



Hydrogen
Europe

Lowering investment risks for cross-border hydrogen infrastructure

Hydrogen Europe position paper

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Executive summary

The development of a competitive European hydrogen economy hinges on the rapid deployment of dedicated hydrogen transport and storage infrastructure. Hydrogen networks remain at an early stage and face major investment uncertainties due to immature markets, evolving regulation, unclear final cost of the value chain, and the absence of investment derisking instruments in the absence of established grid users. These risks are particularly acute for **cross-border infrastructure**, which requires higher upfront capital, complex permitting and governance, and close coordination among multiple jurisdictions. Yet such projects are **essential to create an integrated and liquid European hydrogen market that links emerging production hubs with major industrial demand centres**.

Without tailored risk-mitigation tools, many cross-border hydrogen projects may be delayed or underfinanced. Although existing instruments such as Projects of Common Interest (PCIs)/Projects of Mutual Interest (PMIs) and the Cross-Border Cost Allocation (CBCA) framework provide important support, hydrogen markets in its formative years needs additional tailored support. The CBCA mechanism, in particular, is constrained by the lack of market data, regulatory fragmentation, and procedural timelines that do not align with first-mover project needs. The 2025 Copenhagen Infrastructure Forum therefore called ENNOH and ENTSOG for the development of hydrogen-specific de-risking mechanisms, with further recommendations expected in 2026.

This position paper assesses the limitations of the existing framework for hydrogen and proposes a dedicated solution at European level to reduce the early-stage investment risk for cross-border infrastructure. The central element is **EU budget guarantees enabling long term capacity commitments, along with an intertemporal cost allocation scheme managed by a Special Purpose Vehicle (SPV) at EU level**. The SPV would have a double function: (1) deconsolidating debt from the HTNOs balance sheets and (2) filling the revenue gap through operational payments. Managed by the European Investment Bank (EIB) or another EU institution, the SPV would provide operational resources to hydrogen network operators to cover early revenue gaps, allowing tariff stability during the ramp-up phase while ensuring full cost recovery over time. These resources would not constitute subsidies but would be integrated into regulated allowed revenues as temporary support to network operators, enabling them to maintain stable tariffs while hydrogen demand develops. As market volumes increase, the need for support decreases and excess tariff revenue could be used to repay the accrued operational payments, according to a harmonised methodology developed by ACER to ensure regulatory coherence across Member States. Additionally, Member States and the Commission should implement tools to promote market evolutions on production and consumption sides. Supply and demand can be stimulated in many ways (e.g. contributions to CAPEX/OPEX or other form of support like contract for difference). These are key preconditions for strengthening the emergence of market commitments and, ultimately, to ensure sound infrastructure developments.

We recommend three immediate actions to support the creation of this tool:

1. The **establishment of a joint task force** – bringing together the Commission, EIB, ACER and ENNOH – to develop the detailed design of an EU guarantee and related functioning, such as **EU-level mechanism** including financial architecture, funding parameters and eligibility criteria.
2. **Set out the governance framework** by confirming the EIB or other institution’s role as the managing entity under a formal mandate and clarifying the responsibilities of the Commission, ACER and national regulators in oversight, coordination and compliance, as well as the role of HTNOs as project promoters in this framework.
3. **Amend the regulation on TEN-E, Connecting Europe Facility and the European Competitiveness Fund to legally create the tool and a budget**, providing the legal basis, budget guarantee authorization, and mandate needed to operationalize the SPV.

1. Existing derisking tools: Cross-Border Cost Allocation (CBCA)

The development of an integrated European hydrogen market depends also on the timely deployment of dedicated transport and storage infrastructure. Yet cross-border hydrogen projects face exceptional investment risks due to immature markets, uncertain demand, complex governance, and high upfront costs. Existing TEN-E instruments such as PCIs, PMIs and CBCA provide an important foundation but remain insufficient to de-risk hydrogen infrastructure at this early stage, making additional policy and financial mechanisms essential to avoid delays and support Europe's climate and industrial objectives.

The CBCA mechanism, established under the TEN-E Regulation, was designed to ensure that the costs of cross-border energy infrastructure are shared fairly among the Member States that benefit from the project. When benefits extend beyond the country where the infrastructure is located, CBCA enables a distribution of costs that reflects the distribution of benefits. National regulators, or ACER where agreement cannot be reached, allocate costs based on a cost-benefit analysis (CBA) that quantifies the net impacts for each participating Member State. The resulting decision is implemented through national tariffs, levies, or charges, ensuring that users in the benefiting countries contribute proportionately.

In principle, CBCA could also be applied to hydrogen networks that qualify as PCIs or PMIs and demonstrate cross-border benefits. However, **CBCA's reliance on data-driven CBAs and synchronised regulatory decision-making creates significant challenges in the early hydrogen market. As hydrogen markets remain largely nascent, with no actual cross-border flows and infrastructure, limited trading volumes, no stable price formation, and uncertain demand trajectories, it is extremely difficult to produce credible cost-benefit analyses.** Without reliable price signals or cross-border hydrogen flows, the quantification of who benefits from a given project becomes speculative as even basic questions about benefit distribution cannot be answered with confidence. **Moreover, CBCA requires a level of coordination among national regulators and ACER where needed, that does not align with the rapid financing and investment cycles required for first-mover hydrogen infrastructure.**¹ These procedural and analytical constraints make CBCA ill-suited as the primary de-risking tool for hydrogen at this stage.

Given these limitations, it is evident that **CBCA alone cannot address the scale and nature of risk faced by early cross border hydrogen infrastructure projects.** While increased funding under the Connecting Europe Facility – particularly the proposed €29.9 billion budget for CEF Energy in the next Multiannual Financial Framework (MFF) – is a welcomed step, grant funding cannot fill the entire derisking gap. Europe's energy infrastructure needs exceed €1.3 trillion by 2040 for electricity alone. The hydrogen infrastructure shows substantial investment needs, with planned investments amounting to almost €170 billion between 2024 and 2040². Two thirds of those investments are dedicated to hydrogen pipelines. Most large hydrogen pipeline and storage projects will not be able to rely solely on CEF support, especially given the fierce competition for limited funding. Therefore, from our point of view, **it is essential that a new model is designed specifically to address the current**

¹ When a project promoter requests CBCA, the relevant National Regulatory Authorities must first attempt to reach a joint decision. If the NRAs fail to agree within six months - or if they jointly request it - ACER becomes responsible for issuing a binding decision. In practice, the overall process can take long, as it requires national consultations and coordination between multiple NRAs.

² 2025 Final report "Investment needs of European energy infrastructure to enable a decarbonized economy"; <https://op.europa.eu/en/publication-detail/-/publication/864c619c-e386-11ef-be2a-01aa75ed71a1/language-en>

needs of the hydrogen market, whereby a focus should be made on de-risking investments in hydrogen infrastructure in order to attract suitable infrastructure financing.

2. An EU-level framework for Intertemporal Cost Allocation

A promising solution lies in establishing an **EU-level mechanism backed by EU budget guarantees useful also to enable an intertemporal cost allocation scheme**. This model draws inspiration from approaches already applied at national level, such as Germany's Intertemporal Cost Allocation mechanism, while providing a harmonised structure suited to cross-border hydrogen networks.

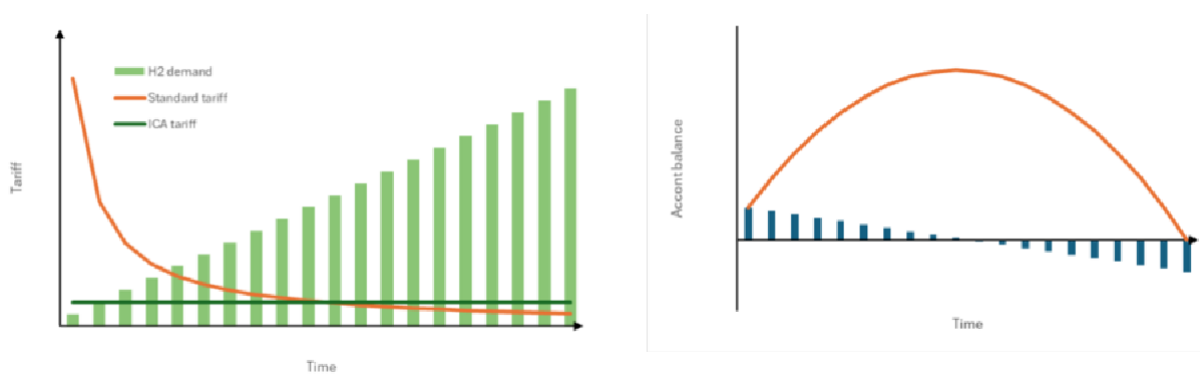


Figure 1.1: Illustrative example of an intertemporal cost allocation mechanism depicting on the left the difference between the standard tariff and a lower fixed tariff for the entire duration of the mechanism and on the right the annual balance and the cumulative accrued payments disbursed by the EU mechanism.

Source: Hydrogen Europe

The EU mechanism would act as a **central financial instrument** managed by a European institution, such as the EIB. It **would provide operational resources to hydrogen network operators to cover the gap between allowed revenues, set by national regulators, and the actual revenues generated in the network's early years**. These resources would not constitute subsidies and would add to the low-tariff allowed revenues as temporary support to network operators, allowing them to keep tariff stability while hydrogen demand grows. As market volumes increase, it would progressively phase-out the need for EU guarantee resources covering regulated revenues. Once market conditions develop and in case regulated tariffs are set at higher levels than the ones to cover HTNO allowed revenues, these extra resources can be used to repay amortisation account, following a repayment schedule aligned with an EU-level intertemporal cost allocation framework. Such a framework would ensure consistent treatment across Member States and improve transparency for regulators and investors. Additionally, it ensures non prohibitive network tariffs for users while guaranteeing the cost coverage for HTNOs during the early phases of the hydrogen market, by a European Institution to support targets set at EU-level.

However, with an amortisation account and a harmonised Intertemporal Cost Allocation (ITCA) methodology, some risks may remain, reflecting the inherent uncertainties associated with an emerging hydrogen market. To address this, the **mechanism should be backed by EU budget guarantees**, following the model of instruments such as InvestEU. The guarantees would cover potential losses only after all regulatory and market safeguards are exhausted. The required EU budget provisioning would be relatively modest compared to the volume of investment mobilised, resulting in significant leverage of public resources. If structured within the framework of the next

MFF, and integrated into TEN-E Regulation revision, CEF and the European Competitiveness Fund, this mechanism would provide a powerful way to support strategic hydrogen infrastructure.

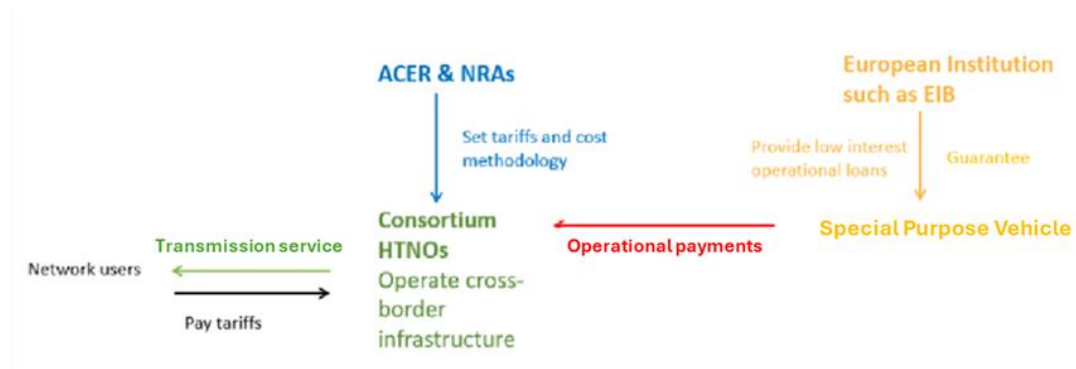


Figure 1.2.: Overview of the proposed instrument
Source: Hydrogen Europe

Implementing the mechanism within the EU framework

To implement this mechanism, it would need to be formally established as a financial instrument at EU-level under the next Multiannual Financial Framework. This would require clear budgetary allocations, governance arrangements, and eligibility criteria, linked to existing structures under TEN-E and the Hydrogen and Gas Market Regulation. The EIB or any other designated EU institution could manage the Special Purpose Vehicle (SPV). The SPV would have a double function: (1) deconsolidating debt from the HTNOs balance sheets and (2) filling the revenue gap through operational payments. ACER and national regulators would jointly ensure that the intertemporal cost allocation methodology is applied consistently, preserving regulatory stability while adapting to evolving market conditions.

The mechanism should also be aligned with existing EU instruments to ensure complementarity across different stages of project development. **Projects could continue to benefit from support** under CEF, the European Competitiveness Fund, or other targeted schemes that reduce upfront capital expenditure, **while the EU mechanism would address residual revenue and volume risk during the operational phase by potentially allowing for an intertemporal cost recovery. The guarantee element could be implemented through InvestEU, enabling the EU budget to underwrite any loss exposure incurred by the EIB.** Such an approach would substantially increase the leverage of EU funds and provide investors with the confidence needed to support early hydrogen infrastructure.

Additionally, it is important that such instrument is also paired with appropriate support schemes for demand to guarantee appropriate volumes to enable infrastructure development. Supply and demand can be stimulated in many ways (e.g. contributions to CAPEX/OPEX or other form of support like contract for difference). These are key preconditions for strengthening the emergence of market commitments and, ultimately, to ensure sound infrastructure developments.

3. Recommended next steps

To move from concept to concrete implementation, we recommend the following next steps:

- **Define the EU-level mechanism** by establishing a joint task force – bringing together the Commission, EIB, ACER and ENNOH – to develop the detailed design, including financial architecture, funding parameters and eligibility criteria.
- **Set out the governance framework** by confirming the EIB's or other EU institution's role as the managing entity under a formal mandate and clarifying the responsibilities of the Commission, ACER and the national regulators in oversight, coordination and compliance, as well as the role of HTNOs as project promoters in this framework.
- **Secure legal and budgetary mandates** by amending the relevant regulations like TEN-E, CEF and ECF to provide the legal basis, budget guarantee authorization, and mandate needed to operationalize the SPV.

Together, these measures would create a robust framework for derisking cross-border hydrogen infrastructure investments in Europe. By stabilising tariffs, improving investment certainty and accelerating the build out of strategic networks, the proposed mechanism would support the emergence of an integrated hydrogen backbone and thus hydrogen market and ensure that infrastructure development keeps pace with climate and industrial policy objectives that European Union has set for itself.

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