ZERO EMISSIONS PLATFORM

Recommendations for the Connecting Europe Facility (CEF) in 2028-2034

Response to the public consultation and draft Regulation

29 October 2025

Key recommendations

1.	**Introduce blended and flexible financing mechanisms**	Allow CEF Energy to combine grants with loans, guarantees, and equity from InvestEU, the EIB, and national promotional banks for CO_2 networks – modelled on the CEF Alternative Fuels Infrastructure Facility (AFIF). In addition, apply higher co-financing rates for CO_2 storage and backbone projects delivering Union-wide security of supply for industrial decarbonisation.
2.	**Strengthen technical and financial due diligence**	Require projects to demonstrate technical maturity (e.g., exploration licence or FEED completion) and financial readiness before award, and prioritise projects with open-access design and proven cross-border relevance ("readiness to connect").
3.	**Support development of standards, metering, and digital interoperability**	Fund studies and works for harmonised CO_2 metering, monitoring, reporting, and verification (MRV), ensuring reliable cross-border accounting and system integration. Similarly, develop common technical and digital frameworks enabling interoperable CO_2 transport and storage networks across Europe.
4.	**Ensure coherence and synergies with other EU instruments**	Align CEF work programmes with the Innovation Fund, NZIA, and Cohesion Policy to enable joint or sequential support across the CO_2 value chain. Furthermore, ZEP recommends co-designating CO_2 PCIs/PMIs as "Net-Zero Strategic Projects" to streamline permitting and investment planning.

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Introduction

The Connecting Europe Facility (CEF) has played a pivotal role in launching cross-border CO_2 transport and storage networks across the EU. Thus far, the CEF has awarded over **€880 million** in grants to at least **17 CCS-related projects** spanning North Sea, Baltic, and Mediterranean regions. These include large-scale works like **Porthos (NL)**, **Aramis (NL)**, **D'Artagnan Dunkirk Hub (FR)**, and **Longship (NO)**, as well as studies for emerging hubs in **Poland**, **Ireland**, and **Greece**.

Over the past years, the CEF Energy has considerably increased the amount of funding provided for CO_2 networks. During the 2014-2020 period, CEF Energy had a total budget of €4.7 billion, and €143.9 million was allocated to CO_2 networks. Although the current Multi-annual Financial Framework (MFF) is still ongoing (2021-2027), in the last three calls, **€889.4 million was already allocated to CO_2 networks, more than six times the total allocated to CO_2 networks under the previous MFF.** This demonstrates the continued success and improvements in the deployment of industrial carbon management in Europe.

ZEP welcomes the proposal to continue the CEF during the period 2028-2034. The continuation of the CEF can continue to help de-risk and co-finance pipelines, export terminals, and critical CO_2 infrastructure. The grants have enabled the development of **Europe's first CO_2 infrastructure projects** – particularly Longship, which commenced operations in 2025, and Porthos, which is currently under construction. Open-access **CO_2 infrastructure projects** like these can enable industrial clusters to decarbonise and are critical to realising the objectives of the **Clean Industrial Deal, the Net Zero Industry Act (NZIA)** and the **European Climate Law**.

This paper provides key recommendations to ensure that the CEF achieves the greatest impact in assisting industrial decarbonisation efforts during the period 2028-2034.

1. Include alternative forms of funding for CO_2 networks

CEF support for **CO_2 transport and storage networks** (under CEF Energy) is currently awarded solely through **non-repayable grants**, typically covering up to 50% of costs. Projects must first be labelled as **Projects of Common Interest (PCIs)** and demonstrate significant cross-border impact. CO_2 network funding supports pipelines, shipping terminals, and storage hubs that link emitters across Member States.

However, alternative types of funding such as blended funding may be helpful additions to ensure supported projects achieve bankability. For works relating to the specific objectives referred to in Article 3(2), the draft Regulation indicates that the co-financing rates may be increased to 75% if the PCI provides a high degree of regional or Union-wide security of supply/solidarity or highly innovative solutions, or if the PCI is located in Member States with a per capita Gross National Income (GNI) of less than 90% of the Union GNI.

ZEP therefore recommends using the Regulation's co-financing lever for CO_2 networks and to explicitly recognise CO_2 storage and backbone links as "Union-wide security" enablers for industrial

decarbonisation under Article 10(7)(b). This is particularly important as it can also help accelerate CO_2 storage developments beyond the North Sea. As observed by Cavanagh & Lockwood (2024), planned CO_2 storage capacity in the EEA is heavily concentrated around the North Sea, leaving many emissions intensive regions with limited or costly access to storage, and thereby reducing their industrial competitiveness in the long-term.

1.1 The Connecting Europe Facility – Alternative Fuels Infrastructure Facility (CEF-AFIF): An example of blended funding

The Connecting Europe Facility - Alternative Fuels Infrastructure Facility (CEF- AFIF) is a targeted funding stream under CEF Transport designed to deploy EV charging stations, hydrogen refuelling points, and clean fuel supply at ports and airports.

The CEF-AFIF operates as a **blending facility.** In essence, rather than providing 100% grants, CEF-AFIF co-finances projects alongside loans or equity from financial institutions. In practice, a project promoter must secure a financing agreement (e.g. a loan, equity investment, or guarantee) from a bank or fund and can then receive an EU grant to cover part of the project cost. **National promotional banks**, the **European Investment Bank (EIB)**, the **European Bank for Reconstruction and Development (EBRD)** and commercial banks can be designated as **Implementing Partners (IPs)** for AFIF, actively facilitating blended operations. Other public or private banks can also participate in financing the projects, so long as the project has a formal commitment of support.

Under this co-funding model, the **EU grant typically covers a portion of eligible costs (up to 50% in many cases,** with higher co-financing rates possible where the project secures substantial external financing such as debt and/or equity funding), while the rest is funded by the project sponsor and external financiers. This approach ensures that limited EU funds leverage additional investment from the private sector or development banks, effectively multiplying the total investment into alternative fuel infrastructure. A key requirement is that projects be investment-ready ("mature") – applicants must obtain a *financing approval letter* or pre-agreement from an Implementing Partner or other bank, confirming that the project will receive a loan or other financing support.

By blending grants with loans, AFIF helps de-risk innovative or large-scale projects that might otherwise struggle to attract sufficient capital, while also ensuring that project proponents have skin in the game and robust business plans. This mechanism reflects a shift toward **public-private co-funding**, aiming to use public funds strategically to catalyse commercially viable clean transport infrastructure.

ZEP therefore recommends setting up a similar programme for CO_2 assets by activating Article 8 ("Implementation and forms of Union funding") to blend grants and financial instruments, including those funded by public or private institutions outside the EU budget (e.g. by national promotional banks, the EIB, and the EBRD), as successfully achieved by the CEF-AFIF model. In doing so, attention should be given to ensuring balanced geographical access and fairness – avoiding situations where funding is disproportionately directed to costly long-distance transport infrastructure in North-West Europe while more cost-effective local CO_2 storage solutions, particularly in Eastern and Southern

Europe, are left unsupported. Such balance would not only enhance cost-efficiency but also address societal acceptance concerns and ensure equitable decarbonisation opportunities across Member States.

By adopting more market-oriented mechanisms such as the CEF-AFIF, the CEF funding for CO_2 networks can better leverage private capital. This can aid the derisking of projects and help overcome the financial gap generated by insufficient commercial viability, high upfront costs and/or the lack of private finance.

1.2 Coordination challenges: Why de-risking tools are key for the CCS/U value chain

CCS/U project developers, both emitters and infrastructure developers, are operating in a high-risk, low-reward economic environment, hindering access to private capital. Large CO_2 infrastructure projects involve years of planning, complex structures, and tight deadlines, but also a myriad of external factors that can delay or prevent projects from reaching completion. There is a lack of established contractual models and/or Member State policies for managing infrastructure oversizing, development timing mis-matches, and cross-chain liability arrangements. Successful CO_2 value chains depend on multiple interdependent projects that make synchronised investment decisions and coordinated technical design choices.

As Article 10(9) points out: *"The support provided by the Programme shall accelerate or boost investments by addressing market failures or sub-optimal investment situations, in a proportionate manner, avoiding duplication or crowding out, and by incentivising private funding and shall have Union added-value."*

While the Regulation reserves award-criteria details to work programmes, ZEP thus also recommends that projects which demonstrate open access, interoperability, and contracted capacity from emitters across at least two Member States ("readiness to connect") score higher. This will foster non-discriminatory, multi-user CO_2 networks.[1]

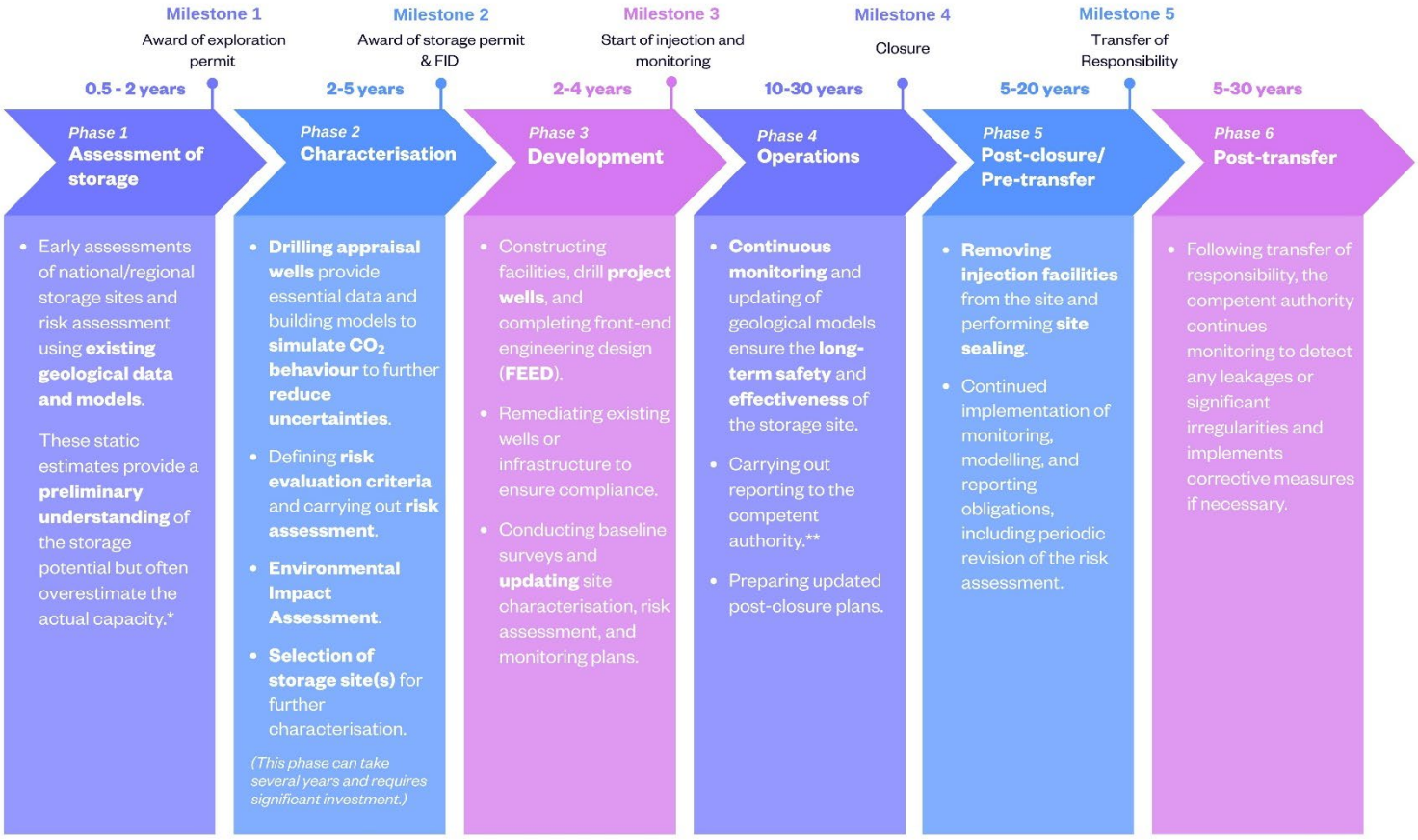
The Commission may also consider using the STEP Seal and/or "Net-Zero Strategic Project" status to localise relevant CO_2 capture, storage, and utilisation projects around key CO_2 corridors.

2. Ensure CEF-funded projects are technically feasible

CEF funding for works should ensure that projects have technical feasibility to proceed. For example, in the case of CO_2 storage projects, a CO_2 storage license issued under the CCS Directive (2009/31 EC) is necessary to proceed with the project development. CO_2 storage licenses are specific to

[1] For further recommendations on the key elements needed to establish an EU-wide CO_2 market and infrastructure, see ZEP's report entitled *'Designing Europe's CO_2 market and infrastructure: A framework for action'* (September 2025).

certain geological structures in certain regions or areas, which means the project is usually dependent on securing a license to first conduct exploration work, in order to proceed to apply for an injection permit from the competent authority at a later date, as indicated in the figure below.



* The CO2StoP project, completed in 2013, aimed to assess the storage potential across Europe and to create a comprehensive common database of potential CO_2 storage locations.
** The competent authority has the authority to withdraw the storage permit. If this occurs, the competent authority must either issue a new storage permit (to the same operator or to another operator) or close the storage site.

In order to ensure viable projects are funded, the CEF process should ensure sufficient due diligence is conducted by the Commission prior to funding awards which should, for example, assess the project's ability to proceed legally with development work. In some cases, projects have been funded under the CEF even where a storage license was not awarded to the project. This means that **CEF funding has been provided to projects after results of licensing rounds determined they legally cannot proceed with the development of a storage site in that area**, which creates an inconsistent policy framework and undermines the development of other CO_2 networks which have the necessary licenses but were not funded.

Given that the award of storage licenses in EU and EEA member states is a competitive process, it is essential that **EU funding for storage projects align with the regulatory requirements under which such projects are developed**. This will ensure greater due diligence on the part of the Commission to ensure consistency in the implementation of the EU policy framework for industrial carbon management and the achievement of the targets under the NZIA.

2.1 Tightening feasibility checks for CO_2 hubs and storage sites

To ensure that CEF funds are directed toward technically and financially mature CO_2 infrastructure, ZEP recommends that technical feasibility be explicitly anchored in the award criteria defined in the work programmes referred to in Article 12 and adopted by the Commission by means of Implementing Acts. In addition to general due diligence, these criteria should require applicants to demonstrate compliance with clear maturity gates.

For CO_2 storage works, this could include evidence of a valid storage licence application – or, where national permitting is phased, proof of the specific statutory milestone that legally authorises the proposed works – prior to award. In cases, where licencing rounds in the planned area where the project would be located indicate that a particular project could not possibly proceed, funding for works should not be awarded.

For shipping, port terminals, and intermediate hubs, projects should have completed front-end engineering design (FEED), secured site control, and finalised environmental impact assessment (EIA) scoping. These measures would ensure that CEF support is reserved for technically viable projects with credible delivery pathways and ready-to-build status.

ZEP further proposes that applicants be required to submit robust business and financing plans, similar to the approach taken under the CEF Alternative Fuels Infrastructure Facility (AFIF), to demonstrate financial sustainability and operational readiness. This dual focus on technical and financial maturity would help avoid funding bottlenecks and ensure efficient use of the EU budget. t would also reduce the risk of grant amendment, reduction, or termination under Article 10(1) and Article 10(2), by ensuring that only well-prepared and feasible projects progress to grant agreement.

Embedding these provisions directly into call texts would foster greater transparency and predictability for project promoters while strengthening the overall credibility of the CEF Energy portfolio.

2.2 Standards, metering, and MRV

CEF Energy's overarching objective is to enhance interoperability and system integration across the Union's energy networks, thereby de-risking the operation of cross-border infrastructure. To realise this objective for CO_2 transport and storage systems, ZEP recommends that studies and, where relevant, works dedicated to metering, monitoring, reporting, and verification (MRV) be explicitly recognised as eligible for funding under CEF Energy. Reliable and harmonised metering and MRV frameworks are essential for ensuring transparent, traceable, and comparable CO_2 flows across borders – forming the basis for credible emissions accounting and robust market operation.

In this context, ZEP emphasises that the priority should not lie in developing entirely new MRV tools, but rather in harmonising and aligning existing systems and methodologies across the Union. The main challenges in this area are not purely technical but relate to governance, particularly where multiple parties must cooperate across the CCS value chain. The European Commission therefore has an important role to play in coordinating this process – by working closely with project developers,

operators, and financial institutions to establish uniform MRV rules, governance frameworks, and procedures that enable coherent implementation across borders.

By supporting such governance and standardisation, CEF Energy can play a pivotal role in building the common technical and institutional foundations of a European CO_2 transport and storage network. This includes facilitating the development of interoperable data-sharing platforms, harmonised verification systems, and cross-border digital infrastructure that link capture sites, transport networks, and storage facilities into a unified operational framework. These enabling layers are essential not only to ensure the safe, transparent, and efficient functioning of CO_2 networks, but also to establish the credibility and trust needed for future carbon markets and compliance systems. This approach aligns directly with CEF Energy's mandate to foster system integration, innovation, and cross-border connectivity.

3. Synergies with other EU initiatives

To maximise the climate impact and capital efficiency of CEF during 2028-2034, ZEP recommends systematic synergies with EU instruments addressing different segments of the CO_2 value chain. Coordinated programming and joint calls will de-risk investments, speed permitting, and ensure balanced regional participation.

3.1 Net-Zero Industry Act

The Net-Zero Industry Act (NZIA) recognises CO_2 capture, transport and storage projects as "Net-Zero Strategic Projects", granting them priority access to streamlined permitting procedures and targeted public support. To maximise policy coherence and accelerate implementation, ZEP recommends that CO_2 PCIs/PMIs be co-designated as "Net-Zero Strategic Projects" under the NZIA.

This dual recognition would align the strategic infrastructure planning frameworks of the TEN-E Regulation and the NZIA, ensuring that cross-border CO_2 networks benefit from simplified authorisation, coordinated investment planning, and complementary national recovery and resilience funding. Such co-designation would also help Member States integrate CO_2 network deployment into their broader industrial transformation strategies, creating a consistent regulatory and financial environment for the European carbon management sector.

3.2 Innovation Fund

The Innovation Fund is already the largest EU programme for industrial decarbonisation and CCS/U projects. Its project scope, however, typically targets individual installations or demonstration projects, while CEF Energy focuses on shared infrastructure of cross-border relevance.

Given the interdependence between capture sites, transport networks, and storage facilities, ZEP recommends closer coordination between the two instruments. This could include aligned call timetables for CO_2 projects and the possibility for Projects of Common Interest to combine a CEF grant for works with Innovation Fund operational-cost support. Such an integrated approach – essentially a "blended award" – would create continuity from innovation and demonstration to full deployment, reduce transaction complexity, and ensure that each segment of the CO_2 value chain can access the most appropriate form of EU support.

3.3 Regional and Cohesion Funds

The National and Regional Partnership Plans (NRPPs), introduced under the Commission's July 2025 proposal for a more flexible and performance-based Cohesion Policy for 2028–2034, enable Member States to tailor EU support to regional priorities.

While CEF Energy's mandate rightly concentrates on cross-border infrastructure, many "last-mile" connections – linking emitters to regional hubs or intra-national pipelines – fall outside this scope. ZEP therefore encourages the use of NRPP and Cohesion Fund financing to complement CEF support, ensuring that all components of the CO_2 transport and storage network, both cross-border and domestic, can advance in parallel. This coordinated funding approach would help build integrated CO_2 corridors, enhance regional participation in the transition, and ensure that industrial decarbonisation benefits are equitably distributed across Europe.

About the Zero Emissions Platform

Zero Emissions Platform (ZEP) is the official advisor to the European Union on industrial carbon management.

Our mission is to accelerate its deployment and the buildout of CO_2 infrastructure to reduce CO_2 emissions and meet Europe's climate neutrality target. Our comprehensive technical work and policy advice builds on a broad and diverse member base, ranging from energy producers and industrial companies to infrastructure developers, technology and equipment providers, financial organisations, academia, research institutions, environmental NGOs, trade unions, and other civil society organisations.

ZEP supports the European Technology and Innovation Platform (ETIP) for industrial carbon management under the SET-Plan, and collaborates closely with the European Commission and European governments on several common deliverables.