI IT systems in order to increase administrative efficiency and effective	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	22	10	The project will be financed only if the management authority agrees the project
Knowledge and the Digital Economy	ICT Infrastructure	Public	Implementing a e-learning system at the MAI and its structures level	Ministry of Internal Affairs	Developing the IT&C infrastructures	No	The project will be applied to be funded from FESI	28	10	The project will be financed only if the management authority agrees the project
Knowledge and the digital economy	ICT Infrastructure	Public	Support system for Enterprise Architecture Unit - National Registry of Information Systems(NRIS), Registry of Data and Metadata	Ministry for Information Society	The NRIS will hold information such as: Implementing Unit, Description, Financing Sources, Technical Components, Provider, Integration points with other National Systems, Status in Project Lifecycle, Public Services Portfolio etc.	Included in Digital Agenda for Romania Strategy	Planning Stage	13	13	Barriers: - Understanding the Romanian Government IT ecosystem - Having the necessary information to understand impact of strategies - Having the necessary information for decision making entities (Enterprise Architecture Unit, Technical-Economical Committee) Solutions: - Active Knowledge Management database that will be filled with information at the pace of new systems or upgrades projects are revised by Technical-Economical Committee / EAU
Knowledge and the digital economy/Social Infrastructure	ICT Infrastructure /Health	Public	Medical Information Exchange Hub	Ministry of Health in partnership with Ministry for Information Society	Information exchange system that provides semantic integration and interoperability and acts as an information broker for all actors in health system	Included in Digital Agenda for Romania Strategy	Planning Stage	15	15	Barriers: - Fragmented ecosystem (Health Insurance Systems, Telemedicine, etc.) Solutions: - Information Broker that acts as a service registry between hospital information systems, central systems and private
Knowledge and the digital economy	ICT Infrastructure	Public	Big Data implementation	Ministry for Information Society in partnership with Romanian Information Services, Ministry of Finance and , Ministry of Health, Ministry of	Systems that use Big Data techniques and procedures for structured and unstructured data in the following domains: Fiscal, Health, Culture, Education	Included in Digital Agenda for Romania Strategy	Planning Stage	30	30	Barriers: - Low credibility of Big Data solutions over structured and un- structured data Solutions: - Systems that can prove the feasibility of Big Data on big data sets and create awareness on the information that can be extracted from Big Data techniques
Knowledge and the digital economy	ICT Infrastructure	Public	e-Inclusion Platform	Ministry for Information Society in partnership with Ministry of Education and Ministry of Labour	e-Inclusion Platform for developing digital skills, creating collaborative content and sharing experiences for teachers, volunteers and excluded communities. This platform may be accessed through developing PAPI (public point of access of Information) or other points of access (local libraries etc.)	Included in Digital Agenda for Romania Strategy	Planning Stage	25	25	
Knowledge and the digital economy	ICT Infrastructure	Privat	Development of e-government services using the Romanian Post network	National Company Romanian Post	Supplying an informatics platform to be used for e-government services through the Romanian Post network	Included in Digital Agenda for Romania Strategy	Planning stage	30	30	The National Company Romanian Post is during the privatization process. The proposed project will help increase the Romanian Post value in the privatization process. Lack of short term finance + lack of extended support from the administrations part. The extended, unique, alternative platform for offering e-government services will make the transition to the digital economy in the rural area and will help the administration come closer to the citizens and the businesses. The proposed project will benefit in time

Knowledge and the digital economy	ICT Infrastructure	Privat	Developing e-commerce by increasing online accessibility and removing delivery barriers (in accordance with the European Commission Green paper no 698 from	National Company Romanian Post	Integrated solution for the Romanian Post to adhere to the E-commerce Interconnected Platform services and for the Romanian Post to supply quality services of parcel delivery	Included in Digital Agenda for Romania Strategy	Planning stage	60	60	Lack of finance on short term A combination of EC grants EIB would be the best financing solution. A project management unit will supervise the project's planning and implementation.
Knowledge and the digital economy	ICT Infrastructure	Public	Implementing multiple payment facilities for eGovernment Services and bringing a number of life events to 5th level of sophistication	Ministry for Information Society	Offering the possibility to citizens and business environment to pay required taxes for eGovernment Services by diverse means - such as SMS, mWallet, online payments, credit lines etc.	Included in Digital Agenda for Romania Strategy	Planning Stage	15	15	
Knowledge and the digital economy	ICT Infrastructure	Public	Cybersecurity systems for Critical Information Systems	Ministry for Information Society	Implementing the required cybersecurity systems (both from a protection and from an analytics perspective) in order to meet the strategic objectives as stated in the Digital Agenda	Included in Digital Agenda for Romania Strategy	Planning Stage	35	35	
Knowledge and the digital economy	ICT Infrastructure	Public	Cloud Computing in Romania	Ministry for Information Society	Implementing the required systems (integration layer, marketplace, cloud orchestration, PaaS, IaaS and SaaS) for datacenter consolidation strategy, as stated in the Digital Agenda	Included in Digital Agenda for Romania Strategy	Planning Stage	20	20	
Knowledge and the digital economy/Social	ICT Infrastructure/Education and Training	Public	OER and Web 2.0 Curricula Systems	Ministry for Information Society in partnership with Ministry of Education	Project for developing OER resources and Web 2.0 on learning and evaluation for pupils and students	Included in Digital Agenda for Romania Strategy	Planning Stage	30	30	
Knowledge and the digital economy/Social	ICT Infrastructure/Education and Training	Public	Extra-curricula systems for innovation in learning in pre-university education	Ministry for Information Society in partnership with Ministry of Education	Project for developing the resources used as support for extracurricular networking activities (creation camps, experience exchange, visits of international study and e-Holiday project)	Included in Digital Agenda for Romania Strategy	Planning Stage	20	20	
Knowledge and the digital economy/Social Infrastructure	ICT Infrastructure/Health	Public	Extension of medical information systems and developing of an integrated system for medical data	Ministry of Health in partnership with Ministry of Interior and Ministry for Information Society	Create the interoperability between databases and systems from all medical units/entities	Included in Digital Agenda for Romania Strategy	Planning Stage	20	20	
Knowledge and the digital economy/Social	ICT Infrastructure/Health	Public	Telemedicine for the emergency units	Ministry of Health in partnership with Ministry of Interior and Ministry for Information Society	Integrated project for emergency units and healthcare providers using telemedicine	Included in Digital Agenda for Romania Strategy	Planning Stage	18	18	
Knowledge and the digital economy/Social	ICT Infrastructure/Health	Public	Teleimaging system	Ministry of Health in partnership Ministry for Information Society	Integrated project for gathering and exposing medical image data	Included in Digital Agenda for Romania Strategy	Planning Stage	15	15	
Knowledge and the digital economy/Social	ICT Infrastructure/Health	Public	Teleconsulting system	Ministry of Health in partnership Ministry for Information Society	Integrated project for teleconsultation from medical specialists	Included in Digital Agenda for Romania Strategy	Planning Stage	15	15	
Knowledge and the digital economy/Social	ICT Infrastructure/Health	Public	Telemedicine for home care	Ministry of Health in partnership Ministry for Information Society	Integrated project for gathering home care data and using it to improve medical services	Included in Digital Agenda for Romania Strategy	Planning Stage	50	50	
Knowledge and the digital economy	Public R&D	Public	Libraries as a focal point for community development	Ministry of Culture in partnership with Ministry for Information Society	Developing services for libraries so that they form a central information hub (knowledge centers) for the development of communities.	Included in Digital Agenda for Romania Strategy	Planning Stage	15	15	
Knowledge and the digital economy	Public R&D/ICT Infrastructure	Public	Support systems for virtual clusters for research and development in smart specialization domains	Ministry for Information Society	Support systems for virtual clusters (collaboration, integration, common development environment etc.) for introduction of ICT innovative products and services in smart specialization domains	Included in Digital Agenda for Romania Strategy	Planning Stage	20	20	
Knowledge and the digital economy	ICT Infrastructure	Public	Fast and ultrafast Broadband infrastructure development (NGN)	Ministry for Information Society Local administrations Communications infrastructure	Ensure access to Internet at 30 Mbs per each Romanian household	Included in Digital Agenda for Romania Strategy	Planning Stage	500	500	
Knowledge and the digital economy	Public R&D/Private R&D	Public/Private	Seed capital program	Department for SMEs, Business environment and	Development of programs to support innovative spin-off and start up	Yes		20	20	The main barrier is financing. Solution is finding sources of financing.
Knowledge and the digital economy	Public R&D/Private R&D	Public/Private	Venture capital Program	Department for SMEs, Business environment and	Development of programs to support innovative spin-off and start up	Yes		20	20	The main barrier is financing. Solution is finding sources of financing.
Knowledge and the digital economy	ICT Infrastructure	Public	Data Centres	Ministry of Transport – represented by Telecomunicatii CFR	The project will develop a data centre for ensure safe communications for all public authority, company and public institution, which are under the coordination and authority of Ministry of Transport and backup for railway communications.	No	Planning and permitting in final stages – construction start expected in 2015. The projects will open in	2.9	2.9	Lack of long term finance and coordination, leading to possible delays. A combination of EC grants. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries

Knowledge and the digital economy	ICT Infrastructure	Public	Broadband	Ministry of Transport – represented by Telecomunicatii CFR	The project will develop broadband services for passenger and freight trains as well as railway stations, such as internet service, information for passenger, emergency call, video surveillance, control of trains	No	Planning and permitting in final stages – construction start expected in 2015. The projects will open in 2016	90	70	Lack of long term finance + coordination and permitting problems, leading to possible delays. A combination of EC grants. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries
Knowledge and the digital economy	Public R&D	Public	Romanian multi annual programme of micro industrialization	Department for SMIs, Business environment and tourism	It is a minimum scheme for supporting investments in production/IT in order to increase workload and competitiveness SMEs in this sectors. The minimum aid is maximum 100.000 euro /SMEs for purchasing equipments. 833 SMEs will be supported. The access to the programme is online. The applicants fill online their investment plan. The main condition for approving financing is creation at least 3 new jobs / SME means at least 2500 new jobs /year. The teams from territorial offices introduce online the results of evaluation, sign the agreements and monitor SMEs. The team from General Directorate for entrepreneurial politics centralize evaluation data, follow implementation and payments and report to the Competition Council. The total budget includes 100000 euro costs for implementing programme on 2015-2017	not yet	Proposal	250	250	The main barrier is financing. Solution is finding sources of financing.
Knowledge and the digital economy	ICT Infrastructure	Public	Integrated electronic information systems – ERP	Național Office for Gambling	Integrated information system including all information flow at NOG level	No	Implementation system in 2015	2	2	A blend of subsidies of EC, EBRD and other states member. An PMU will monitor the project planning and implementation under the supervision of the beneficiary and the General Secretariat of the Government
Transport	Corridors and missing links	Public	Cross border links	Ministry of Transport – represented by Telecomunicatii CFR	In order to improve the interchange capacity through the western and South- Eastern Romanian interface, the network in the area is considered for reinforcement: LEA 400 kV Portile de Fier – Resita and the expansion of the station 220/110 kV Reșița by building a new unit of 400 kV+shift to 400 kV of LEA 220 kV d.c. Reșița –Timișoara – Săcălaz – Arad, including building the units of 400 kV Timișoara and Săcălaz. This project improves the interchange capacity at the RO-HU-RS border; intensifies the N-S Corridor from N-E Europe to S-E Europe via Romania and in conjunction with other European projects it could help creating the 400 kV electricity transport corridor from Romania to Italy (via the submarine cable ME-IT).	No	Planning and permitting in final stages – construction start expected in 2015. The projects will open in 2018.	14.7	9.5	Lack of long term finance + coordination and permitting problems, leading to possible delays. A combination of EC grants. A project management unit will supervise the project's planning and implementation under the close supervision of the promoter and the relevant Ministries.
Transport	Other	Public	Increasing traffic safety by developing a system of regional centers video monitoring in areas with high crime on thefts of railway infrastructure	Ministry of Internal Affairs	Infrastructure	No	The project will be applied to be funded from FESI	100	100	The project will be financed only if the management authority agrees the project
Transport	Other	Public	Increasing traffic safety through the establishment of the Regional Center for Video Monitoring of the road traffic on TEN-T	Ministry of Internal Affairs	Infrastructure	No	The project will be applied to be funded from FESI	100	100	The project will be financed only if the management authority agrees the project
Transport	Urban Transport	Public	Metro Line 5. section I Drumul Taberei- Universitate. Ext. I 1991, HG 1259/1990, HG 1114/2003 (EIB IV), HG 1419/2008	MINISTRY OF TRANSPORT S Metrorex	The Project is related to the execution of a new metro line for urban public transport under safety and comfortable conditions. The Project will increase the mobility and the use of public urban transport. The Project will bring significant non-financing benefits, such as: reduced travel time, reduced stress due to road traffic jams, reduced number of accidents in traffic by decreasing the number of vehicles running at surface level, reduced carbon gas emissions since the number of vehicles running at surface will decrease etc. Length: 9 km, No. of stations: 14	Yes	2011 – 2016	774	645	
Transport	Urban Transport	Public	Metro Line 5. Section II. Universitate - Pantelimon. Ext. II 2010, HG 525/2008 (EIB IV)	MINISTRY OF TRANSPORT S Metrorex	The Project is related to the execution of a new metro line for urban public transport under safety and comfortable conditions. The Project will increase the mobility and the use of public urban transport. The Project will bring significant non-financing benefits, such as: reduced travel time, reduced stress due to road traffic jams, reduced number of accidents in traffic by decreasing the number of vehicles running at surface level, reduced carbon gas emissions since the number of vehicles running at surface will decrease etc. Length: 8 km, No. of stations: 13, 1 Depot	Yes	2015 – 2020	1028	1028	

Transport	Urban Transport	Public	Extensions to Bucharest metro network, Section I Nicolae Grigorescu 2 - Anghel Saligny and Section II Gara de Nord 2 - Basarab - Laminorului - Lac Straulesti Extension Parc Bazilescu - Lac Străulești Metro Line IV - extensions Ext.IV	MINISTRY OF TRANSPORTS Metrorex	The Project is related to the execution of a new metro line for urban public transport under safety and comfortable conditions. The Project will increase the mobility and the use of public urban transport. The Project will bring significant non-financing benefits, such as: reduced travel time, reduced stress due to road traffic jams, reduced number of accidents in traffic by decreasing the number of vehicles running at surface level, reduced carbon gas emissions since the number of vehicles running at surface will decrease etc. Length: 1,3 km, No. of stations: 2 + 1 Depot + Park & Ride Intermodal Node	Yes	2012-2016	203.9	86
Transport	Urban Transport	Public	Bucharest International Airport Rail Access Link Project (Metro Line 6. 1 Mai - Otopeni) (Financed under Loan Agreement signed with JICA - Proposed to be financed under EU non-reimbursable financing program 2014-2020), HG 1030/2009	MINISTRY OF TRANSPORTS Metrorex	The Project will bring significant non-financing benefits, such as: reduced travel time, reduced stress due to road traffic jams, reduced number of accidents in traffic by decreasing the number of vehicles running at surface level, reduced carbon gas emissions since the number of vehicles running at surface will decrease etc. Length: 16 km, No of stations: 19 + 1 Depot. JICA financing: around Euro 332 milion (JPY 41.870 million) State Budget co-financing: Euro 723 million, no VAT included	Yes	2015 – 2020	1308.2	1308.2
Transport	Urban Transport	Public	Modernisation of installations on Metro Lines I,II,III,TL, Ext.III 2004, HG 461/2004 (EIB III)	MINISTRY OF TRANSPORTS Metrorex	The modernisation of ventilation and control access installations are proposed to be financed under this Project. Proposed to be financed under non-reimbursable financing, namely to be included in the SOP-T 2007-2013. The Project will bring significant non-financing benefits, such as: reduced energy consumption by installations modernisation, increased safety and amenities conditions for passengers, reduced maintenance and repair costs etc	Yes	2015	341.88	50.3
Transport	Urban Transport	Public	New metro trains	MINISTRY OF TRANSPORTS Metrorex	Procurement of 51 metro trains necessary to be put into operation on Metro Line 5. Drumul Taberei - Pantelimon.	No	2015-2020	434	434
Transport	Urban Transport	Public	Improvement of urban public transport services with metro Stage I Improvement of urban public transport services with metro on Metro Line 2 BERCELI PIPERA - FS preparation (About to be approved)	MINISTRY OF TRANSPORTS Metrorex	The modernisation of Metro Line 2 stations are proposed to be financed under this Project. Proposed to be financed under non-reimbursable financing, namely to be included in the SOP-T 2007-2013. The Project will bring significant non-financing benefits, such as: reduced energy consumption by installations modernisation, increased safety and amenities conditions for passengers, reduced maintenance and repair costs etc. Length: 18 km, No of stations: 14, No of new metro trains: 24.	No	2015-2017	497.33	497.33
Transport	Urban Transport	Public	Metro Line 4. Gara de Nord - Gara Progresu	MINISTRY OF TRANSPORTS Metrorex	Technical characteristics: Length - 14 km, No. of stations: 14. The procurement of designing services for the preparation of the Pre- Feasibility Study and Feasibility Study is about to be launched. The PFS and FS preparation was proposed and approved by the State Secretariat for Economic Affairs (SECO) of Swiss Confederation and included on the list of objectives about to be financed under Swiss- Romanian Cooperation Programme to reduce economic and social disparities within the enlarged European. Completion period: to be agreed after studies financing.	No	2015	9.95	9.95

Transport	Urban Transport	Public	Metro Line 7. BRAGADIRU-VOLUNTARI	MINISTRY OF TRANSPORT S Metrorex	This metro line will be executed in order to increase the passengers' mobility currently travelling on SW-NW direction. This line will interconnect two of the most populated and crowded areas of the city, crossing the downtown. Also, will serve the SW residential neighbourhoods and the trade nearby Alexandriei ring road, and also Rahova and Ferentari neighbourhoods, connecting the downtown and NS area, Colentina – Voluntari. The execution of this line is proposed to be achieved under PPP solution. Route length: around 25 Km / no. of stations: 30, depot: 1. The execution period: to be agreed after studies financing. On 07.06.2012, further identification of certain contradictory aspects in the applicable legislation for PPP projects, the contract no. 56/2011 "Designing, consulting and technical assistance, legal and financial assistance services to prepare and carry out the bidding procedure to award the PPP contract for Metro Line 7 Bragadiru – Voluntari" (Line 7 PPP Project) ceased, until the PPP Law will be modified.	No		3100	3100	
Transport	Urban Transport	Public	Metro Line 2. Extension PIPERA	MINISTRY OF TRANSPORT S	Technical characteristics: Length - 1,6 km, No of stations 2.	No	2015-2020	168.64	168.64	
Transport	Corridors and missing links/Business enablers	Privat	Purchase of 60 H-system 6600- 6000 kW electric locomotives (15 kV/16,7 Hz, 25 kV/50 Hz) fitted with ERTMS equipment	SNTFM "CFR - MARFĂ" S.A.	Interoperable locomotives able to run on electrified railway networks in system 15 kV/16,7 Hz (e.g. Austria) or 25 kV/50 Hz (e.g. Hungary).	No		200	140	
Transport	Corridors and missing links/Business enablers	Privat	Upgrading of 50 electric locomotives of 5100 kW in what concerns auxiliary services and power circuits	SNTFM "CFR - MARFĂ" S.A.	Interoperable locomotives able to run on 25kV/50 Hz system electrified railway networks (e.g. Hungary).	No		40	28	
Transport	Corridors and missing links/Business enablers	Privat	Purchase of 50 Diesel electric locomotives of 2400-3000 hp	SNTFM "CFR - MARFĂ" S.A.		No		170	119	
Transport	Corridors and missing links/Business enablers	Privat	Upgrading 50 Diesel electric locomotives of 2100 hp by replacing the Diesel-generator unit and the electric traction engine	SNTFM "CFR - MARFĂ" S.A.		No		78	54.6	
Transport	Corridors and missing links/Business enablers	Privat	Purchase of 30 Diesel hydraulic locomotives of 1250-1500 hp	SNTFM "CFR - MARFĂ" S.A.		No		60	40	
Transport	Corridors and missing links/Business enablers	Privat	Upgrading of 30 Diesel hydraulic 1250 hp locomotives by replacing the Diesel engine and the hydraulic transmission	SNTFM "CFR - MARFĂ" S.A.		No		21.6	14.4	
Transport	Corridors and missing links/Business enablers	Privat	Purchase of 200 Facnps type wagons for transport of rocks and stones (aggregates)	SNTFM "CFR - MARFĂ" S.A.		No		64	64	
Transport	Corridors and missing links/Business enablers	Privat	Purchase of 100 Laes type wagons for automotive transport	SNTFM "CFR - MARFĂ" S.A.		No		11.4	11.4	
Transport	Corridors and missing links/Business enablers	Privat	Upgrading 100 Rmms wagons and conversion into Shimmms type wagons for transport of coils	SNTFM "CFR - MARFĂ" S.A.		No		1.9	1.9	
Transport	Corridors and missing links/Business enablers	Privat	Equipment and laboratory for calibration of tank wagons	SNTFM "CFR - MARFĂ" S.A.		No		0.01	0.01	
Transport	Corridors and missing links/Business enablers	Privat	Equipment for sanding and painting freight railcars	SNTFM "CFR - MARFĂ" S.A.		No		0.01	0.01	

Transport	Corridors and missing links/Business enablers	Privat	eST	SNTFM "CFR - MARFA" S.A.	<ul style="list-style-type: none"> Implementing the IT system related to the electronic consignment note at the level of the entire railway network in Romania, in around 100 railway stations with freight traffic, i.e. in the concerned offices in the branches and head office of CFR Marfa. The electronic consignment note is required by the TAF- TSI interoperability standards. Also, in the latest version of the Convention on international railway transports (COTIF), currently under preparation and approval, it is specified that the electronic consignment note will become mandatory and the paper hard-copy transport documents can only be used in exceptional cases and if the parties to the transport contract shall agree thereupon. The project requires the development of basic application and of applications allowing data transmission with other railway operators or customers, purchase of hardware and multifunctional printers, purchase of basic software licenses (operating systems, antivirus software, browsers etc.), staff training and expenses resulted from the transition from paper consignment notes system to the 	Nu	ongoing R&D	2	2	Lack of major investments as a result of the lack of financial resources and prioritization of other projects. Grants from the European Commission as well as company's own funds can be considered. The project is coordinated by a commission setup for that purpose and it is supervised by a project manager
Transport	Corridors and missing links	Privat	Modernization of the ferry- boat Eforie	SNTFM "CFR - MARFA" S.A.				8	8	
Transport	Corridors and missing links	Privat	Modernization of the ferry- boat Mangalia	SNTFM "CFR - MARFA" S.A.				8	8	
Transport	Corridors and missing links/Bussiness	Privat	Modernization of the transcontainer terminal of Bucureşti Noi	SNTFM "CFR - MARFA" S.A.	purchase of 40 lf transtainer crane, concrete platform of minimum 750 mm, Kalmar			5	5	
Transport	Corridors and missing links/Bussiness	Privat	Modernization of the transcontainer terminal of Bucureşti Sud	SNTFM "CFR - MARFA" S.A.	purchase of 40 lf transtainer crane, concrete platform of minimum 750 mm, Kalmar			5	5	
Transport	Corridors and missing links/Bussiness	Privat	Modernization of the transcontainer terminal of Bacău	SNTFM "CFR - MARFA" S.A.	purchase of 40 lf transtainer crane, concrete platform of minimum 750 mm, Kalmar			5	5	
Transport	Corridors and missing links/Bussiness	Privat	Modernization of the transcontainer terminal Turda	SNTFM "CFR - MARFA" S.A.	purchase of 40 lf transtainer crane, concrete platform of minimum 750 mm, Kalmar			5	5	
Transport	Corridors and missing links/Bussiness	Privat	Modernization of the transcontainer terminal of Bascov	SNTFM "CFR - MARFA" S.A.	purchase of 40 lf transtainer crane, concrete platform of minimum 750 mm, Kalmar			5	5	
Transport	Corridors and missing links/Bussiness	Privat	Modernization of the transcontainer terminal of Semenic	SNTFM "CFR - MARFA" S.A.	purchase of 40 lf transtainer crane, concrete platform of minimum 750 mm, Kalmar			5	5	
Transport	Corridors and missing links/Bussiness enables	Privat	Managing the wagon fleet assets	SNTFM "CFR - MARFA" S.A.	Developing a wagon fleet monitoring management system for the control of operations costs and improvement of asset performance	No	Feasibility study	3	2	
Transport	Passenger railway transport	Public	Renewal of EMU rolling stock fleet & EMU facility	Ministry of Transport SNTFC "CFR Calatori" SA	Renewal of the EMU & Hall EMU rolling stock fleet by purchasing 120 EMUs	Yes	Pre-feasibility study by the prudent private investor test, included in the General Transport Master Plan	612.16	312.16	Continues after 2017 from POIM funds (eventually CEF for the cross border area)
Transport	Passenger railway transport	Public	Renewal of DMU rolling stock fleet by purchasing 120 DMUs	Ministry of Transport SNTFC "CFR Calatori" SA	Renewal of DMU rolling stock fleet by purchasing 120 DMUs	Yes	Pre-feasibility study by the prudent private investor test, included in the General Transport Master Plan	420.27	210.00	Continues after 2017 from POIM funds (eventually CEF for the cross border area)
Transport	Passenger railway transport	Public	Modernized electric locomotives to increase efficiency and reliability and to achieve interoperability requirements & Rebuilt and modernized passenger coaches for long and medium route trains, including double-	Ministry of Transport SNTFC "CFR Calatori" SA	Modernization of 20 locomotives LE Co-Co 5100 kW including equipment and implementation of ETCS system and simultaneously 120 coaches: series 1980, 2180 (38 pcs), series 1950, 2050, 3950 (44 pcs), series 2626 (10 pcs), series 2047/2057 (28 pcs). The resulting train set shall have 6 coaches.	No	Pre-feasibility study by the prudent private investor test	90.18	63.56	Continues also after 2017, following to be modernized 20 locomotives LE Co-Co 5100 kW including equipment and implementation of ETCS system and simultaneously 120 coaches: series 1980, 2180 (38 pcs), series 1950, 2050, 3950 (44 pcs), series 2626 (10 pcs), series 2047/2057 (28 pcs). The resulting train set shall have 6 coaches.
Transport	Passenger railway transport	Public	Modernization LE (BoBo), implementing the equipment for push-pull system and ETCS & Modernization of passenger coaches equipped with electropneumatic brake and push – pull	Ministry of Transport SNTFC "CFR Calatori" SA	Modernization of 20 locomotives LE Bo-Bo 3400 kW including equipment and implementation of ETCS system and simultaneously 98 coaches: series 1980, 2180 (38 pcs), series 1950, 2050, 3950 (44 pcs), series 2626 (8 pcs), series 2047/2057 (22 pcs). The resulting train set shall have 5 coaches.	No	Pre-feasibility study by the prudent private investor test	80.87	56.63	Continues also after 2017, following to be modernized 20 locomotives LE Bo-Bo 3400 kW including equipment and implementation of ETCS system and simultaneously 98 coaches: series 1980, 2180 (38 pcs), series 1950, 2050, 3950 (44 pcs), series 2626 (8 pcs), series 2047/2057 (22 pcs). The resulting train set shall have 5 coaches.

Transport	Passenger railway transport	Public	Procurement of second-hand DMUs with guaranteed lifespan of minimum	Ministry of Transport SNTFC "CFR Calatori" SA	Procurement of 100 second-hand DMUs second-hand with minimum guaranteed lifespan of 12 years	No	Pre-feasibility study by the prudent private investor test	100.00	80.00	Continues also after 2017. 100 second-hand DMUs shall be purchased, with minimum guaranteed lifespan of 12 years.
Transport	Passenger railway transport	Public	Modernization of 30 passenger coaches from different series for day and night trains, including for the car transport on the route Bucharest-Vienna and back	Ministry of Transport SNTFC "CFR Calatori" SA	Modernization of 30 passenger coaches from different series for day and night trains, including for the car transport on the route Bucharest-Vienna and back	No	Pre-feasibility study by the prudent private investor test	12.00	8.00	Continues also after 2017
Transport	Railway Passenger Transport	Public	Equipping about 80 LDE locomotives with installation for reducing time and increasing efficiency of traction diesel engine	Ministry of Transport SNTFC "CFR Calatori" SA	Equipping about 80 LDE locomotives with installation for reducing time and increasing efficiency of traction diesel engine	No	Pre-feasibility study by the prudent private investor test	5.20	5.20	The investment is recovered by reducing the consumption of fuel and oil in less than a year
Transport	Railway Passenger Transport	Public	Application to monitor the locomotives and passenger trains' position	Ministry of Transport SNTFC "CFR Calatori" SA	Application to monitor the locomotives and passenger trains' position	No	Pre-feasibility study by the prudent private investor test	1.50	0.90	Continues after 2017 in the context of applying the provisions of EC Regulation 454/2011 (TAP-TSI) and Regulation (EC) NO. 1371/2007
Transport	Railway Passenger Transport	Public	Dynamic passenger information system during the train journey	Ministry of Transport SNTFC "CFR Calatori" SA	Dynamic passenger information system during the train journey	No	Pre-feasibility study by the prudent private investor test	1.01	0.61	Continues after 2017 in the context of applying the provisions of EC Regulation 454/2011 (TAP-TSI) and Regulation (EC) NO. 1371/2007
Transport	Railway Passenger Transport	Public	Equipping electric locomotive with permanent control system of train traffic type ETCS / ERTMS level 2	Ministry of Transport SNTFC "CFR Calatori" SA	Equipping electric locomotive with permanent control system of train traffic type ETCS / ERTMS level 2	No	Pre-feasibility study by the prudent private investor test	45.56	34.21	Continues after 2017 in the context of applying the provisions of EC Regulation 454/2011 (TAP-TSI) and Regulation (EC) NO. 1371/2007
Transport	Railway Passenger Transport	Public	Extendin the pilot system for issuing tickets in domestic traffic at ticket machines - xSellKiosk	Ministry of Transport SNTFC "CFR Calatori" SA	Extending the pilot system for issuing tickets in domestic traffic at ticket machines - xSellKiosk	No	Pre-feasibility study by the prudent private investor test	21.11	18.81	Continues after 2017 for harmonizing systems with the European ones
Transport	Railway Passenger Transport	Public	IT data exchange between issuing and reservation system in Romania being consisting with systems used by European railway operators & Extension of issuing system in international traffic - online sale & Redesigning RoTicket system to implement the new European interface OSI of selling international tickets type NRT	Ministry of Transport SNTFC "CFR Calatori" SA	IT data exchange between issuing and reservation system in Romania being consisting with systems used by European railway operators & Extension of issuing system in international traffic - online sale & Redesigning RoTicket system to implement the new European interface OSI of selling international tickets type NRT	No	Pre-feasibility study by the prudent private investor test	4.40	3.85	Continues after 2017 for harmonizing systems with the European ones
Transport	Railway passenger transport	Public	Extending the pilot information system and electronic sale of tickets in domestic traffic through on board portable devices – iMTK	Ministry of Transport SNTFC "CFR Passengers" S.A.	Extending the pilot information system and electronic sale of tickets in domestic traffic through on board portable devices – iMTK	No	Pre-feasibility study by the prudent private investor test	6.97	4.77	Continues beyond 2017 in order to harmonise the systems with those from Europe

Transport	Railway passenger transport	Public	Developing a software solution allowing electronic recording and settling the requests to ensure specific services for people with reduced mobility	Ministry of Transport SNTFC "CFR Passengers" S.A.	Developing a software solution allowing electronic recording and settling the requests to ensure specific services for people with reduced mobility	No	Pre-feasibility study by the prudent private investor test	0.40	0.40	The liability context of applying the provisions of Regulation 454/2011 /EC (TAP-TS) and Regulation 1371/2007(EC).
Transport	Railway passenger transport	Public	Replacement programme of the specific equipment of electronic systems for issuance of tickets in domestic and international traffic	Ministry of Transport SNTFC "CFR Passengers" S.A.	Replacement programme of the specific equipment of electronic systems for issuance of tickets in domestic and international traffic	No	Pre-feasibility study by the prudent private investor test	16.55	16.55	Continues beyond 2017 in order to harmonise the systems with the European ones
Transport	Railway passenger transport	Public	Achieving a program on issuance and management of special type of passes (authorizations, tickets, passes and FIP)	Ministry of Transport SNTFC "CFR Passengers" S.A.	Achieving a program on issuance and management of special type of passes (authorizations, tickets, passes and FIP)	No	Pre-feasibility study by the prudent private investor test	1.00	1.00	Continues beyond 2017 in order to harmonise the systems with the European ones
Transport	Railway passenger transport	Public	Increasing the exploitation efficiency of available resources	Ministry of Transport SNTFC "CFR Passengers" S.A.	Increasing the exploitation efficiency of available resources	No	Pre-feasibility study by the prudent private investor test	0.70	0.70	Own funds
Transport	Railway passenger transport	Public	Purchasing equipment for drop in pressure / pressure of wheels from / on the axle shaft	Ministry of Transport SNTFC "CFR Passengers" S.A.	Purchasing equipment for drop in pressure / pressure of wheels from / on the axle shaft	No	Pre-feasibility study by the prudent private investor test	0.80	0.80	Own funds
Transport	Railway passenger transport	Public	Purchasing automatic lathe bandages at Cluj and Timisoara depots	Ministry of Transport SNTFC "CFR Passengers" S.A.	Purchasing automatic lathe bandages at Cluj and Timisoara depots	No	Pre-feasibility study by the prudent private investor test	2.82	2.82	Own funds
Transport	Corridors and missing links	Public	Craiova – Calafat	Național Company for Roads		Yes		581.00	5.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	Ploiesti – Buzau - Focsani – Bacau – Pascani – Siret	Național Company for Roads		Yes		3,199.00	36.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	Bucuresti – Giurgiu	Național Company for Roads		Yes		420.00	4.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	Sibiu – Fagaras	Național Company for Roads		Yes		635.00	7.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	Braşov – Bacau	Național Company for Roads		Yes		1,190.00	14.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	Sibiu Pitesti	Național Company for Roads		Yes		2,410.00	14.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.

Transport	Corridors and missing links	Public	Buzau – Braila – Galati	National Company for Roads		Yes		552.00	6.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	Sebes – Turda	National Company for Roads		Yes		631.00	631.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	Dumbrava – Deva	National Company for Roads				648.00	648.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	DN 76	National Company for Roads				210.00	210.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	DN 56	National Company for Roads				74.00	74.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	DN 66	National Company for Roads				89.00	89.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	DN 73	National Company for Roads				109.00	109.00	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	By pass Targu Mures	National Company for Roads				47	47	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Transport	Corridors and missing links	Public	By pass Targu Jiu	National Company for Roads				49	49	possible insufficient budget allowances, in order to ensure co-financing from the State Budget. Any possible unforeseen scenarios occurred during project implementation, which may lead to delays in its completion.
Resources and Environment	Other	Public	Capacity building protection and conservation areas of Romanian Gendarmerie for tourism development ecotourism (sites Nature 2000, natural parks, national parks, danube Delta Biosphere Reserve)	Ministry of Internal Affairs	Developing the infrastructures	no	The project will be applied to be funded from FESI	10	5	The project will be financed only if the management authority agrees the project
Resources and environment	Natural resources: efficient and secure	Public	Installation for energy recovery with high efficiency cogeneration of municipal waste in Bucharest	Bucharest City Hall	Installation for energy recovery with high efficiency cogeneration of municipal waste in Bucharest		Tender documents for selection of the Consultant and technical assistance for PIU under	250	250	
Resources and	Natural resources: efficient and	Public	Integrated waste management system in Galati county	Galati County Council	Extension of waste collection and recycling system	Included in the Master Plan of the	Institutional analysis and CBA under	58.28	58.28	
Resources and	Natural resources: efficient and	Public	Integrated waste management system in Ilfov county	Ilfov County Council	Extension of waste collection and recycling system	Included in the Master Plan of the	Supporting documents of the Financing Application under	31.7	31.7	
Resources and	Natural resources: efficient and	Public	Integrated waste management system in Brasov county	Brasov County Council	Extension of waste collection and recycling system	Included in the Master Plan of the	Supporting documents of the Financing Application under	20.8	20.8	
Resources and environment	Natural resources: efficient and	Public	Rehabilitation of historical contaminated petroleum sites in	MECC - Directorate for Investments, Public Procurement and Internal Service	Rehabilitation of contaminated sites	-	Financing Application under preparation	60.87	60.87	



SLOVAKIA



Key Investment Project List – SLOVAK REPUBLIC

1. Knowledge and digital economy

Sector	Subsector	Project Name	Organization – Project Sponsor	Description	Included in National Investment Plan	Project Status	Total Investment Costs (EUR BN)	Investment in 2015 – 2017	Barriers to Implementation
Knowledge and digital economy	Public projects of research and development (research infrastructure, universities)	Strengthening of research and development capacities and competencies of universities in the field of smart specialization	Ministry of Education of SR	The project will be funded from the Operation Program Research and Innovation. It entails support for a large joint project of the two largest Slovak research universities - Comenius University in Bratislava and the Slovak University of Technology in Bratislava. Both universities have strong potential in terms of education and research and innovation that has been unused to date; they have both established dozens of research centers over the program period of the years 2007 – 2013 that have led to the internal fragmentation of both institutions in several areas. At the same time, there is a major problem when it comes to the	No	Planned	0.1	0.020	n/a

				researchers as well as for students, in terms of the present era and the thematic areas covered by universities and which are also the areas of RIS3					
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Knowledge and digital economy	Public research and development projects Private research and development projects	ALLEGRO – experimental facility for the development and demonstration of GFR technologies	Consortium for ALLEGRO (initiated by Slovak Academy of Sciences VUJE, a.s. and Slovak University of Technology)	Research, development, proposal and construction of research and demonstration a 4 th generation fast neutron based helium cooled nuclear reactor (GFR). Its aim is to demonstrate and qualify in semi-operational mode the key principles of GFR technologies and to confirm expected features of GFR reactors. The experimental reactor will also be used to perform radiation tests in a fast neutron spectrum environment. Additional circuitry implemented in the primary system will provide pilot test capacities for testing high-temperature components or thermal processes.	No	Project 7RP EU Alliance focuses on the preparatory stage of the ALLEGRO demonstrator development. VUJE is its partner for the Slovak Republic. In Slovakia, Allegro is being prepared by the Slovak Academy of Sciences and Slovak University of Technology as part of the project within the OP Research and Development –	1.2	0.3	Especially V4 countries supported by France will participate in the ALLEGRO demonstrator construction. So far however, the establishment of a legal entity (joint undertaking or ERIC) has not yet been solved on the intergovernmental level that would manage the construction and operation of ALLEGRO. During 2015, it will be necessary to ensure the achievement of an intergovernmental agreement and to establish a legal
Energy Union	Low-carbon energy production and integration into the network								

Knowledge and the Digital Economy	Public R&D	Stabilisation and Integration of Slovak Science into the Basic Research	Slovak Academy of Sciences	The project is focused on the stabilisation and development of basic/non-commercial research, as well as on the creation of linkages with the European	No	Under preparation	0.12	0.12	Lack of financial resources; brain drain; the absence of the middle generation within the science and R&D sector; volatile and unreliable financing of systematically important positions within this
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		EU		through the support for systematically important staff positions within the Slovak Academy of Sciences and the Slovak Universities, as well as through support targeted specifically at medium-term and long-term study and research mobility within all scientific disciplines (social sciences and humanities, natural and					appropriate support base as well as the systematically important staff positions, and linked to the support for the mobility of researchers, enabling scientists to undertake international cooperation without the risk of brain drain, leading to more intense development of science and R&D on the national level.
Knowledge and the Digital Economy	Public R&D	Creation of an International Network of Databases in the Social and Linguistic Sciences	Slovak Academy of Sciences (in cooperation with a consortium of Slovak Universities and participating institutions from the whole of the EU)	The aim of the project is to allow Slovakia (as well as other Central European countries) to join in with the emerging system of Europe-wide databases of social and linguistic data (CESSDA, language corpuses etc.). This is to be achieved through the creation of a functioning infrastructure for scientific research, which would integrate historical as well as topical documents and databases along with the appropriate	No	Under preparation	0.1	0.1	Lack of financial resources; little to no capacity in terms of working positions in this type of infrastructure projects

Knowledge and the digital economy	Public projects for R&D	Science, research and technology transfer center at Armed	Armed Forces Academy Liptovsky Mikulas with cooperation with Ministry	Restarting the science, R & D in the areas prioritized by AOS LM/ASR/MOSR along with implementation of the results is the main goal of the developed center. We	no	Project is in the stage of detail plan according to areas of R & D. Priorities for R & D have been assigned.	0,18	0,13	Working partnership with other organizations is crucial to secure successful implementation. The formation of these
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		Liptovsky Mikulas (AFA LM)		reconnaissance, big data wireless data transfer, advanced defense technology, CritSit solutions, natural disaster management. Followed by know- how integration into professional and career training in the means of		ready to start.			stage. We anticipate some issues regarding personal coverage, as we are talking about most advanced technologies where highly competitive conditions must be
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Knowledge and digital economy	Private research and development projects (KETs— key technologies)	Nanotechnologies – research and development , technologies of large-volume monocrystal leucosapphire and YAG production	CEIT, a.s. Žilina, Slovak Academy of Sciences + University of Žilina	The project aims toward research excellence whose globally acceptable outcomes are globally new knowledge, unique technologies and progressive production mass production system of industrially verified monocrystals. The proposed project focuses on research excellence, building a new industrial sector and supporting Slovak exports. The project's main goal is fast transfer of results of research excellence to industrial applications, while cooperating with research capacities from universities.	No	Project description completed	0.139	0.139	Method of financing / decision about implementing the project description still unclear
Knowledge and digital economy	Public research and development projects (research infrastructure, universities)	Green transportation, energy and smart systems	University of Žilina + other entities	The green energy and transportation project addresses two basic problems of human settlements in the 21 st century: - Green transportation – safe and smooth passenger and freight transport infrastructure and provision of	No	Project description completed	0.120	0.088	Method of financing / decision about implementing the project description still unclear

				<p>sources in order to reduce economic and social energy demand and the environmental burden.</p> <p>These interests lead in the long run to building an energy self- sufficient region/city/municipality consisting of energy efficient housing and service facilities with a smart transport system and smart transport road using green materials, green energy and green transport means to be also used by the population and to become a part of ZERO</p>					
Knowledge and digital economy	Public research and development projects (research infrastructure, universities)	Company of the future – smart production systems and digital engineering for the industry	University of Žilina + other entities	The project involves cooperation between the most significant national research institutes and significant industrial partners from various regions. The submitted project focuses on research excellence addressing the issue of reconfigurable smart production systems. Implementation of the project will positively impact employment growth of highly qualified workers, better use of national raw material base for increased industrial production with high added value and significant growth of Slovak exports. In the medium term, implementation of this	No	Project description completed	0.185	0.150	Method of financing / decision about implementing the project description still unclear

Knowledge and the digital economy	Private R&D - Key Enabling Technologies	Automation and robotics for intelligent production and service systems	Cluster ATR /2 RTD and 10 Private companies/	Private innovation companies and R&I Centers-12members of Cluster ATR will implement their own development and innovation in mechatronic components, modules and systems for the field of intelligent production and service robotic systems. Cluster ATR will provide the necessary know-how transfer with partners from ETP MANUFUTURE and euRobotics for cooperation in the production and final delivery of new products and delivery of complex systems.	No	Part of advanced mechatronic components / modules and mobile service robotics are in final stages, start expected in 2015. Intelligent productions and robotics service systems was in preparation of international projects in the field of Human-robot systems, robotics service in the field AAL, Security and diagnosis, monitoring and manipulation. The projects will open in 2016-17. Transfer know-how and training activities are developed as pilot projects of international clusters – CluStrat	0.1	0.03	The lack of resources to finance the preparation and implementation of research and innovation projects. Missing resources for co-financing of PPP projects and cluster initiatives. Absence sources of finance common infrastructure for the transfer of new technologies and know-how. Associated financing research and implementation plans of the EC grants and the EIB with private sector manufacturers and users capital will effectively cover the sources and synergy of several projects with higher added value and benefits for competitiveness, employment and international cooperation.
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Knowledge and	Private R&D	NextGenRail Freight	Private promote	Next generation of rail freight - European	no	Feasibility study and	0,15	0,10	Lack of long term finance + permitting problems, leading to
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digital economy			Railway Transport Cluster	Improvement in the Freight field will concentrate critical mass of material, infrastructure and human resources necessary to systematically cover research and innovation activities related to development of rail freight transport of new generation. It includes test circuit, research and testing facilities and longterm systematically research. The Centre will focus on 5 growth factors determined by the 5L initiative: L ow noise, L ightweight, L ong running, L CC – oriented and L ogistics capable. The research concepts leads to a green rail		proposal is ready			<p>A combination of EC grants, EIB and MS finance as well as private capital is envisaged. Progress from intensive research and innovation activities can for application in practice require an adjustment of some legislative documents, regulations and standards governing the design and operation of rolling stock (eg. ... TSI).</p> <p>It is necessary to involve all stakeholders in rail freight transport.</p> <p>Research is a long-term endeavour; research capacity and reputations may take many years to build. Funding must be excellence-based but significant new initiatives will need nurturing</p>
Or	Or								
Transport	Business enablers								

Key Investment Project List – SLOVAK REPUBLIC

2. Energy Union

Sector	Subsector	Project Name	Organization – Project Sponsor	Description	Included in National Investment Plan	Project Status	Total Investment Costs (EUR BN)	Investment in 2015 – 2017	Barriers to Implementation
Energy Union	Energy efficiency in buildings	GovCity (government city)	Ministry of Interior	Building a centralized energy efficient and cost optimized administrative facility for the majority of central state administration bodies located in Bratislava with joint support processes.	No	Planning and modelling of the structure of financing, preparing project description, project plan.	0.225	0.207	n/a
Energy Union	Energy efficiency in buildings (buildings of the public sector – schools, hospitals, administrative centers, other programs)	Reducing energy intensity of public buildings	Ministry of Environment of the Slovak Republic	Reducing energy consumption when operating public buildings administered by the Ministry of Interior of the Slovak Republic. The stated project contributes to meeting the annual energy savings objective provided in Article 4 of Directive 2012/27/EU on Energy Efficiency.	No	In line with general principles of project selection, the Slovak Innovation and Energy Agency performed energy audits in selected buildings.	0.42	0.023	n/a

Energy Union	Gas	Slovak - Polish	Eustream (Slovak)	The Slovak – Polish gas connection with a	yes	Feasibility study and pre-project	0,346	0,0412	Due to high financial cost,
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		gas	and GAZ SYSTEM (Polish TSO)	approx. 164 km; the project is part of the list of PCI projects No. 6.2.1. (cluster 6.2.)		project preparation realized, building permit in 2017 – 2018, launch of	(SK part of the project EUR 142.2 mil.)		implementation is strongly dependent on external funding (EU grant).
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Energy Union	Energy efficiency in buildings	Reducing energy demand of public buildings	MoE SR / SIEA	EA and renewal of buildings of central state administration bodies (pursuant to Article 5 of Directive 2012/27/EU); the priority will be buildings of the central state administration bodies in the Bratislava region.	The strategy of renewal of the fund of residential and non-residential buildings in the Slovak Republic	EA is prepared for 250 public buildings that will be partially renovated as part of the OP Quality of Environment 2014 – 2020.			<ul style="list-style-type: none"> - Limited grant resources. - Limited possibilities of funding through loans considering high indebtedness of public administration. - Barriers in budgetary rules for public bodies. - Ineligibility of Bratislava Self-Governing Region when it
Energy Union	Energy efficiency in buildings	Reducing energy demand of family houses	MoE SR / SIEA	EA and building renewal	The strategy of renewal of the fund of residential and non-				<ul style="list-style-type: none"> - Limited grant resources for family houses.

					Republic.				
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Energy Union	Energy efficiency in residential buildings	Increasing energy efficiency of apartment houses	Slovak Investment Holding (SIH) and, consequently, financial mediator	Through complex renovation of residential houses to achieve maximal energy savings in the housing sector. It will involve systemic renewal of apartment houses above and beyond the limit of the cost-optimal requirements stated in the Directive on Energy Efficiency of Buildings.	No	Considering that the financial instrument JESSICA, which is expected to be used in the housing sector, in the program period 2014 – 2020, also applied in the program period 2007 – 2013, good	0.14 (0.11 source ERDF)	– (to be added depending on demand and readiness of financial Instruments)	In potential barriers from the aspect of effective use of financial resources through financial instruments, it will show the ex ante analysis for the use of financial instruments in the program period 2014 - 2020“ the results of which will be available in 4Q 2014.
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Energy Union	Energy efficiency in buildings (buildings of the public sector)	Increasing energy efficiency in the Slovak Republic's prison system	Ministry of Justice	Modernization of existing prison complexes in the Slovak Republic in order to reduce their energy demand and operational costs	No	2015 – project preparation and public procurement since 2006 – implementation	0.022	0.011	n/a
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Energy Union	Interconnections and production	Underground natural gas reservoir Velké Kapušany	NAFTA a.s.	Building of underground natural gas reservoir in close vicinity to the compressor station Velké Kapušany (intersection of three transit gas pipelines UA-SK, PL- SK and SK-UA) in order to support the gas	N/A	Feasibility study preparation	0.21	0.11	Insufficient market support for project implementation. The project brings several benefits which the market cannot currently recognize
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				at the border of the EU with direct cross-border impact on SK, UA, PL, and Hungary. The benefit afforded by the project is the support of gas transit networks in the region.					market, security of supplies, sustainable distribution, development of EU competition environment). Support from public resources would balance this inadequate market
Energy Union	Interconnections and production	Highly flexible natural gas reservoir in North-South energy corridor of the EU.	NAFTA a.s.	Expanding the existing complex of the underground natural gas reservoir with additional capacities in order to support natural gas market integration in Central Europe and its linking to existing and new gas transport networks, including their cross-border connections. The project also focuses on increasing the security of natural gas supplies within the region of Central Europe by increasing the flexibility of natural gas supplies to and from the connected gas	N/A	Feasibility study preparation	0.32	0.16	Insufficient market support for project implementation. The project brings several benefits the market currently cannot recognize (contribution to integrated EU's energy market, safety of supplies, sustainable distribution, development of EU competition environment). A support from public resources would balance this
Energy Union	Energy efficiency in buildings	Renewal of TK1- 6 compressor station	NAFTA a.s.	Increased energy efficiency of compressor units by reconstructing them as units run by electricity.	N/A	The study of compressor station renewal has been realized. Preparation of project documentation for building proceeding is underway.	0.055	0.025	Process demanding high investments. Support from public resources of the EU to increase energy efficiency and to improve impacts on the environment would significantly speed up implementation of
Energy Union	Security of supplies	Pre-Neogene survey	NAFTA a.s.	Increasing gas mining in the Slovak Republic will reduce the country's	N/A	Regional studies of pre-Neogene	0.110	0.110	High investment expenses linked to the

				<p>import of natural gas from third countries. Gas reservoirs were discovered and mined in the pre-Neogene of the Vienna basin in the volume of approx. 1.6 bn. m³ of natural gas, but reservoirs in dozens of bn m³ of natural gas were discovered in the pre – Neogene of the Austrian part of the Vienna basin. It is expected that such deposits also occur in the Slovak part of the Vienna basin and in the Eastern Slovak Lowlands. At the beginning of this project, it is necessary to precisely identify and localize hydrocarbon traps using 3D seismic measurements. After interpreting the results of measurements, the identified sites will be opened. At the same time, tendering to drill 10 boreholes will be prepared. In 2017, the opening of potential sites will take place.</p>		<p>reprocessing of seismic data in the Závod area realized in 2006.</p> <p>The study of drill cores from the core warehouse of NAFTA a.s. realized.</p> <p>Measurement of 2 magnetotelluric profiles realized.</p>			risk of initial research.
Energy Union	Low-carbon energy production and integration into the network	Use of geothermal energy	NAFTA a.s.	<p>The project aims at using geothermal energy for electricity generation. It will be the first geothermal power plant in Slovakia. In total, the project includes a survey of the area – 3D seismic, magnetotellurics. Drilling of 4 geothermal</p>	N/A	Project developed – hydro-geological survey to acquire thermal water	0.053	0.053	High investment expenses linked to the risk of initial research. Insufficient support by the regulator.

				plant itself. Main project lines: - 3D seismic - Magnetotellurics - Power plant building					
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Energy Union	Interconnections and production	Oil pipeline Bratislava - Schwechat	TRANSPETROL, a.s.	Connecting oil pipeline systems East - West, diversification of routes for transport of oil, increased energy security of Austria and Slovakia in the event of oil crisis	No	Stage of project preparation (realization of studies and project works on routing)	0.1 – 0.2 depending on the selected route (city corridor 0.1 bn. Carpathian corridor 0.2 bn EUR)	0.1 – 0.2	Need for legislative modifications, incorporating the route into AP (area plan), property-rights settlement
Energy Union	Interconnections and production	Reconstruction and increased transport capacity of oil pipeline Friendship 1	TRANSPETROL, a.s.	Diversification of transport route of oil to Slovakia, increased energy security of Slovakia	No	Project at stage of realization	0.02	0.02	No barriers are known at the moment restricting project realization
Energy Union	Interconnections and production	Revitalization and renewal of SWS Vojany complex	TRANSPETROL, a.s.	Alternative transport of various types of oil by rail	No	Project feasibility study	0.04	0.04	Settling property rights, e.g. agreeing to project implementation by shareholders

Energy Union	Interconnection and Production	Boiler House Upgrade (B6 & B7)	U. S. Steel Košice, s.r.o.	Upgrade of the boilers aimed at fuel conservation and supply stability	NA	Building Permit, EIA	0,14	0,14	High capital expenditures; changing regulations: - own resources; following more
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									minimum
Energy Union	Interconnection and Production	Energy-efficient Rolling	U. S. Steel Košice, s.r.o.	Rolling mill drive upgrade; electric power conservation	NA	Study	0,1	0,02	High capital expenditures
Energy Union	Low-carbon Energy Production	Automotive High-strength Steel Production	U. S. Steel Košice, s.r.o.	Construction of continuous steel casting facilities to produce high-strength steel grades at the lowest possible energy demand	NA	Study	0,5	0,05	High capital expenditures
Energy Union	Low-carbon Energy Production	Galvanizing Line Construction	U. S. Steel Košice, s.r.o.	Construction of facilities producing galvanized sheets as the main product for the automotive industry as well as a substrate for construction industry products to minimize the	NA	Study	0,14	0,05	High capital expenditures

Energy Union	More energy-efficient low-carbon economy	Improving the energy efficiency of electricity and heat generation PPC DUSLO 67 MWe	DUSLO, a.s.	Support for the use of highly effective combined electricity and heat generation based on demand for usable heat.		The project is at the stage of selecting the general supplier. The general supplier will also secure the project documentation	0,066		
Energy Union	Connections and production	Pilot regional intelligent energy schemes	CLUSTER of Local and regional municipalities,	Model regional priority projects of decentralized energy generation	No	To be planned. Expended planning and	0.240	0.200	Lack of capacities for regional energy planning + absence of energy strategies / support for this

				(solar, biomass, heat pumps, wind and their combinations) to cover local needs. 3 projects per region (total 24 projects). Each project serves also as a demonstration of principles of intelligent energy: community ownership, energy efficiency. local		in 2015/16. Construction: 2017.			external capacities is available. Coordination and permitting problems, leading to possible delays / a structure for projects advisory and supervision is needed (e.g. covered by SIEA or consortium of government and non- government agencies). Lack of funds for project preparation / costs sharing models with partners to be considered.
Energy Union	Energy efficiency in buildings	Ultra-energy-effective public buildings: regional penetration of strict EU energy efficiency policy	CLUSTER of Local and regional municipalities, PPP	Pilot reconstruction of public facilities in regions (especially rural) that respect the following principles: complex thermic insulation combined with effective energy system and operation after reconstruction, low-cost reconstruction based on maximum use of natural materials, optimal utilization of the facility after reconstruction, incorporation of demonstration/education elements to promote buildings reconstructed into ultra-energy-	No	To be planned. Expended planning and permitting phase: in 2015/16. Construction: 2017.	0.140	0.140	Lack of experienced designers of buildings that are to meet the criteria / training program for designers + regional/national register of high profile designers and suppliers are recommended. Permitting problems / training for representatives of potential municipal beneficiaries is needed. Lack of funds for project preparation / costs sharing models with partners to be considered.

Key Investment Project List – SLOVAK REPUBLIC

3. Transport

Sector	Subsector	Project Name	Organization – Project Sponsor	Description	Included in national investment plan	Project Status	Total investment costs (EUR BN)	Investment in 2015 – 2017	Barriers to implementation
Road									
Transportation	Corridors and missing links	D1 Turany - Hubová	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This difficult section in contact with protected areas and Natura 2000 areas should relieve the burden on Route I/18 with traffic intensity of 20 thousand vehicles a day, over 25 per cent of which is freight transportation. The accident rate in this section is over 0.8 accident per km, there are several black spots, and the section is also unsuitable due to its transverse and longitudinal unevenness. This section is part of the basic TEN-T network and it includes two 4.6 km long tunnels. The section will reduce travel time between Žilina and towns near the High	Yes	Obtain relevant building permits 01/2016 Launch of tender for main construction work 02/2016 Construction starts 09/2017 Construction ends 12/2020	0.76	TBD	RISK OF COST INCREASE (Depending on the updated selected technical solution) RISKS OF TECHNICAL DESIGN (A Comparative Study, IGHGP and updated technical solution including completion of mitigating measures and a proposed alternative route around a landslide in Kraľovany were prepared) PLANNING RISKS (EIA procedure is in progress based on the results of the Comparative Study and standpoints) LEGAL RISKS (Minimum.

									sufficient communication with the owners, cooperation with the competent bodies, professionalism of the sponsor's team. RISKS OF PUBLIC PROCUREMENT AND CONTRACT (Potential extension of public procurement if the bidders exercise
<p>Currently, construction of part of highway bypass of Bratislava – capital city of the Slovak Republic – is being prepared – . Once it has been completed, the highway bypass will connect Austrian highway A6 on the south and to Austrian expressway S8, which is being prepared for the north-west. Once the highway opens, it will take over a major part of traffic transiting from core Baltic - Adriatic and Rhine –Danube TEN-T corridors that go through Bratislava. Highway D4 will be constructed together with the first part of Expressway R7, to be the southern link between western and central parts of Slovakia as one project, since a complex transportation solution is needed in the concerned locality. Construction of the D4 and R7 highways is planned in a form of a DBFOM model public-private partnership The project under preparation consists of the following sections:</p>									
Transportation	Corridors and missing links	D4 Bratislava Jarovce – Ivanka pri Dunaji North - Rača	Ministry of Transport, Construction and Regional Development of the Slovak Republic	The Bratislava south-eastern bypass is an essential section of D4 highway to divert transit traffic, relieve the congested D1 section including Prístavný most (bridge) (traffic intensity over 100,000 vehicles a day with assumed increase to 140,000 vehicles in 2020) and improve transport connections to villages in a suburban zone surrounding Bratislava. Construction includes a 2.5 km long bridge over the Danube.	Yes	Obtain relevant building permits 05/2016 Launch tender for concessionaire 12/2014 Construction starts 06/2016 Construction ends 06/2019	1.35	TBD	RISK OF PUBLIC PROCUREMENT (Potential extension of public procurement if the bidders exercise revision procedures) – mitigated by: well prepared documentation for the tender. PROPERTY RIGHTS SETTLEMENT RISK (potential extension of the period to obtain building permit

									cooperation of appropriate bodies, professionalism of the contracting
Transportation	Corridors and missing links	R7 Bratislava Prievoz - Bratislava Ketelec	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section should eliminate daily congestion from the direction of Dunajská Streda on Route I/36, which is currently insufficient in terms of capacity and safety, and it should solve the unbearable traffic situation by diverting traffic from this road leading through Bratislava's urban districts.	Yes	Obtain relevant building permits 02/2017 Launch tender for concessionaire 12/2014 Construction starts 03/2017 Construction ends 10/2019	0.19	TBD	RISK OF PUBLIC PROCUREMENT (Potential extension of public procurement if the bidders exercise revision procedures) – mitigated by: well prepared documentation for the tender. PROPERTY RIGHTS SETTLEMENT RISK (potential extension of the period to obtain building permit due to condemnations, cooperation of appropriate bodies, etc.) – mitigated by:
Transportation	Corridors and missing links	R7 Bratislava Ketelec – Dunajská Lužná	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section should eliminate daily congestion from the direction of Dunajská Streda on Route I/36, which is currently insufficient in terms of capacity and safety, and it should solve the unbearable traffic situation by diverting	Yes	Obtain relevant building permits 02/2016 Launch tender for concessionaire 12/2014	0.16	TBD	RISK OF PUBLIC PROCUREMENT (Potential extension of public procurement if the bidders exercise revision procedures) – mitigated by: well

				districts (traffic intensity 30,000 vehicles a day).		Construction ends 11/2018			(potential extension of the period to obtain building permit due to condemnation, cooperation of appropriate bodies, etc.) – mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation of appropriate bodies,
Transportation	Corridors and missing links	R7 Dunajská Lužná - Holice	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section should eliminate daily congestion from the direction of Dunajská Streda on Route I/36 , which is currently insufficient in terms of capacity and safety, and it will bypass Šamorín (transit 51 per cent) and several villages through which Route I/36 runs. The traffic intensity is approximately 10-16 thousand vehicles a day and it keeps increasing; share of freight transportation is almost 20 per cent. The section is unsuitable due to transverse and longitudinal unevenness, the accident rate in this	Yes	Obtain relevant building permits 02/2016 Launch tender for concessionaire 12/2014 Construction starts 03/2016 Construction ends 11/2018	0.22	TBD	RISK OF PUBLIC PROCUREMENT (Potential extension of public procurement if the bidders exercise revision procedures) – mitigated by: well prepared documentation for the tender. PROPERTY RIGHTS SETTLEMENT RISK (potential extension of the period to obtain building permit due to condemnation, cooperation of appropriate bodies, etc.) – mitigated by:

One of the longest and most important Eastern European TEN-T corridors linking Lithuania, Poland, Slovakia, Hungary, Romania, Bulgaria and Greece - corridor S19 Via Carpatia -

Lublin–Rzeszów–Košice – Miskolc – Debrecen – Oradea – Lugoj – Calafat/Constanta – Sofija/Svilengrad – Thessaloniki) crosses eastern Slovakia. This road link under preparation has been partially completed and it is a precondition for development of Lithuanian – Polish – Slovak – Hungarian cooperation. Interest in joint development among the regions through the above-mentioned road link, inter alia, has been declared at various international forums (Via Carpatia Conference – 2 October 2012, Brussels) and it is also supported by a cross-border regional association – the Via Carpatia European territorial cooperation grouping of territorial cooperation Via Carpatia between Slovakia and Hungary. Sections of the R2 and R4 expressways and sections of the D1 highway are part of the above-mentioned TEN-T corridor in Slovakia. The following highway sections									
Transportation	Corridors and missing links	R4 Prešov, northern bypass	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section will connect Highway D1 toward Sabinov, Svidník and Vranov nad Topľou and then to Poland, and it will divert all the existing transit traffic - comprising 53 per cent of the traffic in the region – outside Prešov. There are two tunnels in this section.	Yes	Obtain relevant building permits 2015 Launch tender for main construction work 2016 Construction starts 01/2017 Construction ends 01/2020	0.47	TBD	TECHNICAL DESIGN RISKS: (A feasibility study for construction of D1, R2, R4 Prešov – Košice – Bidovce is currently under preparation.) Redesigning the Okruhliak tunnel based on the conclusions of a detailed engineering-geological survey and modification of intersection Prešov north (Dúbrava) in order to increase traffic safety and to comply with Slovak technical standards (STN). PLANNING RISKS (A feasibility study for construction of D1, R2, R4 Prešov – Košice – Bidovce is currently under preparation.) Compliance with the deadline for obtaining the building permit is preconditioned by completion of settlement of property rights to

									public procurement if the bidders exercise revision procedures); mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation with the appropriate bodies,
Transportation	Corridors and missing links	D1 Budimír - Bidovce	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section will divert west to east transit traffic from Route III/050201 whose width is insufficient and the condition is unsuitable structurally and in terms of engineering. It will improve the environment in the villages, through which Route III/050201 crosses. The proposed section will fill the missing gap in Highway D1 highway and Route I/50, and it will be part of the basic TEN-T network.	Yes	Obtain relevant building permits 12/2014 Launch tender for main construction work 2015 Construction starts 12/2015 Construction ends 12/2018	0.26	TBD	LEGAL RISKS (Minimum.) Settlement of property rights in progress (78 per cent) - mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation with the appropriate bodies, professionalism of the contracting authority's team. RISKS OF PUBLIC PROCUREMENT AND CONTRACT (Potential extension of public
Transportation	Corridors and missing links	D1 Prešov, West - Prešov, South	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section with its 2.5km long tunnel will bypass Prešov to the west and relieve the burden of transit traffic, which is as high as 53 per cent inside	Yes	Obtain relevant building permits 12/2014 Launch tender	0.38	TBD	RISKS OF PUBLIC PROCUREMENT AND CONTRACT (Potential extension of public

				through intersections in the city that are insufficient in terms of capacity, causing regular congestion. The share of freight traffic in this section is 25 per cent. The proposed section is part of the basic TEN-		2015 Construction starts 12/2015 Construction ends 12/2019			by: well prepared documentation for the tender.
The following 5 highway sections are currently under construction with co-financing from European Union resources - Operational Programme Transport 2007 – 2013. Since construction has overrun the 2007-2013 programme period, they are considered so-called “phase projects” and will be co-financed also from the Operational Programme									
Transportation	Corridors and missing links	D1 Lietavská Lúčka - Višňové - Dubná Skala (2nd stage)	Ministry of Transport, Construction and Regional Development of the Slovak Republic	The most anticipated highway construction will relieve the burden of 25 - 29 thousand vehicles a day on I/18 road at Strečno, of which the freight transportation is approximately 26 per cent. The exceeded capacity of this road has contributed to the deterioration of two Level VI bridges in this section, so classified due to their structural engineering condition. Black spots are identified in this section of Route I/18 , where the accident rate is 0.96 accident per km in the region and there is a risk of landslide and falling rocks in spite of barriers that have	Yes	Obtain relevant building permits 04/2009 Launch tender for main construction work 12/2011 Construction starts 03/2015 Construction ends 12/2019	0.36	TBD	TECHNICAL DESIGN RISKS (Borne by the contractor (Yellow FIDIC)) LEGAL RISKS (Minimum). Settlement of property rights in progress (96 per cent and 85 per cent), it is necessary to settle property rights to lands of unknown and newly discovered owners) - mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation with the appropriate bodies, professionalism of the contracting authority's team.
Transportation	Corridors and missing	D1 Hričovské Podhradie - Lietavská	Ministry of Transport, Construction and Regional	This section is the beginning of the southern bypass of	Yes	Obtain relevant building	0.29	TBD	TECHNICAL DESIGN RISKS (Borne by the contractor (Yellow

		(2nd stage)	Republic	<p>significantly help relieve the burden of traffic transiting Žilina, which is currently 59 per cent inside the town.</p> <p>The proposed section is part of the basic TEN-T network and it includes two tunnels with an overall length of 3 km. Together with the D1 Lietavská Lúčka – Višňové – Dubná Skala section, it will adequately bypass Žilina and replace the section of I/18 road running through Žilina and Strečno, which is insufficient in terms of</p>		<p>Launch tender for main construction work 03/2013</p> <p>Construction starts 12/2015</p> <p>Construction ends 12/2017</p>			<p>RISKS OF PUBLIC PROCUREMENT AND CONTRACT (None). A contract with the contractor was signed on 09 December 2013; the 1st stage was completed of the D1 Hričovské Podhradie - Lietavská Lúčka project started on 22 January 2014 after submission of the building site)</p>
Transportation	Corridors and missing links	D1 Hubová - Ivachnová (2nd stage)	Ministry of Transport, Construction and Regional Development of the Slovak Republic	<p>This project will help in homogenizing the D1 highway, which is part of the basic TEN-T network. This section of the D1 with the 2 km long Čebrať tunnel will alleviate much of transit traffic through Ružomberok, currently as high as 76 per cent of the overall traffic in the town. With 16,000-24,000 vehicles a day, the capacity of sections of Route I/18 that are currently used in lieu of the missing highway is exceeded, and there is often</p>	Yes	<p>Obtaining relevant building permits 04/2009</p> <p>Launch tender for main construction work 10/2011</p> <p>Construction starts 12/2015</p> <p>Construction ends 06/2017</p>	0.16	TBD	<p>TECHNICAL DESIGN RISKS (Borne by the contractor (Yellow FIDIC)) RISKS OF PUBLIC PROCUREMENT AND CONTRACT (None). A contract with the contractor was signed on 08 November 2013, 1st stage of the “D1 Hubová – Ivachnová” project implementation started on 19 December 2013 after submitting the construction site.)</p>

				highway in Ivachnová. Over 25 per cent of such intensity is caused by freight vehicles. One black spot is on the parallel section of road I/18 and the accident rate					
Transportation	Corridors and missing links	D3 Žilina Strážov – Žilina Brodno (2nd stage)	Ministry of Transport, Construction and Regional Development of the Slovak Republic	North-western bypass of Žilina is a very expensive project involving a bridge above the Hričov water reservoir and the 2.2 km long Považský Chlmec tunnel . The road is part of the basic TEN-T network and it addresses north-south transit traffic. It will relieve transit traffic in Žilina that comprises 59 per cent of total traffic and also relieve traffic on adjacent sections of Routes I/11 and I/18, where current freight traffic share is over 30 per cent. The accident rate in these sections is high, over 1 accident per 1 km.	Yes	Obtain relevant building permits 08/2009 Launch tender for main construction work 03/2013 Construction starts 03/2015 Construction ends 06/2017	0.17	TBD	TECHNICAL DESIGN RISKS (Borne by the contractor (Yellow FIDIC)) LEGAL RISKS (Minimum). Settlement of property rights in progress (85 per cent), it is necessary to settle property rights to lands of unknown and newly discovered owners and temporary connection with road I/11) - mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation with the appropriate bodies, professionalism of the contracting authority's team. RISKS OF PUBLIC PROCUREMENT AND CONTRACT (Public procurement for a contractor for the "D3

Transportation	Corridors and missing links	D3 Svrčinovec - Skalité, half-profile (2nd stage)	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section with the two shorter Svrčinovec and Poľana tunnels should create a direct link from Žilina towards Poland for heavy freight transportation as well. Only freight vehicles up to 7.5 t can use the current road I/12 due to unsuitable width, layout and structural engineering condition, and Route I/12 passes in particular through the villages of Svrčinovec, Čierne and Skalité. There is one black spot on Route I/11 and the accident rate is 1.29 accident per km. Poland and Slovakia have undertaken to build such link through an intergovernmental agreement since the proposed section is also part of the TEN-T basic network. The	Yes	Obtain relevant building permits 01/2011 Launch tender for main construction work 06/2012 Construction starts 01/2015 Construction ends 10/2016	0.17	TBD	TECHNICAL DESIGN RISKS (Borne by the contractor (Yellow FIDIC)) RISKS OF PUBLIC PROCUREMENT AND CONTRACT (None). A contract with the contractor was signed on 28 June 2013, the 1 st stage of the “D3 Svrčinovec - Skalité, half section” project implementation started on 25 October 2013 after submission of the site)
The drafted Strategic Plan for Transport Infrastructure Development in Slovakia until 2020 (Master Plan) identifies the following sections of highways, expressways and 1 st class									
Transportation	Corridors and missing links	D1 Bratislava - Senec, extension to 6 lanes	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Construction involves modification of the section’s parameters in compliance with STN standards to become a satisfactory 6- lane highway with emergency lanes that would replace the	Yes	Obtain relevant building permits 2015 Launch tender for main construction	0.66	TBD	RISKS OF TECHNICAL PROPOSAL (Construction Permit documentation is currently being prepared with the deadline for

				capacity is insufficient (50 – 80 thousand vehicles a day, over 20 per cent freight vehicles), while improving accessibility to the surrounding region that are gradually becoming urbanized. The existing road surface will be replaced by cement – concrete surface, along with the construction of a, highway information		Construction starts 2016 Construction ends 2019			PROCUREMENT (Potential extension of public procurement if the bidders exercise revision procedures) - mitigated by: well prepared documentation for tender.
Transportation	Corridors and missing links	D1 Blatné - Trnava, extension to 6 lanes	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Construction involves modification of the section's parameters in compliance with STN standards to become a satisfactory 6- lane highway with emergency lanes that would replace the current temporary situation with insufficient capacity (50 – 80 thousand vehicles a day, over 20 per cent freight vehicles), while improving accessibility to the surrounding region that are gradually becoming urbanized. The existing road surface will be replaced by cement – concrete surface, along with the	Yes	Obtain relevant building permits 2015 Launch tender for main construction work 2015 Construction starts 2016 Construction ends 2018	0.36	TBD	RISKS OF TECHNICAL PROPOSAL (Documentation for Building Permit is currently being prepared with the deadline for handover in January 2015). RISK OF PUBLIC PROCUREMENT (Potential extension of public procurement if the bidders exercise revision procedures); - mitigated by: well prepared documentation for tender.
Transportation	Corridors and	D1 feeder	Ministry of Transport,	The feeder will be	Yes	Obtain relevant	0.13	TBD	TECHNICAL DESIGN

	missing links	Lietavská Lúčka - Žilina	Construction and Regional Development of the Slovak Republic	connected to the Porúbka bypass and run outside Lietavská Lúčka. The feeder will link Route I/64 with the D1 highway, i.e. it will link Žilina and the villages of Rajecká Valley, and the industrial area in southern Žilina with the D1 highway so that freight transportation from the area would go		building permits 2015 Launch tender for main construction work 2015 Construction starts 01/2016 Construction			RISKS (Currently, an EIA procedure is in progress and the technical solution is being updated). RISK OF PUBLIC PROCUREMENT NT (Potential extension of public procurement if the bidders exercise revision procedures)
Transportation	Corridors and missing links	D3 Čadca, Bukov - Svrčinovec	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This is currently the most essential section of the D3 highway that runs through a build-up area and a difficult geological area, from Horelica tunnel to the intersection in Svrčinovec. The section diverts the transit traffic from Čadca that currently travels along the existing Route I/11, whose capacity is insufficient capacity and traffic intensity of approximately 12,000 vehicles a day is almost 50 per cent is the freight transportation. There are black spots on this section of road I/11 and the accident rate is 1.29 accident per km. The section is part of the TEN-T	Yes	Obtain relevant building permits 12/2014 Launch tender for main construction work 2015 Construction starts 09/2015 Construction ends 12/2018	0.21	TBD	RISK OF COST INCREASE (Requirements by the owners of building to be demolished since they are too close to the future highway) LEGAL RISKS (Possible. Settlement of property rights in progress (87 per cent), necessary to complete settlements of property rights with approximately 70 owners. Proposal for expropriation of approximately 80 owners was filed and expropriation of unknown owners is in progress) mitigated by: well prepared documentation, sufficient

				region, Bielsko-Biala, Poland and the adjacent region.					RISKS OF PUBLIC PROCUREMENT AND CONTRACT (Potential extension of public procurement if the bidders exercise revision procedures)
Transportation	Corridors and missing links	D3 Kysucké Nové Mesto - Oščadnica	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section will replace the unsuitable road I/11 whose capacity is insufficient and traffic intensity is over 12,000 vehicles a day, where 35 per cent of the traffic is freight traffic, and it will bypass Krásno nad Kysucou. The accident rate of the existing road I/11 is as high as 1.31 accident per km and there are several significant black spots. The section is the part of the basic TEN-T network and it will contribute to reducing travel time between the industrial region of Žilina on one side and	Yes	Obtain relevant building permits 2015 Launch tender for main construction work 2015 Construction starts 03/2016 Construction ends 03/2019	0.25	TBD	LEGAL RISKS (45 per cent of property rights settled; settlement will continue in the next level of preparations.) - mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation with the appropriate bodies, professionalism of the contracting authority's team. RISK OF PUBLIC PROCUREMENT
Transportation	Corridors and missing links	D3 Žilina, Brodno - Kysucké Nové Mesto	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section will replace the unsuitable Route I/11 whose capacity is insufficient and traffic intensity is 22,000 vehicles a day, where almost 35 per cent of the traffic is freight traffic, and an unsuitable intersection	Yes	Obtain relevant building permits 2015 Launch tender for main construction work	0.43	TBD	LEGAL RISKS (Possible.) 62 per cent of the property rights are settled. Objections by the concerned entity against legal validity of the zoning decision – action filed) – mitigated by:

				Kysucké Nové Mesto. The accident rate is 1.25 accident per km and there are also several black spots. The section is part of the basic network TEN-T and it will contribute to reducing travel time between the industrial region of Žilina on one side and the industrial Ostravsko region and Bielsko-Biala, Poland on the other.		06/2016 Construction ends 06/2020			with owners, forcing the cooperation with the appropriate bodies, professionalism of the contracting authority's team. RISKS OF PUBLIC PROCUREMENT AND CONTRACT (Potential extension of public procurement if the bidders exercise revision procedures) – mitigated by well
Transportation	Corridors and missing links	R2 Mníchova Lehota - Ruskovce	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section will replace the unsuitable road I/50 whose capacity is insufficient and traffic intensity of 14,000 vehicles a day, where over 30 per cent is freight traffic, and whose accident rate 0.54 accident per km. The proposed section is part of the TEN-T comprehensive network and it will divert transit traffic from the municipality residential areas that Route I/50 crosses.	Yes	Obtain relevant building permits 10/2015 Launch tender for main construction work 01/2016 Construction starts 10/2016 Construction ends 12/2019	0.26	TBD	TECHNICAL DESIGN RISKS (A feasibility study for the section R2 intersection D1 - Nováky is under preparation.) Limited spatial arrangement of parallel roads R2, I/50, service road and housing development in 1.3 – 1.6 km and in 4.7 – 5.3 km /including taking account of level 1 hygiene buffer zone/) PLANNING RISKS (A feasibility study for section R2 intersection D1 - Nováky is under preparation.) LEGAL RISKS

									garden cottages. Detailed taking of lands and exact scope of demolition will be determined during preparation of building permit documentation and then the customer will start negotiating with owners of the concerned properties.) - mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation with the appropriate bodies, professionalism of the contracting authority's team. RISK OF PUBLIC
Transportation	Corridors and missing links	R2 Rožňava - Jablonov nad Turňou (Soroška)	Ministry of Transport, Construction and Regional Development of the Slovak Republic	The existing Route I/50 through the Soroška mountain pass is insufficient in terms of its layout and traffic intensity (approximately 8,000 vehicles a day, approx. 23 per cent of freight vehicles), it is a relevant black spot where lorry accidents cause problems, including the closure of this important link for	Yes	Obtain relevant building permits 2015/2016 Launch tender for main construction work 2016 Construction starts 12/2016	0.45	TBD	RISK OF COST INCREASE (During the planning proceedings, company VVS a.s. raised a requirement for the next level of project documentation to secure potable water for village Jablonov since there is a rather high risk that the existing potable water source of the

				replaced by a new section that will be part of the TEN- T comprehensive network and that will make the drive times between the towns of southern and eastern Slovakia shorter. The proposed section includes a 4.7 km long tunnel Soroška.					that the only alternate source is owned by Eustream, which uses it to supply water to a transit gas line compressor station. It is necessary to negotiate with Eustream about purchasing the water source or to look for another water source.) TECHNICAL DESIGN RISKS (A feasibility study for the R2 Tornaľa – Včeláre section is under preparation.) PLANNING RISKS (A feasibility study for the section R2 Tornaľa - Včeláre is under preparation.) LEGAL RISKS (to be treated in the next level of preparation.) RISK OF
Transportation	Corridors and missing links	R2 Košice, Šaca - Košické Oľšany	Ministry of Transport, Construction and Regional Development of the Slovak Republic	This section bypasses Košice to the south and diverts both north-south and east-west transit traffic from the city The section is part of TEN-T comprehensive network and it links the R2 and R4	Yes	Obtain relevant building permits 06/2016 Launch of tender for main construction work	0.40	TBD	TECHNICAL DESIGN RISKS (A feasibility study for the section R2, R4 Prešov - Košice - Bidovce and R2 Včeláre - Košické Oľšany is under preparation) PLANNING RISK (As required by Košice,

				where 89 per cent of all traffic is transit traffic.		06/2017 Construction ends 06/2020			Košice self-governing region and Ministry of Transport, Construction and Regional Development, there was a change in the route at US Steel compared to the proposal in the final EIA in the planning permission documentation . This caused issues involving a change to Košice's city zoning plan of and replacing a photovoltaic power plant. LEGAL RISKS (will be solved in the next level of preparation) RISK OF PUBLIC PROCUREMENT
Transportation	Corridors and missing links	I/18 Nižný Hrabovec - Petrovce nad Laborcom, relocation	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Relocating the road will divert traffic away from the residential area of Strážske city and of the municipalities of Voľa, Nacina Ves and Petrovce nad Laborcom. It will help relieve the traffic burden on the existing Route I/18, whose traffic intensity of 8,000 to 9,000 vehicles a day and freight traffic is over 20 per cent.	Yes	Obtain relevant building permits 2015 Launch tender for main construction work 2015 Construction starts 2016 Construction	0.15	TBD	LEGAL RISKS (Settlement of property rights 0 per cent) - mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation with the appropriate bodies, professionalism of the contracting authority's team. RISK OF PUBLIC

				section is also unsuitable due to transverse and longitudinal unevenness.					bidders exercise revision procedures) - mitigated by: well prepared documentation for
Railway infrastructure									
Transportation	Corridors and missing links	Modernization of railway track Žilina – Košice, section of line Liptovský Mikuláš – Poprad-the Tatras (outside), realization of section Poprad-Tatras -	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Upgrading the railway	Yes	Construction documentation. Construction starts 2015	0.18	0.12	The feasibility study is now being prepared for CORE TEN-T corridor Žilina – Košice – Čierna nad Tisou –SK/UA border with expected completion in 2015. Based on its outcomes it will be possible to determine exactly the technical solution of the construction and to identify the potential
Transportation	Corridors and missing links	Modernization of railway track Žilina – Košice, section of line Liptovský Mikuláš – Poprad-the Tatras (outside), realization of section Paludza - L. Hrádok	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Upgrading the railway	Yes	Construction documentation. Construction starts 2015	0.59	0.20	The feasibility study is now being prepared for CORE TEN-T corridor Žilina – Košice – Čierna nad Tisou –SK/UA border with expected completion in 2015. Based on its outcomes it will be possible to determine exactly the technical solution of the construction and to identify the potential
Transportation	Corridors and missing links	Čierna nad Tisou, modernization of a rail node, project documentatio	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Modernizing a rail node	Yes	Binding instructions have been prepared and Contract for Work with project organization	0.12	0.06	The feasibility study is now being prepared for CORE TEN-T corridor Žilina – Košice – Čierna nad Tisou –SK/UA

		realization				Construction starts 2017			in 2015. Based on its outcomes it will be possible to determine exactly the technical solution of the construction and to identify the potential risks linked to the
Transportation	Corridors and missing connections	Implementation of ERTMS in corridor No. IV Kúty state border SR/CR - node BA (ETCS L2 + GSM R), realization	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Putting ETCS L2 + GSM R in place	Yes	No underlying documentation Construction starts 2017	0.12	0.04	A feasibility study for CORE TEN-T corridor is being prepared (Orient-East Med). Based on its outcomes it will be possible to determine exactly the technical solution of the construction and to identify the potential
Transportation	Corridors and missing links	ŽSR (Railways of the Slovak Republic), Modernization of railway track Púchov - Žilina, for track speed up to 160 km / hour –	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Upgrading the railway	Yes	Construction documentation. Construction starts 2015	0.33	0.25	Optimization of costs of construction is in progress, estimated completion of optimizing works: December 2015.
Transportation	Corridors and missing links	VI. Corridor State border CR / SR - Čadca – Krásno nad Kysucou	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Upgrading the railway	Yes	Documentation for building permit. Construction starts 2017	0.39	0.12	Approval documentation for DSP level (building permit documentation) for the whole Krásno nad Kysucou – Čadca section and consecutively for DRS level

									must be issued.
Transportation	Corridors and missing links	Node Bratislava, linking Airport of M.R. Štefánik to ŽSR (Railways of	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Upgrading the railway	Yes	Documentation for building permit. Construction starts 2017	0.26	0.10	A feasibility study for complete Bratislava node should be prepared. The feasibility study estimate: December 2016.
Public passenger Transportation									
Transportation	City Transportation	Carrier public transport system 1st stage Main station - Janíkov dvor, operational section Bosákova street - Janíkov dvor, 2nd part Bosákova street - Janíkov dvor	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Replacing carrier bus line 95 (interval 5 - 10 min) in urban Bratislava part - Petržalka (population 106,000) with tram transport	Yes	Obtain relevant building permits 2015 Launch tender for main construction work 2015 Construction starts 2016 Construction ends 2017	0.21	TBD	RISK OF COST INCREASE (change of concept, increase of price of building works and materials) TECHNICAL DESIGN RISKS (use of new methods and solutions) PLANNING RISKS (correlation with the project carrier public transport system (NS MHD) – 1 st stage, 1 st part) LEGAL RISKS (an issue of ownership relations in case of a change of concept or solution) - mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation with the appropriate bodies, professionalism of the contracting authority's team. RISKS OF PUBLIC

Transportation	City Transportation	Modernization of tram track - Karloveská, Vajnorská and Račianska radial track	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Improving the quality of rail transportation (removing current section speed limits, creating right-of-ways for trams at intersections, reducing noise levels) to increase use of ecological transportation	Yes	Obtain relevant building permits 2015 Launch tender for main construction work 2015 Construction starts 2015 Construction ends 2016	0.18	TBD	for tender. RISK OF COST INCREASE (difference between valid documentation and actual situation, emergency condition of structural parts that are about to be modernized, increase of prices of building works and materials) TECHNICAL DESIGN RISKS (use of new methods and solutions) PLANNING RISKS (correlation with the maintenance base modernization project, missing feasibility study) LEGAL RISKS (property rights to lands) – mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation with the appropriate bodies, professionalism of the contracting authority's team.
Transportation	City Transportation	Carrier public transport system (NS MHD) 1st	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Linking the main railway station with the city center and railway track to Petržalka	Yes	Obtain relevant building permits 2016	0.12	TBD	RISK OF COST INCREASE (difference between valid documentation and actual situation,

		Janíkov dvor, operationa I section Main station - Šafárikovo námestie (square)				main construction work 2016 Construction starts 2016 Construction ends 2017			condition of structural parts that are about to be modernized, increase of prices of building works and materials) TECHNICAL DESIGN RISKS (use of new methods and solutions) PLANNING RISKS (correlation with the maintenance base modernization project) LEGAL RISKS (property rights to lands) – mitigated by: well prepared documentation, sufficient communication with owners, forcing the cooperation with the appropriate bodies, professionalism of the contracting authority's team.
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Transportation	Air transportation – airport construction	Completion of building and modernization of Žilina airport infrastructure	Žilina Self-Governing Region, Ministry of Transport, Construction and Regional Development of the Slovak Republic	The project addresses effective use of Žilina Airport's building area from the aspect of placing required airport infrastructure that respects the surrounding area. The project's key element is expansion	No	Airport building study completed	0.130	0.105	Unsettled land issues – land purchases. No land-use plan exists that takes airport development into account in the stated scope – developing and approving a new
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				construction of other access areas for movement in the airport, flight connections at the airport, construction of an inter-modal terminal, facilities for cargo operation, aviation fuel warehouse, hangars,					
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Transportation	Corridors and missing links in water transportation	E 81 Waterway Váh	Ministry of Transport, Construction and Regional Development of the Slovak Republic	A key development project of the international waterway network – TEN T – waterway of international importance E 81 with connection to E 30 SK-CZ-PL. The project creates a connection between the Baltic and the Black sea.	Yes Conception of the water management policy of the Slovak Republic (development of water transportation) Part of the European Agreement on Main Inland Waterways of International Importance (AGN) (Helsinki)	Investment project – Váh Phase I – IV Waterway development study Preparation and implementation of Phase III on the territory of the Slovak Republic and preparation of Phase IV in cooperation with the Czech Republic and Poland.	2.192	0.3	Guaranteeing financial resources for the design and construction of a set of buildings Restoration of cooperation with the Czech Republic and Poland
	Conditions for business activity (multi-modal logistic platforms)			The project enables the development of water transportation in the Slovak Republic and creates conditions for related investments into industrial and logistic parks for multi-modal transportation and the growth of business in the					

Transportation	Corridors and missing links in water transportation	Water work Sered' – Hlohovec	TOP Optimal SK s.r.o.	A key project of Phase II of the Waterway Váh E 81 section Sered' – Púchov Project aims towards opening of the currently unnavigable 26 km of the waterway between the towns of Sered' and Hlohovec and creating conditions for the navigability	Yes Conception of water management policy of the Slovak Republic (development of water transportation)	Valid land planning authorization. Running works on the construction preparation for building permit proceeding. Start of construction expected in 10/2015 Completion expected in 10/2020	0.418	0.15	Ensuring of complex financing, especially incited investments into the infrastructure Agreement on the implementation in the PPP form
	Conditions for business activity (multi-modal logistic platforms)			Construction of river ports, commercial and logistic parks Creation of up to 2,000 employment positions The project also has an intensive impact in the sector Energy Union, sub-sector Low-carbon energy production by means of 190 GWh annual production in hydroelectric power	Part of AGN (Helsinki 1997) E 81 Energy policy of the Slovak Republic				

				<p>environment, sub-sector Natural sources: effective utilization and safe availability (water management) – retention of water in the countryside, revitalization of the area, removal of approx. 800 ha of quality arable land from the inundation area.</p> <p>In the sub-sector Resistance to climate change impacts (anti- flood arrangements and protection of</p>	<p>of water management policy of the Slovak Republic until 2015</p> <p>Program proclamations of several Slovak governm</p>				
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Transportation	Corridors and missing links	Shifting Route I/75 – bypass road around	SSC IV SC Bratislava	Constructing a bypass around the city of Šaľa	Yes	Land-planning authorization was issued	0,1	n/a	n/a
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Key Investment Project List – SLOVAK REPUBLIC

4. Social Infrastructure

Sector	Subsector	Project Name	Organization – Project Sponsor	Description	Included in National Investment Plan	Project Status	Total Investment Costs (EUR BN)	Investment in 2015 – 2017	Barriers to Implementation
Social Infrastructure	Creation of environment and urban services (public buildings)	Public private partnership construction of a prison facility in	Ministry of Justice	Building of a prison facility in order to deal with prison housing capacity deficit in the south-eastern region of the Slovak Republic	No	Feasibility Study for approval, 2015 – selection of a strategic partner, 2015 – implementation	0.015		n/a

Key Investment Project List – SLOVAK REPUBLIC

5. Resources and Environment

Sector	Sub-sector	Project Name	Organization – Project Sponsor	Description	Included in National Investment Plan	Project Status	Total Investment Costs (EUR BN)	Investment in 2015 – 2017	Barriers to Implementation
Sources and Environment	Natural Resources Resistance against climate change	Water reservoir Tichý Potok	MoEnv SR	Purpose of WR Tichý Potok is: <ul style="list-style-type: none"> • To supply drinking water to Eastern Slovakia • To regulate outflow ratio in extreme hydrological situations (area 	-	Development of documentation for land-planning decision (DAD)	0.27	0.010	Securement of funds
Sources and Environment	Natural Resources Resistance against climate change impacts.	Water plant Slatinka	MoEnv SR	Purpose of WP Slatinka is: <ul style="list-style-type: none"> • To enhance flow capacity in Hron river and ensure sufficient water capacity for all customers • To regulate outflow ratio in extreme hydrological situations (area 	-	Ongoing proceedings for land-planning decision	0.114	0.083	Securement of funds

Sector	Subsector	Project Name	Organization – Project Sponsor	Description	Included in National Investment Plan	Project Status	Total Investment	Investment in 2013
Sources and Environment	Natural Resources Efficient use and safe accessibility.	Ammonia4 Duslo, a.s Šaľa	MoEnv SR	The new manufacturing plant Ammonia 4 will meet all the strictest criteria, including ecological ones, thereby ranking it among TOP manufacturing plants in Europe, i.e. among the 10% most modern facilities operated in the most developed countries of the European Union. The new manufacturing plant will meet all BAT technology criteria for producing ammonia.	-	Land-planning decision has not yet been issued. The project is at the stage of completed public assessment of EIA. In December 2013, the final positive position is expected to be taken. Building permit has not yet been issued. Project documentation and (current state of preparation) In cooperation with licensors of ammonia production, technical and economic study for building the new manufacturing plant Ammonia 4 with relevant auxiliary files was developed.	0.447	0.447
Sources and Environment	Natural Resources Efficient	Manufacture of bioethanol of the second generation	MoEnv SR	Specific activities: • Building capacities for manufacturing bioethanol of the 2nd generation from post -	-	Ongoing		0.165

				<p>in line with legislative conditions and technical standards;</p> <ul style="list-style-type: none"> • Generating green electricity and steam from lignin originating in bioethanol manufacturing; • Project is planned in a good location with 					
Sources and Environment	<p>Natural Resources</p> <p>Efficient use and safe accessibility.</p>	<p>New technology of 4-ADFA manufacturing Duslo, a.s Šaľa</p>	MoEnv SR	<p>Technology of 4-ADFA manufacture in Duslo, a.s. has been in use since 1983. Technology is outdated. Manufacturing costs are significantly higher than with modern technologies. The manufacture burdens the environment by producing a large quantity of emissions, waste as well as waste waters. Chlorine gas is used in the manufacture and, consequently, also hydrogen chloride, increasing the risk-level of the operation. Chlorine is particularly problematic, being supplied by external suppliers via rail. A potential emergency during transportation and consequent leakage of chlorine into</p>	-	<p>Land-planning decision has not yet been issued.</p> <p>Building permit has not yet been issued.</p> <p>Project documentation: Basic design technology is being currently processed. Deadline for basic design submission is March 2014. According to the statement of the Ministry of Environment of the Slovak Republic dated 5 September 2013, the proposed technology is not subject to</p>	0.096	0.096	Ensuring of funds

				<p>old technology is not sustainable in the mid-term.</p> <p>Aims of project:</p> <ul style="list-style-type: none"> • Reducing production of waste waters while improving their quality. • Significant reduction in gas emissions. • Reduction in solid waste production. • Increased safety by terminating the use of chlorine and end to gas hydrogen chloride and methanolic hydrogen chloride production. • Reduction in own 		EIA assessment is omitted.			
Sources and Environment	<p>Natural Resources</p> <p>Efficient use and safe accessibility.</p>	Aniline production Duslo, a.s Šaľa	MoEnv SR	<p>Aniline is used as basic raw material when manufacturing additives for rubber industry compounds. In order to maintain markets and expand sales of its products, Duslo, a.s. is gradually modernizing its production and building new manufacturing units. By modernizing production, it aims to secure sufficient manufacturing capacity for predicted consumption as well as to gradually reduce the</p>	-	<p>Land-planning decision has not yet been issued.</p> <p>Building permit has not yet been issued.</p> <p>Project documentation: In association with the project engineer, the introductory study of aniline</p>	0.084	0.084	Securement of funds

				manufacture aniline, currently imported, in the planned					
Sources and Environment	Natural Resources Efficient use and safe accessibility.	Construction of 3 new technological units for communal waste sorting and recycling into forms suitable for final combined heat and electricity generation including production and use of bio-gas. EVPÚ a.s.	MoEnv SR	<p>Construction of 3 new technological units for communal waste sorting and recycling will have the following advantages:</p> <ul style="list-style-type: none"> • improved capacity for communal waste sorting, • process of waste transformation into gas does not take place by incineration, but by a new process of gasification; this possesses advantages over the usual incineration, and at the same time represents the national "know-how", • overall higher efficiency of combined electricity and heat generation, • higher total share of waste recycling in compliance with waste management hierarchy, • technological scheme does not require additional media, inert gases, etc. for its work • technological scheme will represent a complex closed system of waste 	-	Currently, a pilot project of the relevant technological scheme with lower capacity for waste processed (for an area with about 60 thousand inhabitants), for which documents are in preparation for future land-planning and subsequent building permit is under way. Project documentation is in preparation for this pilot project.	0.051 (VAT excluded)	0.051 (VAT excluded)	Ensuring of funds

				supplies, other utilities, etc.).					
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Sources and Environment	Natural Resources	Complex solution of caring for areas of high natural value	Department of Environment and Agriculture	<p>The Slovak Republic is characterized by a high share of areas of high natural value. More than 2,300,000 ha represent areas of high natural value in agriculture as well as forestry.</p> <p>The common definition (EC, EEA and JRC) defines three categories of agricultural land of high natural value:</p> <ul style="list-style-type: none"> •agricultural land with high share of semi-natural vegetation (biotopes of natural and semi-natural grass overgrowth) •agricultural mosaic country with low intensity of agriculture and natural and structural elements (historic structures of agricultural landscape) •agricultural soil supporting the occurrence of rare species or with high share of European or world population (areas of the European network of Natura 2000 protected areas) <p>Two categories have been determined for the areas of high natural value in forestry:</p>	No It is, however, in line with the Action Plan to implement the updated National Biodiversity Protection Strategy by 2020 approved by the Government (e.g. Task no. 116, 145).	The aim (rapid development of a study from the aspect of content and sources of funding is required)	0,1 (to be specified in the study)	0,1 (to be specified in the study)	n/a
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				<p>only forbidden in naturally developing forests. Agricultural or forest activity supports or participates in the change of the quantitative and qualitative state of areas of high natural value. Practical care for areas of high natural value is part of several operational programmes and financial mechanisms, especially the Rural Development Program of the Slovak Republic for the years 2014-2020 and the Operational Programme Environmental Quality. Managing areas of high natural value can thus be divided into areas where resources are invested and areas where a volume of resources needs to be invested. If the existence of biotopes and structures of landscape depends on continued agricultural and forest activity or if it is ensured through agricultural and forest activity, it is necessary to ensure care in all areas of high natural value. It is, however, not sufficient to determine the conditions of management in these locations, but it is also</p>					
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				climatic changes. As part of the study, existing information on the areas would be collated and those areas determined where it is necessary to invest resources as well as areas with low employment rate where new forms of caring for forests/permanent grass overgrowth would ensure					
Sources and Environment / Energy Union	Turning waste into resources / Supporting transition to low-carbon economy	Production of lignocellulosic ethanol (bio-fuel of second generation)	ENVIRAL a.s. LEOPOLD OV in association with Výskumný ústav papiera a celulózy a.s. Bratislava (Institute for Research of Paper and Cellulose)	Construction of manufacturing plant for bio-ethanol of second generation made from lignocellulosic materials (mainly agricultural residues – hay and corn husks). The technology of producing cellulosic alcohol is currently moving from the stage of testing and development operations to an industrial launch (especially in the USA) and it is the interests of ENVIRAL to harness this trend and build in		Feasibility study development is underway; this will serve as the basis for investment decision.	0.20 --0.25	0.20 – 0.25	Inadequate and unstable legal definition of the use of bio-fuels on the national as well as on the European level. Availability of loan resources, since there is no referential production launches of this technology to date. The solution is to co- finance the project from

Sources and Environment	Natural Resources Effective use and safe availability (water)	Electricity generation from waste heat of compress	NAFTA a.s.	Reasonable use of primary energy by turning waste heat from turbo compression units to electricity in order to increase effectiveness of use of natural	N/A	Feasibility study developed	0.024	0.024	Insufficient legislative support for electricity generation from unused resources (waste heat). The solution is to
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	regeneration of industrial places and changing waste to	gases							support it from public resources.
Sources and Environment	Natural Resources Efficient use and safe accessibility.	LDPE4	SLOVNAFT, a.s.	Building of new effective manufacturing plants of low- density polyethylene (PE) to replace 3 out-dated PE facilities not meeting the stricter regulations concerning environmental protection and which are energy-inefficient. The new technology meets the requirements of the best available techniques (BAT) in the given area.		Project underway. Project termination and start of operations in 2015.	0.3	0.07	The European refining industry is challenged by strong competition on the part of producers from the former Commonwealth of Independent States, Asia and the USA due to lower standards of environmental protection and lower energy prices. The project deals with increasing the energy efficiency and decreasing emissions in line with EU requirements in order to maintain competitiveness with companies
Sources and Environment	Natural Resources Efficient use and safe accessibility.	Program of reducing emissions of refining and petrochemical manufacturing units and	SLOVNAFT, a.s.	Sub-projects focus mainly on meeting the environmental goals set by the EU and SR: - Reducing NOx and SO2 emissions - Reducing greenhouse gas emissions - Implementation of directive on industrial		Tender procedure is underway for some of the sub- projects. Assessment of other sub-projects is in final stage.	0.15	0.07	Standards of environmental protection set for the EU in the global competitive environment disadvantage industrial manufacturers from EU countries, including Slovakia.

		and secondary sources		transportation - Energy revaluation of waste					to relocate production to countries with lower standards of environmental protection, a phenomenon significantly endangering sustainability of economic growth
Sources and Environment	Natural Resources Efficient use and safe accessibility.	Program of increased efficiency of use of fossil materials.	SLOVNAFT, a.s.	Reconstruction of manufacturing units in the refinery in order to minimize the production of sulphur heating oils. The project leads to increased efficiency of oil processing and increased extraction of light products per unit of processed oil.		Assessment of the project is in the final stage.	0.4	0.06	The European refining industry is challenged by strong competition on the part of producers from the former Commonwealth of Independent States, Asia and the U.S. A. due to lower standards of environmental protection and lower energy prices. Support for increased efficiency of oil processing by introducing new progressive technologies will contribute to increased
Chemical and petrochemical industry	Power industry / heat supply	Complete reconstruction and modernization of Central Heating	SLOVNAFT, a.s.	Exchange of distribution, reconstruction of 80 exchange stations, hydraulic regulation, system of condensate return, measuring and regulation, window replacement, insulation	No	2015-2017	0.105	0.105	The project represents a direct fulfilment of the EU policy of increasing energy efficiency set by the Directive of the European Parliament and of

		SLOVNAFT , a.s.							obligations accepted as part of the climatic and energy aims of the
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Sources and the Environment	Natural Resources	Waste to Energy	U. S. Steel Košice, s.r.o.	Construction of waste energy utilization facilities; conservation of sources of primary raw materials	NA	Study	0,25	0,1	High capital expenditures, changing regulations: - own resources; effort to maximize the
Sources and the Environment	Natural Resources	Coke Plant Upgrade	U. S. Steel Košice, s.r.o.	Coke production process upgrade; conservation of the primary raw material for coke production;	NA	Study	0,5	0,5	High capital expenditures
Resources and Environment	Natural resources	Applied research of new non-traditional methods of treatment of municipal waste with maximizing their recycling	EVPU, a. s.	The company develops and tested the entire new municipal waste treatment technology with high efficiency of material and energy recovery with minimum impact on the environment. This will greatly help to stop landfill.	Yes	Getting investment decisions for the implementation of the pilot project for complex development and testing of new technology, which ensures energy recovery of waste and	0,156	0,075	Sufficient financial resources for the realization of development and testing pilot technology in the projected deadlines.. Changing thinking and awareness of the population of real stopping landfill by 2018 and increase confidence in favor of new technologies
Resources and Environment	Natural resources	National Centre for Research and Development of Innovative Technology	Klaster AT+R, z. p. o	Research and development of methods for environmentally- friendly industrial disposal of polychlorinated biphenyls (PCBs) in waste, in rivers and reservoirs, sediments	Yes	Getting the investment decision for the implementation of the research and development of methods and technologies for	0,110	0,055	Sufficient funds for the implementation of development methods, testing and pilot technology + combination of permit

		<p>Reducing (disposal) Environmental Burdens of Exposed Regions of the SR</p>		<p>of the environment. Reducing the concentration of PCB contaminants in the environment should be create conditions for long-term improvement in the health status of the population in the district of Michalovce, clean water and ambient temperature of Zemplinska šírava and thus achieve more intensive development of tourism and industrial use the whole area, including fishing permits, which will ultimately allow creation of new jobs in the region with a high unemployment rate and improve the quality of life in the region. A successful outcome of the project verified at the local level will offer the application of the results anywhere in the</p>		<p>of polychlorinated biphenyls (PCB), that will ensure reduction in the concentration of PCB contaminants in the environment and thus should be create conditions for long-term improvement of population health and development of the region.</p>			<p>technology, which can lead to possible delays.</p>
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Key Investment Project List – SLOVAK REPUBLIC

6. Multi sector - Self governments

Sector	Subsector	Project Name	Organization – Project Sponsor	Description	Included in National Investment	Project Status	Total Investment Costs (EUR)	Investment in 2015 – 2017	Barriers to Implementation
Knowledge and digital economy	Public research and development projects	Science park Mlynská dolina	Capital city of the Slovak Republic Bratislava, Slovak Technical University, Comenius University, Slovak Academy	The project of building a science park with perspective of further development of science and interconnection of individual scientific disciplines from the field of natural sciences, information technologies,	Yes	Feasibility study	0.12	0.12	land ownership, land- planning authorizations, building permits
Knowledge and digital economy	Public research and development projects	Scientific-technical park Cepit	Capital city of the Slovak Republic Bratislava, Slovak Technical University, Comenius University, Slovak Academy of Sciences	Central European Park for Innovative Technologies CEPIT. Such project is of great importance for Bratislava – Slovak Academy of Sciences and colleges have not responded to all the development requirements of basic research and applied research in cooperation with colleges, and to support partnerships in the third sector. The town wishes to have the scientific park open space for	Yes	Feasibility study, EIA	0.45	0.45	land ownership, land- planning authorizations, building permits

				technologies in the field of energy efficiency, environmental protection, alternative sources of energy, rain water conservation technologies in the territory, innovative building technologies, etc. in cooperation with technical colleges. Other areas include innovative communication technologies and creating a space for					
Knowledge and digital economy	ICT infrastructure	Metropolitan network and town data center	Capital city of the Slovak Republic Bratislava	Building a town data network interconnecting the municipality with local authorities, creating a city- wide network of cameras monitoring and protecting the public space. Creating a data center to	Yes		0.15	0.09	land ownership, land- planning authorizations, building permits
Energy Union	Energy efficiency in buildings	Insulation and decrease of energy demand of school and public	Capital city of the Slovak Republic Bratislava	Insulation and decreased of energy demand in school and public buildings, including repairs of roofs and insulation, repairs to building exterior walls and insulation including replacement of	No	Under preparation	0.1	0.1	Public procurement
Energy Union	Energy efficiency in buildings	Green town	Capital city of the Slovak Republic	Project for building a model sustainable locality – buildings, offices, transport	No	Under preparation.	0.1	0.1	land ownership, land- planning authorizations, building permits

				space with zero emissions, green transportation and internal energy self-					
Transportation	Conditions for business activity	Main station – integrated transportation	Capital city of the Slovak Republic Bratislava	New underground tram, bus and trolleybus stations, underground garages, commercial space, connection to railway	Yes	Project documentation	0.2	0.2	difference between valid documentation and actual situation, land ownership, appeals by
Transportation	Conditions for business activity	Modernizing the maintenance base in Bratislava	Capital city of the Slovak Republic Bratislava	Upgrading and reconstruction of obsolete trams, trolleybuses and bus sheds (Jurajov dvor, Krasňany, Trnávka,	No	Feasibility study	0.1	0.034	difference between valid documentation and actual situation, land ownership, appeals by
Transportation	Corridors and missing links	Linking Bratislava airport with Vienna	Capital city of the Slovak Republic Bratislava	Linking Ivanka pri Dunaji Airport with Schwechat	No	Under preparation	0.3	0.3	land ownership
Transportation	Corridors and missing links	Northern bypass	Capital city of the Slovak Republic Bratislava	Completion of a central road transportation circuit between Pražská street and Jarošova street to substantially improve the traffic situation on existing roads. Negative environmental impact of traffic will be reduced. Traffic flow in the existing intersections will be improved after relieving the burden	No	Project documentation	0.160	0.160	difference between valid documentation and actual situation, land ownership, appeals by unsuccessful bidders
Transportation	Corridors and missing links	Road link of Galvaniho street –	Capital city of the Slovak Republic Bratislava	Building a road link between urban parts Trnávka - Rača	No	Feasibility study	0.1	0.1	difference between valid documentation and actual situation, land ownership,

		street							
Transportation	Corridors and missing links	Town bridge Petržalka – R7	Capital city of the Slovak Republic Bratislava	Building a link between Petržalka (at Kutlíkova street or Gettingova street) with the planned expressway R7 along	No	Under preparation.	0.2	0.2	difference between valid documentation and actual situation, land ownership, appeals by
Transportation	Corridors and missing links	Relocation of I/502	Capital city of the Slovak Republic Bratislava	Relocation of a busy road outside the built-up area of Rača – Welding Institute	No	Feasibility study	0.18	0.18	difference between valid documentation and actual situation, land ownership,
Transportation	Corridors and missing links	Whole Tomášikova street	Capital city of the Slovak Republic Bratislava	Completion of tram links – Račianska, Vajnorská and Ružinovská radial tracks – by completing tram tracks through Zátišie – Pluhová and Tomášikova Streets, “Račianska – Pluhová (Zátišie) – Vajnorská – Trnavská” route; road reconstruction, building cycling trails,	No	Under preparation.	0.1	0.05	difference between valid documentation and actual situation, land ownership, appeals by unsuccessful bidders
Transportation	Corridors and missing links	Split level transportation road solution at riverbank –	Capital city of the Slovak Republic Bratislava	Sinking an underground automobile traffic route at Riverpark – Dostojevského rad Street. Besides an elevated intersection and improved traffic flow and safety, lower	No	Under preparation.	0.450	0.1	Land-planning authorization, building permits, moving utility lines, difference between valid documentation and actual situation
Transportation	Corridors and missing links	Road link Rusovská street – Pražská street	Capital city of the Slovak Republic Bratislava	Building a town bridge and tunnel that will divert transiting traffic through SNP Bridge and Štefánikova Street.	No	Under preparation.	0.2	0.1	Land-planning authorization, building permits, moving utility lines, difference between valid documentation

				public space.					
Transportation	Corridors and missing links	Carrier public transportation system 1st stage, operational section Main station –	Capital city of the Slovak Republic Bratislava	Linking the main railway station with the city center and railway route to Petržalka	Yes	Feasibility study prepared	0.12	0.12	difference between valid documentation and actual situation, land ownership, appeals by unsuccessful bidders
Transportation	Corridors and missing links	Carrier public transportation system – 3rd stage, operational section	Capital city of the SR Bratislava	Linking the main railway station with the city center and railway route to Petržalka	Yes	Feasibility study prepared	0.208	0.208	difference between valid documentation and actual situation, land ownership, appeals by unsuccessful bidders
Transportation	Corridors and missing links	Extension of tram tracks	Dopravný podnik Bratislava (Bratislava Transportation Company)	Link between tram and railway infrastructure to improve traffic integration options (Stará Vajnorská - Vajnory; Dunajská - Mlynské Nivy;	No	Under preparation.	0.231	0.231	difference between valid documentation and actual situation, land ownership, appeals by unsuccessful bidders
Transportation	Corridors and missing links	Modernization of tram tracks - Karloveská, Vajnorská, Račiansk	Dopravný podnik Bratislava (Bratislava Transportation Company)	Improving the quality of railway transportation (removing current section speed limits, creating right-of-ways for trams at crossroads, reducing noise levels) to increase use of	No	Project documentation being prepared.	0.184	0.184	difference between valid documentation and actual situation, land ownership, appeals by unsuccessful bidders
Transportation	Corridors and	Carrier	Dopravný	Americké námestie (square) – Ružinov	Yes	Under preparation	0.1	0.1	difference between valid

		transportation system, operational section Americké námestie	Bratislava (Bratislava Transportation Company)	with railway track + link with airport + Hornbach transfer terminal					actual situation, land ownership, appeals by unsuccessful bidders
Transportation	Corridors and missing links	Trolleybus track in Petržalka	Dopravný podnik Bratislava (Bratislava Transportation Company)	Building an ecological trolleybus track in Petržalka where no track is currently situated (trolleybus track Miletičova - Košická - APOLLO	No	Project documentation being prepared.	0.1	0.1	difference between valid documentation and actual situation, land ownership
Transportation	City transportation	Trolleybus tracks	Dopravný podnik Bratislava (Bratislava Transportation Company)	Trolleybus track (TT) Brnianska - Patrónka - TESCO Lamač; TT Drotárska; TT Trnávka - Zlaté piesky and linking Trnávka with OC AVION; TT Karadžičova - Dostojevského -	No	Project documentation being prepared.	0.1	0.1	
Transportation	City transportation	Electric buses	Dopravný podnik Bratislava (Bratislava Transportation Company)	Purchase of electric buses and hybrid electric buses combined with trolleybuses in order to upgrade fleet and	No	Under preparation.	0.1	0.1	difference between valid documentation and actual situation, land ownership, appeals by
Transportation	City transportation	Upgrading the tram fleet	Dopravný podnik Bratislava (Bratislava Transportation Company)	Purchase of trams in order to improve the transportation quality and passenger, comfort, while lowering repair and	Yes	Under preparation.	0.15	0.15	difference between valid documentation and actual situation, land ownership, appeals by
Transportation	City transportation	Intelligent transportation system	Capital city	Creating a city-wide interconnected and intelligent intersection traffic management system with the aim to give public	No	Under preparation.	0.1	0.1	difference between valid documentation and actual situation

				and to charge fees for dynamic private car transportation in peak hours in order to optimize traffic					
Social infrastructure	Creating environment and municipal services	Rental apartments	Capital city of the Slovak Republic Bratislava	Building 30 rental units with approximately 1,200 flats for young families and socially deprived population	No	Under preparation.	0.1	0.1	land ownership, land-planning authorization and building permit
Social infrastructure	Creating environment and municipal services	Reconstruction and repair of national cultural monuments	Capital city of the Slovak Republic Bratislava	Reconstruction and repair of national cultural monument facades – Michalská Tower, the former Museum of Arts and Crafts building at Beblavého street, Domu Dobrého pastiera (House of the Good Shepherd), Hummel’s Birthplace at Klobučnicka Street of Pálffy Palace (GMB) façade, Mirbach Palace, Ancient Gerulata Museum in Rusovce (total reconstruction), building a new common building for town organizations (Bratislava City Museum (MMB), Bratislava City Gallery (GMB), Institute for Monument Preservation (MUOP), City library (MK)), to be used to store and curate collections, as an office and	No	Under preparation.	0.1	0.1	land ownership, land-planning authorization and building permit

				Castle National Cultural Monument: souvenir shop building, rest rooms, public working space, etc., opening a new entrance with complete infrastructure at eastern gate –					
Sources and the Environment	Resistance against climate change impacts.	Adaptation to a climate change	Capital city of the Slovak Republic Bratislava	Raise Bratislava's ability to prepare for the negative impacts of climate change. Taking specific action toward sustainable rainwater management, microclimate modifications and mitigating summer heat by planting new green areas, increasing the amount of greenery in selected public spaces, planting or revitalizing trees and bushes, building vegetation roofs, increasing water permeability of public	Yes	Pilot project in progress.	0.1	0.1	Ownership, , opinions of involved parties

Sector	Subsector	Project Name	Organization – Project Sponsor	Description	Included in National Investment Plan (yes/no)	Project Status	Total Investment Costs (EUR BN)	Investment in 2015 – 2017	Barriers to Implementation
Social infrastructure	Education and training	Kechnec European Integrated School	Municipality of Kechnec – Košice agglomeration	The proposed project involves the establishment of an EU integrated school ensuring education and acquisition of skills and competence required by modern industry and services for investors at a strategic industrial park in Kechnec and in the Košice industrial zone.	No Note: The project was included in the network of European integrated schools.	Project documentation to land-planning authorization and feasibility study has been completed. Accreditation of the school on the elementary school level with continuation to the 2 nd and 3 rd education level to be also ensured.	0,035 A part of Local Integrated Project with a total value of EUR 0,148	0.017	So far: lack of financial development resources, difficult accreditation process. Guaranteed financial resources would mean a significant shift in implementation, including accreditation.
Social infrastructure	Healthcare facilities	Healthcare facility – SANATORIUM and integrated	Municipality of Kechnec	Maintaining and improving the health of the population, including active those actively employed in the Kechnec industrial zone, from providing basic healthcare to retirement	No	Project documentation to building permit has been completed	0,016 A part of Local Integrated Project with a total value of EUR 0,148	0.01	x) Costs so far invested in building: EUR 5.6 mil. for SO Polyclinic
Knowledge-based digital economy	Public research and development projects	Science and technology park Kechnec, Košice	Municipality of Kechnec	Creation of a science and technology park for hi-tech companies within the existing strategic industrial zone in Kechnec and science	No	Urban study of the Kechnec Science and Technology Park has	0,05 A part of Local Integrated Project with a total	0,03	

		on at the border with Hungary with a connection to science parks in Košice and potentiall		University in Košice. The Kechnec Science and Technology Park has significant potential to serve 500,000 people in the area		feasibility study is being prepared as well as the project for land- planning authorization. Note: 300 ha strategic park is operating and connected to			
Sources and the Environment	Natural resources, regeneration of industrial places	Aquapark Kechnec	Municipality of Kechnec	The use of natural thermal resources from the existing geothermal drill to increase the CR, ensuring regeneration of the population and workers of the industrial zone of Kechnec	No	Project documentation to building permit has been completed	0,047 A part of Local Integrated Project with a total value of EUR 0,148	0,025	

Transportation	Corridors and missing links	Connecting Route I/64 Novozámocká road with Route III/05137 Dlhá	City of Nitra	Building an outer by-pass road around the city to divert National Route I/64 from the city center	No	Project for building permit.	0,09 A part of an Local Integrated Project.	n/a	n/a
Social infrastructure	Health	Reconstruction of stadiums and	City of Nitra	Reconstruction and expansion of the existing swimming pool for year-round use according to modern,	No	Study completion and project	0,04 A part of an Local	n/a	n/a

		complexes and building of a		standards. Reconstruction of stadiums and sporting complexes.		approval by the City Council of the project	Integrated Project		
Adaptation of the N-Adova Nitra residential	Social infrastructure	Creating environment and municipal services	City of Nitra	Building 212 low-energy and rental apartments in the N-Adova complex	No		0,02 A part of an Local Integrated Project		
Building of a congress center on the site of former	Social infrastructure	Education and training	City of Nitra	Building of a congress center	No		0,01 A part of an Local Integrated Project		
Modification of municipal waste for energy use	Energy Union	Interconnections and production	City of Nitra	Municipal waste incineration plant	No		0,12 A part of an Local Integrated Project		



SLOVENIA



Country : SLOVENIA

Project list

THE LIST OF PROJECT WAS COMPILED ON A NATIONAL LEVEL AND DOES NOT INCLUDE PROJECT ON A REGIONAL AND MUNICIPAL LEVEL. THE LIST IS INDICATIVE AND WAS NOT APPROVED BY THE GOVERNMENT OR THE PARLIAMENT. IN THE COURSE OF FURTHER STRUCTURING THE INVESTMENT INITIATIVE WE MAY SUGGEST OTHER PROJECTS AS WELL.

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Entrepreneurship	SME's	private	SME's financing	SID banka	Financing of SME's through EIB loan and cohesion fund cofinancing.	No	Ongoing	0.4	0.4	
Resources and Environment	Resilience to Climate Change	public	Investments to reduce flood risk in Slovenia	Ministry of the Environment and Spatial Planning	In accordance with Directive 2007/760/EC Slovenia identified 61 areas with significant flood risk. Investments in needed hydro-technical and ecosystem measures on all river-basins and sub-basins to reduce flood risk are envisaged in the project	Yes	Slovenija is implementing two major subprojects on Savinja and Drava river co-financed by ESI Funds and simultanuisly preparing technical documentation for further sub projects	1.03	0.15	Due to the budget constraints Slovenija can not financially address its short and long term investments in related sector
Energy Union	Connections and production	public	Double OHL 400 kV to Hungary with the new 400/110 kV substation Cirkovce	ELES electricity grid of Slovenia	PCI project in North-South East Europe Electricity Priority Corridor; the project establishes first electricity interconnection between Slovenia and Hungary	Yes	Planning and permitting in final stages, construction start expected 2016-2017.	0.115	0.08	Environmental constraints
Energy Union	Connections and production	private	LNG Krk (HR) gas evacuation pipelines towards HU, SI and IT	Plinovodi	PCI projects in North-South East Gas Priority Corridor; gas evacuation pipelines in connection to LNG Krk PCI project (HR)	Yes	planning and permitting stages	0.6	0.035	Realization connected to LNG Krk (HR). Construction could start in 2018, if there are no permitting delays.

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Energy Union	Connections and production	private	Hydro power plants on middle Sava river	SRESA d.o.o.	LOW-CARBON ENERGY PRODUCTION necessary for Slovenian CLIMATE-ENERGY GOALS 2020	Yes	planning stages, construction expected to start in 2018	0.4	0.015	Permitting delays, financing uncertainties
Transport	Corridors and missing links	public	Railway connection Adriatic - Alps	Ministry of Infrastructure	Upgrading of the rail infrastructure will be aligned with the TEN-T guidelines concerning core networks (100 km/h speed, 740 m-long trains and 22.5 ton axle load) on the Baltic - Adriatic and Mediterranean corridor. New tracks are foreseen where only single track is operating. Upgrades and new tracks will boost the competitiveness of the entire corridor as the greatest obstacle and load restrictions will be removed.	yes	For the first phase: second track Divača - Koper, upgrading section Zidani - most - Celje and Postaja Pragersko; planning and permitting are in final stages; construction start expected in 2016. The project will open by phases	1.53	0.3	Lack of long term finance. A combination of EC grants (Cohesion fund and CEF), EIB and MS finance is envisaged.
Transport	Corridors and missing links	public private	Modernization and expansion of Port of Koper	Ministry of Infrastructure, Luka Koper d.d.	Port of Koper needs greater depth of the entrance channel to basins and basins, additional port infrastructure capacities as well as the supporting and connecting public infrastructure because of the increased size of vessels, growing volumes and confirmed new market potentials.	yes	The project is divided into several smaller projects. For some projects permits have already been granted, start of construction is expected next year (2015); for some projects appropriate permits still need to be obtained, start of construction is expected after 2016.	0.2	0.1	Insufficient financial resources and problems in acquiring administrative and other permits may lead to possible delays. Expected source of co-financing: Cohesion fund and CEF, EIB, ERDF

Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Transport	Corridors and missing links	public private	Missing links on the TEN-T corridors	Ministry of Infrastructure, DARS d.d.	Missing highway section between Maribor - Croatian border (Draženci - Gruškovje); Second tube of the Karavanke tunnel; Missing highway section between Jagodje-Lucija and Croatian border, improving road safety and efforts to remove bottlenecks near Brezovica and Ljubljana from toll station Hrušica to Austrian border (8 km in length).	Yes	Planning stage, Confirmation of financial programme; ready for construction; building permit for the first stage Draženci - Gruškovje is granted.	0.594	0.23	Long spatial planning procedure, lack of long term finance. Expected source of co-financing: Cohesion fund and CEF, EIB
Transport	Corridors and missing links	public	3rd development axis	Ministry of Infrastructure, Slovenian Road Agency, DARS d.d.	The third development axis is a high-quality road representing connection between the Mediterranean Corridor and the Baltic-Adriatic Corridor. The project connects regional centres in Austria, Slovenia and Croatia, and thereby provides freight and passenger transport from all regions and connection to the major European transport routes.	yes	Planning stage	1.7	0.1	Lack of long term finance. A combination of EC grants (ERDF), EIB and MS finance is envisaged. Permitting problems.
Transport	Business enablers	public private	Intermodal Logistic Center Ljubljana	Ministry of Infrastructure, Luka Koper d.d.	The first phase plans a construction of an indoor storage facility of 41,000 m2 and generation of 430 new jobs. At the completion of the investment it is foreseen the Logistic Centre will provide indoor storage areas of 161,000 m2 on 47 hectares of land and generate 890 new jobs.	Yes	Planning stage	0.2	0.1	Lack of long term finance

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Includ ed in nation al invest ment plan (yes/n o)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Social Infrastructure	Health	Public	Emergency Medical Service	Ministry of Health	Upgrade of emergency medical service, which started with the construction of emergency centres and will continue with the following subprojects: '- Dispatch system, i.e. a comprehensive system of communication in crisis situations (natural disasters, mass accidents, accidents with severe injuries, ...) '- Helicopter emergency medical service - 8 heliports with 2 emergency helicopters '- 22 emergency ambulance vehicles	No*	In preparation; The project for Dispatch system is already prepared	0.0245	0.0245	Budgetary limitations
Social Infrastructure	Health	Public	Informatizati on of Slovene hospitals	Ministry of Health	A unified information system for all Slovene hospitals, covering all aspects of business processes and clinical data	No*	In preparation	0.045	0.002	Budgetary limitations
Social Infrastructure	Health	Public	Modernisatio n of healthcare facilities (1)	Ministry of Health	Construction of 2 out of several hospitals	No*	Detailed study prepared; Project documentation for one hospital completed	0.1	0.1	Budgetary limitations
Social Infrastructure	Health	Public	Modernisatio n of healthcare facilities (2)	Ministry of Health	Setting up of the post-stroke rehabilitation centres as part of the integrated care	No*	The project is prepared	0.037	0.012	Budgetary limitations

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Includ ed in nation al invest ment plan (yes/n o)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Knowledge and the Digital Economy	ICT Infrastructure	public	Teaming for excellence	Ministry of Education, Science and Sport	Teaming projects will establish (a) the scientific and technical basis for new or significantly enhanced centres of research excellence in Slovenia along with the detailed planning for their construction and operation, and (b) the commitment amongst all relevant parties to their development. Achievement of these objectives will lead to the investment of resources from the Cohesion Funds, to finance the necessary infrastructure and make the new centres of excellence a concrete reality. The instrument is based on synergic combination of structural and Horizon 2020 funds and shall provide a new way of strategic partnering between countries and therefore contribute also to synergies between different macro regions.	Yes	Slovenian research community prepared 11 Teaming for excellence applications which were send to EC for an evaluation.- Due to the fact that there will probably be much more excellent proposals than available funds we would like to use other instruments to support these initiatives on the priority areas of RIS3.	0.25	0.1	Budgetary limitations

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Includ ed in nation al invest ment plan (yes/n o)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Knowledge and the Digital Economy	ICT Infrastructure	public	ESFRI infrastructural projects based on National research infrastructure roadmap	Ministry of Education, Science and Sport	The research infrastructures are the precondition for research and simultaneously, medium-sized and large infrastructures in particular, are also of key importance for the excellence of such work and for conducting the most demanding research. With the aim of optimising investments in research infrastructures the collaborative approach is necessary. ESFRI initiatives are therefore in the center of Slovenian National research infrastructure roadmap and due to the strategic documents two medium size research infrastructures (connected with complementary infrastructure from other EU countries) shall be build in Slovenia in next years.	Yes - partialy	Necessary infrastructures are defined in all strategic documents, it would be possible to start the project very soon.	0.29	0.05	Budgetary limitations

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Includ ed in nation al invest ment plan (yes/n o)	Status	Total invest- ment cost (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
Knowledge and the Digital Economy	ICT Infrastructure	public	Centres of Knowledge	Ministry of Education, Science and Sport	Centres of knowledge aim to introduce and promote interdisciplinary approach to research and innovation and are well suited to the needs of the industry where things are not kept in individual disciplines. They support concentration of resources on technology areas that are crucial for the competitiveness of the economy. They contribute to the efficient flow of knowledge and applications into products and services. With centres the integration of knowledge and competences of companies, and research organisations in certain technological areas is encouraged, namely the areas that show a critical mass of knowledge and capability for development and the use of new technologies. The results of such integration are new products, services and processes with higher added value, and therefore increasing competitiveness.	Yes - partialy	Centres are already established and functioning. They now need upgrading and support for developing the next phase with even more international dimension.	0.1	0.03	Budgetary limitations
Knowledge and the Digital Economy	ICT Infrastructure	public	Research Centres	Ministry of Education, Science and Sport	Research Centres are not established yet. Some are in the planning phase and some concepts already prepared. They should become Regional Reference Centres in priority areas and a part of the existing European reference networks.	Yes - partiall y	Planning phase / some already prepared	0.15	0.07	Budgetary limitations



SPAIN



	<i>Investment in 2015 – 2017 (EUR millions)</i>
1. Knowledge and the Digital Economy	11,181.24
1.1. Public R&D	1,537.80
1.2. Private R&D	3,787.00
1.3. ICT Infrastructures	3,782.12
1.4. Professional training/employment	2,074.32
2. Energy Union	25,133.50
2.1. Connections and Production	14,449.70
Connections Iberian Peninsula-outland territories	2,088.30
Connections Iberian peninsula-EU energy market in electricity	10,273.90
Additional investments for unexpected environmental reasons	5,000.00
Connections Iberian peninsula-EU energy market in gas	1,004.00
Other projects	1,083.50
2.2. Energy Efficiency	10,683.80
3. Transport	6,115.30
3.1. Corridors and Missing Links	6,115.30
4. Social Infrastructure	5,163.05
4.1. Education and Training	1,548.20
4.2. Health	345.00
4.3. Built Environment and Urban Services	200.85
5. Resources and the Environment	5,351.25
5.1. Natural Resources: Efficient Use and Secure Availability	2,957.96
5.2. Resilience to Climate Change	875.29
5.3. Environment	1,518.00
6. Agrifood	27.65
TOTAL	52,971.99



SWEDEN



Task- force on investments: Swedish contribution on question 4

Introduction

European and national policies need to be geared towards promoting competitiveness and structural reforms within the framework of sustainable public finances and compliance with fiscal policy framework at member state- and European level. This would contribute to improved conditions for lower unemployment, more and better jobs as well as the growth potential.

There is a need for increased private and public investments. Measures, mainly at member state level, to improve the investment climate are essential. As needs are not identical and conditions vary considerably between member states it is – with some exceptions linked to mainly the functioning and development of the internal market – important with a tailored approach.

Better conditions should be addressed mainly in the context of the internal market (including its digital components), external trade, functioning of the labour market, research and innovation as well as focusing on a sustainable, green and efficient economy.

In this context Sweden would like to mention the ongoing multi-national investment (in category 1. i KNOWLEDGE AND THE DIGITAL ECONOMY (Public R&D) in building **the European Spallation Source (ESS)** in Lund, to which the Swedish state is the main contributor and which Sweden considers to be one of the most important investments in public R&D infrastructure in Europe at this point in time.

Projects

2. iv Energy union (connections and production):

Cross-border electricity connection infrastructure

– Maintenance, modernisation and up-grading of the **Fenno-Skan DC-cable** between Sweden and Finland. Swedish National Grid (Svenska Kraftnät) and Fingrid.

- Total investment approx. 180 meur. Included in Svenska Kraftnäts investment plan.

- Started within the period 2015-2017.

Barriers: project preparation and partially public financing.

3. Transport

Development of public transport infrastructure provides better conditions to reduce adverse environmental and climate effects in the transport sector.

vii) missing links:

Rail infrastructure southern Sweden:

– Regional and local components of investments in **Söderåsbanan** (Åstorp – Teckomatorp).

Total investment approx. 39 meur. The part of the regional and local authorities (Bjuv och Svalöv municipalities) amounts to approx. 14 meur.

Included in the National plan for transport infrastructure 2014-2025.

Will provide a greater geographic and demographic part of the commuter region in southern Sweden with up-to date rail infrastructure and link those parts with the cross border connection between Malmö and Copenhagen as well as improving the rail-freight corridor in and through the area.

Started in 2019 according to plan.

Barriers: project preparation and partially financing.

viii) urban transport:

Enlargement and development of the **underground system in Stockholm.**

The project involves Stockholm County, Stockholm stad and the adjacent municipalities of Järfälla, Nacka and Solna stad. Agreement between the state and the other actors on the distribution of tasks and the division of financing was reached in 2012.

Total investment approx. 2900 meur.

Regional and local components approx. 1275 meur.

Barriers: very complex project preparation and partially public financing.

Started late within in the period 2015-2017.

Other – programme for business financing

– Project **fund- in-fund aiming at strengthening the supply and availability of venture capital** for businesses in an early stage of development.

Financing through the European Regional Fund (approx. 21 meur), co-financing of approx. 21 meur from the Swedish state.

In earlier discussions with the EIB-group (EIF) it has been indicated that the bank is prepared to provide approx. 21 meur in additional capital.

Barriers: financing, finalisation of agreement.

Started: 2015-16



UNITED KINGDOM



UK Indicative Project List

This list is intended only as an indicative list of projects in the UK to inform the work of the EU Task Force on Developing an Investment Pipeline.

It does not represent a comprehensive list of all projects in the UK that could benefit from EU support, and should not preclude other projects from benefitting from any EU funds or instruments made available as results of this initiative. The list does not indicate a commitment by UK government to fund any of the included projects.

The UK reserves the right to remove projects from this indicative list, and the information contained in the list should not be published or used without further consent of the UK government.

Sector	Subsector	Project name	Implementing agency	Description	Included in national investment plans	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
							(£bn)	(£bn)	
Energy Union	Connections and production	Anglesey Energy Island	Energy Island Programme, Anglesey County Council Welsh Government Horizon Nuclear Power Magnoz National Grid	<p>Integrated suite of investments in low carbon energy (nuclear, wind, tidal, biomass and solar), anchored by an £8bn investment in Nuclear).</p> <p>Gaps exist in terms of connecting infrastructure required to open employment opportunities and the supply chain in the wider region to the developments. Gaps also exist in terms of ensuring the investments in connecting infrastructure have a wider economic impact. Examples would be to develop multipurpose connecting infrastructure.</p> <p>The programme of work will improve the diversity of the UK's energy supply and security. It is also essential to optimise a regionally, economically transformational opportunity at the periphery of Europe.</p>	Yes	Various stages. Main nuclear build possibly 2018-19, but other strategic investments are required from 2015/16 to ensure the Regional and National benefits are optimised.	25.0		Majority of investment expected from private sector (includes £8bn for nuclear plant). Barriers include grid connectivity, capacity and capability of ports, and other transport routes, skills, business readiness, consents and some RD&I for nascent technologies. Range of financing options being explored by the Anglesey Energy Programme, which has been mobilised to develop the underpinning to enable strategic decision making to maximise benefits to the region.

Energy Union	Connections and production	Swansea Bay Tidal Lagoon	Tidal Lagoon (Swansea Bay) Plc a Special Purpose Vehicle created by Tidal Lagoon Power.	<p>Construct a 'proof of concept' tidal lagoon in Swansea Bay between the ports of Swansea and Neath. It will have capacity to produce up to 240MW (possibly up to 320MW) of renewable energy utilising the tidal range. Significant regeneration/amenity elements because of the potential complementary tourism and sporting opportunities.</p> <p>Tidal Lagoon Power have plans for a further suite of larger tidal lagoons around the UK coast, with the potential for many GW of predictable renewable energy capacity. Further projects will be delivered at lower cost due to economies of scale.</p> <p>Gaps exist in terms of ensuring the investments deliver economic benefits to Wales, with the opportunity to develop manufacturing expertise and servicing.</p> <p>An independent study has concluded that the overall impact on annual Welsh GVA could amount to £316 million during the construction programme. This would result in an estimated boost to Welsh GVA ranging from 0.02% to 0.23% with the potential to create employment of 1,900 jobs from employment and purchases of goods and services from Welsh based companies.</p> <p>Annual overall impact on Welsh GVA of the tidal lagoon during operation could amount to approximately £76 million per year (2014 prices) over the 120 year design lifespan of the power station.</p> <p>This would result in an estimated annual boost to Welsh GVA of 0.14%. Annual operation of the tidal lagoon will also generate direct, indirect and induced jobs of around 181 FTE jobs for the Welsh economy.</p>	Yes	Seeking consents and finalising funding	0.9		<p>Need a Development Consent Order, with the UK Government likely to determine the development in March 2014 and seabed lease, though a leasing round is expected to close in September 2015. Potential financing gap, with options being explored by the implementing agency.</p> <p>Further gaps around associated development required to ensure Wales optimises the benefits from the project and also positions itself to develop expertise required for future projects in the UK and wider.</p>
Energy Union	Energy Efficiency in Buildings	Industrial energy efficiency	BIS	Support for companies, particularly those that are energy intensive to invest to improve their energy efficiency and environmental standards beyond current minimum legal requirements	No	Not yet launched	1.0	0.5	Exemptions from carbon taxes for energy intensive industries do not solve the long term issue of maintaining competitiveness while meeting carbon reduction targets. This would encourage investment in longer term, sustainable solutions.
Energy Union	Connections and Production	Security of Supply for Northern Ireland	DETI/Regulator/System Operator	Procurement of generating capacity to secure adequate generation margin between 2016 and 2021	Yes	Scoping options	0.1	0.1	Barriers - Appropriate financing structures. Impact on consumer bills. Isolated market with limited interconnection
Energy Union	Connections and Production	Security of Supply for Northern Ireland post-2021	DETI/Regulator/System Operator	Delivery of interconnection	Yes	Planning	0.3	0.1	Lack of certainty in government plans. Weak/uncertain regulatory environment. Lack of appropriate financing structures. Impact on consumer bills. Sector specific barriers - opposition to transmission infrastructure

Energy Union	Connections and Production	Smart Grid	DETI/Regulator	Potential support for existing Project of Common Interest seeking substantial funding under Connecting Europe Facility - project is scalable and flexible	No	Project developers awaiting CEF decision	0.1	0.1	Lack of appropriate financing structures
Energy Union	Connections and Production	Fast-start generation	DETI/Regulator/System Operator	Procurement of faster start OCGTs to complement higher wind penetration	No	Understand that discussions are progressing between respective Regulatory Authorities and Transmission System Operators in Single Electricity Market	0.1	0.1	Lack of certainty over demand and revenues from investment. Impact on consumer bills. Investment in fossil fuel plant potentially inconsistent with direction of travel of European Union energy policy ambitions
Energy Union	Energy Efficiency in buildings	Gas conversion	DETI/Regulator	Support mechanism for business and domestic customers switching to gas	No	Not currently under detailed consideration	0.1	0.1	Lack of certainty over demand and revenues from investment. Lack of access to finance for SMEs
Energy Union	Connections and Production	Gas extension to East Down	DETI/Regulator	Extending availability of natural gas supply to parts of Northern Ireland	No	Scoping options	0.1	0.1	Lack of certainty over demand and revenues from investment
Energy Union	Energy Efficiency in buildings	NI Smart Meter programme	DETI/Regulator	Part-financing of NI smart meter rollout programme	No	Initial discussions between DETI and Regulator. Significant concerns about cost of rollout programme in a region with highest level of fuel poverty in UK. Marginal benefit over cost.	0.3	0.1	Lack of certainty over demand and revenues from investment. Sector-specific barrier - the NI market has the highest percentage of pre-payment meters in the UK, with many of the potential efficiencies/benefits offered by smart meter technology already being captured
Energy Union	Connections and Production	Energy Storage	DETI/Regulator	Potential support for existing Project of Common Interest seeking substantial funding under Connecting Europe Facility	Yes - not project specific - NI energy policy references importance of storage in general terms	Project developers awaiting CEF decision	0.3	0.2	Lack of appropriate financing structures. Lack of certainty over revenues.
Energy Union	Connections and Production	Gas Storage	DETI/Regulator	Potential support for existing Project of Common Interest seeking funding under Connecting Europe Facility	Yes	Pre-development stage but has obtained a number of consents	0.4	0.1	Lack of appropriate financing structures. Lack of certainty over revenues.

Energy Union	Energy Efficiency in Buildings	Household Energy and Thermal Efficiency Programme (HEaT)	Department of Social Development (Northern Ireland)	A £140 million investment programme to support domestic energy efficiency measures through a combination of grant and loan payments, and the provision of guidance and support to homeowners, tenants and private landlords. It is estimated that £54 million of public funds will leverage further private investment of £86 million.	At a UK level, the Programme aims to utilise the already announced Financial Transactions Capital facility. The current Investment Strategy for Northern Ireland predates the HEaT proposal. The Strategy is under review and will be updated to reflect developments since its publication.	The development of the Programme is a commitment in the Economic Pact between the UK Government and the Northern Ireland Executive. An economic appraisal is being undertaken to consider detailed options for delivery, including in respect of the levels of support available to different categories of household, and of potential sources of funding.	0.054	0.018	The HEaT Programme is not included in the current Investment Strategy for Northern Ireland. The Strategy is under review which provides an opportunity to address this issue. No confirmed funding is in place for the project. Potential sources of funding are being explored, however each of the identified options is materially constrained in respect of either availability of resource, alignment between the intended timeframe for the programme and the availability of resource, and constraints on the application of funding to the intended purpose - in particular in respect of the appropriateness of available financing structures given the requirement to cover risks associated with loans to private households. Financial support from the EU investment pipeline in the 2015-17 period could provide a secure and stable financial environment for the further development and rollout of the programme.
Energy Union	Electricity Generation: Offshore Wind	Offshore wind development, including specific projects of around 2667MW (Dudgeon; Burbo Bank Extension; Walney Extension Hornsea, Beatrice)	private sector	The UK remains committed to delivering 15 per cent renewable energy by 2020. In order to meet this target, the government estimated that the UK needs at least 30 per cent of its electricity generation to come from renewable sources by 2020. Offshore wind plays a crucial role in delivery of the target with 3.8GW of installed capacity, 1.4GW under construction and with an aspiration for 10GW installed by 2020. In particular, 5 projects have FIDer contracts in place and are aiming to reach financial close before 2016, with estimated potential additional financing required of up to £7.4bn given market conditions.	Yes	Various. 5 projects FIDer contracts in place.	21.3	10.4	Barriers: Future offshore wind project will be installed in deep waters, which considerably increases construction and maintenance costs. There is lack of investment appetite to support high capex projects with not sufficient returns on investment. Solution: EIB debt financing or loan guarantees.
Energy Union	Electricity Generation: Biomass	Biomass development including specific projects around 820 MW.	private sector	The UK remains committed to delivering 15 per cent renewable energy by 2020. In order to meet this target, the government estimated that the UK needs at least 30 per cent of its electricity generation to come from renewable sources by 2020. Biomass will play an important role in delivery of the target with over 4GW currently installed. Together with spend under the RO, we expect a further 4.1-5.8GW total biomass to come forward under EMR	Yes	All projects are shovel ready with two looking to close FID by the end of the calendar year	6.3	1.2	barriers: lack of investment appetite because of the difficulty of finding industrial partners, lack of understanding of the value of CHP in the UK, concerns over the sustainability of biomass and lack of opportunity for cost reduction. Solution: support for larger projects and an independently developed biomass CHP to drive down costs and demonstrate low carbon nature of biomass

Energy Union	Low Carbon Generation: Marine Electricity Generation	Marine Generation	private sector	Marine is a nascent technology and the UK is at the forefront of its development. Currently there are no commercial-scale projects in operation, however there is a number of demonstration projects in place. There is also 0.5GW of marine projects in the pipeline and it is estimated that the wave and tidal stream sector could see £500mn investment up to 2020.	No		0.5		Barriers: Slow progress on development of commercially viable technology, high construction costs, funding shortages due to lack of support from utilities and private investors. Solution: Support for larger scale projects to drive down costs. These projects would require capital grants and loans to encourage the industry to pick up.
Energy Union	Electricity Generation: Nuclear	Nuclear development, with three potential projects with a total of 12.2GW capacity (Hinkley Point C, Wylfa, and Moorside) reaching investment decision in the near term.	private sector	Nuclear technology is a low carbon source of energy. In the UK it currently provides 20% of electricity, however the majority of UK nuclear plants is reaching end of their estimated useful would need to shut down by 2023. The industry plans to deliver 16GW of new nuclear capacity. This could support an estimated 29,000-41,000 jobs across the nuclear supply chain at the peak of construction activity. To encourage new build, the UK government developed a strong regulatory framework, however more support is needed to unlock capital and accelerate investment.	Yes	Various stages of development. Investment decisions expected in near-term	46.0	16.0	Barriers: High construction cost, long payback period is making debt raising difficult. Solution: EIB senior and sub-ordinated debt or guarantees for developers and supply chain.
Energy Union	Energy Efficiency: Demand Side Response (DSR)	Demand Side Response. Potential projects include: Industry DSR Products Demonstrator (£20M), DSR in the Smart Cities Energy Demonstrator (£50M), Catapult led Smart Heat Demand Demonstrator (£100M)	private sector/ Local Authorities	Demand side response requires "remote access" to demand points to be able to aggregate and monitor the DSR centrally. As the amount of intermittent renewable generation in the UK increases, the need for DSR also increases in order to keep the UK network stable at a reasonable price. DSR and the development of local storage and the smart grid are inevitably linked.	No		0.2	0.2	Barriers: Need to fund technology development. Solution: Capital grants for technology development and commercial scale demonstration. Barriers: Also need local authority plus DNO engagement with private sector to deliver DSR schemes. Solution: Partnership models between the players to develop cooperation which will need flexible funding models
Energy Union	Networks: Smart Grid	Smart Grid	private sector	An electricity grid that is fitted with more information and communications technology is integral to our transformation to low carbon economy. The so called "smart grid" gives a better understanding of variations in power generation and demand, and allows us to use that information in a dynamic and interactive way to get more out of the system.	Yes		0.5		Barriers: Any increased costs or debt associated with implementing Smart Grid under the current regime does not provide in the short term higher returns to shareholders. In fact it lowers their returns. The delays and no hope of winning bids forces Smart Grid providers to try other countries /purchasers. Solution: The Smart Grid companies need funding support during the competitive bidding stage. Smart Grid needs to be a carve out and a process established to encourage utilities to implement long term solutions that will create efficiencies and lower overall costs to consumers in the long term.

Energy Union	Industrial process energy	Industrial Carbon Capture & Storage demo	Partnership: industry, BIS, DECC	As part of the 2050 industrial sector roadmaps, some of the major sectors have identified industrial CCS as a key technology for their decarbonisation. Especially steel and chemicals. Funding of a one-off capex award of £150m and two years of operation from 2015 to 2017 required: 0.19-0.25bn	Yes. On critical path to decarbonisation according to all models including DECCs and Committee on Climate Changes		<0.25	<0.25	Barriers: Capital intensive technology, not yet demonstrated at scale, which increases risk for investor. Energy intensive industries operate in globally competitive markets - no opportunity to pass on costs. Uncertain returns on investment in innovation. Solution: Capital grant programme for technology development and commercial scale demonstration (alongside other policy development for supporting low carbon manufacture).
Energy Union	Networks	New Interconnectors	Private sector, (other key bodies include Ofgem, DECC, EU energy regulators, EU energy ministries and EU transmission system operators)	The UK government is committed to increasing interconnection; an additional 6GW has been identified as European Projects of Common Interest under the TEN-E regulation. The pipeline of projects include: Eleclink (to France, 1GW), Greenlink (to Ireland, 500MW), NSN (to Norway, 1.4GW), Project Nemo (to Belgium, 1GW), FAB (to France, 1GW), IFA2 (to France, 1GW), Viking (to Denmark, 1GW), Icelink, (to Iceland, 1.2GW) Scottish Island Links between Lewis (450Mw) Shetland (600MW) and Orkney (200MW). All these projects are looking to reach financial close by end of 2017. The mature projects may benefit from debt finance support provided through EU institutions (potentially with greater risk appetite than EIB), depend on individual project's size and gearing. This will be particularly valuable for independent project financed projects such as FAB or Eleclink. The less mature projects may benefit from feasibility etc study grants.	Yes and the EU Ten Year Network Development Plan		>5	3.9	Barriers: i) Interconnectors operating under the "merchant exempt" route are very risky which is causing investment hiatus ii) Regulatory and political coordination between the countries in the two connected regions creates uncertainty for developers iii) Long term visibility on EU's regulatory framework for interconnection iv) access to finance during development and construction of project Solutions: i) To mitigate risk and funding costs to developers, EU should provide financial guarantees or debt facilities (e.g. via EIB-like institutions) for key strategic interconnection projects. ii) Greater grant funding for European Projects of Common interest, targeted for elec interconnector projects iii) More visibility on medium and long term regulatory framework for interconnectors in EU.

Energy Union	Industrial process energy; Industrial Energy Efficiency	2050 industrial sector roadmaps	Partnership: industry, BIS, DECC	Industry is responsible for 25% of the UK's total CO2 emissions. The Carbon Plan 2011 identified £18bn of low carbon investment potential to 2027 across businesses and industry (outside the EU ETS). BIS and DECC have been working with eight heaviest energy-using industries (steel, oil refining, food & drink, chemicals, ceramics, cement, paper, glass) to develop action plans to decarbonise and improve energy efficiency. Whole range of proposals expected in reports due March 2015; good opportunity to use EU funding to leverage private sector investment in partnership approach with full support of BIS and industry. More details available. Projects likely to be range of pilot, full scale demonstration, capital funding for equipment and plant, some scope for cross EU working on innovative technologies eg in cement, paper, ultra low-carbon steel. Projects should cover emissions reduction from chemical processes (e.g. in ceramics, steel production) as well as from fossil fuel use. (links to industrial CCS project listed separately, so those technologies are not included in this line. While the 2030 Climate & Energy package includes a pot of 400m EU ETS allowances to fund low carbon industrial innovation, as well as CCS and renewables, there is a strong case for additional funding as this will only apply from 2020, has a very broad scope and its value depends on the EU ETS carbon price.	Yes. Key part of Carbon Plan. Also in some City Deals (eg Teesside).		18.0	0.1	Barriers: Capital intensive technology, not yet demonstrated at scale, which increases risk for investor. Energy intensive industries operate in globally competitive markets - no opportunity to pass on costs. Uncertain returns on investment in innovation. Solution: Capital grant programme for technology development and commercial scale demonstration (alongside other policy development for supporting low carbon manufacture). This should focus on focusing on commercial-scale demonstration projects for unproven technologies as well as potentially access to interest free or low-interest finance for deployment of best practice.
Energy Union	Heat networks (district heating)	Heat network development. A number of large scale heat networks projects are under development, including in Stoke-on-Trent, Tees Valley, Manchester, Enfield (London), Exeter, Cardiff and Gateshead.	Local Authorities in England and Wales, working with the private sector, with support from DECC & potential Green Investment Bank involvement	Heat networks are expected to play an important part in cost effectively decarbonising heat in buildings up to 2050. Economic models indicate that up to 20TWh/yr of heat demand could be cost effectively met by heat networks by 2020. DECC's Heat Network Delivery Unit (HNDU) is supporting 122 projects in the feasibility and project development stages across 91 Local Authority areas. Many of these are likely to get to financial close in the next few years and be delivered over the next 10 years.	Yes In Carbon Plan. Also in several City Deals.	Various - early projects are starting to enter procurement stages.	>0.2	0.1	Barriers: DECC Heat Network Delivery Unit has been running for 14 months, supporting LAs in overcoming capability and capacity barriers and developing proposals for heat networks especially in urban areas and some on a city-wide scale. However, likely that some strategically important schemes will not be able to offer sufficient returns for private investment while still representing good vfm in terms of decarbonisation Solution: A Local Authority capital fund from EU could leverage private investment and get major city-wide projects built, as would loan funds or loan guarantees.

Energy Union	Non Domestic Heat	Large scale renewable heat	private sector	The UK is committed to meeting our obligation to increasing the use of renewable energy by 2020. In the December 2013 Impact Assessment for the Renewable Heat Incentive, DECC estimated a potential renewable heat output of 29-59TWhs per year by 2020, up from 15TWhs in 2012. The large majority of this is expected to be delivered through the non-domestic sector, especially in buildings. Delivery of more large scale projects (eg £20m+) in CHP and Biomethane will be critical to reaching upper ranges of estimated renewable deployment. In order to reach the centre of the 2020 deployment range the Renewable Heat Incentive would need to result in around £10 billion of investment between now and 2020 (for domestic and non-domestic deployment).	Yes In Carbon Plan.	Various	5.0	<2	Barriers: Renewable heat projects with long lead times (including biomass CHP, geothermal heat and biomethane production) may be unable to access finance if relying on the RHI. Solution: Capital grants for large projects could release new capacity. This may be an alternative or a supplement to a tariff guarantee scheme or loan guarantee scheme.
Energy Union	Energy Efficiency: public sector	Public Sector Energy Efficiency	public sector	Upgrading the energy efficiency of public sector buildings	Yes		0.5	0.1	Barriers: Energy efficiency building retrofits in the public sector are funded by those organisations and sometimes through the government funded Salix Finance public sector energy efficiency loan scheme. The cost effective potential for energy efficiency retrofit far exceeds the available funding. Solution: ring-fenced funding for the public sector.
Energy Union	Electricity Generation: Carbon Capture and Storage	Commercial scale CCS projects [including White Rose, Peterhead]	private sector	Fossil fuels currently provide 60% of the UK's electricity. CCS is one of the key available technologies for cutting CO2 emissions from fossil fuel-based power generation (coal and gas). There are currently 2 commercial scale CCS projects in development in the UK, supported by the UK government and the EU (NER 300) with combined capacity of less than 1GW. The CCS industry could support between 15 000 30 000 jobs.	Yes	Various. 2 projects expected to take FID late 2015 / early 2016 as part of CCS Commercialisation Competition.	4.0	2.0	Barriers: This is a nascent technology with high construction costs, which has required capital grants to fund construction. Lack of appetite from debt and equity providers to finance CCS projects. Solution: EIB senior and sub-ordinated debt or loan guarantees for all projects. EU Capital grants to fund FEED studies and construction costs of non-competition projects and storage and transport infrastructure.
Energy Union	Energy Efficiency in buildings	Market Transformation Programme for Building Renovation (Energiesprong)	Private/public Sector Market Development Team	Upgrading the energy efficiency of domestic properties in the UK. Replicate a successful approach to building renovation from the Netherlands to create market conditions to broker a 100,000 home refurbishment programme with the construction sector based on industrialised product development as opposed to project based refurbishments. Project would operate across France and the Netherlands as well as the UK	Yes - delivery of building retrofits and energy efficiency improvements is fundamental to the UK Carbon Plan.	First refurbishments to commence by 2017	0.02	0.02	Barriers: This represents a new technological solution - industrial scale retrofit packages for buildings (a wrap around external product) which requires high volume demand for commercial viability. Solution: Development of independent market development teams to match supply and demand working through initial start-up capital funding to support the delivery partners through the initial high-cost stage of the innovation curve to a point when the system becomes commercially viable. At this stage it would be funded via housing associations directly with an option to expand to mortgage holders and PRS landlords.
Energy Union	Connections and production	Cross Border Interconnector		Twining of the Ireland/Scotland gas interconnector at Moffat. Improve cross border security of supply.	No	Planning	0.08	0.08	

Energy Union	Connections and production	Cross Border Interconnector		Interconnector between Republic of Ireland and Northern Ireland. To increase security of supply and market competition.	No	Planning	0.128	0.128	
Knowledge and the Digital Economy	Broadband Infrastructure	Superfast Roll out Programme	DETI	Extend superfast broadband coverage across Northern Ireland to 95% by 2017	N/k	Business case to be prepared			industry capacity and available technical solutions £46.5m
Knowledge and the Digital Economy	Digital Infrastructure (also supports Social Infrastructure: health)	Centre of Excellence/ Living it Up	Scottish Government and NHS 24	Investment to scale up to a national digital platform for the NHS that will empower all citizens and communities to deliver their own care, supported by formal public services and secure sustainable health and care services for the future. The model is a partnership with industry who will provide tools and services. The solution includes R+D space for industry to innovate in partnership with academics, service users and health/care professionals. It will address shared EU societal challenges such as active and healthy ageing, create jobs and promote economic growth. Will allow clustering and private sector involvement in significant priority for Horizon 2020.	No	Prototyping carried out with design co produced with 8,000 Scottish citizens. Digital Health Institute established to support R+D activity	0.1	0.05	Largely virtual arrangement, so no planning or legal barriers. Data protection worked through as part of pilot.
Knowledge and the Digital Economy	Private R&D: this project also contributes to social infrastructure and very strongly to the energy union themes	EU 2020 Investment and Innovation Fund (Scottish Development Bank)	Scottish Government, with partners in enterprise agencies, local authorities and private sector	Loan , risk and equity capital investment fund aimed at EU 2020 targets, particularly around innovation investment and low carbon targets in line with Smart Specialisation. Scope of fund covers: (1) low carbon, (2) resource efficiency, (3) innovation (particularly biotech), (4) on-shore infrastructure in support of renewable energy, (5) smart cities technology and potentially (6) access to finance for SME's. Possible for investors to buy into some fund areas and not others, or to come in on individual projects which suit their portfolio. Innovation elements explicitly aim to compete with US on an area of strength - comparative fund at Harvard attracts \$5 bn, and there is significant investor appetite in Scotland.	Yes	Ministerial commitment in principle, fund structures in existence which can be built on to launch and expand, existing angel investor network interested. Significant experience in access to finance and JESSICA models in Scotland means this could be launched and investing prior to 2017.	1.00	0.50	Pipelines more developed in some areas (access to finance) than others, but significant project pipeline development work will be supported by EU Structural Funds on low carbon, resource efficiency, smart cities and innovation. Local business angel network well-developed for access to finance; low carbon and on-shore investments backed by extensive infrastructure planning and outline consent for first tranche of priority sites; specific centres of specialism identified as potential investments for innovation (bio-refinery for bio-fuels; manufacturing centre for modular/flexible cell therapy; and life sciences therapeutical centre linked to existing expertise at Southern General Hospital in Glasgow - the Harvard comparator)
Knowledge and the Digital Economy	Superfast Broadband	Superfast Broadband Projects Phase 2 - Cornwall	Local Authority	BDUK allocation of £2.96mn. Seeking match funding from EU of £1.86mn	Yes	Target contracting start date 14/11/2014	0.007	0.007	Lack of commercial incentive for industry to roll out broadband in sparsely populated rural areas, and difficulties with placing infrastructure in difficult to reach areas. Government/public sources of 'gap funding' required.
Knowledge and the Digital Economy	Superfast Broadband	Superfast Broadband Projects Phase 2 - Devon and Somerset	Local Authority	BDUK allocation of £22.75mn. Seeking match funding of £4.275mn	Yes	Target contracting start date 09/01/2015	0.05	0.05	Lack of commercial incentive for industry to roll out broadband in sparsely populated rural areas, and difficulties with placing infrastructure in difficult to reach areas. Government/public sources of 'gap funding' required.

Knowledge and the Digital Economy	Superfast Broadband	Superfast Broadband Projects Phase 2 - Durham, North Tyneside, South Tyneside	Local Authority	BDUK allocation of £6.08mn. Seeking match funding from EU of £1.4mn	Yes	Target contracting start date of 15/09/14	0.015	0.015	Lack of commercial incentive for industry to roll out broadband in sparsely populated rural areas, and difficulties with placing infrastructure in difficult to reach areas. Government/public sources of 'gap funding' required.
Knowledge and the Digital Economy	Superfast Broadband	Superfast Broadband Projects Phase 2 - Hereford and Gloucestershire	Local Authority	BDUK allocation of £10.98mn. Seeking EU funding of £1.957mn	Yes	Target contracting start date of 16/01/15	0.025	0.025	Lack of commercial incentive for industry to roll out broadband in sparsely populated rural areas, and difficulties with placing infrastructure in difficult to reach areas. Government/public sources of 'gap funding' required.
Knowledge and the Digital Economy	Superfast Broadband	Superfast Broadband Projects Phase 2 - North and North East Lincolnshire	Local Authority	BDUK allocation of £1.18mn. Seeking EU match funding of £1.18mn.	Yes	Target contracting start date of 17/10/2014	0.003	0.003	Lack of commercial incentive for industry to roll out broadband in sparsely populated rural areas, and difficulties with placing infrastructure in difficult to reach areas. Government/public sources of 'gap funding' required.
Knowledge and the Digital Economy	Superfast Broadband	Superfast Broadband Projects Phase 2 - North Yorkshire	Local Authority	BDUK allocation of £4.32mn. Seeking EU match funding of £2mn	Yes	Contracting start date TBC	0.01	0.01	Lack of commercial incentive for industry to roll out broadband in sparsely populated rural areas, and difficulties with placing infrastructure in difficult to reach areas. Government/public sources of 'gap funding' required.
Knowledge and the Digital Economy	Superfast Broadband	Superfast Broadband Projects Phase 2 - West Yorkshire	Local Authority	BDUK allocation of £6.9mn. Seeking EU match funding of £6/9mn	Yes	Target contracting start date 09/01/2015	0.018	0.018	Lack of commercial incentive for industry to roll out broadband in sparsely populated rural areas, and difficulties with placing infrastructure in difficult to reach areas. Government/public sources of 'gap funding' required.
Knowledge and the Digital Economy	Public R&D	High Value Manufacturing Catapult	BIS (Innovate UK)	Additional core funding to maintain asset base at the cutting-edge (in accordance with the Hauser criteria) and to extend SME outreach services.	Hauser Review	Extension to existing scheme.	0.1	0.1	Affordability, spillovers, access to finance, coordination failures
Knowledge and the Digital Economy	Public R&D	Formulation Centre	BIS (Innovate UK)	A new Centre within the High Value Manufacturing Catapult to drive innovation in formulated products in a range of sectors. The formulated products market is large and international (>1000bn), and the Centre hopes to anchor investment from internationally mobile companies.	Hauser Review	Extension to existing scheme.	0.1	0.00	Affordability, spillovers, access to finance, coordination failures
Knowledge and the Digital Economy	Public R&D	Composites Centre	BIS (Innovate UK)	A new site for the Composites Centre in the HVM Catapult to enable composite structures to be prototyped and tested at scale.	Hauser Review	Extend existing scheme	0.1	0.1	Affordability

Knowledge and the Digital Economy	Public R&D	Robotics and Intelligent Autonomous Systems	BIS (EPSRC & Innovate UK)	Develop the UK market for robotics and autonomous systems with a demonstrator in Intelligent Mobility, with research funded from basic to innovative through a number of delivery bodies.	No	New proposal	0.5	0.02	Affordability, Positive Spillovers, Coordination Failures
Knowledge and the Digital Economy	Public R&D	Anti Microbial Resistance	BIS (MRC)	New coordinated research approach aimed at uncovering science that may help combat bacteria that become resistant to antibiotics.	No	New proposal	0.1	0.02	Affordability, Positive Spillovers, Risk and Uncertainty
Knowledge and the Digital Economy	Public R&D	Dementia	BIS (MRC)	Establish a new MRC University Unit in dementia research addressing the molecular and cellular mechanisms underlying neurodegeneration and dementia, in order to generate novel targets for drug development.	No	New proposal	0.1	0.02	Affordability, Positive Spillovers, Risk and Uncertainty
Knowledge and the Digital Economy	Public R&D	Launchpads for Local Growth	BIS (Innovate UK)	Expansion of the Launchpad programme supporting high tech clusters of SMEs and to allow LEPs and DAs to bid for new Launchpads in their area, based on their knowledge of local strengths. The programme would help at increasing the link between the national and sub-national innovation systems.	No	New proposal	0.05	0.02	Affordability, Positive Spillovers, Access to finance
Knowledge and the Digital Economy	Public R&D	Emerging technologies and industries	BIS (Innovate UK)	Establishing future industries will have an important role in the delivery of future economic growth. There are three areas of emerging technology industries where further investment is required to help develop and scale up the potential future industries. The three areas are - synthetic biology, non-animal testing, and cyber secure technologies.	No	New proposal	0.05	0.01	
Knowledge and the Digital Economy	Public R&D	UK Centre for Research in Cities and Infrastructure - UKCRIC	BIS (RCUK - tbc)	A set of interlinked laboratories that carry out research on the basic science, technology and engineering that underpins the economic infrastructure sectors.	No	New proposal submitted as part of capital consultation but which has not been shortlisted because insufficient budget available.	0.22	0.05	Affordability
Knowledge and the Digital Economy	Public R&D	A 'Crick Institute' for the Physical Sciences	BIS (RCUK - tbc)	Flagship Institute focused on applying physics, chemistry and engineering to scientific challenges in the Life Sciences	No	New proposal submitted as part of capital consultation but which has not been shortlisted because insufficient budget available	0.31	0.06	Affordability
Knowledge and the Digital Economy	Public R&D; Built environment and urban services	Innovation Partnership Investment Fund	BIS	IPIF will be a £50m competitive fund which will provide funding for new capital equipment and facilities to bodies that support the commercialisation of science and the development of high tech businesses.	No	New proposal	0.1	0.00	Affordability, Positive Spillovers, Access to finance/capital for SMEs, Coordination Failures

Knowledge and the Digital Economy	Space Technology	National Centre for space propulsion systems	BIS (UK Space Agency)	Provide a new centre for the development of space propulsion technologies for satellites (maintaining the satellite in the right orbital location) and for rockets to launch satellites. Would include innovative technologies such as ion-engines	Science capital consultation proposal; Growth strategy for UK space sector	Not yet launched	0.015	0.01	Coordinated national approach required if UK is to take advantage of a significant growing market
Resources and Environment	Resilience to Climate Change	Flood and Coastal Erosion Management	Environment Agency, local authorities and internal drainage boards	Pipeline of future capital investment in flood defences in England to meet risk arising from climate change	Yes	Government capital investment committed and significant proportion of projects is shovel-ready.	2.3	1.1	Delivering the full programme requires additional finance from local partners and beneficiaries for some projects.
Resources and Environment	Resilience to Climate Change	Flood and Coastal Risk management	Welsh Government, local authorities in Wales, Natural Resources Wales, DWR Cymru, (Potentially Crown Estates, National Rail, other private sector)	Build defences, sustainable urban drainage systems and use land management techniques to prevent flooding, raise awareness of flooding and increase resilience to flooding in Wales. Flood and coastal investment has a benefit to cost ratio of around 8:1 or higher. Beyond protection to life, flood risk management has both short and long-term economic benefits, in particular in reducing business hours lost and providing a safe and attractive place to do business. Multiple benefits and partnership funding can mean that benefits are also realised in regeneration, health, tourism and the wider environment. Investment in flood and coastal risk management ensures that Wales remains resilient to the impacts of climate change. There is an ongoing rolling flood risk management programme. Additional investment means that this programme continues and provides more benefit to more places.	Yes	Ongoing investment to 2017	2.5	0.9	There is clarity in relation to areas at risk and proven delivery programme. (Minimal impact of 2013/14 coastal storms) However, there are significant challenges, particularly to coastal communities as a result of climate change. Research has identified a significant funding gap going forward.
Resources and Environment	Natural resources: efficient and secure availability	Green Growth Fund	Welsh Government	To increase and accelerate projects to deliver green investment in Wales. Primary focus on encouraging investment in resource efficiency, renewable energy generation and waste projects.	Yes	Phase 1 underway for further development. Not in national plan, but will be in next update	0.5	0.05	A number of factors are limiting development for a range of public sector bodies, potential developers and investors. Gaps include capability to bring forward investment ready projects and issues in capital markets, which are constrained. Discussions are ongoing with the European Investment Bank to develop a co-financing model and Elena grand funding for resource efficiency projects. Development work aims to create a recyclable investment fund, with supporting development expertise to bring forward projects and will therefore be seeking a range of investors to create a large and balanced fund. Aim to have fund running by 2016.

Resources and Environment	Natural resources: efficient and secure availability	Environmental Protection Scheme	Welsh Gover	To contribute to sustainable development by increasing the level of environmental protection, in particular to: protect and enhance the environment; Combat climate change; Promote sustainable and renewable energy and energy efficiency; and to lower ecological footprints	Yes	Registered grant scheme in place	0.1		Has a suite of projects that have significant capex , but funding gaps.
Resources and Environment	Natural Resources: Efficient and Secure Availability	Underground Coal Gasification and Carbon Capture and Storage	BIS	Support to develop offshore underground coal gasification with integral carbon capture and storage	No	Currently pre-qualified for Infrastructure UK guarantees, but at risk of stalling on raising initial finance	1.0	0.023	This project can attract commercial investment if backed by loan guarantees but needs £23m up front in 2015 for pre-commercial testing
Resources and Environment	Resilience to Climate Change	Strategic Drainage Infrastructure for Greater Belfast Area	DRD	Rain and flood water seperation to prevent sewerage and waste water facilities being over whelmed during periods of high rainfall with resulting flooding, polution of water courses and threat to water quality in Belfast Lough	No		0.8		
Social Infrastructure	Built environment and urban services; also Transport - business enablers; and knowledge economy - ICT infrastructure	Major infrastructure development plan	Scottish Government, transport Scotland, Local Authorities	This proposal brings together major infrastructure plans based on agreed and committed planning around a non-profit distributing (NPD) transport infrastructure plan, the Cities Alliance investment plan (sites and projects in 7 cities) and scope for ultra-fast digital networks. The plans collectively aim at better connectivity and mobility for business in particular.	Yes	The project pipeline is mature and in many cases confirmed, with planning and legal frameworks in place. National and local funding for some elements confirmed, but additional external investment required particularly where there is likelihood of revenue generation.	10.0	5.0	Significant planning and commitment to key transport routes under the NPD approach, first projects under this contract structure already let as proof of concept. First £2.5bn phase in construction/moving through procurement. All are identified priority projects which will be privately financed. Around £1.5bn of projects have committed finance (some incl. EIB). Remaining £1bn planned to be ready for investment by 2017, have been structured to attract private investment. Second phase of £1bn being scoped with projects in health, education and justice sectors and plans for digital and / or low carbon. Projects in this phase are likely to be ready for investment in 2017 or soon after and are again drawn from identified investment priorities. Further investment could be scaled depending on scope of EU support available.
Social Infrastructure	Built environment & Urban services	BIM Level 3	BIS	Building Information Modelling (BIM) involves realising the full potential of digital technology in construction and the built environment. It is widely recognised as a game changing technology which will be adopted globally, in which the UK is currently world-leading. This work builds on our Level 2 programme (focused on design and construction of individual buildings) and links construction to improved social outcomes by producing a better designed and managed 'built environment' and use of 'Big Data'.	No	Industry/Government strategy finalised for publication in Nov. 2014	0.13	0.09	Level 3 BIM builds on Level 2 BIM but represents a 'quantum' leap in the technology and its applications. The barriers are both technological and cultural (in a traditionally conservative sector) but if overcome would make the UK and EU the most digitally advanced construction economy in the world - a platform for domestic and international growth.

Social Infrastructure	Education and Training	Growth sector skills capital investment	BIS (LEPs)	Investment to enable growth sectors of the economy to meet skills needs through new learning facilities which provide the right environment and technologies for effective acquisition of vocational skills.	No	New proposal	0.2	0.2	
Social Infrastructure	Education and Training	National Colleges	BIS	Establishing new, employer led, higher level vocational training institutions, aligned to the industrial strategy	Yes	First wave intended for announcement shortly, further proposals in the pipeline - some with affordability or financing issues.	0.8	0.8	At least 50% of the cost of establishing each college is supposed to come from the private sector. BIS has up to £50m to invest in these projects up to 2017. The potential scope for expansion of the programme is significant if additional funding is provided and the private sector engaged.
Social Infrastructure	Education and training	Mental health provision through Adult Community Learning	BIS (SFA)	£20m to support provision of Adult Community Learning to those with low level mental health problems.	No	Not yet launched	0.002	0.002	Affordability
Social Infrastructure	Education and training	HE STEM capital	BIS (HEFCE)	Investment in STEM capital at universities in England to support provision of high cost subjects, with significant economic impact.	No	Paused awaiting further funding	0.4	1.0	Affordability
Social Infrastructure	Health	RVH Childrens's Hospital	DHSSPS - Belfast Trust	New Childrens Hospital	NI ISNI Plan	Design and Enabling Works underway	0.2	0.1	
Social Infrastructure	Health	Craigavon Area Hospital Redevelopment	DHSSPS - Southern Trust	Redevelopment of Acute Hospital	No		0.5	0.1	
Social Infrastructure ix) education and training	Higher Education	Expansion of the University of Ulster's Magee campus	Department for Employment and Learning	Expansion of the Magee campus in Derry~Londonderry along the lines outlined in the regeneration plan for the city. This will deliver a 9,400 FTE campus in the city. This will deliver significant economic and social benefits to the nort-west region of Northern Ireland.	No	Some expansion in student numbers has already taken place. Expansion plans at the feasibility stage.	0.5	0.1	Lack of enabling government investment in both capital and recurrent terms.
Transport	Urban Transport	Cardiff Capital Region Metro	Welsh Government	The Metro project is a £3bn integrated transport programme in South East Wales which will deliver much improved levels of mobility, better linking communities and business. The scheme will play an important part in the overall delivery of an efficient modern transport system for the Capital Region. It will improve the reach of the region's public transport network and hence its attractiveness, create additional capacity, potentially with alternative modes that could reduce carbon emissions, new routes and stops and contribute to wider economic development.	Yes	Phase 1 (2013/14 - 2015/16) implementation underway - further phases being planned and developed	3.0	0.5	Requirement for capital funding is a barrier. Technical challenges from the geography, existing infrastructure and technology. Electrification of the Valleys lines proposals developing to enable lower carbon solutions, as will potential alternative technology solutions. Innovative finance solutions are being explored and there is potential for developers' and/or investors' contributions.

Transport	Corridors and missing links	M4 Corridor Around Newport	Welsh Government	New Section of Motorway to address resilience and capacity issues on the M4 motorway the primary economic route into the South Wales City Regions of Cardiff and Swansea. Core Trans-European Transport Networks Route	Yes	In development and seeking consents	1.0		Publication of draft Orders and Environmental Statement (planned Spring 2016), and Public Local Inquiry required (winter 2016/17). Finance to meet cost remains barrier and innovative finance being explored including the use of new borrowing powers.
Transport	Corridors and missing links	A465 Capacity and Resilience Enhancements	Welsh Government	The scheme, part of the A465 Dualling Programme will improve access to the northern part of Blaenau Gwent which will receive significant regeneration/ community benefits. The scheme will include a number of employment sites adjacent to the A465 that have the potential to generate new employment opportunities in the wider area. Trans-European Transport Networks Comprehensive Route. With the completion of the Scheme, the average number of employment opportunities accessible within 30 minutes for residents of the Heads of the Valleys area will increase from approximately 137,100 jobs to 145,700 jobs (+6.3%).	Yes	Phased development. Some elements in construction/due to start construction and in development.	0.5	0.2	Capital Funding Gap 0.300bn Delivered in Phases Start of Works 2014/2015. Finance to meet cost remains barrier and innovative finance being explored including the use of new borrowing powers. Funding Gap up to £0.4bn
Transport	Corridors and missing links	A4232 Eastern Bay Link	Welsh Government in conjunction with Cardiff County Council	Upgrade to existing route to link to Central Cardiff Enterprise Zone to M4. Significant regeneration/community benefits elements provided by the project.	Yes	Phased development. Some elements in construction/due to start construction and in development.	0.3	0.1	Capital - Funding Gap 0.25bn To be delivered in Phases Start of 1st Phase 2015.
Transport	Corridors and missing links	A55 Capacity and Resilience Enhancements	Welsh Government	Removal of missing links to address capacity issues and improve resilience to the A55. Trans-European Transport Networks Route	Yes	In development	0.3		Capital - Funding Gap 0.250bn To be delivered in Phases 1st Phases to Start 2017
Transport	Rail	Station Commercial Project Facility	Network Rail and Train Operating Companies	A programme of infrastructure improvements at stations that improves passenger facilities, increases rail passenger use and creates modal shift to rail while providing a financial benefit to DfT. Project promoters could be expected to provide a private sector contribution to projects.	Existing proposals previous announced: http://www.networkrail.co.uk/asp/12458.aspx	Would be ready to launch a request for project bids in Dec 14	0.06	0.05	An earlier programme of this type has delivered about 50 projects and is predicted to give a financial return to DfT of £200m by 2024 and ongoing.

Transport	Cycling	Cycling Programme	Local Authorities	<p>A national cycling programme, including:</p> <p>Expanding the cycling ambition programme to a much wider range of towns and cities that sign up to the principles outlined in the CDP (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/364791/141015_Cycling_Delivery_Plan.pdf). All authorities that are successful in securing partnerships will have their proposals assessed to ensure they deliver high VFM.</p> <p>Extending our existing cycling ambition programme in eight core cities, providing cycling infrastructure to improve safety and encourage new cyclists. The cycling ambition programme was announced in August 2013 with funding available in 2013/14 and 2014/15, and many projects have already seen infrastructure in place.</p> <p>Doubling the coverage of Bikeability cycle training in schools. DfT funding currently supports around half the 500k school children a year. This bid would also extend cycle training for adults.</p> <p>Extend our existing cycle-rail programme providing new and improving cycle parking at rail stations. New facilities installed through our current programme have already reached full capacity showing a high demand for further facilities that encourage rail passengers to travel to the station by bike. Enhancing cycle and rail integration makes journey connections timely and affordable and commuter trips can be quicker and reliable. It can make it easier for people to travel further afield giving greater work opportunities for the community and the supply of labour to the employer and more people will have access to a broader range of retail goods and services, enabling greater choice and higher spend. There are only around 62,000 cycle parking spaces at stations across the country. £15m a year for six years would allow us to install around 100,000 more cycle spaces, 7,000 new hire bikes and 40 cycle-hubs (providing lockers and showers).</p>	Extension of existing schemes, public documents highlighted in description	Extension of existing schemes	2.6	0.50	The current plans rely on local authority capacity and funding. With the existing funding streams all short term (either one or two years), few local authorities are able to retain and build cycling strategies or professional development. This bid for long-term dedicated funding would help overcome this barrier.
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Transport	Rail	Access for All	Network Rail			Schemes already identified	0.10	0.10	Builds upon successful programme of works. Mature delivery mechanisms. Scaleable.
Transport	Multi-modal	Integrated Transport Accessibility Fund	Association of Train Operating Companies working alongside other delivery partners including Sustrans	Additional contributions		Schemes could be identified rapidly. Association of Train Operating Companies has experience with accessibility projects.	0.10	0.10	
Transport	Environment	Ultra Low Emission Vehicle proposals		Existing programmes have been conditional on securing more than 30% local contributions, drawing in investment from local employers and local authorities.	Fits Government's priorities for developing a modern transport system while benefitting the environment. Existing funding outlined below: https://www.gov.uk/government/publications/ultra-low-emission-vehicles-in-the-uk-measures-to-support-use-and-development-2015-to-2020		0.370	0.12	

Transport	Local Roads	Reducing the roads maintenance backlog				Top-up of established programmes	12.00	12.00	There is evidence that Local authorities are facing a funding shortfall due to declining revenues and are unable to adequately maintain the road network in their areas. Consequently, the condition of the local road network is in decline. Additional funding would help local authorities plan and fill this maintenance gap.
Transport	Local Transport	Integrated Transport Block	Local Authorities	Economic case	Existing funding provision published on UK Government website: https://www.gov.uk/government/publications/local-transport-capital-block-funding	Top-up of long established programme	0.30	0.30	
Transport	Local Transport	Local Sustainable Transport Fund		Cycling projects are typically:	Existing scheme published online and fits Coalition Government priorities for creating local growth and, cutting carbon emissions: https://www.gov.uk/government/collections/local-sustainable-transport-fund		0.71	0.36	

Transport	Maritime	Promoting Greener Shipping		• Quick to deliver, with average lead times of 9-18 months.		0.32	0.02	
Transport	Multi-modal	South West Road and Rail improvements	Network Rail/Highways Agency	• Have cross-government benefits, to health, the environment, economy and transport	Additional appraisal and feasibility studies would be required for most of the options.	3.20	TBC	
Transport	High Speed Rail	Euston	DfT	• Very high VfM, as there are many more schemes offering 'low hanging fruit' than with other modes of transport that already have mature networks	Yes	2.5	TBC	
Transport	Corridors and missing links	A6 Dualling from Londonderry to Dungiven	DRD		Yes in TransportNI Capital Programme	0.4		
Transport	Urban Transport	Belfast Rapid Transit	Department for Regional Development	In summary, evaluation evidence from previous cycling infrastructure programmes has settled on an average BCR of 5:1, with very high VfM. Significant proportion of those benefits come from reduced traffic	Partial inclusion, East/West only	0.2		

Transport	Corridors and missing links	A1 Sprucefield Bypass, hard shoulder running on the M1 and the provision of grade seperated junctions on the A1 along with central safety barrier (phased delivery required	DRD		Yes in TransportNI Capital Programme		0.3		
Transport	Corridors and missing links	Electrification of Belfast to Dublin Railway	DRD	DfT has recently published a suite of documents to support the CDP that set out the VfM of cycling schemes and the health benefits available. This shows illness as an	Yes, Future Railway Investment		0.5	0.0	
Transport	Corridors and missing links	Increase rail network capacity	DRD	Widening of dargan bridge and dualling of track from Bleach Green to Ballymena	Yes, Future Railway Investment		0.3	0.0	
Transport	Corridors and missing links	Improving passenger capacity on existing network	DRD	New halts, additional carriages, upgrade stations	Yes, Future Railway Investment		0.6	0.0	
Transport	Corridors and missing links	Newry Southern Relief Road	DRD	To provide a southern relief road of Newry which would enhance connectivity from the strategic road network to Warrenpoint Harbour	Not currently in TransportNI Capital Programme		0.2		
Transport	Corridors and missing links	maintain present network	DRD	Various track renewals, refurbishment of trains, replacement ticketing & information systems, park & ride facilities	Yes, Future Railway Investment				
Transport	Corridors and missing links	Extension of the existing rail network	DRD	New track laid to north and south of Lough Neagh and electification of NI network.	Yes, Future Railway Investment				
Transport	Business enablers	Belfast Harbour Project	DRD	Cruise facility, replacement cranes, RoRo Ramps and wharfs, and dredging.	Yes in Belfast Harbour Investment Plan				
Transport	Corridors and missing links	Future Connectivity between Northern Ireland and Great Britain	DRD	Feasibility study into bridge linking NI and GB			0.2		

Transport	Rail	Gospel Oak - Barking Riverside Extension	Transport for London	<p>An extension of the Gospel Oak to Barking Overground line in London to serve a new station at Barking Riverside, costing £190m overall. The scheme forms part of a combined transport package which includes improvements to the A13 Renwick Road junction, further enhancements to bus services and the development of a local road network, walking and cycling routes.</p> <p>Planning consent would be required which could be submitted by 2015. This would enable scheme construction commence by 2017.</p>			0.19	0.08	
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