

## HEADING 1A: Competitiveness for growth and jobs

### Connecting Europe Facility (CEF)

Lead DG: MOVE

Associated DGs: CNECT, ENER

#### I. Overview

##### *What the programme is about?*

Connecting Europe Facility (CEF) is a key EU funding instrument to promote growth, jobs and competitiveness through targeted infrastructure investment at European level. It supports the development of high performing, sustainable and efficiently interconnected trans-European networks in the fields of transport, energy and digital services. CEF investments fill the missing links in Europe's energy, transport and digital backbone.

The methods of implementation are:

- Funding of projects (works or studies) by means of grants and procurement: The Commission Work Programmes, either on annual, or multi-annual basis, define the priorities and the criteria, based on which the calls for proposals are launched and the applications are evaluated and recommended for funding. The list of projects (actions) selected for grants is scrutinised (examination procedure) by the relevant CEF Committee.
- Funding of projects by Programme Support Actions, as accompanying measures to deliver projects of common interest.
- Funding of projects by cross sectorial Financial Instruments Work Programmes. The Financial Instruments aim at providing private capital finance and enhancing the risk sharing. The instruments are in the form of debt or may be also in equity financing.
- Contribution to the European High-Performance Computing Joint Undertaking which will pool European resources to develop top-of-the-range exascale supercomputers for processing big data, based on competitive European technology.

##### *EU added value of the programme*

In accordance with the principle of subsidiarity and proportionality set out in Article 5 of the Treaty on European Union, the objectives of the programme cannot be sufficiently achieved by the Member States and can therefore be addressed by the EU. Due to disparities in Member States' capacity to act and in order to ensure a coherent approach to EU project financing across the three sectors, action at EU level can better achieve the objectives pursued, by reasons of its scale and effects. More specifically, the EU level will provide economies of scale in the use of innovative financial instruments by catalysing private investments in the TEN and acceleration of the implementation of strategic projects and networks with high European added value by removing critical bottlenecks.

An integrated EU infrastructure funding framework will allow exploiting cross-sectoral synergies at project development and implementation level, enabling cost savings and/or more efficient exploitation and higher returns. Specifically for Telecommunications, allowing exchanges and collaboration between citizens, businesses and public authorities within and across European borders, there is a clear case for EU added value through coordinating and connecting Member State activities, thereby ensuring interoperability and EU-wide usability. Indeed, due to non-territoriality of digital service infrastructures, and often their inherently cross-border character such as for example in case of seamless cross-border eGovernment services, relevant objectives of Europe 2020 and the Digital Single Market can only be achieved by a pan-European coordinated infrastructure approach. The vision is to create a European ecosystem of digital services that will allow all citizens, businesses and administrations across the EU to fully and seamlessly benefit from living in a Digital Single Market. An integrated approach is also necessary to provide efficient investment vehicles for the deployment of state-of-the-art broadband networks. The intervention at EU level will attract new categories of broadband investors and project promoters, and encourage the replicability of innovative broadband projects and business models.

##### *Implementation mode*

CEF is implemented under the direct management mode by DG MOVE, DG ENER, DG CNECT and the Innovation and Networks Executive Agency (INEA). The CEF debt instrument delegated to the European Investment Bank (EIB) and the contribution to the European High-Performance Computing Joint Undertaking are implemented under the indirect management mode.

## II. Programme Implementation Update

##### *Implementation status (2017-2019)*

#### TRANSPORT

CEF transport projects cycle:

At 31 December 2019, under the CEF Transport calls, 794 projects were selected for co-financing and individual grant agreements signed for a total CEF contribution of EUR 21.4 billion. This amount represents around 95 % of the total CEF transport budget. The

amount is slightly lower compared to the previous reporting due to the pro-active portfolio management by INEA. In fact, the ‘use it or lose it’ principle has been implemented systematically and projects which have not been able to use the allocated budget have been amended, allowing for the return of the concerned funds back to the programme.

In more detail, within the overall portfolio, 97 projects have been closed so far, and for 111 projects the EU funding has been reduced via an amendment. The resulting overall budgetary availability of more than EUR 2.5 billion is being reinjected into the programme via calls for proposals (out of which EUR 600 million have already been allocated).

Furthermore, 245 projects have been extended (on average by 15 months). The extension policy communicated to Member States and project promoters has the following main features: (a) an extension should not be longer than 24 months, under exceptional circumstances up to 32 months, (b) the absolute end date for all projects is set at 31/12/2023 and (c) activities covered by an ongoing grant agreement and ultimately not successfully implemented will not be selected under new calls for proposals.

Overall, it is estimated that by the end of 2019 around 50 % of financial progress has been reached for the CEF Transport portfolio (see indicator 1 <sup>(1)</sup> of general objective 1).

Calculating the payment appropriations from the 2014 budget up to and including this draft budget for 2021, it is foreseen to disburse more than EUR 12.3 billion to project promoters by the end of 2021. The ongoing projects will incur further costs during the years 2022 and 2023 and the closure of all projects will take place in 2024 and 2025, which leaves sufficient time to absorb the remaining budget of EUR 10.9 billion.

Between 2017 and 2019, the Commission selected more than 184 projects under the CEF Transport programme, resulting from different calls for proposals launched over the years. This led to an additional EU-contribution of around EUR 3.7 billion, out of which EUR 2.1 already allocated and estimated amount of EUR 1.6 billion dedicated to on-going calls for proposals, currently triggering an overall transport investment of more than EUR 8 billion..

In particular, the following Calls for proposals were completed:

Year- Call launch	Call reference	Projects selected	EU-funding	Call Objectives
2017	2017 CEF Transport Blending Call- 1 <sup>st</sup> cut off	39	EUR 964.4 million	Support economically viable projects using private finance by providing an EU grant to bridge the funding gap
2017	2017 CEF Transport Blending Call- 2 <sup>nd</sup> cut off	33	EUR 385.2 million	As above, with a focus on innovation and new technologies projects, notably in the field of alternative fuels, in support of the Commission’s Clean Mobility policy
2017	2017 CEF Transport SESAR Call	14	EUR 286.2 million	Modernising Air Traffic Management (ATM) in Europe and providing a high performing ATM infrastructure that will enable the safe, efficient and environmentally friendly operation and development of air transport. Focus support harmonised ATM systems and standards in Europe
2018	2018 CEF Transport Multi-Annual call	67	EUR 408.3 million	The call covered funding objectives and priorities supporting the policy orientations of the 3rd Clean Mobility Package. The focus of financial assistance has thus been on transport digitalisation, road safety and multimodality.
2019	2019 CEF Transport Annual Call	31	EUR 93.5 million	The call allowed for financial assistance through grants for projects of common interest regarding cross-border sections, connections to and the development of maritime ports along the comprehensive network. Moreover, it focused on the mitigation of impact of rail freight noise and vibrations.
2019	2019 CEF Transport Blending facility	First cut-off date under evaluation, call still ongoing	EUR 198 million (indicative budget)	The rolling call will support two areas that will deliver on the Commission’s agenda for a clean and digital transport system: the deployment of the European Railway Traffic Management System (ERTMS) and the deployment of Alternative Fuels.
2019	2019 CEF transport multiannual	Under evaluation	EUR 1400 million (indicative budget)	The call aims at supporting the completion of the TEN-T network, with a specific focus on addressing bottlenecks, missing links and cross border sections along the Core Network Corridors and supporting passenger multimodality in urban nodes.

<sup>(1)</sup> Volume of private, public or public-private partnership investment in projects of common interest

The CEF Transport investments during the 2017-2019 period have anticipated and accompanied the definition of the European Green Deal strategy, launched by the new Commission at the end of 2019. In this framework, the CEF Transport programme has continued to foster the overall objective of completing the TEN-T network, allowing for improved modal shift results and the deployment of more sustainable and intelligent transport solutions. In addition, it continued to prioritise the co-funding of sustainable transport modes. In particular, the programme supported the deployment of alternative fuels infrastructures in Europe, allocating more than EUR 350 million co-funding to projects in this sector and triggering an overall investment of more than EUR 1.5 billion. As a result, the CEF Transport programme has played a key role for investments in greener solutions

In addition, two amendments to the CEF Transport multiannual work programme were adopted in April and in October 2019 with the aim of continuing supporting the completion of the TEN-T network, focusing on the decarbonisation and digitalisation of transport.

The first amendment to the multiannual work programme made available an indicative amount of EUR 200 million for the setup of the CEF Transport Blending Facility. The Facility builds on the positive experience of the 2017 CEF Transport Blending Calls and promotes the participation of private sector investors and financial institutions in projects contributing to the environmental sustainability and efficiency of the transport sector in Europe. The CEF Transport Blending Facility is the first form of blending operations launched within the Commission, according to article 159 of the financial regulation. It will support two areas that will deliver on the Commission's agenda for a clean and digital transport system: the deployment of the European Railway Traffic Management System (ERTMS) and the deployment of Alternative Fuels.

The Facility is implemented via a cooperation framework between the European Commission and Implementing Partners to support Blending Operations, i.e. investments combining the use of grants and/or financial instruments from the EU budget and financing from the Implementing Partners (via a loan, debt, equity or any other repayable form of support).

At the same time, the second amendment to the multiannual work programme made available an indicative amount of EUR 1.4 billion for the 2019 multiannual call for proposals. The call set itself in continuation with the previous funding opportunities and focuses on the support to the timely completion of the TEN-T Core Network, including the focus on specific digital elements and alternative fuels solutions, complementing the Blending Facility co-funding opportunities. This call attracted applications for more than EUR 4.5 billion of EU contribution which is an over-subscription of 3.2. The Commission has already announced that it will use the flexibility allowed to possibly absorb freed appropriations increasing the indicative budget of EUR 1.4 billion in case the submitted proposals are of high quality.

More information about the CEF Transport calls and selection decisions can be found at the following link: [https://ec.europa.eu/transport/themes/infrastructure-ten-t-connecting-europe/reference-documents-work-programmes-selection\\_en](https://ec.europa.eu/transport/themes/infrastructure-ten-t-connecting-europe/reference-documents-work-programmes-selection_en).

## ENERGY

On 31 October 2019, the Commission published its [fourth list of PCIs](#), which contains 149 projects, i.e. 100 electricity transmission and storage, 6 smart grid deployment, 32 gas, 6 oil and 5 cross-border carbon dioxide networks. Electricity and smart grids account for more than 70 % of the projects, mirroring the increasing role of renewable electricity in the energy system and the need for network reinforcements enabling the integration of renewables and more cross-border trade.

By the end of 2019, in total nearly 40 PCIs have been implemented and some further 79 PCIs are expected to be implemented by 2022. In the period 2014-2019 CEF Energy co-funding of a total of EUR 3.8 billion was allocated to 139 actions contributing to 95 PCIs. CEF Energy has helped to kick-off and implement key energy infrastructure investments in Europe.

In 2019, in the electricity sector, a grant of EUR 530 million was awarded to support the construction of the Celtic Interconnector between Ireland and France. The Celtic Interconnector is a new electrical link between France and Ireland which will be completed by 2026. It will have an approximate length of 600 km and a capacity of 700 MW, enough to power 450,000 households. The feasibility study and the initial design and pre-consultation for the Celtic Interconnector were also carried out with the support of the CEF programme.

In addition, one grant of EUR 10.29 million has been allocated to support the development of the Harmony Link Interconnector between Lithuania and Poland. The action is a part of the synchronisation of the Baltic States' electricity network with the European system.

Nine calls for proposals were launched under CEF Energy over the six years of this period, until the end of 2019. With reference to the implementation period 2017-2019, the European Commission has allocated:

- A total of EUR 873 million in CEF grants to 17 PCIs in 2017, 8 in the electricity sector and 9 in the gas sector. 4 were for construction works and 13 for studies.
- A total of EUR 848 million in CEF grants to 22 PCIs in 2018, 11 in the electricity sector, 5 in the gas sector, 3 for smart grids, and 3 for carbon capture technology. Under the first call 2018, a total of EUR 48.4 million in CEF grants was allocated to 8 PCIs to undertake studies, of which 4 are in the electricity sector, 2 in the gas sector, 1 for smart grids, and 1 for carbon capture technology. The financing decision under the second 2018 CEF Energy Call for Proposals was adopted in February 2019 (14 proposals: 7 for electricity, 2 for smart grids, 3 for gas and 2 for CO2 for a total amount of EUR 799 million.)

- A total of EUR 556 million in CEF grants to 8 PCIs in 2019. Of these grants, 6 were for projects in electricity sector and 2 for projects in the gas sector. 6 were for studies and 2 for construction works.

In particular, the following Calls for proposals were completed:

Year- Call launch	Call reference	Actions selected	EU-funding awarded	Call Objectives
2017	Sixth multiannual call for proposals	17	EUR 873 million	– Increasing competitiveness – Enhancing Union security of energy supply – Contributing to sustainable development and protection of the environment Promotion of safe, secure (incl. cybersecurity) and efficient network operation
2018	Seventh and eighth multiannual calls for proposals	22	EUR 848 million	
2019	Ninth multiannual call for proposals	8	EUR 556 million	

**TELECOM**

CEF Telecom supports the deployment of trusted cross-border digital service infrastructures (hereby referred to as ‘DSIs’) essential to trigger the digital transformation of public sector services in the Member States all for the benefits of citizens and businesses. DSIs are developed and operated through two main parallel investments. The ‘Core Service Platforms’ (CSP), are owned, by the European Commission, and are funded mostly via procurement contracts while ‘Generic Services’ (GS) are implemented via grants. The CSP are the central hubs that provide, for each digital service, trans-European connectivity, access and interoperability. GS on the other hand, are the links between the nationally developed solutions and the CSP. CEF Telecom also promotes free wireless connectivity in local communities and stimulates investment for deploying and modernising broadband networks – all essential elements for sustaining a Digital Single Market.

The fifth Work Programme for 2018 <sup>(2)</sup> adopted on the 5th of February 2018 and amended in November 2018 <sup>(3)</sup> is supporting the deployment, operation and evolutive maintenance of sixteen <sup>(4)</sup> digital infrastructures building on the investment done in previous years. In addition, three new building blocks were added to the CEF ecosystem, namely eArchiving, the Context Broker, and Big Data Test Infrastructure (last two embedded into Public Open Data DSI). In effect, EUR 84 million were allocated to the deployment of the Generic Services through calls for proposals managed by the Innovation and Networks Executive Agency (INEA) and EUR 44 million to the Core Platforms supported mostly <sup>(5)</sup> through calls for tenders. The calls for proposals for Generic Services awarded 79.9 million to 123 projects deploying the ecosystem of DSIs supported through CEF.

The sixth Work Programme for 2019-2020 <sup>(6)</sup> adopted on the 14th of February 2019 and amended on the 28 February 2020 is supporting the deployment, operation and evolutive maintenance of eighteen <sup>(7)</sup> digital infrastructures building on the investment done in previous years. In addition, three new DSIs were added to the CEF ecosystem, namely European Digital Media Observatory, European Platform on Digital Skills and Jobs and Blockchain. In effect, EUR 44 million were allocated to the deployment of the Generic Services through calls for proposals managed by the Innovation and Networks Executive Agency (INEA) and EUR 39.8 million to the Core Platforms supported mostly <sup>(8)</sup> through calls for tenders. The first call for proposals for Generic Services awarded more than EUR 16 million to 23 projects in the areas of eID, eSignature, Europeana eDelivery, eInvoicing and Automated Translation. The second call is currently under evaluation.

As regards to connectivity actions, three call for proposals were launched under the WiFi4EU initiative for a total of 7 980 vouchers allocated to municipalities (EUR 119.7 million) granted to finance the installation of local wi-fi based connectivity in public spaces. Additionally, the CEF Telecom supported connectivity via technical assistance delivered through the Support Facility for the Broadband Competence Offices. As the first project has been signed only in January 2019, other performance figures, including total leverage at project level as well as number of households and premises connected or passed, will become available starting Q2 2020. Besides encouraging and supporting local public authorities to offer free Wi-Fi connectivity, **WiFi4EU** succeeded also to establish a direct link with local entities, create a community, and raise awareness of connectivity policies. A third of all European municipalities (26 500 registrations) participated to the three first calls with most applying within seconds from the time the call was opened. Following the award of the voucher, municipalities started rolling out their free Wi-Fi networks. 554 installations were declared by end of January 2020. The next 6-12 months will be crucial to accelerate the deployment of networks so as installation companies can be paid. It is expected that implementation will be completed between 2021 and 2023

<sup>(2)</sup> C(2018) 568

<sup>(3)</sup> C(2018) 7635 final

<sup>(4)</sup> In particular in the areas of eIdentification, eSignature, eDelivery, eInvoicing, Public Open Data, Automated Translation, Cybersecurity, eProcurement, On-line Dispute Resolution (ODR), Business Registers Interconnection System (BRIS), eHealth, Electronic Exchange of Social Security Information (EESSI), the European e-Justice portal, Safer Internet and Europeana. Please note P2P mobile Payment DSI was withdrawn through the Amendment of the 2018 Work Programme (i.e. C(2018) 7635 final)

<sup>(5)</sup> With the exception of the calls for grants to support the operation and maintenance of the Core Service Platforms for EU eJustice and eArchiving.

<sup>(6)</sup> Commission Implementing Decision C(2019) 1021 final, corrigendum C (2019) 2782 final and amendment C(2020) 1078 final.

<sup>(7)</sup> In particular in the areas of Europeana, eIdentification, eSignature, eDelivery, eInvoicing, Public Open Data, Automated Translation, Cybersecurity, eProcurement, Business Registers Interconnection System (BRIS), eHealth, Electronic Exchange of Social Security Information (EESSI), the European e-Justice portal, eArchiving, European Digital Media Observatory, European Platform on Digital Skills and Jobs and Blockchain.

<sup>(8)</sup> With the exception of the calls for grants to support the operation and maintenance of the Core Service Platforms for EU Student eCard and eArchiving.

## CROSS-CUTTING (Financial Instruments)

Regarding CEF Financial Instruments, the Commission adopted Annual Work Programmes in 2014, 2015 and 2016 (the latest C(2016)1950 of 4 July 2016, amended on 6 December 2016 by Decision C(2016) 7828), which provide for a CEF Debt Instrument to enhance the financing of projects of common interest in the 3 CEF sectors. The management of the CEF Debt Instrument was delegated to the European Investment Bank (EIB) as entrusted entity. The Work Programmes also provide for the establishment of an Equity instrument in the telecommunications sector.

With regard to the transport sector, the total allocation to the CEF Debt Instrument as of 2019 accounts for EUR 206.35 million, where EUR 165.8 million was already paid to the EIB by the end of 2019. To date a total of EUR 14.3 billion of investments has been raised by the instrument, out of which EUR 5.8 billion since 2014. Several projects have been supported across rail, motorways, ports, shipping and alternative fuels deployment. In total, 20 projects have been signed, approved or are under approval.

The CEF Debt Instrument (CEF-DI) Delegation Agreement was amended in June 2019 in order to focus on green innovative investments, to ensure complementarity with the European Fund for Strategic Investments (EFSI) and to allow the absorption of NER 300 programme (managed by DG CLIMA). The amended CEF-DI Delegation Agreement introduces the 'Future Mobility' financial product to support high-risk deployment of alternative fuels infrastructure, the roll out of innovative technologies and smart mobility services.

The CEF-DI pipeline was reviewed at the CEF DI Steering Committee of 22 November 2019, it foresees the full exhaustion of the CEF-DI budget and the reliance to NER300 contribution to cover upcoming operations. The amendment of the Delegation Agreement resulted in a list of projects for which EUR 1.8 billion investment is planned, including projects on the deployment of electric public buses and recharging infrastructure, the development of electric and hydrogen charging points, road to rail terminals and zero-emission inland waterway transport. The operations signed in 2019 for instance include the deployment of approx. 6 600 Alternative Current (AC) and 250 Direct Current (DC) charging stations in Italy; the acquisition of a total of 255 electric buses and associated charging infrastructure in the city of Hamburg; and the deployment of 15 000 leasing electric and hybrid vehicles across 6 EU countries.

In the energy sector, the first CEF Debt Instrument was expected to be concluded by the EIB in 4Q 2018 (relying on the credits committed 2014-2017). However, the financial closing of this operation was eventually cancelled by the project promoter. Therefore, the amount initially committed under CEF Debt Instrument for this operation (EUR 89 million) is available for other energy projects currently under appraisal by the EIB.

In the telecommunications sector, as regards to broadband, the guidelines of the CEF Debt Instrument have been revised on the basis of a common agreement with the EIB. Suitable projects are still to be identified by the EIB.

With regard to the CEF Equity Instrument, the Connecting Europe Broadband Fund (hereafter, the 'CEBF') was successfully launched on 27 June 2018. The CEBF has so far raised EUR 420 million at first closing through commitments from the following investors: the EIB for EUR 140 million (out of which EUR 100 million are backed by EFSI); the European Commission, via the Connecting Europe Facility, for EUR 100 million; KfW for EUR 50 million; Cassa Depositi e Prestiti for EUR 50 million; Caisse des Dépôts for EUR 50 million; Cube Infrastructure Managers ('Cube IM') for EUR 5 million and an additional EUR 25 million from a European private investor. Additional (private) fundraising efforts are ongoing for subsequent closing(s) up until December 2019.

The first project has been signed on the 25th of January 2019 and concerns the deployment of a high-quality fiber-to-the-home (FTTH), open-access network for residential, business and public administration in the rural areas of the Primorje-Gorski Kotar and Istria regions – the two North-Western counties in Croatia – and to cover over 135 000 locations. This investment marks the inaugural project of the CEBF.

### **Key achievements**

## **TRANSPORT**

During 2019 around 100 CEF Transport Action have been closed, strongly contributing to the overall programme objectives. In particular, closed actions aimed at the removal of bottlenecks or missing links at cross border sections along the TEN-T Core Network, improved integration of transport modes, focused on the digitalisation of transport and supported decarbonisation through sustainable transport solutions.

Example of achievements reached in 2019 per transport mode are:

### **Railway: Knappenrode-Horka-German/Polish border section: upgrade, electrification and European Train Control System (ETCS) planning**

This action contributed to the double-track upgrade and the electrification of the railway line between Knappenrode and the German/Polish border, along the TEN-T Core Network. The upgrade and electrification improved the rail freight transport connection between the German-Polish border to central Germany (Magdeburg) and further to Bremen/Bremerhaven and other destinations. It also contributed to the reduction of CO2 emissions.

### **Inland Waterways (IWW): Enhancing the efficiency of Hungarian River Information Services operations**

The action contributed to the enhancement of the River Information Services (RIS) system in order to support efficient and safe inland navigation on the Danube. The works carried out through the action enhanced traffic management services, modernised on-shore RIS services and improved the quality of fairway information services data.

#### **Maritime: Zero Emission Ferries – a green link across the Oresund**

The action covered the introduction of new and innovative concepts and technology by converting two existing complex passenger ships – originally fuelled by heavy oil – to plug-in all electric powered operation using exclusively batteries. The action has brought a more environmentally friendly solution to a very busy maritime link, connecting the comprehensive TEN-T network ports of Helsingör (Denmark) and Helsingborg (Sweden). Moreover, the required power provision and charging installations in the ports/ferry terminals were realised. The project supported the development of clean Motorways of the Sea by testing and deploying new technological solutions in real operational conditions.

#### **Road: Charging stations for electric vehicles in Slovakia and Poland (NCE-FastEvNet)**

The action, a study with integrated pilot, was implemented in Slovakia and Poland along the North Sea-Baltic, Baltic-Adriatic, Orient/East-Med and Rhine–Danube Core Network Corridors. It deployed 10 multi-standard fast charging stations for electric vehicles in Slovakia and 75 in Poland, three of them including battery storage to cover peak demand. Overall, the action contributed to decarbonisation and roll-out of alternative fuels in the EU.

#### **Air: Air Traffic Management (ATM) System Deployment**

The action covered the first step of the Development Roadmap of Air Traffic Management (ATM) solution of the Baltic FAB (Functional Airspace Block) Lithuania-Poland. It contributed to efficient Single European Sky development and consolidation, and optimisation of Air Navigation Services (ANS) provision in the Baltic FAB. The Action was implemented in the Vilnius Area Control Centre and affects the full Lithuanian airspace.

### **ENERGY**

At the end of 2019, 76 actions were ongoing amounting to EUR 3.57 billion of EU support distributed between four PCI thematic corridors in the electricity sector, four in the gas sector and two in thematic areas – smart grids and cross-border CO2 networks, linking the energy systems across Europe and helping the EU achieve its energy policy and climate objectives. 19 actions (studies) contributing to the implementation of PCIs were closed delivering among others cost-benefit analysis, advanced permitting, feasibility studies, and basic or detailed technical designs.

PCIs completed in 2019 and supported by CEF grants for works in previous years include:

- PCI 5.2 the Twinning of Scotland onshore system between Cluden and Brighthouse Bay (UK). The Action supported by CEF contributed to the implementation of this PCI by reducing compressor fuel gas usage and increasing pipeline storage and technical capacity, bringing about environmental benefits through a reduction in greenhouse gas emissions;
- PCI 8.1.1 the Baltconnector project aiming to interconnect the natural gas transmission networks between Estonia and Finland. Furthermore, Baltconnector contributed to the diversification of gas supplies in the Baltic region, enhancing competitiveness and strengthening the liberalization process of the gas markets in the Baltic States. The objective of the Actions supported by CEF was to carry out preparatory studies aimed at getting technical and financial information in order to obtain the necessary permits for the pipeline's offshore and onshore sections, prepare the Final Investment Decision (FID), and fully implement the construction of this PCI;
- PCI 4.4.1 the internal electricity line in Latvia, part of the cluster Latvia – Sweden electricity capacity increase. The Action supported by CEF contributed to construction of a double circuit 330kV and 110 kV overhead line from Ventspils-Tume-Imanta, the extension of the 330kV 'Imanta' substation for the transmissionline connection to the network, the construction of the new 330kV and extension of the existing 110kV 'Tume' substation, and the reconstruction of other substations.

In addition, other PCIs, which received the CEF support for studies on earlier implementation stages, were completed in 2019:

- PCI 1.7.2 the construction of the IFA2 project, new subsea electricity 320 kV – 390 kV HVDC link with a capacity of around 1000 MW between the UK and France. The objective of the Action supported by CEF was to prepare the necessary studies required to enable positive Final Investment Decision (FID) decisions and signature of construction contracts;
- PCI 7.1.1 Trans Anatolian Pipeline (TANAP) in Turkey, which will connect to the EU in 2020 via the Trans Adriatic Pipeline (TAP). The studies supported by CEF aimed to develop the software systems, sound engineering packages, allowing the minimisation of construction risks and safe transmission operations, environmental monitoring etc.

Significant progress in works has been achieved, among others, for:

- PCI 3.8.4 and PCI 3.7.4, internal electricity lines in Romania and Bulgaria (with status of CESEC projects). The CEF supported Actions contributed to the studies, pre-investment works and construction of the project;
- PCI 6.2.1 the Poland-Slovakia gas interconnector, the completion of which will be a significant step to enhance the resilience and diversification of the Union's gas supply. The scope of the Actions supported by CEF includes pre-investment activities, the construction of the Slovak and the Polish sections of the pipeline as well as the installation of the auxiliary infrastructure on both sides;

- PCI 5.10 the TENP pipeline and its innovative deodorisation facility removing odorants in gas which enters the TENP pipeline from the South, in order to make the gas compliant with the national requirements for the German gas pipeline network. The new deodorisation plant will allow the import of gas from France via Switzerland into Germany. The Actions supported by CEF included the construction works and the technical and engineering studies of this PCI.

In 2017-2019 a total of about EUR 1.7 billion of CEF Energy funds have been allocated to the projects in electricity, smart grids and carbon dioxide transport sectors, which are contributing directly to Union's climate policy objectives.

## TELECOM

The Connecting Europe Facility supports the deployment and promotion of 20 interoperable Digital Service Infrastructures (DSIs), of Internet connectivity in local communities and broadband across the EU.

DSIs are based on mature technical and organisational solutions to support exchanges and collaboration between citizens, businesses and public administrations. The vision is to create a European ecosystem of interoperable digital services that will allow all citizens, businesses and administrations across the EU to fully benefit from living in a Digital Single Market.

Examples of achievements of selected DSIs up to date are reported below:

The **Cybersecurity** Digital Service Infrastructure (DSI) contributes to the EU preparedness to deal with cyber threats by increasing cybersecurity capabilities of key cybersecurity players addressed by the NIS Directive (2016/1148). These are the national Computer Security Incident Response Teams (CSIRTs), operators of essential services (OES), digital service providers (DSPs), single points of contact (SPOC) and national competent authorities (NCAs). The Cybersecurity DSI also contributes to the implementation of the Cybersecurity Act (Regulation 2019/881) by supporting stakeholders involved in cybersecurity certification. To the moment, 57 projects for Cybersecurity are being deployed in 22 Member States. The '[CyberExchange](#)' project for example, brings together 10 Member States: Austria, Croatia, the Czech Republic, Greece, Latvia, Luxembourg, Malta, Poland, Romania and Slovakia. Financial support is provided to strengthen the know-how and the capabilities of their national CSIRTs/CERTs, as well as their cross-border cooperation.

The **eHealth** Digital Service Infrastructure facilitates continuity of care and patient safety of citizens seeking cross-border healthcare, allowing health data to be exchanged across national borders. Cross-border ePrescriptions/eDispensations (eP) service patients being abroad to receive the equivalent medication that they would receive in their home country. The Patient Summary (PS) services provide health professionals with access to the verified key health data of a patient needing unplanned cross-border healthcare. In addition, eHealth DSI provides support to the European Reference Networks (ERNs). These are virtual networks bringing together healthcare providers and centres of expertise across Europe to tackle complex or rare medical conditions that require specialised treatment and a concentration of knowledge and resources. To the moment, 84 projects support eHealth interoperability and over 900 highly specialised medical teams join their forces within 24 ERNs. The cross-border exchanges of electronic Patient Summaries and ePrescriptions takes place since January 2019, with almost 8000 ePrescriptions already dispensed between Finland and Estonia and Croatia at the moment. Portugal will also join the ePrescription exchange in Q1 2020. In 2019, Czechia, Luxembourg, Croatia and Malta enabled the exchange of patient summaries – short forms of electronic health records, and Portugal joined them in early 2020. Additional 17 MSs are expected to exchange ePrescriptions and patient summaries by the end of 2022.

In the area of connectivity, the **Connecting Europe Broadband Fund**, established under CEF Equity Instrument with EFSI support is the main deliverable in the area of broadband in 2016 and 2017. The Fund was successfully launched on the 27th of June 2018, raising EUR 420 million at first closing through commitments from the European Commission as well as the EIB, three national promotional banks, and one private investor. The first project has been signed on 25 January 2019 and concerns the deployment of a high-quality fiber-to-the-home (FTTH), open-access network for residential, business and public administration in the rural areas of the Primorje-Gorski Kotar and Istria regions – the two North-Western counties in Croatia – and to cover over 135,000 locations. Since then, the Fund has signed two other projects, including a deal in Slovenia to invest into a high-quality FTTH, open-access network for residential, business and public administration in the country's rural areas and to cover over 240,000 locations. The fund manager is organizing a second fundraising round, following an investor event organized in Paris in November 2019 with participation from major institutional investors. **WiFi4EU** delivered on the political promise to attribute connectivity vouchers to about 8.000 municipalities. The municipalities started installing WiFi4EU networks in 2019.

## Evaluations/studies conducted

The key findings of the latest evaluations have been presented in the Programme Statement 2019 <sup>(9)</sup>.

Moreover, the Commission reported on the latest performance of the TEN-E framework in the Commission Staff Working Document (SWD(2019)395) accompanying the Commission Delegated Regulation amending TEN-E Regulation <sup>(10)</sup> (i.e. 4th PCI list; C(2019)7772). In June 2019 the Commission launched an evaluation of the TEN-E Regulation <sup>(11)</sup>.

At the end of 2019, the Commission has also started the process for the review of the TEN-T Regulation (EU) N° 1315/2013. It is expected that by the end of 2020, the evaluation procedure in line with better regulation principles would be completed. The related

<sup>(9)</sup> <https://ec.europa.eu/transport/sites/transport/files/legislation/swd-2018-0044-mid-term-evaluation-cef-ia-part2.pdf>

<sup>(10)</sup> [https://ec.europa.eu/energy/sites/ener/files/c\\_2019\\_7772\\_1\\_commission\\_delegated\\_regulation.pdf](https://ec.europa.eu/energy/sites/ener/files/c_2019_7772_1_commission_delegated_regulation.pdf)

<sup>(11)</sup> [https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2019-3443380\\_en](https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2019-3443380_en)

impact assessment should follow during 2021, allowing for the preparation of a proposal for the revision of the TEN-T Guidelines by the end of 2022.

#### Specific studies:

- **TEN-T Core Network Corridor studies:** Corridor studies for 2018-2019 (4<sup>th</sup> version) are currently under finalisation and are expected to be published before mid 2020. The studies will provide an updated overview of the TEN-T completion along the 9 Core Network Corridors and for the 2 horizontal priorities of European Railway Traffic Management System (ERTMS) and Motorways of the Sea (MoS). **(on going)**.
- **Study on the impact of TEN-T completion on jobs, growth and climate:** the study, completed in 2019, assessed the impact of the TEN-T policy on three principal objectives of EU policy-making: fostering growth, creating jobs and mitigating climate change. It concluded that the completion of the TEN-T networks would have positive impact on employment, GDP and reduction of emissions. Link towards the study:  
<https://ec.europa.eu/transport/sites/transport/files/studies/ten-t-growth-and-jobs-synthesis.pdf>

#### *Forthcoming implementation*

#### TRANSPORT

The majority of CEF Transport co-funded actions is expected to be completed between 2021 and 2023 and as the projects progress, consequent amounts of payment appropriations are needed in the coming years.

Moreover, in 2020, the CEF Transport programme is expected to deliver with additional co-financed projects, resulting from the 2019 CEF multiannual transport call and the CEF Transport Blending Facility. Furthermore, continuing with the very close monitoring of CEF Actions (in line with the 2018 Mid-term Review- MTR), in 2020, INEA and DG MOVE will further assess the progress of ongoing CEF Transport grant agreements. The result of this assessment might lead to additional amendments triggering additional freed appropriations to be used for CEF Transport calls to be launched before the end of 2020.

Within the same period, it is also expected that a greater number of the currently ongoing CEF Actions will be successfully completed, contributing to the programme's objectives and the achievement of the TEN-T transport networks' completion within the expected timeframe

#### ENERGY

The multiannual work programme 2020 under CEF energy was adopted in March 2020. It indicatively foresees one call for proposals with a total value of EUR 979 million. This multiannual work programme shall contribute to supporting energy infrastructure projects of common interest that have significant societal benefits and that ensure greater solidarity among Member States, but which do not receive adequate financing from the market. In line with Article 7(3) of the Regulation EU (No) 1316/2013 this multiannual work programme shall also contribute to programme support actions which contribute to the implementation of the TEN-E policy. Moreover, this multiannual work programme aims at financing actions contributing to the Union's mid-term and long-term objectives in terms of decarbonisation. Considering that the Green Deal Communication has further emphasized the key enabling role of energy infrastructure, including cross-border carbon dioxide networks, in the transition to a climate neutral economy, financial assistance should maximise its added value towards decarbonisation.

In 2020, there are no commitment appropriations for financial instruments (budget line 32 02 01 04).

#### CEF TELECOM

The WP 2019-2020 adopted on 14 February 2019 and amended on the 28 February 2020 outlines activities to be implemented in 2019 and 2020 (Commission Implementing Decision C(2020) 1078 final). In 2020, CEF Telecom will continue the deployment and operation activities of 20 <sup>(12)</sup> DSIs supported in the previous years. Two sets of calls for generic services will be launched in 2020 supporting the uptake in the Member States of 15 of these DSIs. In addition, one WiFi4EU call will be launched in 2020, supporting local administration to provide free of charge Wi-Fi connectivity.

The Connecting Europe Broadband Fund has been commercially launched in June 2018. The Commission has already started investing the roll out of high capacity networks in underserved areas with a first project signed in January 2019. Additional (private) fundraising efforts are ongoing for subsequent closing(s) up until December 2020. The Fund is investing in broadband infrastructure networks across underserved areas in Europe. The launch of the investment platform was planned in the Commission's strategy 'Connectivity for a Competitive Digital Single Market – Towards a Gigabit Society' and it is an important step towards the deployment of the very high-capacity networks that Europe needs for its digital economy and society).

<sup>(12)</sup> European, Safer Internet, eIdentification, EU Student eCard, eSignature, eDelivery, eInvoicing, Public Open Data, Automated Translation, Cybersecurity, eProcurement, Business Registers Interconnection System (BRIS), eHealth, Electronic Exchange of Social Security Information (EESSI), European eJustice, Online Dispute Resolution (ODR), eArchiving, European Digital Media Observatory, European Platform on Digital Skills and Jobs and Blockchain.



**Outlook for the 2021-2027 period**

As part of the next long-term EU budget (MFF 2021-2027), the European Commission proposed to renew the Connecting Europe Facility (CEF), a funding programme that supports the development of transport, energy and digital infrastructure within trans-European networks.

CEF will support infrastructure projects connecting the EU and its regions. It will also aim to better integrate the transport, energy and digital sectors, in order to accelerate the digitalisation and decarbonisation of the EU's economy. In particular, 60 % of the CEF budget will contribute to climate objectives in line with the EU's commitments under the Paris Agreement. Building on the success of the previous programming period (2014 -2020), CEF will also continue to bridge the investment gap in Europe and to generate jobs and economic growth.

Lastly, the facility will provide the opportunity to deploy technologies developed through the EU R&I programmes, boosting their market uptake and ensuring the Trans – European networks are equipped with advanced technology.

In the Commission's proposal for the CEF 2021-2027 programme, the general and cohesion envelopes for the transport sector, will be complemented with a new envelope dedicated to military mobility. The main objectives for the Transport sector will be:

- the support to the completion of an efficient, interconnected, interoperable and multimodal TEN-T Transport Network for the deployment of railway, road, inland waterway and maritime infrastructure, in line with TEN-T Regulation<sup>(13)</sup>, to which at least 60 % of the general envelope and 85 % of the cohesion envelope should be dedicated and;
- the modernisation of the same network through the support to actions relating to smart, interoperable, sustainable, multimodal, inclusive, accessible, safe and secure mobility, to which at least 40 % of the general envelope and 15 % of the cohesion envelope should be dedicated.

In this framework and without prejudging the outcome of the ongoing MFF negotiations, services are already working on a first concept for the first multiannual work programme for the transport sector, which as a novelty, will cover the first three years of implementation of the new CEF programme. The work programme will focus on the support to infrastructural projects needed for the completion of the TEN-T network but will also put a lot of emphasis on sustainable transport modes, improving the modal-shift performance and aiming at contributing to the transport decarbonisation and digitalisation goals.

CEF Energy will provide financial assistance to a number of energy infrastructure projects that are critical to deliver the European Green Deal and the climate neutrality objective. Under the trans-European energy infrastructure, CEF policy will be focused on electricity interconnections, electricity storages, smart grid projects, and carbon dioxide transportation projects. To support the Union's decarbonisation objectives, internal market integration and security of supply, the priority will be given to technologies and projects contributing to transition to a low emission economy. In addition, the new CEF cross-border renewables window will foster regional cooperation in the area of the renewable energy and the market uptake of such projects.

Different from the current CEF Telecom programme, the digital strand of the forthcoming Connecting Europe Facility will focus on supporting investments for the deployment of digital connectivity infrastructures of common interest. The proposed budget for the period 2021-2027 would co-fund:

- the deployment of and access to very high-capacity networks, including 5G systems, capable of providing Gigabit connectivity in areas where socioeconomic drivers are located,
- the provision of very high-quality local wireless connectivity in local communities that is free of charge and without discriminatory conditions,
- uninterrupted coverage with 5G systems of all major transport paths, including the trans-European transport networks,
- deployment of new or significant upgrade of existing backbone networks including submarine cables, within and between Member States and between the Union and third countries,
- digital connectivity infrastructures related to cross-border projects in the areas of transport or energy and/or supporting operational digital platforms directly associated to transport or energy infrastructures.

Under the current legislative proposal, important efforts were deployed for the definition of a better performance framework. The dedicated parent DGs are closely cooperating with INEA in order to identify the best indicators at outputs, outcome and impact level, in order to improve the monitoring and reporting of the Programme.

<sup>(13)</sup> Regulation (EU) No 1315/2013 of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network.

### III. Programme key facts and performance framework

#### 1. Financial programming

Legal Basis	Period of application	Reference Amount (EUR million)
Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010 Regulation (EU) 2015/1017 of the European Parliament and of the Council of 25 June 2015 on the European Fund for Strategic Investments, the European Investment Advisory Hub and the European Investment Project Portal and amending Regulations (EU) No 1291/2013 and (EU) No 1316/2013 – the European Fund for Strategic Investments (OJ L 169, 1.7.2015, p. 1).	2014 – 2020	30 442,3

	Financial Programming (EUR million)							
	2014	2015	2016	2017	2018	2019	2020	Total Programme
Administrative support	5,8	5,3	5,0	4,6	4,1	4,8	4,3	33,8
Operational appropriations	1 958,8	1 416,4	2 116,6	2 451,4	2 729,6	3 705,0	3 991,3	18 369,1
Executive Agency	11,6	13,4	12,9	13,8	14,2	15,1	16,1	97,0
Joint undertaking						39,1	58,6	97,7
<b>Total</b>	<b>1 976,2</b>	<b>1 435,0</b>	<b>2 134,5</b>	<b>2 469,7</b>	<b>2 747,9</b>	<b>3 764,0</b>	<b>4 070,3</b>	<b>18 597,6</b>
<i>Contribution from Cohesion Fund</i>	<i>983,0</i>	<i>1 217,0</i>	<i>2 376,5</i>	<i>1 593,3</i>	<i>1 655,1</i>	<i>1 700,4</i>	<i>1 780,6</i>	<i>11 305,9</i>
<b>Total with contribution from Cohesion Fund</b>	<b>2 959,2</b>	<b>2 652,0</b>	<b>4 511,0</b>	<b>4 063,0</b>	<b>4 403,1</b>	<b>5 464,4</b>	<b>5 850,9</b>	<b>29 903,6</b>

#### 2. Implementation rates

	2019				2020			
	CA	Impl. Rate	PA	Impl. Rate	CA	Impl. Rate	PA	Impl. Rate
Voted appropriations	3 763,983	99,86 %	1 756,552	99,82 %	4 070,302	96,51 %	2 102,395	23,45 %
Authorised appropriations (*)	3 894,479	99,73 %	1 780,519	99,57 %	4 081,554	96,33 %	2 115,134	23,62 %

(\*) Authorised appropriations include voted appropriations, appropriations originating from assigned revenues (internal and external) as well as carried-over and reconstituted appropriations; the execution rate is calculated on 15 April 2020

#### 3. Performance information

##### Programme performance

In general, the approach of the Connecting Europe Facility 2014-2020 is good and will be kept in the next multiannual financial framework (see in more detail below). In particular, CEF is an effective and targeted instrument for investment in trans-European infrastructure (TEN) in transport, energy and the digital sector, it strongly contributes to the Commission’s priorities on jobs, growth and investment, the internal market, Energy Union and climate and the Digital Single Market. The direct management of CEF grants has proven 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.

It is currently too early to conclude whether the programme’s goals will be achieved as the nature of large-scale infrastructure projects makes it difficult to already present results. Nevertheless, the close monitoring of the projects provided by the Innovation and Networks Executive Agency (INEA) ensures to identify actions for which amendments are needed, making the instrument very reactive to new needs and constraints, and allowing for a swift re-allocations of the funds if needed. It should be noted that in this context, the targets presented in the indicators’ sections are based on contracts signed: they do not represent the overarching and stable goals of the programme during the overall period but only the aggregation of targets for the contractually agreed project. Therefore, these targets are reviewed every year to integrate new signed grant agreements and the progress of on-going projects assessed by INEA.

Furthermore, the CEF parent DGs and the INEA have worked and will continue working to improve the programme’s performance. In particular, following the mid-term evaluation of CEF and in line with the recommendations of some ECA special reports, areas for improvement were identified. Notably, due to differences in the sectoral legal frameworks, the programme faced the limitations for cross-sectoral synergies. In addition, it was found that the programme would benefit from more transparency and predictability.

As consequence, the draft CEF 2021-2027 legal basis under negotiation, for which a Common Understanding <sup>(14)</sup> has been reached in March 2019, includes the possibility to adopt joint work programmes covering specific priorities of several sectors and the

<sup>(14)</sup> The Common Understanding on the Proposal for a Regulation of the European Parliament and of the Council establishing the Connecting Europe Facility and repealing Regulations (EU) No 1316/2013 and (EU) No 283/2014 (COM(2018)0438 – C8-0255/2018 – 2018/0228(COD))

removal of obstacles that have hampered synergies in the current period. Alternatively, it would also be possible to include in sector specific funding synergetic elements pertaining to another sector. Moreover, in view of increasing transparency and predictability, limiting the procedures and ensuring overall consistency, the Common Understanding also contains the requirement to adopt the multiannual work programmes which include the timetable of the calls for proposals for the first three years of the programme, their topics and indicative budget as well as a prospective framework covering the entire programming period.

## TRANSPORT

Projects co-funded under the CEF Transport aim at supporting the completion of the Core and Comprehensive Transport Networks, with a specific focus on the 9 Core Network Corridors (CNC). Moreover, the CEF co-financed projects back the achievement of a decarbonised and digitalised transport sector in Europe. In this framework, the CEF actions fosters the completion of a smart, high-performance and sustainable transport network, allowing seamless mobility for passengers and freight around Europe. This contributes to the overall EU policy goals of a complete single market, boosting jobs and supporting a smart, sustainable and inclusive growth in the EU

CEF Transport actions are usually characterised by long implementation periods as they refer to works for large and technically complex transport infrastructure projects, often entailing a risk component. In this framework, beneficiaries of CEF co-funding might experience delays during the projects' implementation. These refer mainly to public procurement issues (e.g. complaints/appeals during tender procedures) as well as legal and environmental issues (e.g. permitting, spatial planning, other authorizations and land acquisition). Moreover, technical issues related to unforeseen events (such as landslides), issues related to the political support to projects or to the securing of sufficient co-funding (national or other sources) might also occur during the implementation of CEF Actions.

These issues are not under the control of the Commission and their pre-identification at the moment of the projects' selection is usually not possible. Nevertheless, the Commission, through INEA, has adopted a number of mitigating measures, including a close monitoring of CEF Actions, providing for an optimal use of EU-funding. In particular, the agency assess reports, performs on site visits and follows-up with CEF beneficiaries on the delays experienced, ensuring a thorough assessment and identifying the actions for which amendments are needed (use it or lose it principle). This practice allows to reinject funds into new calls for proposals.

Moreover, learning from the experience of the first CEF Transport calls for proposals, the Commission has focused its attention on the careful assessment of the maturity award criterion and further guidelines for its assessment are expected to be implemented during the next programming period. Moreover, important progress have been achieved for the identification of new financing opportunities for transport infrastructure projects. Thanks to the new provisions of the Financial Regulation and the good results achieved by the CEF Transport Blending Call 2017, during 2019 DG MOVE conceived and launched the CEF Transport Blending Facility. The facility represented a first and unique opportunity to boost the participation of private sector investors and financial institutions in projects contributing to the environmental sustainability and efficiency of the transport sector in Europe. The Blending Facility is organised around several cut-off dates for applications. Currently, only the first cut-off date has been completed. As a result, eleven applications have been submitted, requesting grants worth EUR 86 million. These projects address the uptake of alternative fuels and the deployment of ERTMS. The Facility remains open for applications longer than classical calls for proposals, allowing for better predictability and mature projects. This increases the possibility of attracting bank co-financing, as well as ensuring project implementation in time and budget. Since its launch in mid-November, nine public financial institutions (also known as Implementing Partners), have already joined the Facility, of which nearly half are from cohesion countries or specializing in these countries. This gives the Facility a broader geographic coverage allowing for more projects to be signed.

Taking into consideration that results of CEF calls are still expected in the coming years (2020 and 2021), the indicators below include moving targets, as these latter are defined by the accomplishment of the number of CEF ongoing actions. This number is evolving in accordance with calls for proposals over the years. In this context, foreseen milestones are expected results by actions still ongoing while actual results correspond to outputs achieved by closed CEF Transport actions.

In conclusion, it can be confirmed that the long term success of the CEF Transport programme cannot be currently reflected in the indicators reported below, as the majority of the CEF Transport actions signed as outcome of past calls for proposals are still ongoing and their results (outputs) will be achieved only at the end of the current programming period and beyond (up to end of 2023). Moreover, the reporting on actual results can only be completed once each individual project is closed, the final report has been received and assessed, the outputs verified and the final payment (if need be) disbursed. In particular, it is to be noted that the average period between the end date of the project and its closure is around 15 months, as project promoters have 12 months to prepare and submit the final report and the final payment request and INEA pays in principle within 90 days after having received this request.

The current situation in terms of financial progress and amendments for each specific objective is presented in the following section.

## ENERGY

CEF Energy is an integral part of the Trans-European Networks for Energy (TEN-E) strategy. The TEN-E policy identifies nine priority corridors and three thematic areas in the field of cross-border energy infrastructure and establishes a biennial list of Projects of Common Interest (PCIs) that helps the EU meet its short and long-term energy and climate objectives. PCIs are chosen for their significant expected impact on energy markets and market integration (covering at least two EU countries), and expected contribution to the EU's energy security. They aim at diversifying sources, increasing competition in energy markets by offering

alternatives to consumers, and contributing to the EU's climate and energy goals by integrating renewables. CEF Energy was created to financially support the realisation of PCIs, and only activities related to their development are eligible for funding. The financial support under the CEF has enabled the implementation of a number of key energy infrastructure projects under eight priority corridors, four in the electricity sector, four in the gas sector and two in thematic areas – smart grids and cross-border CO<sub>2</sub> network. By the end of 2019, in total nearly 40 PCIs have been implemented and some further 79 PCIs are expected to be implemented by 2022.

The Transparency Platform provides for an interactive map with up-to-date information for each PCI: [http://ec.europa.eu/energy/infrastructure/transparency\\_platform/map-viewer/main.html](http://ec.europa.eu/energy/infrastructure/transparency_platform/map-viewer/main.html).

An indicator screening exercise was carried out in 2017 and showed that some indicators initially proposed for CEF Energy were too difficult and/or lacked sufficient clarity. Therefore, it was proposed already in previous Programme Statements to discontinue these few indicators. Building on this experience, work is on-going to develop improved and better tailored indicators for CEF Energy as part of the Connecting Europe Facility 2021-2027.

For specific objective 4 to 6<sup>(15)</sup>, it is to be noted that the initial list of 248 energy infrastructure projects that are Projects of Common Interest (PCIs) is updated every two years. The selection of PCIs is an on-going process in order to cater for emerging projects geared to fulfil future needs. It is therefore of prime importance to indicate to which edition of the list indicator values refer to.

The success in awarding CEF Energy co-funding to numerous actions of the PCIs and its contribution to policy objectives of the TEN-E strategy may not be reflected yet in the indicators and results reported below due to the long implementation time of the grants for works for large and technically complex energy infrastructure projects. In addition to the long lead-time it takes before actual results will be reported, delays may occur for various reasons including securing sufficient co-funding (national or other sources), public procurement issues (e.g. complaints/appeals during tender procedures) as well as legal and environmental issues (e.g. permitting, spatial planning, other authorisations and land acquisition). Moreover, the reporting and monitoring on actual results will only be done with some delay once the project is closed after the final report has been received and assessed, the outputs verified and the final payment (if need be) performed.

A provision in the grant agreements requires project promoters to submit regularly an Action Status Report (ASR) to INEA. ASRs provide an overview on the technical and financial progress of the Action. In addition, PCIs are subject to yearly monitoring by national competent authorities and the Agency for the Cooperation of Energy Regulators (ACER) pursuant to Art. 5 of the TEN-E Regulation. This allows the Commission to monitor the PCIs progress and the implementation of the PCIs.

During the implementation of the programme 139 actions contributing to the implementation of PCIs were funded. This has significantly contributed to a better integrated EU energy market through strengthening cross-border connections aiming to end energy isolation and eliminate bottlenecks. CEF Energy also supports projects 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.

CEF Energy 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 and implement 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 energy tariffs would need to be increased substantially to cover the investment needs. The Celtic electricity Interconnector between Ireland and France and the Gas Interconnector Poland-Lithuania are examples of projects that could not have been funded in a purely national context.

The Actions supported by CEF Energy are progressing well. Only 3 Actions have been terminated since the beginning of the programme. The majority of the closed Actions demonstrated full technical completion and proven record of the contribution to the PCI implementation. In some cases, delays affecting the end date of the Action are however observed, notably, in gas Actions. Main reasons for the delays relate to procurement, permitting, public acceptance, regulatory and political issues.

Concerning the specific objective 4 Increasing competitiveness by promoting the further integration of the internal energy market and the interoperability of electricity and gas networks across borders, indicators 1<sup>(16)</sup> and 2<sup>(17)</sup> are based on the number of PCIs effectively contributing to the specific objectives. These have been monitored during the Programme implementation based on formal monitoring requirements for PCIs set out in the TEN-E Regulation (Art. 5, monitoring and implementation). Although their

<sup>(15)</sup> **Specific Objective 4:** Increasing competitiveness by promoting the further integration of the internal energy market and the interoperability of electricity and gas networks across borders;

**Specific Objective 5:** Enhancing Union security of energy supply;

**Specific Objective 6:** Contributing to sustainable development and protection of the environment, by the integration of energy from renewable sources into the transmission network and by the development of smart energy networks and carbon dioxide networks.

<sup>(16)</sup> The number of projects effectively interconnecting Member States' networks and removing internal constraints

<sup>(17)</sup> The reduction or elimination of Member States' energy isolation

evolution is only partly related to the CEF budget, these two indicators are kept until the end of the Programme and can be used ex-post.

Indicator 3 <sup>(18)</sup> lists the Member States that are above the 10 % interconnectivity target as mentioned in Recital 2 of the TEN-E Regulation. Although its evolution is only partly related to the CEF budget, this indicator has been monitored during the programme implementation. It measures the ratio of the cross-border transmission capacity and the installed generation capacity in a Member State. It can also be used ex-post. In 2019, 17 Member states are at or above the 10 % electricity interconnection. Two electricity interconnection projects are planned to be commissioned in 2020, therefore France and Italy may get closer to the target, however, unlikely exceed the 10 % threshold. PCIs contributing to this specific objective are progressing, but some face significant delays in particular at the permitting phase, often due to public opposition.

In the indicator screening exercise carried out in 2017, indicator 4 <sup>(19)</sup> has been ranked low by DG ENER in terms of relevance to the budget, relevance to the programme, results and data accessibility. For example, price convergence in the electricity or gas sector is not only determined by the level of cross-border capacity changes but also by market design issues for electricity whereas for gas it depends on diversification and access to liquid markets as well as on third-party access to major pipelines. Moreover, the contribution of each specific project cannot be singled out without in-depth network modelling analysis. DG ENER has also expressed that indicator 5 <sup>(20)</sup> relates more to security of supply and in addition is extremely difficult to measure. Notably the indicator in its current definition is not smart enough, as it lacks precision, is severely affected by seasonal changes in gas demand and would need to be applied to more than one pair of Member States, thereby resulting in many different values. Therefore, it is proposed to discontinue indicator 4 and 5.

Concerning the specific objective 5 Enhancing Union security of energy supply, it is important to note, that with the adoption of the third and fourth PCI lists, the number of gas PCIs has changed. On the current PCI list the number of gas PCIs has considerably decreased.

By the early 2020s, when the gas PCIs currently under implementation will be in operation, Europe should achieve a well-interconnected and shock-resilient gas grid and all Member States will have access to at least three gas sources or the global liquefied natural gas (LNG) market. 23 Member States will have access to the global LNG market with increasing liquidity which is a key element to improve the Union's energy security through the diversification of gas sources.

Indicator 1 <sup>(21)</sup> refers to the number of PCIs still to be commissioned supporting the objectives. The indicator has been monitored during the Programme implementation and it can also be used ex- post.

Indicator 2 <sup>(22)</sup> refers to natural gas storage only. Although its evolution is only partly related to the CEF budget, the indicator has been monitored during the programme implementation on the basis of the formal monitoring requirements for PCIs set out in the TEN-E Regulation (Art. 5, monitoring and implementation). The indicator can be also used ex-post.

Indicator 3 <sup>(23)</sup> is based on monitoring requirements set out in Regulation No (EU) 2017/1938 on the security of supply for gas, under which Member States have to report every two years to the Commission. The progress of the indicator is based on PCIs which are implemented. Although its evolution is only partly related to the CEF budget, it has been monitored during the Programme implementation. It can also be used ex-post.

Indicator 4 <sup>(24)</sup> contribute to the specific objective 6 only, not relevant for specific objective 5. The indicator is discontinued under the specific objective 5, but kept under the specific objective 6.

The progress of the indicator 5 <sup>(25)</sup> is related to the number of PCIs actually being implemented which allow diversification of supply sources. Although its evolution is only partly related to the CEF budget, the indicator 5 is monitored during the Programme implementation and was kept until the end of the Programme. It can also be used ex-post.

Indicator 6 <sup>(26)</sup> is a 'meta-level' indicator and it is not smartly defined to refer to the policy objectives of the TEN-E Regulation, as it is being affected also by market design issues. Additionally, there is no definition of what is 'optimal use', which anyway will be seen differently for electricity and gas infrastructure. It is therefore proposed to be discontinued.

Regarding the specific objective 6 Contributing to sustainable development and protection of the environment, by the integration of energy from renewable sources into the transmission network and by the development of smart energy networks and carbon dioxide networks, indicator 1 <sup>(27)</sup> is based on network modelling analysis rather than on actual progress of PCIs for which no intermediate data over the years are available (only 2020). It can only be measured ex-post.

<sup>(18)</sup> The percentage of electricity cross-border transmission power in relation to installed electricity generation capacity in the relevant Member States

<sup>(19)</sup> Price convergence in the gas and/or electricity markets of the Member States concerned

<sup>(20)</sup> The percentage of the highest peak demand of the two Member States concerned covered by reversible flow interconnections for gas

<sup>(21)</sup> The number of projects allowing diversification of supply sources, supplying counterparts and routes

<sup>(22)</sup> The number of projects increasing storage capacity

<sup>(23)</sup> System resilience, taking into account the number of supply disruptions and their duration

<sup>(24)</sup> The amount of avoided curtailment of renewable energy

<sup>(25)</sup> The connection of isolated markets to more diversified supply sources

<sup>(26)</sup> The optimal use of energy infrastructure assets

<sup>(27)</sup> The amount of renewable electricity transmitted from generation to major consumption centres and storage sites

Indicator 2 <sup>(28)</sup> has a number of limitations, as it is based on network modelling analysis rather than on actual progress of PCIs for which no intermediate data over the years are available. It can only be measured ex-post.

Indicator 3 <sup>(29)</sup> was changed during the implementation of the programme. The demand response enabled by smart grid projects can be measured only ex- post and should not be mixed up with the number of PCIs supported by CEF. This part of the indicator has been discontinued. The number of smart grid projects supported by CEF, and that will be commissioned by 2020 was monitored during the Programme implementation.

Indicator 4 <sup>(30)</sup> is based on network modelling analysis rather than on actual progress of PCIs for which no intermediate data over the years are available (only 2020). It can only be measured ex-post.

**TELECOM**

CEF Telecom supports the deployment of trusted cross-border digital service infrastructures (hereby referred to as ‘DSIs’) essential to trigger the digital transformation of public sector services in the Member States all for the benefits of citizens and businesses. DSIs are developed and operated through two main parallel investments. The ‘Core Service Platforms’ (CSP) are owned by the European Commission and are funded mostly via procurement contracts while ‘Generic Services’ (GS) are implemented via grants. The CSP are the central hubs that provide, for each digital service, trans-European connectivity, access and interoperability. GS on the other hand, are the links between the nationally developed solutions and the CSP.

Investment in the **core service platforms** covered their development, operation evaluative maintenance and upgrade. With an overall investment of almost EUR 200 million in the core service platforms, the Commission is enabling EU wide interoperability of specific services such as the Electronic Exchange of Social security information between Member States. The Core service platform of eHealth DSI enabled the interoperability and cross border use of ePrescription and eDispensation, as well as the exchange of Patient Summaries. In the Justice area it made possible the interconnection of Business Registers enabling citizens, businesses and public administrations to find in a single point information on companies and their subsidiaries opened in other Member States. And these are only a few examples.

The uptake of these services (supported through grants for **Generic Services**) in the Member States and EEA participating countries was reaching by the end of 2019 a portfolio of 500 projects most of them still under implementation. The first ‘harvest’ of projects closed allows however the identification of a set of success stories already (see section key achievements). These results suggest that the programme is on track to deliver on its objectives. With an EU contribution of almost 300 million and an overall leveraged amount of more than 400 million EUR, the ecosystem of CEF digital services is supporting European citizens, businesses and public administrations to interconnect and adapt their systems to become interoperable cross border. CEF investment in Generic Services is an effective incentive for achieving critical mass. The wide uptake of these services however needs to be complemented with further investments from the Member States. The benefits of the solutions supported by CEF are also confirmed by the further uptake activities identified in the Member States even beyond CEF support.

As highlighted in the CEF mid-term evaluation, in the case of some DSIs, like Electronic Exchange of Social Security Information or Online Dispute Resolution, EU Regulations and Directives require their deployment, and CEF Telecommunications is providing an essential incentive for speeding up this process and important financial support for the Member states to become compliant. Other DSIs like Cybersecurity, enable mechanisms to be used by Member States on a voluntary basis, by promoting actions that most likely would have not been carried out at EU scale without CEF support.

The deployment of DSIs has been marked by a considerable expansion of the ecosystem, passing from 8 to 20 DSIs supported in the last Work Programme. In effect, the programme started supporting the interoperability in a limited set of areas such as eGovernment, Cybersecurity and cultural sector. Over the years, the programme started enabling through various solutions the interoperability also in other areas such as health, justice, social security, education and skills to name a few. I practice this meant that CEF has supported and enabled the interoperability of EU businesses, citizens and public administrations in more and more sectors. Another important element marking the pace of implementation of the digital projects under CEF Telecom is the readiness for uptake in the Member states. In effect, the grants do not target the capacity building. CEF Generic Services fund of the link between the nationally developed infrastructures to the EC owned hub that enables the interoperability. This means in practice that the uptake actions are highly dependent on the readiness of the Member State to become interoperable in the areas supported by CEF DSIs (i.e. having the national solution in place).

**General objectives**

**General Objective 1:** Developing modern and high-performing trans-European networks and creating an environment more conducive to private, public or public-private investment

<b>Indicator 1:</b> Volume of private, public or public-private partnership investment in projects of common interest								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target

<sup>(28)</sup> The amount of avoided curtailment of renewable energy  
<sup>(29)</sup> The number of deployed smart grid projects which benefited from the CEF and the demand response enabled by them  
<sup>(30)</sup> The amount of CO2 emissions prevented by the projects which benefited from the CEF

	Milestones foreseen							End of programme
Transport:							34 277	49 265
	Actual results							
	807	2 140	5 332	9 937	15 746	24 035		
	Milestones foreseen							End of programme
Energy:							3 658	7 902
	Actual results							
	19	170	328	543	1 114	2 369		
	Milestones foreseen							End of programme
Telecom:							423	423
	Actual results							
	22	91	180	276	402	423		
	Milestones foreseen							End of programme
Total:							38 359	57 590
	Actual results							
	849	2 401	5 840	10 756	17 263	26 827		

Narrative: Target: After 2020

Comment: The data measure total investment (i.e. eligible costs) for all signed CEF grant agreements (i.e. data do not measure overall investments in the entire TEN-T network, to which various other actors – including Member States, structural funds and private sector – contribute).

Source: INEA – Costs correspond to the latest available information (grant agreements and Action Status Reports) for CEF Transport/Energy actions. Costs are attributed to the year in which they have been, or are expected to be, incurred. For CEF Telecom no yearly split is available, costs have been assigned to the year of signature of the grant agreement. For CEF Telecom lump sum actions, the EU contribution was considered as costs. For CEF Synergy the costs have been allocated under Transport and Energy sector based on the activity sectors. The costs are indicated in EUR million and cumulated over the years.

Unit of measure: EUR million

**Indicator 2: Volume of private investments in projects of common interest achieved through the financial instruments under the CEF Regulation**

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							2022
Transport: 0				400	500	1 700	2 600	2 600
	Actual results							
	0	0	375	611	206	20 635		
2013	Milestones foreseen							2022
Energy: 0							up 2 100	5 000-10 000
	Actual results							
	0	0		700	5 000	5 000		

Comment: The payment to the European Investment Bank covers the contribution to a Green Shipping Guarantee Programme, established under the CEF Debt Instrument. The Green Shipping Guarantee Programme, which will be rolled out under the CEF Debt Instrument and European Fund for Strategic Investments, is expected to finance EUR 3 billion of investments. The payment of 2017 refer to the projects: Port Of Cork – Ringaskiddy Port Development and HAFEN LINZ TENINFRASTRUKTUR.

The target 2020 for Energy includes the projected CEF Debt operation in the energy sector and TEN-E projects completed with the financing mobilised under EFSI to which CEF contributed financially [e.g. BRUA project, TAP].

For the digital sector, the take-up of the Financial Instruments under CEF is slower than expected due to implementation of the European Fund for Strategic Investments and some Public Private Partnership projects being financed from appropriations under the 2007-2013 period. This corresponds to the private investor contribution to the Connected Europe Broadband Fund. Please refer to comment under Specific Objective 8.

**Indicator 3: Volume of private investment in fast and ultra-fast broadband internet**

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
	Milestones foreseen							2020
							500 (public + private)	At least a third of the expected 1 000-1 700
	Actual results							
	0	0	0	0	0	0		

Narrative: Target: Projection of private investment between 2011 and 2020

Comment: Estimate based on the structure of the investment platform, pooling resources from private and public resources, as well as on the investment guidelines with foresee minority stake participation at project level. This corresponds to the private investor contribution to the Connected Europe Broadband Fund. Please refer to comment under Specific Objective 8.

<b>Indicator 4: Volume of public and private investment in projects of common interest for fast and ultra-fast broadband internet funded by CEF</b>								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							2020
Private investments: 0	189	0	0		Telecom: 200-340 private investor contribution at Fund or at project level (CEBF)	26	500 (public + private)	189
	Actual results							
	0	0	0	100 CEF contribution committed to the fund, whose launch is foreseen for 2018.	Fund launched only in June 2018 with first project financed in January 2019.	3 projects signed for commitments up to EUR 90 million		
2013	Milestones foreseen							2020
Public investments: 0	189	0	0	Expected 100 CEF contribution next to 290 other public funds to create an Equity Fund		26	390	390
	Actual results							
	0	0	0	100 CEF contribution committed to the fund, whose launch is foreseen for 2018.	Fund launched only in June 2018 with first project financed in January 2019.	3 projects signed for commitments up to EUR 90 million		

Narrative: Target: Private investments raised by Axione project, financed under the project bond pilot and now incorporated in the CEF portfolio. Public funds target (EU, EIB, NPBI) plus expected 1 000-1 700 plus private investment

Comment: Please refer to comment under Specific Objective 8.

Unit of measure: EUR million

**General Objective 2:** To enable the Union to achieve its sustainable development targets of a minimum 20 % reduction of greenhouse gas emissions compared to 1990 levels, a 20 % increase in energy efficiency and raising the share of renewable energy to 20 % by 2020

<b>Indicator 1: Reduction of greenhouse gas emissions</b>								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2008	Milestones foreseen							2030
Transport: 1 101							338	881
	Actual results							
	1 020	1 051	1 079	1 093	1 097			
2013	Milestones foreseen							Long term target
Energy: 19 %							20 %	20 %
	Actual results							
	23 %	22 %	23 %	23 %	20 %			



Narrative: Baseline: 846 Mt CO<sub>2</sub> eq. (1990)

Target: Transport: 881 Mt of CO<sub>2</sub> eq. (level in 2030) (20 % reduction by 2030 compared to 2008)

Comment: PM 2.5 – the latest available data measurements for transport (excluding aviation cruise and international shipping) are – 2008-2015: – 34.5 %; The latest data available on greenhouse gas emissions statistics for transport, including international aviation, published by the European Environmental Agency based on the data sent by countries to the UNFCCC and the EU Greenhouse Gas Monitoring Mechanism (EU Member States) is for 2017.

Availability of Data: 2019: Not yet available

Source: European Environment Agency

Unit of measure: Million tonnes CO<sub>2</sub> equivalent

Indicator 2: Increase in energy efficiency								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
	Milestones foreseen							2020
Transport:	Actual results							
		0.4 % below the final energy consumption target of 1 086 Mtoe	2 % above the final energy target of 1 086 Mtoe for 2020	3.3 % above the final energy consumption target of 1 086 Mtoe				
	2013	Milestones foreseen						
Energy:	Actual results							20 %
		3.1 % above the 2020 target for the primary energy consumption of 1 483 Mtoe	4 % above the target for primary energy consumption of 1483 Mtoe	5.3 % above the target for primary energy consumption of 1 483 Mtoe			20 %	

Narrative: Milestones: Energy: Commission’s Report on Member States’ progress towards their indicative targets for 2020 (COM(2017) 687) published in November 2017.

Energy: In 2014 the EU was already 2.2 % below the final energy consumption target of 1 086 Mtoe for 2020, but still 1.6 % above the 2020 target for primary energy consumption of 1 483 Mtoe.

Comment: This indicator is defined according to the Energy Efficiency Directive 2012/27/EU, applicable to the EU overall economy. Transport contributes without a specific sectoral target, as mentioned in the Connecting Europe Facility Regulation (EU) No 1316/2013. Baseline is PRIMES 2007 in 2020, which includes policies to be implemented up to 2006 with an oil price of EUR 56.83 per barrel and reference year 2005. Calculated as Gross Inland Consumption minus Final Non-Energy Use Consumption. It is to be noted that the data are collected with a value n-2 (e.g.: data for 2018 will be available in 2020 after summer). NOTE: The CEF will be contributing to this target but CEF is not the key driver. Main drivers for attaining the energy efficiency targets are the legislation in the energy efficiency field, namely the Energy Efficiency Directive (EED), the Energy Performance of Building Directive (EPBD), Labelling and Ecodesign and national policies/programmes.

Availability of Data: 2018 & 2019: Not yet available

Source: Eurostat, Commission studies.

Unit of measure: Mtoe (Metric tonnes of CO<sub>2</sub> or equivalent)

Indicator 3: Share of renewable energy								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2010	Milestones foreseen							2020
Transport: 4.80 %	Actual results							10.00 %
							10.00 %	
	5.90 %	6.00 %		7.56 %	8.30 %			
2014	Milestones foreseen							2020
Energy: 16.00 %	Actual results							20.00 %
		16.40 %	17.04 %	17.50 %	18.00 %			

Comment: The CEF will contribute to this target but it is not the key driver. The share of renewables in energy use in transport is derived according to the definition set in the Renewable Energy Directive 2009/28/EC. Commission’s Renewable Energy Progress Report (COM(2017) 57 final) adopted on 1/2/2017.

Energy:

– RES in final energy consumption Trajectory with interim targets contained in Annex 1b of Dir. 2009/28/EC: 2011/2012: 10.8 %; 2013/2014: 12 %; 2015/2016: 13.7 %; 2017/2018: 16 June 2015: Commission’s Renewable energy progress report (COM(2015) 293 final)

– RES in final energy consumption Trajectory with interim targets contained in Annex 1b of Dir. 2009/28/EC: 2011/2012: 10.8 %; 2013/2014:

12 %; 2015/2016: 13.7 %; 2017/2018: 16 % April 2019: Commission's Renewable energy progress report (COM(2019) 225 final)

Availability of Data: 2019: Not yet available

Source: Eurostat. Eurostat Shares Survey – press release of 23 January 2020 <https://ec.europa.eu/eurostat/documents/2995521/10335438/8-23012020-AP-EN.pdf/292cf2e5-8870-4525-7ad7-188864ba0c29>.

**Specific objectives**

**Specific Objective 1:** Removing bottlenecks, enhancing rail interoperability, bridging missing links, and improving cross-border sections

**Performance**

Specific objective 1. These projects currently correspond to EUR 17.7 billion of EU contribution and their overall financial progress by the end of 2019 is estimated to be 47 %. Changes to the initial implementation plans have occurred for several projects with 188 formal amendments signed for 160 projects. In line with the overall framework set by DG MOVE, 140 projects have been extended (on average 18 months) and for 71 projects the funding was reduced. Overall, freed appropriations of EUR 2.3 billion are reinjected via new Calls for Proposals.

Indicator 1: The number of new or improved cross-border connections								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							End of programme
Number of bottlenecks on cross-border connections (new or improved) which are expected to be addressed by the actions for which CEF grants were awarded: 0	Actual results							82
	0	0	0	1	1	2		
2013	Milestones foreseen							End of programme
Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for achieving this indicator:	Actual results							1 704 205
	328	4 408	12 633	25 835	42 744	65 674	1 008 149	

Methodology: Costs are cumulated over the years.

Narrative: Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for achieving this indicator.

Source: INEA

Unit of measure: Number of bottleneck and in EUR million respectively.

Indicator 2: Km of lines in service equipped with the European Railway Traffic Management System (ERTMS), linked to TEN-T								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							End of programme
Km of track-side to be equipped with ERTMS through actions funded by CEF grants (double-track equivalent): 5 000	Actual results							6 537
					30	30	40	
2013	Milestones foreseen							End of programme
Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator:	Actual results							15 551
	25	184	499	1 185	2 114	4 145	7 191	

Methodology: Costs are cumulated over the years.

Narrative: Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for achieving this indicator.

Comment: According to the Commission Staff working document on the state of play of the implementation of the ERTMS Deployment Plan (published 14.2.2014).

Source: INEA

Unit of measure: Km and EUR million respectively

**Indicator 3:** The number of removed bottlenecks and sections of increased capacity for all modes on core network corridors which have received funding from the CEF

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							End of programme
Number of bottlenecks addressed/to be addressed by CEF grants:	Actual results							306
			2	8	17	58	182	
2013	Milestones foreseen							End of programme
Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator:	Actual results							370 125
	5 959	14 263	3 577	67 491	110 336	167 682	243 894	

Methodology: Costs are cumulated over the years.

Narrative: The bottleneck is considered to have been addressed in the year during which the action was/is expected to be completed.

Source: INEA

Unit of measure: Number of bottleneck and in EUR million respectively.

**Indicator 4:** The length of the inland waterway network by class in the Union

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							End of programme
Km by Inland Waterway (IWW) class to be upgraded by CEF grants: 95.2	Actual results							2 822
				1	2	186	1 931	
2013	Milestones foreseen							End of programme
Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator:	Actual results							224 316.0
	168.0	768.0	2 366.0	3 862.0	5 885.0	859.0	13 126.0	

Methodology: Results are cumulative over the years.

Narrative: Km by Inland Waterway (IWW) class to be upgraded by CEF grants. The upgrade is attributed to the year in which the CEF funded action is expected to be completed.

Source: INEA

Unit of measure: Km

**Indicator 5:** The length of the railway network in the EU-28 upgraded following the requirements set out in Article 45 (2) of Regulation (EU) No 1315/2013

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							End of programme
Total Gauge: –Freight only:	Actual results							1 158
	0	0	0	9	37	60	675	

18 073km –Passenger only: 14 674km –Mixed lines: 34 484km				9	22	22		
2013	Milestones foreseen							End of programme
Total Electrification: –Freight only: 18 073km –Passenger only: 14 674km –Mixed lines: 34 484km					51	350	1 501	2 055
Actual results								
				9	22	40		
2013	Milestones foreseen							End of programme
Total Freight: –Freight only: 18 073km –Passenger only: 14 674km –Mixed lines: 34 484km				9	150	153	1 577	2 743
Actual results								
				9	22	40		
2013	Milestones foreseen							End of programme
Total of currently estimated costs: –Freight only: 18 073km –Passenger only: 14 674km –Mixed lines: 34 484km							117 597	197 674
Actual results								
	3 165	6 643.0	13 457	26 031	4 410	72 778		

Methodology: The upgrade is attributed to the year in which the CEF funded action has been completed. Results are cumulated over the years.

Source: INEA

Unit of measure: Km

**Indicator 6:** Setting up of the core network corridors structures with designation of Coordinators, creation of Corridor Forums and approval of work plans

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
	Milestones foreseen							2020
Core network corridors:				3rd Work Plans (Compliance & Mapping and decarbonisation and climate change adaptations)			4th Work Plans (Compliance & Mapping and decarbonisation and climate change adaptations)	4th work plan
	Actual results							
		1st Work Plans agreed (May 2015)	2nd Work Plans adopted and approved by all Member States	Preparation of 3rd Work Plans	3rd Work Plans adopted and approved by all Member States	preparation of 4th work plan		
	Milestones foreseen							2020
Approval of work plans:				3rd Work Plans (Compliance & Mapping and decarbonisation and climate			4th Work Plans (Compliance & Mapping and decarbonisation and climate	4th work plan

				change adaptations)			change adaptations)	
Actual results								
	1st Work Plans agreed (May 2015)	2nd Work Plans adopted and approved by all Member States	Preparation of 3rd Work Plans	3rd Work Plans adopted and approved by all Member States	preparation of 4th work plan			

Narrative: Baseline: No corridor existing

**Specific Objective 2:** Ensuring sustainable and efficient transport systems in the long run, with a view to preparing for expected future transport flows, as well as enabling the decarbonisation of all modes of transport through transition to innovative low-carbon and energy-efficient transport technologies, while optimising safety

**Performance**

163 CEF Transport projects are contributing to specific objective 2. These projects currently correspond to EUR 0.9 billion of EU contribution and their overall financial progress by the end of 2019 is estimated to be 44 %. Changes to the initial implementation plans have occurred for several projects with 63 formal amendments signed for 55 projects. In line with the overall framework set by DG MOVE, 43 projects have been extended (on average 13 months) and for 10 projects the funding was reduced. Overall, freed appropriations of EUR 54 million are reinjected via new Calls for Proposals. For additional explanations on how to interpret the indicator results of this specific objective, please refer to the general note in the ‘Programme performance’ section above

**Indicator 1:** The number of supply points for alternative fuels for vehicles using the TEN-T core network for road transport in the EU-28

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							End of programme
Total: Number of supply points for the alternative fuels to be set-up by CEF grants. Baseline (2012) data Electric public recharging points: 10 250 CNG refuelling stations: 2 800 LNG road refuelling stations: 23 Hydrogen refuelling stations: 90	Actual results							12 933
			9	254	677	1 130	3 224	
2013	Milestones foreseen							End of programme
LPG:	Actual results							51
			0	0	11	51	51	
2013	Milestones foreseen							End of programme
CNG: 2 800	Actual results							421
			0	3	48	71	166	
2013	Milestones foreseen							End of programme
LNG: 23	Actual results							236
			0	4	26	47	148	
2013	Milestones foreseen							End of programme
Hydrogen: 90	Actual results							122
			0	0	0	3	58	

2012	Milestones foreseen						End of programme	
Electric: 29 800			9	247	592	958	2 801	12 103
	Actual results							
			9	247	285	370		
2013	Milestones foreseen						End of programme	
Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator:							1 644	21 607
	Actual results							
	5	159	755	1 729	361	10 246		

Methodology: Costs and results are cumulated over the years.

Narrative: Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator.

Source: Source INEA: Foreseen milestones are expected results by still ongoing CEF actions. Each supply point is assumed to be operational in the year in which the CEF funded action has been completed. A CEF-funded action can include several supply points. The number of supply points is attributed to the year when the full action defined in the grant agreement has been completed (e.g. if a grant stipulates the creation of 100 supply points, the action is only considered as completed in the year when all 100 supply points have been set up. All the 100 supply points are then attributed to that year, even if most of them had already been set up in previous years).

Unit of measure: Investments: EUR million

**Indicator 2:** The number of inland and maritime ports of the TEN-T core network equipped with supply points for alternative fuels in the EU-28

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen						End of programme	
Maritime port equipped with alternative fuel supply points by CEF grants: 1	0				3	9	15	25
	Actual results							
	0	0	0	0	1	1		
2013	Milestones foreseen						End of programme	
Inland port equipped with alternative fuel supply points by CEF grants: 1	0					2	8	11
	Actual results							
	0	0	0	0	0			
2013	Milestones foreseen						End of programme	
Maritime ports: estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator:							575	7 481
	Actual results							
	7	88	341	658	127	3 319	0	
2013	Milestones foreseen						End of programme	
Inland port: estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator:							887	1 055
	Actual results							
			6	15	76	413	0	

Methodology: Costs are cumulated over the years.

Narrative: Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator. Inland and maritime ports to be equipped with alternative fuel supply points by CEF grants. The ports are considered to be equipped with supply points in the year in which the CEF funded action is expected to be completed.

Source: INEA

Unit of measure: Investments: EUR million

**Indicator 3:** Number of fatalities in road transport accidents

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2010	Milestones foreseen							2020
31 500				19 000			≤ 15 750	≤ 15 750
	Actual results							
	26 000	26 100	25 600	25 300	25 100	24 700		

Comment: CEF is not directly contributing to this target.

Availability of Data: 2019: data estimated, Final data is not available before May 2020

Source: EC DATA [https://ec.europa.eu/commission/presscorner/detail/en/MEMO\\_19\\_1990](https://ec.europa.eu/commission/presscorner/detail/en/MEMO_19_1990)

**Specific Objective 3:** Optimising the integration and interconnection of transport modes and enhancing interoperability of transport services, while ensuring the accessibility of transport infrastructures

**Performance**

268 CEF Transport projects are contributing to specific objective 3. These projects currently correspond to EUR 2.9 billion of EU contribution and their overall financial progress by the end of 2019 is estimated to be 69 %. Changes to the initial implementation plans have occurred for several projects with 123 formal amendments signed for 101 projects. In line with the overall framework set by DG MOVE, 75 projects have been extended (on average 13 months) and for 30 projects the funding was reduced. Overall, budgetary reflows of EUR 175 million are reinjected via new Calls for Proposals. For additional explanations on how to interpret the indicator results of this specific objective, please refer to the general note in the ‘Programme performance’ section above

**Indicator 1:** The number of multimodal logistic platforms, including inland and maritime ports and airports, connected to the railway network

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2012	Milestones foreseen							End of programme
Entire TEN-T network: Maritime ports connections:								
	Actual results							
2012	Milestones foreseen							End of programme
CEF grants: Airports connections: 0				3	5	6	8	9
	Actual results							
	0	0	0	3	5	5		
2012	Milestones foreseen							End of programme
CEF grants: inland port: 0					1	2	5	5
	Actual results							
	0	0	0	0	1	1		
2012	Milestones foreseen							End of programme
CEF grants: maritime port: 0					1	2	9	16
	Actual results							
	0	0	0	0	1	1		
Milestones foreseen								End of programme
Total of currently estimated costs:							6 541	8 321
	Actual results							
	139	422	1 207	2 412	3 871	5 242		

Comment: This indicator is to be discontinued. Data can be provided only for CEF not for the entire TEN-T network.

Source: INEA

**Indicator 2:** The number of new or improved rail-road terminals

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
	Milestones foreseen							End of programme
Improved rail-road terminals:						3	7	9
	Actual results							

	0	0	0	0	0	1		
	Milestones foreseen							End of programme
New rail-road terminal:	Actual results							6
	0	0	0	0	0			
	Milestones foreseen							End of programme
Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator:	Actual results							3 981
	2	5	209	714	1 065	1 718	2 419	

Methodology: Costs are cumulated over the years.

Narrative: Rail road terminals to be connected to the rail network (new or improved) by CEF grants. The terminals are considered to have been realised in the year in which the CEF funded action is expected to be completed.

Source: INEA

Unit of measure: Investment sub indicator: In EUR million

<b>Indicator 3: Number of improved or new connections between ports through motorways of the sea</b>								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
	Milestones foreseen							End of programme
Number of connections to be improved or newly created by CEF grants:	Actual results							29
	0	0	4	11	13	17	25	
	Milestones foreseen							End of programme
Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator:	Actual results							847
	397	1 359	2 483	3 725	4 754	6 617	7 982	

Methodology: Costs are cumulated over the years.

Source: INEA

Unit of measure: Investment sub indicator: In EUR million

<b>Indicator 4: The number of kilometres of inland waterways fitted with RIS</b>								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
	Milestones foreseen							End of programme
Number of kilometres of inland waterway financed with CEF grants:	Actual results							847
				192	570	757	847	
	Milestones foreseen							End of programme
Estimated total private, public or public-private partnership investment (i.e. eligible costs) triggered by CEF funding in a given year for actions achieving this indicator:	Actual results							19
	1	6	61	152	185	19		

Methodology: KM of IWW fitted with RIS by CEF grants. Results are attributed to the year in which the CEF funding action is due to be completed. Results are cumulated over the years.

Narrative: Indicator to be discontinued



Comment: Sub indicators: Coverage with ENC for Class Va+ waterways, Coverage of class Va+ waterways equipped with shore based inland AIS infrastructure, Commercial vessels equipped with inland AIS, Electronic reporting for BtA and AtA Communication are discontinued as CEF did not support such investments  
Source: INEA

Indicator 5: Synchronisation of the deployment process of SESAR related technology								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							End of programme
	- Adoption of the first common project - Appointment of the SESAR Deployment Manager (DM) by the Commission - first CEF call for proposals for SESAR implementation projects	- Awarding of grants to 1st batch SESAR implementation projects - CEF call for proposals (General & cohesion envelopes) for SESAR implementation projects - Specific grant agreement with the DM	- Awarding of grants to 2nd batch of SESAR implementation projects - Approval of revised deployment programme - Specific grant agreement with the DM	Approval of revised Deployment Programme – Awarding of grants to SESAR implementation projects.	Approval of revised Deployment programme – Awarding of grants to of SESAR projects	Finalisation of the Commission’s assessment of the DM’s proposal for the Pilot Common Project Review (Article 6 of Reg. (EU) 716/2014).	Deployment of SESAR ATM solutions included in the Pilot Common Project	
	Actual results							
	- Pilot common project adopted (Reg. (EU)716/2014) - DM appointed on 5/12/2014 - CEF Call launched 9/2014	- DM coordinates proposals under 2014 CEF call – EUR 318 million awarded from CEF to SESAR implementation projects - SGA signed with the DM - CEF Call for proposals launched on 11/9/2015	- DM coordinates proposals under 2015 CEF call – additional EUR 525 million awarded from CEF to SESAR implementation projects - Approval of the 2015 Edition of the Deployment Programme – 2nd and 3rd Specific Grant Agreement signed with DM	SESAR DM and Commission services discussed the proposal for an update of the Deployment Programme. CEF grants awarded to SESAR implementation projects following the 2016 CEF call for proposals.	2018 Edition of the SESAR Deployment Programme approved (C(2018)8560). CEF Grants awarded to a new cluster of SESAR implementation projects (CEF 2017 SESAR dedicated call for proposals). DM coordinates 349 projects relating to the Pilot Common Project (PCP) implementation projects received EUR 1.35 billion from CEF. 71 % of the PCP deployment activities were either completed or in progress of which 24 % completely implemented (92 projects).	The Commission finalised the review of the pilot common project. It is preparing a legislative proposal establishing a new common project on the basis of the results of the review that is expected to be adopted at the end of 2020. As of 2019, 8 actions including 349 projects relating to the Pilot Common Project (PCP) were awarded CEF co-funding for a total value of EUR 1.35 billion (since 2014) for a total investment of EUR 2.94 billion. The SESAR deployment manager coordinates these projects. Which involve 94 entities from 27 Member States and 5 third countries. By the end of 2019, 118 projects were completed. 100 of them entered in operations delivering benefits to the European air traffic network in terms of reducing flight delays (363 000 minutes saved). Reduced fuel consumption (38 000 tons of CO2 saved) and reduced flight time (738 00 minutes saved). No new grants were awarded for the PCP in 2019. But a new call for proposals focussing on ‘implementing interoperability of flight data processing systems’ was launched.	Deployment of SESAR ATM solutions included in the Pilot Common Project	

Narrative: The SESAR development phase is delivering essential ATM solutions that require a synchronised deployment in the European ATM network.

A SESAR deployment framework was established in 2013 (Reg. (EU)409/2013) to ensure the timely and synchronised deployment of SESAR Solutions. The framework and its instruments shall be set up and activated throughout the 2014-2020 timeframe

Comment: A SESAR deployment framework was established in 2013 (Reg. (EU)409/2013) to ensure the timely and synchronised deployment of SESAR Solutions. The framework and its instruments shall be set up and activated throughout the 2014-2020 timeframe. Indicator number 5 as foreseen by article 4.2 (c) (iv) of the CEF Regulation has been divided in three table to facilitate reading by sector. Work is undertaken to complement by 2017 this indicator with a numerical indicator corresponding to the percentage of ‘SESAR ATM solutions (included in the Pilot Common Project) deployed’, based on the reported progress by the implementing stakeholders of the SESAR Deployment Programme.

**Indicator 6: Kilometres of roads covered by (real-time) Traffic Information Services or equipped for (dynamic) Traffic Management, including speed related ITS services (Variable Message Signs or equivalent means)**

Comment: DG MOVE has been working with Member States over the past two year to identify new KPIs for ITS. An external study was conducted to identify the most promising KPIs, followed by consultations with Member States’ experts and discussion in the ITS Committee in 2016, to finalise a list of deployment and benefit KPIs, as well as financial indicators. A list of KPIs has been drawn up, which Member States have been asked to use in their reporting exercise under the ITS Directive. The first national ITS reports including these KPIs, on a voluntary basis, were delivered in 2017-2018. Only part of the Member States (40 % of MS + Norway) provided figures for KPIs, at least partially. Although not optimal, this allows to draw some conclusions for the contributing countries, at least regarding deployment: a very high level of coverage of information gathering infrastructure and of real-time traffic and freight information services on the TEN-T road network, a more limited coverage for other services. Benefit and financial KPIs were reported less frequently, which was to be expected as this information may need more investigations and/or data collection over a longer period. The Commission published on 8th October 2019 the analysis of the Member States’ reports, including a detailed analysis of the KPIs provided (see pp. 34-39 as well as individual figures in Annex I, of the report <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52019SC0373&from=EN>). Next national ITS reports are due by end of August 2020.

**Indicator 7: The level of deployment of VTMS**

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							End of programme
100 000 000		Nearly all commercial vessels equipped with inland AIS (app. 11.750 vessels)		VTMIS Increase by 10 %			VTMIS Increase by 20 %	VTMIS: Increase by 20 %
	Actual results							

Narrative: This indicator is no longer relevant. It confuses AIS and VTMS. AIS is stipulated in the VTMS Directive in two main ways – Carrier requirement (implementing the IMO requirements) and receiver requirements. The latter has been fulfilled for years as all MS with a coast have set up receivers and hence coverage along the EU coasts. The carrier requirements of AIS is based on the level of new vessels entering the market and sailing on EU ports. This in turn depends on overall economic factors and the world economy (imports/exports). For the moment there is a stagnation in new vessels entering the market due to the economic downturn. VTMS use, meaning the use of the Integrated Maritime Services and the 2 new reporting messages into the system, Security and Waste, apart from the already required Port plus message, has brought about an increase in the use of the reporting going into the system, probably exceeding 10 %.

Source: PLATINA 7RFP research project.

Unit of measure: AIS (Automatic Identification System) positions recorded per month

**Expenditure related outputs**

In order to align the reporting on the expenditure related outputs between Transport, Energy and Telecommunications, the outputs have been defined as ‘grants awarded’ or ‘expected to be awarded’ per budget line. Reporting for the forthcoming year on a specific priority/ project is approximate, as the grant agreements are allocated based on the competitive selection and award procedure.

The amounts are already allocated on the multi-annual basis to the specific projects, they are reported in this table as ‘grants awarded’. The number related to the annual work programme (AWP) for financial instruments corresponds to the expected number of operations that the appropriations available under the AWP could support.

Outputs	Budget line	Budget 2020	
		Number (foreseen)	EUR
Allocation to the grants from the 2014-2020 call for proposals under Multi Annual Working Programme Transport	06 02 01 01	155	1 760 069 805
Allocation to the grants from the 2014-2020 call for proposals under Multi Annual Working Programme Transport	06 02 01 02	105	333 547 370
Allocation to the grants from the 2014-2020 call for proposals under Multi Annual Working Programme Transport	06 02 01 03	180	450 642 618
Allocation to the grants from the 2014-2020 call for proposals under Multi Annual Working Programme Transport	06 02 01 04	170	1 774 181 625
Allocation to the Financial Instruments projects	06 02 01 05*	0	0
<b>Programme Support Actions 2020 (all lines) Art 5(2)(a) in the Multi annual Work</b>			

<b>Programme</b>		
<b>Total</b>		<b>4 318 441 418</b>

Outputs	Number of outputs foreseen (F) and produced (P)						
	2014	2015	2016	2017	2018	2019	2020
First call for proposals (2014) under Multi Annual and Annual Work Programmes for Transport C(2014) 1919 and C(2014) 1921: number of grant agreements signed	F						
	P		263 grants agreements signed for multi annual financing				
Second call for proposals (2015) under the Multi Annual Work Programme C(2014) 1921 as amended: number of grant agreements signed	F						
	P			189 grant agreements signed			
Third call for proposals under the Annual and Multi Annual Work Programmes C(2016) 6380 and C(2014) 1921 as amended: expected number of grant agreements	F			130			
	P			122			
Annual call 2016 under the Annual Work Programme C(2016) 1778: transport- energy synergy call	F			8			
	P			7			
Annual Call 2016	F			45			
	P			28			
Annual Call 2016 Rail Noise	F						
	P						
Annual instalment to the Financial Instruments Work Programme 2014	F						
	P			1**			
Annual instalment to the Financial Instruments Work Programme 2015	F						
	P		0				
Annual instalment to the Financial Instruments Work Programme 2016	F			2			
	P						
Multi Annual Call 2017 Blending – 1	F				39		
	P				39		
Multi Annual Call 2017 Blending – 2	F				47		
	P				33		
Multi Annual Call 2017 SESAR	F				19		
	P				14		
Multi Annual Call 2018	F				84		
	P				67		
Annual Call 2019	F					39	
	P					39	

\*An output is a call for proposals under a multi-annual work programme (MAWP) for grants or an annual work programme for financial instruments. ‘Number’ corresponds to the foreseen number of grants (for studies and for works) to be attributed following evaluation of a call for proposals.

\* The total number of grants for the Synergy Call cannot be split between transport and energy. The total is therefore reported under both sectors.

\*\* For Financial Instruments, the first Green Shipping Guarantee was signed in 2016. EUR 37.5 million and EUR 23.6 million were paid to the EIB in 2016 and 2017. The EIB has presented a provisional pipeline for additional transactions to be signed in 2019.

**Specific Objective 4:** Increasing competitiveness by promoting the further integration of the internal energy market and the interoperability of electricity and gas networks across borders

**Performance**

For additional explanations on how to interpret the indicator results of this specific objective, please refer to the general note in the ‘Programme performance’ section above.

<b>Indicator 1:</b> The number of projects effectively interconnecting Member States’ networks and removing internal constraints								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2017	Milestones foreseen							2020
173					30	38	40	40

	Actual results						
				12	30	38	

Narrative: In 2017-2019: 106 electricity transmission and storage, 4 smart grid deployment, 53 gas, 6 oil, 4 cross-border carbon dioxide network.

Indicator 2: The reduction or elimination of Member States' energy isolation								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							2020
9					9	8	6	6
	Actual results							
				9	8	8		

Comment: While the challenges remain important for peripheral or isolated Member States, by implementation of several projects of common interest the isolation is reduced in several parts of the EU (The Commission Staff working Document (C(2019)7772).

Indicator 3: The percentage of electricity cross-border transmission power in relation to installed electricity generation capacity in the relevant Member States								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2012	Milestones foreseen							2020
16	16				17		24	24
	Actual results							
	17			17	17	17		

Source: ENTSO-E

Unit of measure: The Member States that are above the 10 % interconnectivity target as mentioned in Recital 2 of the TEN-E Regulation.

**Indicator 4: Price convergence in the gas and/or electricity markets of the Member States concerned**

In the indicator screening exercise carried out in 2017, this indicator has been ranked low in terms of relevance to the budget, relevance to the programme, results and data accessibility. Therefore, it is proposed to discontinue this indicator.

**Indicator 5: The percentage of the highest peak demand of the two Member States concerned covered by reversible flow interconnections for gas**

In the indicator screening exercise carried out in 2017, this indicator has been ranked low as in terms of relevance to the programme, results and data accessibility. Therefore, it is proposed to discontinue this indicator.

*Expenditure related outputs*

See table under specific objective 6

**Specific Objective 5: Enhancing Union security of energy supply**

*Performance*

For additional explanations on how to interpret the indicator results of this specific objective, please refer to the general note in the 'Programme performance' section above.

Indicator 1: The number of projects allowing diversification of supply sources, supplying counterparts and routes								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
	Milestones foreseen							2020
				40	38		11	11
	Actual results							
				40	38	28		

Narrative: Baseline: Number of countries having 3 major supply sources of gas for the EU in addition to liquefied natural gas (LNG)

Comment: 28 PCIs supporting EU's security of supply are still to be commissioned.

Unit of measure: Number of PCIs supporting EU's security of supply to be commissioned

Indicator 2: The number of projects increasing storage capacity								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							2020
7			6	6	6	4	2	2

	Actual results						
				6	6	4	

Comment: 4 PCIs in gas underground storage: actual reference is the 3rd PCI list (PCIs to be commissioned). 2 storage projects expected to be commissioned.

Unit of measure: PCIs

Indicator 3: System resilience, taking into account the number of supply disruptions and their duration								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
	Milestones foreseen							2020
3		21			22		22	22
	Actual results							
		19	22	21	20	18		

Narrative: Baseline: Gas: 3 MS do not meet the N-1 formula (as defined in Regulation (EU) No 994/2010) – Bulgaria, Greece and Portugal

Target: Gas: N-1 is met by 22 MS (all except Cyprus, Malta as long as they do not have gas system and Luxemburg, Slovenia, Sweden which have a derogation)

Comment: NB: The indicator is based on monitoring requirements set out in Regulation No (EU) 2017/1938 on the security of supply for gas, under which Member States have to report every two years to the Commission (last report: 2016) The progress of the indicator is based on PCIs which are implemented. Although its evolution is only partly related to the CEF budget, it can be monitored during the Programme implementation and can be kept until the end of the Programme. It can also be used ex-post.

**Indicator 4: The amount of avoided curtailment of renewable energy**

Narrative: Data not relevant to the specific objective 5

Indicator 5: The connection of isolated markets to more diversified supply sources								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							2020
19				22	23		26	26
	Actual results							
				23	23	26		

Comment: The indicator measures the number of Member States having access to at least two sources of gas is based on the interconnectivity level estimation by ENTSO-G.

NOTE: With the adoption of the third PCI list, the number of gas PCIs has changed. On the current PCI list, the number of gas PCIs has considerably decreased. The progress of the indicator is related to the number of PCIs actually being implemented which allow diversification of supply sources. Although its evolution is only partly related to the CEF budget, the indicator can be monitored during the Programme implementation and it can be kept until the end of the Programme. It can also be used ex-post.

Unit of measure: The number of Member States having access to at least two sources of gas

**Indicator 6: The optimal use of energy infrastructure assets**

Indicator is not smartly defined to refer to the policy objectives of the TEN-E Regulation. Therefore, it is proposed to discontinue this indicator.

**Specific Objective 6: Contributing to sustainable development and protection of the environment, by the integration of energy from renewable sources into the transmission network and by the development of smart energy networks and carbon dioxide networks**

**Performance**

For additional explanations on how to interpret the indicator results of tis specific objective, please refer to the general note in the ‘Programme performance’ section above.

Indicator 1: The amount of renewable electricity transmitted from generation to major consumption centres and storage sites								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
	Milestones foreseen							2020
							90	90
	Actual results							

Comment: Data have been extracted on the basis of modelling results available in the European Network of Transmission System Operators for Electricity (ENTSOe) in the context of the Ten-Year Network Development Plan (TYNDP) 2016 (indicator B3 of the ENTSO-E cost benefit analysis). This indicator provides a standalone value associated with additional RES available for the system. It measures together the reduction of renewable generation curtailment in MWh (avoided spillage) and the additional amount of RES generation that is connected by the project. The value represents an estimation of contribution to the indicator by the PCIs financed under CEF in the electricity sector, which will be commissioned until 2020 (14 PCIs).

Unit of measure: GWh

**Indicator 2:** The amount of avoided curtailment of renewable energy

Narrative: Data not relevant to the specific objective 5

**Indicator 3:** The number of deployed smart grid projects which benefited from the CEF and the demand response enabled by them

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2013	Milestones foreseen							2020
2					1		1	1
	Actual results							
					0			

Comment: There are 4 projects supported by CEF.

Unit of measure: Smart grid projects

**Indicator 4:** The amount of CO2 emissions prevented by the projects which benefited from the CEF

Baseline	2014	2015	2016	2017	2018	2019	2020	Target
	Milestones foreseen							2020
							5 000	5 000
Actual results								

Comment: The indicator reflects the characterisation of the evolution of CO2 emissions in the power system, as a consequence of the renewable energy which is integrated by means of the PCIs. The values have been calculated on the basis of the ENTSO-E TYNDP 2016 (indicator B5 of ENTSO-E cost benefit analysis, scenario 2020). The data represent the contribution to the indicator by the PCIs financed under CEF in the electricity sector which will be commissioned until 2020 (14 PCIs). 5000 kT/year represents 47.17 % of expected CO2 emissions prevented by all electricity PCIs commissioned until 2020. The indicator does not take into account other sectors, like gas.

Unit of measure: kT/year

**Expenditure related outputs**

Outputs	Budget line	Budget 2020	
		Number (foreseen)	EUR
Allocation to the grants from the 2014-2020 call for proposals under Multi Annual Work Programme for Energy	32 02 01 01	6	449 196 000
Allocation to the grants from the 2014-2018 call for proposals under Multi Annual Work Programme for Energy	32 02 01 02	6	414 528 000
Allocation to the grants from the 2014-2018 call for proposals under Multi Annual Work Programme for Energy	32 02 01 03	6	414 498 586
Allocation to the Financial Instruments projects	32 02 01 04	0	0
<b>Programme Support Actions 2020 (all lines) Art 5(2)(a)</b>		<b>7</b>	<b>1 310 000</b>
<b>Total</b>		<b>0</b>	<b>1 279 532 586</b>

Outputs		Number of outputs foreseen (F) and produced (P)						
		2014	2015	2016	2017	2018	2019	2020
Call for proposals under MAWP CEF-Energy 2014-2020	F		50					
	P		33					
First call for proposals under MAWP CEF-Energy 2015-2020	F		15					
	P		18					
Second call for proposals under MAWP CEF-Energy 2015-2020	F			30				
	P			15				
First call for proposals under MAWP CEF-Energy 2016-2020	F			20				
	P			9				
Second call for proposals under MAWP CEF-Energy 2016-2020	F				18			
	P				18			
Call for proposals under MAWP CEF-Energy 2017-2020	F				25			
	P				16			
Call for proposals under MAWP CEF-Energy 2018-2020	F					53		
	P					22		
Call for proposals under MAWP CEF-Energy 2019-2020	F						8	
	P						8	
Annual work programmes for financial instruments 2014, 2015, 2016	F			5				
	P			pm				

Call for proposals under the AWP 2016 for synergy in energy and transport	F				8			
	P				7			

\*An output is a call for proposals under a multi-annual work programme (MAWP) for grants or an annual work programme for financial instruments. ‘Number’ corresponds to the foreseen number of grants (for studies and for works) to be attributed following evaluation of a call for proposals.

\* The total number of grants for the Synergy Call cannot be split between transport and energy. The total is therefore reported under both sectors.

**Specific Objective 7:** To contribute to the interoperability, connectivity, sustainable deployment, operation and upgrading of trans-European digital service infrastructures and coordination at European level

Indicator 1: Facilitating digital interaction between public administration and citizens/ businesses								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2014	Milestones foreseen							2020
Citizens using public services online: 56.90 %	Actual results							70.0 %
	56.9 %	57.0 %	59.7 %	58.5 %	64.3 %	67.3 %		
2011	Milestones foreseen							2020
Businesses using public services online:	Actual results							100.0 %
	46.6 %	73.0 %						

Comment: Percentage of internet users needing to submit forms to the public administrations who chose the online channel.

Source: Digital agenda scoreboard

Unit of measure: Percentage of internet users needing to submit forms to the public administrations who chose the online channel

Indicator 2: Availability of cross-border public services								
Baseline	2014	2015	2016	2017	2018	2019	2020	Target
2014	Milestones foreseen							2020
66.2 %	Actual results							100.0 %
	66.2 %	65.0 %	69.5 %	72.0 %	73.3 %	77.7 %		

Narrative: Target is laid out in the Regulation (EU) 283/2014 on the guidelines for trans-European networks in the area of telecommunications infrastructure

Comment: It is a composite indicator that comprises: eGovernment Services for Businesses (DESI indicator) and Citizens mobility – online availability (Digital scoreboard).

Source: eGovernment Benchmark report

Unit of measure: Citizens submitting filled forms to digital public services (Percentage of individuals that needed to submit forms). Target percentage of the cross-border public services.

**Expenditure related outputs**

Outputs	Budget line	Budget 2020	
		Number	EUR
Digital service infrastructures developed and deployed across Europe	09 03 03	18-20	125 964 990
<b>Total</b>			<b>125 964 990</b>

Outputs		Number of outputs foreseen (F) and produced (P)						
		2014	2015	2016	2017	2018	2019	2020
1 Digital service infrastructures developed and deployed across Europe with the support of CEF	F	8	11	14	14	16	18	18-20
	P	8	11	14	14	16		

The outputs refer to the cumulative number of Digital Service Infrastructures that are being supported. Support can take the form of procurement, when it concerns the core service platforms or of grants when it concerns generic services.

**Specific Objective 8:** To contribute to the efficient flow of private and public investments to stimulate the deployment and modernisation of broadband networks

Indicator 1: Level of fast broadband coverage (e30 Mbs)										
Baseline	2014	2015	2016	2017	2018	2019	2020	Target		
Milestones foreseen										
0										
	Actual results									
							4 539			

Comment: The number of premises passed with connectivity above 30Mbps, related to CEBF support, was 4 539 at the end of 2019.

Indicator 2: Level of subscription to broadband connections above 100 Mbs
---

Comment: The Commission does not expect to be able to collect this information from the current projects (they are infrastructure deployment projects, not service providers).

**Expenditure related outputs**

Outputs	Budget line	Budget 2020	
		Number	EUR
Broadband roll-out projects launched via the use of Financial Instruments	09 03 02		p.m.
<b>Total</b>			p.m.

Outputs		Number of outputs foreseen (F) and produced (P)						
		2014	2015	2016	2017	2018	2019	2020
CEF Work programme 2014 C(2014)9588	F	2						
	P	0						
Annual work programme for Financial Instruments 2016	F			5	45			
	P			pm	pm			

**Specific Objective 9:** Encourage and support entities with a public mission, such as local public authorities, to offer free Wi-Fi connectivity in the centres of community life (e.g. in and around public buildings, health centres, parks or town squares)

Indicator 1: The number of operational free Wi-Fi access points supported by CEF								
--	--	--	--	--	--	--	--	--

Baseline	2014	2015	2016	2017	2018	2019	2020	Target		
Milestones foreseen										
						500	6 200			
	Actual results									
							450			

Indicator 2: The number of daily connections generated on free Wi-Fi access points supported by CEF in a given year
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Comment: The information is not yet available: the methodology to calculate this indicator is still under validation.

**4. Contribution to Europe 2020 Strategy and mainstreaming of policies**

**Contribution to Europe 2020 headline targets**

Under the CEF, the transport strand has co-financed investments for transport infrastructures to support Member States for the completion of the Trans-European Network for Transport (TEN-T). In this framework, the CEF has focused its intervention on sustainable transport modes and towards a de-carbonised transport system. For this reason, the CEF Transport has contributed to the national emissions reduction targets in the context of the 20 % cut in greenhouse gas emissions within the climate and energy targets 2020.

CEF Energy has focused its support on electricity projects contributing to reducing greenhouse gas emissions by increasing grid capacity to integrate power produced from renewable sources. As a result, CEF Energy has contributed to the 20 % cut in greenhouse gas emissions within the climate and energy targets 2020.

**Table Contribution to Europe 2020 headline targets**

3 % of the EU's GDP should be invested in R & D
The '20/20/20' climate/energy targets should be met (including an increase to 30 % of emissions reduction if the conditions are right)



**Contribution to mainstreaming of climate action****Relevant objective/output**

Relevant objective/output	Budget 2019	Budget 2020
Contributing to sustainable and low carbon TEN-T and TEN-E networks	2 123,4	2 192,9
<b>Total</b>	<b>2 123,4</b>	<b>2 192,9</b>

**Programming climate action**

2014-2018					2019-2020 estimates		Total
2014	2015	2016	2017	2018	2019	2020	
1 129,5	1 029,8	1 736,5	1 578,0	1 683,0	2 123,4	2 192,9	11 473,1

(\*)The appropriations for the year 2014 have been reviewed to take account of the transfer to subsequent years of the allocations not used in 2014 (reprogramming exercise carried-out in 2015 in accordance with Article 19 of the Multiannual Financial Framework Regulation).

**Justification**

The total amount corresponds to around 40 % of CEF allocation to transport and energy sectors (all budget lines) including the contribution from the Cohesion Fund and to the financial instrument lines. The telecommunication sector does not contribute directly to the mainstreaming of climate action.

**Contribution to financing clean air**

During the period 2014-2020 the CEF programme has contributed to clean air objectives through investments in the transport and energy sectors. In particular:

**CEF Transport**

TRANSPORT SECTOR	Actual Funding	%	Result
Inland Waterways	1.174.431.984	40%	469.772.794
Maritime	1.226.954.404	40%	490.781.761
Rail	14.519.607.439	40%	5.807.842.975
Alternative fuel infrastructure	932.382.444	40%	372.952.978
Nodes of the Core Network Priority	177.107.330	100%	177.107.330
<b>TOTAL CEF TRANSPORT</b>	<b>18.030.483.601,10</b>		<b>7.318.457.838,48</b>

**CEF Energy**

ENERGY SECTOR	Actual Funding	%	Result
CO2	9.696.215	0%	-
Electricity	2.083.019.906	40%	833.207.962,32
Gas	1.513.149.948	40%	605.259.979
Smart Grid	134.543.582	40%	53.817.433
<b>TOTAL CEF ENERGY</b>	<b>3.740.409.650,67</b>		<b>1.492.285.374,27</b>

The amounts in the above tables refer to signed Grant Agreements. Additional grant agreements contributing to clean air objectives are expected to be signed during year 2020 and 2021.

**5. Programme contribution to the Sustainable Development Goals****SDG 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation**

The CEF transport programme aims at contributing to the Sustainable Development Goals (SDG). In particular, CEF Transport supports SDG 9 through investments for building transport infrastructures that are resilient, including the necessary technology to ensure a proper monitoring of the newly built infrastructures in case of natural catastrophes; SDG 11, promoting infrastructural investments for road safety, notably by allowing an optimal use of public transport, with special attention to the needs of those in vulnerable situations and co-funding the improvement of multimodal passenger terminals connecting two long-distance transport modes in urban nodes; and SDG 13, promoting the de-carbonisation of transport with a specific focus on alternative fuels infrastructures.

As regards the energy strand, CEF Energy supports SDG 9 through the investments aiming to increase the interoperability of electricity and gas networks across borders; SDG 13, financing the actions contributing to the decarbonisation and enabling the transition to a climate neutral economy; SDG7 by promoting investments contributing to further integration of the internal energy

market and to sustainable development, in particular, by the integration of energy from renewable sources into the transmission network and by the development of smart energy networks.

## 6. Information about financial instrument(s) and trust fund(s) financed by the Programme

### TRANSPORT

On 4 July 2016 the Commission adopted Annual Work Programme C(2016)1950, amended on 6 December 2016 by Decision C(2016) 7828, which provides for the financing of projects of common interest under the *CEF Debt Instrument* by means of delegation to the European Investment Bank as entrusted entity. The total allocation to the CEF Debt Instrument as of 2019 accounts for EUR 206.35 million, where EUR 165.8 million was already paid to the EIB by the end of 2019. To date a total of EUR 14.6 billion of investments has been raised by the instrument, out of which EUR 6.1 billion since 2014. Several projects have been supported across rail, motorways, ports, shipping and alternative fuels deployment. In total, 23 projects have been signed, approved or are under approval.

The CEF Debt Instrument (CEF-DI) Delegation Agreement was amended in June 2019 in order to focus on green innovative investments, to ensure complementarity with the European Fund for Strategic Investments (EFSI) and to allow the absorption of NER 300 programme (managed by DG CLIMA). The amended CEF-DI Delegation Agreement introduces the 'Future Mobility' financial product to support high-risk deployment of alternative fuels infrastructure, the roll out of innovative technologies and smart mobility services.

The CEF-DI pipeline of February 2020 foresees the full exhaustion of the CEF-DI budget and the reliance to NER300 contribution to cover upcoming operations. The amendment of the Delegation Agreement resulted in a list of projects for which EUR 2 billion investment is planned, including projects on the deployment of electric public buses and recharging infrastructure, the development of electric and hydrogen charging points, road to rail terminals and zero-emission inland waterway transport. The operations signed in 2019 for instance include the deployment of approx. 6 600 AC and 250 DC charging stations in Italy; the acquisition of a total of 255 electric buses and associated charging infrastructure in the city of Hamburg; and the deployment of 15 000 leasing electric and hybrid vehicles across 6 EU countries.

### ENERGY

In the energy sector, no project has been financed so far under the CEF Debt Instrument due to the effect of the European Fund for Strategic Investments (EFSI) over the energy project pipeline and any new energy project to be financed under the Debt instrument will rely on credits committed before 2016.

### TELECOM

The CEF Broadband Fund (CEBF) has signed its maiden project in Croatia on 25 January 2019 for an expected contribution of EUR 30 million (equity capital). The project aims at deploying high-quality fiber-to-the-home (FttH), open-access network for residential, business and public administration in the rural areas of the Primorje-Gorski Kotar and Istria regions – the two North-Western counties in Croatia – and to cover over 135 000 locations. The CEBF intends to provide up to EUR 30 million in equity (preferred shares and shareholder loan) out of total CapEx of EUR 64 million.

Since then, the Fund has signed two other projects, including a deal in Slovenia to invest into a high-quality FTTH, open-access network for residential, business and public administration in the country's rural areas and to cover over 240 000 locations.