

# **SPECIAL TASK FORCE (MEMBER STATES, COMMISSION, EIB) ON INVESTMENT IN THE EU**

## **ANNEX 2 - Project lists from Member States and the Commission**

### **PART 1**

#### **DISCLAIMER:**

*A mention of the EIB or the European Commission in any of the project lists provided by the Member States and/or the Commission does not necessarily imply there has been any previous contact with the EIB or the European Commission on the project in question, nor that it will become a project receiving financing from the EIB or the European Commission in the future. All projects submitted to the EIB for funding will be subject to normal due diligence in line with existing EIB procedures and guidelines and/or the European Union legislation should they be considered for finance. Co-financing by ESI Funds or other EU programmes of any project is subject to the respect of all applicable European Union and national rules.*



## **AUSTRIA**



**Country : AUSTRIA**

Project list 27.11.2014

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total investment cost (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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>

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
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/Szombathely)]	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	Feasability 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>
<b>FEDERAL ADMINISTRATION</b>								<b>19,73</b>	<b>12,58</b>		
<b>MINISTRY OF MOBILITY</b>								<b>5,62</b>	<b>1,84</b>		
<b>TRANSPORT</b>								<b>5,62</b>	<b>1,84</b>		
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 ERTMS; • Equipping the Belgian Core Network with ERTMS by 2030 (requirement of the

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 :</p> <p>(1) Track and bifurcation of HSL in the North of the Brussels-Capital region</p> <p>(2) Measures to increase capacity in the Brussels-South area</p> <p>(3) Measures to increase capacity in the Brussels-North – Schaerbeek area</p> <p>(4) Business Continuity Plan - Preventive measures for the North-South Junction</p> <p>Additional measures could be launched in the next years.</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 project contributes to:  - the improvement of the exchange between the European capital and the capital of</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 Zeebrugge (new sidings for splitting, extension and modernisation of sidings,...) and Gent are needed to support the development of intermodality between rail, sea and inland waterway.</p> <p>Sub-projects :</p> <p>(1) L50A Gent - Brugge : 3rd and 4th tracks</p> <p>(2) L51, L51A et L51C - Brugge-Dudzele : 3rd track</p> <p>(3) Masterplan Zeebrugge - SPV Zwankendamme</p> <p>(4) Bifurcation Ledeborg, Melle and Schellebelle</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"> <li>• Freight travel from or in the direction of Zeebrugge</li> <li>• 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</li> <li>• Regional passenger traffic, characterised by a large number of stops, particularly between Bruges and Ghent</li> </ul> <p>Today these various services occupy a linear infrastructure involving 2 tracks. The development of a third and fourth track</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 of/an addition to the Diabolo project.</p> <p>Sub-projects :  (1) L25: by-pass of Mechelen  (2) Complex of otterbeek  (3) HSL Vilvoorde - Antwerpen Albertkanaal  (4) L25: adaptation of the track alignment in Duffel</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 cross-over. The extension of the capacity will allow a speed</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; - punctuality: incidents at level crossings cause delays.
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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.</p> <p>In addition, this programme includes other investment needed to improve the access to the port of Antwerp and investment needed to improve and optimise the railway infrastructure in the port area.</p> <p>Sub-projects :</p> <p>(1) Increase in the capacity of L27A - Y Krijgsbaan (Mortsel)</p> <p>(2) Increase in the capacity of L27A - Y 'Oude Landen' (Ekeren)</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 airport of Zaventem (Diabolo) - Schaerbeek-Formation – Avenue de la Woluwe</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	<p>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 combines 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 own tracks without affecting other direct train traffic.</p> <p>This project is ongoing (more than 50% achieved), and will be completed by 2025. This project has also a clear dependency with the project "Capacity increase of the North-South Junction in Brussels".</p>	Yes	Under construction	0,87	0,37	- lack of financing	<p>The city of Brussels is facing serious mobility challenges. The increase numbers of commuters travelling to and from Brussels every day cause a lot of traffic congestion and put 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 reduce greenhouse gas emissions.</p>
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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	<ul style="list-style-type: none"> <li>- Continuous evolution of norms</li> <li>- Difficult budgetary context</li> </ul>	<p>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.</p> <p>The improved international service provision of SNCB will also have an impact on the other modes of transport, in particular road traffic: the stimulation of a modal shift to rail will reduce negative effects</p>
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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 rules for energymetering on rolling stock. The analysis of metering data will contribute to a
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<b><u>MINISTRY OF ECONOMY</u></b>	<b>3,13</b>	<b>0,37</b>
<b><u>ENERGY UNION</u></b>	<b>2,30</b>	<b>0,17</b>

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 Research 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"> <li>• Demonstrate the feasibility of accelerator-driven systems (ADS) at industrially relevant scale;</li> <li>• Demonstrate the effectiveness of ADS systems for the transmutation of long-lived and most toxic radioactive products (minor actinides) contained in spent nuclear fuels in order to reduce their radio-toxicity in terms of volume (by a factor 100) and timelife (by a factor 1000);</li> <li>• Carry out material and fuel research and testing, notably in relation to the safety of the current and future fission and fusion</li> </ul>	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</p> <p>- lack of long term Policy commitment</p> <p>- lack of European licensing uniformity</p>
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Energy Union	Energy's storage; Grid regulation; Interconnection	PPP	CEES (Cool 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 gum the intermittent and nonforeseeable character of these energies: the Pumped Hydro Storage (PHS).By their storage capacities and their important power of regulation, they constitute the essential partners of green energies (like nuclear power) and contribute thus largely to the reduction in our economic dependence, and to the reduction of CO2 level.The objective is clear: to create a "tool" allowing to increase the adequate flexibility of the grid, in order to provide an answer to the variable injection of renewable energy, and, in the same time, to get a powerful production unit	Yes	Project under development	0,8	0,02	Partnership under construction. New stable regulatory framework to introduce to build a good climate of investment.
<b>SOCIAL INFRASTRUCTURE</b>								<b>0,83</b>	<b>0,20</b>	

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 processing facilities (IRE): 150 MEUR Innovative Mo99 production capacity: 300 MEUR  More information: Council Conclusions on "Towards the Secure Supply of Radioisotopes for Medical Use in the European Union" 3212nd Agriculture and Fisheries Council meeting, 18 December 2012 Council Conclusions on "Towards the Secure Supply of Radioisotopes for Medical Use in the European Union,"	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
<b>BELGIAN INSTITUTE FOR POSTAL SERVICES AND TELECOMMUNICATION</b>								<b>0,012</b>	<b>0,005</b>	
<b>KNOWLEDGE AND THE DIGITAL ECONOMY</b>								<b>0,012</b>	<b>0,005</b>	



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.	
<b>MINISTER IN CHARGE OF THE NORTH SEA</b>								<b>0,020</b>	<b>0,002</b>		
<b>ENERGY UNION</b>								0,020	<b>0,002</b>		
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.
<b>NATIONAL INSTITUTE FOR HEALTH AND DISABILITY INSURANCE</b>								<b>10,00</b>	<b>10,00</b>		
<b>RESEARCH AND INNOVATION</b>								<b>10,00</b>	<b>10,00</b>		

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 quality of care at lower costs.	No	Research phase	2,00	2,00	
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	
								0,95	0,37	
<b><u>BELGIAN SCIENCE POLICY OFFICE</u></b>										
<b><u>KNOWLEDGE AND THE DIGITAL ECONOMY</u></b>								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 2014-2018) mis en place via des marchés publics européens mais pour lequel il existe un réel potentiel d'extension vers d'autres volets des collections dans les ESF mais aussi à d'autres départements / institutions et à une participation du privé qui pourrait mener à la création d'emplois dont une grande partie pour du personnel peu qualifié. La partie valorisation du projet qui constitue un vaste enjeu sociétal de diffusion des connaissances et d'accès à	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, ...).
<b>NATURAL RESOURCES AND ENVIRONMENT</b>								<b>0,06</b>	<b>0,06</b>	

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 exploitation of the high seas and specifically mineral resources is currently a coming field, ships of this class are favoured by private companies for exploration purposes. Private public partnerships for the exploration of these resources can be envisaged. The potential of a new economic activity and bloom is considerable.	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.
<b><u>FLEMISH REGION</u></b>								<b>30,97</b>	<b>12,33</b>	
<b><u>TRANSPORT</u></b>								<b>6,66</b>	<b>2,40</b>	

Transport	Corridors and missing links	public private	Antwerp ring way	Beheersmaatsc happij 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 t 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 changements and hopefully will confirm the positive attitude of EIB : indeed, concentration of this amount of financial means in a short period on one project and the long amortization period (20-30 years) of it, would require too large financial consortium, if EIB would not step in the financing structure.
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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 the larger project might be undertaken.
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 Ieper 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.
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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 investprogramme 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.
<b>RESEARCH AND INNOVATION</b>								<b>0,50</b>	<b>0,27</b>	
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 New Growth through Smart Specialisation (21 EU regions)	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
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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 implementing agency, Vipa is willing to set-up for its-self a role as fronter : EIB would lend to Vipa, who would lend back-to-back to the private operators. Vipa takes up the lead for controlling and assembling the financial flows.

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 theirself; 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 theirself 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 agency, Agion is willing to set-up for its-self a role as fronter : EIB would lend to Agion, who would lend - back-to-back to the School-organisations. Agion takes up the lead for controlling and assembling the financial flows.

WALLOON REGION										
RESEARCH & INNOVATION							9,304	5,376		
							1,041	0,140		
Knowledge and the Digital Economy	R&D&I		Development of Innovation	Ministry of Economy of the Walloon Region	<p>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.</p> <p>2) VERDIR VERDIR is a pole of excellence dedicated to urban agriculture through an innovative platform of the existing competitiveness clusters (Mecatech for mechanical fabrications, Wagralim for agro-foodstuffs and Greenwin)</p> <p>3) Reverse Metallurgy Reverse Metallurgy is a metal recycling project based on a partnership between industry, universities and the MECATECH competitiveness cluster. It is designed to recover rare metals for their use as raw materials.</p>	Yes	<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>	1,00	0,140	<p>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.</p>
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 ressources and high costs
HEALTH and CARE							1,215	0,445		

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"> <li>- enhance patient comfort and to create an appropriate framework for the work of health professionals in hospitals;</li> <li>- allow the reorganization and modernization of hospital activity by concentrating on a limited number of medical implantations to achieve economies of scale;</li> <li>- help boost the economy through investment in the construction sector;</li> <li>- create an environment favourable to the development of a health cluster beyond the borders of Wallonia (welcoming foreign patients, given the performance of the Belgian healthcare system).</li> </ul>	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:</p> <p>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. The region has limited investment capacities in the coming years, given its efforts to return to a balanced budget. Banking institutions are reluctant to invest in large construction projects. The SEC lending limit restricts the Walloon regional investment policy.</p>
Health	Rest Houses		Construction and expansion plan of Rest Houses and institutions for the elderly	Public and private associative institutions for the care of the elderly (Nursing homes / Nursing and care homes	<p>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.</p>		Construction plans are finalized. Projects may start between 2015 and 2017.	0,17	0,10	<p>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</p>
<b>TRANSPORT</b>								<b>4,282</b>	<b>1,948</b>	

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) that greatly suffers from public underinvestment - In the medium term, the improvement of mobility, promoting a greater economic development of Wallonia and of mobility within an area at the heart of the European exchange		60 projects of + 3 M by the next 5y.	1,142	0,8	Lack of ressources + 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)	<p>For a better traffic management and safety, it is essential to modernize the Walloon electromechanical highway equipment (TEN-T networks and European corridors).</p> <p>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:</p> <p>1) Light Plan Rehabilitation of public lighting of the entire structuring network by the use of modern technologies enabling important energy savings (based on the European targets for reduction of energy consumption).</p> <p>2) ITS Plan Implementation of a dynamic and intelligent traffic management system (equipment in the field and central system), optimizing the traffic flows and adapting the use of the road to minimize the congestion risk. This system will enable users to use less polluting</p>		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
Transport	Road network		Comforto Plan	SOFICO (in collaboration with the wallon Ministry of Public Works)	<p>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)</p>			0,025	0,025	Lack of ressources + ESA borrowing limit

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
Transport	Road network		Parking area Plan	SOFICO (in collaboration with the wallon 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 ressources + ESA borrowing limit

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.</p> <p>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.</p> <p>Particularly in Charleroi for the connection between the south station and the BSCA airport.</p> <p>On the other hand, this line could be operated with eco-friendly rolling stock: acquisition of buses (standard, articulated and bi-articulated) fueled by natural gas and the construction of filling stations, amongst others at the filling station of Jumet.</p> <p>Developing public transport can reduce overall fuel consumption and reduce polluting emissions.</p> <p>Developing natural gas as a fuel would increase these benefits.</p>	No	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.	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 more flexible, the line can be extended further than the own lanes, and at a significantly lower cost than the tram.</p> <p>Cost increase of buses powered by natural gas relative to diesel buses; natural gas supply stations still non-existing in Wallonia.</p>
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"> <li>- 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</li> <li>- In the medium term, ensuring waterway mobility, promoting a greater economic development of Wallonia.</li> </ul>			0,09	0,06	Lack of resources + ESA borrowing limit

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"> <li>- 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</li> <li>- In the medium term, ensuring waterway mobility, promoting a greater economic development of Wallonia.</li> </ul>			0,29	0,08	Lack of ressources + ESA borrowing limit
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"> <li>- 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</li> <li>- In the medium term, ensuring waterway mobility, promoting a greater economic development of Wallonia.</li> </ul>			0,03	0,03	Lack of ressources + ESA borrowing limit

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 goods. This Walloon plan will become an excellence pole for multimodality in Europe.	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. A 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
<b>NATURAL RESSOURCES AND ENVIRONMENT</b>								<b>1,336</b>	<b>0,489</b>	

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	<p>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 region, a key element for an optimal living environment for every citizen and business. The socio economic impact of such a project will be immediate.</p> <p>The rehabilitation of industrial wastelands to re-market available land for new projects in strategic locations and economically interesting locations also serves this aim and makes it possible to meet the dual objectives of preserving our environment and economic redevelopment, for the purpose of a circular economy. These projects</p>	Yes, Marshall Plan n°1 and 2, green	<p>Water production master plan: some initiatives are already ongoing, others will begin in late 2014 - early 2015.</p> <p>Industrial wastelands: this project is part of a 2016-2020 programme. A partnership with private promoters is possible.</p>	1,34	0,49	<p>Water production master plan: if proper funding on the SWDE Fund = impact on the water price.</p> <p>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 ministries.</p>
<b>SOCIAL INFRASTRUCTURE</b>								<b>1,430</b>	<b>0,927</b>	

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 developement 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	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).	Energy-efficient renovation plan for 20,000 social housing units in order to maximize energy efficiency. Performance goal of 90 kWh / year / m2, a consumption decrease of more than 30%. This project meets the European targets for energy efficiency and the reduction of carbon emissions. Social impact: reduction of the energy bills for low-income tenants.  <ul style="list-style-type: none"> <li>• Analysis and prospecting via the land register / PAE &amp; PEB</li> <li>• Sustainable and innovative programming in housing management</li> <li>• Employment / environment alliance</li> <li>• Energy certification.</li> </ul> This programme also allows the further development of property management by the land register. 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	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.	0,80	0,60	

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 ressources + ESA borrowing limit
<b>ENERGY UNION</b>										
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 (Norther 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 pole side development	Yes	Renovation or replacement of 41 sites		0,13	Lack of ressources + ESA borrowing limit
<b><u>BRUSSELS REGION</u></b>								<b>7,026</b>	<b>3,353</b>	
<b><u>TRANSPORT</u></b>								<b>2,883</b>	<b>1,249</b>	

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	<p><b>BARRIERS:</b> As a result of the financial crisis, either funding for large-scale private projects are limited, or risk-margins are too considerable, 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 residents).</p> <p><b>SOLUTIONS:</b> An attractive funding through the EIB is an important lever to attract private investors for accelerated investment in the creation of 10,000 parking spaces.</p>
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 metro lines 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><b>BARRIERS:</b> 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><b>SOLUTIONS:</b> 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><b>BARRIERS:</b> 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><b>SOLLUTIONS:</b> 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><b>BARRIERS:</b> 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><b>SOLLUTIONS:</b> 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>

#### **KNOWLEDGE AND THE DIGITAL ECONOMY**

**0,086**

**0,069**

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 te eligibility of costs ( especially investment costs)
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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 joint 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 order to stimulate reuse of data and innovative private developments.
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
<b>NATURAL RESOURCES AND ENVIRONMENT</b>								<b>0,051</b>	<b>0,061</b>	
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 difficulty to engage qualified and motivated employee Young unemployment 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 provideres	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 provideres	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	- Minister of Housing - Brussels-Capital Region housing company (SLRB) - Housing fund of the Brussels-Capital Region (FDL) - NPO Community Land Trust Brussels (CLTB)	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 a surface of about 500.000 m² is necessary. Some of these surfaces are already owned by public authorities but some will have to be purchased. In addition, feasibility studies to develop the projects will be needed and funds may be needed for soil decontamination operations.	Yes	Programme "Alliance Habitat" adopted by the Government of the Brussels-Capital Region in September 2013  Re-assessment/fin e-tuning of the financial plan after the consolidation of the SLRB and FDL	1,90	0,30	Co-ordination between the actors => establishment of a Co-ordinating Council for housing  Funding of the programme => financial analysis in progress  The purchase of land  Respect and reduction of delivery terms (urban planning permit, environmental permit, public contracts, etc.) => introduction of the "assemblier régional"(regional assembly)

Housing	Renovation of social housing	public	Four-yearly 2014-2017	- Minister of Housing - Brussels-Capital Region housing company (SLRB)	In addition to the development of new social housing, renovation works of existing housing will reinforce the public sector response to the housing crisis	Yes	Four-yearly 2014-2017 approved by the Government of the Brussels-Capital Region in February 2014	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	

#### **ENERGY UNION**

**0,092      0,078**

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
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	
Economic infrastructure	PMES & Starters		Sustainable Soft Skills (3S)	City-Dev	Creation of a center targeting SME's active in the field of construction, ressources, 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	
<b>SOCIAL AND URBAN INFRASTRUCTURE</b>								<b>1,177</b>	<b>1,110</b>	
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 companies 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.
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.
<b>FRENCH-SPEAKING COMMUNITY</b>										
<b>ENERGY UNION</b>								<b>0,0543</b>	<b>0,0343</b>	
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 Surlet de Chokier, n°15-17	0,00	0,00	lack of financing

					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
					Le projet, qui vise à améliorer les performances énergétiques, comprend les travaux d'isolation, d'étanchéisation et d'installation de protections collectives en toiture.	Oui	Mons - MONS 7000 - Rue du Chemin de Fer, n°433	0,00	0,00	lack of financing
					Le projet, qui vise à rationaliser les occupations et améliorer les performances énergétiques, comprend les travaux : - de rénovation de la toiture ; - de rénovation des menuiseries extérieures et intérieures ; - d'aménagement, de mise en conformité, de siscion entre l'administration et l'IESP.	Oui	Nivelles - Rue Emile Vandervelde, n°3	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 généralisation de la cogénération ; - Améliorer l'impact écologique et sur la santé des usagers par le remplacement des systèmes de traitement de l'eau (si présence de piscines) et de l'air ; - Créer des emplois par le développement du pôle ludique au côté de la pratique sportive.	Oui	17 sites à rénover ou remplacer	0,05	0,03	lack of financing
<b>SOCIAL INFRASTRUCTURE</b>								<b>4,419</b>	<b>1,886</b>	
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 à 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 école	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					
					4,Amélioration de l'accessibilité aux personnes à mobilité réduite 5. Construction de places nouvelles afin de faire face au boom démographique					
Social Infrastructure	Education and Training	public	Transition numérique dans l'Enseignement	Fédération Wallonie Bruxelles	1. Doter toutes les écoles et élèves des infrastructures et outils numériques adaptés, déployer les stratégies nouvelles dans l'acquisition d'outils en vue d'exercer la formation des élèves et enseignants, déployer une gouvernance numérique dans l'administration et les établissements vis les investissements matériels nécessaires	no	En développement	0,95	0,95	manque de ressources/financement
					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 (IEPS CF 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 Communauté française y aménage des locaux, tant pour des cours généraux que pour des cours techniques (divers ateliers)	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.
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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. 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 une structure bruxelloises.</p> <p>Objectifs : amélioration des infrastructures pour :</p> <ul style="list-style-type: none"> <li>- Un meilleur accueil et hébergement des jeunes</li> <li>- Amélioration des infra pédagogiques pour une meilleure formation</li> <li>- Economies d'énergie</li> <li>- Pérennisation de l'emploi local</li> </ul>	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	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 une structure bruxelloises. Objectifs : amélioration des infrastructures pour : - Un meilleur accueil et hébergement des jeunes ; - Amélioration des infra pédagogiques pour une meilleure formation ; - Economies d'énergie ; - Pérennisation de l'emploi local21/11/2014	Oui	5 sites + 1	0,03	0,01	Manque de crédits / Limite emprunts SEC
			Restructuration du site de Fraipont	MFWB - DG Infrastructures	Le projet englobe l'affectation, la rénovation, la construction, la démolition de différents immeubles ainsi que l'aménagement des espaces extérieurs.	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
			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

				MFWB - DG Infrastructures	<p>Rénovation complète et extension des sites dont les constructions principales datent des années 70. Cette rénovation/extension comprend les grands axes suivants :</p> <ul style="list-style-type: none"> <li>▪ Travaux à très court terme :</li> <li>- Aménagement unité soins intensifs (confort patient et ergonomie personnel soignant) ;</li> <li>- Création de nouvelles salles opératoires (pathologie urgente) et acquisition d'un neuronavigateur ;</li> <li>▪ Travaux à moyen et long terme :</li> <li>- Construction d'un Centre intégré d'oncologie et nouveau laboratoire ;</li> <li>- Construction de 2 salles d'opérations ;</li> <li>- Extension des unités de soins, d'urgences et de dialyse ;</li> <li>- Extension du parking ;</li> <li>- Rénovation complète des 3 sites ;</li> <li>- Amélioration des performances énergétiques et environnementales ;</li> <li>- Nouvel équipement.</li> </ul>	Oui	CHU Liège	0,89	0,09	Limite du Budget des moyens financiers des hôpitaux
			Site complet à rénover ou à étendre	MFWB - DG Infrastructures	<p>Rénovation complète et extension des sites. Cette rénovation/extension comprend les grands axes suivants :</p> <ul style="list-style-type: none"> <li>- Reconditionnement des quartiers opératoires ;</li> <li>- Reconditionnement de l'internat ;</li> <li>- Reconditionnement des unités de soins, de l'aile D et de gériatrie ;</li> <li>- Extension du parking ;</li> <li>- Rénovation et extension des auditoriums.</li> </ul>	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	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)
<b>KNOWLEDGE AND THE DIGITAL ECONOMY</b>								<b>0,318</b>	<b>0,270</b>	

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...etc.)	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

#### **PRIVATE SECTOR**

**5,77-6,32 2,22**

#### **ENERGY UNION**

**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.</p> <p>First of all, it enhances the internal market integration by enabling direct power exchanges between these countries</p> <p>Secondly, the new interconnection will play a major role for the transition to a generation mix which is undergoing structural changes in the region (high penetration of RES, nuclear phase-out, commissioning and decommissioning of conventional power plants etc.). Given these major changes in the production mix, the new interconnection also contributes to the security of supply in facing the arising challenges for secure system operation.</p>	Yes	Design & Permitting	0,45 - 0,570	N/A	<p>Permitting process</p> <p>Need for a stable climate for investments</p> <p>Uncertain/unstable regulatory framework</p> <p>Need for a long term vision and commitment</p>
Energy Union	Connections and production	Private	NEMO	Elia - National Grid	<p>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.</p>	Yes	Design & Permitting	0,6 - 0,7	N/A	

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/Mastaing - Avelgem - Horta with high performance conductors (HTLS = High Temperature Low Sag) will be executed	Yes	Planning	0,11 - 0,17	N/A	
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 with neighbour(s) between Creos grid in LU and ELIA grid in BE via a 16km double circuit 225kV underground cable with a capacity of 1000 MVA.</p>	Yes	Under Consideration - Under construction	0,15 - 0,17	N/A	

Energy Union	Connections and production	Private	Stevin	Elia	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.	Yes	Design & Permitting	0,2 - 0,3	N/A	
Energy Union	Connections and production	Private	Belgian North Border	Elia ( - Tennet)	The need to reinforce the Belgian North Border is driven by a congruation of factors - 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 connection of new central production units on these north-south axis: potential projects exist on each axis of 900-1000 MW each - increasing industrial demand around Antwerp harbour area The project as such consists of the following subprojects facilitating its realization in a modular way: - Brabo & PST4 (+upgrade Doel-Zandvliet): integration of 4th PST on Belgian North	Yes	Design & Permitting - Planning - Under Construction	0,35 - 0,45	N/A	

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
<b>TRANSPORT</b>								<b>3,63</b>	<b>2,02</b>	
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:
					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					* 1 common platform will enable data exchange to influences mobility behavior of EU citizens
					*Implementation of 1 single EU Platform					* 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
<b>Total Public Sector</b>									<b>71,83</b>	<b>35,84</b>
<b>Total Private Sector</b>									<b><u>5,77-6,32</u></b>	<b><u>2,22</u></b>
<b>TOTAL BE</b>									<b>77,04-77,5</b>	<b>38,06</b>



## **BULGARIA**



**Country : BULGARIA**

**Project list**

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/ PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total invest- ment cost  (EUR bn)</b>	<b>Investment in 2015 – 2017  (EUR bn)</b>	<b>Barriers/solutions</b>
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 Pan-European 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



<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/ PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total invest- ment cost (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/ PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total invest- ment cost  (EUR bn)</b>	<b>Investment in 2015 – 2017  (EUR bn)</b>	<b>Barriers/solutions</b>
Resources and Environment	Natural resources: efficient and secure availability	public	Closure and reclamation of municipal landfills.	municipal authorities (9 municipalities)	Implementation of activities of closure and reclamation 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

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/ PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total invest- ment cost (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/ PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total invest- ment cost  (EUR bn)</b>	<b>Investment in 2015 – 2017  (EUR bn)</b>	<b>Barriers/solutions</b>
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

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/ PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total invest- ment cost  (EUR bn)</b>	<b>Investment in 2015 – 2017  (EUR bn)</b>	<b>Barriers/solutions</b>
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 Burgas (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

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/ PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total invest- ment cost (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/ PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total invest- ment cost  (EUR bn)</b>	<b>Investment in 2015 – 2017  (EUR bn)</b>	<b>Barriers/solutions</b>
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

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/ PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total invest- ment cost (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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	KRIZEVNCI - 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 Perivoj 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 - RIJEKA - 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 Zagrebačka 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 – Šapjane.	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		

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)				
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 92 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 RANŽIRNI 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

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									(EUR mil)	(EUR mil)				
27	Transport	Business enablers	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	Business enablers	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 constraints 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	Business enablers	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	Under development	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		

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									(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 m <sup>3</sup> 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 Piskornica	RCGO Piskornica 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 m <sup>3</sup> 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 - Water management	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, Ivanic 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

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									(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	TehnologyPark 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 Translational 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 Rudjer 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



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									(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 Podsused)	Program na Savi d.o.o.	Hydro Electric Power Plant Podsused 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	50	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 MWh).	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 <sup>3</sup> / s increase to 210 m <sup>3</sup> / 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 <sup>3</sup> / 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			

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									(EUR mil)	(EUR mil)				
64	Energy Union	Connections and production	Public	HES Kosiinj / 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	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 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	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)				
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 Požežga-Slavonia 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**



**Country: Cyprus**  
**Project List**

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.

**Country: Cyprus**  
**Project List**

						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	<p>Proposed research fields (to be defined):</p> <ul style="list-style-type: none"> <li>• Telecommunications, Information Technology, Nanotechnology, Science</li> <li>• Pharmaceuticals, Biomedicine, Biotechnology</li> <li>• Green Sciences, Botany, Agriculture</li> <li>• Natural gas crude oil and petrol derivatives – Petrochemicals R&amp;D</li> </ul>	Not defined yet. Maybe BOT	Science Technology Park	Ministry of Energy, Commerce, Industry and Tourism Cyprus	<p>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.</p> <p>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.</p>	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

**Country: Cyprus**  
**Project List**

					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	

Country: Cyprus

Project List

						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.					
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 invest- ment 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 Over-Head 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 <sup>3</sup> 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 <sup>3</sup> 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-border 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.	



## CZECH REPUBLIC

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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 SKALKA - 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**

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/ PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total invest- ment costs (EUR bn)</b>	<b>Investme nt in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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 acces 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.

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**List of Projects - Resources and Environment**

<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total investment costs (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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 m3). 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.

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## List of Projects - SMEs

Sector	Subsector	Private/Public/ PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment costs (EUR bn)	Investment in 2015 – 2017 (EUR bn)	Barriers/solutions
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

<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>
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, Base-line 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 514 M. EUR 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 – up-grade 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 Storestrømsbridge), Upgrading of top speed to 200 km/h, Passing tracks for 1.000 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.	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.
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 project removes a major bottleneck in the TEN-T-network. Primarily a railway project that also includes road and bicycle lanes. The project is on the TEN-T core network.	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.



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-T core network.	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.
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.	0,1	0,03	A combination of EC grants and MS finance is envisaged.
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 Scandi-	Yes	Works ongoing. Project concluded by end 2015.	0,1	0,02	A combination of EC grants and MS finance is envisaged.

				navia and Germany. The project is on the TEN-T core network.					
Transport	Road corridors and missing links	Expansion of the Elsinore Motorway (E47) between Øverødvej and Hørsholm S (stage 1)	Ministry of Transport	The project will reduce congestion in the important corridor between Copenhagen and the highly populated area north of Copenhagen. Positive socio-economic rate of return	Yes	The project is on schedule and expected to open in 2016.	0,198	0,06	Financed by MS
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 <sup>nd</sup> 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 connections between Frederikssund and Copenhagen. High socio-economic rate of return.	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
Resources and Environment	Natural resources: efficient and secure availability	Better use of materials: Establishment of central resources facility for sorting and recycling to recover materials	Central and decentral authorities	To ensure growth and jobs in the resourcesector 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-	No	Subsolutions are being developed, but lager facilities are needed to serve as genuine resources base			Economic and barriers in contract to investing in smart green solutions

	public private			3 large facilities will be constructed with the private sector.					
Re-sources and Environment	Natural resources: 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 0,5 % total energy consumption. It is suggested to establish an EU fund of 200 mill euros for energy optimizing the water sector.	No	Not initiated	200 MEUR		
Re-sources and Environment	Resilience 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	Not initiated	60 MEUR	60 MEUR	Financing
Resources 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 coastal protection in the perspective of upcoming climate changes will be ready by the end of 2015. Based on	Elements of national co-financing to be expected	The Coastal Protection Analysis will be ready by the end of 2015, and projects can be launched in 2016.	A rough estimate of the need of coastal protection is 40 million Euros yearly. On top of this comes		

				<p>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 residences / technical assets / infrastructure to enable realization. There will be growth and employment pay offs in such a content.</p>			the large scale urban climate water projects		
Resources 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</p>	Elements of national co-financing to be expected	Projects can be launched in 2016	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.		

				western Limfjord 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 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 and production.	Electricity transmission	Viking DKW-GB	National Grid Interconnector Holdings Limited Energinet.dk	An electrical interconnector (HVDC) between Denmark and UK, which accelerates the EU electricity 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).	No	A cooperation agreement to develop the project has been agreed between 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.	1,9	0,2	Investment gap due to different regulatory frameworks. 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 Westcoast PCI 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 missing links,	New Light rail systems in Copenhagen, Aarhus,	DG MOVE	Construction of four new light rails systems in Aarhus, Copenhagen, Odense and Aalborg projected to open in the period 2017-2021. State-	Yes	The light rail in Aarhus is under construction and expected to open in 2017. Projects in Odense, Copenhagen and Aalborg are	1,9	0,8	The projects are cofunded by the Danish state and local authorities, financ-

	light rail	Odense and Aalborg		<p>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>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>ing 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 CON-NECT	<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> <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>	[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 maintain that investment are based primarily on commercial interests, and should therefore focus on improving the access to long term financing.



## **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 projectst 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 projectst 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.

[illegible]

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 airtraffic 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 execute 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 side 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 time 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

[illegible]

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)	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.	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

European Umbrella Initiative:  
European-wide business friendly e-  
government

European energy security,  
sustainability and transmission  
initiative

Sector	Subsector	Private/P ublic/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total invest- ment cost (EUR bn)	Investme nt in 2015 – 2017 (EUR bn)	Barriers/solutions
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	
Energy	Corridors and missing links		Finngulf LNG and Balticconnect-or	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 Teknologicentrum	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
Centralized ICT for Social and Health Care Regions										

[illegible]

2.c	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.
	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	Administring roles and authorization	Population Register Centre	Administring 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	Populationn 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	Engagind 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 Authoritys, 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.ull 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



[illegible]

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 (think 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, Woodlpolis	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-ion battery	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 biorefineries 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) exist 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.



[illegible]



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

Initiative 4. Transport infrastructure

4. a

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 supports our goal strengthen biodiversity and fisheries opportunities in 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		
<b>Sector</b>	<b>Subsector</b>	<b>Private/Public/PPP</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total investment cost (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
<b>Digital infrastructure</b>										
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	No		550 M€ - 700 M €			
				-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)						Removing barriers from private investors
				-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.						

4. b	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 fundnig for this is needed
	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 <sup>st</sup> phase and 2 <sup>nd</sup> 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.	No		950 M €		
						(Scan-Med Corridor and North-Sea Baltic Corridor)					

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.	No		250 M €		
					(Bothnian Corridor)					
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 Åänekoski bioproduct mill	Finnish Transport Agency	Improvements on Road 4 and electrification of Åänekoski- Jyväskylä railway enables the operation and logistics of Åänekoski 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	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€		part of the investment costs of the new railway line financed by private firm (mining company)
			phosphate mine					total 385 M€		
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	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 €		
			fairway							
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**



**Contribution à la Taskforce sur l'Investissement – Exemples de projets et programmes d'investissement**

**14/11/2014**

**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

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 - R&D privée et innovation	<b>SISME Programme : Smart Innovation for SMEs (cf. annexe)</b>	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	<b>European technological partnerships institutes (cf. annexe)</b>	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&amp;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	<b>Soutien aux investissements dans les usines pilotes de nouvelle génération, notamment sur les technologies clés (cf. annexe)</b>	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	<b>Filières européennes de composants critiques</b>	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	<b>Fonds de fonds paneuropéen de capital-risque (cf. annexe)</b>	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>	Phase d'avant-projet. – Un lancement en 2015 peut être envisagé	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	<b>Création de Campus universitaires européens équipés pour et en pointe de la révolution numérique</b>	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	<b>E-éducation</b>	<p>En France : le Ministère de l'Education Nationale, de l'Enseignement Supérieur et de la Recherche</p> <p>Et le Ministère de l'Economie, de l'Industrie et du Numérique</p>	<p>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.</p> <p>Ce projet permettrait de rationaliser les actions prises actuellement sur une base individuelle par les Etats membres.</p>	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	<b>Investissement dans le développement de la filière industrielle européenne des thérapies géniques</b>	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	<b>Usine du futur : diffusion du numérique dans les PME (cf. annexe)</b>	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	<b>Equipement numérique des hôpitaux – territoires de soins numériques</b>	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	<b>Plan d'investissement pour la performance énergétique des bâtiments publics (cf. annexe)</b>	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	<b>Rénovation thermique des logements des propriétaires occupants en situation de précarité énergétique</b>	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€	<p>Absence d'incitations financières ou d'épargne privée suffisantes des ménages concernés pour financer ces investissements dans l'efficacité énergétique des logements.</p> <p>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).</p>

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Union de l'énergie	Efficacité énergétique	<b>Usine du futur : Programme d'appui à l'investissement productif concourant à la transition énergétique (cf. annexe)</b>	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	<b>Projet de déploiement de réseaux électriques intelligents</b>	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, potentielle ment 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>

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Union de l'énergie	Connections et production	<b>Déploiement massif de points de charge rapide pour véhicules électriques</b>	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	<b>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)</b>	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.

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	<b>Projet de gazoduc Val de Saône</b>	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	<b>Déploiement de compteurs communicants gaz France</b>	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	Connections et production	<b>Garantie des risques réglementaires dans le cadre du déploiement des Energies Renouvelables</b>	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	<b>Charles-de-Gaulle Express</b>	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	<b>Grand Paris Express et Eole</b>	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	<b>Autoroute ferroviaire atlantique</b>	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.



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Transport	Corridors et liens manquants	<b>Projet d'extension du port de Calais</b>	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	<b>Plan de rénovation du réseau ferroviaire français</b>	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	<b>Modernisation de la ligne ferroviaire Serqueux-Gisors.</b>	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	<p>Le passage en zone urbaine induit des inquiétudes des populations concernées (nuisances sonores, écologiques, environnementales, économiques et sanitaires).</p> <p>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.</p>

#### 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	<b>Accueil des jeunes en apprentissage.</b>	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	<b>Fonds d'investissement dans les Grandes Opérations d'Aménagement pour le logement (GOAL)</b>	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	<b>Fonds d'accroissement et de réhabilitation des capacités d'hébergement et d'accueil des populations transfrontalières</b>	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.

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	<b>Nouveau programme national de renouvellement urbain</b>	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€	<p>Insuffisance à court terme des financements publics pour accélérer les projets déjà prêts.</p> <p>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.</p>

## 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	<b>Connaissance des océans et prévention des submersions marines</b>	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.



				<p>les territoires en lien avec les futurs exploitants (atterrage des câbles) notamment.</p> <p>Problématique européenne de lutte contre le changement climatique, projet Interreg <i>Mapping European Seabed Habitats</i>.</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
Ressources et environnement	Ressources naturelles	<b>Systèmes d'irrigation économes en eau</b>	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 targets<sup>1</sup>;
- improvement of the EU's highly skewed energy trade balance;
- energy independence<sup>2</sup>: 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 economy<sup>3</sup> 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;

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

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

<sup>3</sup> 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 EU<sup>4</sup>. 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)<sup>5</sup> 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.

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

<sup>5</sup> 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.<sup>6</sup>

### 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."<sup>7</sup> 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

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<sup>6</sup> 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.

<sup>7</sup> 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 Europe<sup>1</sup> while the amounts in the USA were about € 12.4 billion<sup>2</sup>. 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 USA<sup>3</sup>.
- 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 USA<sup>4</sup>.

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.

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<sup>1</sup> Source : European Venture capital Association (EVCA)

<sup>2</sup> Source : National Venture Capital Association (NVCA), USA

<sup>3</sup> Source : EVCA, NVCA

<sup>4</sup> 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. <a href="http://www.spitzencluster.de">www.spitzencluster.de</a>	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. <a href="http://www.forschungscampus-deutschland.de">www.forschungscampus-deutschland.de</a>	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 competence.	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 itself, 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 broadband 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 m3; capacity of about 6 to 8 bcm. Storage capacity would be 300,000 m3. 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 to be felled in 2015;	1.0	0.6	Lack of short term roi will lead to financing problems. A combination aof 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		anounced (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		anounced (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		anounced (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	Replacment of the locks.	Yes	Detailed planning	0.1	0.1	administrative barriers
Transport	Corridors and missing links	public	Schleuse Erlangen (waterways)	Federal level	Replacment of the lock.	Yes	Pre-planning	0.2	0.2	administrative barriers
Transport	Corridors and missing links	public	Schleuse Kriegenbrunn (waterways)	Federal level	Replacment 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	Repairments 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.		Constructon to start in 2017.	0.5	0.2	Legal hurdles: high risk of law suits
Transport	Business enablers	public private	Highway bridge Karsruhe-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

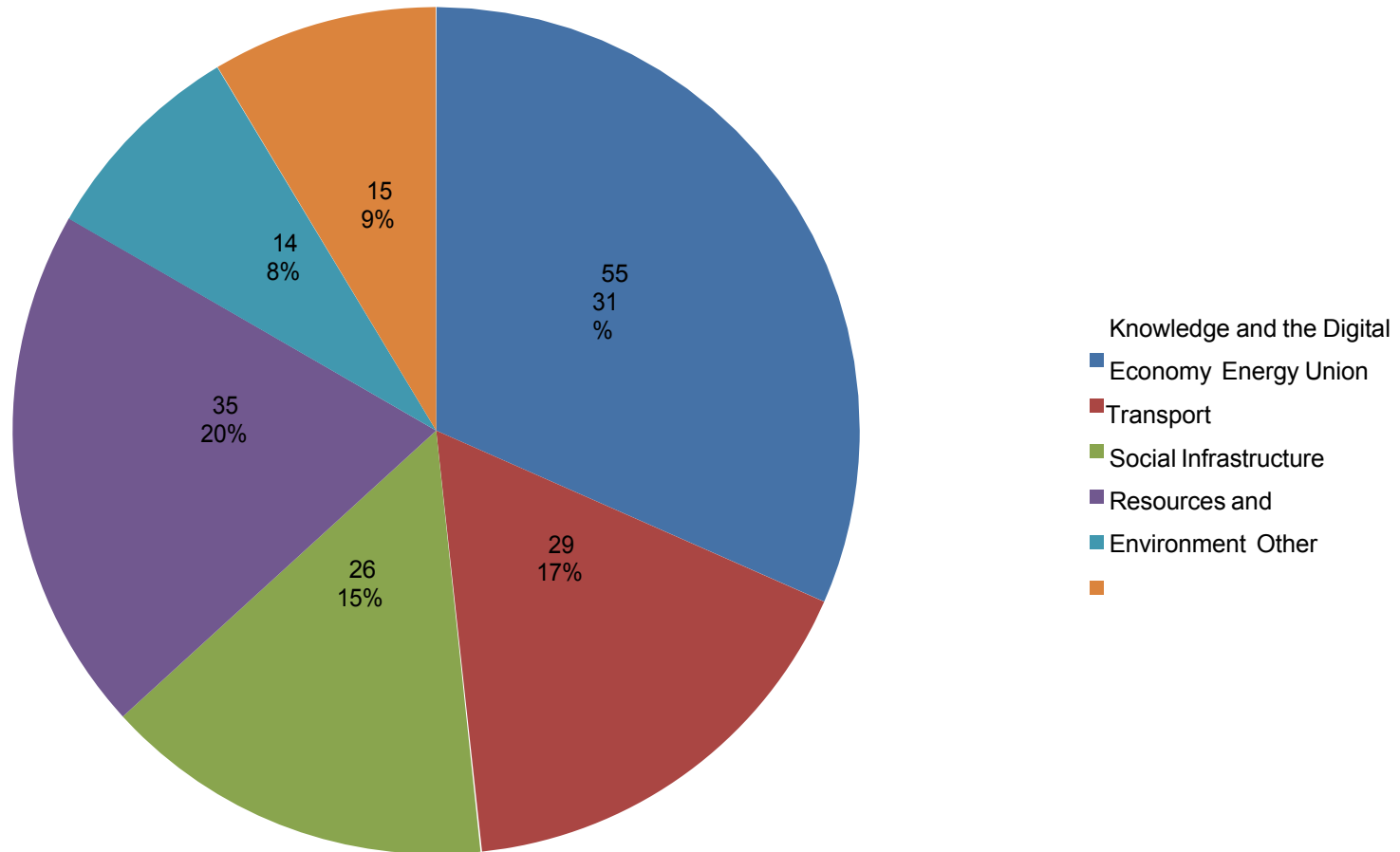
Sector	Subsector	Private/Public/PPP	Project name	Implementing agency	Description	Included in national investment plan (yes/no)	Status	Total investment cost	Investment in 2015 – 2017	Barriers/solutions
								(EUR bn)	(EUR bn)	
Social Infrastructure	Built environment and urban services	public	Restoration 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



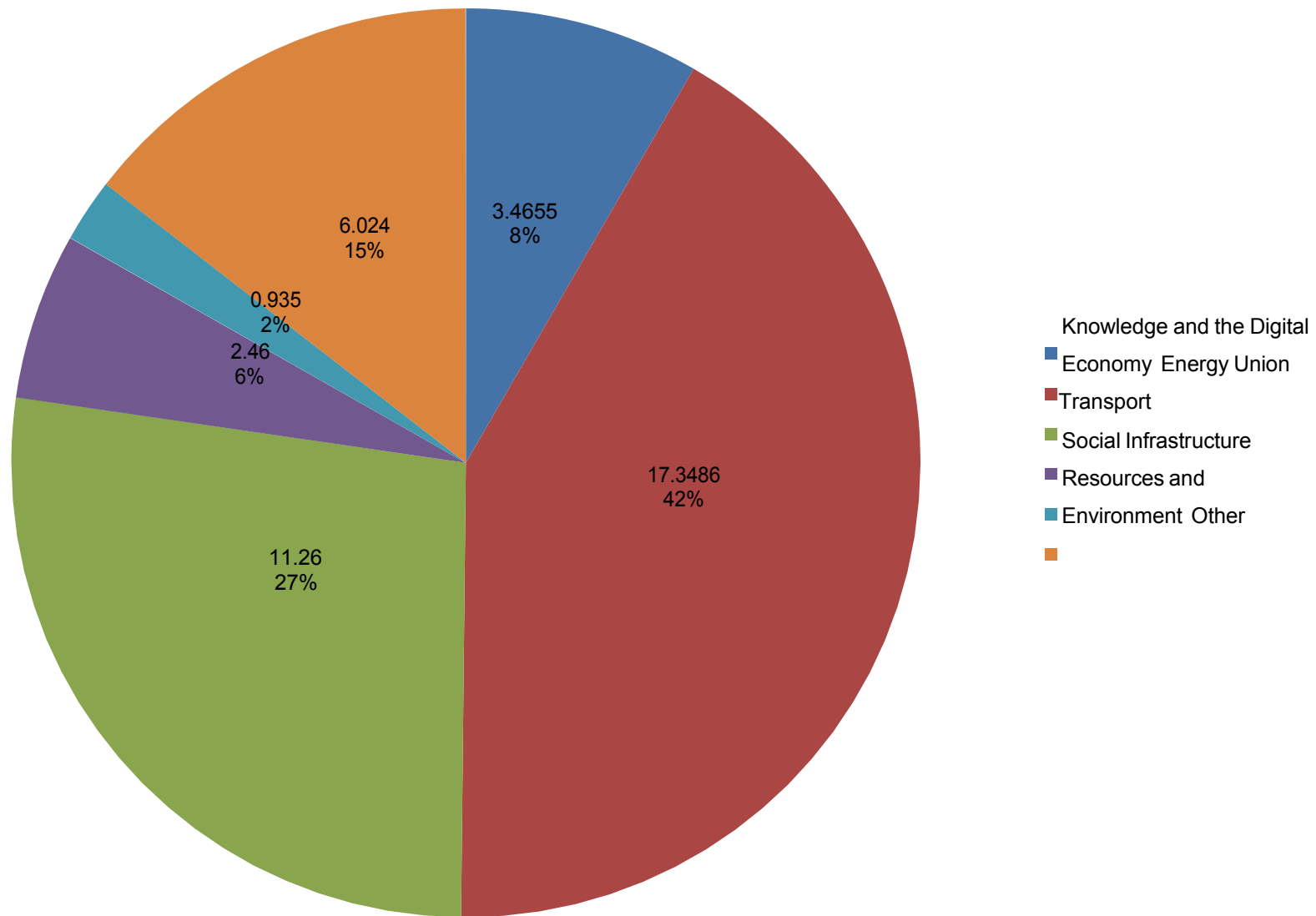
## **GREECE**



## 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		

[illegible]

18	Transport	Urban transport	<b>1. Athens Metro Line 4 – Core line</b>	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 &amp; 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><u>SOLUTIONS:</u></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	<b>2. Athens Metro Line 4 – Extension to Maroussi (Phase B)</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 &amp; pay constrains (see above)</p> <p><u>SOLUTIONS:</u></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	<b>3. Athens Metro Line 4 – Extension to Ilion (Phase C)</b>	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><u>SOLUTIONS:</u></p> <p>Secure EU funding up to 90% of investment costs through EU loans in Juncker package</p>

21	Transport	Urban transport	<b>4. Thessaloniki Metro – Extension to Stavroupoli</b>	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	<b>5. Athens Tram - Extension from Syntagma to Egyptou Square (city Center)</b>	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	<b>6. Athens Tram - Extension from Fix Metro Station to Faliron Bay</b>	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	<b>7. Patras Tram</b>	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	<b>8. Ioannina Tram</b>	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	<b>CRETE NORTH ROAD AXIS (BOAK)</b>	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 <u>SOLUTIONS:</u> 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	<b>IOANNINA – ALBANIAN BORDERS MOTORWAY</b>	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 <u>SOLUTIONS:</u> Secure backing for the project in the framework of the Juncker package
28	Transport	Corridors and missing links	<b>Thessaloniki Internal Ring Road - Makedonia Airport</b>	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	<b>SALAMINA ISLAND SUBMARINE ROAD LINK</b>	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	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  <u>SOLUTIONS:</u> 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	<b>ATHENS RING ROAD SOUTHERN EXTENSION</b>	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	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  <u>SOLUTIONS:</u> 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	<b>CHALKIS RING ROAD</b>	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	1. Lack of public funding as there is no room to increase Public Investment Programme  <u>SOLUTIONS:</u> a. Secure backing for the project in the framework of the Juncker package

32	Transport	Missing links	<b>E65 I/C TRIKALA - I/C EGNATIA</b>	Ministry of Infrastructures , Transport and Networks	Construction of the remaining approximately 63 km of the northern part of E65 motorway	Yes	Feasibility completed.Preliminar y 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	<b>GIANNITSA BYPASS</b>	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	<b>DRAMA -AMFIPOLI ROAD LINK</b>	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	<b>Electrification and signalling of the rail corridor Alexandroupoli- Ormenio</b>	<b>OSE - ERGOSE</b>	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	<b>Electrification and signalling of the rail corridor Strymonas- Toxotes- Alexandroupoli</b>	<b>OSE- ERGOSE</b>	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	<i>Electrification and signalling of the rail corridor Florina - Edessa - Thessalonica</i>	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	<i>New Kasteli Airport in Crete</i>	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 <u>SOLUTIONS:</u> 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	<i>Gonos railway freight center in Thessalonica</i>	GEOOSE	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  <u>SOLUTIONS:</u> 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	<i>Superfast Broadband (FTTB/H)</i>	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.  <u>SOLUTIONS:</u> 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		1. High Capex cost per km for submarine fibre infrastructure 2. Lack of public funding as there is no room to increase Public Investment Programme 3. Isolated islands with small population and seasonal demand around the year and low penetrations. 4. Complicated licencing procedures to land the submarine cables, especially in areas of high touristic interest. 5. Economic crisis squeezed further the Average Revenues Per User <u>SOLUTIONS:</u> a. Facilitate co-investments reducing the necessary risk of such long term investments. b. Minimize the licencing procedures for landing submarine cables within the scope of the project. c. 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	1. Significant fragmentation of the R&D effort in Attica. 2. 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.  <u>SOLUTIONS:</u> 1. A common umbrella of research activities of the Research Centers and Universities of the Attica region. 2. Services / Products of MIC will fill 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	Lack of public financing and some regulatory barriers in the energy sector  <u>SOLUTIONS:</u> A combination of public, private and institutional funding sources is under exploration

44	Knowledge and the digital economy	Private R&D	<i>Crete Innovation Initiative -CII</i>	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	<i>New, ocean-going, multi-purpose Research Vessel</i>	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	<i>BBMRI-GR &amp; EATRIS-GR</i>	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	<b>BIOTECHNOPO LIS</b> <b>"ALEXANDER FLEMING"</b> <b>A Center of Excellence in research, innovation and training in the biomedical sciences</b>	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	<b>Bio-Based &amp; Low-Carbon Economy Hub</b>	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	<b>GRNET Research e-Infrastructure</b>	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	<b>Athens Science &amp; Technology Park (ASTP)</b>	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/photonics 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	<b>HUMAB Project</b>	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	<b>BIO-SECURE Project</b>	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	<b>Observatory Hub Incubator</b>	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	<b>1.digital equipment kindergartens</b>	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	<b>2. Robotics</b>	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	<b>3. Introduction of mobile devices and mobile programming in education</b>	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 : <a href="http://www.ltsp.org/stories/">http://www.ltsp.org/stories/</a>	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 Communication s (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. <i>Educational Next generation networks (EDeN)</i>	Ministry of Education & Religious Affairs	<p>This project focuses on providing and enabling next generation access networks (NGA) to schools (Primary &amp; 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> <p>1. By the year 2020, network access of more than 30Mbps to all European citizens</p> <p>2. By the year 2020, network access of more than 100Mbps for at least 50% of EU citizens.</p> <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. <i>uNified Educational Datacenter &amp; Services (NeEDS)</i>	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. <i>enhancing Recruitment and mobility Among youth EU Citizens (RaCE)</i>	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	<b>13. Towards a paperless e-gov model for school and teacher management</b>	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' ( <a href="http://myschool.sch.gr">http://myschool.sch.gr</a> ) 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	<b>14. The development of a repository for academic qualifications of all citizens</b>	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	<p>Involvement of a high number of legal entities (universities, education/training providers, etc.)</p>
73	Social Infrastructure	Education and training	<b>15. Connecting VET &amp; work-based learning</b>	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 &amp; Religious Affairs, develops and implements comprehensive national systems for the accreditation of non-formal &amp; informal learning.</p>

74	Energy Union	Energy Efficiency in Buildings Connections and production	<b>16. SUN-Power</b>  <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) lack 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	<b>17. Energy MONitoring infrastructure for SchoolS and public buildings</b>  <b>EMBOSS</b>	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	<p>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 Organizarions around Europe.</p> <p>A pilot project to install photovoltaic is a school building is under implementation within 2014 in a selected school building</p>	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	<b>18. Development of Telecenters Infrastructure for enhancing Lifelong Learning opportunities in remote rural areas</b>  <b>TELECENTERS</b>	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	<b>19. Localization of open educational resources (OERs) for school education</b>  <b>OPENER</b>	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	<p>Intellectual Property rights issues concerning school textbooks</p> <p>Issues concerning the legal form of collaborating companies and Greek public sector</p>
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	<b>INTEGRATION AND COMPLETION OF IRRIGATION PROJECTS IN ARGOLIKO FIELD (ANAVALOS) PREFECTURE OF ARGOLIDA</b>	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	<b>NETWORK CONSTRUCTION IN FILIATRINO PREFECTURE OF MESSINIA</b>	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	<b>ALMOPEOS DAM CONSTRUCTION ON PREFECTURE OF PELLA</b>	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	<b>POLIFITO IRRIGATION NETWORK PREFECTURE OF KOZANI (NORTH SECTOR)</b>	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	<b>EFFICIENT AND SUSTAINABLE MANAGEMENT OF SOLID WASTE LIVESTOCK (DEAD ANIMALS)</b>	<b>Private sector initiative</b>	The target of the proposed action is the attainment of an integrated 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.

[illegible]



99	Knowledge and the digital economy	ICT Infrastructure	IT Policy	Ministry of Administrative Reform and Electronic Governance (MAREG)	<p>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.</p> <p>Indicatively, the set of actions includes the following:</p> <ol style="list-style-type: none"> <li>1. The development of an integrated policy for the IT systems of the public administration (Policy Charter)</li> <li>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</li> <li>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</li> <li>4. The establishment of a single registry of IT infrastructure of public administration</li> <li>5. The development of a Central repository of Studies and Research</li> <li>6. The creation of the organisational structure (governance framework and structure) for the implementation of eGovernment at a strategic, operational, technological and controlling level.</li> </ol>	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)	<p>The purpose of this project is:</p> <ol style="list-style-type: none"> <li>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)</li> <li>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.</li> </ol>	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)	<p>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:</p> <ol style="list-style-type: none"> <li>1. Establishment and functioning of a single human resource management system in the public administration</li> <li>2. Definition and implementation of common policies on HRM in the public administration.</li> </ol>	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	<b>System for managing the relations with the citizens (CRMS) (ήδη σε ΕΣΠΑ)</b>	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	<b>Enhancing digital training of ALL Public Administration executives</b>	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	<b>Digital training of citizens</b>	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	<b>Upgrading of the Single Central Portal for Access to Public Sector Services</b>	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	<b>Dissemination actions and compulsory application of the Framework for the Provision of eGovernment services in all actions and projects of public administration bodies</b>	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	<b>ICT hardware equipment for the Citizens Service Centres (CSCs), with a view to enhance the quality of services to citizens and businesses</b>	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	<b>Energy Union- Energy efficiency in buildings</b>	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	<b>Upgrading of the "Transparency Portal", the online central platform where all Public Sector acts and decisions are being published.</b>	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	<b>a) Water supply, Sewerage completion and Sewage treatment for anhydrous Aegean islands.</b>	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>b) Integrated interventions in traditional settlements, listed buildings and monuments of the Aegean islands</b>	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	<i>Vessels retrofit and coastal refueling infrastructures to facilitate the adoption and use of alternative fuels, especially LNG, in passenger shipping</i>	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	<i>Promoting and enhancing the economic activities of maritime cluster enterprises</i>	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	<i>e-Governance, ICT infrastructure and services upgrade program, by the Ministry of Shipping and the Aegean.</i>	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	<i>Purchase of Fireplanes</i>	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	<i>Rapid response to urban and rural disasters / HSS preservation</i>	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	0.256641	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	<i>Secure wireless access to computer applications</i>	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	<i>Hellenic Police Network Upgrade with additional security measures for the handling of classified information at the level of "CONFIDENTIAL"</i>	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	<i>Green / eGovernment teleconferences</i>	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	<i>Radio Systems (TETRA type)</i>	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	<i>Website Development and Learning Management Platform of the Hellenic Police Academy</i>	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	<i>Procurement of Police Simulators</i>	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	<i>Foreign Languages Centres</i>	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

[illegible]

137	Social Infrastructure	Built environment and Urban Services	<b>Construction of detention facilities</b>	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	<b>Development of establishments in rural detention facilities</b>	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	<b>Construction of Detention facilities for mild crime offenders</b>	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	<b>Electronic surveillance of indictees, convicts and prisoners on leave</b>	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	<i>Renovation of Courthouses</i>	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	<i>Construction of courthouses</i>	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	<i>Application of video-conference in courts and penitentiary centres</i>	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	<i>Reintegration of ex-prisoners</i>	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	<i>Implementation of legislation regarding day-release of prisoners</i>	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 Markopoulou, 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 projects funded by 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, Mykonos. 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 a 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 bn)	Investment in 2015 – 2017 (EUR bn)	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 training)	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 approximate amount will be available)	(an approximated amount will be available)	<b>Problems:</b> 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. <b>Solutions:</b> 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	<b>Problems:</b> • 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 <b>Solutions:</b> • 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 t 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 Algyő (HU)	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 Mihaljac 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 Mihaljac 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 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	n.a	
12.	Energy Union	Connections and production	Hungary – Slovakia interconnection between Sajóvátka (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 Sajóvátka (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 Sajóvátka	Hungarian electricity transmission system operator MAVIR ZRT.	Second 400/120 kV transformer and 2x70 Mvar shunt reactors in station Sajóvátka to accommodate new system needs arising from the establishment of the Sajóvátka - 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 Algyő by 5.6Mw and building the transmission between Győr, Mosonmagyaróvár and HU/AT boarder 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 system operator MAVIR ZRT.	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 ( 1/2011.3), 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, <ul style="list-style-type: none"> <li>to achieve a 18 per cent overall energy saving and</li> <li>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</li> <li>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</li> </ul> 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 education	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 education	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 services)	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 secure availability	Plasma waste processing project (with pyrolysis)	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 sites	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 <sup>st</sup> 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 hydromorfolological 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 structureA 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 transponrt 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 Abaújdevecser;third stage is 22,6 km long between Miskolc and Szikszó and between Ujaszaló and Forró; fourth stage is 24,2 km long between Abaújdevecser 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 constrution 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 Ukranian 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.  Sections: Hungary Szeged – Röszke- border (modernization); Baja-Bácsalmás (modernization); Bácsalmás-Csikéria-border (construction); Republic of Serbia-Subotica - Horgos-border(modernization); Subotica- Horgos-border - Csikéria (construction);		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 Újhartyán (M5) and Szolnok	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 (yes/no)	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 Bátonyterenyé and Ózd	Ministry of National Development, MA	The project will cross an important natural barrier between cities between Bátonyterenyé 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 Sopron	Ministry of National Development, MA	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 transponrt 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.13/15 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**



At Ireland's request the following columns have been redacted from the published report due to concerns regarding commercial sensitivity for projects that will be procured from the private sector: (i) Total Investment Cost, (ii) Investment in 2015-2017 and (iii) Barriers/Solutions. Subtotals for each sector are included.

Country : IRELAND  
Task Force Project list

PLEASE NOTE THAT THE LIST BELOW IS A PRELIMINARY LIST PREPARED ON A BEST EFFORTS BASIS. THE LIST IS INTENDED TO BE A CROSS SECTION OF IRISH PROJECTS AND HAS NOT BEEN APPROVED BY GOVERNMENT.  
THIS VERSION OF IRELAND'S LIST CAN BE PUBLISHED AS PART OF THE ANNEX TO THE TASK FORCE'S FINAL REPORT

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	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 Windfarms	Bord na Móna, Coillte and ESB	Renewable energy generation.	No	Projects have planning permission and some are in procurement.			
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.			
<b>SUBTOTAL</b>								<b>3615</b>	<b>2410</b>	

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
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 commerical 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: <b>(1) Regional Enterprise</b> (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. <b>(2) Enhance enterprise innovative capacity within the regions (200m):</b> 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. <b>(3) Improve infrastructural supports (30m)to the regional enterprise base</b> 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.			
<b>SUBTOTAL</b>								<b>1530</b>	<b>917.5</b>	



<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 investment cost  (EUR million)</i>	<i>Investment in 2015 – 2017  (EUR million)</i>	<i>Barriers/solutions</i>
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 in remote rural communities.	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 cost  (EUR million)	Investment in 2015 – 2017  (EUR million)	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 capitla expenditure allication 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.			
<b>SUBTOTAL</b>								<b>1861.5</b>	<b>461</b>	

<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 investment cost  (EUR million)</i>	<i>Investment in 2015 – 2017  (EUR million)</i>	<i>Barriers/solutions</i>
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 enablers	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 enablers	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 enablers	private	Regional Port Development	Drogheada. Medium size port - North East Coast.	New training walls	No	Pre-planning			
Transport	Business enablers	private	Regional Port Development	Dun Laoire. Medium size port on East Coast.	Quay Infrastructure, Cruise Terminal,	No	pre-planning			
Transport	Business enablers	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/N25 Access Road	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			

<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 investment cost  (EUR million)</i>	<i>Investment in 2015 – 2017  (EUR million)</i>	<i>Barriers/solutions</i>
Transport	Corridors and missing links	public	Coonagh/Knockal isheen	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 3	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 ratio of 1.75	No	An Bord Pleanála approved			
Transport	Business enablers	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 approved			
Transport	Business enablers	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 enablers	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 Ringaskiddy	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 By-Pass	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 enablers	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			

<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 investment cost  (EUR million)</i>	<i>Investment in 2015 – 2017  (EUR million)</i>	<i>Barriers/solutions</i>
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 cost  (EUR million)	Investment in 2015 – 2017  (EUR million)	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 to UCD	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 to Balbriggan	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 Maynooth	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 or not	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	

<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 investment cost  (EUR million)</i>	<i>Investment in 2015 – 2017  (EUR million)</i>	<i>Barriers/solutions</i>
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 2016			



<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 investment cost  (EUR million)</i>	<i>Investment in 2015 – 2017  (EUR million)</i>	<i>Barriers/solutions</i>
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 2015			
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 2015			
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 2015			
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			
<b>SUBTOTAL</b>								<b>5458</b>	<b>5078</b>	

SME Lending	SME lending	private	The Strategic Banking Corporation of Ireland (SBCI)	SBCI	A new strategic SME funding company the SBCI;'s role tis 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 on lenders.	No	SBCI established September 2014; initial phase of pilot loans to provided by end of 2014; full roll out of lending products in 2015			
<b>SUBTOTAL</b>								<b>800.00</b>	<b>800.00</b>	





## 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, wich 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 " <b>Smart Manufacturing</b> " aiming to promote KETS projects (admissible expenditures: 5mln<X<40 mln euro) able to achieve a significant technological advancement and that are strategical in the national industrial context and to " <b>Italian digital agenda</b> " 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 investment is envisaged in structural european funds	Project is ready to the public consultation to the stakeholders (operator, Agcom, european commision etc..)	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 infratructures. 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 RICERCA 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). <a href="http://smartcommunitiestech.it/">http://smartcommunitiestech.it/</a>	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 (domotic 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 Research Area since they are the “trading posts” where Research, Education and Industry, as	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 strategic 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) synthesize 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 (domotic 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). <a href="http://smartcommunitiestech.it/">http://smartcommunitiestech.it/</a>	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**

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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	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	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 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	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 Cornegliano - 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	Multiple project in different phases: Planned	600	600	Permitting problems, leading to possible delays. Budget restrictions. Remuneration under regulatory regimes unsatisfactory
B. Energy Union	B.1 Connection and Production	Elettrodotto 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.	-	-	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	Interconnessione 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.	-	-	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	Sardegna-Corsica- Italia	Terna TSO	Cross-border Interconnection	Yes		-	-	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	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
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.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.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 ramp up period; (ii) limited duration of Promoters' commitment periods; (iii) wide geographical span / very diverse underlying; (iv) fund manager organisational plan vs actual fund ramp up  Future development depends, inter alia, on the availability of First Loss Piece from EU
B. Energy Union	B.2 Energy efficiency	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	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	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	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	Enel Produzione	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)

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	<u>PCI Project</u> (#2_15_2 ). New 400 k V DC/AC link between Airola, 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 Airola (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	-	-	
B. Energy Union	B.1 Connection and Production	HV interconnector Villanova (IT) and Lastva (ME)	TERNA + CGES (ME)	<u>PCI Project</u> (#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	-	-	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	Internal line Foggia and Villanova	TERNA	<u>PCI Project</u> (#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)	-	-	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	HV interconnector between Lienz (AT) and Veneto region (IT)	TERNA + Austrian Power Grid	<u>PCI Project</u> (#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	-	-	
B. Energy Union	B.1 Connection and Production	Pilot battery storage systems in Central South Italy	TERNA	<u>PCI Project</u> (#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	-	-	
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	526	526	
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 interventions financed by ESCo, there is a high risk of default, which tends to discourage the same ESCo due to possible problems in the recovery of credit resulting from the energy savings achieved.

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	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 targets on energy and climate	A comprehensive feasibility study has been conducted. More detailed intervention projects, referred to specific territories, have been developed	8400	2000	
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 MSm3/d, or up to 22 MSm3/d with a simultaneous exit flow at the Tarvisio exit point of up to 18 MSm3/d.	Yes - Snam Rete Gas Ten Years Network Development Plan	Multiple projects in different phases: - Under realization - Planned	-	-	Permitting problems, leading to possible delays.
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/biolubricants 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 biolubricants, bioplastics from natural origin, polymeric plasticizers as replacement for	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, Taticra (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	Development for new imports from the South	Snam Rete Gas	The project will create new transmission capacity of approximately 24 MSm3/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 "Adriatic Line".	Yes - Snam Rete Gas Ten Years Network Development Plan	Multiple projects in different phases: - Under realization - Planned	-	-	Permitting problems, leading to possible delays.
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	"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)

**Pipeline of programs and projects**  
**C. Transport**

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id	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
C.1	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	<div>Barriers:</div> <div>1.Lack of long term finance + coordination and permitting problems, leading to possible delays.</div> <div>2. Separation of funding obligation according to national quota might create uncertainty on financing plan and/or implementations delays;</div> <div>3. Approval processes (especially environmental) carried out by different national authorities</div> <div>Solutions:</div> <div>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.</div> <div>2. Streamline approvals</div>
C.2	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	
C.3	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			
C.4	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 promotor: RFI	projects aimed at the implementation of the corridor	Yes		6,200	2,792	1,000	
C.5	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	
C.6	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 promotor: RFI				INCLUDED SUB C.2			
C.7	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 promotor: RFI		Yes		6,195	2,580	0,600	
C.8	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 promotor: RFI		Yes		5,250	0,740	0,740	
C.9	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	



id	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
C.10	C. Transport	Other strategic projects-PORTS	Genova ( 1)elettrificazione banchine Genova Voltri 2) accesso stradale Voltri Sampierdarena; 3)Rail plan Sanpierdarena 4) Bacino Sampierdarena studi e lavori 5) prima fase pilota LNG 6) nuova piattaforma ecologica 7)Terminal Ronco Canepa 8) dragaggi)	Ministry of Transport project promotor: Port Authority	Port projects	Yes		0,360	0,360	0,302	<p><b>Barriers:</b></p> <p>Fragmentation of state contributions not concentrated on core investments for a number of identified strategic ports</p> <p><b>Solutions:</b></p> <p>1.Extend duration of concession after retender / to current concessionaries in exchange for new capex. 2. Identify clear strategic ports and increase / make more certain the financial support</p>
C.11	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.12	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.13	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	<p>Barriers: Fragmentation of state contributions not concentrated on core investments for a number of identified strategic ports</p> <p>Solutions: Regional grants and soft loans, Livorno PA funding, approval of PPP schemes with partial private financing; Long term financing by IFIs</p>
C.14	C. Transport	Other strategic projects-PORTS	Gioia Tauro					INCLUDED SUB C.12			
C.15	C. Transport	Other strategic projects-PORTS	Palermo					INCLUDED SUB C.12			
C.16	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.17	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.18	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.19	C. Transport	Other strategic projects-AIRPORTS	Catania Fontanarossa (rail links)					0,480	0,238	0,238	

id	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
C.22	C. Transport	Missing links and bottlenecks-ROADS	A4 Venezia-Trieste	Ministry of Transport  project promotor: Road infrastructure manager				2,400	2,400	0,120	<b>Barriers:</b> (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.
C.23	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
C.24	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	<b>Barriers:</b> (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. <b>Solutions:</b> 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).
C.25	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	<b>Barriers:</b> The financing structure is still under definition. <b>Solutions:</b> Involvement in the pool of lenders of BEI / Cassa Depositi e Prestiti. Possible use of the financial instrument "bridge to bond".
C.27	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	<b>Barriers:</b> 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. <b>Solutions:</b> Evaluation of possible incorporation of the concession with that of the adjacent A22 motorway, after sharing with the European Commission services

## 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"> <li>- <b>Human resources:</b> 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.</li> <li>- <b>National training infrastructure for teachers:</b> 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.</li> <li>- <b>Innovating curricula:</b> 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.</li> <li>- <b>Digitalizing every school:</b> 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.</li> <li>- <b>School for Jobs:</b> 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.</li> <li>- <b>Advanced facilities for education:</b> extending current national investments to modernize and/or build modern, safe and enriching school facilities for pupils and NEETs dedicated to digital making, social inclusion, culture and creativity and industrial integration.</li> </ul> <p>The European Commission recently stated that meeting "La Buona Scuola" targets would allow Italy to respond to all Country Specific Recommendations</p>	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	<b>National Training Infrastructure:</b> 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	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	<b>Advanced facilities for education:</b> extending current national investments to modernize and/or build modern, safe and enriching school facilities for pupils and NEETs dedicated to digital making, social inclusion, culture and creativity and industrial integration - measures in order to prevent any damage caused by earthquakes	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	<b>Digitalizing every school:</b> 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	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	<b>Innovative School-to-work schemes:</b> 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.	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	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.	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	Construction and operation scheme of a new hospital, having capacity of over 600 beds	Yes (regional)	After the recent annulment of the 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 -**

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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	<u>Barriers</u> : 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	<u>Barriers</u> : 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. <u>Solutions</u> : 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

<i>No</i>	<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</i>	<i>Investment in 2015 – 2017</i>	<i>Barriers/solutions</i>
<b>Knowledge and the digital economy</b>										
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 programme products, culture heritage and culture tourism.	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 and	JSC “Single Development Institution”	Pan Baltic venture capital fund should be continued following success of currently active Baltic Innovation fund. It will facilitate private co-	Yes	Timing 2016 - 2017	100 million EUR	25 million EUR	<u>Barriers:</u> Venture capital market in Baltic states is undeveloped thus access to finance for innovative



			international ization		investments in high growing SMEs, will provide development of innovations in Baltics and will promote the development of the venture capital market.					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 history, SMEs operating history, unstable cash flow.
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 technologies in	Non-governmental organization – the Society "Baltic Institute of Research, Technology and Innovation – BIRTI" (the cluster "BaltSmartTech")	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 businesses in fields of engineering	Yes (National Development Plan of Latvia for 2014 - 2020)	Timing 2015-2020 The Society BIRTI is established with members from	130 million EUR (This includes funding for the development of (1)	10 million EUR	<u>Barriers:</u> Lack of funding for the infrastructure which promotes innovation and cooperation between the research institutions and the industry.

			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 the smart specialisation are identified in collaboration with industry. Feasibility studies are planned to be completed during 2015	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 attracting the funding for R&D activities from industry, new “start-ups”, sold patents and licences in the medium term.
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	<b>BioPharmAlliance</b> 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 Higher Education Area, Baltic Infrastructure of Research, Technology	<b>Yes</b>	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). <b>BioPharmAlliance</b> cluster infrastructure includes Research centre of molecular and structural biology, Scale-up and pilot facilities of chemical and biotechnological products, Development centre of biological products as well as innovative enterprises.					
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	<p><b>The main foreseen activities/goal:</b></p> <p>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 research, material structure research, service infrastructure for international researchers and users of the facility. Installation of semi-industrial scale linear electron accelerator. Further perspective – development of proton</p>	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	<p><u>Barriers:</u> Insufficient funding</p> <p><u>Solutions:</u> Partially financing from EU funds and attraction of private investors for commercialization of research.</p>

					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 in field of food production (milk, meat, vegetables and drinks).	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 testing and demonstrations.	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), developing electronic communications "middle mile"	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”) connections with which to provide internet access services to end-users.</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 national tourism object.</p> <p>Project can bring more added value to this</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 loan.
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-banking and so on	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 digital	ICT Infrastructure	DEAC Data Center Riga	Digitālās Ekonomikas Attīstības Centrs	DEAC Data Center Riga expansion stage 2.	No	Design stage.	10 million EUR	10 million EUR	<u>Barriers:</u> Insufficient

	economy	e	Stage 2		4MW electricity installation, second floor construction works. Air conditioning systems-chillers & crac units. Electrical ATS panels, UPS systems. RACK systems with PDU 400 peaces. Raised floor systems. Secutiry systems for access and cctv. Fire detection and estingushing systems. Environment monitoring systems.					funding.  <u>Solutions:</u> EIB loan.
<b>Energy Union</b>										
15.	Energy Union	Connections and production	330kV High Voltage Network interconnecti on „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 implementation under the close supervision of the relevant Ministries.
16.	Energy Union	Connections and production	Modernizati on and expansion of Inčukalns	AS "Latvijas Gāze"	Implementation of this project is significant to ensure compatibility with the EU energy	Yes	Timing 2014–2020	190 million EUR	72,45 million EUR	<u>Barriers:</u> Insufficient funding

			Underground Gas Storage.		infrastructure.			(1.stage 72.45 million EUR)		
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 energy markets.	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 increase energy efficiency, reduce energy consumption and to improve the use of resources. Therefore manufacturing enterprises will be eligible to receive funding.	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 supply	Sadales tīkls	Investments in the reconstruction and optimization of existing	No	Implementation is divided in	11 million EUR	11 million EUR	<u>Barriers:</u> Low density of customers in rural



			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 DSO.		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 functioning and increasing security of supply in the region.	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.
<b>Transport</b>										
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 of the	Yes included in NDP2020 <sup>1</sup>	Timing 2015-2017 have technical design	90 million EUR	90 million EUR	<u>Barriers:</u> Insufficient funding  <u>Solutions:</u>

<sup>1</sup> Latvian National Development plan 2014 – 2020

			port of Riga		channel up to – 17 m and widening of the channel up to 135 m.	and TDG2020 <sup>2</sup>	project			<p>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.</p> <p>During the last 5 years number of ships with greater GT has grown considerably, therefore the existing parameters of the shipping channel cannot provide safe navigation within the port.</p>
22.	Transport	Corridors and missing links	Integration of Riga city and Freeport of Riga into TEN-T network: Eksporta	Riga City Council	Integration of Riga city and Freeport of Riga into TEN-T network: Eksporta street reconstruction	Yes included in TDG2020	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 evaluate to attract</p>

<sup>2</sup> Transport Development Guidelines for 2014 - 2020

			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 relevant Ministries.
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 <sup>3</sup> ( <i>in order to follow up the particular objective project has been indicated in the Riga long-term development strategy until 2030</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 2015 must be elaborated detail design for	Estimated 1,5 billion EUR	Construction (works) of 1 <sup>st</sup> 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.

<sup>3</sup> 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 <sup>st</sup> , 3 <sup>rd</sup> and 4 <sup>th</sup> segment of Riga Northern transport corridor			
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 supervision of the promoter and the relevant Ministries.</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: elaborated 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 under the close supervision of the promoter and the</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 supervision of the promoter and the relevant Ministries.</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.	<p>5<sup>th</sup> stage: 23 million EUR</p> <p>6<sup>th</sup> stage: 60 million EUR (2020-2023)</p>	<p>First part of 5<sup>th</sup> stage (construction works) – 13 million EUR (financed by Pohjola bank loan) (2015)</p> <p>Second part of 5<sup>th</sup> stage (construction works) – 10 million EUR (2016-2020)</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 and implementation under the close supervision of the</p>

										promoter and the relevant Ministry.
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; Preparation of an Investment plan.	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 cannot be</p>

										<p>realized without external financial support.</p> <p>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.</p> <p><u>Solutions:</u></p> <p>Therefore necessary public co-financing, EIB loans or PPP model</p>
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	<p><u>Barriers:</u></p> <p>The main project risks are compared to the investment size. This means that even financially viable project cannot be realized without external financial support.</p> <p><u>Solutions:</u></p> <p>Therefore necessary public co-financing and / or EIB loan</p>
31.	Transport	Corridors and missing links	Construction of GSM-R wireless communication network	SJSC Latvian Railways	The project comprises the deployment of GSM-R along the railway infrastructure of Latvian railways to provide a radio	Yes included in TDG2020	Timing 2014-2017 Completed initial feasibility study	106,7 million EUR	36 million EUR	<p><u>Barriers:</u></p> <p>Insufficient funding, considering the total investment cost.</p>

					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 application, shunting radio application. etc.)		indicating further actions.			<p><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 promoter and the relevant Ministry.</p>
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	<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 supervision of the promoter and the relevant Ministries.</p>
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 operational monitoring of train traffic management decisions,	Yes included in NDP2020 and TDG2020	Timing 2014-2020	0,5 million EUR (study)  21,3 million EUR	2 million EUR	<p><u>Barriers:</u> Insufficient funding.</p> <p><u>Solutions:</u> A combination of ESI funds, possibly</p>



			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 promoter and the relevant Ministries.
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	<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 supervision of the promoter and the relevant Ministries.
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	<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 supervision of the promoter and the relevant Ministries.
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 supervision of the promoter and the relevant Ministries.
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 Riga	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. The project will

					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 broad and the 1435 mm UIC standard gauges will be provided.
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 carriageway – A7 8.9km) and between the A5 and A7 motorway 5.46 km two lanes (one carriageway). Construction of two-	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 carried out land cadastral survey.	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 intersections.					
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 have design project.	116 million EUR	0	<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.
40.	Transport	Corridors and missing links	E67/A1 Riga – Lilaste (Road)	Latvian State Roads	Baltezera 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 design) 2021 – 2027 (works)	1,5 million EUR (sketch design) 157 million EUR (works)	1,5 million EUR	<u>Barriers:</u> Insufficient funding for total project cost.  <u>Solutions:</u> 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 promoter and the relevant Ministries.
41.	Transport	Corridors and missing links	The purchase of the ship for the depth maintenance in Freeport	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	<u>Barriers:</u> Insufficient funding considering the project total cost.  <u>Solutions:</u>

			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 safety in cargo transportation
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	<u>Barriers:</u> 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 the TEN-T.
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	<u>Barriers:</u> Insufficient funding considering the project total cost. <u>Solutions:</u> There's a possibility to evaluate to attract CEF financing. The project will promote multimodal

										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 region of the Baltic Sea
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 2014-2016	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 is envisaged.
45.	Transport	Corridors and missing links	Heavy hydrocarbons-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 commodities.		Timing 2014-2018 Feasibility Study completed. Negotiation with licensor and engineering contractors on-going.	420 million EUR	420 million EUR	<u>Barriers:</u> Insufficient funding  <u>Solutions:</u> EIB loan is envisaged.
46.	Transport	Corridors and missing	International Regional	Municipal government	Daugavpils Airport is the most eastern airport	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 Baltic States, Scandinavian, Western European and CIS countries.		“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	<b>The main foreseen activities/goal:</b>  Development of the project and construction of Life Science academic campus, Stem Cell, Laser and Nanotechnology process transfer and innovation units (incubator) in Tornakalns region, Riga	Information on the development plan of the UL approved by the Cabinet of Ministers in Aug. 2011. First entity of the UL Campus	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 Tornakalns	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 the University, contribute towards internationalization and excellence of studies and research.	No	University already owns the land necessary for campus development. Completed initial feasibility study, Project sketch design ready, approval by building inspectorate started.	9,5 million EUR	6,5 million EUR	<u>Barriers:</u> Insufficient long-term funding, ESIF does not cover such activities in Riga, but only universities in Riga are really competitive.  <u>Solutions:</u> Appeal for ESIF funds (questionable), PPP evaluation (can have obstacles and delays)
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 ensuring timely cancer diagnosis according to the World Health	Yes (NDP 2014-2020, Public Health Guidelines 2014-2020,	Feasibility study and Planning: premise reconstruction, equipment installation, staff training in diagnostics of oncologica	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. <u>Barriers:</u>



					Organization European Region Strategy „Health 2020"		1 patients			Insufficient funding. <u>Solutions:</u> Partially financing from EU funds.
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 production on site.	no	Feasibility studies for market opportunities	27 million eiro	16 million eiro	<u>Barriers:</u> Insufficient funding considering total investment cost. Lack of the proper specialists in nuclear medicine field. <u>Solutions:</u> Partially financing from EU funds. To train medical physics specialists in EU countries.
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, Ukraine, Belorussia and other countries.	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 financing, 1.28 bn – EU funds, 4,05 bank loan.	32 million EUR	29 million EUR	<u>Barriers:</u> Lack of finance in state health system for financing of infrastructure and development of new cancer treatment technologies.
52.	Social Infrastructure	Health	New generation	Latvian Maritime Medicine Centre Plc	<u>Construction of a new generation radiology</u>	Yes (included)	Timing 2015	7 million EUR	7 million EUR	<u>Barriers:</u> Lack of long term

			radiology department		department (including equipment and building) <u>Improvements of patients health care</u> (including developments of a new treatment methods for cancer diagnosis) <u>Technical support</u> (including new equipment and technical solutions)	in NDP2020)				finance
53.	Social infrastructure/ Resources and environment	Health, Built environment and urban services/ Resistance to climate change	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 new Court information system, development of a labeling system, development and maintenance 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 the relevant Ministries.

					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, equipping court facilities with informative displays which would display information about current court hearing					
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 implementation under the close supervision of the promoter and the relevant Ministries.
56.	Social Infrastructure	Education and training/ Built	Development of Business laboratory	Latvia University of Agriculture	Development of Business laboratory – first stage for business	No	Right now is started work for	1 million EUR	1 million EUR	The main barriers are lack of public and/or private

		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 Agriculture.			financing.
<b>Resources and Environment</b>										
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 with pumping stations and sewage waste mains.	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./leng 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”	<b>The main foreseen activities/goal:</b>  The planned project foresees the reduction of the disposal of organic waste mass and ensures production of heat energy using co-generation plants. This	No	Feasibility studies started for individual activities	100 million EUR	40 million EUR	<u>Barriers:</u> Insufficient funding

					<p>will also help to reduce CO<sub>2</sub> emissions.</p> <p><b>Reference to EC directives:</b> 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 repealing Directives 2001/77/EC and 2003/30/EC</p>					
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## LITHUANIA



**Country : Lithuania**

**Project list**

<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>
<b>Electricity sector</b>									
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 <sup>st</sup> Barrier: National political decision is taken, however regional political decision on most feasible scenario is needed for further implementation of the project. 2 <sup>nd</sup> Barrier: lack of EU financing.  1 <sup>st</sup> Solution: a joint regional political decision on most feasible synchronisation scenario is convened by European Commission in BEMIP dedicated task force. 2 <sup>nd</sup> Solution: project financed by EU grants, from CEF, EIB, ESF and/or MS finance.
Energy	Electricity and heating production	Vilnius CHP (KoGen Vilnius.LT)	“Lietuvos energija”, UAB	Infrastructure to be financed is high 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	Yes, in draft of National Heat Sector Development Programme for 2014 – 2020.  Project is declared an economic project of national importance to the country.	1. Lease agreement for the lease of a state-owned land plot signed; 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	0.328	0.328	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 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. 7. Challenges in set-up of new (or amend the existing) legal environment enabling activity of CHPs using waste and

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				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.		services launched; 5. Project is identified in the Operational Programme for 2014-2020 as Major project. 6. Agreed on JASPERS consultancy during Project preparation.			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-efficiency improvements.	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 during Project	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 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. 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.



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						preparation.			
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 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	Yes	All preparatory work (incl. feasibility, environmental assessment studies, procurement documentation, technical specification of work and equipment) is already done.	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.

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				interconnections are built. The extended 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 assessed cases. CBA for large-scale roll-out in Lithuania by 2020 was negative, but the	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 mass-rollout possibilities will be made after the final results of the pilot.	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 metering mass roll-out will not be made until the results of pilot project is clear and approved.

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				final decision for mass roll-out could be made after the pilot project is conducted.					
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.
<b>Gas Sector</b>									
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 the creation of competitive gas market in Lithuania which will result in consumer friendly prices. The Project is implemented by AB Amber Grid and the Polish Gas Transmission	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 the tariffs in Lithuania would increase by 43.1%).

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				System Operator GAZ-SYSTEM S.A. <u>Goals of the Project</u> <ul style="list-style-type: none"> <li>• integrate the isolated gas markets of the Baltic countries into a single EU gas market,</li> <li>• diversify gas supply sources and routes,</li> <li>• security and reliability of gas supplies,</li> <li>• provide access of the Baltic countries to the global liquefied natural gas (LNG) market,</li> <li>• create preconditions for a competitive regional gas market.</li> </ul>					
Energy	Gas	LNG small-scale infrastructure and logistics chain in the port of Klaipėda.	SC Klaipėdos nafta	A project being analysed and 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	Yes	Received EU financing for preparations - started front-end engineering design (FEED), risk analysis, environmental impact assessment, EPC contracting expected to start during 2015.	0.055-0.06 bn. EUR which includes LNG on-shore reloading station for LNG bunkering and LNG auto-trailer transshipment and an LNG	0.055-0.06	<ul style="list-style-type: none"> <li>• Lack of LNG mature demand in the region which might cause off-take issues.</li> <li>• High initial infrastructure costs may lead to high pricing and may not be competitive on regional and national scale.</li> <li>• High market entry costs.</li> <li>• Lack of long term financing facilities from EU.</li> <li>• Lack of EU wide standardization and experience in the sector could lead to permitting problems which could cause delays.</li> <li>• EU support for competing energy sources (for example biomass).</li> <li>• Lack of EU support for LNG off-takers - LNG marine fuel, on-shore fuel users, off-grid regasification.</li> </ul>

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				transportation vessel for distribution and to bring LNG from the floating Klaipėda LNG terminal.			bunkering and transportation vessel for distribution.		
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.

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<b>Oil Sector</b>									
Energy	Oil	Petroleum products pipeline from SC Orlen Lietuva refinery to terminal of SC Klaipėdos 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 its transportation costs and encourage for further investments. The State controlled transshipment company Klaipėdos 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"> <li>Investment questions: both parties (Refinery - SC Orlen Lietuva and port terminal - SC Klaipėdos nafta) have to agree on the proportion of investments.</li> <li>Uncertainty of SC Orlen Lietuva future refining and sales volumes of petroleum products.</li> <li>Legal barriers in acquiring the servitudes for pipeline track.</li> </ul>
Energy	Oil	Building of the new petroleum product tankers in the facility of SC Klaipėdos nafta.	SC “Klaipėdos nafta”	A project being analysed and developed in Lithuania with an intention to construct new petroleum products tankers for the petroleum products State reserve storage and transshipment services both for exporting and importing petroleum products in/from Lithuania.	Yes	Technical feasibility study.	Up to 0.055 bn EUR for building the new oil product tankers with the capacity up to 350 thousand cubic meters.	0.030	<ul style="list-style-type: none"> <li>The current tankers storing the Lithuanian governmental reserve of oil products were built more than 50 years ago; they are not friendly ecologically and raise accident risks.</li> <li>The financing of the building of new tankers should be initiated by the government but there are no funding programs initiated.</li> </ul>

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							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.		
<b>RES</b>									
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
<b>ICT</b>									
ICT	Data centers	Construction of substation	Lietuvos energijos gamyba, Invest	The project's aim is install a transforming substation in Kruonis technology park to make	No (In 2010, the Lithuanian government	Planning	0.0015	0.0015	The electricity consumption of the target projects is extremely high (up to 100 MW), but currently the sufficient capacity can't be insured.

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			Lithuania	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	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)				
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 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	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 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.



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				<p>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. 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 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</p>					

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				<p>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 flexible cost allocation in negotiations for larger service contracts.</p> <p>A core network is an important strategic asset which enables the control of the quality of telecommunications.</p> <p>Digital economy growth and technological progress would bring direct and indirect economic and social benefits as well as create new jobs.</p>					

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<b>SCIENCE</b>									
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 engineering and others.	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 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	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 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.

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				developed in terms of science and research as well as industrial potential. The centers will be a platform for R&D collaboration with the neighboring countries, as these centers have no analogues in Estonia and Latvia.					
<b>ENVIRONMENTAL/ENERGY EFFICIENCY SECTOR</b>									
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 growing severity of inclement weather occurrences and need to be expanded and	Yes	On-going	1.0	0.1	1. High investment needs as opposed to revenue streams raised by network owner and operators; 2. Legislation providing for collection of user charges for storm water management not fully enforced as yet.

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				renovated and augmented with proper water treatment units.					
<b>TRANSPORT SECTOR</b>									
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 implementation</u> ERTMS implementation Signaling systems Monitoring of the infrastructure condition	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 we need improve our railway infrastructure entirely.  The network of electrified lines is underdeveloped.  The current Lithuanian railway sector	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 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

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		Building of the secondary roads Intermodal infrastructure (terminals)		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.					implement those projects in time.  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.
Transport	Road transport	<u>VIA Baltica corridor</u> Road safety and security measures Road crossings Improvement of roads (including cross border sections) Traffic management and monitoring systems  <u>IXB corridor improvement</u> Road safety and security measures Road crossings Improvement of roads (including cross border sections)	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 railway infrastructure, but roads	Yes	Planning and permitting in final stages.  Some of the projects have high maturity level - already ready to start.  Construction start expected between 2015-2020.	1,4	1,2	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  To implement those projects a combination of public and private capital/funds, is envisaged, but still there is a lack of finances.  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.

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		Traffic management and monitoring systems		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.					

<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>
Transport	Water transport	State sea port improvement 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 use; the harbours do not meet modern requirements.	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.



<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>
<b>CONSTRUCTION SECTOR</b>									
Construction	Construction	Survey of the possibilities to implement Building information modelling (BIM) Methodology and principles of digital construction in the Republic of Lithuania	Ministry of Environment/Public body “Skaitmeninė statyba”	<p>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:</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• 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;</li> <li>• developing and promoting the</li> </ul>	No	Preparation process of the pilot project has just started. Pilot will be conducted during 2015-2016. The 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.	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 2016	<p>Barrier: lack of EU financing.</p> <p>Solution: project financed by EU grants, from CEF, EIB, ESF and/or MS finance.</p>

<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>
				<p>experience of e-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"> <li>• developing international cooperation; promoting local and international relations among business and educational establishments with a view to developing e-construction solutions;</li> <li>• Carrying out the activities of education and training in the area of e-construction solutions.</li> </ul> <p>The goal of the project is twofold:</p> <ul style="list-style-type: none"> <li>• To explore the possibilities of the digitization of all the related procedures and tools representing the different stages of entire lifecycle of the building (design,</li> </ul>					

<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>
				<p>construction, use and demolition) in the Republic of Lithuania</p> <ul style="list-style-type: none"> <li>• 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).</li> </ul>					



## **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"> <li>- 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</li> <li>- On longer-term (2020) a solution with cables is under study envisioning a 1000 MVA path between Belgium and Luxembourg</li> </ul> <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	<p>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.</p>	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, Ursfelt, 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 SİDEST	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 Gouvernement / Luxembourg Health Insurance Fund (CNS)	The project aims to build an 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**



# **SPECIAL TASK FORCE ON DEVELOPING INVESTMENT PROJECT PIPELINE IN THE EU- MALTA PROJECT LIST**

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RECAPITULATION

ALFRED MIFSUD – MALTA Representative

Valletta MALTA, 14 November 2014

# **SPECIAL TASK FORCE ON DEVELOPING INVESTMENT PROJECT PIPELINE IN THE EU- MALTA PROJECT LIST**

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**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.

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- 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.

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### **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 practical 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.

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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.

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### **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 19<sup>th</sup> 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 20<sup>th</sup> 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.

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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.





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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.

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### **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

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- 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 20<sup>th</sup> century it took 4 years to finish the job even though storms forced restart for each breakwater arm of the project. With 21<sup>st</sup> 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

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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.

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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.

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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:**

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- 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.



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- 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)<sup>1</sup> 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 capita<sup>2</sup>.

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

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<sup>1</sup> National Statistics Office, Motor Vehicles: Q3/2014,

<[http://www.nso.gov.mt/statdoc/document\\_file.aspx?id=4258](http://www.nso.gov.mt/statdoc/document_file.aspx?id=4258)>; last accessed 27 October 2014

<sup>2</sup> National Statistics Office, Transport Statistics 2014

<[http://www.nso.gov.mt/statdoc/document\\_file.aspx?id=4173](http://www.nso.gov.mt/statdoc/document_file.aspx?id=4173)> page 109 Table 3.25 last accessed 12 November 2014

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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 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 2011<sup>3</sup> 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.

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<sup>3</sup> National Statistics Office, Census of Population and Housing 2011  
[http://www.nso.gov.mt/statdoc/document\\_file.aspx?id=3998](http://www.nso.gov.mt/statdoc/document_file.aspx?id=3998) page xiv chart 2 1st visited 12 November 2014

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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:**

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:

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[http://www.maltatoday.com.mt/news/data\\_and\\_surveys/45926/maltatoday\\_survey\\_traffic\\_overtakes\\_migration\\_as\\_top\\_concern#.VGNEHDTF8g0](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.

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- 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.

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## SPECIAL TASK FORCE ON DEVELOPING INVESTMENT PROJECT PIPELINE IN THE EU- MALTA PROJECT LIST

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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>

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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



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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

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- 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%)<sup>4</sup>.

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.

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

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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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### 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

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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

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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:**

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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

### CROSSCUTTING ISSUES

<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>
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 phase	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 phase	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**

<b>Sector</b>	<b>Sub-sector</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total investment cost (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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 radio-isotopes, 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

									infrastructure projects.
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	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; Arnhem-Nijmegen; Geleen; Noorden  <b>NB : Examples below !</b>	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><b>Barriers:</b> Sufficient affordable financing, also for the non-guaranteed investments in the affordable housing and private home owners category.</p> <p><b>Solution:</b> 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: <a href="https://www.youtube.com/watch?v=5Do2IMB8xQs&amp;list=PLjsYYZd8-kqH7npZw37P830BozqKeCLGd&amp;index=3">https://www.youtube.com/watch?v=5Do2IMB8xQs&amp;list=PLjsYYZd8-kqH7npZw37P830BozqKeCLGd&amp;index=3</a></p> <p>Additional funding is needed to:</p> <ul style="list-style-type: none"> <li>- drive suppliers of builders to develop better components for the retrofit package</li> <li>- Piloting support for the private homeowner market</li> </ul>					
Energy Union	Energy Efficiency in Buildings	"EnergieRijk Den Haag"	Ministry of the Interior and Kingdom relations, 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"><li>• Insufficient access to finance for SMEs, causing economically viable solutions to remain on the shelf</li><li>• Insufficient access to expertise</li><li>• Split incentives between owners and users</li><li>• Fragmented financing needs requiring bundling</li></ul>



## TRANSPORT

<b>Sector</b>	<b>Sub-sector</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total investment cost (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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"> <li>- 1,3 national roads (see below)</li> <li>- 0,8 is regional (Rijnlandroute).</li> </ul>	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	The rolling PPP road programme includes various heavily used sections that	Yes	Mature	1,3	<0,5	Regulatory restrictions: EIB is heavily restricted in its capacity to finance

				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 <sup>th</sup> 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**

<b>Sector</b>	<b>Sub-sector</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total investment cost (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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>(&lt; 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**

<b>Sector</b>	<b>Sub-sector</b>	<b>Project name</b>	<b>Implementing agency</b>	<b>Description</b>	<b>Included in national investment plan (yes/no)</b>	<b>Status</b>	<b>Total investment cost (EUR bn)</b>	<b>Investment in 2015 – 2017 (EUR bn)</b>	<b>Barriers/solutions</b>
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, Afsluitdijk) 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.