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Accompanying the Regulation establishing the Connecting Europe Facility

IMPACT ASSESSMENT

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This report commits only the Commission's services involved in its preparation and does not prejudice the final form of any decision to be taken by the Commission.

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1. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

Lead DGs: DG MOVE, DG ENER, DG INFSO¹

WP reference: 2011/MOVE/019

Proposal to the European Parliament and the Council for a Regulation on the Connecting Europe Facility that will replace and repeal Regulation No 1159/2005² (covering the field of ICT) and Regulation No 680/2007³ (covering the fields of energy and transport).

1.1. Organisation and timing

This Impact Assessment (IA) report accompanies the proposal for the Regulation establishing the Connecting Europe Facility (CEF) that will fund pre-identified transport, energy and Information and Communication Technology (ICT) priority infrastructures of EU interest. This new instrument was proposed by the Commission in its Communication "A Budget for Europe 2020 (hereinafter the MFF Communication), adopted on 29 June 2011, and its accompanying documents⁴. The CEF Regulation forms part of a package of legal instruments covering transport, energy and ICT, including also the sector-specific policy frameworks for the three sectors concerned⁵ and the available financial instruments.

This IA is a joint report that has been drafted by DG MOVE, DG INFSO and DG ENER. DG ECFIN has had a significant contribution to this report on the issue of financial instruments. The work on this joint IA report has started on 30 June 2011, immediately after the adoption by the Commission of the decision to establish a CEF, as part of its package of proposals put forward within the MFF Communication. An Impact Assessment Steering Group (IASG)⁶ has been set up and IASG members have been consulted three times between 30 June and 28 July 2011.⁷

1.2. Consultation and expertise

With a view to preparing the ground for later policy developments, the Commission has launched various consultation exercises. The summaries of the stakeholder meetings and the contributions received during the preceding public consultation are available on the Commission website. A summary of the results of the stakeholder consultations is available in Annex 1 of this IA report.⁸ It should be noted however that no stakeholder consultation was

¹ DG ECFIN's contribution has focused particularly on financing instruments.

² Regulation (EC) No 1159/2005 of the European Parliament and of the Council of 6 July 2005 amending Council Regulation (EC) No 2236/95 laying down general rules for the granting of Community financial aid in the field of trans-European networks.

³ Regulation (EC) No 680/2007 of the European Parliament and of the Council of 20 June 2007 laying down general rules for the granting of Community financial aid in the field of the trans-European transport and energy networks.

⁴ COM(2011) 500 final and SEC(2011) 868. All documents are accessible at http://ec.europa.eu/budget/biblio/documents/fin_fw1420/fin_fw1420_en.cfm

⁵ Legislative proposals laying down revised policy frameworks in the area of TEN-E, TEN-T and e-TEN respectively.

⁶ Apart from the lead DGs, the following services participated: DG BUDG, DG ECFIN, DG COMP, DG REGIO, DG MARE, DG ENV, DG CLIMA, DG MARKT, DG RTD, DG ELARG, Commission SG, EEAS.

⁷ The second consultation took place by means of written procedure.

⁸ Other relevant documents in this context are Resource-efficient Europe flagship Initiative, And A Digital Agenda for Europe COM(2010)0245, Reference to Transport White Paper SEC 0359/2011, Commission Staff Working Document accompanying the Commission Recommendation on regulated access to Next Generation

specifically conducted on the particular issue of a common funding framework for TEN infrastructures. Nevertheless, the question was addressed to the stakeholders, in the context of options for improving coordination between the various Union funding instruments, within sectoral consultations concerning the revision of the specific sectoral policy and funding frameworks. In addition, a cross-sectoral consultation was conducted, on the relevance and applicability of a new innovative approach to funding European infrastructure projects of public interest, the Europe 2020 Project Bonds Initiative.

For the purposes of this impact assessment, the following issues raised during these stakeholder consultations are particularly relevant and have been taken into account in assessing the different possible actions presented in this report:

- There is a broad consensus emerging from the consultations on the fact that accelerating the development of infrastructure with European added value requires not only an increased EU support, but also a better targeted support on EU added value priorities.
- Stakeholders called for a higher leverage of EU funding towards TEN policy objectives through for instance a greater coordination and synergies between different financial instruments, namely the Cohesion Fund and European Regional Development Fund (ERDF), the TEN programmes and the EIB's interventions.
- Widening the portfolio of available financial instruments is seen by stakeholders as a means to better adjust support to the particular needs of a project, to enable effective project structuring and to attract new investors.
- Stakeholders expressed their concern about the complexity generated by overlapping schemes or by lack of coordination at strategic level. Beneficiaries/participants are confronted with different sets of rules, exceptions or specificities, albeit dealing with the same actor (the Commission) within the same sector. This is reportedly confusing at times, and translates into obstacles to effective access and correct implementation. Administrative burden is also generated by the segmentation of IT tools for the submission of documents, by the duplication of procedures for the application by the same beneficiary/participant to different types of financing schemes, and the duplication of reporting obligations.

1.3. Consultation of the Impact Assessment Board

Following the submission of a draft report to the Impact Assessment Board (IAB) on 1 August 2011 and a hearing with the IAB on 31 August 2011, the IAB sent its opinion on 6 September 2011, asking DG MOVE to make a series of improvements. To this end, the IAB made six recommendations that were addressed in the final version of the IA report in the following manner:

(1) The report should provide more detail on the implementation of the programme.

The revised IA provides more detail with regard to the concrete form the CEF provisions would take, in each of the six policy areas of intervention identified, for each of the options retained for in-depth assessment (Table 6 in section 4.2.2). A new Annex 5 has been drafted, which contains an assessment of the coherence of these various policy measures alternatives in options of minimal, maximal or variable integration with the established policy objectives as well as their effectiveness and efficiency in achieving the latter, in order to provide further (argumentative) background to the impact assessment developed in the main body of the IA.

The argument in section 2.3 "Justification of EU action" has also been developed to further explain the rationale for the CEF as a common framework covering three distinct sectors. The argument in Annex 5 also seeks to highlight the extent to which simplification of the TEN funding framework by harmonising sectoral rules within the common CEF framework would be coherent, effective and efficient in achieving the identified policy objectives.

(2) Present evaluation findings in a more consistent way.

The revised report provides a better balanced presentation of evidence arising from stakeholder consultations and ex-post evaluations, both in a streamlined section 2 "Problem definition" and in revised Annexes 2 and 3 providing summaries of the most relevant consultations and evaluations for the current IA exercise. The argument in Annex 5 draws on the findings of these consultations and evaluations when discussing the possibility of simplifying TEN funding rules by drawing on synergies across the sectors in the various areas of policy measures, i.e. the coherence, effectiveness and efficiency of the various simplification options in reaching the established policy objectives. Besides obvious common characteristics of current sectoral approaches, one of the main possibilities of drawing synergies across the sectors considered has been that of drawing on lessons learnt and successful practices in one field in order to improve the quality of policy interventions in the others. The discussion in Annex 5 highlights also why structural differences between the three policy fields do not allow further rule simplification in certain policy areas.

(3) Better demonstrate the investment needs and the financing gap

The revised report provides further details with regard to the underlying assumptions of the baseline scenario. It also provides further details with regard to the investment needs and financing gap in the three sectors in a global sensitivity analysis (section 2.5.3), in the main body of the report as well as in a specifically developed Annex 4, which gives an overview of current financing volumes for infrastructure, highlights market imperfections and points to financing gaps in the three sectors. The question of the relative role of grants and financial instruments in the overall approach is also addressed in more detail in Annex 4.

(4) Describe the options on financing instruments in more detail

The discussion in the new Annex 4 provides a detailed discussion on main modalities of potential future financial instruments and how they relate to other funding sources in the three sectors as well as to the Project Bonds Initiative currently under development. A discussion on various levels for grants co-financing rates in the three sectors is provided in Annex 5.

(5) Specify the economic impacts of policy options

The revised report provides further discussion with regard to the economic, social and environmental aspects of the establishment of the CEF.

(6) Procedure and presentation

Stakeholder views on the current programmes and the proposed changes in their management have been better reflected in the argument developed in the revised IA, and in particular in the discussion in Annex 5, that focuses on alternative policy measures within the various options for CEF design. Findings of ex-post reviews have also been more systematically reflected in section 2, in defining the problem. The latter section has also substantially streamlined, following the IAB recommendations.

The revised IA report has addressed also the more detailed comments transmitted by the IAB to DG MOVE.

2. PROBLEM DEFINITION

2.1. Policy context

2.1.1. Current EU framework for infrastructure financing

Common legislative basis

Treaty base. First introduced in the Maastricht Treaty (1992), Articles 170 to 172 of the Treaty on the Functioning of the European Union (TFEU) provide the legal base for the EU intervention supporting the establishment and development of trans-European networks (TEN) in the areas of transport, telecommunications and energy infrastructures. Accordingly, action by the Union shall aim at promoting the interconnection and interoperability of, and access to, national networks, taking into account in particular the need to link islands, landlocked and peripheral regions with the central regions of the Union. To this end, the Union may, among others, support projects of common interest supported by the Member States; the Union may also contribute, through the Cohesion Fund, to the financing of specific projects in Member States in the area of transport infrastructure.

Secondary legislation. The Council Regulation 2236/95 of 18 September 1995 (hereinafter referred to as the 1995 Regulation) laid down the first general rules for the granting of Community financial aid in the field of trans-European networks for transport, telecommunications and energy infrastructures. The Regulation defined the eligibility criteria (projects of common interests identified by the Guidelines referred to in the Treaty), the project selection criteria and the forms of aid. The total amount of Community aid could not exceed 10 % of the total investment cost.

The 1995 Regulation was amended several times with specific Regulations taking into account the developments for the sectors covered and their intrinsic characteristics, but also in order to refine the eligibility criteria and the level of co-financing according to the type of projects.⁹ In 2005, Regulation No 1159/2005¹⁰ amended the 1995 Regulation with specific modifications concerning the area of ICT. In 2007, a specific regulation laying down general rules for the granting of Community financial aid in the field of the trans-European transport and energy networks was adopted (Regulation No 680/2007), repealing the 1995 Regulation.

Sector specific programmes

Starting from this common legislative basis, distinct sets of sector-specific programmes have been developed. Currently, there are several different sources of EU funding for infrastructure projects in the energy, transport and ICT sectors, including funding from the ERDF and the Cohesion Fund. These are channelled through a number of distinct programmes with different

⁹ See for instance Regulation (EC) No 1655/1999, Regulation (EC) 788/2004, Regulation (EC) No 807/2004 and Regulation (EC) No 1159/2005

¹⁰ Regulation (EC) No 1159/2005 of the European Parliament and of the Council of 6 July 2005 amending Council Regulation (EC) No 2236/95 laying down general rules for the granting of Community financial aid in the field of trans-European networks.

forms and methods of financing, monitoring and evaluation mechanisms, and overlapping objectives but loosely (if) coordinated priorities, resulting in different eligibility criteria even within a single sector. The current state of play of EU funding for infrastructure in the three sectors is summarised in Table 1 below.

Table 1: EU funding of infrastructures in the 2007-2013 multi-annual financial framework

<i>Sector</i>	<i>Source/Programme</i>	<i>Objectives</i>	<i>Priorities/Eligibility criteria</i>	<i>Budget 2007-2013</i> (€ million)	<i>Forms and methods of financing</i>	<i>Monitoring and evaluation</i>
<i>Energy</i> (electricity and gas networks)	TEN-E Programme	Developing energy projects that contribute to the working of the single market, particularly of crossborder nature	Project of common interest and projects of European interest as identified in the TEN-E guidelines	155	Grants: - for studies (up to 50% co-financing) - for works (up to 10%) Interest rate rebate (never used)	Member States undertake the technical monitoring and financial control of projects in close cooperation with the Commission Evaluation responsibilities shared by the Commission and Member States
	European Energy Programme for Recovery (EEPR)	Investing in modernising Europe's energy infrastructure in response to the economic crisis in Europe	TEN-E projects as specified in the EEPR Regulation ¹¹	2 365 ¹² (2009-2010)	Grants for works and project preparation: - up to 50%	Commission in charge of the evaluation of the prog Member States may be requested to evaluate specific projects; Commission to report to other institutions
	Cohesion Fund and ERDF	Increasing and improving the quality of investment in energy sector physical capital in order to improve conditions for growth and employment, speed up the convergence of the least-developed Member States and regions	Projects improving security of supply; gas and electricity interconnections in cases of identified market failure	1607 (Funds allocated within financial perspective 2007-2013)	Grant for works – up to 85% co-financing (but reduced in case of projects generating revenues)	Monitoring by Member States Commission in charge of the evaluation of the programme

¹¹ [Regulation \(EC\) No 663/2009 of the European Parliament and of the Council of 13 July 2009 establishing a programme to aid economic recovery by granting Community financial assistance to projects in the field of energy](#)

¹² The total budget of the EEPR programme i.e. €3.980 billion was divided into three sectors: gas and electricity infrastructure projects (€2.365 billion); offshore wind energy projects (€0.565 billion) and carbon capture and storage projects (€1.05 billion)

	European Neighbourhood and Partnership Instrument (ENPI) Neighbourhood Investment Fac	Converging markets, energy Supporting energy development,	energy Enhancing security, sustainable	Various	c.a. 25	Grants	Shared responsibilities by the Commission and Member States
<i>Transport</i>	TEN-T Programme	Support development	TEN-T	Projects of common interest, of which list of 30 Priority Projects	8 043	Grants: - for studies (up to 50% co-financing) - for priority projects: works (up to 20%); up to 30% for cross-border sections; - for other projects of common interest: works: up to 10%. - ERTMS: up to 50% for both track-side and mobile equipemnt. - traffic management systems: up to 20% of eligible costs of works. Interest rate rebate (never used)	Monitoring and evaluation is mainly undertaken by the TEN-T ExecMonitoring is undertaken by the Member states in cooperation with the Commission Commission may request beneficiary Member States to provide a specific evaluation of projects Commission is assisted in on monitoring aspects by the TEN-T Executive Agency tive Agency
	*of which LGTT	Encourage financed through user-pay mechanisms	PPPs	The LGTT provides additional guarantees against traffic risk that facilitate and accelerate private sector investment in TEN-T projects.	500	TEN-T programme and EIB Action for growth initiative to cover risk. Capital contribution of € billion (50% EU, 50% EIB) with estimated leverage of 25.	
	*of which Marguerite Fund	Support TEN-T, energy and development	renewables	Priorities: TEN-T, and other transport projects;	80 (1500	Sponsors	

	Cohesion Fund and ERDF	Support transport infrastructure development in order to strengthen the economic and social cohesion of the Union	climate change, meet energy targets, renewables Eligibility: transport & energy projects > €200million Renewables > €50million	target of total capital invested with other investors)	43 000		
	Marco Polo	Encourage modal shift	Finances action on: - TEN-T, especially Priority Projects of European interest Ease road congestion and pollution / Companies with viable projects to shift freight from road to greener modes	450	Result oriented support (grant not loan) Commission DG MOVE and EACI		
<i>ICT</i>	CIP ICT PSP	Stimulating smart and sustainable and inclusive growth	Areas of public interest, including health and ageing, inclusion, energy efficiency, sustainable mobility, culture preservation and learning as well as efficient public administrations	730	Grants for consortia implementing: pilot projects, thematic networks, best practice networks.	Continuous and systematic monitoring, interim evaluation, final evaluation two years after completion of the Programme. implementation	
	Cohesion Fund and ERDF	Telephone infrastructures (including broadband networks)		2 300	Grants	Monitoring and evaluation is mainly undertaken by the Commission as a part of central programme management. reports, interim and final evaluations.	

		ICT technologies, digital services and other measures		10 280	Grants	
Framework Programme7 Information Communication Technologies	and	Competitiveness of European industry, strengthening scientific and technology base, global leadership in ICT, product, service and process innovation and creativity, ICT benefits for Europe's citizens, businesses, industry and governments, reducing digital divide and social exclusion.	Productivity and innovation, modernisation of public services, advances in science and technology ICT Technology Pillars Integration of Technologies: Applications Research: ICT for content, creativity and personal development ICT supporting businesses and industry ICT for trust and confidence	9700 of which 270 contributed to RSFF	Mainly Grants for consortia implementing r&D projects (from Cooperation programme, And ICT eInfrastructures (capacities programme))	Continuous and systematic monitoring, interim evaluation, final evaluation two years after completion of the Programme. Monitoring and evaluation is mainly undertaken by the Commission as a part of central programme management.
Risk Sharing Finance Facility (RSFF)		Improve access to debt financing for private companies or public institutions promoting activities in the field of RDI	Support to a wide range of RDI activities, including research, experimental and pre-competitive development, feasibility studies and pilots. Projects to be financed by the EIB need to be technically, economically, financially and environmentally feasible according to the EIB's project evaluation criteria.	310	Corporate debt financing, Project financing, Mezzanine financing, Risk sharing lines of credit, Guarantees.	Monitoring and evaluation together with FP7.

*Established by the European Commission in cooperation with EIB. EU support comes from within the TEN-T Programme budget.

2.2. A renewed context for infrastructure financing in Europe

On 29 June 2011, the Commission adopted a package of legislative proposals concerning the MFF and a Communication on 'A Budget for Europe 2020' (hereinafter 'the MFF Communication') which presents the policy rationale for the Union's finances for the years 2014-2020. The proposed budget of the EU has been designed to support the Europe 2020 growth strategy. Smart, sustainable and inclusive growth is therefore the leading theme for this proposal. To this end, the Communication focused on prioritising funding at the EU level on actions that provide true added value for EU citizens. Programmes and instruments included in the MFF have been redesigned to ensure that their outputs and impacts push forward key policy priorities of the EU. In particular, the MFF has been modernised by reallocating resources to priority areas such as pan-European infrastructure, research and innovation, education and culture, securing the EU's external borders and external relations policy priorities such as the EU's neighbourhood.¹³

As far as infrastructures are concerned, a consensus exists among stakeholders that, in a "business as usual" scenario, Europe might not be able to mobilise in time the investments needed to modernise its infrastructure networks and plug missing links as defined in the Europe 2020 Strategy.

In the wake of the financial crisis, Member States' public budgets are struggling with the necessary fiscal consolidation. Capital expenditure has often suffered substantial cuts, with spending for infrastructure investment projects suspended or delayed. At the same time, the prospects for stepping up investments from private sources are uncertain. The financing capacities of companies involved in infrastructure projects, such as transmission system operators in the case of energy, are overstretched. In many cases, companies are unable to raise substantial volumes of additional debt capital because they have reached borrowing ceilings or their investment grade is no longer adequate. In addition to financing constraints, regulatory obstacles also delay or impede the implementation of needed infrastructure projects.

Against this background, the current EU framework for infrastructure funding does not seem adequate to provide an effective response.

It is estimated that about €200 billion is needed to complete the trans-European energy networks, €500 billion needs to be invested in the trans-European transport network, and between €81 and 273 250 billion in ICT for the period 2014-2020. While the market can and should deliver the bulk of the necessary investments, there is a need to address market imperfections – to fill persistent gaps, remove bottlenecks and ensure adequate cross-border connections. However, experience shows that national budgets will never give sufficiently high priority to multi-country, cross-border investments to equip the Single Market with the infrastructure it needs. This is one more example of the added value of the EU budget. It can secure funding for the pan-European projects that connect the centre and the periphery to the benefit of all.

¹³ Cross-cutting policy priorities, such as environmental protection and the fight against climate change, are addressed as an integral part of all the main instruments and interventions. To this end, the Commission intends to increase the proportion of climate related expenditure across the EU budget to at least 20%, as an overall contribution of different policies. In this context, attention will need to be paid to climate proofing, in particular of the transport infrastructure.

However, EU funding is currently fragmented among too many programmes. This prevents the full exploitation of synergies between programmes and sectors. ICT, energy and transport infrastructure all contribute to shaping smart networks, such as intelligent grids ensuring uninterrupted flexible availability of gas and electricity for consumers or smart transport networks based on sensors to manage congestion. Bringing the governance of programmes under a common framework leading to a multi-sector and multi-country approach would also reduce risks and increase effectiveness and efficiency of EU funding.

The budget available to individual programmes is often not sizeable enough to meet the projected needs. Blending between EU funds and EIB loans have produced some results but could be further improved. There is also scope for expanding the use of risk sharing and project financing techniques through appropriate new rules and mechanisms, notably the equity and debt platforms foreseen in the general approach to the use of financial instruments. Some of the described challenges are of a regulatory and policy nature, but some others call into question the way in which the EU organises infrastructure funding. Any future EU action in infrastructure financing should thus, as a general objective, enhance support for infrastructure projects with high European value added and clear links with Europe 2020 and the Single Market, which the market alone would not deliver, by ensuring an appropriate mix of direct funding and market-based instruments that reduce the commercial risks for private investors.

In this context, and in the view to accelerate the infrastructure development that the EU needs, the Commission decided to propose the creation of a centrally managed funding facility – the Connecting Europe Facility. As proposed in the MFF Communication¹⁴, the CEF will fund "pre-identified projects in transport, energy and ICT priority infrastructures of EU interest, and both physical and information technology infrastructures, consistent with sustainable development criteria."

The aim of the CEF will be to boost the pan European value of infrastructure projects. With € 50 billion at its disposal, of which €10 billion from the Cohesion Fund, it will fund transport, energy and ICT projects that bring more interconnectivity across Europe.¹⁵ In addition, the CEF will provide financing for the infrastructure of EU interest (both on the Union's territory and outside the EU) that will need to connect with or pass through neighbourhood and pre-accession countries.

The CEF is designed to plug market gaps and correct coordination failures, intervening where an incentive effect is demonstrated and to the extent necessary to trigger market participation. It will offer opportunities for using innovative financing tools to speed up and secure greater investment than could be achieved only through public funding. It will promote the use of EU project bonds and other financial instruments, offering an alternative to the traditional grant funding and plugging financing gaps for strategic investments. A key advantage of financial instruments is that they create a stronger multiplier effect for the EU budget compared to traditional instruments, by facilitating and attracting other public and private financing to projects of EU interest. The multiplier effect of these instruments has an estimated range between 6 (for equity investment) and 20 (for risk-sharing instruments such as project bonds).¹⁶

¹⁴ COM (2011) 500 pp. 14-15.

¹⁵ An indicative preliminary list of such projects is provided in the MFF Communication (COM(2011) 500 part II).

¹⁶ See, in this regard, the argument provided in Annex 4.

Building on the experience of financial instruments under the current financial framework put in place in cooperation with the EIB, such as the Loan Guarantee Instrument for trans-European transport networks projects (hereafter LGTT), the Commission proposes to implement a significant part of its interventions within the CEF through financial instruments. In particular, the Europe 2020 Project Bonds Initiative will be used as a means of securing investment resources for infrastructure projects of key strategic European interest¹⁷. EU budget will therefore be used to support projects by enhancing their credit rating, and thereby attracting funding from the EIB, other financial institutions, and private capital market investors. The risk for the EU budget will be in all cases strictly limited to the budgetary contribution.¹⁸

2.3. The problem

The creation of the CEF along the defining lines proposed by the Commission in the MFF Communication will provide an overall framework for the financing of TEN infrastructures at EU level. The establishment of the facility is aimed at aligning TEN infrastructures funding instruments in the three sectors concerned and, thereby, at contributing to the simplification of sector specific rules, both within and across the sectors, within the constraints set by their respective policy frameworks.¹⁹

However, the MFF Communication did not define the operating rules of the CEF, rules which would enable the Union to create the investment conditions conducive to accelerating the development of the infrastructure the EU needs.

Given that the decision about the proposal to create the CEF has already been taken by the Commission, this IA will focus on procedural and monitoring aspects of the CEF. The creation of the CEF and the associated problem will therefore not be further explored in this IA.

At the same time, a transversal analysis of existing sector specific rules shows that, beyond pooling resources within a common facility, there is room for further simplification of the EU TEN infrastructures funding rules, by exploiting the potential for synergies across the sectors. As highlighted by Table 1 above, there are currently several different sources of EU funding for infrastructure projects in the energy, transport and ICT sectors, including funding from the ERDF and the Cohesion Fund, and the mix of instruments constitute significantly differing sets from sector to sector. Within each sector too, the EU budget support is channelled through a number of distinct programmes, with different eligibility and management rules, and overlapping objectives but loosely (if) coordinated priorities. The heterogeneity of the current funding instruments, both across and within each of the three infrastructure sectors, inevitably leads to overlaps, gaps in funding and insufficient exploitation of synergies²⁰. The availability of different sources of funding within the same sectors also leads to "fund

¹⁷ For details see http://ec.europa.eu/economy_finance/consultation/index_en.htm.

¹⁸ The project bonds' initiative would cover pre-identified transport, energy and ICT priority infrastructures as defined in the Connecting Europe Facility. As a single legal instrument, project bonds would complement, rather than replace, the existing sources of project financing through bank loans. The aim is to expand the investor base for private debt funding of projects from loan providers to bond investors. The rationale behind the introduction of project bonds is that infrastructure projects may face numerous risks due to the possibilities of construction delays, payment delays etc. Investors react to risk and uncertainty by not undertaking or investing in a project, by requiring a higher rate of return or by using insurance. Most infrastructure deals in Europe are structured to have a rating that is just above or just below investment grade. Many investors, on the other hand are limited to investment-grade bonds and want some cushion to ensure that a single downgrade does not force them to sell.

¹⁹ The alternatives to the creation of the CEF are therefore not explored in this IA.

²⁰ SEC(2011) 868, p. 16.

shopping", where the same project proposal is sought to be resubmitted if not accepted within one of the programmes.²¹

Synergies between sectors should therefore be explored and exploited further so as to simplify as much as possible the financing framework. The potential value added of exploiting synergies for accelerating the implementation of TENs has long been acknowledged. Despite initiatives²² taken so far, the Communication "Trans-European Networks: Towards an integrated approach"²³ listed examples of possible synergies between various types of projects across the sectors²⁴.

Three main types of potential synergies have been thus identified: (1) *procedural* – arising from the integrated planning of various infrastructure networks (coordinated planning across modes and borders; single Strategic Environmental Assessment, combined land acquisition, common consultation process for packages of infrastructure); (2) *physical* – lower costs and impacts due to the combined construction of sections of infrastructure networks and structural works, both existing and new (bridges, tunnels, underpasses and the like) or higher efficiency of infrastructure as in the case of the deployment of smart grids on energy networks, essential for decentralised energy production, and deployment of ICT services and broadband infrastructure in transport for intelligent traffic management; (3) *financial* – the additional value or revenues that can be created and captured by the infrastructure provider or operator when sections of infrastructure networks are combined.²⁵ However, no steps have ever been taken on the EU level to allow exploiting synergies in terms of programming and disbursement of the EU financial aid or procedures (impact studies, planning and budgetary arrangements). In light of the above and drawing on ex post programme evaluations, stakeholder consultations and expert recommendations, the Commission has identified two main policy areas in which, in defining the operational rules of the CEF, the Union can address market and regulatory gaps that currently prevent EU funding from adequately supporting the development of infrastructures needed to achieve the objectives of the EU 2020 Strategy.

2.3.1. Investment leverage: Existing procedures, methods and forms for granting EU funding are not conducive to sufficient investment leverage

The results and recommendations of both ex-post analyses and stakeholder consultation have lead the Commission to the conclusion that, in spite of progress registered along the years, the impact of the use of EU budget still needs significant leveraging.²⁶ Three main reasons for the continuing limited impact of EU funding have been identified.

(1) EU funding is insufficiently focussed on projects with a real EU added value

Programming and project support appears to be not sufficiently tailored to ensure that the Union focuses its funding support to projects with a real EU added value, namely cross-border projects, projects addressing bottlenecks or projects that bring EU wide benefits, including by using synergies of two of the three sectors.

²¹ SEC(2011) 868, p. 78-79.

²² Such as the establishment in 2005 of a Steering Committee of Commissioners for the trans-European networks that considered questions of synergy between the networks, the methods of funding and their spread across the various Community financial instruments

²³ SEC(2007) 374}

²⁴ e.g. to interconnect electricity networks: laying high-voltage cables along the banks of canals and rivers, low-voltage interconnections (2 x 25 kV) along high-speed railway lines, more systematic interconnections of underground high-voltage lines (300 to 700 kV) along transport network paths

²⁵ ECORYS, "Synergies between trans-European networks. Evaluations of potential areas for synergic impacts", Final report, 2006.

²⁶ COM(2010) 700, p. 20.

For example, in the realm of TEN-T, the projects that have registered most important delays are, in their majority, cross-border projects. More generally, the fact that the TEN-T remains essentially fragmented, due to continuing missing links, bottlenecks and limited interoperability of national networks, is partly a question that needs remedy at the wider TEN-T policy level, but also to an important extent a question of improving the definition of the rules governing the EU financial support.²⁷ With regard to TEN-E networks, the Commission also concluded that there is a need to narrow the focus on a limited number of strategic projects demonstrating European priorities.²⁸ Another example of an area with important EU added value but where EU funding has had hardly any impact is connecting the TEN infrastructures to neighbouring and third countries' networks, in particular in the areas of energy and transport. However, in both areas, the TEN programmes under the current financial framework do not allow EU funding of projects outside the EU²⁹ to support and match ENPI and IPA instruments.

In short, EU funding in infrastructure does not contribute in a satisfactory manner to accelerating strategic investments inside and outside the EU. The absence of prioritised programming has been identified as one of the "weak links" in the current funding framework in this respect. Another may also be linked to the fact that the concept/notion of EU added value has not yet been translated into clearly identified markers in the TEN policy frameworks.

(2) Inadequate co-funding rates

The insufficient focus on EU added value projects is also closely linked to the fact that, in certain cases, co-funding rates remain inadequate to make a real difference. The way the co-funding rates are set today does not trigger the investment needed because they do not correspond to project risks and are not proportionate to their complexity and EU added value. This is particularly the case for kick starting complex projects on the TEN-E or the TEN-T, with high EU added value.³⁰ For instance, despite progress achieved during the period 2007-2013, the high percentage of cross-border projects experiencing significant delays in implementation, appears highly correlated with the findings of ex-post evaluation reports highlighting that the seemingly higher co-funding rate of 30% for cross-border sections is, in practice, not higher than 21% in average. As these difficult cross-border projects often run across several MFF, the final contribution from the TEN-T budget may be as low as 5 to

²⁷ See also the argument developed in the IA report accompanying the revision of the TEN-T Guidelines, SEC(2011)1212. In this respect, the 2010 report from Court of Auditors on investments in rail infrastructure has concluded that, despite the progress achieved so far, there is still room for improving the TEN-T call for proposals. Special Report No 8, European Court of Auditors, "Improving transport performance on trans-European rail axes: have EU rail infrastructure investment been effective?"

²⁸ 2010 Commission implementation report on the TEN-E networks 2007-2009, COM(2010) 203.

²⁹ As pointed out in the Report on the implementation of the TEN-E (COM(2010) 203), EU strategic interests, related to large gas import infrastructure and the connection to upstream sources or electricity interconnections with third countries, lie well beyond EU borders. With regard to TEN-T, a 2009 TENCONNECT report also indicates that borders to the neighbouring countries, except Norway and Switzerland, constitute major time consumers for both passenger traffic and particularly freight transport (see document at http://ec.europa.eu/transport/wcm/infrastructure/studies/2009_12_ten_connect_final_report.pdf). The importance of developing connections outside the EU has been comprehensively discussed within a dedicated Expert Group (see report at http://ec.europa.eu/transport/infrastructure/ten-t-policy/review/expert-groups_en.htm).

³⁰ For TEN-T, see in this respect the findings and recommendations in Steer Davies Gleeves, "Final Report" and of the "Final Report" of the TEN-T Review Expert Group 5, also summarised in Annex 2, as well as the input of stakeholders, as summarised in Annex 1, stakeholder consultation on the Green Paper "TEN-T: A policy review" (2009), answers to set of questions no. (2) For TEN-E, see for example COWI, Cambridge Econometrics and KEMA on "The revision of the trans-European energy network policy (TEN-E)

10%.³¹ The Commission implementation report on the TEN-E networks³² reached the same conclusion: although the maximum co-financing rate is up to 50% for studies and 10% of eligible costs of works, it rarely amounts to more than 0.01-1% of the total investment cost of a project.³³

(3) Insufficient involvement of private investors in infrastructure financing

Strategic projects of European interest require European start-up funding, which private investors cannot always shoulder alone. In particular, the record investment volumes in Europe's transport, energy, information and communication networks that will be needed over the next decade in order to underpin the Europe 2020 flagship actions, combined with the fact that government budgets face severe constraints, make it crucial to foster the participation of the private sector in the financing of infrastructure projects. Yet, experience so far has shown that private investment in infrastructures has remained limited³⁴. As noted in the Commission's consultation paper on the Europe 2020 Project Bonds Initiative, "the majority of infrastructure in the EU with a trans-European dimension and interest is still financed from the public purse (EU, national and regional level) and only a small part draws on private funding"³⁵.

On the other hand, institutional investors such as pension funds, insurance companies and wealth funds are showing an increasing interest for moving into infrastructure investment given its potential to match long-term assets and provide diversification. For instance, the stability provided by the regulated model in energy and natural monopoly situation in transport corresponds to pension funds' investment profile, characterized by relatively low rates of return – around 7%-8%³⁶ – and long investment horizons. These investors are also becoming increasingly ready to invest directly in infrastructure assets. This is new, as their exposure to infrastructure has traditionally been via listed companies (such as utilities), or via real estate portfolios³⁷. However, for such new classes of investors to invest, there need to be investment opportunities available, i.e. equity opened to participation and/or debt products. Hence, the need for new products, and possible enhancements, that would allow channelling the investment into the infrastructures of European importance.

The obvious conclusion is that the EU infrastructure funding framework has not been able so far to create an environment sufficiently conducive to private investment needed in each of the sectors. In addition to the insufficient focus of EU financial support and the inadequate levels of co-funding rates for particularly complex and risk laden projects, the insufficient use of financial instruments constitutes one of the main factors leading up to this situation. In energy, no financial instruments have been used so far at EU level. Given the investment challenge up to 2020 as well as the growing number of complex and cross-border projects,

³¹ Steer Davies Gleeves. See also TEN-T EA, MAP mid-term review and Assessment of TEN-T programme implementation. There is also a consensus among the stakeholders that co-funding rates need to be raised (see input to consultation on 2009 Green Paper, as summarised also in Annex 1).

³² COM(2010) 203

³³ In the field of ICT, direct funding of high speed broadband infrastructure aimed at meeting the targets set by the Digital Agenda for Europe constitutes an absolute novelty, so no co-funding rates have been existing so far. The definition of high speed broadband adopted in this impact assessment is the one in line with the DAE targets. So, it considers high speed broadband as any technology capable of delivering at least 30Mbps to the final users' premises.

³⁴ COM(2010) 700, p. 20.

³⁵ Abadie R. and S. Pagdadis "The global reality of public-private partnerships" in PwC Gridlines: Building Intelligent Infrastructures, June 2010.

³⁶ Compared to 10%-12% infrastructure funds typically offer their investors. Source: InfraNews, "How Real a Threat to Infra Funds is the Direct Investing Phenomenon?" 24 May 2011.

³⁷ OECD, "Pension Fund Investment in Infrastructure", Working Paper on Insurance and Private Pensions, January 2009.

this lack of instruments that facilitate access to equity and/or debt finance, reduce the cost of capital, adapt lending conditions or facilitate project finance structuring could be an obstacle to the development of certain projects of strategic European importance, even if the majority of energy infrastructure projects will continue to be corporate financed and therefore not adapted to some of these instruments³⁸.

For transport and, to a lesser extent, digital infrastructures, a new generation of financial instruments have been put in place in the 2007-2013 financial framework, in cooperation with the EIB, such as the Risk-Sharing Finance Facility (RSFF) under the 7th R&D Framework Programme, the Loan Guarantee Instrument for TEN-T projects (LGTT) or the Marguerite Fund.³⁹ The Mid-Term Evaluation of the Risk-Sharing Finance Facility praised the use of financial instruments in addition to grants in funding ICT projects, and evaluated the intervention as highly efficient and effective, and "having dramatically expanded the financing".⁴⁰ For transport, the mid-term evaluation report of the Loan Guarantee Instrument for Trans-European Transport Network Projects (LGTT), while making a number of recommendations for further improvement, concluded that the instrument was successfully used on a number of projects.⁴¹ In parallel since the 1990s national policies of many Member States have sought to increase private sector participation in the financing and implementation of infrastructure projects by other complementary means, notably through project finance. Nevertheless, overall, only around 10% of private sector infrastructure investment uses project finance, including public private partnerships (PPP).

As pointed out in the Report of the TEN-T Expert Group 5, in times of public budget constraints and difficulties of the private sector to raise funds, "Europe needs to have a fresh look at the economics of cross-border investment and at innovative ways to ensure its financing."⁴² Availability of adequate financial instruments enabling guarantees and risk sharing arrangements would indeed create the necessary conditions to attract private investors.

2.3.2. Project implementation: Existing conditions for a fast implementation of EU co-funded projects are not adequate

As ex post evaluations and stakeholder consultations have highlighted, the set of rules concerning TEN programme implementation procedures need to be further streamlined and strengthened in order to make sure that co-funded infrastructure projects are implemented in the most efficient and effective way. This is particularly felt at three levels:

(1) Application and project support

³⁸ Commission Communication on the "Energy infrastructure priorities for 2020 and beyond – a blueprint for an integrated European energy network", COM(2010) 677.

³⁹ In the area of transport infrastructure, the following instruments have been used under the 2007-2013 financial framework: first, the Loan Guarantee Instrument for TEN-T Projects (LGTT) is a €1bn instrument managed jointly with the EIB, which supports PPP projects in case of revenue shortfall in the early stage of operation. Second, DG MOVE has set up jointly with the EIB the European PPP Expertise Centre (EPEC) in September 2008. EPEC responds to public sector needs by ensuring collaboration between the competent national "PPP task forces" to promote best practices to encourage the development of PPPs. Third, the 2020 European Fund for energy, climate change and infrastructure, the so-called "Marguerite Fund", which is a pan-European equity fund, and was launched in 2010 with a target size of €1.5bn.

⁴⁰ Evaluation of the Risk-Sharing Finance Facility, Final draft of the independent group of experts, 31 July, 2010.

⁴¹ Cf. European Investment Bank, "Loan Guarantee Instrument for Trans-European Transport Network Projects Mid-Term Review", from 2008 to date, LGTT has been successfully used in six operations in France, Germany, Portugal and Spain, in the road and rail sectors involving a total capital investment of more than EUR 10bn.

⁴² Final report of the Expert Group 5, Funding Strategy and Financing Perspectives for the TEN-T

Management of EU TEN infrastructures funding is currently fragmented across different EU support schemes. In transport, EU funding is fragmented between different EU instruments such as the TEN-T Programme, the Cohesion Fund and ERDF. As ex-post evaluation reports and stakeholder consultation have highlighted, the different policy objectives and set of implementation procedures do not allow the Commission to optimise the use of EU funding.⁴³ Similarly, in the area of ICT, funding has been fragmented in the current Multi-Annual Financial Framework between the CIP Programme, FP 7 and the regional policy funds.

This leads to considerable administrative costs for project promoters when seeking information about and applying for EU funding. While calls for proposals have proved to be an effective tool for competitive tendering, synergies of the various funds were used only partially.

(2) Monitoring & evaluation

Monitoring and evaluation constitutes another area where further improvements could be pursued. The generally limited development of mechanisms to reward performance and penalise non-effective use of the EU funds constitute another reason for suboptimal results of the use of EU funds.

Mechanisms in place so far have mainly concentrated on penalties. And while provisions concerning penalties are necessary to ensure that funds granted from the EU budget are recovered and/or saved if they are not used for the purposes they have been contracted, a mechanism relying solely on penalties has shown an important drawback. While providing a "stimulus" for project developers to ensure that funds are effectively used within the terms of the contract, it does not necessarily ensure the effective (or timely) realisation of the projects. From this perspective, a much more efficient approach would include monitoring and support mechanisms to assist project developers towards an effective and timely implementation.

In this respect, the report on the implementation of the European Energy Programme for Recovery (EEPR)⁴⁴ highlighted the importance of a well developed set of procedures in order to manage risk and closely monitor the progress made on projects. In the field of transport, the implementation of the TEN-T Programme has been notably improved following the establishment in 2006 of the TEN-T Executive Agency (TEN-T EA), through a better follow-up of the preparation and subsequent implementation of projects selected under the TEN-T calls for proposals. However, there too, improvements in a number of aspects could enhance the effectiveness of the programme's implementation.⁴⁵

The ability of the Commission to redeploy funds to new projects through new competitive calls for proposals is an important element of discipline in the implementation of projects by the Member States and project promoters and enhances the effectiveness of the programme by ensuring that other mature projects can get access to funding. In sectors, such as transport, already applying the 'use it or lose it' principle, reports still conclude that "the Commission should be able to use more effective project incentives (such as the 'use it or lose it' principle) to make sure that project promoters are feeling more accountable for the EU grants given, including on Priority Projects".⁴⁶ By contrast, when the responsibility for EU funds allocation and management remains primarily with the Member States, as is the case of the Structural

⁴³ See for example Steer Davies Gleaves. For the input of the stakeholder consultations, see summary presented in Annex 1.

⁴⁴ COM(2011) 217.

⁴⁵ Steer Davies Gleaves' provides a detailed assessment of the TEN-T EA's performance and areas for further improvements.

⁴⁶ Steer Davies Gleaves, p. 93.

funds, where the selection of projects is made at the beginning of the financial period and cannot be changed until its end, "an unclear prioritisation of projects and dissemination of EU funds is experienced".⁴⁷

(3) Programme management

The process of implementation of EU financial support for TEN infrastructures development is currently managed differently in the three sectors. In the fields of energy and transport, it is centrally managed, but within distinct structures. While the TEN-E funds are managed within the specialised Commission service (DG ENER), the management of the implementation of the TEN-T Programme, while still the responsibility of the specialised Commission service (DG MOVE), is managed with the substantial support of the TEN-T EA, which manages the implementation of the entire programme life cycle. In the case of both TEN-E and TEN-T, the Commission is also assisted by a Committee on financial issues, and by European Coordinators, tasked with facilitating and monitoring the implementation of particularly complex projects. In the field of ICT, broadband network infrastructure funding is an entirely new concept, hence no management structures is as yet in place.

According to the Commission proposal in the MFF Communication however, the new common facility shall be "centrally managed by the Commission with the support of an executive agency (such as the current TEN-T agency) and financial intermediaries."⁴⁸ The challenge the Commission faces in establishing the CEF rules therefore is to create this joint central management structure starting from the distinct sectoral arrangements currently in place.

Conclusion: The discussion presented above makes apparent that the problem of developing the operational rules that will govern the use of EU funds under the CEF is twofold: (1) addressing the shortcomings highlighted by ex-post evaluations and stakeholder consultations with regard to TENs' programmes implementation so far, while (2) concentrating on the simplification of the current EU infrastructure funding framework rules by drawing on synergies across sectors.

2.4. Justification for EU action

The EU action on trans-European networks is grounded in the Treaty. Article 170 TFEU specifies: "The Union shall contribute to the establishment and development of trans-European networks in the areas of transport, telecommunications and energy infrastructures".

The right for the EU to act in the field of infrastructure financing also derives from the Treaty. Article 171 (paragraph 1 indent 3) TFEU provides that: "[i]n order to achieve the objectives referred to in Article 170, the Union (...) may support projects of common interest supported by Member States, which are identified in the framework of the guidelines referred to in the first indent, particularly through feasibility studies, loan guarantees or interest-rate subsidies". The Commission's financing proposals have to be approved by the Member States, who are responsible for the planning and construction of projects. Furthermore, the EU's competence in the area of energy is also enshrined in TFEU, Article 194. Energy transmission infrastructure (including an interconnected off-shore grid and smart grid infrastructure) has Trans-European or at least cross-border nature or impacts.

⁴⁷ Ibid., p. 13.

⁴⁸ COM(2011)500, part II.

In areas which do not fall within EU exclusive competence, EU action has to be justified. In the present case, it is therefore necessary that the subsidiarity principle set out in Article 5 (3) of the Treaty on the European Union is respected. This involves assessing two aspects.

(1) Firstly, it is important to be sure that the objectives of the proposed action could not be achieved sufficiently by Member States in the framework of their national constitutional system, the so-called necessity test. In this respect, the Commission has already underscored the importance of employing the EU budget in order to "plug gaps left by the dynamics of national policy-making, most obviously addressing cross-border challenges in areas like infrastructure, mobility, territorial cohesion... - gaps which would otherwise damage the interest of the EU as a whole."⁴⁹ Large investments, from both the public and the private sectors, are needed to meet the infrastructure challenge. It is estimated that about €200 billion is needed to complete the trans-European energy networks at transmission level only, €500 billion needs to be invested in the trans-European transport network, and over €250 billion in ICT for the period 2014-2020.⁵⁰ While recognising that the market can and should deliver the bulk of the necessary investments, the Commission stressed in its MFF Communication the added value of the Union can bring in securing funding for the pan-European cross-border projects that connect the centre and the periphery to the benefit of all.

Experience has shown that Member States' predominantly national focus in planning infrastructures does not give sufficiently high priority to multi-country, cross-border investments to equip the Single Market with the infrastructure it needs. In addition in the aftermath of the economic and financial crisis, the constraints on private and public sources of funding have cast an important degree of uncertainty on the extent to which required investments would be met. "The costs for Europe of not investing sufficiently in its future network would be very high."⁵¹

Most affected are likely to be, in particular, the projects with trans-European relevance, which require particularly high and long term investments, due to their inherent higher technical complexity as well as cross-border coordination needs. While the EIB and other national or multilateral development banks have expanded the scale of their lending, to effectively fill the gap, complementary solutions have to be found, to unlock private capital and restore stable funding streams through the capital and banking market. EU funds should accompany market dynamics, incentivising rather than crowding out market participation in infrastructure funding. In particular, as both the Budget Review Communication⁵² and the MFF Communication⁵³ have pointed out, the EU budget would be best placed to plug in gaps left by Member States.

Yet, the current EU framework for infrastructure funding is not adequate to provide an effective response to the challenge identified above. As highlighted earlier in this report, funding of infrastructure remains fragmented among sectors, among programmes and among

⁴⁹ COM(2010)700, p. 5. It echoed the findings of the various ex-post evaluations, stakeholder consultations and expert analysis, that all converged in their assessment: member states tend to give principal priority to projects of primary national relevance when planning and funding infrastructure. Yet, cross-border connections are essential if TENs are to become a reality and, not least, in an optimal configuration, that carries highest EU added value for the Unions citizens. Cross-border services, interoperability and inter-connections need to be properly established, else there is a risk of market partitioning and creation of barriers to entry. See also the Impact Assessment Reports of revised TEN-T Guidelines, of revised TEN-E Guidelines, and of e-TEN Guidelines, respectively.

⁵⁰ For a more detailed break-down of financial needs per sector, see COM(2011)500.

⁵¹ SEC(2011) 368, p. 78.

⁵² SEC (2010) 700.

⁵³ COM(2011) 500, p. 1.

financing instruments, preventing thereby the full exploitation of possible synergies between sectors, programmes and financing instruments and to reduce risks.⁵⁴

(2) Secondly, it has to be considered here whether and how the objectives of the policy initiative under consideration could be better achieved by action on the part of the EU, the so-called test of European added value. The rationale for a European action in the field of infrastructure financing stems from the trans-national nature of the identified problem. At the same time, the rationale for a common legislative basis for providing financial support in three distinct sectors with different policy framework lies in the opportunity to exploit synergies across sectors, stemming from common issues with regard to the financing of the implementation of otherwise importantly varying policy objectives. The added value of a common framework would be three fold:

- A common framework would lead to the simplification of the EU legal framework concerning TEN infrastructures funding. It would also ensure a coherent approach to EU project financing across the three sectors. As highlighted earlier, the EU infrastructure financial framework is currently fairly complex, due mainly to the number and heterogeneity of the existing EU legal texts. Simplification of rules is one of the keywords of the new approach proposed by the Commission with regard to EU budgetary spending.⁵⁵
- At the same time, a single EU infrastructure financial framework and fund would provide a coherent and transparent approach to EU funding that would offer certainty and would thus have a huge potential to attract more private sector financing. Financial instruments would be available in a centralised and coordinated manner, attracting and improving the effectiveness of the relationship with the private investors and the partner financial institutions.
- In addition, the progressively increasing interdependency between economic infrastructure projects, networks and sectors would enable the realisation of economies of scale. An integrated EU infrastructure funding framework would allow exploiting cross-sector synergies at project development and implementation level, enabling cost savings and/or more efficient exploitation and higher returns.

Last but not least, a common framework would allow lessons learned and best practice sharing across sectors, enabling an enhanced effectiveness and efficiency of EU financing in all sectors.

2.5. The Baseline: How would the problem evolve, all things being equal?

The Commission has carried out an analysis of possible future developments for TEN funding policy in a scenario of unchanged policies, the so-called baseline scenario. The baseline scenario provides a benchmark for evaluating new policy measures against developments under current trends and policies.

The baseline scenario developed below foresees a continuation of the current policy, with the current mix of financial instruments that support EU action in the three policy areas. The baseline therefore reflects both achievements and deficiencies of the policies already in place. The baseline scenario is a composed scenario consisting of the Reference scenario applied for

⁵⁴ See also SEC(2011) 868, p. 79.

⁵⁵ See, for example, the Communications on the Budget Review (COM(2010)700) and Smart Regulation (COM (2010) 543). The MFF Communication reiterates Commission's commitment to this end.

the Impact Assessment accompanying the revision of the TEN-T guidelines⁵⁶ and TEN-E guidelines⁵⁷. It also consists of elements of the Reference scenario applied for the Impact Assessment accompanying the revision of the TEN-ICT guidelines.

The time horizon for the baseline scenario developed below is 2020⁵⁸. The baseline is fully consistent with the time horizon of the EU2020 Strategy.

2.5.1. *Common aspects*

The scenario of unchanged policies is first of all determined by the continuation of the 2007 – 2013 financial period over 2014 – 2020. Therefore, the budget allocated for the three sectors will remain stable, with similar provisions regarding the availability of financial instruments. As noted in the composite Impact Assessment accompanying the MFF proposal, “EU spending programme rules and implementation time are often hard to reconcile with the needs of private financing”. Therefore, in spite of the experience and the successes in the use of financial instruments, their use and impact will remain marginal.

Secondly, the implementation mechanisms will remain the same. Programming rules and management structures will follow the same approach, while taking into account the benefits of the revision undertaken in the last years⁵⁹. Hence, according to the baseline, no synergies between sectors would be created in terms of implementation mechanisms.

At the EU level funding instruments would remain fragmented as described in Table 1 above. Moreover, at the general economic level, the context for investments in infrastructure is likely to face constraints similar to the current economic situation. With the growing pressure on public finance and overall economic and social circumstances, public budgets, which are the most important source of financing for trans-national infrastructure investments, should remain under pressure across Member States for reasons of fiscal consolidation, which is likely to remain a priority. In parallel, in the wake of the economic and financial crisis, private sector investments and access to bank financing for project promoters is likely to remain difficult, due to capital and liquidity constraints faced by commercial banks (see also the sensitivity analysis below). Hence, investment leverage would remain weak and there is a risk of a certain crowding out, which would not be conducive to kick starting projects of mainly EU added value.

2.5.2. *Sector specific aspects*

In the field of **energy infrastructure**, business as usual would mean that Europe will not be able to deliver on its 2020 ambitious targets for climate and renewable energy in a cost and

⁵⁶ For transport, the baseline scenario is therefore identical with the Reference scenario applied for the Impact Assessment accompanying the White Paper for transport (COM/2011/0144). The Reference scenario of the IA of White Paper builds on a modelling framework including PRIMES, TRANSTOOLS, PRIMES-TREMOVE transport model, TREMOVE and GEM-E3 models. For the TEN-T Guidelines Impact Assessment and more specifically the TEN-Connect studies, the TRANSTOOLS model was considered as most appropriate due to its infrastructure component. The assumptions used in the studies are identical with the assumptions of the White Paper. The models are based on a assumption of an average GDP growth of 1.7% per year for the period 2005-2030.

⁵⁷ The baseline scenario is based on the following models: a) the PRIMES model (using the results of GEME3, PROMETHEUS and GAINS modelling as inputs) for determining energy balances in 2020 and 2030; b) a specialized grid modelling framework developed by KEMA and Imperial College London for evaluating resulting infrastructure needs in the electricity and gas sector; c) for assessing infrastructure needs for CO2 transport, two specialized analysis and modelling tools developed by ARUP and JRC. The PRIMES model is based on an average GDP growth of 1.7% per year for the period 2005-2030.

⁵⁸ In accordance to the White Paper for Transport and the IA report accompanying the TEN-T Guidelines, the time horizon for the baseline scenario for transport is 2030/2050, with intermediate results for 2020.

⁵⁹ For instance, in the field of TEN-T, the role of the European Coordinators and the Open Method of Coordination will be continued.

resource-efficient manner and will not be able to deploy by 2020 the networks needed for greater market integration, competitive energy choices and security of supply for energy consumers and business. Given the investment challenge of around €200 billion⁶⁰ in and the urgency, the existing regulatory framework is not sure to deliver on EU infrastructure priorities.⁶¹ Furthermore, even if there was more private debt and equity available on the market, more complex types of projects of European significance would still not be delivered. Without a step change in the way energy infrastructure of European significance is supported the Commission estimates that a significant share of the needed investment until 2020 will not be delivered on time under the existing framework.

The continuation of the current TEN-E approach to financing, with limited amounts of EU funding focussed on studies rather than works and no reiteration of the European Energy Programme for Recovery. As a result, projects of European significance would continue to mainly receive EU grants for feasibility and front-end engineering and design studies. Financial support for the construction of projects would remain very limited: An expected € 55 million of the available funds of € 155 million would cover works expenses. In addition, EU allowed co-financing rates for works would continue to be insufficient to address the risks of the projects, attract private investors and boost the deployment and implementation of certain projects. Indeed, as demonstrated by the EEPR experience, for projects aiming at increasing security of supply, a co-financing rate of 50% or more can be necessary to unblock the project while the current TEN-E co-financing rate is capped at 10% of the construction costs. As a result, only investments with a sufficiently high direct benefit for the investor(s) would be realised. No support would be available under the TEN-E budget for projects outside the EU, which would continue to benefit from various other EU programmes. The range of financial facilities available through the EIB would not evolve (no specific financial instruments would be made available by the EIB and the lending volumes towards energy grid infrastructures would remain the same or possibly decrease).

In conclusion, targeted EU support to incentive and leverage private and public investment for the deployment of major EU energy infrastructure priorities that would contribute to market integration, improving the EU's security of supply, connecting renewables or increasing the EU's energy systems' flexibility will not be possible. Only investments with a sufficiently high direct and short-term commercial benefit for the investor(s) would be realised, which would be insufficient to meet the challenge arising from the step change in investments⁶².

The baseline scenario in the field of **transport infrastructure** consists of the current TEN-T Guidelines and a TEN-T Programme, together with other sources of funding such as the Cohesion Fund and ERDF. According to the current forecasts drawn up in cooperation with the Member States, the total investment cost of the 30 TEN-T Priority Projects will be realised by 2025, which would represent an accelerated implementation pace. The National transport plans currently discussed between the Commission and the Member States in the Framework of the Open Method of Coordination have also been taken into account in this forecast.

The Commission will continue its efforts to encourage Member States to coordinate their infrastructure policies, with a view to exchanging best practices and identifying obstacles to funding and solving cross-border constraints. In particular, the Open Method of Coordination is expected to have a certain impact through fostering transparency and up-to-date monitoring of project planning and implementation across Europe. Moreover, the European Institutions

⁶⁰ More details on the investment needs and financial gaps is provided in box 1 below.

⁶¹ Impact Assessment accompanying the document Regulation laying down rules for the implementation of European energy infrastructure priorities SEC (2011) XXX

⁶² See also conclusions from the 2009 TEN-E Implementation Report (COM(2010)203 and SEC(2010)505) and SEC(2010)1396.

and Member States will continue to rely on the work of the European Coordinators, taking care of 11 of the most difficult Priority Projects of the TEN-T network.

The consequences of an 'unchanged policies' scenario would be a slow implementation of the current Priority Projects, with a limited development of interoperability and multimodality, hampering the functioning of the transport system. The free movement of goods will remain constrained by the low level of infrastructural interconnectivity between the European markets, especially as concerns the peripheral areas of Europe. The current market segmentation of the Internal Market will thus endure, limiting the choice for consumers and the size of market for enterprises, especially for small businesses.

As regards **ICT infrastructure**, in the field of broadband, bandwidth demand from current applications alone, such as high-definition video, is projected to quickly saturate current broadband networks capacity if no substantial upgrades are implemented. Broadband demand in the next ten years will not only be shaped by the current set of applications available, but will be determined by many new innovative applications and services (e.g. high-definition tele-presence, cloud computing, telemedicine and remote surgery, remote learning (virtual campuses)) which would need expanded bandwidth to operate efficiently.

Lack of EU support to the implementation of digital infrastructure services means that common technical specifications, pilot and test versions of these infrastructures already built up by past and current programmes like the CIP ICT PSP would probably cease to exist. It would also be more difficult to achieve pan-European interoperability as member States do not have sufficient incentive to fund common digital service infrastructure. Hence, benefits from cross-border positive externalities could not be fully reaped and there would be a situation whereas some ⁶³Member States would seek individual solutions.

Any European cross border service solutions in support of the digital internal market would need EU support, in addition to national financial investments.

2.5.3. *Global sensitivity analysis*

Considering the high degree of uncertainty surrounding projections over a relatively long time horizon, especially for such complex systems as transport, energy and digital infrastructures and networks, an evaluation is provided below for the possible impact of external factors on the assumptions underlying the baseline scenario, in addition to the sensitivity analyses that were carried out in the impact assessments of the sector specific Guidelines in which the influence of external factors on macroeconomic assumptions are assessed⁶⁴.

First, the high degree of uncertainty regarding budgetary constraints at the Member States level needs to be taken into consideration. The development of extremely costly hard and soft infrastructure depends very much on the public and private resources available.

Fiscal austerity and structural reforms in many EU countries will drive or have already driven public authorities to reassess their infrastructure investment programmes as well as those related to public private partnerships (PPPs).⁶⁵

⁶³ Investments in cross-border interoperability would have a positive knock-on effect at local level as Member States would replicate the model in deployment service interoperability within regions and municipalities.

⁶⁴ The impact of the macroeconomic environment on the investments needs and the level of investments realised is studied in the Impact Assessment accompanying the sector specific Impact Assessments, as well as, for Energy, in the IA accompanying the Communication Energy infrastructure priorities for 2020 and beyond - A Blueprint for an integrated European energy network (SEC(2010)1395)

⁶⁵ For example, "in Portugal and Spain, stopping or postponing infrastructure projects by downscaling investment expenditures is one of the most important contributions on the expenditure side. In Spain, a reduction

The economic downturn has slowed down companies investment plans and infrastructure is not exception; due to a number of uncertainties as regards the economic/regulatory environment, reduction of agreed support under existing incentive schemes, scaling down of public investment programmes, taxation, impact of sovereign rating on investor behaviour, etc). Finally, potential future liquidity shortages of financial institutions will have an impact on the availability of financing even for healthy corporates and projects⁶⁶.

Moreover infrastructure projects entail risk elements such as greenfield, new technologies, uncertain business case as regards future revenue flows, regional aspects including the influence of the sovereign crisis and cross-border impact making the project development and implementation demanding and less attractive for private sector financiers and investors. In addition, in case of private sector financing, depending on the sector, the project, the economic situation in the country or region as well as national regulations and the maturity of the financial/capital markets there can be a greater need for either debt or equity support. Alike, as the risk-return profile of infrastructure projects change during the lifecycle (preparation and planning, construction and ramp-up operations and subsequent operational period with more predictable revenue flow), higher revenues from projects could free resources for further investment.

However, in the baseline scenario described above, the level of investments does not only depend on future economic growth, fiscal constraints in the Member States or access to financing for private investors. Most of the infrastructure projects need major political support and long-term determination in order to be implemented, including revised political selection of projects, revised implementation mechanisms or co-financing rates. For instance, projects that have no direct benefits for private investors or that are not suited for them due to their size for instance, such as a project aiming at ensuring a better security of supply or major cross-border transport project (such as a tunnel through the alps) are unlikely to happen even if the economic context were favourable. They require a radical change in the way projects are currently selected, co-financed and implemented.

The extent to which these factors will affect the implementation of infrastructure projects resulting from the sector specific guidelines is uncertain. However, the degree of uncertainty will be reduced by the creation of the CEF with its strengthened and more targeted financial EU contribution. In sum, although there are considerable uncertainties related to large scale EU infrastructure projects, the CEF would to a certain extent counter-balance these and consequently reduce risks perceived by investors, thus increasing their incentives to invest in infrastructure projects.

Lastly, the way projects of high EU added value are being selected and implemented has an impact on the level of investments. This question is dealt with in the Impact Assessments accompanying the sector specific Guidelines.

Box 1: Investments needs and financing gap

As part of the Baseline scenario, the Commission has identified investment needs and financing gaps for infrastructure and networks in the field of energy, transport and digital

of 0.5% of GDP is planned between 2011 and 2013. In Portugal, cumulative savings on investments will amount to 1.2% of GDP by 2013. In Ireland and Slovenia, infrastructure spending will be reduced, respectively, by 1.6% of GDP from 2011-14 and 0.8% of GDP in 2010-13". OECD, Restoring public finances, 2011.

⁶⁶ The impact of private financing and financing instrument for infrastructure on investment is studied in the Impact Assessment accompanying the proposal on the Europe 2020 Project Bond Initiative pilot phase 2012-2013

infrastructures.

Firstly, the figures for **investment needs**, based on a number of studies, represent the level of investment needed in order to realise infrastructures and networks of high European Added value. These infrastructure have been selected according to specific criteria that are listed in the sector specific Guidelines. For instance, they consist: of missing links between the main axes of the national transport networks; of electricity and gas transmission systems in order to complete the internal energy market and infrastructure improving security of supply; and of the pan-European digital service infrastructure.

The Commission estimated the total investment needs between €1.5 trillion and €2 trillion in total for the three sectors. Among those needs, only a fraction of it can realistically be realised before 2020. The Commission has calculated that from now until 2020, €500 billion will be needed for the implementation of the Trans-European Transport Network (TEN-T) programme, of which €15 billion is for the removal of the main bottlenecks in the so called transport "core network". In the energy sector, public and private entities in the Member States will need to spend around €400 billion on distribution networks and smart grids, another €200 billion on transmission networks and storage as well as €500 billion to upgrade and build new generation capacity between now and 2020⁶⁷. Finally, up to €270 billion in capital investment is required to bring fast and ultra-fast broadband to all households by 2020. Secondly, **financing gap** represent the investment needs minus the capacity of the public and private sector to realise those investments. Even though the bulk of the investment under Europe 2020 strategy can be delivered by markets and regulatory measures, some investments of high European added value are not going to be realised due to the nature of the project (no direct commercial interest or not a priority for national and regional public investments). Financing gap therefore refers to the investments of high EU added value that are "at risk" (of not being realised). They can also be referred to as part of the "market gap". Unlike the investment needs, which are not dependent on economic uncertainties, the financing gap can be reduced if the economic environment is favourable to private and public investments.

The three sectors are different in terms of financing gap. In transport, the great majority of investments are made by the public sector; moreover, most of the project with high EU added-value such as cross-border connection would not be realised without the regulatory and financial contribution of the Union. No general figure can be given for transport due to the political nature of the cross-border projects. However, the Commission has identified that the removal of the main bottlenecks in the so called transport "core network" (with the highest EU Added Value) would amount to about €215 billion. For each of the projects, there is a different co-funding rate or type of innovative instrument necessary in order to have the project being implemented. The Commission has developed different scenario with different co-funding rates in order to calculate the amount of EU co-funding needed to remove the bottlenecks.

In the energy sector, the investments of high EU added-value, mostly carried out by private investors, depend on the regulatory environment (and therefore of the regulatory measures to

⁶⁷ Commission Staff Working Paper, Energy infrastructure investment needs and financing requirements; SEC(2011) 755 final

⁶⁸ See Impact Assessment to the revised energy infrastructure Guidelines and the Impact Assessment to the Communication "Energy infrastructure priorities for 2020 and beyond - A Blueprint for an integrated European energy network" COM(2010) 677 final

⁶⁹ See Impact Assessment to the INFSO Guidelines

⁷⁰ See also Annex 3

be adopted by the Commission in the form of the Guidelines) and the possible contribution from the public sector. The Commission has identified an amount of €100 billion being at risk, including electricity interconnectors, off-shore grids, electricity storage and smart grids, gas interconnectors and CO² transportation⁶⁸.

As for telecommunications and broadband networks, an investment gap of up to €20bn has been identified. In order to attain a critical investment level it is likely that some degree of credit enhancement and/or other financial instruments will be needed to trigger the investment⁶⁹.

In view of the level of financing gap identified in the three sectors, the €50 billion proposed under the Connecting Europe Facility only cover a small amount of these gaps. Moreover, the funds available under the CEF will be made available primarily for projects with high European added value, often of cross-border nature, which are projects for which Member States and private investors are not willing to invest. Therefore, the funds available under CEF will not crowd out other sources of funding⁷⁰.

2.5.4. *Conclusions*

In the scenario of unchanged policies, notably with the continuation of the 2007 – 2013 approach as for the EU budget available for European infrastructure in the field of energy, transport and ICT, the development of infrastructure of European Added Value is unlikely to happen by 2020. The involvement of the private sector will remain limited, even on projects with long-term potential commercial interest. Major trans-European connections, including those with neighbouring countries, will remain missing, particularly for projects facing major technical difficulties or limited commercial interest for project promoters. As a consequence, projects favouring security of energy supply (including those crossing EU borders) or connections to peripheral areas will not be implemented.

This will have detrimental impacts⁷¹ at socio-economic level, with imperfect functioning of the internal market or limited job creation due to sub-optimal infrastructure investments. In addition, the EU economic performance will not benefit from increased connectivity, accessibility and connections between neighbouring countries.

The impacts on environmental and climate change objectives are also likely to be insignificant with the continuation of the current policies: the absence of development of new transport infrastructure favouring a modal shift to cleaner modes of transport will not be the expected positive impacts of these new infrastructures in terms of reduction of CO₂ emissions. Without the energy infrastructure enabling the integration of renewable energies across the EU network and smart grids, linking North and South and isolated regions, the EU will not be able to meet its energy and climate targets in a cost and resource efficient manner.

3. OBJECTIVES

This section defines the general, specific and operational policy objectives of the proposed initiative, discusses possible trade-offs between the search for synergies and the objectives of the sector-specific policy frameworks and verifies their consistency with other EU horizontal objectives.

⁷¹ The economic, social and environmental impacts of the business-as-usual scenario will be further developed in section 5 of this document.

3.1. Policy objectives

General objective

As defined in the MFF Communication, the overarching objective of the *CEF is to accelerate the infrastructure development that the EU needs to reach the EU 2020 Strategy associated energy and climate change targets and, more generally, to achieve its future sustainable competitiveness.*

In order to meet this goal and in light of the problem identified in section 2 above, the general objective of the initiative accompanied by this IA is therefore to make the Connecting Europe Facility a success in operational terms by, i.e. to define operating rules governing the use of funds under the CEF that will optimally address the problems identified in the two main policy areas of EU infrastructure while concentrating, in particular, on simplifying TEN infrastructure funding provisions currently in place in the three sectors. As highlighted in the MFF Communication, one of the major hallmarks of the Commission in putting forward revised proposals for financial programmes and instruments is the simplification of, current sector specific rules. ,

At the same time, since this initiative is developed within the larger context of the implementation of the EU budget over the 2014-2020 MFF, its aim is to contribute also to achieving the objectives set out by the Commission in its related policy documents: the "EU Budget Review" Communication and the MFF Communication. More specifically, the CEF operating rules will also need to follow the main principles for the future management of the EU funds: focusing on delivering key policy priorities - "directing resources where the rewards can come more quickly, more broadly and more strongly"; focusing on the EU added value - "plug gaps left by the dynamics of national policy-making, most obviously addressing cross-border challenges in areas like infrastructure, mobility, territorial cohesion..."; being results driven, with action "measured in terms of real impact, rather than in terms of the inputs involved"; delivering mutual benefits across the European Union.⁷²

Specific objectives (SO)

In light of the above and in order to address the problem identified earlier in this IA report, the general objective of this initiative, respectively putting in place optimal operating rules for the use of EU funds pooled within the CEF can be translated into two specific objectives:

- SO 1:** Increase the leverage of EU funds by defining forms, methods and rules of financing to ensure maximal leverage of EU budget contributions in attracting public and private investments for projects with a European and Single Market dimension, in particular priority networks that must be implemented by 2020, and where European added value is most warranted including, where appropriate, those crossing the EU borders.
- SO 2:** Facilitate the timely delivery of EU co-funded projects by defining monitoring and evaluation mechanisms that reward performance and penalise non-effective use of EU funds with a view to ensure the effective and timely implementation of the projects supported.

Operational objectives (OO)

⁷² COM(2010) 700 final, p. 4-6.

These specific objectives can be translated in a number of **operational objectives**:

As regards investment leverage:

- *OO 1*: Define objectives and multi-level criteria for proposal evaluation in order to ensure that funding is channelled on actions implementing projects with high EU added-value.
- *OO 2*: Define co-funding maximum rates for EU support for projects according to priorities set in terms of EU added-value and risk/market failures faced by the projects. Allow flexible use of these rates, in order to maximise the leverage of EU funding contributions.
- *OO 3*: Encourage the participation of specialised infrastructure investors by means of rules for the use of market based instruments, and by making available sufficient funds for support of innovative instruments.

As regards programme implementation (programming and support):

- *OO 4*: Define rules for proposal selection in order to ensure a competitive and transparent allocation of funds.
- *OO 5*: Establish a consistent framework for monitoring and evaluation to support decisions for continuing, discontinuing or recalibrating EU funding support (i.e. the "use it or lose it" principle, rules for ensuring that the competitive re-allocation of funds is made on transparent and highly competitive bases).
- *OO 6*: Set up an adequate institutional structure for the centralised management of the programme.

Operational objectives have not been quantified because the specificities of the three sectors would not allow defining common quantitative targets in all cases. This is the case for instance for OO3. Indeed, it is not possible to define common target on the number of specialised investors to be involved across the sectors given the different use and proportion of funding instruments between the sectors. The evaluation of achievement of the objectives needs therefore to be assessed on a case by case basis on the basis of the tools defined in section 7 below.

Table 2: Mapping problem, drivers and objectives

<i>Problem</i>		<i>General objective</i>	
The 2011 Communication did not define the operating rules of the CEF.		Establish optimal operating rules governing the use of funds under the CEF while exploiting as much as possible synergies between sector, particularly in the case of cross-sectoral projects	
<i>Policy areas (PA)</i>		<i>Specific and operational objectives</i>	
<i>PA1</i>	<i>Investment leverage</i>	<i>SO1</i>	Define forms and methods of financing to ensure maximal leverage of EU budget contributions in attracting public and private investments for projects with a European and Single Market dimension, in particular priority networks that must be implemented by 2020, and where European added value is most warranted
	Targeted funding	<i>OO1</i>	Define objectives and multi-level criteria for proposal evaluation in order to ensure that funding is channelled on actions implementing projects with high EU added-value.
	Co-funding rates	<i>OO2</i>	Define co-funding maximum rates for EU support for projects

			according to priorities set in terms of EU added-value and risks/market failures faced by projects. Allow flexible use of these rates, in order to maximise the leverage of EU funding contributions.
	Instruments	OO3	Encourage the participation of specialised infrastructure investors by means of rules for the use of market based instruments, and by making available sufficient funds for support of innovative instruments.
PA2	<i>Programme implementation</i>	SO2	Define monitoring and evaluation mechanisms that reward performance and penalise non-effective use of EU funds with a view to ensure the effective and timely implementation of the projects supported.
	Funding application and support	OO4	Define rules for proposal selection in order to ensure a competitive and transparent allocation of funds.
	Monitoring and evaluation	OO5	Establish a consistent framework for monitoring and evaluation to support decisions for continuing, discontinuing or recalibrating EU funding support (i.e. the "use it or lose it" principle, rules for ensuring that the competitive re-allocation of funds is made on transparent and highly competitive bases).
	Programme management	OO6	Set up an adequate institutional structure for the centralised management of the programme.

3.2. Possible trade-offs between the search for synergies and the objectives of the sector specific policy frameworks

The optimisation of CEF operating rules should take place taking into account two associated overarching policy goals of the EU, namely the sector specific policy objectives in the field of infrastructures as defined in Articles 170 and 171 of the TFEU first indent and the simplification of the EU funding rules, notably derived from synergies between sectors, to which the Commission committed itself.⁷³ The commitment of the Commission to pursue the goal of simplifying EU funding rules has been reiterated in the MFF Communication.

These two policy goals may however lead to trade-offs when defining CEF optimal operating rules. Indeed, a complete harmonisation of CEF operating rules between the three sectors may induce inconsistencies in each sector with its own policy objectives, leading in the end to a suboptimal use of EU funds by the CEF.

Therefore, finding the appropriate balance between coherence with sector policy objectives and maximisation of synergies will be key in defining CEF optimal operating rules. This appropriate balance only will ensure that CEF operating rules are optimal, i.e. that they are designed in such a way that a maximum value for money is attained.

3.3. Coherence with other horizontal policies

As indicated above, the proposed initiative is fully consistent with the MFF Communication and its accompanying document. Besides, the EU 2020 strategy, the EU Budget Review, the Single Market Act⁷⁴ and the MFF Communication have set the scene for the proposed

⁷³ See, for example, the Communications on the Budget Review (COM(2010)700) and Smart Regulation (COM(2010) 543).

⁷⁴ The Single Market Act adopted by the Commission on 13th April 2011 sees European networks as one of the levers to unlock the growth and jobs potential of the Single Market and to reinforce citizens' confidence in its benefits. One of its twelve key actions is legislation for energy and transport infrastructure to identify and roll-out projects of European interest, ensuring intermodality and interoperability (COM(2011) 607).

initiative. Its general objective of defining optimal operating rules of the CEF are fully consistent with the objectives of the above-mentioned horizontal policies as recalled in section 2 of this IA report. The Cohesion Fund and the ERDF will continue to be available for funding transport infrastructure, ICT and energy distribution networks. More generally, this policy initiative will ensure that actions funded under the CEF will be carried in conformity with the Union law, including as concerns market distortions and state aid rules, and will take into account any relevant Union policies, such as, for example, the efforts to liberalise the markets in the three sectors concerned.

4. POLICY OPTIONS

As identified in section 2 of this report, the problem that needs to be addressed in defining the CEF operational rules is to address the shortcomings highlighted by ex-post evaluations and stakeholder consultations with regard to TEN financial programmes implementation so far (namely in the two main policy areas identified – investment leverage and programme implementation), while concentrating, in particular, on the simplification of the current EU infrastructure funding framework rules by drawing on synergies across sectors.

Drawing on the recommendations of the same ex-post evaluations, stakeholder, as well as internal consultations, the Commission proceeded to the identification of a range of possible policy options that could address the problem identified earlier, and help to achieve the objectives set out in section 3 above of this IA report. This process of identification of the policy options has been developed on two parallel tracks, which together will feed into the decision of the Commission with regard to the specific measures proposed in its policy initiative.

A first track has had as starting point the central rationale underlying the Commission's decision to propose the establishment of a common TEN infrastructure funding facility, i.e. to simplify the existing EU funding framework by drawing on sectoral synergies. It has provided the main conceptual grid that guided the Commission in developing the main alternative policy options, starting from a range of policy scenarios for each of the two main fields of policy intervention (investment leverage and programme implementation), corresponding to the three basic options for financial rules simplification, i.e. of minimal, maximal and variable harmonisation of sectoral rules.

A second track has had as starting point the need to address the shortcomings, as highlighted by the ex-post reviews and stakeholder consultations, of current sectoral provisions for each area of policy measures, within both main policy fields of intervention identified. Based on the recommendations of the same reviews and consultations, the Commission has considered, in a first instance, what could constitute the best option for addressing these shortcomings separately for each of the six policy measures identified in each of the three sectors, making abstraction of the need to simply the rules across the sectors. Starting from this "ideal" policy measures responses, the Commission has then considered the extent to which these responses overlap, or allow generalisation of the successful experience in one sector to the other two, with regard to a certain area of policy measures. This assessment, presented in detail in Annex 5, would later provided the basis for specifying the actual content of the policy options on distinct and/or common provisions between the three sectors, depending on the outcome of the impact analysis of the main policy options (as generated according to the degree of harmonisation) with regard to what would constitute the preferred policy way(s) forward assessing the effectiveness, efficiency and coherence in addressing the policy objectives, as presented in section 6 below.

4.1. Identification of generic scenarios for investment leverage and programme implementation

Taking as starting point the central rationale underlying the Commission's decision to propose the establishment of a common TEN infrastructure funding facility, i.e. to simplify the existing EU funding framework by drawing on sectoral synergies, a range of possible generic policy scenarios in each policy area (investment leverage and programme implementation) has been developed. These scenarios are presented in the Tables 3 and 4 below.

The potential added value of exploiting synergies for accelerating the implementation of TENs has long been acknowledged.⁷⁵ However, efforts to this end have been limited so far and the policy framework differences, stemming from sector specificities, have reinforced the tendency – natural in the first stages of developing a sector specific policy framework – to focus on specificities rather than on commonalities.

With a view to explore further the synergies between the three sectors at the level of the operational rules of the CEF, the scenarios developed for each policy area (investment leverage and programme implementation) have been designed in such a way that they explore three degrees of harmonisation across sectors: minimal harmonisation, maximal harmonisation and 'à la carte' or variable harmonisation. Each policy scenario is composed of the corresponding component elements of the CEF identified in section 2 above.

Three "**investment leverage**" scenarios (the L scenarios) have been envisaged (see Table 3 below). As identified earlier, the scope of improving the leverage of EU funding support can be done in three areas of policy measures, which will give the CEF components/instruments: multi-level criteria for evaluation the EU added-value of projects, level of co-funding rates, and the use of financial instruments. Three "**programme implementation**" scenarios (the I scenarios) have been elaborated following the same methodology (see Table 4 below), along three further areas of policy measures: procedural rules for organisation of calls and allocation of funds; monitoring instruments and rules for the implementation of the "use it or lose it principle", management structure.

⁷⁵ On 20 July 2005, at the request of the Commission, a steering group was set up to examine the possible synergies between the trans-European networks along with methods of funding and potential distribution. It has established that synergies between the transport and telecommunications networks appear the most promising and ways of interconnecting the electricity networks were also worth exploring. See SEC(2007)135, "Trans-European Networks: Towards an integrated approach".

Table 3: Investment leverage scenarios

<i>CEF components</i>	<i>Levels of harmonisation across sectors</i>		
	Minimal (LMin)	Maximal (LMax)	Variable (LVar)
<i>objectives and (multi-level) criteria for transparent evaluation of proposals according to their EU added-value</i>	Distinct objectives and criteria according to sectoral priorities	Common objectives and criteria based on overall Europe 2020 Strategy and Budget for Europe 2020 priorities	Common objectives and criteria based on overall Europe 2020 Strategy & Budget priorities but adapted where necessary to better target sectoral priorities within overall priorities
<i>co-funding rates</i>	Distinct rates for each sector and type of action	Common rates for all sectors for each type of action	Common rates for certain types of actions (studies for instance); specific rates for certain actions, depending on sectoral policy priorities
<i>financial instruments</i>	Distinct mix of instruments for each sector	Common mix of instruments	Distinct mix for each sector formed of: - a common set of equity and debt instruments; -different additional specific instruments

Table 4: Project implementation scenarios

<i>CEF components</i>	<i>Levels of harmonisation across sectors</i>		
	Minimal (I Min)	Maximal (I Max)	Variable (I Var)
<i>procedural rules for organisation of calls and allocation of funds</i>	Distinct calls procedures for each sector	Common calls procedures	Common calls and procedures where possible to encourage actions that make use of a cross-sectoral synergies such as smart grids (combining energy hardware and ICT software), transport & ICT services, bundling of energy, transport and ICT infrastructure, ...and distinct sectoral calls and procedures where necessary to meet sector specific needs
<i>monitoring instruments and rules for the implementation of the "use or lose it" principle, including competitive funding re-allocations</i>	Distinct sets of monitoring instruments and "use it or lose it" rules for each sector	Single set of monitoring instruments and "use it or lose it" rules	A core set of common/harmonised (??) monitoring instruments and "use it or lose it" rules with specific instruments and adapted/target rules to take into account sectoral characteristics
<i>(centralised) management structure (executive agency)</i>	Distinct management structure (executive agency) for each sector	Single management structure (executive agency)	Single executive agency as common management structure but with various degrees of delegation of tasks by the Commission services in each sector

4.2. Identification of policy options

4.2.1. Identification of (theoretically) possible alternative policy options

As pointed out earlier, the ex-post review and consultation processes made apparent that a number of shortcomings in all policy areas, both with regard to investment leverage and to programme implementation would need to be addressed for the new TEN infrastructure financing framework to be a success.

In light of this, the interaction between each of the three scenarios envisaged for action at the level of investment leverage with each of the three scenarios envisaged for action at the level of programme implementation has been considered within alternative policy options. In total, nine possible alternative policy options, constituting potentially viable policy alternatives for achieving the objectives identified in section 3 above, were thus initially generated. These nine policy options are presented in table 5 below.

The resulting policy options consist of combinations of various degrees of harmonisation of investment leverage and of programme implementation, respectively. The range of options can be situated between two extremes: at the one extreme, minimum harmonisation of investment leverage and programme implementation and at the other extreme, maximum investment leverage and programme implementation. In between the extremes, there are several intermediary options, which consist of combinations of minimum and maximum harmonisation levels as well as of variable harmonisation levels. To illustrate, the policy option characterised by minimum harmonisation of investment leverage and programme implementation refers to a situation where sectors would have specific rules and set-ups within the CEF. The policy option characterised by maximum investment leverage and programme implementation refers to a situation where sectors would have common rules and set-ups within the CEF.

Intermediary policy options refer to a situation whereby sectors would share certain rules and set-ups whereas other would remain distinct to the sectors. These options represent the large majority of the identified policy options. Whereas some of the intermediary policy options may be less efficient and effective for reasons of lack of coherence, other intermediary options may allow preserving sector specificities while harmonising all other aspects where possible synergies would be present.

Table 5: Identification of possible Policy Options

<i>Leverage Implementation</i>	<i>L Min</i>	<i>L Max</i>	<i>L Var</i>
<i>I Min</i>	<p>L Min – I Min (Baseline under CEF)</p> <p>Distinct objectives and criteria for evaluation of proposals' EU added-value according to sectoral priorities</p> <p>Distinct co-funding rates for each sector and type of action</p> <p>Distinct mix of financial instruments for each sector</p> <p>Distinct calls and selection procedures for each sector</p> <p>Distinct sets of monitoring instruments and "use it or lose it" rules for each sector</p> <p>Distinct management structure/executive agency for each sector</p>	<p>L Max – I Min</p> <p>Common objectives and criteria for evaluation of proposals' EU added value based on overall Europe 2020 Strategy and Budget for Europe 2020 priorities</p> <p>Common co-funding rates for all sectors for each type of actions</p> <p>Common mix of innovative instruments</p> <p>Distinct calls and selection procedures for each sector</p> <p>Distinct sets of monitoring instruments and "use it or lose it" rules for each sector</p> <p>Distinct management structure/executive agency for each sector</p>	<p>LVar – I Min</p> <p>Common objectives and criteria for evaluation of proposals' EU added value based on overall Europe 2020 Strategy & Budget priorities but adapted where necessary to better target sectoral priorities within overall priorities</p> <p>Common rates for certain types of actions (studies for instance); specific rates for certain actions depending on sectoral policy priorities</p> <p>Distinct mix of financial instruments for each sector formed of:</p> <ul style="list-style-type: none"> - a common set of equity and debt instruments; -different additional specific instruments <p>Distinct calls and selection procedures for each sector</p> <p>Distinct sets of monitoring instruments and "use it or lose it" rules for each sector</p> <p>Distinct management structure/executive agency for each sector</p>
<i>I Max</i>	<p>L Min – I Max</p> <p>Distinct criteria for evaluation of proposals' EU added-value according to sectoral priorities</p> <p>Distinct co-funding rates for each sector and type of action</p> <p>Distinct mix of financial instruments for each sector</p> <p>Common calls and procedures</p> <p>Single set of monitoring instruments and "use it or lose it" rules</p> <p>Single management structure (executive agency)</p>	<p>L Max – I Max</p> <p>Common objectives and criteria for evaluation of proposals' EU added-value based on overall Europe 2020 Strategy and Budget for Europe 2020 priorities</p> <p>Common co-funding rates for all sectors for each type of action</p> <p>Common mix of innovative instruments</p> <p>Common calls and procedures</p> <p>Single set of monitoring instruments and "use it or lose it" rules</p> <p>Single management structure (executive agency)</p>	<p>LVar – I Max</p> <p>Common objectives and criteria for evaluation of proposals' EU added value based on overall Europe 2020 Strategy & Budget priorities but adapted where necessary to better target sectoral priorities within overall priorities</p> <p>Common rates for certain types of actions (studies for instance); specific rates for certain actions depending on sectoral policy priorities</p> <p>Distinct mix of financial instruments for each sector formed of:</p> <ul style="list-style-type: none"> - a common set of equity and debt instruments; -different additional specific instruments <p>Common calls and procedures</p> <p>Single set of monitoring instruments and "use it or lose it" rules</p> <p>Single management structure (executive agency)</p>

<i>I Var</i>	L Min – I Var	L Max – I Var	LVar – I Var
	Distinct criteria for identifying EU added-value of proposals according to sectoral priorities	Common objectives and criteria for evaluation of proposals' EU added-value based on overall Europe 2020 Strategy and Budget for Europe 2020 priorities	Common objectives and criteria for evaluation of proposals' Eu added value based on overall Europe 2020 Strategy & Budget priorities but adapted where necessary to better target sectoral priorities within overall priorities
	Distinct co-funding rates for each sector and type of actions	Common co-funding rates for all sectors for each type of actions	Common rates for certain types of actions (studies for instance); specific rates for certain actions depending on sectoral policy priorities
	Distinct mix of financial instruments for each sector	Common mix of innovative instruments	Distinct mix of financial instruments for each sector formed of: - a common set of equity and debt instruments; -different additional specific instruments
	Common calls and procedures where possible and distinct sectoral calls and procedures where necessary to meet sector specific needs	Common calls and procedures where possible and distinct sectoral calls and procedures where necessary to meet sector specific needs	Common calls and procedures where possible and distinct sectoral calls and procedures where necessary to meet sector specific needs
	A core set of common/harmonised monitoring instruments and "use it or lose it" rules with specific instruments and adapted/target rules to take into account sectoral characteristics	A core set of common/harmonised monitoring instruments and "use it or lose it" rules with specific instruments and adapted/target rules to take into account sectoral characteristics	A core set of common/harmonised monitoring instruments and "use it or lose it" rules with specific instruments and adapted/target rules to take into account sectoral characteristics
	Single executive agency as common management structure but with various degrees of delegation of tasks by the Commission services in each sector	Single executive agency as common management structure but with various degrees of delegation of tasks by the Commission services in each sector	Single executive agency as common management structure but with various degrees of delegation of tasks by the Commission services in each sector

4.2.2. *Pre-screening of envisaged alternative policy options*⁷⁶

Due to the high number of the resulting (theoretically) possible options, the nine scenario combinations have been submitted to an initial pre-screening, in order to assess their internal coherence as policy options, on the one hand, and their capacity to effectively address the identified problem drivers and corresponding specific policy objectives, on the other. In addition, their coherence with the Commission's aim of improving the effectiveness of the current financial framework by, inter alia, simplifying/harmonising to the extent possible current rules, has also been assessed. It became thus apparent that three of the nine theoretical combinations would not constitute viable policy options: two (L Max – I Min and L Min – I Max) for reasons of (lack of) compatibility between scenarios, i.e. for lack of internal coherence as policy options; and one other (L Min – I Min) for lack of effectiveness in attaining the objectives CEF has been established to reach. The reasoning leading up to this conclusion is presented briefly below.

Maximising harmonisation of CEF instruments aimed at leveraging the impact of EU funding across the three sectors (L Max), while maintaining distinct implementation instruments at sectoral level (I Min), would hardly reflect a coherent policy approach on the part of the Commission. For example, having a distinct set of monitoring instruments for each sector would not be justifiable/possible insofar as the co-funding rates set and the mix of financial instruments used are identical for all sectors. Similarly, organising distinct calls for proposals with distinct selection procedures, managed by separate executive agencies would contradict the logic of simplification of the policy framework applied at the level of the instruments concerning the leverage of funding.

By the same token, maximising harmonisation across sectors in terms of instruments of implementation (I Max) constitutes an effort of simplification and of exploiting potential synergies that would be offset by the lack of efforts in the same direction at the level of funding leverage instruments (L Min). Thus, a single set of instruments would likely prove inappropriate for monitoring distinct sets of financial instruments or actions with likely importantly diverging co-funding rates. Similarly, applying the same set of rules enforcing the "use it or lose it" principle for actions benefitting of distinct co-funding rates would rather suggest short-sightedness or inflexibility on the part of the Commission than capacity to streamline the approach to providing EU support for TEN project development.

Finally, maintaining a minimal level of harmonisation of instruments aimed at both leveraging the impact of EU funding and ensuring an efficient implementation (L Min – I Min) would prove little effective in addressing the policy objectives set out. As pointed out earlier, the main difference between this option and the baseline scenario is that it will mainly contribute to streamlining EU infrastructure funding frameworks within sectors, but will fail to address the overarching objectives of simplification across sectors and exploitation of synergies. For this reason, it can be considered as a proxy baseline scenario, and it has been retained in this report in the assessment of options' impacts that follows as the reference scenario.

4.2.3. *Description of the policy options retained for in-depth assessment*

⁷⁶ This section is completed by Annex 5. While this section aims at explaining the logical reasoning leading to the construction of policy options, Annex 5 aims at providing details on the implementation of these options. It therefore gives details on the choice of the multi-level criteria, co-funding rates, procedural rules for the allocation of funds and for the management of the fund. Details on innovative financing instruments are given in Annex 4.

In light of the above pre-screening process, six scenario combinations have been retained for in-depth assessment of impacts, as potentially viable policy options. The detailed description of the option is presented in Table 6 below.

The assessment of impacts in section 6 is made taking as reference the L Min – I Min option, or no harmonisation of rules, which consists in keeping distinctive elements for each sector under the umbrella of the CEF. Thus, with regard to the leverage aspect, in this option each sector retains specific co-funding rates, mix of financial instruments and distinct criteria for selecting actions. As compared to the business-as-usual scenario, the difference lies in the revision and simplification of instruments and rules within each sector in light of the findings and recommendations of ex-post and stakeholder consultations, as well as the systematic introduction of financial instruments such as project bonds.

With regard to implementation aspect, each sector functions along specific selection procedures, monitoring instruments and management structure. The main differences with the Business-as-usual are here again the revision and simplification of rules within sectors, as well as the application of the "use it or lose it" principle and the use of a centralised management structure.

Table 6: Presentation of retained policy options⁷⁷

Option LVar – I Min	Option L Max – I Max
<p><u>Investment Leverage</u></p> <p>(1) <i>Common objectives and criteria for proposal selection based on overall Europe 2020 Strategy & Budget priorities...</i></p> <p><i>... but adapted where necessary to better target sectoral priorities within overall priorities</i></p> <p><i>Common award criteria for proposal selection based on common objectives...</i></p> <p><i>... and adapted where necessary to better target sectoral priorities</i></p> <p>(2) <i>Common grant co-funding rates for certain types of</i></p>	<p><u>Investment Leverage</u></p> <p>(1) <i>Common objectives and criteria for proposal selection based on overall Europe 2020 Strategy & Budget priorities...</i></p> <p>(2) <i>Common grant co-funding rates for all types of actions...</i></p> <p>(3) <i>Common mix of financial instruments</i></p>
<ul style="list-style-type: none"> -contribute to smart, sustainable and inclusive growth, - create an environment more conducive to private and public investment, - provide support for the achievement of specific objectives and priorities as established in the respective sectoral TEN Guidelines - cost-benefit assessment of impacts (economic, social, environmental) - maturity, and soundness of the implementation, of the action proposed -nature or urgency of the project based on needs to overcome specific financial obstacles and lack of market-finance - stimulating effect on public and private funding of the Union financial support - for e.g. transport, addressing cross-border sections and removal of bottlenecks - other specific criteria in the context of annual calls depending on specific sectoral priorities at a certain moment in time 	<ul style="list-style-type: none"> -contribute to smart, sustainable and inclusive growth, - create an environment more conducive to private and public investment - common set of priorities for proposal selection - studies: up to 50% of eligible costs - works: a general rate of up to 50%; increased to max 80% for actions implementing established (common) priorities - investment funds with a focus on providing risk capital for project of common interest with EU capital participation; - loans or other risk-sharing based instruments, including project bonds, issued by a financial institution on its own resources with an EU contribution to the provisioning and capital allocation. - no sector-specific specialised financial instruments envisaged

⁷⁷ The justification for the policy measures proposed in this table is provided in Annex 5.

⁷⁸ For all options envisaged, financial instruments are demand driven and market based schemes which will be implemented by the EIB and the International Financial Institutions (IFIs) or national institutions. Therefore, they will be used to address specific market needs in a cost effective way, in line with the objectives of the programmes, and will not crowd out private financing as explained in Annex 4. They will be targeted on projects that can benefit from an identifiable revenue stream. Grants will aim at supporting projects and actions that cannot benefit from such revenue stream due to their nature. Grants and innovative financing instruments can be combined on a same project.

actions..

...but *specific rates for certain actions depending on sectoral policy priorities*

-*energy*: a general rate of up to 50% of eligible costs; increased to max 80% for actions of particular importance for the regional or EU-wide security of supply

- *transport*: a general rate of up to 20% of eligible costs; increased to max 30% for actions addressing bottlenecks, to max 40% for actions concerning cross-border sections and to max 50% for actions concerning the European Rail Traffic Management System (ERTMS); for actions eligible for funds allocated from the Cohesion Fund, rates of can be increased to max 75%.

-*ICT*: for broadband networks actions, a rate of 20% of eligible costs; for generic services actions, a 75% rate of eligible costs; for actions in the field of applications, 50% of the eligible costs.

- investment funds with a focus on providing risk capital for project of common interest with EU capital participation;
- loans or other risk-sharing based instruments, including project bonds, issued by a financial institution on its own resources with an EU contribution to the provisioning and capital allocation.

- specialised financial instruments developed according to sector and/or project specific needs

(3) *Mix of financial instruments*⁷⁸ for each sector consisting of

- a common set of equity and debt instruments:

-different additional specific instruments:

Programme implementation

(4) *Distinct calls and selection procedures for each sector*

- **energy**: specific calls for annual work programmes, established according to sectoral priorities; continuation of current selection procedures, improved according to results of

Programme implementation

(4) *Common calls and procedures*

- common calls for both multi-annual and annual programmes with common application and selection procedures

- developed by the Commission with the support of the TEN Executive Agency (EA) drawing on the experience and lessons learned of the TEN-T EA and relevant sectoral experience, including results of ex-post and stakeholder consultations.

(5) *Single set of monitoring instruments and "use it or lose it" rules*

- developed by the Commission with the support of the TEN EA on the basis of accumulated experience of the TEN-T EA and relevant sectoral experience, including results of ex-post and stakeholder consultations.

- common "use it or lose it" rules will apply

(6) *Single management structure*

- single TEN Executive Agency managing the entire programme implementation cycle on behalf of the Commission in all three sectors concerned, on the model of the current TEN-T EA

- European Coordinators for complex projects

- TENtec database extended to hold information relevant for all TEN infrastructures

ex-post evaluations and stakeholder consultations

- **transport:** specific calls for multi-annual and annual work programmes; continuation of current selection procedures, , improved according to results of ex-post evaluations and stakeholder consultations

- **ICT:** specific calls for annual work programmes, established according to sectoral priorities; selection procedures developed according to experience acquired with other financial programmes in the field, and adapted to e-TEN requirements

(5) *Distinct sets of **monitoring instruments** and "use it or lose it" rules for each sector*

-**energy:** continuation of current monitoring procedures, improved according to results of ex-post evaluations and stakeholder consultations

-**transport:** continuation of current monitoring procedures, improved according to results of ex-post evaluations and stakeholder consultations

-**ICT:** continuation of current monitoring procedures, improved according to results of ex-post evaluations and stakeholder consultations

(6) *Distinct **management structure**/executive agency for each sector*

-**energy:** TEN-E Executive Agency

-**transport:** TEN-T Executive Agency

-**ICT:** e-TEN Executive Agency

Option LVar – I Max

Option L Var – I Var

Investment Leverage

(1) Common objectives and criteria for proposal evaluation based on overall Europe 2020 Strategy & Budget priorities...

... but adapted where necessary to better target sectoral priorities within overall priorities

Common award criteria for proposal evaluation based on common objectives...

... and adapted where necessary to better target sectoral priorities

(2) Common grant co-funding rates for certain types of actions.

...but specific rates for certain actions depending on sectoral policy priorities

-contribute to smart, sustainable and inclusive growth,
- create an environment more conducive to private and public investment,

- provide support for the achievement of specific objectives and priorities as established in the respective sectoral TEN Guidelines

- cost-benefit assessment of impacts (economic, social, environmental)
- maturity, and soundness of the implementation, of the action proposed
-nature or urgency of the project based on needs to overcome specific financial obstacles and lack of market-finance
- stimulating effect on public and private funding of the Union financial support

- for e.g. transport, addressing cross-border sections and removal of bottlenecks
- other specific criteria in the context of annual calls depending on specific sectoral priorities at a certain moment in time

- studies: up to 50% of eligible costs

-energy: a general rate of up to 50% of eligible costs; increased to max 80% for actions of particular importance for the regional or EU-wide security of supply

- transport: a general rate of up to 20% of eligible costs; increased to max 30% for actions addressing bottlenecks, to max 40% for actions concerning cross-border sections and to max

Investment Leverage

(1) Common objectives and criteria for proposal evaluation based on overall Europe 2020 Strategy & Budget priorities...

... but adapted where necessary to better target sectoral priorities within overall priorities

Common award criteria for proposal evaluation based on common objectives...

... and adapted where necessary to better target sectoral priorities

(2) Common grant co-funding rates for certain types of actions..

...but specific rates for certain actions depending on sectoral policy priorities

- contribute to smart, sustainable and inclusive growth,
- create an environment more conducive to private and public investment,

- provide support for the achievement of specific objectives and priorities as established in the respective sectoral TEN Guidelines

- cost-benefit assessment of impacts (economic, social, environmental)
- maturity, and soundness of the implementation, of the action proposed
-nature or urgency of the project based on needs to overcome specific financial obstacles and lack of market-finance
- stimulating effect on public and private funding of the Union financial support

- for e.g. transport, addressing cross-border sections and removal of bottlenecks
- other specific criteria in the context of annual calls depending on specific sectoral priorities at a certain moment in time

- studies: up to 50% of eligible costs

-energy: a general rate of up to 50% of eligible costs; increased to max 80% for actions of particular importance for the regional or EU-wide security of supply

- transport: a general rate of up to 20% of eligible costs; increased to max 30% for actions addressing bottlenecks, to max 40% for actions concerning

<p>(3) <i>Mix of financial instruments for each sector consisting of</i></p> <p>- a common set of equity and debt instruments:</p> <p>-different additional specific instruments:</p>	<p>50% for actions concerning the European Rail Traffic Management System (ERTMS); for actions eligible for funds allocated from the Cohesion Fund, rates of can be increased to max 75%.</p> <p>-ICT: for broadband networks actions, a rate of 20% of eligible costs; for generic services actions, a 75% rate of eligible costs; for actions in the field of applications, 50% of the eligible costs.</p> <p>- investment funds with a focus on providing risk capital for project of common interest with EU capital participation;</p> <p>- loans or other risk-sharing based instruments, including project bonds, issued by a financial institution on its own resources with an EU contribution to the provisioning and capital allocation.</p> <p>- specialised financial instruments developed according to sector and/or project specific needs</p>	<p>(3) <i>Mix of financial instruments for each sector consisting of</i></p> <p>- a common set of equity and debt instruments:</p> <p>-different additional specific instruments</p>	<p>cross-border sections and to max 50% for actions concerning the European Rail Traffic Management System (ERTMS); for actions eligible for funds allocated from the Cohesion Fund, rates of can be increased to max 75%.</p> <p>-ICT: for broadband networks actions, a rate of 20% of eligible costs; for generic services actions, a 75% rate of eligible costs; for actions in the field of applications, 50% of the eligible costs.</p> <p>- investment funds with a focus on providing risk capital for project of common interest with EU capital participation;</p> <p>- loans or other risk-sharing based instruments, including project bonds, issued by a financial institution on its own resources with an EU contribution to the provisioning and capital allocation.</p> <p>- specialised financial instruments developed according to sector and/or project specific needs</p>
<p><u>Programme implementation</u></p> <p>(4) <i>Common calls and procedures</i></p> <p>(5) <i>Single set of monitoring instruments and "use it or lose it" rules</i></p>	<p>- common calls for both multi-annual and annual programmes with common application and selection procedures</p> <p>- developed by the Commission with the support of the TEN Executive Agency (EA) drawing on the experience and lessons learned of the TEN-T EA and relevant sectoral experience, including results of ex-post and stakeholder consultations.</p> <p>- developed by the Commission with the support of the TEN EA on the basis of accumulated experience of the TEN-T EA and relevant sectoral experience, including results of ex-post and stakeholder consultations.</p>	<p><u>Programme implementation</u></p> <p>(4) <i>Common calls and procedures where possible...</i></p> <p>...and distinct sectoral calls and procedures where necessary to meet sector specific needs</p> <p>(5) <i>A core set of common/harmonised monitoring</i></p>	<p>- common calls for both annual programmes with common application and selection procedures</p> <p>- developed by the Commission with the support of the TEN Executive Agency (EA) drawing on the experience and lessons learned of the TEN-T EA and relevant sectoral experience, including results of ex-post and stakeholder consultations.</p> <p>- distinct calls for multiannual programmes, targeting overall sectoral priorities</p> <p>- developed by the Commission with the support of the TEN EA on the basis of accumulated experience</p>

<p>(6) <i>Single management structure</i></p>	<ul style="list-style-type: none"> - common "use it or lose it" rules will apply - single TEN Executive Agency managing the entire programme implementation cycle on behalf of the Commission in all three sectors concerned 	<p><i>instruments and "use it or lose it" rules with specific instruments...</i></p> <p><i>...and adapted/target rules to take into account sectoral characteristics</i></p> <p>(6) <i>Single executive agency as common management structure but with various degrees of delegation of tasks by the Commission services in each sector</i></p>	<p>of the TEN-T EA and relevant sectoral experience, including results of ex-post and stakeholder consultations.</p> <ul style="list-style-type: none"> - common "use it or lose it" rules will apply - additional monitoring instruments can be developed in the context of the calls (both for the annual and multiannual work programmes) - single TEN Executive Agency assisting the Commission - the extent to which the programme implementation cycle is managed by the EA on behalf of the Commission is different in all three sectors concerned (for e.g. in transport fully; in energy and ICT it will be decided following on further cost-benefit analysis on how this management formula could serve sectoral specificities) - European Coordinators will continue to be used in transport and energy - TENtec database currently developed for TEN-T could be extended to all sectors
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<i>Option LMin – I Var</i>	<i>Option L Max – I Var</i>
<p><u>Investment Leverage</u></p> <p>(1) <i>Distinct objectives and criteria for identifying EU added-value of proposals according to sectoral priorities</i></p> <p>(2) <i>Distinct grant co-funding rates for each sector and type of actions</i></p>	<p><u>Investment Leverage</u></p> <p>(1) <i>Common objectives and criteria for proposal evaluation based on overall Europe 2020 Strategy & Budget priorities...</i></p> <p>(2) <i>Common grant co-funding rates for all types of actions</i></p>
<ul style="list-style-type: none"> - provide support for the achievement of specific objectives and priorities as established in the respective sectoral TEN Guidelines -energy: a general rate of up to 50% of eligible costs for both works and studies; increased to max 80% for actions of particular importance for the regional or EU-wide security of supply - transport: a general rate of up to 50% for studies and 20% of eligible costs; increased to max 30% for actions addressing bottlenecks, to 	<ul style="list-style-type: none"> -contribute to smart, sustainable and inclusive growth, - create an environment more conducive to private and public investment - common set of priorities for proposal selection - studies: up to 50% of eligible costs - works: a general rate of up to 50%; increased to max 80% for actions implementing established (common) priorities

max 40% for actions concerning cross-border sections and to max 50% for actions concerning the European Rail Traffic Management System (ERTMS); for actions eligible for funds allocated from the Cohesion Fund, rates of can be increased to max 75%.

-ICT: up to 75% for support actions and studies; for broadband networks actions, a rate of 20% of eligible costs; for generic services actions, a 75% rate of eligible costs; for actions in the field of applications, 50% of the eligible costs.

(3) *Distinct mix of financial instruments for each sector*

Programme implementation

(4) *Common calls and procedures where possible...*

- specialised financial instruments developed according to sector and/or project specific needs.

- common calls for both annual programmes with common application and selection procedures

- developed by the Commission with the support of the TEN Executive Agency (EA) drawing on the experience and lessons learned of the TEN-T EA and relevant sectoral experience, including results of ex-post and stakeholder consultations.

...and distinct sectoral calls and procedures where necessary to meet sector specific needs

- distinct calls for multiannual programmes, targeting overall sectoral priorities

(5) *A core set of common/harmonised monitoring instruments and "use it or lose it" rules with specific instruments...*

- developed by the Commission with the support of the TEN EA on the basis of accumulated experience of the TEN-T EA and relevant sectoral experience, including results of ex-post and stakeholder consultations.

...and adapted/target rules to take

- common "use it or lose it" rules will apply

- additional monitoring instruments can be

(3) *Common mix of financial instruments*

Programme implementation

(4) *Common calls and procedures where possible...*

...and distinct sectoral calls and procedures where necessary to meet sector specific needs

(5) *A core set of common/harmonised monitoring instruments and "use it or lose it" rules with specific instruments...*

...and adapted/target rules to take into account sectoral characteristics

(6) *Single executive agency as common management structure but with various degrees of*

- investment funds with a focus on providing risk capital for project of common interest with EU capital participation;

- loans or other risk-sharing based instruments, including project bonds, issued by a financial institution on its own resources with an EU contribution to the provisioning and capital allocation.

- no sector-specific specialised financial instruments envisaged

- common calls for both annual programmes with common application and selection procedures

- developed by the Commission with the support of the TEN Executive Agency (EA) drawing on the experience and lessons learned of the TEN-T EA and relevant sectoral experience, including results of ex-post and stakeholder consultations.

- distinct calls for multiannual programmes, targeting overall sectoral priorities

- developed by the Commission with the support of the TEN EA on the basis of accumulated experience of the TEN-T EA and relevant sectoral experience, including results of ex-post and stakeholder consultations.

- common "use it or lose it" rules will apply

- additional monitoring instruments can be developed in the context of the calls (both for the annual and multiannual work programmes)

- single TEN Executive Agency assisting the Commission but

<i>into account sectoral characteristics</i>	developed in the context of the calls (both for the annual and multiannual work programmes)	<i>delegation of tasks by the Commission services in each sector</i>	<ul style="list-style-type: none"> - the extent to which the programme implementation cycle is managed by the EA on behalf of the Commission is different in all three sectors concerned (for e.g. in transport fully; in energy and ICT it will be decided following on further cost-benefit analysis on how this management formula could serve sectoral specificities) - European Coordinators will continue to be used in transport and energy - TENtec database currently developed for TEN-T could be extended to all sectors
<i>(6) Single executive agency as common management structure but with various degrees of delegation of tasks by the Commission services in each sector</i>	<ul style="list-style-type: none"> - single TEN Executive Agency assisting the Commission but - the extent to which the programme implementation cycle is managed by the EA on behalf of the Commission is different in all three sectors concerned (for e.g. in transport fully; in energy and ICT it will be decided following on further cost-benefit analysis on how this management formula could serve sectoral specificities) - European Coordinators will continue to be used in transport and energy - TENtec database currently developed for TEN-T could be extended to all sectors 		

ANALYSIS OF IMPACTS

This section provides an assessment of impacts that is proportionate to the nature of the document proposed. The assessment of those impacts is mainly qualitative.

The analysis of impacts presented below is surrounded by a significant degree of uncertainty stemming from the fact that the EU action in the field of infrastructure financing is triggered mainly by the Member States. Whereas some parameters such as the projects considered as being candidates for EU funding and appended to the MFF Communication can be foreseen with a reasonable degree of confidence, the evolution of other key factors like the capacity of Member States to continue investing in infrastructures in times of severe budget constraints or the appetite of private sector over the concerned period of time incorporates a higher amount of uncertainty. This needs to be taken into account for the assessment of impacts presented below.

This being said, the Commission has used a two-step approach for analysing the impacts of the envisaged policy options linked to the proposed initiative. First, it has assessed the socio-economic and environmental impacts of the creation of the CEF in comparison with the baseline presented in section 2 above. This assessment is available in Annex 1. In a second stage, it has analysed the impacts of the six proposed policy options within the framework set out by the CEF. The retained policy options of the CEF will be assessed on their own merits. This two-step approach is justified by the fact that, at the time this IA report is prepared, the Commission has already taken the decision to create the CEF with a budget of €50 billion. In this context, as explained in section 4, the six policy options assessed in this IA report have been set up under this framework. Therefore, the baseline scenario presented in section 2 of this IA, which corresponds to the existing funding framework, cannot be used as the benchmark against which the six policy options will be assessed.

4.3. Analysis of the impacts of the creation of the CEF

As detailed, in Annex 3 of this IA, comparing the impacts of creating the CEF with the baseline scenario presented in section 2 above, taking into consideration the pre-conditions (budget, central management⁷⁹, the alignment of EU funding instruments within sectors including also market based instruments) of the CEF included in all the retained policy options of the current Impact Assessment of the CEF, it becomes evident that the CEF will contribute to significant sector impacts as well as to overall socio-economic and environmental impacts.

The investments in the three sectors under the CEF have to be taken into account in the framework of the policies detailed in the sector specific Guidelines. The Impact Assessments accompanying those Guidelines provides details on sector specific impacts of each policies

⁷⁹ In transport for instance, centralised management will better promote and ensure coherent implementation of (common) transport policy measures across Europe (e.g. with regards to charging, security, safety in tunnels, interoperability, etc.). It will also allow for almost 'real time' monitoring of projects/programme performance (beyond information on 'earmarked funds'); this is important in assessing evolving priorities (e.g. in the case of the European Economic Recovery Plan).

and their required investments, while this impact assessment focuses more on common features of a major increase in infrastructure investments.

Economic impacts

The development of the infrastructure of high European added-value due to the investments co-financed by the CEF will contribute to strengthening the Single Market. The main positive effects will be on the free movement of goods and services, overcoming market segmentation, foster accessibility and territorial cohesion.

As explained in the annex, development of high performing infrastructure can be act as a growth enabler for the whole European economy, beyond the sectors covered by the CEF. For instance, since broadband networks serve as a General Purpose Technology enabler, infrastructure diffusion positively affects Total Factor Productivity, capital accumulation, and ultimately, GDP growth.⁸⁰

In addition, the promotion of intelligent transport systems or smart grids should foster research and innovation for new technologies and create new business cases. Building new transport, energy or broadband infrastructure would have an important impact on the construction sector. Some infrastructure projects like high-speed rail provide several years of works for construction companies and related businesses. Finally, the improvement of the efficiency of the transport and energy systems and the reduction of prices and uncertainties in the delivery would improve the economic conditions for both transport businesses and enterprises heavily depending on transport for their activity.

Consumers will be major beneficiaries of these investments in several ways, with an increase choice: in the energy and transport sectors, investments will improve market integration and competition, leading to greater choice to consumers; with new broadband networks, more consumers will be able to purchase on-line, having the possibility to choose cheaper products.

Finally, as indicated above, current funding rules have evolved not only in response to the need for accountability on how public money is spent but also to take account of previous problems. The result is a diversity and complexity that is difficult to implement and control. This complexity imposes a heavy administrative burden on beneficiaries as well as on the Commission and Member States, which can have the unintended effect of discouraging participation and delaying implementation. The creation of the CEF will contribute to simpler processes and alleviate administrative costs by bringing the governance of various programmes in different policy fields under a common framework.

Social impacts

As shown in the annex, the acceleration of the development of infrastructure of high EU added value will have major short and medium term impacts on job creation. Job creation is primarily related to the construction works to implement this increase level of infrastructure, but not only. Long-term induced job creation is difficult to calculate, but cases studies have shown the positive results of infrastructure development on long-term job creation.

According to the economic literature, infrastructure investments help boost economic growth, enhance trade and mobility of people and constitute a highly effective engine of job creation.

⁸⁰As an example, a 10% increase in broadband household penetration delivers a **boost to a country's GDP** that ranges from 0.1 percent to 1.4 percent (Mobile Broadband for the Masses, McKinsey & Company, 2009). As a spillover, broadband-enabled smart grid services and devices could result in over €350 billion in gross energy savings. This approach is expected to reduce end-use energy consumption in the USA in 2020 by roughly 23 per cent of projected demand (Davidson, Santorelli and Kamber, 2009).

One recent study in the US showed that infrastructure investment spending creates about 18,000 total jobs for every \$1 billion in new investment spending, including direct, indirect and induced jobs⁸¹. Job creation is mainly related to infrastructure works, but it is also induced by the indirect economic effect of the use of the new infrastructure⁸².

The development of the three infrastructures networks will have also an important impact in term of accessibility and territorial cohesion. As explained in the Fifth Cohesion Report, "regional competitiveness and development prospects are also affected by infrastructure endowment, such as transport or telecommunication networks".

The increase development of these networks will also have sector specific types of aspects; broadband infrastructure is for instance favouring quality of life thanks to the development of eServices and eHealth, better transport infrastructure is favouring transport safety, and more developed energy infrastructure favouring the security of supply and better access to energy for European households and enterprises.

Environmental impacts

As shown in the annex, the impacts of the increase development of infrastructure on the environment have two main aspects. On the one side, this development may negatively affect land-use, the flora and the fauna where new surrounding the new infrastructure. However, the compliance with existing EU legislation (of which SEA directive⁸³, EIA directive⁸⁴ Habitats directive⁸⁵ and Water framework directive⁸⁶) will be of primary importance to limit these adverse impacts.

On the other, the development and design of new infrastructures is essential for the implementation of less polluting life-style. For instance, the development of smart energy grids will be crucial for the integration of renewables in the energy market; for transport, the development of electrified railways, inland waterways or electricity refuelling power stations along the roads will allow for the development of cleaner solutions for transport. Therefore, investing in new transport infrastructure in the framework of the revised Guidelines would contribute to further reduction in emissions thanks to their positive impact on congestion reduction, and as a result of induced modal shift. However, new transport infrastructure would facilitate larger volumes of transport traffic flows, leading to an increase of energy and fuel consumption, the so-called rebound effect⁸⁷. Hence, whether on balance the overall impact will be positive or negative will depend on the extent to which cleaner vehicle technology is introduced. The reinforced coordination approach to implementation foreseen in the revised TEN-T Guidelines would further contribute to the reduction of vehicles emissions, as it enables better promotion of greener transport solutions, for example by fostering the replacement of diesel locomotives by electric ones and promoting cleaner road transport through technological innovation for both vehicles and the infrastructure.

⁸¹How Infrastructure Investments Support the U.S. Economy: Employment, Productivity and Growth, Political Economy Research Institute, January 2009.

⁸² More details on the temporary and long-term employment effects of infrastructure investments can be found in the TEN-T Guidelines impacts and in the OECD 2002 report on the Impact of Transport Infrastructure Investment on Regional Development.

⁸³ Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment

⁸⁴ Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment

⁸⁵ Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

⁸⁶ Directive 2000/60/EC establishing a framework for the Community action in the field of water policy

⁸⁷ Rebound effects are indirect, second order effects of policy instruments, which are often unintended and have the potential to undermine the ultimate objective of the primary policy instrument

As a general note for the three sectors, in these environmental issues, EU funding under the CEF cannot act in isolation, but it can condition EU funding (in the general CEF framework as well as in the sector specific Guidelines) to the respect of environmental standards. The contribution of the development of infrastructure to the ‘20-20-20’ objectives will therefore be really important.

Conclusions

The Annex 3 and the Impact Assessments accompanying the three sector specific Guidelines show the major positive environmental, social and economic impacts of an accelerated development of energy, transport and broadband infrastructures on the basis of the revised policies defined in the Guidelines.

These positive impacts of the accelerated development of infrastructure through the creation of the CEF will be visible for all the policy options assessed in the below. Their order of magnitude will depend to a certain but limited extent on the effectiveness of the policy options to address the problem identified in part 2 of this document, the optimal operating rules of the CEF. However, it has to be borne in mind that the effects of defining the operational rules of the CEF are marginal when compared with the effects of investing €50 billion in energy, transport or digital infrastructure. While investing €50 billion in energy, transport and broadband infrastructures will lead to an important accelerated development of infrastructure of high EU added value, with the positive impacts described above and in the Annex 3, the impacts of the options described below will mainly focus on reduction of administrative costs and on variations for the leverage effects of EU funds.

4.4. Analysis of the impacts of the six retained policy options

The following subsection will focus on the impacts of the retained Policy options selected in section 4 of the IA report on their capacity to enable the CEF to accelerate the development of infrastructures of EU interest. As explained in subsection 3.2 above, the optimal use of EU funds by the CEF, leading to an accelerated development of infrastructures of common interest, is achieved by solving the trade-off between the search for synergies between sectors and sector specific objectives. Therefore, the impacts of the policy options on those aspects will be assessed also. Finally, the impact of the various options on administrative burden will be analysed.

4.4.1. Option L Var – I Min

For the leverage components, this options aims at adapting as closely as possible to the needs of each sector, while looking for synergies where possible. As for implementation, rules, procedures and management structures are distinct for each sector.

By having co-funding rates and innovative instruments specific to the needs of each sector while also proposing common rates (for studies) and common set of innovative instruments, the leverage of this option will be high, favouring the development of infrastructure with high EU added-value in each of the three sectors. Sector specific stakeholders in each sector will deal with simplified but adapted rules, while Member States and Institutional investors will deal with common criteria and general funding rules. It will attract private investors and allow Member States to adapt their funding to clearer EU priorities. The adapted co-funding rates will also allow take into account the eligibility of Member States to the Cohesion Fund.

On the implementation side, sector specific stakeholders will benefit from the clarity of sector specific calls, selection procedures, monitoring instruments and management structure.

Therefore, the policy targets of each sector (in line with the Europe 2020 Strategy) will be well taken into account. However, this structure will not allow using the potential synergies between sectors, therefore downgrading the added value of the creation of the CEF. Moreover, the distinct management structure for each sector, as well as the distinct set of procedures and monitoring instruments will prevent from benefiting from economies of scale at the level of administrative costs. With three separate management structures and the level of funding proposed by the Commission in the MFF Communication, the administrative costs are likely to increase dramatically.

4.4.2. *Option L Max – I Max*

This option goes for the maximal harmonisation between the three sectors, maximising the synergies under the CEF. Private investors will be interested in the simplified mix of innovative instruments. The single set of calls, procedures, monitoring instruments and rules as well as the single management structure will lead to reduction in administrative costs, better visibility of the EU objectives for infrastructure investments and reduced administrative burdens for private investors as well as for public funding authorities.

However, the common co-funding rates for the 3 sectors will lead to a suboptimal use of EU funds. With the different configuration of the sectors, the differences in the sector specific objectives, different co-funding rates are needed to finance projects in the most effective way. For instance, as demonstrated by the EEPF experience, for projects aiming at increasing security of supply, a co-financing rate of 50% or more can be necessary to unblock the project. In the field of transport, as demonstrated by the TEN-T Programme, cross-border projects do not require more than 30 to 40% of EU co-funding. On the other end, while energy cross-border infrastructures are mostly owned and run by private investors, the co-funding rate needed is very different from transport projects such as a Base Tunnel for rail freight transport between two countries, which cannot be financed by the private sector due to low and uncertain rates of return. Therefore, this option will not allow to fulfil the sectoral objectives of the policy covered under the CEF, and is thus in contradiction with the reasoning behind the creation of the Facility.

4.4.3. *Option L Max – I Var*

For the same reasons as for Option L Max – I Max above, this option will not allow to fulfil the sectoral objectives of the policy covered under the CEF, and is thus in contradiction with the reasoning behind the creation of the Facility.

4.4.4. *Option L Var – I Max*

For the leverage components, this option aims at adapting as closely as possible to the needs of each sector, while looking for synergies where possible. As for implementation, the single set of calls, selection procedures, monitoring instruments and rules as well as the single management structure will lead to reduction in administrative costs, better visibility of the EU objectives for infrastructure investments and reduced administrative burden for private investors as well as for public funding authorities.

By having co-funding rates and innovative instruments specific to the needs of each sector while also proposing common rates (for studies) and common set of innovative instruments, the leverage of this option will be high, favouring the development of infrastructure with high EU added-value in each of the three sectors. Sector specific stakeholders in each sector will deal with simplified but adapted rules, while Member States, project promoters and Institutional investors will deal with common criteria and general funding rules. It will attract private investors and allow Member States project promoters to adapt their funding to clearer

EU priorities. The adapted co-funding rates will also allow take into account the eligibility of Member States to the Cohesion Fund.

However, on the implementation side, the positive aspects of clarity of EU policy and reduction in the administrative cost and administrative burden for investors will be offset by the difficulty to adapt the implementation procedures and rules to the specificities of each sector and policies. Stakeholders in each sector will be confronted with a new framework, which will not be tailor-made for their needs. With general common rules applying to distinct rates, mix of financial instruments and criteria and budget priorities adapted to the needs of each sector, the project life cycle will be complex. With this somewhat distinct rules and instruments regarding leverage, but strictly common rules for implementation, it will be difficult to prepare calls and define monitoring procedures adapted to the needs of each sector and the specific objectives of each policy. It will therefore bring additional complexity for stakeholders and Member States that may be reluctant to participate in the calls, thus being counterproductive and unlikely to help reach the Europe 2020 targets.

4.4.5. *Option L Var – I Var*

This options aims at adapting as closely as possible to the needs of each sector, while looking for synergies where possible.

As for implementation, cross-sectoral synergies will be reached by using common call and procedures for projects with a cross-sectoral dimension. Clarity of the monitoring tools and instruments by having harmonised set of general rules, while keeping the possibility to adapt to sector specific needs. As for management, the single executive agency and its common management structure will optimise the administrative costs while keeping a flexible structure adapted to the Commission needs for each of the policy area. The use of the executive agency will build on the structure and the successes of the current TEN-T Executive Agency⁸⁸, not requiring the creation of a new European Agency.

This flexible implementation architecture will allow using the flexible approach to leverage of this option. By having co-funding rates and innovative instruments specific to the needs of each sector while also proposing common rates (for studies) and common set of innovative instruments, the leverage of this option will be high, favouring the development of infrastructure with high EU added-value in each of the three sectors. Sector specific stakeholders in each sector will deal with simplified but adapted rules, while Member States, project promoters and Institutional investors will deal with common criteria and general funding rules. It will attract private investors and allow Member States and project promoters to adapt their funding to clearer EU priorities. The adapted co-funding rates will also allow take into account the eligibility of Member States to the Cohesion Fund.

This option is consistent with the purpose of the creation of the CEF, since it will optimise the use of EU funding in each sector in order to accelerate the deployment of infrastructure of high EU added value, while using the synergies of the EU budget to pool funds, simplify rules and therefore attract investors.

4.4.6. *Option L Min – I Var*

This option combines the same approach to implementation as the one above with the minimum harmonised approach to the leverage area, with distinct co-funding rates, innovative instruments and criteria, therefore not using commonalities between sectors, in a way similar

⁸⁸ See the 2 report on the implementation of the TEN-T programme by the Agency and the report of the court of Auditor?

to the Business-as-usual scenario. Thanks to the flexible approach to implementation, this option will benefit from synergies and economies of scales for implementation. However the benefits will not be optimal since the features present to generate synergies in the implementation area will be based on leverage rules that are not fostering those synergies. This option is likely to have a positive impact on the accelerated development of infrastructure of EU interest, but this impact will not be optimal.

5. COMPARISON OF THE RETAINED POLICY OPTIONS

The analysis in subsection 5.1 above has shown that the different degrees of harmonisation between sectors of CEF operating have clear implications in terms of impacts. The latter, that are assessed as net changes compared to the CEF baseline (the L min – I min), are summarised in table 6 below:

Table 7: Summary table of impacts of the retained policy options under the CEF

<i>Impact on</i>	<i>OptionL</i>	<i>Option L</i>	<i>Option L</i>	<i>Option L</i>	<i>Option L</i>	<i>Option L</i>	<i>Option L</i>
	<i>Var – I</i>	<i>Max – I</i>	<i>Max – I</i>	<i>Var – I</i>	<i>Max – I</i>	<i>Var – I</i>	<i>Min – I</i>
	<i>Min</i>	<i>Max</i>	<i>Var</i>	<i>Max</i>	<i>Var</i>	<i>Var</i>	<i>Var</i>
<i>Accelerated development of infrastructure of EU interest</i>	+	-	-	+	++	+	
of which:							
Coherence with sector specific policy frameworks	+	-	-	=	+	+	
Degree of synergies between sectors	=	++	++	++	++	=	
<i>Reduction of administrative costs</i>	=	++	+	++	+	+	

Legend: – : negative impact
 = : no change
 + : positive impact
 ++ : very positive impact

As discussed above, the options including the Lmax component would not have a positive impact on the accelerated development of the infrastructure since it would not be possible to find common rates and instruments that would be adapted to the needs of the sectors. As already described in section 2, although the sectors have significant potential for harmonisation, the sectors are different, notably with respect to their use of funding instruments. The energy sector, for instance, is, to a large extent, revenue bearing, which, in contrast to the transport sector, requires different levels of EU co-funding rates. Therefore, the use of funds for each sector would not be optimal, logically inducing a non-optimal use of the fund under the CEF.

The option L Var – I Min would not lead to a reduction in administrative burden and would allow looking for a certain level of synergies on the leverage aspects only. Sectors specific needs would be well taken into account. The overall result on the accelerated development of infrastructure would be slightly positive compared to the Business-as-usual under the CEF

The option Option L Var – I Max would lead to an important reduction in administrative costs and would maximise the synergies between sectors. Regarding sector specific objectives, the impact would be positive on the leverage aspects, but it may trigger difficulties on the implementing side for sector specific stakeholders. The overall impact on the use of EU funds is therefore expected to be only slightly positive on the optimal use of EU funds.

The Option L Var – I Var would lead to a certain reduction in administrative costs, highly facilitate the use of synergies between sector while keeping a flexible approach allowing for the optimal use of funds for each sector. Therefore, the overall impact on the accelerated development of infrastructure would be high.

Option L Min – I Var would lead to a certain reduction in administrative costs. It would allow looking for a certain level of synergies on the implementing side only. Sector specific needs should be well taken into account. The overall result on the accelerated development of infrastructure would be slightly positive compared to the Business-as-usual under the CEF.

This section provides for an assessment of how the policy options will contribute to the realization of the policy objectives, as set in Section 3, in light of the following evaluation criteria:

- **effectiveness** – the extent to which options achieve the objectives of the proposal;
- **efficiency** – the extent to which objectives can be achieved at least cost;
- **coherence** – the extent to which policy options are likely to limit trade-offs across the assessed impacts.

Effectiveness

The following table gives a synthetic overview of the policy options’ effectiveness with regard to the specific policy objectives defined in section 3. From this table, it appears that Policy Options L Var – I Max and L Var – I Var score best on effectiveness. They offer indeed the most appropriate degree of harmonisation between sectors to meet the defined objectives.

Table 8: Effectiveness of retained policy options in light of objectives

<i>Specific objectives</i>	<i>Maximum investment leverage</i>	<i>Effective and timely project implementation</i>
<i>Option L Var – I Min</i>	High	Low
<i>Option L Max – I Max</i>	Low	Low
<i>Option L Max – I Var</i>	Low	Low
<i>Option L Var – I Max</i>	Medium	High
<i>Option L Var – I Var</i>	High	Medium
<i>Option L Min – I Var</i>	Medium	Medium

As regards the specific objective linked to the investment leverage, as argued in more detail in the discussion in Annex 5, Options L Max – I Max and L Max – I Var have a low effectiveness since they do not take into account the objectives of the sector related policy frameworks. Option L Var – I Max has a medium effectiveness since the leverage aspects allow for a good balance between sector specific needs and synergies, but sector specific needs may be affected on the implementation aspects. Option L Min – I Var has a medium effectiveness since sector specific needs are well taken into account with a limited number of

synergies that mainly derive from the implementation aspects. Option L Var – I min and Option L Var – I Var have a high effectiveness on leverage due to the leverage aspects allowing for a good balance between sector specific needs and synergies, which is not adversely affected by the implementation aspects.

As regards the specific objective linked to the project implementation, Options L Max – I Max and L Max – I Var have a low effectiveness since with a low effectiveness on leverage, implementation aspects are of no use. Option L Min – I Var has a low effectiveness on implementation since possible synergies are not taken into account. Option L Var – I Max has a high effectiveness since it is maximising synergies on the implementation side while benefiting from the flexibilities on the leverage aspects. Option L Var – I Var and Option L Min – I Var have a medium effectiveness since synergies are partially taken into account while keeping flexibility for each sector.

Efficiency

As shown in Table 6 above, the only option that does not lead to a reduction in administrative costs as compared to the Business-as-usual under CEF is option L Var – I Min. This option is thus the least efficient among the 4 options selected according to effectiveness.

Option L Var – I Max leads to a more important reduction in administrative costs compared to Options Option L Var – I Var and L Min – I Var, but is less effective than option L Var – I Var in addressing the main problem.

In light of this, the most efficient policy option is clearly Option L Var – I Max.

Coherence

As highlighted in Table 6 above, Policy Option L Var – I Var ensures the achievement of the objectives with the lowest trade-offs across the assessed impacts.

Conclusion

In light of the above, Policy options L Var – I Min, L Max – I Max, L Max – I Var and L Min – I Var are discarded. In general terms, the analysis above shows that the policy options L Var - I Var and L Var – I Max are the most effective policy options in meeting the objective of defining optimal operating rules of the CEF that would allow to accelerate the development of infrastructure of EU interest.

While Policy option L Var – I Var would appear to be the best option from the perspective of coherence, Policy option L Var – I Max would offer higher efficiency. A choice between these two policy options would imply solving the trade-off between maximisation of synergies across sectors and maximisation of coherence within each with its specific policy objectives. Indeed, whereas Policy option L Var – I Max is more ambitious in terms of harmonisation between sectors, it offers also less coherence for each sector with its specific policy objectives.

For this reason, the present IA considers that both options are valid and that the trade-off referred to above has to be addressed by the political decision makers.

6. MONITORING AND EVALUATION

The Commission will properly evaluate and review the Regulation 3 years after its adoption by the Commission. In addition, the Commission will constantly monitor the effectiveness of the Regulation with the tools which are already available, as illustrated in the table below.

Table 9. Monitoring and evaluation

<i>Operational objectives</i>	<i>Means</i>	<i>Reporting tool and body (if applicable)</i>
<i>Investment leverage</i>		
<i>OO1: Define co-funding maximum rates for EU support for projects according to priorities set in terms of EU added-value. Allow flexible use of these rates, in order to maximise the leverage of EU funding contributions.</i>	Rates set in the Regulation	Annual report on the application of the rates by an executive Agency
<i>OO2: Define multi-level criteria for project evaluation in order to ensure that funding is channelled on projects with high EU added-value.</i>	Definitions of EU added value as set in the Regulation, or reference to Guidelines	Annual Report by an Agency, repartition by typology of projects defined in the Regulation
<i>OO3: Encourage the participation of specialised infrastructure investors by means of rules for the use of market based instruments, and by making available sufficient funds for support of innovative instruments.</i>	Rules set in the Regulation	Annual EIB and an agency report on the effects of the individual instruments (number of projects and structure of financing)
<i>Project Implementation</i>		
<i>OO4: Define rules for project selection in order to ensure a competitive and transparent allocation of funds.</i>	Rules set in the Regulation	Calls for Proposals Annual Report + TEN-days
<i>OO5: Establish a consistent framework for monitoring and evaluation to support decisions for continuing, discontinuing or recalibrating EU funding support (i.e. the "use it or lose it" principle, rules for ensuring that the competitive re-allocation of funds is made on transparent and highly competitive bases)</i>	Framework set in the Regulation	Annual Report + TEN-days and mid-term public consultation Calls for Proposals Mid-term review
<i>OO6: Set up an adequate institutional structure for the centralised management of processes of evaluation, support and monitoring of projects.</i>	Management structure set in the Regulation	External Evaluation report on the institutional structure

The Commission will also develop performance indicators in order to assess the impacts of the Connecting Europe Facility on the policy objectives of the sector specific Guidelines. These indicators will come in addition to the performance indicators provided for in the sector specific Guidelines. The performance of the CEF will therefore be assessed against the following sector specific performance indicators:

Table10: performance indicators

<i>Common objectives</i>	<i>overall</i>	Contribution to smart, sustainable and inclusive growth, assessed according to relevant indicators under the Europe 2020 Strategy. Impact of financial instruments offered, measured as investment encouraged by each of the instrument and average level of leverage attained.
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<i>in the field of Transport:</i>	<ul style="list-style-type: none"> - The number of actions successfully completed or on track to be completed within the established time-frame which have benefited from CEF grant support and/or financial instruments. - The number of new cross-border connections and removed bottlenecks effectively enabled with CEF support via grants and/or financial instruments. - Travel time, cost savings and increased safety (in terms of accidents reductions) registered on major transport routes where action concerning specific sections has benefitted of CEF grant and/or financial instruments support. - The share of actions receiving Union aid for studies that entered the construction phase.
<i>in the field of Energy:</i>	<ul style="list-style-type: none"> - The share of actions receiving Union aid for studies that entered the construction phase; - The number of actions contributing to the EU's energy and climate policy objectives effectively enabled with the help of grants and/or financial instruments; - The number of actions contributing to the integration of the internal energy market and the interoperability of the network effectively enabled with the help of grants and/or financial instruments; - The number of actions contributing to diversification, enhancing the regional or EU-wide security of supply and solidarity among Member States effectively enabled with the help of grants and/or financial instruments. •
<i>in the field of broadband and telecommunications:</i>	<ul style="list-style-type: none"> - High speed broadband coverage, to be checked against the DAE targets of access to 30 Mbs for all citizens by 2020. - High speed broadband uptake, to be checked against the DAE target of 50% of citizens having subscriptions for above 100 Mbs by 2020. - Implementation, availability and uptake of digital service infrastructures, as identified in the e-TEN Guidelines

In addition to these indicators, common performance indicators will be developed, such as the number of projects effectively enabled, the share of private/public investment, the share of grants and Financial instruments compared to 2007 -2013, the total value of annual investments compared to 2007 -2013, the number of projects using synergies. Finally, the impacts of financial instruments will be measured as investments encouraged by each of the instrument and the average level of leverage attained.

ANNEX 1

Summary of results of public consultations

CROSS-SECTORAL CONSULTATIONS

Europe 2020 Project Bonds Initiative (consultation period: 28 February – 2 May 2011)⁸⁹

The Europe 2020 Project Bond Initiative aims at boosting the funding of projects with long-term revenue potential in line with the Europe 2020 policy priorities. Over the next decade, record investment volumes in Europe's transport, energy, information and communication networks will be needed in order to underpin the Europe 2020 flagship actions. Developing smart, upgraded and fully interconnected infrastructures will foster the completion of the internal market. Preliminary estimates point to investment needs of €1.5 to 2 trillion for Trans-European Transport Networks, the energy sector and information and communication technologies. These needs, combined with the fact that government budgets face severe constraints, make it crucial to foster the participation of the private sector in the financing of infrastructure projects.

The objective of the Project Bonds initiative is to help the private project companies to attract capital market funding from investors such as pension funds and insurance companies. The initiative has been identified in the Annual Growth Survey as a priority measure to enhance growth. The stakeholders were consulted on the following main questions:

(1) Will the initiative attract private investment in transport, energy and ICT infrastructure?

- 60% of stakeholders think that the chosen mechanism is **likely to attract private sector institutional investors** to the sectors of transport, energy and ICT in particular (see the chart below). 16% expect it to depend on technical features of the mechanism (price, structure, attracted rating, etc.).
- Large share of stakeholders would also like to see **the following sectors included**:
 - Social infrastructure (25%)
 - Renewables (16%)
 - Water and waste (13% and 6% respectively)
- 19% of respondents believe that the guarantee would both **facilitate and accelerate** the conclusion of financing packages (see the chart below); while 22% say it would only facilitate (14%) or accelerate (8%).

(2) Would the guarantee facilitate/accelerate the conclusion of financing packages?

- An absolute majority of stakeholders agree that **minimum rating of A-** is sufficient to attract investors. The views on desirable minimum rating diverged as follows:
 - A/A- for bigger projects
 - BBB/BBB+ for smaller projects
- Several investors stressed that they **do not merely look at ratings**, but also at the general legal framework of the jurisdiction of the project, the exact contractual arrangements as well as the quality of the financial package.
- 50% of answers stated that a **credit enhancement of 20%** of outstanding senior bonds would be sufficient (10%) or would depend on other factors (40%) and should be

⁸⁹ For the detailed stakeholder contributions and the consultation document see http://ec.europa.eu/economy_finance/consultation/index_en.htm

decided in case-by-case basis. 5% of the stakeholders believe that 20% credit enhancement would not be enough.

- **Effect on financing costs and maturities:**
 - 50% of stakeholders expect lower financial costs and (or) longer maturities
 - 20% of stakeholders expect it to depend on different factors – regulation, guarantee and other fees, rating, etc.
- Some sponsors are worried about **negative carry** as the full financing amount is drawdown at the outset rather than in phases as for a bank loan. Some also feared that bond financing would prove less flexible.
- 50% of stakeholders think a **single entity acting as controlling creditor** is essential (33%) (especially during the conclusion of the financial package and the construction phase), beneficial (15%) or depends on the project (3%). 10% would expect the EU or the EIB to serve as a controlling creditor. 11% of respondents do not see a single controlling creditor necessary.

Additional messages from the stakeholders:

- Views on **size of project** appropriate for bond funding varied widely with quoted ticket sizes per investor varying from EUR 20 million to EUR 100 million, which would translate into deal sizes ranging from EUR 50 to EUR 250 million, assuming a minimum of two investors.
- **Procurement process** and its obstacles in terms of requiring fully funded and committed fixed price offers to a tight timeline generally does not favour or even allow bond solutions. The process differs across Member States, but in general the demand was that the procurement process should be more flexible to allow bond solutions with their different benchmark, volatility of spread and timing requirements.
- **Regulatory issues:** many investors cited **Solvency II** as a main obstacle to investing in longer-term, lower-rated assets as such bonds would attract higher capital charges, although some actors are of the view that the regulation favours the longest-term assets, since capital charges increase no further beyond a certain point. A few banks were worried that depending on exact structure project bonds could be classified as asset-backed securities under **Capital Requirements Directive**, which would mean a higher risk weighting.

ENERGY INFRASTRUCTURE

In November 2008 the Second Strategic Energy (SER 2) Review launched the **Green Paper "Towards a secure, sustainable and competitive European energy network"**⁹⁰ and the process of revision of the TEN-E programme. The SER2 called for a new Energy Infrastructure and Security Instrument and suggested six flagship projects as examples of how European network projects might evolve in the future towards 2020.

A first dedicated **public consultation took place during 13/11/2008 - 31/03/2009 on the Green Paper**. The Commission received 91 written replies to the Green Paper. 13 came from Member States (2 from a regional and a local government), 1 from regulators, 60 from the industry, 2 from academia and 13 from individual citizens, NGOs and other organisations. The public consultation covered the future scope of the TEN-E, the selection process, the budget and financing instruments and the role of the EU to foster cooperation, coordination and support in the energy networks area as well as the role of the internal energy market.

⁹⁰ COM(2008)782

Among respondents from the energy industry consensus emerged on the need for a fundamental review of the TEN-E, for the EU to better align the energy network policy and the EU energy and climate policy targets, to provide for a stable regulatory framework, coordination and raising public acceptance. The respondents identified complicated administrative procedures, diverging regulatory regimes across local authorities and national borders and local resistance as the main barriers. The absence of a specific legal remit at EU level to mitigate these obstacles was acknowledged. The role of the EU in facilitating infrastructure projects in third countries was welcomed, and the importance of external energy relations to infrastructure policies was reaffirmed.

On the **scope of the future TEN-E**, the public consultation gave large support to the six flagship projects identified by the Green Paper but respondents were diverging on the need to extend the scope to oil or CO₂ networks.

The public consultation concluded that **EU support for projects** should continue to address both commercial and supply security goals and non-commercial goals, such as the integration of renewable energy sources, underground cabling of high-voltage electricity wires to reduce visual impact of new interconnections.

On the **design of the future TEN-E**, the consultation concluded that an alignment was needed with other financial sources (EIB, EBRD, Regional Funds) and respondents were strongly in favour of increasing the budget of TEN. While some respondents supported continuing the support by feasibility studies, while others asked for broadening the scope of funding, e.g. with EU grants to be awarded for construction, subject to budget increases. The value of the TEN-E label as a "door-opener" or "certifier" for other sources of finance strongly acknowledged and seen as a positive by-product of the instrument.

Asked about the **identification of projects of common interest** from a fixed list or a selection process, the majority of respondents were in favour of an open system with all projects competing on an equal basis. The role of the European network for transmission system operators for gas and electricity (ENTSO-E and ENTSO-G) and the Union-wide ten-year network development plan was considered as an important stepping stone for an enhanced investment planning from a European perspective.

The crucial role of the **European Coordinators** was supported and recognised by the majority of respondents. They found that the EU should be more involved in coordinating and facilitating dialogue and information exchanges among Member States, market players and other stakeholders. Some respondents even proposed a more direct role for the EU in the management of individual projects, e.g. through the appointment of European Coordinators.⁹¹

After the adoption by the Commission of a "**Communication on energy infrastructure priorities for 2020 and beyond**" on 17 November 2010 (COM(2010)677), which outlined the challenges faced for the development of adequate energy infrastructures across the EU, priority corridors for electricity, gas, oil and CO₂ have been identified and a new strategy covering the planning and prioritisation of energy infrastructures of European importance as

⁹¹ The European Coordinators were used during the 2007-2009 for the first time. Four European coordinators were appointed on the 12 September 2007 by the Commission for duration of four years to monitor projects facing technical, political or financial difficulties. The "Priority Interconnection Plan" adopted by the Commission on 10 January 2007 in the framework of the so-called "energy package" and the Action Plan adopted by the European Council on 9 March 2007 had mentioned specifically the nomination of European Coordinators. In November 2008 the mandate of a European coordinator was extended to the planned 380kV-Salzburgleitung Annual reports of the coordinators can be found at: http://ec.europa.eu/energy/infrastructure/tent_e/coordinators_en.htm

well as specific measures to facilitate their implementation through more efficient and transparent permit granting procedures and stakeholder involvement, improved cost allocation across borders and an adequate environment for private and public investments, including financial incentives has been proposed. The Commission's priorities and approach were endorsed by the February 2011 European Council.

A series of consultations and workshops on the future TEN-E programme and the new design of a new instrument were launched in spring 2011. Several exchanges between the Commission, European Network of transmission system operators for gas and electricity (ENTSO-G and ENTSO-E), Council of European Energy Regulators (CEER), the Agency for the Cooperation of Energy Regulators (ACER), national regulatory authorities and other stakeholders confirmed the step increase in investment need in case of infrastructure of European significance.

In the **report by the Commission to the 10 June 2010 TTE Council**⁹² the Commission presented a summary of the main views from stakeholders in the consultation process on November 2010 Communication and reported in further details on the investment needs. According to a survey carried out by the Council of European Energy Regulators (CEER) among national regulatory authorities (NRAs) in February/March 2011, total investment needs in national electricity transmission for the same period were confirmed and estimated as being in the range of 96 to 143 bn € of which 25-55 bn € for offshore grids. Under the current work ongoing for the preparation of the 2012 10-year network development plan (TYNDP), the European Network of Transmission System Operators in Electricity (ENTSO-E) sees roughly 100 bn € of investment needs for the period up to 2020, excluding investments for offshore grids and maintenance and refurbishment of ageing assets. Nor does this number reflect the specific investment needs for smart grids at both transmission and distribution level and electricity storage, which could exceed 40 bn €⁹³.

In gas, in the latest 10-year network development plan (TYNDP), published in March 2011, the European Network of Transmission System Operators in Gas (ENTSO-G) foresees investments of at least 89 bn € until 2020, including projects for which the Final Investment Decision (FID) has been taken⁹⁴ and projects for which the FID has not been taken, although they are considered necessary for diversification of supply routes/sources and security of supply inside EU. This is considerably more than the results of the CEER survey among its members, according to which total investment needs in transmission, LNG and storage⁹⁵ infrastructure are estimated between 51 and 59 bn € (about 40 for transmission, 8 for LNG, 5-10 for storage). It should be noted that the CEER survey covers only investments on EU territory.

A consultation of the ENTSOs in electricity and gas, GIE, national regulators and financial institutions (notably the EIB) was carried out in spring 2011 and provided further recommendations on the design of future EU financial instruments.

ENTSO-E carried out a survey among 41 European TSOs in 34 countries. Six main barriers to investments are considered by TSOs: social acceptance, planning delays, few investment incentives (in particular for R&D and innovation), and the lack of stable return on investment

⁹² SEC(2011) 755

⁹³ SEC(2010)1395.

⁹⁴ The gas TYNDP produced by ENTSOG in February 2011 does not put costs on the various investment projects but gives only an overall cost estimate on investments on the basis of a non-exhaustive list of about 200 investment projects as collected from its members.

⁹⁵ The numbers for storage do not include investments for France and Germany.

as well as the uncertainty about future regulatory regime change. Cross-border projects require a reinforcement of the national grids. Public funding should be targeted to address specific project/country risks and with a competitive approach to the label and support.

More detailed responses were provided by:

- Amprion (Germany)
- Eirgrid (Ireland)
- Elia (Belgium)
- EMS (Serbia)
- 50 hertz (Germany)
- HTSO (Greece)
- MAVIR (Hungary)
- REE (Spain)
- RTE (France)
- Statnett (Norway)
- Swissgrid (Switzerland)
- Terna (Italy)
- Transelectrica (Romania)

Financing of infrastructure in the past

For past investment mainly corporate financing was used and projects were implemented together with adjacent TSOs, investment expenditure being covered in the CAPEX of the TSOs concerned. Next to debt and equity financing, auction revenues from cross-border capacity allocation are used to fully or partially finance interconnectors (only one TSO referred to this financing). Upfront pre-construction investments are mainly financed by 100% equity. Debt capital can hardly be attracted for this type of investment. Among the main constraints to investment, TSOs raised the following issues:

- Time-lag in the remuneration of invested capital during the construction phase (pre-financing and start-up losses, of particular importance when projects are delayed by permitting or acceptance problems)
- Transmission fees do not cover all costs linked to the internal reinforcement of the grid linked to connection of new RES generation (shallow transmission fees, 1 TSO),
- Lack of incentives for technology innovation and R&D or other risks,
- Projects that will face particular challenges relate to offshore developments or submarine cables and for some countries interconnector investments.

Recommendations for future financing and EU support

In the light of the new and urgent investment challenges, TSOs will need to attract equity and debt financing and new investors. Asked about the added value of EU support, TSOs recommend financial support to the construction phase. Some TSOs note that the most effective measure is to ensure sufficient rate of returns for all projects and rate of return markups for projects of major importance and to align the RORs to the risks faced by project owners.

The consultation of TSOs among **ENTSO-G** included detailed responses by:

- GAZ SYSTEM
- Gasunie
- National Grid
- Thyssengas

- GEOPLIN PLINOVODI
- RAG
- DESFA
- ENGAS
- GRTgaz
- OMV
- Wingas
- Fluxys
- FGSZ
- NET4GAS

Financing of infrastructure in the past

Past investments were financed on the basis of corporate financing within the structure of the parent company on the basis of equity and shareholder loans complemented by EU direct grants and EIB loans. Depending on the degree of ownership unbundling and international expansion, the experience with credit ratings, corporate bonds, project financing and direct exposure to capital markets differs widely. Project financing was mainly used for new LNG terminals and new interconnectors in Western Europe. Project bonds and project financing via special project vehicles are being examined for future investment by TSOs outside of the national network. The attractiveness of these bonds will largely depend on the costs.

Recommendations for future financing and EU support

ENTSOG Members underlined that new gas projects aiming to increase diversification, competition, market integration and security of supply, thus removing market Imperfections, will not come forward by relying on market (shippers) commitments alone. While volume risk is covered in regulated gas networks, fluctuating utilization, the short-term tariff setting and capacity allocation do not fit to the long-term investment cycles.

Future EU support should minimize investment lead times and construction risks, reduce the administrative burden on project promoters, offer coordinated political support to decrease country risks in geopolitically difficult regions, enhance cross-border cooperation and the coordination of open seasons. The EU support should be targeted to the entire investment cycle including feasibility and routing studies, environmental impact assessments (EIA), land and building permit design as well as the construction of projects.

Cost allocation should be enhanced by multilateral negotiations of investment projects at regional level between operators and regulators with strategic guidance by ACER and ENTSOG. In practical terms, TSOs in the respective Member States could book the capacities needed for security of supply and include these costs in their respective transmission tariffs. Other options include settlements through direct cash transfers between TSOs or through netting system using EU funds granted to the Member States concerned.

While ENTSOG members unanimously call for instruments to make projects bankable along the long term investment cycle, they consider various instruments depending on the particular needs of the TSOs. These range from credit enhancement, to public/private guarantees (for example through the EIB), European public private investment funds, harmonized investment conditions and performance-related incentives as well as direct EU grants and a dedicated EU fund for infrastructure.

Investment in regulated and non-regulated infrastructure in the gas sector requires a long-term commitment either by regulators or users. Given the regulatory and market trends towards short-term capacity, **Gas Infrastructure Europe (GIE)** underlines that tariffs and investment regulation should give long-term signals for investment. New financing instruments should be beneficial to all projects. Costs of stranded assets remain with consumer in the case of regulated networks. Risk profiles change as gas TSOs are about to unbundle or restructure the ownership. Gas TSOs will need to invest in IT and human resources to handle the growing capacity and congestion management with short- and long-term products. Among the measures suggested by GIE are the following:

- Cost-allocation mechanism is mentioned in cases, where the lack of user commitment could be substituted by cross-border compensation.
- Adequate risk/reward ratios and tariff to ensure long-term signal and not only short-term low rates of return
- Incentives for operators – performance-related rewards for implementation of network development measures, independent of and on top of the allowed revenues, including shortened amortization period in order to limit risks. GIE sees higher risks for cross-border projects due to inconsistent regulatory frameworks on two sides of the border and higher complexity.

TRANSPORT INFRASTRUCTURE

Green Paper: "TEN-T: A policy review - Towards a better integrated trans-European transport network at the service of the common transport policy" (Consultation period: 04/02/2009 – 30/04/2009)⁹⁶

With the Green Paper, the Commission initiated a broad review process of the trans-European transport network policy (TEN-T). It considered future political and economical challenges such as the achievement of climate change objectives, further economic growth, economic and social cohesion as well as the strengthening of Europe's international role.

The TEN-T Guidelines are linked with instruments to facilitate the implementation of projects identified as being of common interest. These are a) various financial instruments based on the relevant legislation, including the TEN Financial Regulation[5] and the Cohesion Fund, ERDF and loans from the European Investment Bank, and b) non-financial instruments, such as coordination initiatives taken by the Commission. So far, the instruments available have not been sufficient to deliver full completion of projects of common interest within the timeframe agreed in the Guidelines.

Regarding the performance and options for improvement of the use of financial and non-financial instruments, the Commission consulted the stakeholders on the following sets of questions:

(1) How can the financial needs of TEN-T as a whole in the short, medium and long term be established? What form of financing — public or private, Community or national — best suits what aspects of TEN-T development?

A high number of contributors suggested meeting the financial needs of TEN-T through increased participation of users in the costs of construction and operation. Proposals suggested earmarking revenue by including transport sectors in the EU ETS, the Eurovignette, EIB

⁹⁶ For the full summary and the detailed stakeholders contributions, as well as the consultation document see <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0044:FIN:EN:PDF>.

loans, infrastructure charging or kerosene tax, the latter being proposed by only one contribution. The harmonisation of track access charging systems in the rail sector is deemed highly desirable by some respondents. The structuring and the multiannual contracting of track access charges would be needed to mobilise private funds.

Regarding the involvement of the private sector, responses were fairly divided. Those advocating the involvement of private investment mainly pointed to insufficient public spending behaviour. Private investment would be an ideal supplement to public funds. One Member State was very much in favour of using private investment. Sharing knowledge and expertise in designing major transport projects or setting up and running PPPs. Private-sector involvement would be a useful method of delivering TENT projects. A clear scope and risk definition would be needed to attract private investment. One business organisation said that the contribution of private investment and private risk capital in terms of asset provision was not recognised in the Green Paper. Those sceptical about private involvement cited the inability of peripheral regions to attract private investment and the inexperience of several countries. Similarly, some argued that PPPs were not suitable for all projects as if they were a 'passepartout' but needed to be assessed on a case-by-case basis. PPPs may even raise the overall price of project, according to one respondent from the rail sector. Respondents sceptical about private-sector participation stated that private involvement within the rail sector would only be effective in a few specific projects, e.g. high-speed rail. One respondent suggested taking into account the fact that socio-economic costs and benefits often differed from a private investor's evaluation. One Baltic Member State proposed that where infrastructure is based on business needs, a high share of private involvement is possible and desirable. One local administration stated that shifting borderlines between infrastructure and vehicles increases the opportunities for PPP financing. An aviation research institute said that private-sector investment would be limited to business cases with marketability. In cases such as Galileo, where a long phase of preparation precedes market penetration, private investment would be hard to attract. Project financing through Eurobonds remains controversial. Whereas some respondents view this possibility as incentive for strengthening the existing financial platforms, others argue that the EU would go beyond its mandate and escape parliamentary control. Issuance through Eurozone States would weaken the stability and growth pact. Such borrowing would benefit States with poor budgetary discipline. Respondents from the rail sector suggested addressing the difference in construction life cycle between road and rail projects. Road projects would usually need 2 to 3 years, whereas rail projects would typically need 6 to 8 years for completion. Thus, rail projects would often be impeded because they did not fit into the 7-year budget period of TEN-T.

Other new ideas included:

- Establishing a European infrastructure fund/supranational body to coordinate funding;
- Devising a European scoreboard to record year by year the state of implementation of Priority Projects and the funds committed and disbursed by Member States and the EU on each project. This tool would aim to fine tune investment from EU and Member States;
- Taking into account the amounts of funds per capita that each Member State has invested over the past years for evaluating eligibility and performance of future projects (a Member State proposal);
- Distance-related charging should be avoided as this approach entails geographic discrimination, according to one business organisation.

(2) What assistance can be given to Member States to help them fund and deliver projects under their responsibility? Should private-sector involvement in infrastructure delivery be further encouraged? If so, how?

Generally, a huge number of contributors proposed increasing the rates of co-funding. One Member State asked for more flexibility regarding the total amount of support to projects. Similarly, a high number of contributors reiterated the need for combined funding from Cohesion, Structural, EIB, and TEN-T funds where possible to maximise the effect of overall Community funding. But combining cohesion, regional, EIB funds with TEN-T funds was also criticised by some respondents as this could blur the specific goals of each programme. A number of respondents were in favour of lowering the administrative burden linked to the disbursement of TEN-T funds.

One organisation suggested that Community funding should only be disbursed when a Member State faces higher costs than other Member States. One regional administration and one Member State underlined the benefits of a credit with preferential interest rates and guarantees via commercial banks.

One respondent suggested that the EU create a 'sovereign European debt' from which Member States could receive loans. The EU should be more flexible towards MS with a ratio of debt: GDP over 60%. Some contributors proposed to generally improve instruments of the European Investment Bank.

Others proposed to take on board only projects which are economically feasible. A railway organisation suggested creating a European scoreboard to record year by year the state of implementation of Priority Projects and the funds committed and disbursed by Member States and the EU on each project. One member state welcomed an exchange of knowledge and experience within NETLIPSE project on managing large projects.

Regarding private-sector participation, a number of contributors made constructive proposals on how to encourage private involvement. One respondent from the private sector identified the lack of guarantee mechanisms and clear rules of risk sharing under PPPs. In this context, one Member State wanted to encourage States to launch small-scale PPPs as pilot projects and to draft European standardised PPP guidelines on experience, selection, negotiation and implementation in a European standardised toolkit for PPPs. A business organisation suggested that projects could be advised by private companies to make private financing more likely. One Member State proposed benefitting from leverage effects and mobilising private capital by launching PPP projects. More specifically, by increasing the rate of support from EU funds for PPPs, private investors could be attracted. A railway organisation deemed PPP projects to be linked to long-term visibility and guarantees given over return on investments, which necessitates use of the user-pays principle. Another respondent from the railway sector stated that the LGTT (Loan Guarantee for the Trans-European Transport Network) was very useful but should be adapted to the complexity of rail PPPs.

(3) What are the strengths and weaknesses of existing Community financial instruments, and are new ones needed (including 'innovative' instruments)? How could the combined use of funds from various Community resources be streamlined to support TEN-T implementation?

Respondents considered the fixed 7-year budget, clear project eligibility rules, higher subsidisation thresholds from Cohesion Fund and Structural Funds and the focus on prioritised transport infrastructure to be an advantage. The inability to combine financing from different funds was cited as a weakness (*Remark from the EC: This is probably based on a misunderstanding of the rules, see the TEN-T financing regulation EC/680/2007, Article*

7(2) and Article 13(2b)). In this respect, the concept of a one-stop shop for financing is cited in one contribution. As further weaknesses were cited low TEN-T subsidisation thresholds and the fact that subsidies do not increase along with cost. A few respondents found the incentives for investment coordination between neighbouring countries to be insufficient. Furthermore, some Member States pointed to problems in securing national funding by the beneficiary of the EU grant. One local administration believed that, in addition to the costs of infrastructure provision, variable costs (cost of infrastructure operation) should also be taken account of in the Cost-Benefit-Analysis. One respondent from the rail industry believed that, while TEN-T budget prioritises the rail sector, ERDF, cohesion and Member State funds seem to prioritise road transport; they therefore perceive a lack of complementarity and coordination. A railway undertaking stated that EIB loan rates do not appear to be enough of an incentive to create leverage. One regional administration deemed the consideration of peripheral regions under the CF and ERDF to be inadequate. Although two regional administrations saw no need for new financial mechanisms, but instead suggested extending and reviewing current EIB mechanisms and easing and supporting PPP, many respondents made proposals for new financial instruments. An intermodal organisation proposed tax relief for investment completed in advance, a bonus scheme for projects resolving bottlenecks and penalties/bonuses/peer pressure for Member States lagging behind. Another proposal was to divide funds between study research phase and real infrastructure building. One environment-related organisation proposed a system of ex-ante certification of projects in view of their TEN-T status, which could be based on criteria such as the contribution to climate change objectives. In general, some respondents proposed creating new guarantee mechanisms. One railway undertaking proposed issuing 'project bonds' with EIB guarantee of payment. Another new instrument could be a national 'sustainable transport fund' funded by revenue from the internalisation of external costs of transport. Two citizens suggested that maximum funding thresholds should be fixed on a unit basis. This would provide an incentive to build the cheapest infrastructure. One railway organisation deemed a PPP expertise centre (EPEC) to be a useful platform for exchange on PPP issues. One organisation from the road sector proposed establishing a PPP fund, managed by PPP experts, which would give higher value for money. This fund would allocate support directly to PPP schemes. One organisation from the maritime sector suggested that a strategic 'corridor management body' (or what is referred to as the 'Governance body' in the rail freight corridor proposal of the European Commission) would be best to manage or coordinate the allocation of funds and grants according to a cost-benefit analysis, with the Commission overseeing. One regional administration thought that the various existing funds could be combined, which would allow a more efficient allocation of support (taking account of the objectives and the sector concerned).

(4) How could existing non-financial instruments be improved and what new ones might be introduced?

A common consensus seems to be to boost the role of European Coordinators as they have proven valuable in the past. One local administration proposed assigning one coordinator to each TEN-T project. Other local administrations proposed choosing a single coordinator for two corridors when there is a crossing point. However, one Member State opposed more EC coordination; project delays would not be solved by stronger coordination. According to an intermodal association, the EC should be directly involved, especially on cross-border projects, to make coordinators' work more effective. One Member State proposed that Coordinators extend their mandate to the comprehensive network. One environmental organisation expressed the view that coordinators could ensure that high-quality environmental impact assessments are conducted. Representatives of the railway sector

recommended appointing a European manager for rail infrastructure. Corridor coordination is largely viewed positively. However, one Member State opposed public financial support to such business-driven projects, as these projects should be able to attract private investors instead.

The Open Method of Coordination was deemed useful as a governance approach by many contributors, as it helps to inform the public better on the progress of projects. Transparency of data, sharing best practices and establishing performance data were called for. Better accessibility of TEN-T and Natura 2000 GIS data and transparency of information on traffic data forecasts would also improve environmental assessments, according to an environmental organisation. One railway undertaking proposed facilitating access to technical data describing technical and economic parameters of TEN-T corridors. Progress reports on corridors or an observatory on implementation were desirable according to a regional administration. The TEN-T-EA was proposed as a platform for best practice by the rail infrastructure industry. This would serve to increase communication on the progress made by different projects.

Regarding new non-financial instruments, the Commission's proposal for benchmarking was largely supported. Several respondents proposed mandatory deadlines for project implementation to be imposed on Member States. Technical assistance, such as the JASPERS initiative, was also proposed. This could help the Commission to rank projects by their European value-added in view of receiving Community funding. One Member State suggested that all projects of common interest should be subject to a harmonised cost-benefit analysis. They indicated certain national CBA and HEATCO guidelines as an appropriate basis for TEN-T wide application. According to one municipality, coordination at the level of urban regions should be given more attention. One intermodal organisation proposed creating a new entity in charge of the priority network. This entity would be responsible for supervising safety, security standards, traffic flow, interoperability design etc.

Commission Working Document: Consultation on the Future Trans-European Transport Network (Consultation period: 04/05/2010 – 15/09/2010)⁹⁷

This consultation was based on a document drafted following the input of the previous consultation, including as main elements the proposed planning methodology for the TEN-T and ideas on how to enhance the effectiveness of instruments for TEN-T implementation.

As a key issue for the revision of TEN-T guidelines and for the post-2013 multi-annual financial framework has been how to ensure the best possible use of the EU financial contribution in order better to achieve the objectives set out in the Guidelines, the Commission has consulted stakeholders on the following aspects:

In which way can the different sources of EU expenditure be better coordinated and/or combined in order to accelerate the delivery of TEN-T projects and policy objectives?

How can EU funding strategy coordinate and/or combine the different sources of EU and national funding and public and private funding?

Would the setting up of a European funding framework adequately address the implementation gap in the completion of TEN-T projects and policy objectives?

The majority of contributors, especially at Member State and regional level, support better coordination between different financial instruments that fund TEN-T at Community level,

⁹⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0212:FIN:EN:PDF>

namely Cohesion and Structural Funds (CSF), research funding, the TEN-T programme and the EIB's interventions. However, there is little support for the idea of merging the TEN-T programme and the part of CSF funding transport investments in a single fund. Some reject it as immature and putting transparency at risk, while some Member States emphasise the need to focus on the development needs of cohesion regions. One Member state asks for clarifying the role and the goals of the different funding instruments available. One environmental organisation sees the possibility of a merging the different funds as a possible chance to achieve climate change goals and to assure greater coherence of the different projects. There is strong support among the respondents, including some Member States, for the idea of an integrated financial framework, guiding investments in TEN-T across the different funding instruments. Such a framework could contribute to an optimisation of the use of EU funding and remove the confusion that is sometimes felt when it comes to EU support. Moreover, a funding strategy should aim at better coordinating the available sources of financing and concentrating available EU resources on projects of strategic importance and high European added value. The support for an integrated financial framework goes often together with the emphasis on demonstrating stronger EU added value for projects financed with EU funds, i.e. focus on the Core Network on cross-border projects. The concept of EU added value should be objective, clear and transparent, with considerable attention paid to the cross-border aspect (at both internal and external borders). There is support for maintaining the option of co-financing different parts of big infrastructure projects from different sources (e.g. CSF and TEN-T). Some support the idea of increased cofinancing when the projects considered make a particular contribution to environmental or innovation objectives. There is limited support for generating additional sources for funding from infrastructure charges or revenues from emission trading schemes and earmarking them to be reinvested by the Member States for their infrastructure. However, some Member States support the reinvestment of all revenues coming from the application of Eurovignette in the transport field, while tolls and revenues generated by road transport should be entirely earmarked to transport investments and not destined to other purposes. Some local authorities are in favour of introducing congestion charging. Some Member States feel that user financing is also an important way to generate revenue for national infrastructure investments and at the same time internalise external costs caused by transport. Although, most Member States clearly point out that planning and implementation has to be done by them, some associations and European organisations prefer a centralised approach led by the EU level.

There is a wide range of diverse proposals concerning the focus future funding should:

- focus on cross-border sections or – in other contributions - on sections crossing natural barriers,
- focus on projects of strategic importance and high EU added value (e. g. projects being part of several TEN-T sections/ nodes and/or connecting TEN-T with regional feeder and distribution networks),
- focus on demand management projects, like road pricing schemes and traffic avoidance projects,
- focus on low-carbon energy infrastructure and projects to improve transport efficiency,
- focus on existing infrastructure and capacities (e. g. upgrades, maintenance) and less focus on building new infrastructure.

A contributor from the private sector reminds of possible distortion of competition effects which have to be checked in advance. Others are calling for an approach also including important sections of Trans-European axis within a Member State, especially in transit

countries. One proposal comments the different cost-benefit analysis and calls for a common approach for assessing them. One Member State is also asking for funding possibilities for maintenance of existing routes.

As regards the role of public-private partnerships (PPP), contributions are contrasted: some appreciate the "just-in-time, just-in-cost" contribution to infrastructure investments and therefore propose the promotion of PPPs, while others see private involvement in infrastructure development as problematic because of the inherent risks to be borne by public administrations (e. g. difficult negotiations to conclude contracts, possibly higher investments costs, financing risks). PPPs do not make extra money available, but help spread out the payments over a longer period of time. Therefore PPPs are seen as useful for very specific sections, but could neither be a systematic solution nor an alternative to the scarcity of public funds.

One contributor proposes coordination and grouping of the EU funding for financing Priority Projects and calling for an adjustment of time horizons of the EU programmes and funding schemes to pay attention to the more long-term planning horizons and implementation horizons of the projects to gain security for planning and financing.

3) TEN-T Policy Review Expert Group 5: Funding Strategy and Financing Perspectives for the TEN-T (Final report 7.7.2010)

To support the Commission, six expert groups were set up, consisting of external experts from various fields: infrastructure managers, infrastructure planners, national, regional and local representatives, environmental experts, academia, etc. Expert Group 5 focuses on funding and financing.

a) General comments of the Group

The current TEN-T is not yet a network, at best the aggregation of transport corridors. The experts called for greater coordination between the Member States and the stakeholders involved in the delivery and the operating of TEN-T projects. They also pointed out the current weaknesses in designing and evaluating the projects.

b) Greater appeal to the transport revenues and internalisation of externalities

- the huge constraints posed on public resources, worsened off by the financial crisis, which will durably limit the capacity of Member States to fund large projects;
- the challenge to better take into account European objectives in terms of climate change, energy efficiency and innovation;
- the need to adapt to the users requirements (the clients) and to increase the affordability and the profitability of the projects;
- the insufficiently explored potential for a greater involvement of the private sector in the delivery of the TEN-T.

Greater appeal to user fee collection. Indeed generating more revenues from transport activities – and ensuring that these revenues remain to their great extent in the transport sector, would significantly relieve national budgets by covering at least the maintenance costs and the operating costs.

Ultimately the Group agreed that earmarking could be a viable financing solution if applied at least on trans-European corridors.

c) The EU funding issues: greater coordination and focus on the added-value

In order to connect national networks, the completion on cross-border sections are of vital importance, but it can only be achieved if the Member States concerned can coordinate themselves not only politically speaking but preferably on operational and financing terms too.

The Group finally stated that the EU contribution should be channelled to projects and programmes with the highest EU added-value (EUAV). However the experts suggested that emphasis should also be equally given to the promotion of profitable projects in line with the TEN-T policy in order to pace the completion of the network.

d) The participation of the private sector

The discussion focused mainly on Public Private Partnerships (PPPs) and on the various opportunities to increase liquidity in response to the crisis.

To facilitate the participation of the private sector in the delivery of the TEN-T, the experts also stressed the usefulness of instruments whose object is to mitigate the risks and their associated costs, especially in the framework of availability-based PPPs. The Group suggested that these instruments could take the form of guarantees which could be called by the private partner on first demand.

Some members also proposed to give further considerations to bonds opportunities - in particular for the issuance of project bonds for TEN-T projects, which could be bonds guaranteed by the EU budget to be sold directly on the international markets.

The infrastructure investments and the "real economy"

(1) In line with the Europe 2020 Strategy and in particular its "resource efficient Europe" flagship initiative, the Commission should set infrastructure investments, in particular transport infrastructure, as a political priority to exit the crisis and to ensure growth for Europe. This priority should be reflected in the post-2014 Multi-annual Financial Framework (MFF).

(2) The Group encourages the Commission to investigate further on the opportunity to deconsolidate some "productive investments" such as (transport) infrastructure from the government deficit with the objective to accelerate the exit of the crisis. Some temporary amendments to the Stability and Growth Pact could be envisaged.

Project's definition and project's preparation

(3) The TEN-T, and in particular the TEN-T Core Network, should give more focus to (financially) affordable and profitable projects (e.g. projects which can generate sufficient revenues to use more effectively public funding).

(4) For the non profitable projects/programmes, due EU economic and net social benefits (EUAV) should be demonstrated in line with the various EU policy objectives and the EU 2020 Strategy.

(5) The Commission should then provide a standard framework for the assessment of the EUAV of TEN-T Projects, including propositions for a harmonization of the Cost Benefit Analysis.

(6) The fulfilment of a standard evaluation should be conditional to the allocation of TEN-T funding.

(7) Only projects with due financial profitability and/or with a positive EUAV should be considered for TEN-T funding.

Improving efficiency in the implementation process and in the use of public capacity

(8) The mandate of the European Coordinators could comprise more responsibilities as regards coordination. In particular with a dedicated support from DG MOVE, the Coordinators could contribute to the financial, the technical and/or the operational coordination of their corridor. This can include participating in the elaboration, the checking and/or the endorsement of critical pieces related to the projects within the corridor, such as financial engineering, corridor planning, technical issues, pricing, operation, etc.

(9) TEN-T corridor bodies - for instance in the form of European Economic Interest Group (EEIG), could be set up under the approval of the Commission. They could be composed of infrastructure managers, representatives of the Member States and operators involved in the corridors. They could participate in the bottleneck definition (developing a masterplan at the corridor level), pool national and European resources and ensure operational coordination of the corridor.

(10) TEN-T funding should become more conditional to the pooling of national resources along the corridors of the forthcoming TEN-T Core Network so as to ensure completion of the projects/corridors. The conditionality can be reflected in the co-financing rate, by way of either incentives or full conditionality (no cofinancing if no pooling).

User fee collection schemes and earmarking of the revenues

(11) The Commission should foster (potentially make compulsory) pricing the use of the infrastructure with earmarking of the revenues on the TEN-T Core Network, and encourage its use for the secondary network.

(12) The implementation of user fee collection could be reflected in the support rate by way of either incentives or full conditionality.

(13) The Commission should review the conditions attached to EU grants in the Cohesion area where a user fee collection is in place so as to ensure non discriminatory treatment.

Eurovignette I & II: paving the way for a greater internalisation of external costs at the EU level

(14) The implementation of Eurovignette should be set as a political priority by the European Commission. A first step would be to make its application compulsory on the TEN-T Core Network.

(15) The Commission should foster the use of cross-financing for the removal of critical bottlenecks within the TEN-T Core Network. A list of TEN-T priority projects within the Core Network which should be subject to cross-financing could be defined.

(16) Further investigation on the potential of positive externalities as surplus generation for funding should be considered.

(17) The Commission could propose that part of the revenues generated by the internalisation of externalities could be transferred to the EU level with the perspective of leveraging funds for further TEN-T operations. It could be saved into a dedicated fund managed either by the Commission or by the European Investment Bank (EIB) with specific goals as regards TEN-T implementation, for instance financing guarantees for Public Private Partnership deals.

Focus on the EU added-value (EUAV)

(19) The TEN-T contribution should focus on investments with strong EUAV as defined in the TEN-T Core Network and in the TEN-T conceptual pillar.

(20) The TEN-T funding should take into account “quick wins” opportunity based on soft investments which can significantly improve the efficiency of the network at lesser costs. Both horizontal measures and self-sustainable programmes could apply as “quick wins”.

Leverage of the EU contribution

(21) The Commission should investigate further on the possibility to better coordinate the Cohesion and structural funds and the priority TEN-T investments, without prejudice to the objectives of the Cohesion policy.

(22) The TEN-T policy should define Core Network Priority Investments (CNPIs) for the next Multi-annual Financial Framework (post 2014). These CNPIs would comprise a short list (max. 10) of priority projects/programmes within the TEN-T Core Network where the leverage effect of the EU contribution will be concentrated. It would typically concern the removal of major bottlenecks of the network.

(23) Conversely, road or air projects outside the TEN-T Core Network should not be considered for TEN-T co-financing.

(24) The Commission should consider the opportunity of revising the TEN-T co-financing rates. For instance for the CNPIs, the co-financing rates could go beyond 30% (up to 50%) of the eligible cost so as to make a significant difference in the funding of genuine EU priorities.

(25) A ratio of up to [-5% : +5%] could be applied to the standard co-financing rates depending on performance criteria such as: effective implementation of transport policy measures of EU significance (railway packages, ERTMS, Eurovignette, etc.); absorption (quality of the evaluation, degree of preparation and readiness of the projects); European coordination, generation and earmarking of transport revenues; etc.

The PPP market and the TEN-T projects

(26) The Commission should support the continuation of the European PPP Expertise Centre (EPEC) in the next Multi-annual Financial Framework.

(27) The allocation of TEN-T grants could be made conditional to the application of a ‘Public Sector Comparator’ (*). The TEN-T Executive Agency could provide assistance to the beneficiaries in this domain, including considerations for a standard framework for the PSC.

(28) DG MOVE with the support of the TEN-T Executive Agency and the European Investment Bank (EIB) could identify and assess TEN-T projects with PPP potential in order to form a PPP project pipeline.

(29) With relation to (28), amongst the PPP project pipeline DG MOVE could select some projects to act as 'pilot projects'. A project coordination team including staff from the EU Institutions could be set up to accompany the project and the beneficiaries from the project preparation through, to financial close.

(30) The Commission should provide a standard framework to the blending of EU Grants and (TEN-T) PPPs, considering both the Cohesion funds and the TEN-T budget.

(31) The Commission could consider the use of escrow accounts to contribute more effectively to PPP deals.

(32) The Commission should consider putting on hold any change regarding the accounting rules for PPP investments. In times of crisis, if carefully used, PPPs could relieve pressure on public finance. The change currently envisaged in ESA 95 would result in bringing on-

balance sheet almost all PPP investments. However a clarification of the existing rules could be helpful.

Ideas on the future financing of the TEN-T

(33) The Commission and the EIB should broaden the scope of the current LGTT by enlarging its applicability for availability-based PPPs and extending the guarantee period to the whole duration of the PPP contract.

(34) The Commission together with the EIB should investigate further on the guarantee mechanisms capable to be called on first demand, in particular for availability-based schemes.

(35) In order to ensure more flexibility as well as to be able to respond to the market needs on time, the TEN-T regulation could enhance its provision to risk sharing facility from 1% to 10% of the overall TEN-T budget (*). The funding of LGTT would be included in this envelope.

(36) The creation of a financing instrument under the TEN-T regulation should be associated to a pilot project in order to ensure right response of the market, with reasonable prospects as regards a potential project pipeline. If recommendation (35) was to be adopted, the creation of a new risk sharing facility could intervene at any moment during the next budgetary period.

(37) Conversely if a financing instrument is not performing well, the TEN-T regulation could foresee conditions for the termination of the instrument before the end of the budgetary period. The refund of the TEN-T contribution would then be used for other financial transactions.

Developing Capital Market initiatives for the TEN-T: the case of bond issuance

(38) The Group encourages the Commission to investigate further on the feasibility of issuing E-bonds. Given the limited capacity of Member States to borrow on the market due to their current deficit and level of indebtedness, this solution - maybe temporary, could benefit to "productive investments" and accelerate the exit of the crisis.

(39) The EIB and the Commission should support the development of TEN-T project bonds, notably by providing credit enhancement facilities (guarantees).

(40) DG MOVE, with the support of the TEN-T Executive Agency and the EIB should assess the TEN-T project pipeline in order to identify potential candidates for project bonds.

BROADBAND AND DIGITAL INFRASTRUCTURE

In the field of broadband rollout, numerous consultations with Member States, industry and social stakeholders have been carried out for individual initiatives in the field of broadband infrastructure, digital services and their financing aspects such as:

- In March 2011 Vice-President Kroes convened a "roundtable" of CEOs to request them to come forward with concrete proposals on how to address the broadband investment challenge. The CEOs, from a broad range of companies and stakeholders with an interest in broadband networks (including content providers, equipment makers, investors and telecoms operators), on 13th July submitted a paper summarising their common position.⁹⁸

⁹⁸<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/11/508&format=HTML&aged=0&language=EN&guiLanguage=en>

- The first Digital Agenda Assembly took place in Brussels on 16th and 17th June 2011. There were two workshops dedicated to the rollout of broadband, several more on digital services. Altogether, the Digital Agenda Assembly was attended by more than 1,000 participants.
- For the use of the financial instruments, the Mid-Term Evaluation of the Risk-Sharing Finance Facility, was completed by a group of independent experts in July 2010, concluded that the use of Financial Instruments in addition to grants as "having dramatically expanded the financing" of research and innovation efforts.
- With the support of the EU, the EUTC (European Utilities Telecom Council) is managing, since January 2009, ICT4SMARTDG an open virtual forum where stakeholders in the telecommunications services sector meet with stakeholders within the local distributed power generation sector, the manufacturers of local renewable sources and the distribution system operators. The objective is to create consensus on how to implement smart grids from the technical, financial and regulatory points of view.
- Finally, DG INFSO is currently managing an expert group on synergy between electricity utilities and telecom operators. The aim of the group is to bring together these two sectors in order to identify synergies at infrastructure and services level for the deployment of Smart Grids. The main conclusion of a recent (27 May 2011) workshop was that significant and sustained capital investment is required and that opportunities to use existing infrastructure exist, and collaboration in the development and operation of new systems can be beneficial for both.

As far as digital services are concerned consultations have taken place for European multilingual services and Safer Internet, while sustainability studies are currently ongoing for STORK, PEPPOL, and digital libraries. All these studies include consultation and interviews with relevant stakeholders.

ANNEX 2

Ex-post Evaluations

CROSS-SECTORAL

Commission Communication "Trans-European Networks: Towards an integrated approach", COM(2007) 135

The Communication is the outcome of the work of a steering group constituted of five Commissioners, set up on 20 July 2005, at the request of the Commission, to examine the possible synergies between the trans-European networks along with methods of funding and potential distribution. It has established that synergies between the transport and telecommunications networks seem the most promising and ways of interconnecting the electricity networks are also worth exploring.

The steering group also underlined the potential environmental benefits of integrating the TEN. In fact, the 30 priority projects involving the trans-European transport network largely favour methods of transport which are more fuel-efficient and environmentally-friendly, such as rail or water. Interconnections between the national energy networks and connections with renewable energy sources will also optimise the use of available capacities in each Member State, thus reducing the environmental impact.

The steering group recommended: continuing research into synergies between the TENs with the aim of producing and circulating a manual of good practices, and developing synergies between the objectives of cohesion policy and the priorities adopted in the TEN context; evaluating the need for alternative solutions for availability payments over several financial periods and making appropriate legislative proposals if necessary; monitoring the development of public-private partnerships and promoting this type of funding; completing TEN priority projects on schedule while ensuring the application of environmental law

"Synergies between trans-European networks. Evaluations of potential areas for synergic impacts", Final report, ECORYS, 2006.

This study, undertaken at the request of the steering group on possible synergies between the trans-European networks, has identified a range of examples of possible *synergies* between various types of projects across the sectors:

- (1) *procedural* – arising from the integrated planning of various infrastructure networks (e.g. coordinated planning across modes and borders; single Strategic Environmental Assessment, combined land acquisition, common consultation process for packages of infrastructure);
- (2) *physical* – either lower costs and impacts due to the combined construction of sections of infrastructure networks and structural works, alongside both existing and new infrastructures such as bridges, tunnels, underpasses and the like (for e.g. laying high-voltage cables along the banks of canals and rivers, low-voltage interconnections (2 x 25 kV) along high-speed railway lines, more systematic interconnections of underground high-voltage lines (300 to 700 kV) along transport network paths); or higher efficiency of infrastructure as in the case of the deployment of smart grids on energy networks, essential for decentralised energy production, and deployment of ICT services and broadband infrastructure in transport for intelligent traffic management;
- (3) *financial* – the additional value or revenues that can be created and captured by the infrastructure provider or operator when sections of infrastructure networks are combined.

However, no steps have ever been taken on the EU level to allow exploiting synergies in terms of programming and disbursement of the EU financial aid or procedures (impact studies, planning and budgetary arrangements).

ENERGY INFRASTRUCTURE

The chapter on energy infrastructure summarizes the main conclusions from the most recent ex-post evaluations carried out between 2008 and 2011 to provide an overview on the main recommendations for the revision of the TEN-E programme. A comprehensive list of other studies and contributions is made available in addition.

In 2007 the **Commission Communication on the Priority Interconnection Plan**⁹⁹ concluded that with existing infrastructure investment, the EU would be able to construct a real single internal market. It would not be able to integrate the required increased production of electricity from renewable sources. It would continue paying higher costs as a result of congestion and of maintaining inefficient capacity in each of the insufficiently interconnected energy areas. The Plan suggested further action to provide support to key infrastructure undergoing significant difficulties by appointing European coordinators to pursue identified priority projects, by planning of grids according to consumer needs, by ensuring the acceleration of authorization procedures and by providing a clear framework for investment.

The study by **Ramboll and Mercados "TEN-E Priority Corridors for Energy Transmission" by the Commission DG Energy and Transport in 2008** provided an in-depth analysis of the major interconnections and priority areas for both gas and electricity within the EU and to link the EU with key external supplies.

The **2010 Commission implementation report on the TEN-E networks 2007-2009**¹⁰⁰ concluded that there is a need to narrow the focus of TEN-E on a limited number of strategic projects demonstrating European priorities. It pointed out that EU strategic interests, related to large gas import infrastructure and the connection to upstream sources or electricity interconnections with third countries lie well beyond EU borders. Connecting TEN infrastructures to neighbouring and third countries' networks, in particular in the areas of energy and transport, constitute an important dimension of TENs development in order to further leverage their EU added-value. However, in both areas, the TEN-E programme under the current financial framework does not allow EU funding of projects outside the EU to support and match ENPI and IPA instruments.

The **European Energy Programme for Recovery (EEPR)** has played an important role as driver and facilitator for project implementation as acknowledged on several occasions by mobilising infrastructure projects and mitigating disruptions of supply with negative effects on citizens and the European economy. The **report from the Commission to the Council and the European Parliament on the implementation of the European Energy Programme for Recovery**¹⁰¹ outlined the lessons learnt from the EEPR and evaluated its impact. The report highlighted that the large-scale support from the EU side allowed the energy infrastructures to gain a truly European dimension and to contribute to the implementation of the third internal market package and of the new Regulation No 994/2010 on security of gas supply. EEPR helped to improve the way the internal gas market works by providing for interconnections between western and eastern parts of the EU, in peripheral

⁹⁹ COM(2006) 846 final

¹⁰⁰ COM(2010) 203

¹⁰¹ COM/2011/0217 final

Member States and in Central and Eastern Europe, by progressively completing a bidirectional gas pipeline network and by bringing ‘energy islands’ closer.

The EEPR also supported the external energy relations by illustrating external suppliers such as Turkmenistan, Azerbaijan and Iraq the EU interest and support for the Southern corridor and Algeria for the Mediterranean corridor on the interest of the European Union in diversification of energy supply routes. The electricity projects supported are lending strong impetus to completion of the internal market with the full participation of all parts of the European Union and bringing major improvements to the security of supply of the countries and regions concerned. The programme also helps to abolish bottlenecks and integrate ‘energy islands’ such as the Baltic States, the Iberian peninsula, Ireland, Sicily and Malta. Several new interconnections are also very important for integrating renewable energy sources into the electricity system.

In conclusion, the EEPR has speeded up implementation of projects by financing specific action, such as technical, engineering and environmental studies, procurement of long-lead items (pipes, cables, converter stations, transformers, etc.) and construction work. Thanks to the programme, project promoters were able to secure additional funding from financial institutions. Moreover, EEPR support supported a number of projects that were facing serious permit granting delays to receive priority in the procedure from the national administrations. The European Energy Programme for Recovery (EEPR) was a clear driver for timely implementation of infrastructure projects. It provided an incentive to quickly agree on outstanding issues to all stakeholders involved, national regulators, project promoters and Member States.

In November 2010 the Commission **Communication on the "Energy infrastructure priorities for 2020 and beyond – a blueprint for an integrated European energy network"**¹⁰² identified investment needs and potential financing gaps for the horizon 2020. Until 2020, the investment challenge in the EU energy sector is expected to amount to around €1 trillion with €600 billion alone for transmission and distribution networks. Some €140 billion will need to be invested in high voltage electricity transmission systems of European significance including storage and smart grid applications at transmission and distribution level. About €70 billion will be required for high pressure gas transmission pipelines (coming into the EU and between EU Member states), storage, liquefied/compressed natural gas (LNG/CNG) terminals and reverse flow infrastructure¹⁰³. It has been further estimated that projects worth €60 billion would be at risk of not being delivered as needed by 2020 if the existing regulatory and financing framework did not improve.

The October 2010 study by **COWI, Cambridge Econometrics and KEMA** on "**The revision of the trans-European energy network policy (TEN-E)**" provided input into this analysis of the future priorities and financing gaps.¹⁰⁴

In Spring 2011 **Roland Berger** prepared two evaluation studies for the Commission DG Energy on the **structuring and financing of energy infrastructure projects, financing gaps and recommendations regarding the new TEN-E financial instrument** and on **Permitting procedures for energy infrastructure projects in the EU: evaluation and legal recommendations** (Annex: Selection of good practices in Member States).¹⁰⁵

¹⁰² COM(2010) 677

¹⁰³ SEC(2010)1395

¹⁰⁴ The study is available at:

http://ec.europa.eu/energy/infrastructure/studies/doc/2010_11_ten_e_revision.pdf

¹⁰⁵ The studies are published at the following link:

http://ec.europa.eu/energy/infrastructure/studies/ten_e_en.htm

According to the financing study prepared by Roland Berger, investment volumes for the 2010-2020 period will, based on forecasts by transmission system operators (TSOs), increase by 30% for gas and 70% for electricity compared to current levels. This confirms the Commission's assessment that in electricity, annual investment will even have to double, compared to investment over the period 2000-2010¹⁰⁶.

On the basis of the analysis of the **financing of energy transmission infrastructure projects** over the past five years, Roland Berger highlighted the need to enhance the investment climate, increase capital market readiness of the energy networks, remove institutional barriers to enhance the private equity investment and stimulate unbundling and industry consolidation. With a view to mitigate the financing gaps and the design of a new TEN-E financial instrument, Roland Berger recommended market-based financing. As main condition for increased investment volumes to come forward by the market operators, Roland Berger suggested to strongly improve investment conditions through measures for projects with high priority for implementation, including priority premiums for projects facing particularly high risks and to provide support for specific project types through the inclusion of anticipatory investments in the regulated asset base. On the design of the future EU support the study concluded that a further development of the TEN-E programme is needed with a continuous financial support by grants in combination with stronger EIB support and new financial instruments and funds, like a Transmission Infrastructure Fund (similar to Marguerite Fund). Roland Berger saw also a role for the EU to support TSOs to access corporate bond markets and to receive a credit rating and support and mediation for complex cross-border projects and financial management.

With regard to **permit granting procedures**, Roland Berger assessed permitting practices in 13 Member States, identified best-practices and provided recommendations on policy measures to implement. Among the main recommendations Roland Berger considered the need to improve transparency and management of the processes by defining projects of public interest, by creating national and European energy infrastructure supervision, by implementing and monitoring plans and by establishing time limits. The study also recommended that Member States should designate one-stop shops with decision-making power where possible. Thirdly, the study suggested the need to optimise the permitting procedures by introducing mandatory scoping and by limiting recourse to a single level of jurisdiction. Further measures to improve stakeholder involvement and communication, including a communication strategy at EU level, were suggested.

Following a request from the Council, the Commission presented, in a **Staff Working Document**¹⁰⁷ to the **June 2011 Energy Council**, an analysis on (1) the investment needs of European relevance in electricity and gas infrastructures, (2) the investments at risk of not being delivered due to various obstacles, and (3) the measures proposed to respond to the financing requirements and overcome the obstacles identified. The Commission approach has been subsequently supported by the Committee of the Regions¹⁰⁸ and the European

¹⁰⁶ The 2006 inquiry into the European Gas and Electricity Sectors underlined that "Amounts invested in cross-border infrastructure in Europe appear dramatically low. Only 200 million € yearly is invested in electricity grids with as main driver the increase of cross-border transmission capacity."

¹⁰⁷ SEC(2011) 755

¹⁰⁸ CoR 7/2011 rev. 2 – ENVE-V-010

Parliament¹⁰⁹. The latter also came out in favour of using the EU budget to promote the energy infrastructures¹¹⁰.

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- * Centro Elettrotecnico Sperimentale Italiano, Instituto de Investigación Tecnológica, Mercados Energeticos, Ramboll, "Energy Infrastructure Costs and Investments between 1996 and 2013 (medium-term) and further to 2023 (long-term) on the Trans-European Energy Network and its Connection to Neighbouring Regions with emphasis on investments on renewable energy sources and their integration into the Trans-European energy networks, including an Inventory of the Technical Status of the European Energy-Network for the Year 2003" (TEN-Energy-Invest), study for the European Commission DG Energy and Transport, October 2005.
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¹⁰⁹ European Parliament resolution of 5 July 2011 on energy infrastructure priorities for 2020 and beyond (2011/2034(INI))

¹¹⁰ European Parliament resolution of 8 June 2011 on Investing in the future: a new Multiannual Financial Framework (MFF) for a competitive, sustainable and inclusive Europe (2010/2211(INI))

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- * EWI, "Model-based Analysis of Infrastructure Projects and Market Integration in Europe with Special Focus on Security of Supply Scenarios", University of Cologne, May 2010.
 - * "EWIS – European Wind Integration Study", final report, March 2010. <http://www.wind-integration.eu/>
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TRANSPORT INFRASTRUCTURE

Loan Guarantee Instrument for TEN-T Projects – Mid-term Review, European Investment Bank, July 2011

Findings. The LGTT has been successfully utilised in a number of traffic revenue-risk TEN-T PPP transactions from 2008 to date: six operations in France, Germany, Portugal and Spain, in the road and rail sectors involving a total capital investment of more than EUR 10bn. By improving the risk profile of the senior debt, the LGTT has enabled revenue risk TEN-T transactions to close even in recent adverse market conditions. It has also generated a high multiplier effect/leverage on the risk capital committed by the EC/EIB to the LGTT. The LGTT has been incorporated into the financing of most eligible revenue-risk TEN-T projects reaching financial close, while the current LGTT pipeline involves a further capital investment of EUR 13bn. The positive market perception of the LGTT will also facilitate the market introduction of another joint EIB/EC credit enhancement instrument: the Europe 2020 Project Bond Initiative.

Recommendations

- In the context of the development of the **Project Bond Initiative**, which will apply from 2011-2020, it is proposed that the LGTT be also developed further in order to align it with the

Project Bond instruments and to allow the instrument to profit from its established market credibility to credit enhance commercial bank senior debt.

- Changes in the EC/EIB LGTT cooperation agreement should be introduced, notably in order to align it to the Project Bond instruments, to the extent allowed by the existing legal basis;
- In addition, the scope of LGTT application should be extended to credit enhance senior debt of projects to be refinanced early in the operating period (up to 5 years post construction);
- The risk- and revenue-sharing mechanism should be aligned to follow the principles of the Project Bond Initiative to the extent possible.

Mid-term evaluation of the TEN-T Programme (2007-2013) - final Report, Steer Davies Gleave¹¹¹, March 2011

Steer Davies Gleave was appointed to conduct a Mid-term evaluation of the trans-European Network transport Programme (2007-2013). The report formulates overall conclusions and possible recommendations on the implementation of the TEN-T Programme with a view to providing input to the revision of the TEN-T Programme and policy.

Findings. The **objectives** of the Programme are so general that it makes any evaluation of the Programme successes difficult. The Programme has been the catalyst to a number of key pieces of transport infrastructure in Europe, and has been playing a part in the structuring of the transport network by allowing transport investments to be focussed. Its political leverage is high but its financial leverage is poor. The Programme has clearly made a positive contribution to the mobility needs of the European citizens and goods. However some aspects of the Programme need to be improved which requires a revision of the Guidelines and Regulation and of some internal aspects of the Programme practices.

The Programme's **reporting requirements** are significant, with a system of doublechecks in place. Member States are required to undertake technical monitoring and financial control of projects in close cooperation with the Commission, and need to provide the Commission with a description of the control, management and monitoring systems set up to ensure that projects are successfully completed. This is also the case with the selection procedures for TEN-T funding meaning that projects must be endorsed and assessed by the Member States first. This process increases the checks and scrutiny that project plans are put under.

The **political leverage** of the Programme is however much higher than its share of funding would otherwise suggest as recognised by all stakeholders. For Member States it is more difficult politically to cancel projects once they have been selected in the TEN-T projects, so if projects as a part of national austerity programmes have to be losing national funding it is expected that those TEN-T projects will not be at the top of this list. For the private sector the "seal of endorsement" provided by the EC funding of TEN-T projects is less likely to play a significant role in the decision to invest in projects, but it shows a stronger public commitment to these projects, meaning that the project is less likely that some others to see its funding cancelled or postponed.

The EU **funding is fragmented** between the TEN-T Programme, the Cohesion and the Structural funds and the evaluation found that the Programme would benefit from a stronger

¹¹¹http://ec.europa.eu/transport/infrastructure/midterm_review/doc/final_report_v_to_commission_12_04_2011.pdf

partnership between DG REGIO and DG MOVE to achieve the EU transport policy objectives.

Cross-border projects are progressing slowly and are fragmented because of the lack of cooperation and coordination amongst Member States but cross-border projects are some of the projects of the highest EU added value and therefore require continued and stronger Programme focus by considering a higher cofunding rate, or a specific allocation of the total budget to these projects.

The **sources of finance** for the trans-European transport network come from both the public and private sector but are largely geared towards national and European Union financial instruments. First of all, this is because of the private sector's fundamental need to identify a revenue stream and understand the distribution of risks (identification, mitigation and allocation). When the revenues are too low or the risks too high, the private sector will simply not be willing to invest and the burden of financing is reliant on national governments. Secondly, this is also because there are no clear incentives for the public sector to consider using PPPs (if at all) at the right time (i.e. from the start), except in a few countries. This explains why there has been a certain level of passivity with regards to PPPs.

PPPs are also lengthy and costly to arrange, usually requiring contracts of 20-years or more in length, and also require additional skills and financial resources. It is recognised that PPP preparation is too time consuming and costly for small projects. Additionally, it requires the projects to be well-prepared at the beginning of the budgetary period so that the procurement process can be completed before the end of the relevant financial period (e.g. 2007-2013)²⁰. The 2008-2009 "credit crunch" has also increased the difficulty for the private sector to provide long-term borrowing, raising of debt, and refinancing.

The structure of the Programme with the **Multi-Annual Work Programme** receiving between 80 and 85% of the available funding and the Annual Work Programme being allocated to the rest was found to be adequate, but some implementation issues need to be addressed: among them the MAP call calendar, the separation of mixed proposals into works or studies, any improvement in cost-benefits analysis and better incentives of project delivery.

Project delivery should be better incentivised: The Commission should be able to use more effective project **incentives** (such as the "use it or lose it" rule) to make sure that project promoters are feeling more accountable for the EU grants given, including on Priority Projects.

The TEN-T Programme is allocated through a competitive **call for proposals** procedure and the award of funding is subject to on-going technical and financial monitoring of all funded projects by the TEN-T Executive Agency. The TEN-T Programme also benefits from a re-distribution mechanism during the financial perspective.

Since 2005, **European Coordinators** have been appointed by the European Commission to focus attention on specific trans-European Priority Projects that present severe difficulties and lag significantly behind in completion compared with their initial schedule. Currently there are 9 Coordinators who are monitoring 11 Priority Projects. Their mandates end in July 2013. One of the common features of these projects is that they involve several Member States, which renders coordination between the project countries especially difficult and potentially hinders the speed of decision making.

Assessment of TEN-T Programme Implementation, TEN-T EA, December 2010

The assessment highlights areas that need improvement towards the better customization of procedures, on the one hand, and effective policy implementation, on the other. A strategic reflection on the orientation of TEN-T policy and, at the same time, the structure of the TENT Programme, in conjunction with small-scale adjustments at the level of operational management promise a further significant enhancement in terms of both efficiency and effectiveness.

Of particular relevance was the need to address the issue of the overall financing of the TENT Programme. Under the current financial perspective, the TEN-T Programme represents the smallest endowment to the TEN-T network next to the funds made available through the ERDF and the Cohesion Fund in the form of grants, and the loans granted by the EIB. This is surprising considering that the TEN-T Programme is the one which encapsulates the essence of what represents EU added-value, which, after all, is what drives, or should drive, the development of the TEN-T network. That the TEN-T Programme budget is not enough is shown by the low retention rates of proposals (despite the evaluations) and the frequent failure to meet the maximum co-funding rates as foreseen by the TEN-T Regulation. Improving the efficiency and effectiveness of the TEN-T Programme will be strongly facilitated by the increase of its budget during the next financial perspective.

It is important to make an effort to avoid excluding important projects of high EU-added value from the selection procedure even if such projects entail more risks. One way forward in this respect would be to introduce the ‘corridor concept’ already at the proposal submission stage accompanied by respective agreements. This would accelerate the implementation of relevant Actions in addition to placing their realization within a global perspective, so that technical, political and financial impediments can be more effectively addressed.

Several project officers expressed concerns about budget overruns because these then result in reduction of the relative effectiveness of the EU contribution—a problem in terms of leverage as well as for publicity purposes.

A number of officials interviewed were of the opinion that one way to improve the levels of national commitment to the TEN-T policy would be by increasing the rate of co-financing of key projects. This would automatically also increase the Agency’s leverage in terms of monitoring and evaluation.

One of the priorities of the annual programme for the year 2010 has been to explore the potential for developing public-private partnerships or PPPs on Priority Projects or projects of common interest on the TEN-T network. 10 million has been earmarked for this purpose. This priority follows renewed attempts by the TEN-T Programme to encourage the involvement of the private sector in the financing of transport infrastructure.

Preparatory work is, however, needed, including pilot activities for testing the readiness of the private sector to engage in the transport sector under various financial engineering models. This is what lies behind the feasibility studies to be supported under the 2010 annual programme. This idea deserves further elaboration and enhancement during the annual calls in 2011 and 2012.

Since its creation, the Agency has harnessed its working methods towards the optimisation of project monitoring and implementation mechanisms. This has included the careful preparation of high quality Commission Decision texts with detailed technical descriptions and accurate implementation timetables, in order to facilitate the monitoring of the actions. Besides specifying the type of action, the co-financing rate and maximum EU contribution in absolute terms, the Decision specifies that actions will submit action status reports (ASR) and be monitored regulatory on the basis of their strategic action plans (SAP).

Mid-Term Review of the 2007-2013 TEN-T Multi-Annual Work Programme- Project Portfolio (MAP Review), TEN-T EA, October 2010

The budget for the MAP represented 80-85% of the total available EU budget for the granting of aid in the field of the TEN-T for the period 2007-2013 through the TEN-T Programme. The review covers 92 projects selected under the 2007 calls for proposals which were launched to meet the objectives of the MAP. All projects were initially planned to be implemented during the 2007-2013 programming period. The 92 projects account for approximately two-thirds of the total TEN-T budget (€5.301 billion out of a total €8.013 billion) and 78% of the total MAP for the entire 2007-2013 period. The total budgeted cost of these projects is €32.647 billion. Therefore, the TEN-T budget accounts for approximately 16% of the projects' budgeted costs.

The report concluded that projects should be allowed to run their course with a cut-off date on 31 December 2015, but subject to certain well-defined conditions based on both political and technical/financial milestones. This allowed critical support to be maintained without rewarding poor performance or requiring additional funding commitments. The review recommended the redirection of around €311 million which is to be re-injected into new annual/multi-annual calls under the current Programme.

The **overall outcome** of the MAP review can be summarised as follows:

- Confirmation of EU support to the most critical and complex projects within the TEN-T;
- Prolongation of the eligibility period for a maximum of two more years (to the end of 2015), subject to specific political, technical and financial conditions;
- Cancellation of projects that have not started within the first two years after adoption of the Commission Decision;
- A further increase in the expected leverage effect can be achieved if more resources are mobilised, notably private funding.

The MAP review demonstrated that there is a positive correlation between higher **co-funding rates** and better project performance. Moreover, the rate of co-financing is a key factor in generating sufficient EU leverage in several respects such as attracting private funding and supporting cross-border projects and, more generally, helping decision makers to put the concerned projects higher on their respective national agendas.

The MAP is designed to maximise the **assurance of the continuity of TEN-T funding** for the current financial period. However, the review highlighted the delay/budget variations experienced by some Member States and other involved authorities who require this assurance to be provided absolutely before launching their own procedures to commit their part of the budget. The absence of such guarantees has been a recurrent problem which has contributed to projects being submitted for funding at a premature stage.

The ongoing financial crisis has had a mixed impact on the portfolio. Some projects benefited either from reduced market prices under increased competition or from additional funding as part of national recovery plans, whereas the majority were affected by budgetary cuts and will inevitably be delayed.

The **participation of the private sector** in financing the MAP project portfolio is not in evidence. The presence of Public-Private Partnerships (PPP) is rather limited. The MAP portfolio includes only four projects currently involving Public-Private Partnership schemes. The grant for PPP schemes involving availability payment mechanisms, introduced as part of

the current Programme, has not been utilised, in part due to the seven year limitation imposed by the Financial Regulations.

“Improving transport performance on trans-European rail axes: have EU rail infrastructure investment been effective?”¹¹², Special Report No 8, European Court of Auditors, October 2010

The report observed that 19 (of the 30) TEN-T Priority Projects defined in 2004 relate to railways. The Court examined in detail 8 of the rail axes covered by the Priority Projects involving a sample of 21 specific sections in 8 Member States covering 8.6 billion euros of EU investment up to 2006. The report identified that overall transport volumes in Europe are expected to continue rising in the next decades, however, Europe’s railways would account for only a small part of this growth.

Whereas, the audit recognised that the concentration of TEN-T co-financing at cross-border locations has improved since 2006 where the European co-ordinators have had a positive influence in concentrating and facilitating developments on the Priority Projects, much remains to be achieved such as the identification of bottlenecks could be improved as could then selection and approval procedures at the Commission.

Project cost escalations did not have a direct impact on the EU budget because the investment by the EU was limited to the amounts initially granted. However, they should be considered in the light of the large scale investment needs on the Priority Projects, and the fact that the attraction of private sector investment has been recognised as being increasingly important. The risk of project cost escalations can exacerbate concerns regarding low rates of return and therefore represent a disincentive for private sector investors.

Co-financed projects in respect of works typically address the construction of certain parts or technical elements of a section of the Priority Projects. Projects are selected on a competitive basis following the assessment of proposals submitted by Member State authorities. Proposal evaluation procedures culminate in a ranking of projects with EU co-financing being allocated to the projects evaluated as the best. DG Mobility and Transport is responsible for TEN -T policy. Organising the evaluation procedure is one of the tasks recently delegated to the TEN-T Executive Agency.

Recommendations:

- build on the roles played to date by the European co-ordinators;
- make sure that procedures for approving projects under Cohesion Policy are robust;
- ensure that decisions about the targeting of TEN-T funds are supported by robust analysis of important bottlenecks;
- improve the quality of cost-benefit analysis for TEN-T selection procedures;
- take the lead in facilitating the exchange of knowledge and experience about rail infrastructure development amongst project promoters.

In summary, the audit report recognised that through co-financing the development of rail infrastructure, the EU has contributed to providing new possibilities for trans-European rail transport but value for EU money could be improved.

¹¹²<http://www.europarl.europa.eu/document/activities/cont/201012/20101208ATT08208/20101208ATT08208EN.pdf>

Funding Strategy and Financing Perspectives for the TEN-T, Final Report, Expert Group 5, July 2010 ¹¹³

Findings & Recommendations. The Group has shed light on some general trends with relation to the financing of TEN-T projects, in particular: the huge constraints posed on public resources, worsened off by the financial crisis, which will durably limit the capacity of Member States to fund large projects; the challenge to better take into account European objectives in terms of climate change, energy efficiency and innovation; the need to adapt to the users requirements (the clients) and to increase the affordability and the profitability of the projects; the insufficiently explored potential for a greater involvement of the private sector in the delivery of the TEN-T.

As TEN-T projects are generally complex which require lengthy preparation, they entail mobilising national and regional capacities, which is often difficult: the expertise and the capacities needed to develop complex projects are scarce, especially in the convergence regions, and generally channelled to national or regional priorities. Greater **coordination** between the Member States, especially for the implementation of transnational links, is key to success. In order to connect national networks, the completion on cross-border sections are of vital importance, but it can only be achieved if the Member States concerned can coordinate themselves not only politically speaking but preferably on operational and financing terms too.

A proposal was made to bring closer the **Cohesion policy's funding mechanisms** with the TEN-T policy. The Group was not able to reach a full consensus on this idea: some experts remained of the opinion that the two policies have to stay fully apart since, according to them, they diverge both in their rationale and in their objectives. Other members though, outlined that the two EU policies could share some priorities on the basis of the TEN-T and that there could be a room for further thinking in order to concentrate EU contribution. Everybody agreed though that any proposal should not prejudice to the Cohesion policy and that it should ensure that the convergence objective remains of greater importance.

The EU contribution should be channelled to projects and programmes with the highest **EU added-value** (EUAV). Considerations for the definition of this EUAV were put for discussion and a majority of experts agreed that it should focus on initiatives which have an important net economic and social EU benefits (i.e. which benefits to the Union as such) and which will not likely to be implement without a strong EU support. Typically this would mainly concern cross-border projects, the railways, the inland waterways and the maritime transportation, as well as horizontal measures aiming at strengthening the efficiency of the network (interoperability, safety, traffic management, research and innovation...). However the experts suggested that emphasis should also be equally given to the promotion of profitable projects in line with the TEN-T policy in order to pace the completion of the network.

All experts agreed on the potential gains that can result from **PPPs**, but they insisted that this procurement scheme has to be applied on specific projects, basically the ones which aim at solving actual capacity/demand problems hence the most financially feasible. They argued PPPs should be partnerships, where the private sector can be given enough flexibility under a clear legal framework so as to bring efficiencies to a project. Given the current crisis, the possibility to deconsolidate the PPP investments (under certain conditions) from the deficit

¹¹³ The report was developed in the context of the TEN-T Policy review process, started in 2009. Experts' contributions, participants' presentations and the minutes of the individual meetings can be consulted at the following website: http://ec.europa.eu/transport/infrastructure/tent_policy_review/expert_groups/expert_group_5_en.htm.

can also represent a powerful asset to the exit strategy even though it cannot represent the main reason to have appeal to PPPs. All in all, the Group pointed out that the use of PPPs should be given more systematic consideration - wherever adapted to the project, and public authorities should be supported in better dealing with innovative procurement and financing schemes.

To facilitate the participation of the private sector in the delivery of the TEN-T, the experts also stressed the usefulness of instruments whose object is to mitigate the risks and their associated costs, especially in the framework of availability-based PPPs. The Group suggested that these instruments could take the form of guarantees which could be called by the private partner on first demand.

Some members also proposed to give further considerations to bonds opportunities - in particular for the issuance of project bonds for TEN-T projects, which could be bonds guaranteed by the EU budget to be sold directly on the international markets.

"TEN-T Progress Report, Implementation of the Priority Projects" and the "Priority Projects 2010: a detailed analysis", European Commission, June 2010

Findings. The report concludes that transport infrastructure has been historically designed to serve national rather than European goals and cross border links constitute bottlenecks that are likely to become increasingly costly as the EU economy continues integrating.

During the next financial perspectives (2014-2020), numerous **cross-border sections** will be in construction or completed. Therefore, the decisions for concentrating financing here, and the obvious need to continue to do so, will be an essential centrepiece for linking up national networks into a European network and thereby contributing directly to the realisation of the internal market, reaping the benefits of years of investment.

Financing continues to be a problem as the economies of the Baltic states continue to pass through difficult times (see below) and it is increasingly difficult for governments in the region to finance major capital works schemes such as the "Rail Baltica". This is why it will remain important in the next few years to look into how best to leverage the money that is available.

While **operations** are of great relevance and constitute the ultimate goal, they do not constitute the primary objective of TEN-T funding: on the one hand, because there are funding schemes better adapted to fund private sector operations (maritime, ports or other) such as the Marco Polo scheme; on the other hand, because before any operations may start the infrastructure needs to be in place. Accordingly, TEN-T concentrates on the development of infrastructure which also is highly time consuming - on average it takes 10 years from preliminary studies to operation.

PPPs will be structured on the basis of a DBO (Design, Build and Operate) + Maintain scheme, but the operation will be limited to the availability of the network and the service (it is therefore mostly linked to maintenance). In order to guarantee good coordination at interfaces and provide incentives for an adequate development of services, a +/-2% bonus for the concessionaire is linked to the actual traffic flows.

Position Paper of the European Coordinators on the future of TEN-T Policy, 6th October 2009

The European Coordinators have been appointed to follow projects that present severe difficulties and lag significantly behind in completion compared with their initial schedule. One of the common features of these projects is that they involve several Member States, which renders coordination between the project countries especially difficult and stunts progress on the terrain. Most of the projects are rail projects, but the Danube and Seine – Scheldt projects and the Motorways of the Sea are at least as challenging. The main issue at stake for the Coordinators is to ensure that with their efforts of coordination, they can contribute to giving Europe the opportunity to endow it with the infrastructure it needs to sustain the internal market. The Coordinators' vision is one of enabling a door-to-door logistics chain that is economically and environmentally efficient.

Despite the differences in the nature of the coordinated projects, their experiences during their first mandate (2005-2009) has led to common views on objectives of TEN-T policy and on financing and governance of TEN-T projects.

Regarding the present financial perspectives 2007-2013, the EU has made an important effort to concentrate its investments on the Priority Projects and in particular on cross-border sections, bottlenecks and access routes to both such sections. This increased the leverage effect of the TEN-T budget. The multi-annual call for proposals 2007-2013 proved the needs of project promoters. For Priority Projects alone, the proposals received for the multi-annual program 2007-2013 represented a total investment of more than EUR 55 billion, and a total requested Community contribution of EUR 11.5 billion. The EU budget available for multiannual funding for the Priority Projects was limited to EUR 5.1 billion.

Recommendations:

- Put the European economic and environmental interest first;
- Take full account of the interests of an enlarged European Union and to put the European internal market at the service of Europe's place on the global market;
- Take a fresh look at financing difficulties of infrastructure projects and change decision makers' mindsets from too much attention for the short to medium term to taking full account of the interest of the long term sustainability of the European internal market;
- Ensure the mobilisation of enough financial leverage to complete the planned projects and ensuring that all financial instruments and all EU funds available for transport infrastructure are used in a coordinated manner to reach this goal;
- Involve all relevant stakeholders in infrastructural projects at an early stage so as to avoid costly oversights and delays;
- Ensure coherence between the comprehensive project approach and EU co funding;
- Look at transport and transport modes as part of one logistical chain that can ensure seamless door-to-door transport and to improve the quality of service of all modes;
- Include intermodal nodes in the TEN-T network in order to improve, where necessary with financial support, the intermodality of the network;
- Direct European co-financing with priority to investments enabling each mode to form an optimal link in the logistics chain;
- Urgently tackle the lack of interoperability along many European transport networks and remove main bottlenecks, notably at cross border sections;
- Ensure regulatory stability for the market and enforce current European and national legislation;
- Better coordinate policy and enforcement efforts throughout the different layers of public administration.

Evaluation of the Marco Polo Programme 2003 – 2010, Europe Economics, April 2011

Marco Polo Programme (both MPI and MPII) is currently the only funding instrument in the freight transport services sector, which occur at the scale of the EU and beyond. The programme has been established¹¹⁴ for the period 2003 – 2006 (MPI) and 2007 – 2013 (MPII) in order to reduce road congestion and to improve the environmental performance of the freight transport within the European Union and to enhance inter-modality while contributing to an efficient and sustainable transport system. Budget of the programme amounted to €102 million for MP I, and for MP II it has been raised to €450 million.

Findings. The evaluation points out unique and important features of the programme such as its transparency, the almost numerical precision with which results are being measured and quantified and the direct **relationship between EU funding and the results obtained**. Also, the analyses confirm the devolved management of the programme¹¹⁵ has strengthened its implementation and allowed the Commission to concentrate on policy issues. However, the programme has also suffered from a number of **flaws inherent in its design**, which have come to the surface during the course of their implementation, and particularly so under the strain of the economic crisis.

Nevertheless, the evaluators underline it is important that a successor to the Marco Polo programme is introduced since this is currently the only European financial instrument that allows significant means to be devoted to the improvement of environmental efficiency for freight transport, a reduction in greenhouse gas emissions and reduced congestion on European road networks. However, this does not necessarily mean that the focus needs remain on start-up aid to support modal shift.

Recommendations

The evaluation's findings suggest that there is a clear argument that modifications to the programme are required if a successor to the programme is to be introduced. Several potentially complementary options have been recommended and the main ones are:

- (1) Improve synergies with the new TEN-T policy where the new instrument supporting transport services could potentially operate within the revised framework of TEN-T, within the framework of a broader coherent multi-modal TEN-T network which is implemented through “corridor” approaches;
- (2) Focusing on promotion of innovation, efficiency and sustainability as requirements to bring about modal shift: support to investments and actions which lower the emissions of CO₂ of freight transport (and associated other external costs);
- (3) Expanding the scope of the programme towards supporting sustainable urban freight and logistics;
- (4) Expanding the range of support instruments: depart from supporting the start-up of actions directed to shifting freight transport off the road and implement other financial instruments such as loans, subsidised loans or guarantees, which would help finance the needed investments;

¹¹⁴ Regulation (EC) No. 1382/2003 of the European Parliament and of the Council of 22 July 2003 on granting of Community financial assistance to improve the environmental performance of the freight transport system (“Marco Polo Programme”), OJ L 196, 02.08.2003, p 1 and Regulation (EC) No. 1692/2006 of the European Parliament and of the Council of 24 October 2006 establishing the second “Marco Polo” programme for the granting of Community financial assistance to improve the environmental performance of the freight transport system (“Marco Polo II”), OJ L 328, 24.11.2006, p 1

¹¹⁵ in 2008, to the Executive Agency for Competitiveness and Innovation (EACI)

Measures supporting sustainable and efficient freight transport services under Connecting Europe Facility in the new EU budgetary perspective 2014 – 2020

The proposed measures would be implemented under the broader framework of TEN-T programme and would target sustainable and efficient freight transport solutions that use the infrastructure of TEN-T comprehensive network and contribute to reducing carbon dioxide emissions (including actions focusing on shifting road freight to more sustainable and efficient transport modes over 300 km). The measures will be delivered through a mix of grants, risk sharing instruments (credit enhancement measures facilitating access to finance in particular for SMEs) and instruments combining grants with loans.

- (1) Improving sustainable use of transport infrastructure;
- (2) Improving sustainability and environmental efficiency of multi-modal transport service operations (including urban freight delivery), enhancing cooperation between transport service providers;
- (3) Improving the technical interoperability and deployment of eco-innovative transport services or of new combinations of proven existing transport services;
- (4) Development and deployment of ITS and traffic management systems, including the establishment of relevant governance structures and services;
- (5) Stimulating resource and carbon efficiency and improving sustainability of individual transport modes, notably in the fields of vehicle traction, technological improvements of the existing fleets/facilities, driving/steaming, systems and operations planning, resource sharing and cooperation;
- (6) Education and training: development of human resources for efficient management of supply chains;
- (7) Horizontal measures: analysing, providing information and monitoring related to markets, awareness raising, fleet characteristics and performance, administrative requirements and human resources

Implementation of the above mentioned measures shall be consistent with the state-of-the-art technological developments and deployments, notably aiming at:

- (1) Enabling the decarbonisation of transport through transition to alternative transportation technologies;
- (2) Improving operation, accessibility, interoperability, multimodality, and efficiency of the network;
- (3) Supporting the infrastructure-vehicle interface and on-board equipment, which encompasses all required telematics;

Promoting measures to reduce external costs, such as pollution of any kind including noise, congestion, health damage;

Ex-post/Final evaluation of the Trans-European Transport Network Multiannual Indicative Programme 2001- 2006 Final Report, Deloitte consulting SCRL¹¹⁶, European Commission November 2007

Findings. According to the study, the downside was the tendency of mature projects with high national commitment to self-select. These were frequently projects which would often have proceeded in any event, though not necessarily quite as fast. The report concluded that the Commission could reduce the **rate of funding** for such projects and still retain political leverage, while at the same time freeing funds for projects where the European interest is greater than the national interest. These are typically cross-border projects in the broadest

¹¹⁶ http://ec.europa.eu/transport/evaluations/doc/2007_tent_t_mip_ex_post.pdf

sense of the word. This recommendation formed a key component of the revised financial regulations where greater emphasis is placed on cross-border funding.

Also, the report identified that the MIP was not effective in achieving its objective of encouraging **public-private partnerships**. It cited the instability of the management procedures over the life of the MIP that affected the effectiveness, efficiency and relevance of the programme. Minimising the administrative burden and the need to demand accountability and transparency were also key recommendations. Nevertheless, the report did conclude that the MIP funding did go to projects which had a socio-economic impact, particularly at national level.

Recommendations

Regarding objectives and funding rates:

- The primary objective of the MIP should be to fund projects of high European interest, which will fill missing links or eliminate bottlenecks;
- the rate at which studies for projects of high European interest and low national interest is funded be increased;
- the rates at which investment projects are funded be modified, with projects of high European interest and low national commitment being eligible for grants of 30% and other projects be restricted to grants of 5% of total eligible cost;
- the TEN-T coordinators be asked to define which are the projects of high European interest and low national commitment.

Regarding PPPs:

- Encouragement of Public-Private Partnerships (PPP) should continue to be an objective, and;
- the European Commission should collect and disseminate in a structured manner information on best practice in transport infrastructure PPP or other instruments designed in order to facilitate access to private sources of financing, such as the EIB loan guarantee or the risk capital facility;
- the financing rate be increased for studies on the suitability of investment projects for PPP;
- the financing rate be 30% for any project financed by a PPP.

Regarding procedures:

- A revision of the MIP Framework Decision in order to redistribute funds likely to be underutilised be made automatic after four years, and that any other revisions be announced six months in advance.

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BROADBAND AND DIGITAL INFRASTRUCTURE

Conclusion of ex-post evaluation studies:

The conclusions from the limited set of evaluations of existing instruments in the area of broadband and service infrastructures are as follows:

- A programme from the previous period, the e-TEN¹¹⁷ (2001-2006), supported deployment of trans-European e-services in the public interest. The programme covered the following themes: eGovernment, eHealth, eInclusion, eLearning, and services for SMEs. The e-TEN program evaluation¹¹⁸ indicated that the programme made considerable progress in involving stakeholders from New Member States, SMEs and public bodies. It was concluded, that their participation strongly favoured the further deployment and uptake of project outputs at a pan-European level and the competitive health of markets for these and related services.
- The final evaluation¹¹⁹ of the Safer Internet Plus Programme (2005-2008) concluded that the programme contributed to achieving a safer Internet through a range of interventions and produced a significant impact and influence. The programme has managed to

¹¹⁷ http://ec.europa.eu/information_society/activities/eten/library/about/intro/index_en.htm

¹¹⁸ http://ec.europa.eu/dgs/information_society/evaluation/studies/s2006_02/index_en.htm

¹¹⁹ http://ec.europa.eu/information_society/activities/sip/docs/prog_evaluation/report_sip_en_2005_2008.pdf

successfully ensure that the themes and actions are relevant to the dynamic social and technological environment within which it operates.

- The report on the final evaluation of the eContentplus programme found that Europeana contributed to creating better conditions for accessing, using, re-using and exploiting digital material.
- The Interim Evaluation of the Ambient-Assisted Living Joint Programme¹²⁰ concluded that the market for ICT for the elderly is very fragmented. In order to scale up successful solutions, with the aim of improving quality of life and saving care costs, what is needed is systems integration of services and technology. Technology deployment clearly relies on the availability of appropriate infrastructures, both physically (broadband availability) and in terms of cross-boarder public and private services.
- For the use of the financial instruments, the Mid-Term Evaluation of the Risk-Sharing Finance Facility, completed by a group of independent experts in July 2010,¹²¹ praised the use of Financial Instruments in addition to grants, and evaluated the intervention as highly efficient and effective, and "having dramatically expanded the financing".
- A 2006 ISTAG report points out that Europe has a major opportunity to take advantage of the paradigm shift in the content industry brought by broadband networks and strengthen its position in the digital media sector. The report states "Europe has major technology assets here: a strong broadband infrastructure, leadership in mobile communications, and a good position in broadcast-multicast convergence are all key building blocks through which to capitalise on the potential of rich-content and related services"¹²².
- The Second Interim Evaluation of the 7th Framework Programme reported that the strong push for innovation implemented in FP7 reflects the evolution in European policy thinking and the effects of the technology and market trends in the global ICT sector, While industry participants perceived high commercial risks for their research activities, especially the research stakeholders considered the technical risks more limited than in FP6. These stakeholders pointed out that too much reliance on industry input for the definition of the research priorities might lead to a focus on 'tomorrow' and not sufficiently on 'the day after tomorrow'.

In conclusion, the limited number of evaluations available show that the interventions in areas of network and service infrastructures have been beneficial to Europe as a whole. The interventions have been enhanced by the lessons learned from the previous programmes and have the potential to produce stronger impacts and considerable European added value. Nevertheless, as the evaluations show, there have been some difficulties in harnessing the whole potential, for example in absorption of the structural funds¹²³.

¹²⁰ Unlocking Innovation in Ageing Well. Interim Evaluation of the Ambient Assisted Living Joint Programme, December 2010.

¹²¹ http://ec.europa.eu/research/evaluations/index_en.cfm?pg=rsff

¹²² "Shaping Europe's Future through ICT", Report from the Information Society Technologies Advisory Group (ISTAG), 2006

¹²³ See for example: Nagy, G., Fekó, A., Kulisiewicz T., (2011). The role of broadband developments in the Eastern EU Member States. Jaksá R. (ed.), International Center for Economic Growth (ICEG EC). OISTU Report, JRC-IPTS, Sevilla, (Forthcoming)

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ANNEX 3

ASSESSMENT OF IMPACTS OF CREATING THE CEF

1. INTRODUCTION

As a complement to the analysis of impacts presented in Part 5 of the Impact Assessment Report, the purpose of this Annex is to assess the impacts of creating the Connecting Europe Facility (CEF). It will do so by discussing and comparing the impacts of creating the CEF against the Reference scenario¹²⁴.

The Impact Assessment Report has, following a pre-screening, retained several options pertaining to the functioning of the CEF, which will be assessed and compared in the Impact Assessment Report.

In this annex, the preconditions of the CEF, contained in all of the retained options mentioned above, will be preliminarily assessed against the Reference scenario with a view to isolating the impacts of creating the CEF, which are expected to be significant compared to the Reference scenario.

This preliminary assessment will allow focussing Part 5 of the CEF IA on the comparison between the retained options of the CEF on the basis of their own merits, without having to artificially isolate the impact stemming from the creation of the CEF compared to the Reference scenario.

The pre-conditions of the CEF are: The amount of € 50 bn (see table below detailed the amount and comparing with the reference scenario), the alignment of EU funding instruments within sectors including also market based instruments, and a more centralised management of the CEF¹²⁵.

<i>Reference scenario</i>	<i>CEF</i>
- €155 million for Energy	- € 9.1 billion for energy priority infrastructure
- €8 billion for TEN-T and €43 billion for transport projects in Cohesion countries	- €21.7 billion + €10 billion earmarked for Cohesion countries for Transport Core Network under the rules of the CEF. (€24 Billion for transport projects in the Cohesion fund)
- € 2300 million for ICT physical infrastructure through cohesion funds	- €9.2 billion for ICT projects

It this combination of market-based and direct financial support made available at EU level that can provide the flexibility and tailor made support to address specific project risks necessary for the different network industries.

¹²⁴ The reference scenario is detailed in section 2.4 of the CEF IA

¹²⁵ See Chapter 4 of the Impact Assessment Report for a thorough description of the policy options

<i>Sector/CEF</i>	<i>Transport</i>	<i>Energy</i>	<i>ICT</i>
Grants	Grants to support construction costs and preparatory studies	Grants to support construction costs and preparatory studies	Grants to support construction costs and preparatory studies
Risk sharing instruments	Project bond credit enhancement or guarantees (of LGTT type)	Project bond credit enhancement or guarantees (up to 5% of energy envelope)	Project bond credit enhancement or guarantees
Risk capital instruments	Equity support or seed capital (of Marguerite type)	Equity support or seed capital	Equity support or seed capital

The following provides an assessment of the economic, social and environmental impacts that are proportionate to the nature and purpose of the Impact Assessment. The analysis of these impacts is derived from a qualitative analysis and originates from Commission working documents and impacts assessments produced by the three lead Directorate Generals involved in the work of this Impact Assessment.

2. ECONOMIC IMPACTS

The economic impacts of creating the CEF compared to the Reference scenario are assessed in two steps. First of all, the creation of the CEF itself, and more so by determining optimal rules for the functioning of the CEF, is likely to have major impacts on industries. Secondly, the network effects induced by the massive investments will engender important externalities for the European economy as a whole.

The main difference between the impacts of creating the CEF and the reference scenario will be derived from the level of investments triggered by the new funding available in the Connecting Europe Facility.

2.1. Impacts on the level of investments

With €50 billion to be spent in the development of cross-border infrastructures and services, the EU budget available for infrastructure will undergo a major increase. A possible risk in this regard would be a crowding out of other investments sources in infrastructure, such as local and national public funding and private investments.

This risk has to be seen against the preliminary estimation of the Commission of investment needs of between €1.5 trillion and €2 trillion in total for the three sectors. From now until 2020, €50 billion will be needed for the implementation of the Trans-European Transport Network (TEN-T) programme, of which €15 billion is for the removal of the main bottlenecks in the so called transport "core network". In the energy sector, public and private entities in the Member States will need to spend around €400 billion on distribution networks and smart grids, another €200 billion on transmission networks and storage as well as €500 billion to upgrade and build new generation capacity between now and 2020. Finally, between

€180-270 billion in capital investment is required to bring fast and ultra-fast broadband to all households by 2020.

In total, the €50 billion proposed under the Connecting Europe Facility only cover a small amount of the investments needs identified. For instance, the € 31.7 billion allocated to transport represent less than 15% of the investments needs identified for the removal of the main bottlenecks only. Moreover, the funds available under the CEF will be made available primarily for projects with high European added value, often of cross-border nature, which are projects for which Member States and private investors are not willing to invest.

Therefore, the funds available under CEF will not crowd out other sources of funding. On the contrary, they are likely to favour the crowding in of investments by attracting investors towards new projects. There are two reasons for this:

Firstly, the increase in the available budget for infrastructure will allow the EU to provide co-funding to an identified pipeline of projects of high EU added value (energy priority corridors, transport core network corridors and broadband infrastructure corridors). These projects were not financed by member states and local authorities in the previous period due to the high costs and because of the predominant European dimension of these projects. For instance, some of the projects have higher regional than national expected benefits and therefore are not commercially viable or a priority for national funding. This is, for instance, the case of a gas storage or LNG terminal serving the needs of several Member States or of interconnection projects where costs are allocated asymmetrically between participating countries. This is also the case for a project such as the Brenner Base Tunnel between Austria and Italy, which would not have been implemented without the support of EU funding.

Secondly, the availability of new innovative financing instruments, including EU project bonds, in order to attract private debt and equity capital, would allow for the pooling of assets to improve the risk profile and lower the costs of financing for future infrastructure portfolios. With a growing number of complex and cross-border projects of European importance, well designed equity or debt instruments would be likely to assist private investors in facilitating access to equity and/or debt finance, reducing the cost of capital, adapting lending conditions to better match project cash flows and facilitating project finance structuring through standard equity and debt instruments. It is also essential to note that such form of support would come at a lower expense to the public budget (higher leverage)¹²⁶.

Therefore, the important increase of EU funding will contribute to an even more important increase of the financing coming from other sources, especially from the private sector. With a better alignment of the sectoral funding instruments with the policies, and with an increased use of innovative financing, the leverage of EU funding will be improved. In the field of trans-European Network, the TEN-T programme allowed to finance € 41.619 billion of projects with €7.081 billion of funding (on projects selected for funding on the period 2007 - 2009)¹²⁷. On the side of innovative financial instruments, €400 millions of LGTT financing has contributed to € 10.584 billion of projects¹²⁸, with a multiplying effect of 26.5. By

¹²⁶ Market based/innovative instruments are characterised by a higher leverage (in comparison to grants) and their potential to generate revenue for the body that provides them (unlike grants, they do not come for free)

¹²⁷ Figures from the TEN-T Executive Agency implementation report

¹²⁸ LGTT mid-term review, EIB, July 2011

applying the same leverage effect to the €21.7 billion allocated to transport through the CEF (not including the €10 billion earmarked in the Cohesion fund for Cohesion countries), the level of investments triggered by the CEF in the field of transport would amount to about €150 billion. The leverage effect is however likely to be higher due to the new innovative financial instruments, co-funding rates and implementation tools.

The increase of EU funding for infrastructure with high European Added Value will accelerate the development of energy, transport and digital infrastructure across Europe. This accelerated implementation of the “backbone of the European Single Market”¹²⁹ will have major impacts on the industry using these infrastructures, but also on the European economy taken as a whole¹³⁰.

The Europe 2020 strategy underlines also that meeting the energy and climate goals could result in €60 billion less in oil and gas imports by 2020 of financial savings and benefits for energy security.

2.2. Impacts on the industry

As identified in the problem definition, in the reference scenario market failures prevent key infrastructure of high EU added value to be realised, such as cross-border connections, hindering the completion of the European Single Market.

The creation of the CEF however is likely to accelerated the implementation of infrastructure and create network effects to the benefits of the users.

2.2.1. impacts on the energy sector

Concerning electricity, the deployment of infrastructure to meet our energy and climate targets will allow for the large-scale deployment of renewable energies, the optimisation of transmission at EU level rather than only at national rather than EU level, thus leading to greater cost and resource efficiency. It will also help realising complex projects such as offshore grids and cross-border interconnectors. Transmission bottlenecks and will therefore be reduced, as well as the price differences between Member States, thanks to a better integration in a single electricity market. The new infrastructure will also foster the implementation of smart grids, leading to a better integration of an increasing share of renewables and an increased integration and operation of grids at European-level. In the longer term, smart grids will also contribute to price reductions on the electricity market by increasing transparency of supply and demand, hence reducing congestions, optimising system flows and providing the information needed for dynamic pricing. The French regulator CRE has estimated that with the implementation of smart metering the supplier switch capability for households will increase by a factor of 10 (50% instead of 5%).

As for gas, the development of the necessary North-South interconnections in the priority corridors in Central West and Eastern Europe will strengthen the resilience of the gas network, improve market integration and competition, leading to greater choice to consumers,

¹²⁹ Single Market act (COM (2011) 0206

¹³⁰ Networks and smart grids are essential to achieve the targets by 2020. Economic benefits from greater integration of the European energy market are estimated at 0.6% to 0.8% GDP. Meeting the EU's objective of 20% of renewable sources of energy alone implies a job creation potential of more than 600 000 jobs in the EU. Delivering on the 20% energy efficiency target over 1 million new jobs and new energy services would be created.

decrease the probability of supply shortages or supply disruptions and enhance the possibilities to mitigate actual supply disruptions, in a context of decreasing domestic production (all over Europe) and higher import dependency. Linking isolated regions, like the Baltics to the EU gas market, will decrease the dependency from only a few or a single source. The development of a new Southern gas corridor will boost diversification of sources, routes and suppliers.

Concerning CO₂ transportation, EU funding under the CEF would allow significant investment in networks and give rise to a coordinated development of the infrastructure, fostering market integration which will help reducing energy prices in the long term. Under the reference scenario, the absence of sufficient transportation capacity and lack of interconnection between CO₂ producing sites in one Member State and CO₂ storage sites in another Member State would slow down the commercial deployment of CCS technologies, again maintaining higher CO₂ emissions.

2.2.2. *impact on transport*

The accelerated implementation of the trans-European transport Core Network corridors will favour more adequate transport infrastructure coverage of the Union, modal-shift and co-modality. It should thus support a concentration of trans-national traffic and long-distance flows – both for freight and passengers – and, as a result, a higher resource efficiency of infrastructure use. Innovative information and management systems, that will form part of the network, would provide support for logistic functions, inter-modal integration and sustainable operation in order to establish competitive door-to-door (or, at least, terminal-to-terminal) transport chains, according to the needs of the users. The efficiency of the whole transport system would be, as a result, improved, with an important reduction of congestion and travel times.

As explained in the OECD 2002 report on the Impact of Transport Infrastructure Investment on Regional development, the principle underlying the assessment of benefits associated with travel time is that transport system users' economic decisions regarding the location of their homes, businesses, mode choice or route followed to get to a specific destination and behaviour in traffic, reflect their valuation of travel time. Time savings are benefits resulting from an improvement in the efficiency of the transport system (shortened routes, increased traffic fluidity, better access to connection services, etc.). For freight carriers, time savings will take the form of money savings given that reductions in travel time reduce hourly costs of transport services (e.g. drivers' wages, insurance, etc.) for shippers. For consignees, travel time savings may be converted into reduced inventory costs. On the other hand, for passenger transportation, travel time savings normally bring no direct monetary reward.

More efficient infrastructure in isolation may give rise to rebound effects. Therefore, as concluded in the recent Transport White Paper and its Impact Assessment, infrastructure in combination with other measures, notably pricing and taxation, are required to reach the overall target of the transport sector of reducing CO₂ emissions by 60% compared to 1990 levels.

2.2.3. *impacts on digital users*

Broadband infrastructure supports the development of ICT services and is a general purpose technology. The benefits from the roll out of fast broadband will therefore not be limited to a single category of stakeholders, but will spill over to the European economy and society. The externalities mentioned in relation to the Digital single Market can be applied to investment in broadband as well. Further externalities relevant for broadband investment may refer to:

- *Economic Efficiency*: transaction costs of economic operators are reduced by broadband. This makes it easier to conduct online business and attract foreign investments to certain locations¹³¹, the effect of this can spill over other geographical areas. Broadband development is already supporting a wide and increasing number of dedicated business, government and leisure applications and services. Bringing broadband to new areas means expanding the market for e-Commerce (which is a European one): more consumers will be able to purchase on-line, thus enlarging the market base, with a final impact on GDP¹³².

- *Network Externality*: the more users that benefit from high-speed broadband, the more visible and effective are the above impacts. The benefits of broadband extend across many different social groups in many different ways, reinforcing each other. These supplementary gains extend well-beyond the telecommunications sector. Technological progress in remote care, which directly lowers health care costs, postpones or eliminates the need for institutionalised care, and makes it possible to increase workforce participation from home. As an example, if more people are connected through broadband to the network, the network effect will decrease the average cost of eHealth infrastructure, shortening payback times of investment.

The results from investment in broadband are certainly worth the cost: a study from Booz & Co. (2009) found that a ten per cent higher broadband penetration in any year is correlated with a 1.5 per cent increase in labour productivity over the following five years¹³³.

2.2.4. *Administrative burden*

The alignment of the EU funding instruments on the policy priority set for each sector is a major feature of the Connecting Europe Facility. It will greatly simplify the funding framework for stakeholders when applying for EU funds for their projects of high European added value.

In the field of transport for instance, the projects aiming at developing parts of the Core Network Corridors will ask for funding under one single EU budget heading, not depending whether the project would be situated in countries covered by Cohesion funds or not.

Also a more centralised management¹³⁴, which is envisaged by CEF, will reduce the administrative burden at the EU level by ensuring a simplified institutional architecture.

¹³¹ In October 2008, the Irish Management Institute (IMI), together with the National Irish Bank, published the results of its tenth survey of multinational companies located in Ireland. Compared to three years ago, the strategic importance of broadband availability moved up twelve positions in the ranking from 18th to 6th.

¹³² According to estimates of McKinsey & Company 132 a 10% increase in broadband household penetration delivers a boost to a country's GDP that ranges from 0.1 percent to 1.4 percent

¹³³ Roman Friedrich, Karim Sabbagh, Bahjat El-Darwiche, and Milind Singh (2009): Digital Highways. The Role of Government in 21st Century Infrastructure. Booz & Company.

¹³⁴ Centralised management will also better promote and ensure coherent implementation of (common) transport policy measures across Europe (e.g. with regards to charging, security, safety in tunnels, interoperability, etc.). Centralised management will allow for almost 'real time' monitoring of projects/programme performance

2.3. General economic impacts

2.3.1. Support to the Single Market

A truly integrated Single Market, as the Monti Report indicated¹³⁵, would not be possible without a seamless connection between all its component parts. Roads and other transport connections, electricity grids and broadband networks are vital for a functioning, integrated economic area and for its social and territorial cohesion. The development of the infrastructure of high European added-value will have positive effects on the free movement of goods and services, market segmentation, accessibility, and territorial cohesion.

The single market is generally considered one of the main European achievements of the last 50 years. In the European single market freedom of movement of the production factors translates into better resource allocation and ultimately increases total factor productivity. As explained in the Single Market Act, energy, transport and broadband infrastructure networks are essential for the Single Market. Transport and broadband networks increase the level of interconnectivity between the European markets for most households and enterprises that have access to it. "Europe's energy infrastructure is the central nervous system of our economy"¹³⁶.

For instance, the rationale for European action in the making of the European digital single market can be summarised by the positive externalities that a single market has on all the Member States, and not only in those where certain policy measures are taken.

Some examples of positive externalities are:

- *The Innovation Diffusion Externality* New and more innovative services emerge that will benefit a growing number of users, thus ultimately improving the overall quality of life. From the infrastructure side, broadband coverage and penetration rates correlate positively with the "e-Readiness" of a given country, or the capacity of a nation's consumers, businesses and government(s) to reap the full benefits of the Information Society¹³⁷.

- *Competition externality*: a digital Single market means that business and digital content creators are exposed to a much higher level of competition than in a national digital market. As some of the stakeholders may successfully oppose resistance at the national level, European action is deemed to be more effective to prevent market fragmentation. In a European digital single market eCommerce can be exploited to the full and most competitive companies will be the ones benefiting the most from it. They will experience a rise in customers and will be able to exploit better economies of scale. Consumers will benefit as they will have the possibility to choose cheaper products.

- *Specialisation*: the clustering of production factors will trigger in the long run further specialisation of the EU industry into worldwide competitive clusters. Economies of scope will also occur in this case.

(beyond information on 'earmarked funds'); this is important in assessing evolving priorities (e.g. in the case of the European Economic Recovery Plan).

¹³⁵ "A new Strategy for the Single Market at the service of Europe's economy and society". Report by Mario Monti to the President of the European Commission, 9 May 2010, page 64-65.

¹³⁶ COM (2010) 277 final, Communication "Energy infrastructure priorities for 2020 and beyond - A Blueprint for an integrated European energy network"

¹³⁷ A positive correlation is evident with the "2009 e-Readiness Rankings" compiled by The Economist's Intelligence Unit (EIU)

2.3.2. *Economic Growth*

High performing infrastructure can be growth enabler by enhancing the functioning of the European Single market. According to economic literature, investment in network infrastructure can boost long-term economic growth¹³⁸. However, it has to be borne in mind that not all studies converged towards this conclusion, since some are inconclusive¹³⁹. This Impact Assessment assumed that infrastructure investment can have a positive effect on growth that goes beyond the effect of the capital stock, due to economies of scale, the existence of network externalities and competition enhancing effects.¹⁴⁰ Studies have shown that relatively large improvements in infrastructure (and accessibility) can translate into gains in economic performance, though limited.¹⁴¹

Each infrastructure network sector brings its own contribution to the European economic growth. For instance, Europe's future economic growth and stability depend on the availability of appropriate energy infrastructure ensuring the achievement of the EU energy and climate goals, cost-efficient functioning of the internal energy market and security of supply.

In parallel, since ICT infrastructure serves as a General Purpose Technology enabler, infrastructure diffusion positively affects Total Factor Productivity, capital accumulation, and ultimately, GDP growth. This mechanism of transmission is not only limited to region where broadband is deployed. Productivity and competitiveness gains spread out from the personal to the corporate and country levels. Schumpeterian cycles of creative destruction may be triggered by innovations coming from formerly unconnected regions.

For instance, the effectiveness of eGovernment services can bring a lot to the economy. As an example, the eGEP project reports have documented through economic modelling and case studies, the both actual and potential efficiency gains (Codagnone and Boccadelli 2006; Corsi et al 2006). These reports¹⁴² illustrate the contribution that the full take-up of eGovernment can make to GDP growth and to private sector productivity¹⁴³.

This argument is similar for transport network, since a more integrated and efficient transport system enabling the free movement of people and goods across the EU and with its neighbours is expected to contribute to economic growth, as it would allow for a more efficient use of resources. The EU economy should also benefit from the increase in the capacity and performance of the infrastructure resulting from the elimination of bottlenecks and addition of missing links.

Moreover, the building of new transport, energy or broadband infrastructure would have an important impact on the construction sector; some infrastructure projects like high-speed rail provide several years of works for building companies and related businesses. In addition, the

¹³⁸ See for example the World Bank Report—Connecting to Compete 2010 Trade Logistics in the Global Economy -The Logistical Performance Index and its Indicators

¹³⁹ See for instance the following summary of studies: http://www.dtu.dk/upload/institutter/dtu%20transport/rapporter/rap_7_2010_infrastruktur%20og%20danmarks%20internationale%20konkurrenceevne.pdf

¹⁴⁰ Infrastructure and Growth: Empirical Evidence , OECD Economics Department Working Paper No. 685, March 2009

¹⁴¹ As shown by the ECORYS report, using the SASI model.

¹⁴² See eGEP final deliverable – Economic Model p.6
http://82.187.13.175/eGEP/Static/E_Interim.asp?ST=0&page=1

promotion of intelligent transport systems or smart grids should foster research and innovation for new technologies and create new business cases. Finally, the improvement of the efficiency of the transport and energy systems and the reduction of prices and uncertainties in the delivery would improve the economic conditions for both transport businesses and enterprises heavily depending on transport for their activity.

3. SOCIAL IMPACTS

The social impacts of the accelerated development of infrastructure are wide and vary from sector to sector. However, many common aspects can be found for job creation or accessibility and territorial cohesion.

3.1. Employment and jobs

According to the economic literature, infrastructure investments help boost economic growth, enhance trade and mobility of people and constitute a highly effective engine of job creation. One recent study in the US showed that infrastructure investment spending creates about 18,000 total jobs for every \$1 billion in new investment spending, including direct, indirect and induced jobs¹⁴⁴. Job creation is mainly related to infrastructure works, but it is also induced by the indirect economic effect of the use of the new infrastructure. Indeed, more investment creates the need for more employment in a first phase, notably in construction, mechanical engineering and business services. This in turn leads to higher incomes and household spending. Multiplier effects contribute in a second phase to increased employment in consumer sectors such as retail, even if these effects can be delayed in time.

The TEN-T guidelines Impact Assessment as well as the Impact Assessment accompanying the Communication "Energy infrastructure priorities for 2020 and beyond - A Blueprint for an integrated European energy network" have shown important direct and indirect impact of large investments in infrastructure. For instance, the E3ME model used for the energy sector has calculated that the option leading to € 201.5 billion of investments in energy infrastructures would lead to a GDP increase of 0.9 points compared to the Business-as-usual scenario and to the creation of 774.000 extra jobs over the period 2011 - 2020. The TEN-T Guidelines Impact Assessment has shown that an Option in which €215 billion would be invested in European transport infrastructure with high added-value would lead to the creation of a minimum of 2.92 million jobs, i.e 899.000 more than with a business-as-usual scenario with €150 billion of investments. Long-term job creation is very difficult to calculate, but case studies in the field of transport mentioned by the OECD 2020 Report on the Impact of Transport Infrastructure Investment on Regional Development have shown the positive results of infrastructure development on long-term job creation. However, in the absence of clear parameters explaining these results, the impact of the proposed policy options on long-term employment effect cannot be compared for the purpose of this document.

¹⁴³ An online procedure to register a new company that takes 2 weeks rather than the previous 2 to 3 months was introduced by the Danish Commerce and Companies Agency' <http://www.eogs.dk/sw21252.asp>

¹⁴⁴How Infrastructure Investments Support the U.S. Economy: Employment, Productivity and Growth, Political Economy Research Institute, January 2009.

3.2. Accessibility and territorial cohesion

The three infrastructures networks have an important impact in term of accessibility and territorial cohesion. As explained in the Fifth Cohesion Report, "regional competitiveness and development prospects are also affected by infrastructure endowment, such as transport or telecommunication networks. As indicated by many studies, the provision of public infrastructure has a positive and large effect on productivity and growth".

Improved transport links between regions and countries facilitate access to EU-wide markets, which is likely to create new opportunities for growth. The Cohesion Report also explain that Access to high-speed ICT networks is increasingly considered to be a key factor of competitiveness, as determining the capacity to compete in, and benefit from, the global market. It is also a major determinant of the facility to adopt new technologies, which is central to the growth of less developed regions. At the same time, it is critical to the development of eservices, whether public or private. Access to the energy system is also of course essential for the development of businesses.

As an example, in the TENconnect II study calculating the impacts of the development of different transport infrastructure scenarios, the comparison of the Business-As-Usual scenario (seen on the map below as PP) with the proposed CORE network (which represent an accelerated pace of investments with a focus on project of highest EU added-value) for Accessibility is given in the following map—hence the 'added value' of the CORE over-and-above the currently programmed, fragmented network is shown.

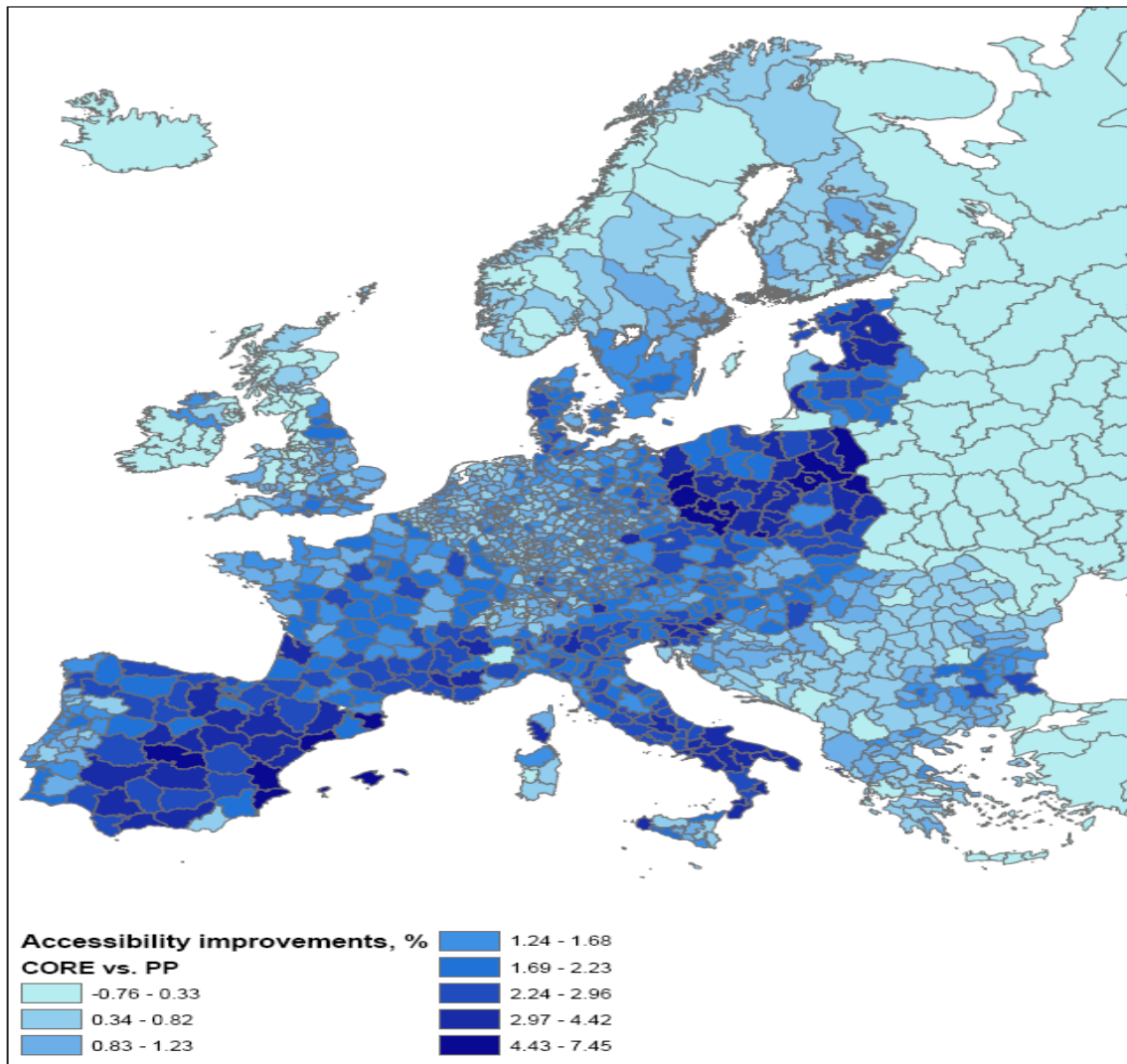


Figure 1: Comparison of BAU with the proposed CORE network for accessibility (horizon 2030)

It should be noted here that funding would continue for the Comprehensive Network through the Cohesion and Structural Funds (CSF), which would target projects of a national and/or regional interest. The impacts shown here include investment triggered by EU funding coming from the CEF but also EU funding from the Cohesion and Structural Funds.

3.3. (some examples of) Sector specific aspects

3.3.1. Quality of life due to eServices

An improved coverage of the broadband network will lead in the development of eServices, of both public and private nature, that will enhance the citizens' quality of life.

Increase in quality of life due to access to eGovernment services. The development of broadband also has downstream effects on public services. The European public sector holds enormous amounts of knowledge that needs to be more easily accessible. The use of E-government procedures has demonstrated an ability to generate savings for European companies through the reduction of administrative burdens. In addition, savings derived from the possibility of using broadband for information sharing among public services

(eAdministration) have been even four times higher than savings at the interfaces between public administration and users. Other examples include, eSolutions, such as standardised and shared registration systems and data bases, e-portals to provide access to public services, digitalisation of financial management and tax administration, which all offer significant scope for efficiency savings.

Increase in quality of life and side economic effects. Higher quality of life of European citizens is linked to the provision of these eServices. As an example the provision of eHealth services will not only reduce costs for acute hospitals, but there will be positive economic effects due to the monetary value of QALY¹⁴⁵ from prolonged life; or to the reduction in loss of productivity due to illness. eHealth also has a great potential in terms of fostering independent living which increases quality of life for the elderly but also generates savings compared to hospitalisation¹⁴⁶.

3.3.2. *Transport Safety*

For transport, investing in the infrastructure does not only mean investments in the hard infrastructure, but also investments in the various modal intelligent transport systems (ITS) projects, such as European Railways Traffic Management System (ERTMS), the Single European Sky Air Traffic Management Research (SESAR), Vessel Traffic Management and River Information Services.

As demonstrated by the evaluation of the EasyWay project¹⁴⁷, the coordinated deployment of ITS services on the trans-European road network) can have significant positive impacts. Thus, within the frame of EasyWay I, this has led to injury accident savings of between 10% and 20%, depending on the particular application, rising to approximately 60% on some safety critical roads sections.

The results of the deployment of dynamic traffic and network management services in particular, successfully deployed by European road operators to tackle disrupted traffic flows on strategic and critical sections of the TEN-T, have proved significant on those parts of the network that suffer greater congestion and accident rates. Positive impacts include increased capacity rates of up to 9% and a reduction in accidents of typically between 20% and 30%, but as high as 63% on particular safety critical sections of the TEN-T.

Therefore, the accelerated deployment of ITS (especially for roads, where most of the hard infrastructure is built, but where ITS largely needs to be developed) will lead to an increase in road safety.

3.3.3. *Consumer access to energy*

The social impacts on consumers related to the disruption of energy supplies can be significant¹⁴⁸. When Russian supplies via Ukraine were disrupted between 6th and 20th January 2009, EU Member States were deprived of 20% of their gas supplies (30% of

¹⁴⁵ Quality Adjusted Life Years

¹⁴⁶ The Scottish West Lothian council independent living programme has succeeded in ensuring that elderly couples with severe impairments stay in their own homes. They have thus saved the public budget £84,000 on an annual basis. The standardisation of such services (through adequate institutional change and regulation) could produce important savings for the public budget.

¹⁴⁷ EasyWay – Synthesis of Project Evaluation Results 2007-2009, 15 February 2011.

¹⁴⁸ Supply disruptions happened in the light of political disturbances in transit countries or transit disputes (e.g. for supplies from Russia through Ukraine or Belarus) but also due to technical disruptions of production facilities or political situation in producing countries, like e.g. the disruption of gas supplies via Greenstream (Libya-Italy) in 2011.

imports) with important economic repercussions. The crisis affected a majority of EU Member States and non-EU countries in Central East and South-East Europe directly and indirectly, left households in the cold for almost 2 weeks and also caused an estimated total economic damage of 1.6 billion Euros. The January 2009 crisis put at evidence the lack of interconnection between the Western and Central Eastern Member States of the EU. It is crucial that the internal gas market is sufficiently interconnected to meet any disruption of imports at any time and transport the gas to where it is needed.

An accelerated investment in energy infrastructure, with better connections to producing countries and better interconnections between Member states, would not result only in lower prices for consumers as shown above, but would also ensure that the risks of disruptions is reduced to a minimum.

4. ENVIRONMENTAL IMPACTS

The environmental impacts of infrastructure are complex. On the one side, and it is particularly true for transport and energy, the building of new infrastructure may have adverse impacts on the land-use, on the flora and the fauna surrounding the new infrastructure. On the other, the development and design of new infrastructures is essential for the implementation of less polluting life-style. For instance, the development of smart energy grids will be crucial for the integration of renewables in the energy market; for transport, the development of electrified railways, inland waterways or electricity refuelling power stations along the roads will allow for the development of cleaner solutions for transport.

On these issues, EU funding cannot act in isolation, but it can do a lot, by conditioning the EU funding with the highest environmental requirements, which are of high EU added value, since Sustainable Growth is one of the main policy targets of the EU.

4.1. impacts on land-use, flora and fauna

As explained in the Impact Assessment of the Transport White Paper, the greatest impact on other environmental resources would be caused by an increase in land use for infrastructure, generating increased pressure on biodiversity and ecosystem services, due to direct damage linked to construction, habitat fragmentation and degradation, and disturbance. The situation is similar for energy, and in a more limited manner for broadband infrastructure.

It must be noted here that, in accordance with existing EU legislation (mainly SEA directive¹⁴⁹, EIA directive¹⁵⁰ Habitats directive¹⁵¹ and Water framework directive¹⁵²) the Business-as-Usual scenario as well as the implementation of the CEF include the assessment of the strategic environmental impact at the level of relevant plans and programmes by Member States, as well as the assessment of environmental effects at the level of individual projects of common interest.

Major transport infrastructure projects may pose serious threats to biodiversity and Natura 2000 areas which were designated to protect the most endangered European species and habitat types. The negative impacts from transport projects might result from physical

¹⁴⁹ Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment

¹⁵⁰ Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment

¹⁵¹ Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

¹⁵² Directive 2000/60/EC establishing a framework for the Community action in the field of water policy

reduction of natural habitats, landscape fragmentation, migration barriers, collision of vehicles with animals, emissions of noise and air pollutants, changes to the water regime and others. It is therefore necessary that all projects undertaken as part of the TEN-Ts prove full compliance with EU environmental legislation, including Birds and Habitats Directives, before they are given a green light for implementation.

In order to enforce the environmental legislation, Energy infrastructure projects might have to change their technology choice (e.g. from overhead line to underground cable or special measures for gas pipelines in order to be able to cross Natura 2000 sites; direct current instead of alternating current to reduce the size of power poles). Others would have to change their routing or to adopt measures in order to prevent and mitigate the possible adverse effects on the environment or, if not possible, to compensate negative impacts, in particular on the conservation objectives and integrity of Natura 2000 sites, for example through investing in green infrastructure¹⁵³.

4.2. impacts on climate change

The limited negative impact of infrastructure building on land-use, flora and fauna has to be put in perspective with the huge positive impact of infrastructure investments on Climate change. This point is valid for the three sectors.

4.2.1. Sector specific aspects

For the **energy** sector, according to the Reference scenario, non-delivery on the EU infrastructure priorities would limit the possibilities to inject electricity from renewable¹⁵⁴ sources into the grid to reach final customers, hindering the achievement of the 20% renewable target and preventing CO₂ emission reductions, with the related consequences on the climate and the environment¹⁵⁵. The investments triggered by the funding under the Connecting Europe Facility will have an important impact on this. The construction of electricity lines enables the large-scale deployment of renewable energies, with its positive impacts in terms of reduction of CO₂ emissions.

Similarly, the development of transportation capacity and interconnections between CO₂ producing sites in one Member State and CO₂ storage sites in another Member State would accelerate the uptake of CCS technologies, lowering CO₂ emissions. In the Business-as-usual scenario, gas supply shortages or disruption due to lack of infrastructure or alternative sources (such as LNG or CNG) would on the one hand lower CO₂ emissions under the Reference scenario, as less gas is consumed. On the other hand however, one can realistically assume

¹⁵³ http://ec.europa.eu/environment/nature/ecosystems/index_en.htm

¹⁵⁴ Concerning renewables, given the difficulties and shortcomings identified above for offshore grid development, it is estimated that a significant share of the 32 bn€ of investments needed for offshore connection infrastructure by 2020 will not be realised. As demonstrated by KEMA and confirmed by ENTSO-E, reaching the 20% renewables target in 2020 will therefore be impossible, given the important contribution expected from offshore wind (over 12% of total renewable electricity production in 2020 or about 20% of the additional renewables capacity to be installed between today and 2020). Concerning emissions, the Smart 2020 study estimates that global emissions could be reduced by 15% thanks to smart grids, mainly through their contribution to energy efficiency.

¹⁵⁵ This environmental impact analysis is confirmed at the macro-level: cumulated CO₂ emissions for the EU between 2010 and 2030 under the PRIMES baseline scenario (corresponding to BAU) are projected to be about 2,500 millions tons or over 3% higher than under the Reference scenario, where all necessary infrastructure is supposed to be operational.

that gas would be replaced by other more emitting fossil fuels, typically oil or coal. The overall effect of insufficient gas infrastructure can be assumed to be higher CO₂ emissions. The development of new European Gas corridors (Projects 5 to 8 in the preliminary list of Priority Energy Corridors annexed to the MFF Communication) will reverse the trend.

As for **broadband** infrastructure, few studies can quantify the particular benefits for the environment of high speed broadband. The qualitative benefits that can be identified are, nevertheless: greater use of telecommuting, smart grids and smart buildings which all benefit from enhanced deployment of high speed broadband. In addition, broadband and on-board computers in lorries may allow logistics managers to better coordinate and utilise trucks and enhance loads carried. Some quantifications¹⁵⁶ have been made for the reduction in greenhouse gas emission in the US. The enhanced adoption and use of broadband could achieve a net reduction of one billion tons¹⁵⁷ of greenhouse gas over 10 years. If converted into energy saved this would constitute 11 per cent of annual U.S. oil imports. Again for the US, studies show¹⁵⁸ that use of smart grids may save between 60 million and 480 million US tons of carbon emissions per year.

In the field of **transport**, according to the business-as-usual scenario of the Commission Communication "A Roadmap for moving to a competitive low carbon economy in 2050", EU transport's GHG emissions will increase by 60% to 70% in 2050 in comparison to the 1990 levels. In addition, a 50% reduction of emissions in other sectors compared to 1990 would increase transport's share in total emissions from 20% (current state) to 50% by 2050. The impact of the development of new infrastructure on emissions and climate change depends on the modal shift induced by the development of infrastructure to alternative modes of transport and by the rebound effect (the increase in traffic induced by the creation of new infrastructure), especially for road transport.

By developing high-speed rail infrastructure, these services can replace flight services on medium distance, as it was the case for the Bruxelles – Paris – London High Speed rail, part of Priority Project number 2.

Increased use of renewable energy sources to power vehicles would be facilitated by the development of supporting infrastructure, such as electrified railways and power supply stations (e.g. electricity/battery and hydrogen) along the road infrastructure. Increased use of biofuels is also important for the further decarbonisation of transport, mostly in aviation and waterborne transport, where electrification is not really an option.¹⁵⁹

Energy efficiency is the other major contributor to the decarbonisation of transport, as the technology scenario from the Impact Assessment on "Low-carbon economy 2050 roadmap" shows.¹⁶⁰ Transport infrastructure can contribute to increased energy efficiency of the transport system by reducing congestion, encouraging modal shift and co-modality towards more energy efficient transport modes/solutions¹⁶¹ as well as supporting the development of innovative transport solutions. Nevertheless, as pointed out above, the impact of greener/more efficient infrastructure development depends to an important extent also on external factors,

¹⁵⁶ Fuhr and Pociask, 2007; Davidson, Santorelli and Kamber, 2009

¹⁵⁷ One US ton is approximately 907kg, so 1 billion US tons would represent just over 900 billion kg.

¹⁵⁸ Davidson, Santorelli and Kamber, 2009

¹⁵⁹ Impact Assessment accompanying the "Low-carbon economy 2050 roadmap", SEC(2011) 288 final.

¹⁶⁰ SEC(2011) 288 final

such as the growth of the share of renewable energy used to produce electricity¹⁶² and the rhythm of development and adoption of new technologies.¹⁶³

Whilst it is difficult to quantify impacts and compare effects on the local environment with the contribution of energy, transport and broadband infrastructure to the prevention of climate change, it is expected that the overall balance of impacts is positive. In addition, the fight of climate change has positive effects on the preservation of biodiversity, as global warming could extinct certain species not adapted to higher temperatures.

4.3. Impacts on polluting emissions

The reasoning is similar for polluting emissions. Investing in modern infrastructures and combining it with other types of measures (especially in the case of transport¹⁶⁴) and using the potential synergies between the sectors (such as Intelligent transport systems for Roads and smart grids) will allow for the reducing of polluting emissions such as local air pollutants and noise.

5. CONCLUSION

Comparing the impacts of creating the CEF with the Reference scenario, taking into consideration the pre-conditions (see above) of the CEF included in all the retained policy options of the current Impact Assessment of the CEF, it becomes evident that the CEF will contribute to significant sector benefits as well as to overall socio-economic and environmental benefits.

The preliminary comparison has clearly made the case for the CEF. The Impact Assessment of the CEF will, on this basis, compare the retained options on their own merits, without risking any undue influence on impacts of the different amounts of funding available in the CEF and in the Reference scenario.

¹⁶¹ For instance by promoting electrified high-speed rail for passenger transport instead of aviation or by promoting electrified rail freight transport instead of road transport.

¹⁶² The pathways for the decarbonisation of power generation will be analysed in the forthcoming Energy roadmap 2050.

¹⁶³ For instance, the average energy efficiency of passenger cars in 1990 was 43.9 toe/Mpkm. By 2050, this improves to 23.9 in the reference scenario and it is further reduced to 13.6 toe/Mpkm in the Effective Technology scenario. This is achieved through gradual efficiency improvements of internal combustion engines and subsequently gradual hybridisation leading eventually to high penetration rates for electric propulsion vehicles (such as for example plug-in hybrids and electric vehicles).

¹⁶⁴ See impact Assessment accompanying the TEN-T Guidelines Proposal

ANNEX 4

Financial instruments under CEF¹⁶⁵

6. INTRODUCTION

A common framework enhances economies of scale.

The progressively increasing interdependency between economic infrastructure projects, networks and sectors provides a good ground for the creation of an integrated EU infrastructure funding framework which will enable economies of scale and a coherent approach as regards the financing of projects.

Connecting Europe Facility is a transparent strategy which...

The Connecting Europe Facility provides the longer-term plan ensuring that the EU priority projects in energy, transport and ICT are developed and implemented in a timely and effective manner. A comprehensive strategy of prioritised opportunities of transport, energy and ICT projects, as proposed by the Commission on 29 June 2011¹⁶⁶, has significant potential to attract more private sector financing and at the same time help to complete the internal market. The strategy including the selection of projects is transparent thus ensuring a high level of certainty for all stakeholders. Within this strategy the setting of policy priorities, regulations, incentive schemes, close co-ordination between stakeholders, information and awareness campaigns are required to establish the overall framework conditions for infrastructure investments enforcing behavioural changes amongst stakeholders and accelerating the pace of intervention. Grants and financial instruments, each of which under a distinct set of financial rules, would be available in a centralised and co-ordinated manner.

... provides certainty and...

... has a huge potential to attract more private sector financing with...

... financial instruments...

Financial instruments are needed to reduce specific barriers that prevent the flow of debt and equity finance. Their main objective is to attract and facilitate private sector finance in the projects. At the same time, increased investment activity in infrastructure projects with the help of new initiatives stimulate the global development of post-crisis financial markets, enhance the pace of the economic recovery and promote growth.

... to be validated by a thorough assessment prior to their launch.

This document gives an overview of current financing volumes for infrastructure, highlights market imperfections, points to financing gaps and assesses the main modalities of potential future financial instruments for equity and debt. Thorough ex-ante assessment is required including negotiations with financial institutions such as the EIB in the next 12-18 months before any concrete and fully-fledged proposal can be made.

¹⁶⁵ This Annex consist of extracts of a document prepared by the Commission (DG ECFIN) in the context of the discussion on financing instruments for the CEF.

¹⁶⁶ COM(2011)500 A budget for Europe 2020 and the relevant Commission staff working papers.

7. FINANCING OF INFRASTRUCTURE PROJECTS

7.1. Financing volumes

Public budgets fund EUR 120 billion per year which together...

As regards financing of infrastructure investments, annual public sector financing amounts to around 1% of GDP, or around EUR 120 billion, which is also the annual average amount of the EU budget. Out of this, around 85% or EUR 95 billion is only in the transport sector, the remainder focusing on the social sector such as schools and hospitals.

...with the stimulus packages is no longer sustainable.

While many governments have stepped in with stimulus packages for infrastructure projects, first, some of them are only of a temporary nature, second, this is not a long-term sustainable way to support infrastructure and third, this support is no longer sound due to the significant deficits and sovereign debt levels.

Multilateral and development banks are capital constrained.

Multilateral banks, state owned financial institutions and export credit agencies will continue to play an important role in the provision of finance to infrastructure projects. In addition, they are also an important source of skills for due diligence and expertise on deal structuring and procurement. However, these institutions might not have the capacity to continue the recent levels of activity. Below as an example an overview of EIB's financing activity showing a scaling down of financing volumes from 2011 onwards due to capital considerations.

EIB financing for transport and energy infrastructure (achieved in 2010 and forecast 2011-2013) in EUR billion:

	2010	2011	2012	2013
TENs	11.0	9.8	8.6	8.5
Environmental protection and sustainable communities	15.6	15.3	14.1	14.2
Energy (of which 5.6 renewables and 1.7 energy efficiency in 2010)	13.6	10.8	9.5	9.3
Overall lending volume in EU27 (signatures)	62.9	54.5	53.3	52.5
Total lending volume of the EIB (signatures)	71.8	63.1	61.7	60.7

Projects guaranteed by credit agencies remain a niche activity.

Export Credit Agencies (ECAs) are quasi-governmental bodies that provide government-backed guarantees to companies covering the risk of doing business, in particular in developing countries and emerging markets, but also for project finance transactions or corporate finance, including bond finance. A recent example is the first European public solar project bond and the first ever project bond enhanced by SACE Export Credit Agency of Italy, 100% owned by the Ministry of Economy and Finance. Total financing was divided into two classes of bonds of equal amounts, with EIB as one underwriter and SACE credit enhancing the other.

<i>In 2010, PPPs were increasing in number again...</i>	For many countries, project finance provides a logical means to deliver key infrastructure projects with a lifecycle approach as it limits pressure on both short-term cash-flows and reduces the need to borrow heavily. Private finance can be raised against public sector assets using different public-private partnership (PPP) structures.
<i>...with 112 transactions closed.</i>	In 2010, 112 PPP transactions reached financial close for an amount of EUR 18.3 billion ¹⁶⁷ . In terms of number of operations, UK was the most active country followed by France, Germany and Spain. 6 deals reached financial close in Eastern Europe. In terms of value, Spain was the largest PPP country followed by UK, Portugal, France and Belgium. Non-transport sectors presented more than half of the value of EUR 18.3 billion. In the first half of 2011 the number of transactions decreased ¹⁶⁸ while the volume of transactions with EUR 9.7 billion remained at 2010 levels.
<i>EIB remains a key financier...</i>	Since 1990, EIB has progressively broadened the geographic and sector spread of its PPP lending. A portfolio of 130 projects and investment of around EUR 30 billion have been benefited from EIB lending. The annual signatures average above EUR 2 billion since 2000, reaching EUR 3.4 billion EU in 2010 of which EUR 2.4 billion in the transport sector. EIB has generally concentrated on Europe's largest and most strategic PPPs.
<i>... for the countries developing PPP programmes.</i>	The results of a survey ¹⁶⁹ in 2007 showed that only 4% of all public sector investments are PPPs. But many countries, including in the new Member States have started to develop new investment programmes and strategies together with an increased use of PPPs ¹⁷⁰ . For example following a new PPP decree in 2010, in April 2011 the Romanian government decided that a number of infrastructure projects should be structured as PPPs and set out a list of transport projects (mainly highways and ring roads), power plants and interconnectors, health, regional development and environment projects ¹⁷¹ .
<i>Bank lending...</i>	In the last 10 years, private sector financing has amounted to an annual average of between EUR 40-70 billion, of which 2/3 have been granted in the form of bank loans. Transport, energy ¹⁷² and telecommunication amount to less than half of these volumes.
<i>...has not taken up yet...</i>	Due to the liquidity and risk problematic, banks reacted during the financial crisis with a radical shortening of maturities, increased pricing and collateral requirements. Bank syndication markets dried

¹⁶⁷ EPEC, Market Update 2010.

¹⁶⁸ EPEC, Market Update, First semester of 2011

¹⁶⁹ Siemens, public infrastructures and private funding, 2007.

¹⁷⁰ For example the Romanian and Bulgarian national strategies for the development broadband in 2009-2015 envisage the possibility to enter into PPPs to implement broadband networks and services. The Greek PPP programme in the area of broadband, which foresees the implementation of an open access network spanning 50 cities including Athens at a cost of EUR 2.1 billion is also intended to be tendered along PPP lines.

¹⁷¹ Project examples are Sibiu-Pitesti highway, Bucharest ring road, AGRI interconnector, steam and hydro-electric power plants, hospitals, etc.

¹⁷² Without oil and gas since the majority refers to exploration.

... and with refinancing possibilities coming up,...

up leading to a lesser number of deals, now done under club structures with smaller ticket sizes. There are a large number loans on existing assets that were originated in 2006 and 2007 at high margins on a short term or 'miniperm' basis that are now coming up for refinancing. This will place an additional drain on the amount of debt available to finance the construction of new infrastructure projects.

... importance of capital market financing increasing...

The importance of bond markets as a source of finance has increased during the economic slowdown as companies diversified away from reliance on banks for funding and many governments increased borrowing. Europe's corporate bond markets are less developed than in the US, however they are gaining importance as larger corporates look to diversify their funding sources due to increased difficulties in obtaining finance from banks¹⁷³.

... for corporate bonds ...

The corporate bond market remained strong in 2010 and thus continued to demonstrate its importance as effective capital raising and investment venue. The high-yield corporate bond market has grown rapidly, EUR 38 billion of high-yield bonds issued so far this year, already approaching 2010's record issuance of EUR 51 billion. However, the evolution in recent months has again demonstrated the difficulties corporates have been facing to raise money on capital markets, and those having been successfully closed have been trading poorly in the after-market¹⁷⁴ with very few exemptions. As regards project bond issues, the markets in the EU have shown de facto no activity in 2010.

...but not on project bond markets.

Utilities make considerable investments.

To these sources of funding should be added a share of utilities' investments. European utilities typically invest EUR 60-70 billion per annum¹⁷⁵. However, this includes all utilities, also in the water sector which finance themselves on a corporate finance basis, i.e. via general corporate bond issues, not specifying the use of the borrowed funds.

Capital market investors invest also directly in equity or...

In 2010, considerable amounts¹⁷⁶ of private sector money flowed into EU infrastructure assets, in particular renewables, with some of Europe's largest pension funds making considerable allocations in equity. For example PensionDanmark invested together with PKA (labour market pensions of Denmark) EUR 800 million in an offshore wind farm. With skilled and experienced internal teams being implemented by the investors, the portion of direct investments in infrastructure by institutional investors is increasing worldwide. Calpers in USA is a good example. However, there are only very few examples of investors willing to invest directly in new projects as they prefer the less complex brownfield and secondary transactions. Investors find primary investing complex and

¹⁷³ The CityUK, Bond markets, Financial markets series, July 2011.

¹⁷⁴ The Telegraph of 16 June: 'corporate bond markets hit by Greek default fears'. FT of 17 June 2011: 'corporate bond risk premiums soar'.

¹⁷⁵ Morgan Stanley research note November 2010

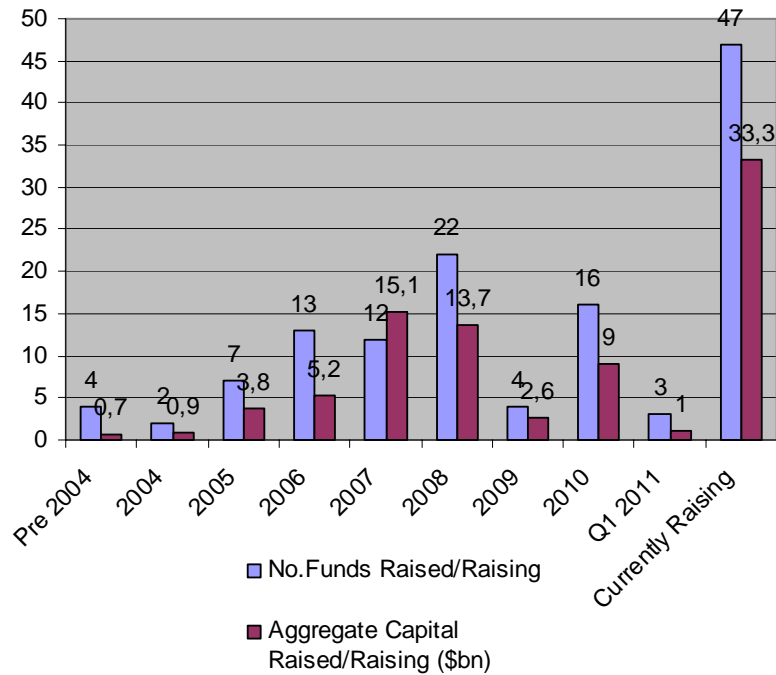
¹⁷⁶ IPE article: Building bubbleville? Of Emma Cusworth, 1 June 2011

difficult, in terms of lack of early cash yield and the expertise needed to put a project together that do not always exist by investors. Finally, project bonds need to compete with alternative assets such as real estate and commodities.

...through infrastructure funds...

The 2010 increase in infrastructure finance to around EUR 60 billion appears to be partly due to the increase in the availability of equity. However, the majority of this flow was targeted towards secondary transactions, not new infrastructure. Despite of the financial crisis, infrastructure funds have continued successfully their fund raising. Even though the recent figures do not yet achieve the 2007 fund raising levels, the management teams have succeeded in raising 16 new funds in 2010 with a total target size of EUR 6 billion. This brings the cumulative number of infrastructure equity funds actively raising capital to 47 with an overall investment capacity of around EUR 23 billion¹⁷⁷.

Historical European Infrastructure Fundraising (Source: Prequin)



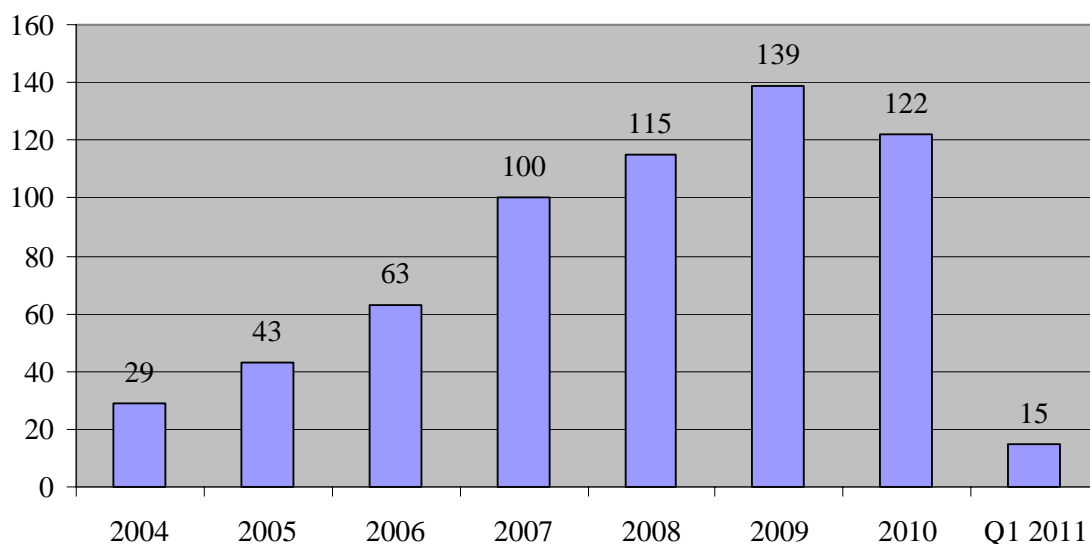
...with 122 projects benefited from equity investments in 2010 through these funds.

The annual number of infrastructure deals completed by infrastructure fund managers in Europe in 2010 was of 122, a bit lower than the all time peak of 2009. The majority of equity investments made in infrastructure targeted the renewables sector (35%), transport (33%) and energy sector (14%). But, institutional investors in general have favoured existing brownfield investments rather than new greenfield assets. Despite the slow start of 2011 (15 deals in Q1), the infrastructure deal flow should improve as the year continues.

¹⁷⁷ \$33 billion, exchange rate of June 2011.

Figure below provides annual data on deal flow since 2004.

Annual Number of Deals Made by Unlisted Infrastructure Managers in Europe
(Source: Preqin)



A niche market of specialised funds has been developed...

... including credit enhancement funds...

A few debt funds have been created recently in Europe which will primarily aim to provide junior/subordinated debt for infrastructure projects across the globe, such as Harbourmaster¹⁷⁸. In addition, Hadrian's Wall¹⁷⁹ with a target size of around EUR 1 billion will use a subordinated debt tranche to enhance the rating of the project debt and sell it to capital market investors. As with all subordinated debt, the fund acts as a first loss component of a transaction, and this helps to enhance the credit rating of the project by shielding the senior debt and equity from a certain amount of revenue risk. It is a welcome measure demonstrating private sector innovation to address infrastructure financing needs in energy, education, health and service sectors.

...whereby the EIB is an active investor.

The EIB is an active investor in European infrastructure funds. By the end of 2010 it had invested in 21 equity¹⁸⁰ and debt or mixed funds¹⁸¹ for a total amount of commitments of EUR 683 million. These 21 funds have raised EUR 6.4 billion and have a target of EUR 8.8 billion. These funds target in particular PPPs and

¹⁷⁸ Harbourmaster Capital Management is seeking to raise EUR 2 billion infrastructure debt fund to invest in senior debt in Western Europe. At this stage Harbourmaster intends to structure the fund without credit enhancement at the fund level. This is a different proposition to the EIB/EC project bond initiative, which consists in credit enhancing each financing in order to give investors access to more highly rated debt securities. It will also consider investing in project bonds but anticipates that it will take some time until project bonds will have sufficient market share to become attractive.

¹⁷⁹ Hadrian's wall will provide a guarantee of around 10% of project's value.

¹⁸⁰ Includes Marguerite with a target fund size of EUR 1.5 billion and EU investment of EUR 80 million.

¹⁸¹ For example the recently launched European Energy Efficiency Fund (EEEF) with EU commitment of EUR 125 million.

renewable energy projects.

7.2. Financing gap

<i>Business as usual case not possible...</i>	The previous volumes seem to indicate that the infrastructure financing market is in approximate balance and able to fund "business as usual" investment. However, the step change in investment needs to meet the Europe 2020 objectives is well beyond "business as usual" and in itself requires a reconsideration of funding.
<i>... due to financing gap and...</i>	In order to address the investments needs of the future years, Member States would need to increase funding levels by additional resources such as tax increases or reprioritisation of budget allocations. If this can not be done, there is a mismatch, a financing gap, between the high up-front capital costs to construct or refurbish the infrastructure and the public funding resources.
<i>... a geographic mismatch.</i>	Financing structures facilitating private finance have been sporadic across the countries and likely to continue as long as significant amounts of grants are available for economic infrastructure projects. Consequently, a geographic mismatch between the Member States, in the Member States and their regions exists as regards the use of grant, bond, loan and equity financing for infrastructure investments.
<i>Commercially viable projects ...</i>	Private sector financing is only possible when the risk-reward structure is appropriate, i.e. when there is confidence that the up-front investment will be repaid over time by the funding stream, i.e. either by the users or by the public sector.
<i>... have difficult access to finance.</i>	However, the risk that access to credit by the private sector could be crowded out by sovereign debt issuance remains together with the fact that access to debt (bonds and loans) is particularly challenging in Member States with relatively high sovereign risk. Finally, the re-emergence of sovereign credit risk as a factor in developed markets is a new feature of the post-financial crisis world limiting the interest in projects in a number of countries. Good projects will not get financed on normal terms due to the contamination effect of the sovereign crisis.
<i>Bank financing remains less constraint...</i>	Current concerns on the long-term bank debt markets remain about depth of markets, liquidity pressures and counter-party risks. Shorter lending terms, higher prices and reduced capacity by banks to lend to large transactions (less syndication through underwriting and more club deals ¹⁸²) may continue to persist in the future. There are some recent signs of improved underwriting potential by banks, but whether this means a real recovery, and at which pace,
<i>... but even with signs of recent improvement...</i>	

¹⁸² Under a syndicated transaction, one bank acts as an arranger which guarantees, i.e. underwrites, the entire loan commitment to a project/company. It then syndicates the loan, i.e. asks other banks to subscribe to portions of the debt. If this cannot be done, the arranger has to absorb the difference. It can try to sell to the debt to investors. In the worst case, the arranger may be forced to sell at a discount and, potentially, even take a loss. In a club transaction banks collectively arrange the debt to a borrower and these arranger risks do not exist.

...it is not well suited for long-term investments...

... to which uncertainties as regards regulatory environment need to be added...

...also having an impact on bond markets.

The attempts to revive project bonds markets remain a niche activity.

remains to be seen.

Therefore, bank lending might remain the best solution to finance the construction phase of the projects. However, bank financing might not be the most suitable and cost-effective for a long-term life-cycle approach.

The vast bulk of project finance debt is lent by Europe's leading banks, all of which under Basel III are facing the prospect of needing to increase the amount of capital they set aside to support their activities, which is likely to lead to a tightening of liquidity. In addition, the regulatory framework will continue to evolve with Basel III and Solvency II implementation making it more demanding for smaller unrated corporates and those having a speculative credit rating to have access to bank loans. The current infrastructure projects coming to a refinancing stage in the next years might face considerable challenges in this context. Finally, in Europe financial reporting and insolvency regimes seem to favour bank lenders. For example loan agreement covenants are not necessarily disclosed to bond holders and, bondholders and lenders do not have equal voting rights in the event of default.

As regards the longer-term solution, another key challenge for the debt markets remains attracting institutional investors' capital through the issue of bonds by project entities and companies or municipalities for the benefit of infrastructure projects. The trend to issue corporate bonds has continued during the crisis but at suboptimal levels¹⁸³ compared to the US, for example.

Bond markets have been mainly open to large corporates of investment grade while a majority of those of a smaller size or which have a more speculative credit rating (or no credit rating at all) continue to rely on bank lending. The assessment of credit quality of corporate bond issuers is particularly important. Investors, who may have only invested in government bonds previously, may need to strengthen their understanding of how credit quality and risk affects corporate bond investments.

While pre-crisis institutional financing was invested through project bonds directly into infrastructure projects with monoline credit enhancement market participants will continue to try to create multi-investor debt funds or find structured products that can de-risk senior debt. However, this activity is only a niche market. The problem is however that project bonds are not ideally suited to greenfield projects which usually require funding on a number of milestone dates during the construction period. *"Consequently project bonds are generally much better suited for refinancing a project once it is complete and there is a secure cash flow, or perhaps bundling together a number of projects into a special purpose vehicle and securitising the whole. Using the bond markets for these purposes would of course have the benefit of*

¹⁸³ TheCityUK, Bond Markets 2010, Financial market series, July 2011.

*freeing up liquidity more generally in the market."*¹⁸⁴

Infrastructure funds with high levels of fund raising and even...

Whether equity infrastructure funds will continue to succeed in raising new money is uncertain in markets where the insatiable demand for all types of lower-risk returns and inflation hedged assets provide a number of alternatives to highly selective pension fund and other institutional investors. The current rise of infrastructure equity funds is largely based on the interest in secondary market and brownfield transactions as these markets are expected to continue to expand. The steady yields of infrastructure equity funds have attracted investors, but in some cases these returns have been sourced from operating cash and capital¹⁸⁵ of the fund. Sustainability of these funds is questionable and perceived risks in the sector include potential equity bubbles¹⁸⁶ due to the mismatch between supply and demand. In addition, many of the new equity funds with first-time investment teams have not yet proven their track record and their performance need to be seen. Finally, the current trends in corporate unbundling (notably utilities), investment in renewable energy and privatisation as well as refinancing will increase the range of alternative infrastructure investment possibilities thus reducing the probability of overheating. Deepening of the primary market for infrastructure assets, i.e. increased number of greenfield transactions is conducive for further development of secondary markets.

... some specialist funds are created, but a gap persists for the financing of EU infrastructure priorities.

Specialist funds may arise while pension funds and sovereign wealth funds will increasingly take direct stakes in infrastructure projects and companies in particular in the old Member States. Specialist funds would help to create expertise in specific sectors and develop specialist teams. However, even these infrastructure funds do not necessarily focus on long-term investments but rather medium-term return opportunities, neither primary markets, greenfield projects the immature equity markets nor new Member States.

Alternative business and financing models for infrastructure are required...

The changes in the economic policy set-up of the EU and in the structure of the financial industry raise new challenges, which have an impact on the availability of private financing. Whilst private finance will continue to be available to some extent, alternative financing models, which will replace or lessen the dependency on public sector grant financing, will be required to sustain long-term capital investment for infrastructure. For example, regulated infrastructure utilities have been less impacted in their capacity to issue bonds. Therefore, it should be assessed whether the regulated

¹⁸⁴ Norton Rose, Financing power for the future: How will the world's power needs be project financed?, November 2010.

¹⁸⁵ Richard G. Little, Not the Macquarie Model: Using U.S. Sovereign Wealth to Renew America's Civil Infrastructure, 26 January 2009. See also Lawrence, Martin and Stapledon, Geoffrey P., Infrastructure Funds: Creative Use of Corporate Structure and Law - But in Whose Interests? (February 2008). University of Melbourne Legal Studies Research Paper No. 314.

¹⁸⁶ Standard and Poor's; the amazing growth of global infrastructure funds: Too good to be true?, in Ireland business news, 2006

asset base model¹⁸⁷ could be used for other type of infrastructure financing models, such as concessions. Furthermore, the public sector needs to put more emphasis on a life-cycle approach in order to be able to drive down the overall costs of projects including operations, maintenance and eventual replacement, building up appropriate capital reserves.

... while access to finance remains a key problem.

Access to financing by companies and infrastructure projects is particularly challenging in the countries with relatively high sovereign risk and subsequent uncertainties as regards the economic/regulatory environment (cost of capital, reduction of agreed support under existing incentive schemes, scaling down of public investment programmes, taxation, impact of sovereign rating on investor behaviour, etc). In the context of sovereign crisis, one of the key threats associated with an indirect contagion of financial risks to enterprises and projects is not knowing where the final risk actually resides. This has an impact on investor/banks behaviour as regards new financing/investments or reassessment of existing exposures. Finally, potential future liquidity shortages of financial institutions will have an impact on the availability of financing even for healthy corporates and projects.

Markets are recovering...

To conclude, the markets show quite some development as regards recent move by a number of banks to provide longer maturity loans to projects and corporate bond markets, the lively discussions on the markets about the revival of project bonds and the fund raising activity by infrastructure equity and debt funds.

... but uncertainties persist!

However, the EU priority projects entail features and risks such as greenfield, new technologies, uncertain business case as regards future revenue flows, regional aspects including the influence of the sovereign crisis and cross-border impact making the project development and implementation demanding and less attractive for private sector financiers and investors. In addition, in case of private sector financing, depending on the sector, the project, the economic situation in the country or region as well as national regulations and the maturity of the financial/capital markets there can be a greater need for either debt or equity support. Alike, as the risk-return profile of infrastructure projects change during the lifecycle (preparation and planning, construction and ramp-up operations and subsequent operational period with more predictable revenue flow) different types of investors and financiers are needed. Both debt and equity instruments are necessary in order to be able to promptly respond to cyclical adjustment needs.

¹⁸⁷ Under Regulatory Asset Base an investment in an income generating regulated asset will be financed via a long-term borrowing. The investment is effectively guaranteed through the assets' revenue stream and the regulatory framework. Risk has been passed to the users through the price they have to pay (for example for water, electricity).

8. FUTURE FINANCIAL INSTRUMENTS FOR INFRASTRUCTURE

Priority projects require EU instruments...

Meeting the demand for increased investment over the next decade and the financial constraints many governments face for the foreseeable future provide a perfect opportunity for increased private sector financing to deliver much needed economic infrastructure investment in transport, energy and ICT. The number of EU priority projects in an individual country and their potential cross-border nature are however such that an EU level intervention is more appropriate than a scheme at national level. Both debt and equity instruments are necessary in order to be able to promptly respond to cyclical adjustment needs.

8.1. Objectives

...to attract private sector financing...

The objective of the infrastructure instruments is to attract private sector financing to help Europe to unleash its potential in the moment of a crucial transformation and the shift towards a resource efficient and low carbon economy.

...and to accelerate implementation of EU policy.

The toolbox of instruments should set the base for a long-term stable investment framework and to act as a catalyst and stimulator. They are particularly valuable when policies require a speed of implementation but uncertainties for projects are above average in an economic environment where investments decisions are largely made by the private sector.

Financial instruments stimulate demand for finance and supply of finance.

The financial instruments can stimulate infrastructure financing in two ways: affecting primarily the demand¹⁸⁸ for investment finance or the supply of finance¹⁸⁹. The financial instruments for infrastructure assessed in this paper should mainly be used

- (4) when long-term tenors of financing can not be provided by the private sector,
- (5) as a risk mitigation measure to steer the flow of private funds to political priority sectors or projects,
- (6) to facilitate risk taking by the financial sector,
- (7) to stimulate market developments such as the revival of capital market financing for infrastructure,
- (8) to stimulate project, corporate and equity financing in less developed markets.

¹⁸⁸ For example interest rate subsidies combined with loans are used when private finance is as such not the main problem, but rates of return on investment are insufficient to motivate private investors and project promoters.

¹⁸⁹ For example injections of public money in private equity funds to develop risk capital markets.

The financial instruments will assist infrastructure projects¹⁹⁰ in

- (a) Providing them or facilitating access to equity and/or debt finance (loans and bonds),
- (b) Reducing possibly their overall cost of capital,
- (c) Expanding financing tenors and grace periods to better match project cash flows,
- (d) Facilitate project structuring through standard equity and debt instruments which are well-known to all market participants.

8.2. Principles

The instruments need to be sustainable...

The goal of these instruments for infrastructure shall not be their profitability or revenue generation potential but sustainability: While grants under the facility will be extended without any expectation of direct monetary return, the capital used for equity and risk-sharing is expected to return to the EU, potentially with a profit to remunerate for the risk taken. The aim of the instruments is thus to preserve the value of the EU budget assets while focusing on maximisation of multiplier effects of the budget.

... and not create contingent liabilities for the EU budget,...

Financial instruments for infrastructure are based on EU budget contributions. They do not generate contingent liabilities for the EU budget. *"All of the co-financed instruments involve allocations to programmes which are capped in size and so none of these instruments pose a risk to the budget beyond that which is initially committed. Even in those cases in which the financial instrument involves a form of guarantee there remains no liability beyond that which was originally committed during the design of the instruments."*¹⁹¹

The EU budget covers the contribution to the IFI and also management costs and other expenses, such as costs of external audits.

...be applicable across EU policies...

Financial instruments¹⁹² for infrastructure target policy objectives across the flagships and across Europe 2020 priorities, avoiding unnecessary multiplication of instruments of a similar nature or with similar target beneficiaries and project structures. Geographical and sectoral diversification resulting from a cross-flagship approach will help attract investors to Europe 2020 priority areas by reducing overall portfolio risk.

...in EU27...

As regards geographic coverage, in accordance with the priorities

¹⁹⁰ Companies carrying out an infrastructure projects as part of normal operational business (such as TSOs) or special purpose entities set up to carry out only the infrastructure projects (financing, construction, operation after completion).

¹⁹¹ Study of the budgetary Control Committee of the European Parliament, 'The implications of EIB and EBRD co-financing on the EU budget', March 2011.

¹⁹² EU measures of financial support provided from the budget of the Union in order to address a specific policy objective by way of loans, equity or quasi-equity investments or participations, guarantees or other risk-sharing instruments, possibly combined with grants.

set by the sectoral policies, the financial instruments will target EU27 and the relevant third countries.

... while maximising impact.

This will maximise the impact and visibility of such instruments, reduce the administrative burden on beneficiaries and intermediaries and results in simplification also from the viewpoint of the Commission.

A range of instruments required...

Therefore, a toolbox of instruments is required which is adaptable to the uneven development of the financial markets and differing needs of the sectors, projects and regions. For example, the demand for a risk-sharing instrument to attract bank lending can be higher in some countries whereas a risk-sharing instrument to obtain capital market financing through bond issues might be more appropriate in others.

... to be managed by the EIB and the IFIs.

Financial instruments are demand driven and market based schemes which will be implemented by the EIB and the International Financial Institutions (IFIs) or national institutions. They have the professional expertise and know how to manage the programmes. But they need to be willing and capable of sharing a portion of the financial risks with the Commission for equity and debt instruments.

To be effective the instruments need a sizeable volume...

The volume of financial instruments compared to the overall budgetary envelope should be balanced to the current market financing volumes and absorption capacity as well as the capacity to manage significant resources by an IFI including the possibilities of an IFI to share the risks with the Commission. The volume will also largely depend on the type of projects included under the Facility (physical networks only or also projects including technologies which require different financing structures due to their risks). Therefore, a precise quantification is difficult at this stage due to the limited availability of financing projections of eligible projects that are expected to be supported and would involve private sector participation. Only the projects in the transport sector are clearly identified, those in energy and ICT need to be further developed and assessed in accordance with the priority corridors and network development.

... while not distorting the private financial sector...

Which ever instrument is used, equity or debt, it is important not to substitute or distort the private financial sector and to foresee appropriate exit provisions. Instruments which are not fully commercial can distort a market, and crowd out the private sector, if not properly targeted at revealed market imperfections, and can restrain the long term development of private sector investments in infrastructure. On the other hand, financial instruments may stimulate difficult markets situations and create opportunities for the private sector in the future, as well as helping the infrastructure projects through difficult economic times. Finally, the managing institutions such as the EIB and the IFIs need to have the absorption capacity and resources to implement the instruments.

... and be visible.

Given that infrastructure financing involves multiple partners sometimes at various stages, there may also be implications for the

visibility of the use of the EU budget. Working through partners such as equity funds who are ultimately responsible for the equity participations, can make the EU's role increasingly opaque. On the other hand, infrastructure projects are usually beneficiaries of important financing partners including the public sector who all have the interest to request promotional measures and visible promotion of public support.

A risk-sharing and an equity instrument do not solve the problems alone – technical assistance needed...

Finally, project development capacity, experience and know how by the local, regional and national authorities is key and will require additional support through technical assistance schemes. In particular at regional level the authorities often lack resources and expertise to develop and implement complex infrastructure projects which require well organised procurement including technical and financial specifications and negotiations with a range of stakeholders, also outside of the country borders.

...together with intense promotion of the instruments.

Finally, financial instruments need to be adequately promoted in order to be recognised by all stakeholders already at an early stage.

8.3. Risk-sharing instrument

A financing partner (EIB or other IFI) takes the risk on its balance sheet while EU shares a limited portion of the risk...

The EU would be a risk-sharing partner to the EIB or to an IFI which would be ready to take the risk of the projects on its balance sheet. The EU would share a portion of these the risk and pay for this purpose a capital contribution to the EIB or an IFI. For its risk-taking the EU would expect to receive a remuneration.

The key role of the Commission and the EIB/IFI will be to absorb risks of a project and thus attract more private sector financing in the projects.

...alike to existing programmes.

The risk-sharing instrument will use risk-sharing arrangements on a portfolio basis between the Commission and an IFI and would build on experiences gained for example under the Loan Guarantee Instrument for TEN-Transport projects (LGTT), the Risk Sharing Finance Facility (RSFF) and the Europe 2020 Project Bond Initiative currently under development.

Risk-sharing instruments assist the speedy implementation of complex projects and ...

When the EU is faced with a combination of a speedy implementation of projects (combined with the further improvements with regulations and administrative procedures), higher than above average uncertainties for example due to the cross-border nature of projects, and the projects still have prospects of solid revenues in long-term, a risk sharing instrument is well suitable as a financing instrument.

...facilitate access to finance...

An EU wide infrastructure risk-sharing scheme will facilitate project companies and corporates to have access to debt financing. The joint support by EU and the IFI will enhance the credit rating of the senior debt of the project which makes it more attractive for senior lenders or institutional investors.

... for bankable projects.

In addition to the policy eligibility and compliance with EU rules and regulations, the main condition for financing will be the bankability of the transactions based on the economic and financial viability of a project or of a corporate, which will be assessed by the EIB/IFI.

Both project bond and bank lending would be targeted...

The debt can be issued in the form of bonds by the project company or a corporate under the Europe 2020 Project Bond Initiative¹⁹³. Alternatively, the debt can be provided as bank lending to finance an infrastructure project.

...in order to respond in a flexible manner to different stage of markets and project needs.

The flexible approach as regards the type of debt financing to be targeted (capital market financing or bank lending) makes the instrument receptive to the multiple financing structures applied in the EU for the financing of infrastructure investments, the size and sector of the projects and the stage of development of project finance and capital markets in the Member States including the choice of procurement approaches.

This will allow a phased approach following the development of financing markets while being able to support a prompt implementation of projects.

As the risk-sharing instrument for loans (LGTT; Loan Guarantee instrument for TEN-T) already exists and is well known to the relevant stakeholders¹⁹⁴, it is expected that in the initial years the risk-sharing instrument for loans will have a speedier take-up. This will also be due to the national regulations as regards procurement law and the (non) possibilities of bond finance being effectively included in the bidding process. However, together with the revival of capital market financing through bond issues by companies including increased competition between the providers of financing (banks and institutional investors), the risk-sharing instrument for bonds has the potential to become equally important.

But a pilot phase of Europe 2020 Project Bond Initiative needed.

Nevertheless, with a pilot phase the Europe 2020 Project Bond Initiative be launched during this MFF, a speedier acceptance by the markets for the post-2013 instrument could certainly be warranted.

With a multiplier effect of up to 20 and EU budget of EUR 5-10bn the instrument would attract EUR 125-250bn senior debt...

The development of an appropriate risk sharing method will take into account the level of multiplier effect as a high multiplier is considered a main performance criterion for financial instruments. A low risk sharing percentage would increase the leverage of the private finance per guaranteed amount, but it would also reduce off-take. The expected multiplier effect of this risk sharing instrument is up to 20 (EU funds as a share of the total financing attracted to a project). To reach critical mass, EUR 5 to 10 billion of EU budget for a seven year period would seem to be appropriate considering the depth of the debt markets and number of the projects to be supported and the investment needs. It would have the potential to target approximately EUR 125-250 billion of senior debt which is already a considerable amount of the estimated investment needs of around EUR 870 billion under the Facility. However, the framework

...to cover part of the EUR 870bn estimated investment until 2020...

¹⁹³ The Europe 2020 Project Bond Initiative is subject to an impact assessment and Commission proposal, therefore further details on the initiative are not reflected in this paper.

¹⁹⁴ Such as banks, financial advisors, public authorities, project promoters and equity providers.

...provided that the framework conditions are right.

conditions, such as Member States' acceptance of and support for private finance solutions of infrastructure projects, regulatory environment such as sector regulation (ie energy, telecommunications) and financial regulation, the ability of the EIB and IFIs to co-finance and manage the financial instruments, economic environment, private sector acceptance, etc are key constraints for the development and implementation of financial instruments aiming at a full roll-out in EU27.

8.4. Equity instrument

An equity fund-of-fund...

An EU wide infrastructure equity instrument could take the form of a fund-of-fund scheme investing in infrastructure funds that in turn invest equity or quasi-equity in infrastructure projects and companies including public-private-partnerships in the transport, energy and broadband sectors. While it is more difficult to arrange co-investment with direct investors, a fund-of-fund would allow for a standardised investment approach for infrastructure projects. Its objective would be to facilitate infrastructure projects' access to equity capital and strengthen the capital base of these companies in order to better attract debt financing. The fund-of-fund scheme could be managed by the EIB or an IFI which would be invited to co-invest alongside the Commission in order to align interest with EU as manager of the EU funds.

...with co-investment by the EIB...

...and potentially by the Member States...

It might be difficult to attract other participants in such a scheme due to the expected high risk and reward structure of equity investments, due to the sheer volumes required for these participations and due to the policy restrictions several public sector financial institutions need to respect. Nevertheless, as Member States could the possibility to co-invest in such a fund, the setting up of a dedicated investment vehicle managed by the EIB could be considered.

... would help very complex projects to have access to equity finance and to develop equity markets...

The equity scheme would complement the toolbox of financing options available for the EU and would help to further develop the EU wide infrastructure risk capital markets without a distorting impact. The equity funds should to a certain extent target market gaps such as greenfield infrastructure and projects of a cross-border nature as well as new Member States where the equity capital and project finance markets are not yet well developed. However, the ability of such an instrument to address financing gaps related to projects of EU interest needs to be carefully assessed.

With EU budget of EUR 3-5bn

EUR 3 billion to EUR 5 billion over a seven year period provided by the EU budget could be appropriate with higher annual amounts in the beginning of the period in order to kick start an investment programme in a number of infrastructure equity funds right from the start of the MFF period. The multiplier effect of such a fund-of-fund structure could amount to 6 (EU commitment to a risk capital fund compared to its target size).

9. GOVERNANCE AND MANAGEMENT

Focus on priorities, clear goals and transparent policy benchmarks will help IFIs to select the projects.

In the context of a strong governance framework, the Europe 2020 strategy calls for a clear focus, clear goals and transparent benchmarks for assessing progress. These criteria should be applied mutatis mutandis for the future financial instruments for infrastructure. In the context of the MFF, the Commission identified a list of eligible projects, corridors and networks which will benefit from the Connecting Europe Facility and also from the equity and risk-sharing instruments.

IFIs have to be willing to use their balance sheet for the risk-sharing, have the professional expertise and be committed to support EU policy goals.

The main criteria to identify suitable IFIs are their willingness to assume the risk of projects with the support of the Commission, their experience in the target sectors and markets including their current financing products and their capacity to implement an instrument as well as any restrictions laid down in their constituencies. The institutions need to have appropriate risk management systems and legal in house expertise. For example, for the risk-sharing instrument the IFI must be willing and capable to build up a portfolio, to cover the risk of this portfolio on its balance sheet and to manage and monitor this for the whole duration of the instrument. These criteria are well respected by the EIB.

IFIs would select and approve projects while...

The projects, companies or equity funds will need to apply for financing under the normal rules of the managing IFIs.

The IFIs would then approve projects based on the policy criteria set by the Commission and report to the Commission on these operations.

...a strategic committee will overview the implementation and propose corrective action, if need be.

A strategic steering committee comprising representatives of MOVE, ENER, INFSO, REGIO, ECFIN and the IFIs will supervise the implementation of the instruments.

The performance of the implementation would need to be redefined regularly, in order to adjust the mix of equity/debt and technical assistance programmes more quickly to changes imposed by the overall demand and market circumstances. The strategic steering committee with a secretariat in ECFIN should report periodically to the advisory board of the debt and equity platforms.

10. LEGAL BASE

FR defines the instruments which are different from grants...

The future standard requirements applicable to all financial instruments will lay on a more rigorous regulatory framework which seems to add administrative burden at first insight, but once available aims at facilitating and simplifying the design of the instruments by the policy DGs:

¹⁹⁵ See also SEC(2010) 639, Commission Staff Working Document concerning modifications linked to the revision of the Financial Regulation prefiguring the proposal for a Delegated Commission Regulation amending the detailed rules of implementation of the Financial Regulation and the Commission Communication of 19 October 2011 'A framework for the second generation of innovative financial instruments'.

The proposed provisions of the Financial Regulation (FR) on financial instruments will lay the groundwork on the implementation of the EU budget on which to build the foreseen equity and debt platforms¹⁹⁵.

The Regulation on the Facility will determine the eligibility criteria and list the main financial instruments potentially to be implemented.

As the rules on budget implementation are determined in the FR and its Implementing Rules, the Connecting Europe Facility should preferably provide a list of the instruments to be implemented.

After the adoption of the Regulation, Commission Delegated Act will implement the instruments.

Thereafter, following a detailed ex-ante assessment of needs and expected impacts of the instruments, the launch of the instruments and their technical and financial modalities will be ruled by a Commission Delegated Act once the Connecting Europe Facility has been adopted by the Council and Parliament.

ANNEX 5

Policy measures alternatives

As a complement to the impact assessment, this annex aims at providing the detailed background to the alternative policy options set out in the impact assessment with regard to the development of the common operational rules for the Connecting Europe Facility (CEF).

For each type of the scenario, the impact assessment proposes a number of alternatives in the policy options for the organisational rules of CEF. These policy alternatives have been submitted to a detailed analysis of the scope for harmonization on the basis of the ex-post evaluations and public consultations during the TEN revision process for the three sectors¹⁹⁶.

The scope for harmonization under CEF (minimum/maximum harmonization) has been assessed with regard to the policy objectives, the criteria for the evaluation of proposals, the co-financing rates for grants, the organisation of calls and allocation of funds, the management of the funds (financial instruments and grants) and the monitoring and control.

1. Objectives and multi-level criteria for evaluation of proposals to ensure high EU added-value

In the new context of the Europe 2020 Strategy, common challenges are sought to be addressed at EU level with common policy objectives across the different policy areas. Networks are considered of vital importance to facilitate smart, sustainable and inclusive growth, to build an integrated single market and allow the EU to meet the energy and climate objectives. At the same time, the new Commission approach to EU budget implementation, as set out in the Budget Review and MFF Communications, set common principles for the design of the financial programmes that will support the achievement of these objectives. From this perspective, a minimal harmonisation, i.e. distinct objectives across the three sectors would appear not to be coherent with the CEF policy initiative objectives as identified in section 3 of the IA report. Rather, in the light of the latter objectives, the CEF would need to establish overarching common objectives, aiming at the acceleration of network deployment, at leveraging private and public investment and enhancing the effectiveness of EU support and at contributing to social, economic and territorial cohesion objectives.

At the same time, under these common objectives, every sector has set specific objectives on the basis of specific sectoral strategies,¹⁹⁷ in the context of establishing the TEN Guidelines. . Today, the TEN programmes support the development and the implementation of projects on the basis of the policy objectives identified and the priority corridors in accordance with the respective TEN-T and TEN-E Guidelines¹⁹⁸. The revision of the TEN frameworks indicates that this overall approach would be maintained also in the future, with the e-TEN also joining

¹⁹⁶ Since the alternatives to be assessed in the variable harmonisation scenario are identical with those in the minimal and maximal scenarios respectively, the assessment of their coherence, effectiveness and efficiency in supporting the attainment of the policy objectives set out in section 3 of the IA report was conducted only for the first four alternatives outlined above.

¹⁹⁷The Energy Strategy 2011-2020, the Digital Agenda and the White Paper on the future transport policy, respectively.

¹⁹⁸ The Regulation for the granting of financial aid for TEN projects in the fields of energy and transport specifies that such aid shall be given to projects in relation to their contribution to the objectives and priorities defined in the relevant respective policy framework legislation, i.e. the TEN-T and TEN-E Guidelines respectively.

in.¹⁹⁹ Indeed, as specified in the EU Treaty, the Union "may [only] support projects of common interest supported by Member States, which are identified in the framework of the guidelines..."²⁰⁰ Hence, in other words, a maximal harmonisation with regard to the CEF objectives across the three sectors would not constitute a viable option either.

With regard to the evaluation criteria, a set of common multi-level award criteria could be envisaged. These should ideally include the assessment of the costs and benefits, the evaluation of the financial package and the stimulating effect of Union support on public and private funding as well as the maturity and the financial obstacles of the project.

However, as the sectors are planned, financed and regulated in a different way, maximum harmonization to the level of streamlining of policy objectives or setting common funding criteria would however run counter the goals of an effective implementation of the CEF policy objective. Only in seeking to exploit the best potential of each sector would the CEF operating rules enable the new facility to achieve its overall objectives.

2. Co-financing rates for grant allocations

Today, the financial regulations provide distinct co-financing rates for grants allocated to TENs in transport and energy respectively. The levels of co-financing rates reflect the intention of the legislator to focus support on sectoral policy priorities. The ex-post evaluations and public consultations however have shown that, while some levels of co-financing rates were appropriate to effectively and efficiently support TEN development, while others needed revision.

In particular, and in the light of the CEF objective to optimise the use of EU funds to accelerate TENs implementation, fine-tuning co-financing rates in order to support sector priorities as identified in the process of revision of the TEN-T and TEN-E Guidelines and, respectively, of drafting the first e-TEN Guidelines, is necessary.

There is one type of action for which the co-funding rate level should be common to all sectors that is the area of support to studies, except for programme support actions. The same principle applies for actions implementing projects with cross-sector synergies i.e. those that aim at more efficient use of resources (optimising the delivery of infrastructures from various sectors) risking the potentially higher complexity of project preparation and implementation. In all the above cases, the increased co-financing is justified by the fact that such projects are facing higher risks which may impact their financial viability.

However, for all other support instruments it should be noted that the level of co-funding rates has been the result of efforts over time to adjust them to most adequately address the need to stimulate the development of those projects critical for an effective and efficient TENs, but for which the complexity levels (due to factors such as natural barriers, need of cross-border cooperation, levels of investment) make them difficult to kick-start without public intervention and, in this case, EU level intervention. At the same time, attention needs to be taken in setting these levels in order to avoid market distortions and crowding out of private or other public investment as well as to render EU support most effective.

In the field of transport, ex-post evaluations and stakeholder consultations have made apparent that EU policy so far has been successful in promoting TEN-T development, but the efficiency of the network remains well suboptimal due to enduring bottlenecks and missing

¹⁹⁹ Draft legislation proposing e-TEN Guidelines is currently being developed by the Commission.

²⁰⁰ TFEU, Art. 171, paragraph 1, third indent.

cross-border links, as well as lack of interoperability, particularly on the rail network.²⁰¹ This is partly due to the fact that levels of co-funding rates for these type of projects were most of the time not appropriate. Thus, in the case of projects with cross-border sections, which have proven most complex to implement, the long duration of projects, spanning several financial frameworks, renders an initial co-financing rate of 30% to be reduced, in actual terms, in average to 21%, and in some cases to even 5% to 10%; while projects alleviating bottlenecks have not been given any special rate, benefitting of the general co-funding level of 20%.²⁰² Revised differentiated co-funding rates, depending on the type of action supported, reflecting lessons learned and in line with the identified TEN-T policy priorities, as proposed, drawing on expert and stakeholder recommendations, in the table below, could therefore constitute the most appropriate means for the CEF to most effectively and efficiently achieve its objectives in the TEN-T area.

Assessment of current co-funding rates	Recommendations for revised co-funding rates
<p>Studies:</p> <ul style="list-style-type: none"> - up to 50% of eligible costs: proven adequate <p>Priority projects:</p> <ul style="list-style-type: none"> - up to 20% of eligible costs of works: generally proven adequate, but not always sufficient for efficient implementation (cases such as bottlenecks) - if cross-border, up to 30% of eligible costs of works: generally proven inadequate <p>Other projects of common interest:</p> <ul style="list-style-type: none"> - up to 10% of eligible costs of works: generally adequate <p>European Rail Traffic Management System (ERTMS):</p> <ul style="list-style-type: none"> - up to 50% of eligible costs of both studies and works: generally proven adequate <p>Road, air, inland waterway traffic management systems:</p> <ul style="list-style-type: none"> - up to 20%: generally proven adequate 	<p>Studies:</p> <ul style="list-style-type: none"> - current up to 50% co-funding rated can be maintained <p>Priority projects:</p> <ul style="list-style-type: none"> - a category no longer valid as no longer provided in the revised (future) TEN-T Guidelines <p>Infrastructural works on the core network:</p> <ul style="list-style-type: none"> - maintain the current general rate of up to 20% of eligible costs of works; - should be higher for addressing bottlenecks – e.g. up to 30% of eligible costs of works; - for cross-border actions, the current insufficient max 30% should be raised, to up to 40% of eligible costs of works; - for multimodal platforms, the general rate of up to 20% could prove appropriate <p>Traffic management systems (for all modes but rail):</p> <ul style="list-style-type: none"> - maintain the current general rate of up to 20% of eligible costs of works <p>ERTMS:</p> <ul style="list-style-type: none"> - maintain the current up to 50% rate of eligible costs of works <p>Freight transport services:</p> <ul style="list-style-type: none"> - the general rate of up to 20% of eligible costs of works could prove appropriate

²⁰¹ See the Impact Assessment Report accompanying the proposal for the revision of the TEN-T Guidelines.

²⁰² See Annex 2 for the summary of findings and recommendations in Steer Davies Gleeves, "Final Report" and TEN-T Review Expert Group 5, "Final Report", as well as Annex 1 for the summary of stakeholder consultation on the Green Paper "TEN-T: A policy review" (2009), answers to set of questions no. (2).

The table above shows how the general co-funding rate of 20% has been devised and explains the reasons why a higher rate for those types of projects whose development has proven generally more demanding was applied.²⁰³ For studies, a 50% rate is necessary due to the high uncertainty of the ulterior commercial utility of the outcome of these projects. As far as ERTMS is concerned, the co-funding rate of up to 50% of eligible costs of works is justified by the importance of the development of the system for an efficient exploitation of the rail TEN-T, in an area where the limited presence of private actors and the national monopolies make it difficult the development of an European traffic management system without a significant EU level intervention.

In the field of transport, the CEF will manage also funds allocated from the Cohesion Fund for TEN-T projects, specifically ring-fenced for the eligible Member States. In order to avoid creating an unwanted competition between the Cohesion Fund and CEF, the co-funding rates for projects eligible for the Cohesion Fund funds within the CEF should be aligned with those proposed in the revised financial regulation concerning the management of the Cohesion Fund, respectively rates that can go up to maximum 75%. Else, funds under the CEF will not be tapped but until after those available under the Cohesion Fund have been committed, certain projects in new Member States, where the extent of TEN-T development is still well under that in the other Member States, would be delayed.

In the field of energy, co-financing rates for supporting project construction under the current regime of the TEN-E programme were only up to 10% contribution to the cost of works. A higher co-financing rate should be proposed following the experience with the TEN-E programme and the European Energy Programme for Recovery (EEPR). The 10% support rate has often proven insufficient to trigger certain infrastructure projects that market alone cannot take up. On the other hand, in the case of EEPR where up to 50% co-financing rate was allowed for electricity and gas interconnectors, a substantial acceleration of investment programmes has been recorded. However, for some projects which are essential for Europe's security of supply but lack commercial viability, higher co-financing rates will be needed to make them happen. Projects of common interest could receive up to 50% contribution to the cost of works or studies. For projects that are particularly important for the regional or EU-wide security of supply and the solidarity of the Union or those that are applying innovative technology and solutions the cofinancing rate could be increased to a maximum of 80 % to ensure timely implementation.

In the area of ICT, co-funding rates should in principle be applicable either to broadband networks and digital service infrastructure. However, grants are expected to be mostly required in the latter area of intervention. The actual level of aid for the individual project would depend on the size of rural areas included as well as other factors such as level of income or potential revenue generation, as in broadband economic viability depends very much on penetration within a short timeframe. In any event, co-financing rates for broadband networks should not exceed 50%, in order not to crowd out potential private investment.

The threshold is supported by empirical observation of what happened so far with financing of broadband under the structural funds and their compliance with state aid rules. Until now most of the projects examined under state aid rules have received a close to or above 70-80% funding²⁰⁴.

²⁰³ See also Steer Davies Gleeve, 2011, p.11.

²⁰⁴ With some exceptions as in the case of Cornwall: http://ec.europa.eu/eu_law/state_aids/comp-2009/n461-09.pdf

Co-financing rates in the area of digital service infrastructure should be higher for the core layers, reflecting their supreme European value and decrease for the generic service and application layer. Co-financing rates in the area of ICT for grants should not exceed the following rates:

- actions in the field of broadband networks 50%
- core service platforms: 100 % of the eligible cost
- actions in the field of generic services: 75 % of the eligible costs
- actions in the field of applications 50 % of the eligible costs

Core service platforms are typically funded by procurement. In exceptional cases, they could be funded by an operating grant covering 100% of eligible costs.

The amount of Union financial aid in the form of grants for support actions and studies, including infrastructure mapping and technical assistance should not exceed 75% of the eligible costs.

Returning to the question of common or differentiated levels of co-funding rates, the arguments above have made apparent that revised differentiated rates, both per sector and per type of projects, reflecting sectoral policy priorities, would constitute the most appropriate choice in this particular area of policy measures, if the CEF is to most effectively and efficiently achieve its goal of accelerating TENs development.

3. Innovative financial instruments

A detailed discussion of options concerning innovative financial instruments is provided in Annex 4.

Implementation measures

4. Procedural rules for the organisation of calls

Today, the allocation of funds for TEN-T and TEN-E projects is made essentially through calls for proposals or application, while the selection and disbursing procedures exhibit some differences for each sector in accordance with the current financial regulations. Annual calls are common to both sectors. For the future, the benefits of the alternatives of annual and/or multi-annual calls or joint calls should be assessed.

In the field of TEN-T, allocation of funds for Priority Projects, as identified in the TEN-T Guidelines, is made via a multi-annual work programme (MAP), covering 80 to 85% of overall financial envelope, and spanning the entire financial framework (2007-2013). Funding for other projects of common interest is made via annual calls, within the limits of the remaining financial envelope. The full life cycle of grants, within both the MAP and the annual work programmes, is centrally managed by the TEN-T Executive Agency (TEN-T EA), which organises the calls for proposals, evaluates the project applications, on the basis of which the Commission takes its funding allocation decisions, and monitors and evaluates the projects' implementation.

The decision to allocate a majority of funds to Priority Projects, in a single MAP, is grounded, on the one hand, on the importance/priority of the identified projects and, on the other hand, on the need to secure a stability of perspective for the development of these projects, which

often span the seven years of the EU MFF.²⁰⁵ A mid-term review has been provided, that has allowed the possibility to take stock of the programme's performance, identify success factors and aspects that might be revised, as well as the reallocation of funds depending on the progress, or not, made in the implementation of the respective projects.²⁰⁶

In the field of TEN-E today annual programming is the default programme management given the small budget envelopes. Given the long lead time for energy infrastructure investment, the MAP could prove as a useful instrument to reassure project promoters and investors with a long-term commitment of the Union support. As the project identification exercise will be carried out every two years, the combined use of annual and MAP could be explored.

In the field of ICT, there is currently no specific support tool for deploying broadband networks on a pan-European scale. Future Union financial support for broadband networks would be provided to individual companies, special purpose vehicles and consortia involving, but not limited to, telecom companies, equipment suppliers, other utility companies (water, sewage, energy, transport), or construction companies which may find synergies in combined infrastructure investment and which may invest either alone or in partnership with regional and local authorities, including municipalities, who will most likely establish concessions for managing wholesale services of broadband infrastructures. Funding would be managed by the Commission together with International Financial Institutions. An annual work programme should be put in place to define in greater detail the call planning.

For digital service infrastructures, Union financial support would be granted to consortia involving:

- The industry at large: systems builders, content suppliers, service operators, Social Networking Sites, mobile and broadband operators, device manufacturers, businesses re-using and exploiting open data/public sector information. In all areas, a large involvement of SMEs, in particular innovative SMEs in the ICT and creative industries sectors could be expected.
- Member States public bodies and EU institutions as data providers and re-users. In the particular case of Safer internet, it would also involve the Ministries of Justice, Internal Affairs, Education, alongside NGOs.

²⁰⁵ Up to 2006, the project selection was made by means of yearly calls, covering an implementation of 2 to 3 years. This proved however insufficient, since most TEN-T infrastructural projects have a much longer lead period, and the insecurity of the financial perspective after the elapsing of the 2 or three years was not particularly attractive for project promoters. By contrast, "the [MAP] Programme is successful at providing political certainty to project promoters within the current funding available, owing to the strong political and financial support signalled by becoming a chosen TEN-T project" (Steer Davies Gleave, 2011, p. 57).

²⁰⁶ Thus, it was found that about 37% of projects would finish in time, 20% with a delay of less than 12 months and 40% with a delay of more than 12 months. However, since in a majority of cases the delays were found to be justified by problems usually encountered in infrastructure building, the Commission decided that the duration of the projects affected could be prolonged up to end of 2015 (cut-off date), while projects that did not start in the two years following the funding decision adoption by the Commission, would be cancelled. The funds withdrawn would be re-injected into the programme. Among the key success factors were identified the project maturity and good project management. Conversely, insufficient maturity of projects (either due to technical design or the financing plan) was identified as one of the main characteristics of the projects displaying the largest delays of facing cancellation. It was also found that criteria for fund awarding such as quality and impact had to be better defined in the future. The need to revise reporting mechanisms has also been identified, in order to ensure regular reporting on risk and risk management (see Assessment of TEN-T Programme Implementation, TEN-T EA, 2011; see also Mid-term evaluation of the TEN-T Programme (2007-2013), Steer Davies Gleave, 2011; MAP Project Portofolio Review, TEN-T EA, 2010).

Financing for digital service infrastructure will be disbursed primarily through grants. Management of the full life cycle of grants, including the annual work programmes, would be centrally managed, organising the calls for proposals and evaluating the project applications.

The conclusion following the mid-term review of the TEN-T programme implementation is that the MAP framework has been successful in focusing funding on TEN-T policy priorities.²⁰⁷ At the same time, the structured, transparent and comprehensive procedures managed by the TEN-T EA through the calls of proposals have also been acknowledged as a successful formula for facilitating the targeting of TEN-T funding to EU transport policy priorities.²⁰⁸ In other words, the MAP has been a successful formula for the TEN-T programme implementation, which should be maintained and improved, based on lessons learned.²⁰⁹

The experience with the MAP in the TEN-T Programme might suggest that it could be generalised also to the other two fields.

However, precisely due to the distinct sectoral policy priorities, MAPs – if adopted - would need to remain distinct in terms of scope and share of the total envelope defined therein. This would be required in order to ensure the effectiveness and efficiency of the CEF in attaining its objective of accelerating TENs implementation. Nevertheless, in order to remain consistent with the objective of maximising the exploitation of synergies between the sectors, particularly in areas such as smart energy grids, intelligent transport systems, or electromobility, MAPs could be coordinated. Another area of synergies might lie in the realm of procedures, for organising the calls of proposals, communication with project promoters, disbursement of allocated funds, both within the MAP and the annual programmes framework, where an exchange between the three Commission services on successful practices and lessons learned could lead to the establishment of a best practice standard shared by all fields. At the same time, insofar as annual calls constitute a framework common to all fields, organising common annual calls could be envisaged at least for calls managed by the Commission executive agency.

Concluding, the basic disbursement of the funds through annual calls, the organisation of joint calls and the cooperation and coordination of the multiannual work programmes, where such an approach is chosen, would allow the CEF to explore synergies between the sectors and should provide for the useful degree of harmonization with a view to the CEF objectives.

5. Monitoring instruments

The current TEN-T/TEN-E Financial Regulation provides that *"the Commission and the Member States, assisted by the beneficiaries, may undertake an evaluation of the methods of*

²⁰⁷ Over 60% of the funding allocated concern cross-border projects, and about 30% EU wide projects, while overall the Priority Projects represent 81% of the total financial envelope allocated. Overall, to date, more than 90% of the programme's funds have been allocated.

²⁰⁸ See European Court of Auditors, Special Report No. 8, 2010. Stakeholders have also highlighted the clear project eligibility rules as a positive aspect of TEN-T programme implementation (see Annex, summary of stakeholder consultation on the Green Paper "TEN-T: a policy review", answers to set of question no. (3).

²⁰⁹ Among the key success factors were identified the project maturity and good project management. Conversely, insufficient maturity of projects (either due to technical design or the financing plan) was identified as one of the main characteristics of the projects displaying the largest delays of facing cancellation. It was also found that criteria for fund awarding such as quality and impact had to be better defined in the future. The need to revise reporting mechanisms has also been identified, in order to ensure regular reporting on risk and risk management. (see TEN-T EA, "Assessment of TEN-T Programme Implementation"; also Steer Davies Gleave, "Final Report" and TEN-T EA, "MAP Project Portfolio Review").

carrying out projects as well as the impact of their implementation, to assess whether objectives, including those relating to environmental protection, have been attained. The Commission may request a beneficiary Member State to provide a specific evaluation of projects financed or, where appropriate, to provide it with the information and assistance required to undertake an evaluation of such projects."

The framework leaves room for variation with regard to monitoring practices: on the one hand, it leaves at the choice of the Commission and/or Member States to undertake or not project monitoring and, on the other hand, at the choice of beneficiaries/Member States how to organise and provide the information. Yet, as pointed out in the problem definition section of the IA report, more rigorous monitoring practices, including through the definition of standardised indicators, focusing on outputs, are necessary.

Given the common objectives that would need to be pursued within the CEF in the three sectors, common monitoring instruments providing for an evaluation of the impact of the CEF on the Europe 2020 objectives could be envisaged, starting from relevant Europe 2020 Strategy indicators. Another set of common indicators could be envisaged in order to allow the Commission to assess the impact of Union aid provided under CEF, separately for the financial instruments and the grants, in each of the three sectors. This will allow evaluating comprehensively their contribution to the key objectives of the CEF.

In addition to the continuous monitoring by the Commission and other implementing bodies, an independent evaluation of general CEF framework should be carried out at mid-term, taking into consideration the timing and advancement of programming as well as ex-post, a certain number of years after the end of the programming period. The evaluations will assess the intervention's relevance, efficiency, effectiveness, and preliminary impact. Specific emphasis should be given to the leverage effect of the Union aid by comparing past and present investment levels, the annual value of EU funds engaged compared to the total value of beneficiary, and the timeliness of the funds disbursement.

As the three sectors are different in the way they are financed and regulated, there should be ample room for the Commission to ensure the project monitoring with regard to the progress towards the sector specific objectives. They should, however, have in common the "focus on results" principle put forward by the Commission for the EU budget in the next MFF.

For example, in the field of energy, the monitoring of the CEF leverage effect should be based on energy specific indicators assessing, such as: the share of actions that entered the construction phase; the number of actions contributing to the EU's energy and climate policy objectives effectively enabled; the number of actions contributing to the integration of the internal energy market and the interoperability of the network effectively enabled; the number of actions contributing to diversification, enhancing the regional or EU-wide security of supply and solidarity among Member States effectively enabled.

In transport, it should focus on the achievement of priorities as set under the revised TEN-T Guidelines, such as: number of new cross-border connections and removed bottlenecks effectively enabled with CEF support via grants and/or financial instruments, or travel time, cost savings and increased safety (in terms of accidents reductions) registered on major transport routes where action concerning specific sections has benefitted of CEF grant and/or financial instruments support.

In the field of ICT infrastructure and digital services, the performance indicators should ascertain whether the objectives of the Digital Agenda for Europe (DAE) are being achieved: such as (non-exhaustive list): high speed broadband coverage, to be checked against the DAE targets of access to 30 Mbs for all citizens by 2020; high speed broadband uptake, to be

checked against the DAE target of 50% of citizens having subscriptions for above 100 Mbs by 2020; implementation, availability and uptake of digital service infrastructures, as identified in e-TEN Guidelines.

In addition, in the field of energy, on the basis of the guidelines, the Commission will be expected to closely assess the progress achieved by each project of common interest with regard to the implementation of the 12 priority corridors and areas. This will be monitored on the basis of regular reports from project promoters, Member States' authorities and national regulators. The Commission is to report under the guidelines on the progress achieved. The Commission would ensure monitoring and evaluation via an implementation report on a bi-annual basis, a mid-term evaluation in 2017 and a final evaluation. In addition, the Commission proposes to set up a transparency platform allowing the general public to follow the advancement of individual projects of common interest in the field of energy.

In the field of transport, the mid-term evaluation of the implementation of the TEN-T programme has concluded that the monitoring procedures developed have been successful in ensuring project accountability of project promoters. The process is undertaken primarily with the support of the TEN-T EA. Member States are required to undertake technical monitoring and financial control of projects in close cooperation with the Commission, and need to provide the Commission with a description of the control, management and monitoring systems set up to ensure that projects are successfully completed. In addition, in MAP type projects, payments are dependent on the adequate completion of project milestones to the targets that were submitted at the time of the funding decision (i.e. the "use or lose it principle". Under the CEF, the current procedures could be maintained, though further developed, with a better definition of monitoring indicators, particularly with regard to the "use or lose it" principle,²¹⁰ and other types of project incentives could render project implementation even more effective.²¹¹

In ICT and digital infrastructure, further specific indicators could be developed, drawing on the experience gathered under the current programmes that DG INFSO is managing, notably in the field of pilots deployment, a number of main indicators could be proposed. The Commission could regularly present a progress report on CEF broadband networks and digital service infrastructures investment, which will be submitted the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.

6. Management structure

Today, the management of the EU financial support for TENs development and implementation is managed centrally, in the field of energy, within the specialised Commission service (DG ENER), while in transport, the management of the implementation of the TEN-T Programme, while still centrally managed, has been delegated, starting with 2007, to the TEN-T EA. With regard to additional funds (outside TENs) available for TEN infrastructure projects to Member States eligible for Cohesion Funds support, the management of these funds is shared between the Commission (DG REGIO) and the government of the Member State concerned. In the case of both TEN-E and TEN-T, the Commission is assisted by a Committee on financial issues, and in the case of TEN-T by European Coordinators, tasked with facilitating and monitoring the implementation of particularly complex projects. For TEN-T, the Commission has also developed, in the context

²¹⁰ In the past, proposals were not requiring a clear definition of the outputs leading to difficulties in interpreting if milestones were met.

²¹¹ See assessment and recommendations in Steer Davies Gleeve.

of the Open Method of Coordination, the TENtec information system, a platform to collect, store, and provide information Open Method of Coordination (OMC) platform to collect and store continuously technical- and financial data for the entire TEN-T network per section, accompanied by dynamic Geographical Information System (GIS) to both Members States and to the public at large. For TEN-E, a GIS has also been developed.

In the field of transport, the management of the TEN-T programme by means of an executive agency, established at the recommendations of the Court of Auditors,²¹² has been unanimously acknowledged as successful.²¹³ The governance of the programme as compared to previous years has improved, due mainly to more rigorous calls for proposals, as well as to Agency's capacity to offer management assistance to project promoters. It has also provided more control over how the public money is spent, thanks to a tightly managed payment procedure. Consequently, there is a general support for the activity of the TEN-T EA and the extension of its mandate.²¹⁴

In addition, another argument in favour of extending the TEN-T EA mandate is constituted by the important savings in administrative costs it incurs. A Cost-Benefit Analysis that compared two strategic options for the management of the TEN-T programme from 2007/2008 until 2013 with a phasing out period until 2015 – "in house option", i.e., continued management within the Commission's specialised service versus "executive agency option" – arrived at the conclusion that an estimated €9.88 million cost savings would be registered if the TEN-T EA exercised full responsibility for the entire management of the TEN-T project cycle, due mainly to the external staff cost structure and a combination of qualitative improvements.²¹⁵

Similarly, the European Coordinators have been found to have adequately assisted the Commission to the delivery of the projects selected. Their role has proven an effective mechanism to address political sensitivities inherent in cross-border projects as well as provide visible coordination enhancement.²¹⁶ Equally, the TENtec has proven of great support to the work of the Commission as well as to the Member States, as it supports the evaluation of projects proposals and progress in implementation on the basis of the eSubmitted data, as well the editorial preparation of the individual decisions of each project selected by the EC, delivering project decisions printed in a format (legiswrite) ready for publication.

By contrast, with regard to the funds allocated to TEN-T within the Cohesion Fund, ex-post evaluations have concluded that their management under the shared structure has been less efficient than in the case of the centrally managed TEN-T. As the overall responsibility for choosing the projects remains at national level, at the beginning of the financial period and without the possibility of revision until the end of the period, the end result has been "an unclear prioritisation of projects and dissemination of funds."²¹⁷ A logical conclusion would

²¹² Special Report No. 6/2005 on the Trans-European network for transport, Court of Auditors, 2005, OJ C 94/1-36.

²¹³ Steer Davies Gleeves; Court of Auditors, 2010.

²¹⁴ All the Member States consulted in the context of the study "Update of the Cost-Benefit Assessment of the Externalisation of the Management of Community Financial Support to the TEN-T Networks", conducted by an external consultancy group at the request of the Commission, have expressed their support for the Agency and the extension of its mandate. The conclusion of the "Final Report" of the above mentioned study also concluded that the mandate of the TEN-T EA be extended (see COWI, "Final Report"). During the process of consultation on the Green Paper "TEN-T: A policy Review", the rail industry proposed TEN-T EA as a platform for best practice. (see Annex 1, summary of stakeholder consultations, Green Paper, answer to the set of questions no. (4))

²¹⁵ COWI/ECORYS, "Final Report", pp. 70-75.

²¹⁶ See assessment in Steer Davies Gleeves. See also results of stakeholder consultation on 2009 Green Paper, as summarised in Annex 1, responses to set of questions no. (4).

²¹⁷ Ibid, p. 13.

be that, for the Cohesion Fund funds allocated to TEN-T under the CEF, according to the Commission proposal in its MFF Communication, centralised management by means of the Agency and, for those with a cross-border dimension, with the support of the European Coordinators, would constitute a better alternative.

In the field of ICT, broadband network infrastructure funding is an entirely new concept. Synergies with the structural funds could take place mainly through combination of financial instruments and grants funded by the Structural Funds. In practice, that could mean that a consortium co-financed by the Commission through financial instruments might have among its member a local authority which is benefiting from Structural Funds' financing for that project.

In the field of energy, it will also be essential to ensure that the availability of the Union aid for concrete projects is closely coordinated with the effective use of other instruments proposed under in the domain of regulatory and permit granting.

Overall, when considering funding management under the CEF, in all three fields concerned, it needs to be ensured, first and foremost, that effective programming, efficient financial management and control, project monitoring and evaluation of progress towards implementation of projects of common interest need to be ensured. The experience with the TEN-T EA and the European coordinators would recommend them as a management formula to be potentially used in the future. This concept could be also extended to the other two sectors, as far as grant management is concerned.²¹⁸ Indeed, as the Commission has already acknowledged in the MFF Communication, in its management of grants under CEF, the Commission should be assisted by an executive agency.

Two alternatives could be suggested: the establishment of sector agencies or amending the mandate of the current TEN-T EA in order to encompass support for grant management also in the areas of TEN-E and digital infrastructures or the centralized management.

Separate agencies for each sector would have the advantage of higher specialisation in the implementation of projects. This would also be justified if they became charged with additional, sector specific activities, going beyond grant management. While separate agencies would require administrative costs, an enlarged TEN-T EA could provide the advantage of a single institutional structure, at potentially lower costs, for the management of grants.

However, the more complex structure of the CEF, combining financial instruments, grants and cohesion funds (in the field of transport), would require a more centralized management to be developed within the Commission or in separate implementing bodies. There is a clear need to ensure that the Union aid, both financial instruments and grants, will be managed in a coordinated manner and funds are spent in the most cost-efficient and tailor-made way in relation to the project needs, in close cooperation with the EIB and the project promoters. This centralized approach will ensure that the availability of the Union aid for concrete projects is closely coordinated with the effective use of other measures proposed, e.g. such as the regulatory and permit granting proposed in the field of energy. Such a management across the sectors and instruments could be ensured by the set up of a new dedicated CEF agency.

With regard to European Coordinators, their role in supporting TENs implementation has been acknowledged, as highlighted earlier, in both the area of TEN-T and TEN-E. However, appointing common Coordinators might only make sense in cases of cross-sectoral projects with a cross-border dimension involving the same Member States. Else, the highly specific

²¹⁸ With regard to the management of financial instruments, see discussion in Annex 4.

characteristics of the individual projects in the different sectors would make it impossible for the Coordinators to effectively carry out their mandate. In any case, even in the context of the TEN-T, European Coordinators have generally been appointed for a single Priority Project.

Finally, the good experience so far with the implementation of the TENtec system²¹⁹ recommends it to be extended also to the other sectors. In the case of TEN-E in particular, the development of the GIS is already underway. Possible synergies could therefore be sought with common project tools already under way, such as Jessica, Jaspers or GIS mapping.

²¹⁹ The system has become operational only in the past year, and it is still being developed.

ANNEX 6

GLOSSARY

Action means any activity that is necessary to implement a project of common interest and of mutual interest and is independent financially, technically or over time.

Bottleneck (transport) means a physical barrier that leads to a system break affecting the continuity of long-distance flows. Such a bottleneck can be absorbed by new infrastructure such as bridges or tunnels that address problems as for example gradients, curve radii, gauge. The need to enlarge existing infrastructure shall not be considered as a bottleneck.

Broadband networks (ICT) means wired and wireless (including satellite) access networks, ancillary infrastructure and core networks capable of delivering very high speed connectivity.

Core Network (transport) consists of those parts of the wider/comprehensive TEN-T network which are of the highest strategic importance for the achievement of the objectives concerning the development of the trans-European network.

Cross-border section means the sections, which ensure the continuity of a project of common interest between at least two Member States or between a Member State and a neighbouring country.

Digital service infrastructures (ICT) mean services providing interoperable services in the public interest, i.e. having an enabling character for businesses, citizens, and governments, delivered electronically, typically over the Internet.

Debt instruments refer to financial mechanisms that facilitate the lending of money to infrastructure companies, under the form of loans or guarantees for instance. For instance, **The Equity instruments** hereby refer to funds that aim at providing equity or quasi equity to (i.e. investing in) companies which own or operate infrastructure. An example is the Marguerite Fund, a pan-European equity fund which aims to act as a catalyst for infrastructure investments implementing key EU policies in the areas of climate change, energy security, and trans-European networks. It is part of the European Economic Recovery Plan.

(Innovative) **Financial instruments**²²⁰ are financial mechanisms that aim at attracting and facilitating private sector finance in the projects. They can be of Equity or Debt nature. Financial instruments can be used in the framework of Public-private partnership (PPP).

European added value of projects means the value of spill-over effects to non-investing countries and regions. Cross-border projects typically have high spill-over effects, but lower direct economic effects compared to purely national projects and therefore are not likely to be implemented without EU support.

The **Loan Guarantee Instrument for TEN-T projects (LGTT)** is also a debt instrument set up and developed jointly by the EC and the EIB in 2008. It is designed to facilitate greater participation of the private sector in financing TEN-T infrastructure by significantly improving the risk profile of lenders by taking the revenue ramp-up risk in the early years of TENs projects.

Project Bonds are also a type of Debt instrument. With the Europe 2020 Project Bond Initiative, bonds would be issued by project companies and the European Union budget

²²⁰ See also Annex 4 for more details.

together with EIB financing would be used to improve the credit quality of the bonds in order to attract funding in particular from private investors on the capital market such as pension funds and insurers. They should not be mixed up with Eurobonds, which are discussed in the context of the debate on the Public Debts of EU member States.

Public-private partnerships describe a government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies. PPP involve a contract between a public sector authority and a private party, in which the private party provides a public service or project and assumes substantial financial, technical and operational risk in the project

The **Risk Sharing Finance Facility (RSFF)** of the European Commission and the European Investment Bank is also an innovative scheme to improve access to debt financing for private companies or public institutions promoting activities in the field of research, development and innovation. RSFF is built on the principle of credit risk sharing between the European Community and the EIB and extends therefore the ability of the Bank to provide loans or guarantees for investment with a higher risk and reward profile.

Structured Finance Facility (SFF) is a Fund of the European Investment Bank (EIB) for loans with a capital guarantee allowing financing to projects through instruments that have a riskier risk profile than the ones normally accepted by the bank.

Studies means activities needed to prepare project implementation, such as preparatory, feasibility, evaluation, testing and validation studies, including in the form of software, and any other technical support measure, including prior action to define and develop a project and decide on its financing, such as reconnaissance of the sites concerned and preparation of the financial package.

Works means the purchase, supply and deployment of components, systems and services including software, the carrying out of development and construction and installation works relating to a project, the acceptance of installations and the launching of a project.