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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

on the mid-term evaluation of the Connecting Europe Facility (CEF)

{SWD(2018) 44 final}

INTRODUCTION

Europe's sustainable growth and competitiveness depend on efficient connectivity, both within and to the rest of the world. Achieving well-interconnected, interoperable and efficiently managed transport, energy and digital infrastructures in Europe requires the ability to plan and invest in a coordinated long-term approach at EU level.

The Connecting Europe Facility[1] (CEF) is a common, centrally-managed funding programme for transport, energy and telecommunications infrastructures, with an available budget of EUR 30.4 billion for the years 2014 to 2020. It was established as part of the Europe 2020 strategy for smart, sustainable and inclusive growth and the EU's '20-20-20' objectives in the area of energy and climate policy.

Based on the respective sectoral guidelines[2], CEF supports the development of trans-European networks (TEN)[3], with the objective of improving cohesion in the internal market and the EU's competitiveness in the global market. The general objective of CEF is to foster implementation of projects contributing to the completion of the TEN. This is reflected in the priorities laid down in the guidelines for the three sectors of transport, energy and telecommunications. CEF addresses market failures, focuses on projects of high European added value and helps leverage further investment from the private sector.

As outlined in the Communication on the budget for Europe 2020[4], the Commission considered that "*while the market can and should deliver the bulk of the necessary investments, there is a need to address market failure – 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. Therefore, the Commission has decided to propose the creation of a Connecting Europe Facility to accelerate the infrastructure development that the EU needs."*

Investment needs in all three sectors were estimated to be around EUR 970 billion when CEF was proposed in 2011. It was expected that the bulk of this investment would be delivered by the private sector, by public support at national level or fostered by regulatory measures. However, the impact assessment[5] also identified 'a need to address market failure — to fill persistent gaps, remove bottlenecks and ensure adequate cross-border connections'.

1 Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013.
2 Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network, Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure, and Regulation(EU) No 283/2014 of the European Parliament and of the Council of 11 March 2014 on guidelines for trans-European networks in the area of telecommunications infrastructure.
3 Articles 170-174 of the Treaty on the Functioning of the European Union (TFEU).
4 Communication from the Commission to the European Parliament, the Council, the European economic and social Committee and the Committee of the regions: A Budget for Europe 2020, European Commission, 29 June 2011.
5 Commission Staff Working Document (COM(2011) 665 final) accompanying the Regulation establishing the Connecting Europe Facility - Impact Assessment

Under the CEF Regulation[6], the Commission, in cooperation with the Member States and the beneficiaries concerned, is required to present a report on the mid-term evaluation of the CEF to the European Parliament and the Council no later than 31 December 2017[7]. The evaluation assesses the programme's overall performance in light of its general and sectoral objectives, as well as compared to what has been achieved as a result of national or EU action.

The detailed evaluation is presented in the Commission staff working document (SWD) accompanying this Communication. In line with the Commission's Better Regulation Guidelines, the evaluation was carried out according to five criteria: effectiveness, efficiency, relevance, coherence and EU added value. The detailed assessment according to these criteria can be found in the SWD, while this Communication highlights the main findings from the process.

1 THE CONNECTING EUROPE FACILITY IS SUPPORTING PROJECTS WHERE THE EU MAKES A DIFFERENCE

1.1 Developing infrastructures that unite

The EU's infrastructure policy has three main dimensions:
- common long-term planning of infrastructure development as regards both its geographical scope and technical characteristics (with different approaches adapted to each sector);
- a set of regulatory measures to facilitate investment;
- a specific funding instrument, the Connecting Europe Facility.

The experience to date with CEF shows a strong positive interaction between these three dimensions. Long-term planning means that a project pipeline can be prepared in Member States, while, the possibility to receive support for investments with a clear European dimension allows for the development of more integrated networks. As an example, in transport the possibility to support key cross-border sections of infrastructure facilitates the development of a corridor approach among Member States, leading to the coherent planning of national sections. In energy, the dynamic process of establishing every 2 years a list of projects of common interest (PCIs) located in priority corridors and thematic areas ensures both long-term planning and adaptation to future needs. In telecommunications, the CEF telecom guidelines list the building blocks and sector-specific digital service infrastructures (DSIs) eligible for funding.

Three and a half years after its launch, the type of projects co-financed by CEF strictly matches the EU's ambition to: (i) increase connectivity at European scale for the three sectors and; (ii) concentrate the support on **public goods of a European dimension**. CEF contributes to the Commission's priorities on jobs, growth and investment, the internal market, Energy Union and climate and the Digital Single Market, strengthening the global competitiveness of the EU. Furthermore, CEF provides a substantial share of EU funding for transport and energy projects with a strong contribution to decarbonising the European economy, thus

[6] Article 27 of Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013.
[7] This report also serves the purpose of reporting to the European Parliament and the Council on progress in the implementation of Regulation (EU) No 283/2014 (Telecommunications guidelines), and in particular on the aspects required under Articles 8(7) and (8).

contributing to meeting the EU's emission reduction targets under the Paris Climate Agreement.

In **transport**, priority has been given to projects to create or improve cross-border connections, complete missing links and eliminate bottlenecks. These can be projects affecting physical sections of the network or EU-level programmes to develop efficient, interoperable and safer traffic management systems for the different modes of transport. The 'CEF Transport' funding objective on **cross-border transport infrastructure** represents 86 % of the funds currently allocated for transport (EUR 18.35 billion). Examples include the Fehmarn Belt (a multimodal tunnel between Denmark and Germany), the Rail Baltica project, which improves east-west connections between Poland, Lithuania, Latvia and Estonia, and the deployment of SESAR (Single European Sky ATM (Air Traffic Management) Research). Ultimately, CEF is making a concrete contribution to the ambition of achieving a single European transport area.

In **energy**, CEF has addressed obstacles to a better integrated EU energy market through strengthening cross-border connections. The specific aims are to end energy isolation and eliminate bottlenecks. In line with its objectives, 'CEF Energy' supports projects carrying significant externalities. It has contributed to increasing security of supply in Member States where this issue is most pressing. Examples include the Gas Interconnector Poland-Lithuania, the first gas interconnector between the eastern Baltic Sea region and continental Europe, and Balticconnector, the first gas interconnector between Finland and Estonia. Sustainability has been addressed by support to innovative electricity projects by co-funding important studies and works: a 600 km subsea link between Ireland and France, compressed air energy storage in Northern Ireland and a smart grids project between Slovenia and Croatia.

In t**elecommunications**, priority has been given to deploying trans-European digital services with mature technical and organisational solutions, as listed in the telecom guidelines. These cover areas as diverse as electronic identification- that addresses the challenge of cross-border recognition of nationally issued electronic identification mechanisms (eIdentification or eID), enabling Europeans to access online public services across Europe seamlessly-, and interoperable health services- that facilitate continuity of care and patient safety for citizens seeking cross-border healthcare, allowing health data to be exchanged across national borders-. Since these cross-border services help improve the daily lives of Europeans through digital inclusion and connectivity, they are essential to achieving the digital single market. However, the evaluation found that the telecommunications guidelines limit the ability of the programme to take full advantage of the latest technological developments and address the new priorities in the political agenda that have subsequently emerged. For broadband, given resource limitations, support has so far been focused on: (i) technical assistance activities that can help projects with a difficult business case to materialise; and (ii) financial instruments with significant leverage potential.

1.2 Focusing on EU added value

Investments needed to meet **connectivity goals are very high in all three sectors covered by the programme**. For transport, recent estimations by the Commission[8] confirmed in the work plans of the Core Network Corridor Coordinators reveal that investment needs in the TEN-T core network amount to EUR 750 billion by 2030 alone, and about three times this amount including the comprehensive network and other transport investments such as urban transport, digitalization and maintenance[9]. In energy, the investment needs for projects that can be classified as PCIs amount to EUR 179 billion over the 2021-2030 period[10], the largest share by far being in the electricity sector. In telecommunications, approximately EUR 500 billion worth of investments are estimated to be required to meet strategic objectives on gigabit connectivity up to 2025, or EUR 155 billion in excess of what can be expected based on current investment trends[11]. However, these estimates do not include further investments needed to complete deployment of cross-border DSIs.

In addition, **market failures persist** for projects aiming at achieving TEN policy objectives. For example, failures can happen when the costs occur at national/local level whereas the benefits are realised on a European scale, or when the costs and benefits of projects involving several Member States are distributed asymmetrically among them. This is typically the case for cross-border projects and the deployment of EU-wide technological systems, where appropriate financing is usually not provided through the market or the national budget alone. In energy, projects that lack commercial viability fall into this category, as they deliver on externalities like regional security of supply or highly innovative solutions.

Since its launch, **CEF has focused on providing EU added value**[12] to the development of connectivity in transport, energy and telecommunications, not only because of the type of public goods with a European dimension it covers, but also because of its focus on projects at national, regional or local level that would not be realised without EU support. More specifically, the EU added value of CEF resides in its capacity to:

- steer public and private finance towards EU policy objectives;
- enable key investments where the costs are borne at national/local level whereas the benefits are tangible on a European scale;
- accelerate the shift to a low-emission and digital society.

In **transport**, CEF has brought a clear added value, in particular for the completion of the TEN-T core network by 2030 and for the low-emission mobility ambition. Some railway and inland waterways infrastructure projects, which are long-term investments (with a lifecycle of 30 to 50 years), could not have been kicked off without the European public grant funding available under CEF. This is the case for the Brenner Base tunnel project, which will remove a key rail bottleneck in the EU between Austria and Italy. The CEF commitment provides

8 The data stems from the Core Network Corridor studies which have been undertaken by external contractors supporting the CNC Coordinators.

9 At the scale of the core network corridors, investments are expected to generate some € 4,500 billion of cumulated GDP and correspond to around 13.000.000 job-years and a reduction of about 7 million tons of CO2 emissions between 2015 and 2030.

10 Based on the study "Investment needs in trans-European energy infrastructure up to 2030 and beyond", Ecofys, July 2017

11 Communication from the Commission to the European Parliament, the council, the European Economic and Social Committee and the Committee of the Regions. Connectivity for a Competitive Digital Single Market — Towards a European Gigabit Society, COM(2016) 587 final, p. 8.

12 Criteria for assessing the value-added of European Finance were set out in the Reflection Paper on the Future of EU Finances (COM(2017) 358 of 28 June 2017).

assurances and sometimes also secures additional sources of financing, notably from the banking sector and private investors. In addition, European flagship programmes such as the European Rail Traffic Management System (ERTMS) required coordinated implementation of investments across countries and stakeholders to bring the benefits of performance, interoperability and safety. The CEF support through both grant funding and programme support actions such as capacity building in Member States' administrations created the conditions for such coordination to happen.

In **energy**, CEF is a key instrument supporting transnational cooperation and generating economies of scale. It is also playing a key role in supporting cross-border energy infrastructure, as PCIs have to deliver benefits to at least two Member States. CEF is a strong catalyst in bringing together project promoters, National Regulatory Authorities and government representatives to solve issues so that cross-border infrastructure projects can be realised. Its grants component is making the difference in promoting cooperation between countries to develop energy interconnection PCIs that otherwise would not happen. This is especially the case for cross-border projects located in countries with smaller population sizes or in a more remote location, where tariffs would need to be increased substantially to cover the investment needs. The Gas Interconnector Poland-Lithuania is a key example of a project that could not have been funded in a purely national context.

In **telecommunications**, CEF has facilitated coordination among Member States on developing standards and enabling interconnected cross-border services. Although Member States have developed solutions that make public services available online, their benefits are confined by national borders. CEF has played a key role in helping these solutions achieve better outcomes by making them interoperable, for the benefit of citizens, businesses and public administration across Europe. Moreover, in some cases like the Electronic Exchange of Social Security Information, as Member States have a legal obligation to ensure cross-border communication between the national social security institutions, CEF has played an important role in strengthening the protection of mobile citizens' social security rights and helping Member States speed up compliance. In other areas like cybersecurity — where cross-border interoperability is not subject to a legal obligation — CEF has made it possible to put in place a voluntary cooperation platform that strengthens preparedness and response to cyberattacks by providing an EU-wide solution to threats that do not respect national borders. According to stakeholder consultation results, without CEF, the deployment of some DSI would have been significantly delayed or even abandoned. Moreover, basic solutions supported by CEF funding (the so-called building blocks) are creating economies of scale by being extensively reused in more complex digital services, including beyond the remit of CEF, in areas such as agriculture, environment and education[13].

Finally, EU-level action (including regulatory cooperation) is enabling CEF to **overcome shortcomings in information and cooperation** among Member States, which can hamper such complex but crucial projects.

[13] Information available from the CEF Telecommunications dashboard: https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Reuse+by+domains

2. THE CONNECTING EUROPE FACILITY PROVIDES EU SUPPORT IN AN EFFICIENT AND COHERENT MANNER

2.1 Using grants in the most efficient manner

Most of the funding provided by CEF is in the form of grants (90 %). Such an approach is appropriate as **a large majority of CEF funding relates to projects with wider regional and EU benefits but insufficient national funding or market-based financing**.

For **transport**, this is the case for most of the cross-border projects on the trans-European network and for the 'horizontal' priorities, particularly traffic management systems such as ERTMS for rail, SESAR for aviation and intelligent transport systems (ITS) for road, as well as alternative fuels. It is also the case for projects where the benefits cannot yet be internalised. In this sector, very high oversubscription rates[14] following calls for proposals show a very high demand for EU grants, with the available budget constantly falling short of the sector's needs.

In **energy**, bottlenecks still exist and further interconnections are still needed to fully integrate the market, ensure security of supply and enable the EU to make optimal use of its renewable resources and thus avoid curtailment. Grants are considered the most appropriate instrument for supporting projects delivering significant positive externalities that go beyond the nationally set tariffs, such as security of supply, technological innovation and solidarity between Member States.

In **telecommunications**, all DSIs have a double layer: the core service platform (CSP) conceived as a central hub that enables the interoperability, and the generic services (GS) as gateways that connect the nationally developed solutions to the CSP. Grants are used to support the deployment of the generic services, whereas procurement is used for the development and operation of the core service platforms. This is justified by the need to address underinvestment at Member State level in interoperable solutions for Pan-European service integration.

The Commission proposal for CEF in 2011 contained a total budget of EUR 50 billion (31.7 billion for transport, 9.1 billion for energy and 9.2 billion for telecoms). The cuts that followed during both the negotiation phase and the later negotiations on the European Fund for Strategic Investments (EFSI) reduced the total funding to EUR 30.44 billion. The telecom sector experienced the most severe reduction (EUR 8 billion, with final allocated funding of EUR 1.04 billion). Completing the TEN set out in the EU policy priorities still requires enormous investments, part of which will depend on continued EU support. The size of CEF currently makes it possible to address only some of the identified market failures (e.g. bridging the funding gap with EU support) in all three sectors. Therefore, **potential exists for unlocking further public and private investment if additional EU budget was made available to address more market failures.**

The CEF selection process ensures that the grant funding is modulated per sector and category of investment, taking into account the financing gap for individual projects. For transport,

[14] Total requested funding of the eligible proposals compared to the indicative budget of the call.

support ranged from 85 % co-funding rates for the cohesion envelope, to maximum co-funding rates ranging between 10 % and 50 % depending on the priority and the nature of the action. For energy, funding rates may be modulated up to 50 %, and — in exceptional cases — increased to a maximum of 75 %. However, this is only possible if proposed actions provide a high degree of regional or EU-wide security of supply, strengthen solidarity or comprise highly innovative solutions. For telecommunications, core service platforms have generally been financed through procurement, while the generic services have been supported through grants applying a co-funding rate of up to 75 % of eligible costs. The competitive nature of the calls and the evaluation and selection mechanism in place mean that projects unable to demonstrate the need for financial assistance in the form of grants can be discarded. Such projects may still consider using existing possibilities under EFSI or the CEF Financial Instruments as appropriate.

For a policy-driven instrument with specific sectoral objectives and considering that CEF addresses complex projects with a cross-border or EU-wide interoperability dimension, **direct management** has been efficient in ensuring a fast allocation of funds and very sound budgetary execution. During their implementation, projects are closely followed by the Innovation and Networks Executive Agency (INEA) to ensure that EU funds are appropriately spent. The CEF budget is optimised thanks to the capacity of INEA to quickly adapt to manage redirected money unspent by certain actions, using it instead for financing new actions. For instance, approximately EUR 600 million was re-injected in a transport call in 2016, while an investment of EUR 120 million was proposed in 2016 to finance a new flagship project, WIFI4EU, in the digital sector.

2.2 Pioneering the use of financial instruments and blending

For revenue-generating projects, CEF support can take place in the form of financial instruments. The CEF financial instruments budget can be used to provide a variety of products such as guarantees or senior debt backed by EU capital. They thus help to optimise the use of public funds. Such projects include, for example, capacity extensions in ports, railway links to airports and the development of alternative fuel infrastructure in the transport sector, as well as sub-ordinated loans or guarantees for ring-fenced transmission projects in the energy sector.

However, in all three sectors, financial instruments have not been used to the expected extent. The CEF Debt Instrument (CEF DI), building on the experience gained with the Loan Guarantee Instrument for Trans-European Transport (LGTT) and the pilot phase of the Project Bond Initiative (PBI), pioneered the use of financial instruments, but there has been a substitution effect when EFSI was created. The use of the CEF financial instruments is expected to take up during the second half of the programme[15] when complementarity between the CEF-specific financial instruments and EFSI will have been ensured following the call for specific guidance by the CEF DI Steering Committee to ensure effective complementarity between the two initiatives.

[15] For example, by means of the CEBF (investment from CEF of EUR 100 million).

In the energy sector, a number of factors have contributed to CEF DI not being used. One of these is the short pipeline of bankable CEF-eligible projects available at the time the CEF DI went into operation. There is also a competitive range of debt and equity options already available to project promoters due to their sound Regulated Asset Base model for project finance. Nevertheless, joint project monitoring by the European Investment Bank and the Commission has led to a number of PCIs having obtained financing via the former.

In addition, an equity instrument is currently being developed. In telecommunications, the landscape of broadband deployment projects is highly diverse and requires a variety of instruments that address location-specific challenges. Whereas debt instruments can cater to commercially-driven deployments with a clear business case that are undertaken by larger players, equity instruments are needed to bridge existing financing gaps by supporting projects with a risker, longer-term business case. The Connecting Europe Broadband Fund (CEBF), due to become operational in the first half of 2018, is expected to play this role.

In February 2017, a 'blending call' was launched for CEF Transport. The call, which blends CEF grants with market-based finance, in particular financial instruments available under EFSI, is intended to strengthen complementarity between the two support schemes while at the same time, leveraging other sources of finance notably EFSI, private investors or national promotional banks .Such an approach had previously been successfully applied under CEF on an ad hoc basis in a few cases, such as for the Port of Dublin and the Port of Calais in the transport sector. With EUR 2.2 billion funding requested for a call with an indicative budget of EUR 1 billion, the first experience of this has been very positive.

2.3 Enhancing synergies and coherence, simplifying access

Synergies

For the first time, CEF has brought the transport, energy and telecommunications sectors under a common funding framework, centrally managed by the Commission.

At programme level, this approach allows for economies of scale by the delegation of the grant management to a **single executive agency (INEA)** and by the establishment of common procedures across the three sectors (coordinated implementation by the Agency, common Work Programmes for CEF Financial Instruments, a common CEF coordination Committee comprised of all Member States, grant agreements following a common model).

At **project level,** CEF has so far not fully succeeded in bringing about synergies between the three sectors despite the expectations mentioned in the recitals of the Regulation. This is particularly due to the inherent differences in the sectoral policy objectives and the rigidity of the legal/budgetary framework as regards the eligibility of projects and the eligibility of costs. A EUR 40 million multi-sectoral (transport and energy) pilot call for proposals for studies launched in 2016, therefore fell short of expectations in terms of the number of projects selected (7) and the budget allocation (EUR 24 million).

Nevertheless, keeping the three sectors together seems appropriate in light of their **common goals and challenges**. According to stakeholders consulted during the evaluation, these challenges include the complexity of the infrastructure networks arising from different

national systems, their interconnection needs as well as the need to ensure interoperability while constantly adapting to market and technology changes. The number of examples of synergies involving the three sectors covered by CEF is increasing, fostered by recent innovation developments and the fact that synergies are naturally present in each of the sectors or relate to an overarching priority like cybersecurity. Examples include connected cooperative and automated mobility, alternative fuel infrastructure for cars, buses and ships, smartening of the grid, and deployment of 5G along the transport network. Creating the conditions for such projects to continue to materialise will yield further efficiency gains.

Complementarity

CEF has proven to be complementary to Horizon 2020, the European Structural Investment Funds (ESIF) and to EFSI.

Horizon 2020 finances the early stages of the innovation chain, while CEF enables the technological deployment throughout the infrastructure.

Both CEF and **ESIF** contribute to achieving the TEN objectives. While ESIF focuses financial support on the less-developed regions and the 15 Member States which are eligible for Cohesion Fund support, CEF focuses on EU integration through cross-border connections and interconnections, bottleneck removal and interoperability projects. In transport, there is a partial overlap between CEF and ESIF regarding rail projects located on the core TEN-T network, while ESIF also finances projects not eligible to the CEF (for instance road projects, and projects on the comprehensive network). In energy, ESIF focuses on smart distribution grids at local/regional level, while CEF supports transmission infrastructure. In telecommunications sector, ESIF is directed at developing national digital services, while CEF enables the cross-border interoperability of some specific and nationally developed digital services.

For the first time, a share of the **cohesion budget** (EUR 11.3 billion — transport) has been executed under direct management within the CEF framework. This has proved very successful with 100% of the envelope was allocated during the first half of the programme period, almost exclusively on sustainable transport modes. Targeted technical assistance, lower administrative costs for Member States and clear funding priorities contributed to this success.

Regarding **EFSI**, CEF worked as a catalyst for EFSI as several projects initiated in the context of the CEF DI feeding into the EFSI project pipeline. This was the case for the Grand Contournement Ouest de Strasbourg (A355), the A6 Wiesloch autobahn project, the Transgaz "BRUA" (Bulgaria-Romania-Hungary-Austria) gas interconnection project, and the Italy-France electricity interconnector. Moreover, projects prepared with CEF support or supported in part with CEF grants for works have started to benefit from EFSI. However, as discussed previously, there has been a substitution effect on the CEF FIs on the part of EFSI.

While it was anticipated that CEF would enlarge the possibilities for debt financing of broadband projects, EFSI now makes ample funding available in this respect. It is thus envisaged to focus on equity and quasi-equity support for broadband projects. As indicated above, the CEBF is expected to complement existing instruments (i.e. debt-based EFSI

support to commercially-driven deployments with a clear business case and ESIF grants to mainly public-driven deployments). The CEF contribution of risk-absorbing capital for equity-type support will be complemented by a lower risk tranche from EFSI as well as a market tranche composed of National Promotional Bank and private-sector shares (multi-layer fund structure). An additional gap is becoming increasingly apparent but has not been addressed by either EFSI, the CEBF or ESIF, in particular for projects on the borderline of commercial viability (even in the long term). In the area of broadband, this gap could be addressed through a structured blending instrument combining both public grants and financing support with private investment.

Simplification

Improvements in the application process have resulted in simpler and time-saving procedures for beneficiaries and the Commission. Examples of such improvements include the introduction of electronic tools for exchanges with the beneficiaries and the replacement of grant decisions adopted by the Commission by grant agreements whose signature was delegated to the Director of INEA. For beneficiaries, the administrative costs have been deemed to be overall proportionate to the financial support provided. The evaluation results indicate, however, that legal and administrative requirements for approving and implementing actions may impose disproportionate costs on smaller actions, for which simplified forms of support could be better adapted. This was particularly true for telecommunications, where the average grant size was just EUR 1 million. Furthermore, also for telecommunications sector, the adoption of annual work programmes does not enable the planning of long-term financing for the actions and creates administrative burden as regards the management of the programme.

3 THE CONNECTING EUROPE FACILITY IS ON TRACK TO DELIVER RESULTS

3.1 Contributing to the sectoral policy objectives

The CEF is focused on the following long-term EU policy objectives:

- **Transport**: by 2030, completion of the TEN-T Core Network, including the deployment of SESAR and ERTMS, and transition towards clean, competitive and connected mobility, including an EU backbone of alternative fuels charging infrastructure by 2025; progress towards the completion of the TEN-T comprehensive network by 2050.

- **Energy**: by 2030, completion of the TEN-E priority corridors and thematic areas aligned with “Clean Energy for all Europeans" and long-term decarbonisation objectives, namely to smarten and digitalise the grids, to reach the 2030 interconnection targets (including for peripheral Member States), to develop meshed off-shore grids and to ensure security of supply, also through synchronisation.

- **Digital**: by 2030, maximising the benefits of the digital single market for all citizens and businesses with the achievement of a fully cyber-secure gigabit society by 2025, preparing for terabit connectivity by 2030 and the roll-out of EU-wide data and digital service infrastructure supporting the digital transformation of key areas of public interest, from healthcare to mobility and public administrations.

As the programme is in the early stages of implementation, only limited data on actual outputs and results is available. It was therefore often not possible to measure progress towards sectoral policy objectives during the evaluation. However, almost all stakeholders who responded to the technical survey believe CEF will effectively achieve the development of modern and high-performing trans-European networks in transport, energy and telecommunications, at least to some extent (99%, 97% and 96%, with 33%, 38% and 21% agreeing fully).

Most of the CEF **transport** envelope was awarded for the completion of missing links and removal of bottlenecks on projects along the TEN-T Core Network (either through the creation of new infrastructure or the substantial upgrading and rehabilitating of existing infrastructure).

In **energy**, CEF grants effectively contribute to enhancing security of supply, ending energy isolation, eliminating energy bottlenecks, completing the internal energy market and to enhancing the integration of renewable energy into the grid. Examples of key CEF energy projects include Balticconnector, the first interconnector between Finland and Estonia, and the Gas Interconnector Poland-Lithuania, , which will enable these Member States to diversify their gas sources and routes, safeguarding them against possible future supply disruptions.

In **telecommunications**, there is evidence that CEF support for the deployment of DSIs is enabling public administrations, citizens and businesses to benefit from more comprehensive and efficient cross-border online services, thereby contributing to enhance the competitiveness of private and public actors alike. Examples notably include the establishment of cooperation mechanisms and increase of capabilities to respond to cyber threats, easier access for companies to national procurement procedures in other EU Member States, streamlined invoicing procedures and cross-border recognition and validation of eIdentification and eSignature. CEF also helps remove the bottlenecks which hinder the completion of the Digital Single Market, although the limited budget has so far only allowed to partially address the sector's needs.

In the three sectors it covers, CEF is instrumental in: (i) the deployment of EU-wide new systems in traffic management and safety (e.g. SESAR for aviation, ERTMS for railways, ITS for roads); (ii) the deployment of high-performance electricity lines and cross-border smart grids in energy; and (iii) the roll-out of interconnected Digital Services (such as eHealth, Cyber Security, eProcurement, eIdentification and eSignature).

3.2 Contributing to smart, sustainable and inclusive growth

CEF supports investments in modern and high-performing networks throughout the EU, which are essential for creating the conditions for a competitive economy. Since 2014, it has **invested EUR 25 billion, resulting in approximately EUR 50 billion of overall infrastructure investment in the EU.**

CEF spending in transport and energy is a major contributor to the EU's target of at least 20 % of the total EU budget to be dedicated to climate action-related spending[16]. Well integrated networks in energy and transport and the promotion of low-carbon transport modes help keep the cost of decarbonisation in check. While the contribution of CEF-supported action to the specific targets cannot be measured fully at this mid-term evaluation stage, an analysis of its contribution was performed under the mid-term review of the 2014-2020 multiannual financial framework. That analysis showed that CEF effectively and significantly contributed to the EU target, with a share of commitment appropriations estimated at an average of more than 5 % of total climate change finance in the EU budget for 2014-2016. This average rose to 35 % when considering the CEF's contribution to the 'Competitiveness for Growth and Jobs' heading of the EU budget.

In **transport**, the CEF contributes to the EU target with 81 % of the total amount of funding awarded to lower emission transport modes, in particular rail and inland waterways, thereby enabling a modal shift. In addition, the programme funds new technologies aimed at decarbonising transport, in particular alternative fuels, and their deployment along the transport infrastructure. For example, the LNG Motion project aims to increase Liquefied Natural Gas (LNG) availability along the TEN-T Core Network covering France, Belgium, the Netherlands, Germany, Poland, Spain, Italy, Hungary and Romania, mainly for road transport. This project receives an EU grant contribution of EUR 27.8 million out of a total cost of EUR 55.5 million (50% co-funding rate).

In **energy**, 40 % of CEF allocations are assumed to contribute to mainstreaming of climate action at programme level. Electricity projects contribute to reducing CO_2 emissions by increasing grid capacity to integrate power produced from renewable sources.

CONCLUSIONS

The evaluation has illustrated that after the first 3 and a half years of CEF implementation, the programme is on track, although it is much too early to measure results given that the programme is at the early stage of implementation. Moreover, the performance framework provided in Regulation is lacking well defined or robust indicators. With this reservation in mind, the evaluation has shown that:

- CEF is an effective and targeted instrument for investment in trans-European infrastructure (TEN) in transport, energy and the digital sector. Since 2014, it has invested EUR 25 billion, which has resulted in approximately EUR 50 billion of overall infrastructure investment in the EU. CEF contributes to the Commission's priorities on jobs, growth and investment, the internal market, Energy Union and climate, and the Digital Single Market'. In so doing it is strengthening the competitiveness of the EU economy.

- CEF brings high European added value for all Member States by supporting connectivity projects with a cross-border dimension. Most funding is awarded to projects bridging

[16] On telecommunications, significant contributions to reducing CO_2 emissions can be expected from projects implementing digital solutions. However, no methodology is currently applied in the context of CEF to estimate such reductions.

missing links and removing bottlenecks, with the aim of ensuring the proper functioning of the EU internal market and territorial cohesion among Member States in the transport, energy and digital sectors. Projects in energy also provide security of supply and are key for the cost-effective decarbonisation of the economy. CEF is also instrumental in the deployment of EU-wide new systems in traffic management and safety (e.g. SESAR for aviation, ERTMS for railways), high-performance electricity lines and smart grids essential for the rapid intake of renewable non-carbon energy sources, and in the roll-out of broadband and interconnected Digital Services (such as Open Data, e-Health, e-Procurement, eIdentification and eSignature).

- The direct management of CEF grants has proved very efficient, with a strong project pipeline and a competitive selection process, a focus on EU policy objectives, coordinated implementation and the full involvement of Member States. The INEA executive agency has a very good track record on the financial management of the CEF and on optimising the budget, particularly thanks to its flexibility in quickly re-directing money unspent by certain actions to financing new ones.

- For the first time, a share of the cohesion budget (EUR 11.3 billion for transport) was executed under direct management within the CEF framework. 100 % of the envelope was allocated during the first half of the programme period, almost exclusively on sustainable transport modes. Targeted technical assistance, lower administrative costs for Member States, clear funding priorities and a solid project pipeline stemming from the continuity of projects and studies formerly supported by the TEN-T Programme or by the Cohesion Policy instruments contributed to the fast allocation of funds.

- CEF has continued to use and develop innovative financial instruments. However, their deployment has been limited due to the new possibilities offered by EFSI. The use of the CEF financial instruments is expected to take up during the second half of the programme when complementarity between the CEF specific financial instruments and EFSI will have been ensured.

- Moreover, a very positive first experience of blending grants with financial instruments was carried out in 2017 in transport, with EUR 2.2 billion funding requested for a call with an indicative budget of EUR 1 billion, enabling the use of grants to maximise the leverage of private or public funds.

- CEF spending in transport and energy is a major contributor to the EU's target of at least 20 % of the total EU budget to be dedicated to climate action-related spending.

- In the Telecom sector, the dual focus of CEF on digital cross border services of public interest and communication and computing infrastructure has shown that the programme has an important impact on achieving the EU digital single market goals, enabling citizens and businesses to access high quality digital services across Europe. It has helped develop and implement common policies to address societal challenges including the digital transformation of healthcare, cybersecurity and digitisation of governments. However, as the proposed funding for the CEF Telecom was significantly cut, the programme funding could only support the very first steps towards a full cross border digital infrastructure in areas of public interest.

- CEF has also tested cross-sectoral synergies, but has been limited by constraints in the current legal/budgetary framework. The sectoral policy guidelines and the CEF instrument would need to be made more flexible to facilitate synergies and be more responsive to new technological developments and priorities such as digitalisation, while accelerating decarbonisation and addressing common societal challenges such as cybersecurity.

- The completion of the TEN defined in the EU policy priorities will still require massive investments, part of which will depend on continued EU support. The size of CEF currently makes it possible to address only some of the identified market failures in all three sectors. Therefore, potential exists for unlocking further public and private investment if additional EU budget was made available to address market failures.