

ZEP response to stakeholder consultation: Transition pathways for ecosystems – Energy-intensive industries

ZEP responded to the following questions:

2.2 Sustainability

Are the energy-intensive industries on the right track to achieve our targets (climate neutrality, biodiversity, circularity, zero pollution, social fairness)? In which areas are the action gaps between where we want to be and where we need to be greatest?

For energy-intensive industries, CCS can enable a cost-efficient pathway, safeguarding jobs in core sectors of the EU economy while creating others along the CCS/CCU value chain, and preserving industrial competitiveness.

The development of shared CO₂ transport infrastructure to connect industrial clusters to storage locations is key to unlock economies of scale on a regional, national, and European level. Crucial for the development of CO₂ networks is the creation of hubs and clusters – where CO₂ infrastructure is shared among different emitters. CO₂ transport modalities other than pipeline, such as shipping, barges, trucks and trains, will become increasingly important.

For CCS projects aiming to transport CO₂ by ship, interoperability is vital to optimise the development of CO₂ infrastructure. Standards on CO₂ specifications (composition, pressures, temperatures, etc.), ship design and specifications (e.g. referring to loading and off-loading) will be needed to support many CCS projects that will become operational in the mid-2020s.

The capture of biogenic CO₂ should also be incentivised. Carbon dioxide removals (CDRs) must be certified through thorough carbon accounting. Accounting, monitoring, and verification requirements for CDRs should be aligned with existing methodologies, such as the framework for monitoring, reporting and verification of EU ETS emissions.

In addressing the challenges outlined here, how do you see the respective roles of the Commission, Member States, industry, social partners and other stakeholders? Do we need new or amended legislation, international agreements, new institutional structures, new standards, targeted funding, industry initiatives, targeted research and innovation, better communication or any other action towards a more innovative ecosystem?

The European Commission should propose as soon as possible a European strategy for CCS and CCU, setting out the foundation for a European, low-carbon CCS and CCU industry and a vision and objectives to be achieved. There is still not enough political acknowledgement of the role of CCS and CCU for the decarbonisation of energy and industry sectors, especially energy-intensive industrial value chains.

The National Energy and Climate Plans and long-term strategies of European member states provide an indication of national attitudes towards the technologies. An early assessment shows that 14 EU member states have included the development of R&D activities around CCS in their National Energy and Climate Plans (NECPs), while five have included the development of a CCS strategy and large-scale projects by 2030. CCU was also mentioned in national policy and measures of 12 member states, with little detail on the concrete measures for deployment.

3.1. Enabling regulatory framework

What more or different would be needed in order to support the transition? Which elements are missing or do you find insufficient in the current regulatory framework?

In addition to what has been noted above, to ensure the large-scale development and deployment of CCS and CCU in the 2020s, there is a need to work on the following elements:

- Carbon Border Adjustment Mechanism should be an effective tool to counter carbon leakage.
- With a higher carbon price, the increasing funding pot of the Innovation Fund is firmly at the core of EU's funding instruments to support first-of-a-kind, low-carbon technologies and projects. While acknowledging that the Innovation Fund is spread out over a seven-year period, the oversubscription in the initial round shows that the budget and frequency of the calls needs to be increased to realise a wide array of important investments in the next years.
- Carbon Contracts for Difference (CCfD) are an important instrument that should also be harmonised within the EU.
- All modalities for CO₂ transport to be enabled under the TEN-E regulation and the EU ETS Directive (and the associated Monitoring and Reporting Regulation).

Furthermore, there is a need to accelerate storage appraisal activities in Europe, creating a portfolio of 'permit-ready' sites that will meet future capture rates (including potential storage for CDRs). These storage hubs can be driven by Projects of Common Interest (PCI) but should also support development in other regions.

Which economic and/or regulatory instruments could support the development of new business models and support the competitiveness of sustainable solutions?

In the proposal for a revised EU ETS Directive, as well as in the update to the Industrial strategy, the European Commission makes reference to carbon contracts for difference (CCfD). There is a need for further clarity about these tools, as they are critical to support the uptake of low-carbon technologies such as CCS and CCU.

In the REDII proposal, presented as part of the 'Fit for 55' package in July, the Commission proposes the target of 50% renewable hydrogen in the industrial sector by 2030. This kind of target can best be delivered by planning for and developing new hydrogen infrastructure in parallel with CO₂ infrastructure. As stated in the European Hydrogen strategy, low-carbon hydrogen will play a role for the industrial decarbonisation.

3.2 Financing of projects and activities

How can private investment in the EII ecosystem be better geared towards the necessary green and digital transitions?

The European Taxonomy Climate Delegated Act confirmed that CCS can be applied to economic activities to enable them to meet the Taxonomy's screening criteria and thus be defined as sustainable.

While noting good development on the inclusion of CO₂ transport via all modes in the delegated act of the EU Taxonomy, ZEP notes that the proposed threshold will make it difficult for grid-connected electrolysis-based hydrogen to be compliant with the Taxonomy. When the electricity grid carbon intensity is taken into account, there is a risk that the production of grid-connected electrolysis-based hydrogen in some European countries may result in an increase of GHG emissions – rather than a reduction.

To ensure that the production of grid-connected hydrogen complies with the Taxonomy, ZEP proposes a set-up that takes into account additionality by using power purchase agreements (PPA) where geographical and temporal correlation between the production and use of the electricity are in place. Low-carbon hydrogen will be crucial to kick-start a clean hydrogen economy and pave the way for renewable hydrogen.

3.3 Infrastructure and energy needs.

Where do you see shortcomings in the current infrastructure that would have to be addressed?

The role of European CO₂ transport and storage infrastructure will be key to enable energy-intensive industries to achieve decarbonisation in a cost-efficient way. CO₂ transport infrastructure – operated by pipeline and other modalities of CO₂ transport, such as ships, etc – will enable access to safe geological storage where CO₂ can be stored and deliver climate change mitigation.

Deploying CO₂ infrastructure would allow industrial emitters from all corners of Europe to connect to permanent geological storage, where CO₂ would be safely stored without re-entering the atmosphere, thus mitigating climate change.

The parallel development of hydrogen and CO₂ infrastructure, as well as the recognition of CO₂ infrastructure in the Ten-Year Network Development Plans (TYNDP), are critical.



Given the importance of early large-scale low-carbon hydrogen to kick-start the clean hydrogen economy, clear targets for low-carbon hydrogen should be included.