ZERO EMISSIONS PLATFORM

Recommendations for the Innovation Fund

Response to Call for Evidence

08 July 2025

Key recommendations

Preserve and protect the funding model	Ensuring the Innovation Fund remains directly linked to EU ETS revenues under the European Competitiveness Fund is critical to safeguard long-term funding stability. Instruments such as Auctions-as-a-Service (AaaS) should be expanded to industrial carbon management and complement efforts to establish the Industrial Decarbonisation Bank, enabling greater project deployment and fair regional access to funding.
Enable adaptive funding and transparent monitoring	Given the significant time gap between Innovation Fund application and financial close, adjusted flexibility mechanisms could help to mitigate cost increases, particularly those caused by permitting delays, and allow for reasonable changes to project timelines and design. Enhanced transparency by publishing detailed milestones of awarded projects could help to support public oversight and progress tracking.
Assess the administrative burden for applicants	Streamlining documentation, simplifying financial modelling requirements and improving transparency in evaluation criteria could help to reduce entry barriers while preserving the educational value of the application process. Enhancing grant intensity or exploring performance-based revenue support mechanisms can help attract additional financing and improve the likelihood of reaching financial close.
Ensure Innovation Fund projects can access CO_2 infrastructure on time	Ensuring timely and safe permitting and development of CO_2 transport and storage infrastructure is essential to making the Innovation Fund work. To overcome permitting bottlenecks and meet the rapidly growing storage demand, cross-border coordination and alignment of permitting procedures should be encouraged.
Assess potential risk-sharing mechanisms	Addressing financial and coordination risks is needed to ensure supporting infrastructure will be available on time. The Innovation Fund could seek to provide risk-sharing mechanisms which have proven successful in the UK as well as other instruments which can help to de-risk CO_2 infrastructure investments such as consortium-based bidding.

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Introduction

The Innovation Fund (IF) has proven to be effective in supporting innovative projects, providing tailored financial support, and managing revenues in alignment with the ETS Directive objectives.

With a €40 billion budget until 2030, the IF has already allocated almost €12 billion to over 200 cleantech projects – primarily large-scale demonstration projects of incumbents - since 2020. The Innovation Fund has granted aid to 40 projects using carbon capture and storage (CCS) and carbon capture and utilisation (CCU).[1] It has been a demonstrable success in catalysing advancement in industrial carbon management and offering valuable market insights into clean-tech innovations nearing commercialization.

From its initial outset, ZEP has provided key insights on behalf of the industrial carbon management community on the design elements of the IF.[2] ZEP would like to commend the Commission on the successes of the IF in advancing industrial carbon management and provide key recommendations on how the Commission's design of the Innovation Fund can better enable the deployment of industrial carbon management across the European Union (EU), as well as actions the Commission can take to support projects with IF funding.

In order to ensure the IF achieves the greatest impact in assisting industrial decarbonisation efforts, ZEP would like to provide the following recommendations.

1. Preserve, protect and adapt the funding model

The Innovation Fund's greatest strength lies in its direct revenue stream from the EU ETS, which shields it from national budget constraints and political negotiations. This insulation creates a stable and predictable funding source that goes far beyond what most national schemes can offer, providing certainty for project developers and investors. As discussions evolve around a future European Competitiveness Fund, it is vital that this direct ETS linkage is preserved. With the phaseout of Free Allocation due to finish in 2034, it is essential that European industrial producers are supported in advancing industrial decarbonisation projects.

ZEP welcomes the introduction of the STEP Seal and Grants-as-a-service (GaaS) features, designed to leverage the impact of the IF to ensure greater funds can be provided by EU Member States. Given the size of available funding from Member States is significantly larger than the EU budget, it is essential that EU Member States provide greater support for funding initiatives designed to leverage both sources through mechanisms such as the STEP Seal and GaaS.

[1] Commission, 'Innovation Fund projects' (2025) < https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/innovation-fund/innovation-fund-projects_en>
[2] Commission, 'Innovation Fund Workshop for CCS – Hosted by ZEP and the Norwegian Ministry of Petroleum and Engineering' < https://climate.ec.europa.eu/document/download/d73221de-8d99-48d7-9baa-90055202a232_en?filename=0609-zep-minutes_en.pdf>

1.1 Auctions-as-a-Service (AaaS) – Expansion to industrial carbon management

The Auctions-as-a-Service (AaaS) framework represents a novel approach to scaling climate technologies by combining EU-wide competitiveness with national funding flexibility. Designed initially for renewable hydrogen projects under the Innovation Fund, in the form of the Hydrogen Bank, this model has provided unparallel market insight in this nascent market and been particularly successful in:

- Enabling better price discovery for the production of renewable hydrogen;
- Relieving the administrative burden of designing and conducting auctions, particularly for Member States with fewer administrative resources;
- Providing project developers with greater harmonisation in auction design (e.g. eligibility criteria, application methodology). This signals the need of a more coherent EU-wide approach to funding clean industrial innovation and avoid the emergence of overlapping national initiatives, such GPID in France;[3]
- Incentivising additional Member State funding to support funding in the Innovation Fund.

However, the AaaS model is not currently open to other forms of hydrogen production or other means of supporting industrial decarbonisation such as industrial carbon management. This could be done by holding annual auctions to offer CCfDs, as recently proposed in the 'CCS Bank' by IOGP,[4] particularly within the framework of the forthcoming Industrial Decarbonisation Bank (IDB).

1.2 Complementary role of Industrial Decarbonisation Bank

Initially proposed under the Clean Industrial Deal (CID),[5] the IDB is envisioned as a EU-level financing mechanism of 100 billion euros to support key technologies driving the industrial green transition. The Bank will draw on already existing funding sources, namely the IF, InvestEU, reserve ETS allowances, as well as mobilizing voluntary Member State resources.

Considering the significant oversubscription of the Innovation Fund, currently by a factor of seven, and its inherent budgetary constraints, the IDB could serve as a critical complementary mechanism. It would provide projects with technology-neutral support to bridge both capital and operational funding gaps to full deployment. The IDB should adhere to a competitive selection process and guarantee a fair geographical distribution, by ensuring a baseline share proportional to each contributor's payments. This could be supplemented with additional allocations for under-resourced regions to maintain equity and fairness. Moreover, strict enforcement of ETS-revenue earmarking should be in place.

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[3] Ministry of Ecological Transition, Biodiversity, Forests, Sea and Fisheries, 'France 2030: Launch of a major aid scheme to support very large industrial decarbonization projects' <https://www.ecologie.gouv.fr/presse/france-2030-lancement-dun-dispositif-daide-majeur-soutenir-tres-grands-projets-industriels >
[4] IOGP, 'The Case for a European CCS Bank' (2024) < https://iogpeurope.org/resource/policy-proposal/ > accessed 7 July 2025.
[5] Commission, 'Communication on the Clean Industrial Deal: A joint roadmap for competitiveness and decarbonisation' COM (2025) 85 final. <https://commission.europa.eu/topics/eu-competitiveness/clean-industrial-deal_en

However, it is essential that the IDB is not positioned as a replacement for the Innovation Fund. Rather, the two instruments must operate in a complementary manner. While the Innovation Fund should continue to prioritise first-of-a-kind (FOAK) projects requiring early-stage de-risking, the IDB should providing supplementary funding to industrial projects that reduce CO_2 emissions. Together, these mechanisms can ensure a coherent and robust financing architecture to support the full innovation cycle of Europe's industrial decarbonisation agenda.

2. Enable adaptive funding and transparent monitoring

The time between preparing for the application for the Innovation Fund and taking financial close can be considerably large. For example, after the Innovation Fund award, applicants have 4 years to take financial close. However, the data used for the application date typically emerges from 1 to 2 years before the funding award, so in practice the total timespan can reach up to 6 years.

As the Commission's forthcoming Annual Knowledge Sharing Report 2025, presented during a Stakeholder Consultation Event on 27 June,[6] the time for projects, particularly large-scale, to reach financial close, is increasing. The barriers for delay are often, but not always, unrelated to the financial conditions surrounding a project such as permitting. As a matter of fact, 68% of projects identify obtaining permits as one of the top challenges, meanwhile 10% define it as the primary challenge. As the Innovation Fund does not provide any adaptation of the grant amount, inflation indirectly incurred due to delays, can have severe negative consequences for projects attempting to reach final investment decision (FID).

Introducing an inflation-adjusted funding flexibility mechanism could help to mitigate significant effects of e.g. inflation, technical modalities/innovation and timing. Moreover, given the nature of the IF as mechanism to enable FOAK projects, it is important that project developers are provided some leeway to allow for some changes to initial project design both technologically and timing-wise.

At the same time, increased transparency is needed to track whether this flexibility will improve project outcomes. Currently, key data, such as FID and entry into operation are not publicly available on the IF website and dashboard. Without this information, it is difficult to assess how projects progress over time or whether the Innovation Fund is meeting its core objectives of supporting FOAK technologies and delivering timely emissions reductions.

[6] Commission, 'Innovation Fund: Stakeholder Consultation Event on the IF25 Calls for Proposals' <https://climate.ec.europa.eu/citizens-stakeholders/events/innovation-fund-stakeholder-consultation-event-if25-calls-proposals-2025-06-27_en >

3. Addressing the administrative burden for applicants

To attract a higher number of high-quality applications, the Innovation Fund application process should be streamlined and administratively less complex. Although the introduction of the auction mechanism has reduced some procedural burdens, there is an emerging trend of increasing documentation requirements in later rounds. This may risk reversing earlier efficiency gains and could deter potential applicants.

While many applicants gain valuable insights into their own project planning, technical design, and business model robustness during the application process, this learning benefit comes at a high cost. As shown in the Commission's forthcoming Annual Knowledge Sharing Report 2025, presented during a Stakeholder Consultation Event on 27 June, nearly half of respondents to the survey reported having spent up to 3000 hours of internal staff time to complete their application, and 58% spent more than €76,000 on external consultants to support them. This level of investment presents a substantial barrier to entry for SMEs and smaller consortia, potentially undermining the inclusiveness and diversity of the applicant pool. Streamlining documentation, simplifying financial modelling requirements, and increasing transparency in evaluation criteria could help reduce this burden while preserving the process's educational value for applicants.

From a financial perspective, the current structure of Innovation Fund grants does not always align with the full investment needs of innovative, high-risk, and high-impact projects. While the grant (based on the CAPEX and OPEX) plays a valuable role in advancing project development, the primary financing challenge for many clean energy and industrial decarbonisation initiatives lies in bridging the gap between production costs and market willingness to pay. This cost-revenue mismatch is particularly critical in early-stage markets and may warrant a reassessment of how funding needs are determined. Enhancing grant intensity or exploring performance-based revenue support mechanisms could help project promoters attract additional financing and improve the likelihood of reaching financial close.

Finally, more structured and proactive follow-up support should be provided to projects that receive the STEP Seal. These projects have already demonstrated a strong alignment with EU decarbonisation goals and high-quality design, and they represent a valuable pipeline for accelerating climate innovation. Targeted technical assistance, matchmaking with other funding instruments, or simplified re-application pathways could help ensure that this potential is not lost due to limited access to capital or administrative fatigue.

4. Ensure Innovation Fund projects can access CO_2 infrastructure on time

For current and future IF-funded projects dependent on CO_2 storage beyond their project boundaries, a primary concern lies in the scarcity of CO_2 storage sites available on the market within their relevant time frames. The imbalance between storage demand for planned capture projects and the availability of operational storage capacity significantly hampers the market's development and increases uncertainty related to storage costs.

Projects that develop CO_2 storage sites within their project boundaries also encounter significant permitting challenges. As the development of such sites remains a first-of-its-kind activity in many jurisdictions, both managing authorities and prospective storage operators often lack prior experience in applying the CO_2 Storage Directive,[7] leading to delays and regulatory uncertainty in the permitting process.

The result of this is already known to the Commission and was confirmed in its Annual Knowledge Sharing Report on the Innovation Fund, where the Commission has identified there is a clear shortfall on the availability of CO_2 storage capacity in the EU relative to demand from projects within the Innovation Fund.[8]

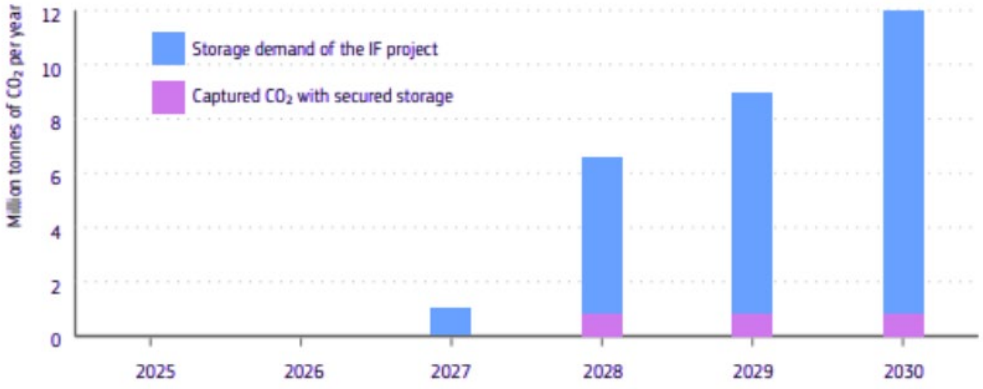

Figure 1: The annual carbon capture rate and storage needs of IF projects based on the GHG absolute emission avoidance

ZEP recognises and commends the ongoing efforts by the Commission to rectify this imbalance and the extensive measures enacted by the Net Zero industry Act. For many projects, the Commission plays both a direct and indirect role in the permitting and delivery timeline of many infrastructure projects. For example, in the case of storage sites, the Commission is instrumental in the permitting

[7] Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 OJ L 140/114.

[8] European Commission, 'Annual knowledge sharing report of the Innovation Fund - De-risking innovative low-carbon technologies' (2024) page 32<https://op.europa.eu/en/publication-detail/-/publication/56611073-3f2b-11ef-bf41-01aa75ed71a1/language-en> accessed 7 July.

of CO_2 storage sites under the CO_2 Storage Directive.[9] It is essential that sufficient support is provided by the Commission to ensure transport and storage sites are permitted in a safe and timely manner and that Commission staff are adequately supported with this undertaking, particularly given the rapid expansion of Europe's CO_2 storage industry and the target of 50 million tonnes of annual operational injection capacity by 2030 as mandated by the NZIA.

Furthermore, given that many industrial carbon management projects currently operate[10] and plan to operate cross-border, there is a clear role for the Commission to ensure that permitting procedures are adequately aligned, particularly where the permitting process in one Member State directly affects the permitting of a project in another. Given the fragmented and complex permitting landscape for large-scale infrastructure projects across Member States, often requiring input from multiple governmental agencies, the Commission could consider encouraging the establishment of dedicated task forces at national, regional, and local levels. These task forces should bring together all relevant stakeholders to facilitate and expedite the permitting process for such projects. In the case of CCS, such initiatives have been taken by the Danish government and have proven effective at securing broad alignment across agencies and regions on the issue of CO_2 infrastructure permitting.

[9] Directive 2009/31/EC (n 2) art. 10: it requires Member States to submit draft permits for geological storage sites to the Commission who may choose to issue a non-binding opinion on the permit within 4 months of receipt.
[10] Northern Lights JV's Longship project has commenced operation in June 2025, connecting emitters in Norway and the Netherlands. See: Northern Lights, 'About the Longship project' < https://norlights.com/about-the-longship-project/> accessed 7 July 2025.

5. Assess potential risk-sharing mechanisms

The achievable scale-up rates of both storage and capture capacity are inextricably linked. Storage projects will not advance unless they can identify capture plants prepared to commit to CO_2 offtake agreements. Equally, capture projects will struggle to obtain funding without tangible storage options at a known cost. Regrettably, as highlighted during the recent Innovation Fund expert group meeting, securing contracts with off-takers is the primary reason for delays in reaching FID.

In the Annual Knowledge Sharing Report on the Innovation Fund, the Commission has already identified that "for carbon capture and storage (CCS) projects, risk-sharing and risk-management mechanisms must be addressed across a value-chain consisting of different industrial players."[11] While ensuring alignment between capture, transport and storage projects is essential, providing risk sharing mechanisms is critical to secure projects' successful entry into operation.

Some key barriers prevent more projects from crossing this line for the following reasons:

- CCS project developers, both emitters and infrastructure developers are operating in a high-risk, low-reward economic environment, hindering access to private capital;

- There is a lack of established contractual models and/or Member State policies for managing infrastructure oversizing, development timing mismatches or cross-chain liability arrangements (i.e. in the case of emitter non-delivery, or poor infrastructure performance);

- Policy support mechanisms for CCS projects are fragmented in the sense that they target individual parts of CCS value-chains, with various timeframes and subsidy conditions;

- Emitters lack certainty on how markets will develop for lower carbon but higher priced products, in addition to broader competitiveness concerns;

- Infrastructure developers and emitters lack a clear view to reliable revenue sources that cover OPEX and debt repayments;

- Innovation Fund covers some costs of projects, but winners are distributed across Europe in an un-coordinated way, which creates planning uncertainties for infrastructure developers and emitters."

- While the Innovation Fund has been instrumental in advancing many CCS and CCU projects, its limits fall short in pooling demand for CO_2 infrastructure, which will require multiple emitters located close by to be ready to operate on a similar timeframe. This has proven

[11] European Commission (n 3) page 5 < https://op.europa.eu/en/publication-detail/-/publication/56611073-3f2b-11ef-bf41-01aa75ed71a1/language-en> accessed 7 July.

essential to advance major projects such as the first full-chain CCS project in the EU, the Porthos project,[12] as well as other major projects which have taken FID in 2024 and 2025.[13]

The United Kingdom (UK) has already provided one set of mechanisms which have successfully led to major project financing of CO_2 infrastructure projects in 2024 and 2025.[14] While the UK is one such model of successful risk sharing mechanisms, the Commission should seek to identify potential other mechanisms in the Innovation Fund which could prove instrumental in accelerating industrial decarbonisation in the EU.

Consortium-based bidding could change project-on-project risk dynamics by supporting the development of industrial decarbonization clusters, by enabling:

- Multiple emitters to coordinate a single bid with a set price;
- Offering a set price for a minimum amount of emissions reductions;
- Using various, complementary industrial processes (e.g. cement and hydrogen production with CO_2 capture) which have common infrastructure needs.

As part of the Innovation Fund, calls could specifically focus on enabling multiple emitters to enter a composite bid, as well as calls which are open to individual bids from individual emitters. This would allow multiple emitters within a geographically close area to submit one coordinated bid ensuring alignment of projects and ability to deliver a sufficient share to complementary value chains at one point in time. Through economies of agglomeration, the IF can help to justify project development and can help de-risk counterparty risk.

[12] Porthos Project <https://www.porthosco2.nl/en/> accessed 7 July 2025. For insights on how the Porthos project advanced to final investment decision, see: van de Sande and others, 'The Road to Porthos: Enabling Factors' (2024) GHGT-17. < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5034355>.

[13] Examples: NEP, Hynet, Greensand, Northern Lights Phase 2

[14] NEP and Hynet. For an overview of these mechanisms, see: Clean Air Task Force, 'Risk Allocation and Regulation for CO2 Infrastructure - A UK case study' (2024) https://www.catf.us/resource/risk-allocation-regulation-co2-infrastructure/.

About the Zero Emissions Platform

Established in 2005, Zero Emissions Platform (ZEP) is the official advisor to the European Union on industrial carbon management. We work on developing and accelerating the commercial deployment of these climate technologies:

- *Carbon Capture and Storage (CCS)*
- *Carbon Capture and Utilisation (where CO_2 is stored in a manner intended to be permanent)*
- *Bio-Carbon Capture and Storage (BioCCS)*
- *Direct Air Capture with Carbon Storage*

ZEP supports the ETIP-ZEP under the European SET-Plan funded by the European Framework Programme and collaborates closely with various services of the European Commission on several common deliverables.

Our comprehensive technical work and policy advice builds on a broad, diverse member base, ranging from energy and industrial companies to infrastructure and technology developers, financial and research institutions and civil society organisations. Supporting the ETIP-ZEP under the SET-Plan, we ensure industry, research, and civil society contribute to EU industrial carbon management policies.

Our mission is to accelerate its deployment and the buildout of CO_2 infrastructure in line with Europe's climate ambition.