ZEP response to the consultation on 'Hydrogen and gas market decarbonisation package'

About the initiative

Introduction & principles

Reaching climate neutrality by 2050 will require all readily available, scientifically proven, net-zero compatible technologies to be developed and deployed at scale. Thorough and scientific carbon accounting needs to be at the basis of any regulatory framework that will support the use of renewable and low-carbon gases, including low-carbon hydrogen produced with CCS. ZEP stresses that all efforts of climate actions should be aimed at reaching net-zero greenhouse gas (GHG) emissions by 2050 - this should be linked and consistent in other EU legislations.

A technology-neutral and science-based approach should guide the trajectory towards this goal and put the EU on the right track to meet the higher 2030 climate target.

Revision

The revision of Regulation 715/2009 on the conditions for access to the natural gas transmission networks, provides an opportunity to expand relevant elements of the existing gas regulatory framework to accommodate the infrastructure networks of the future, as well as the transportation of new gases, including CO2 in the context of CCS.

New open-access CO2 networks that capture and integrate the emissions from industrial sectors and installations can help to further promote energy systems integration, creating more optimised and integrated EU energy infrastructure. Repurposing existing natural gas infrastructure should also be discussed when revising the regulation in order to evaluate their potential for CO2 transport.

Access

As CCS is scaled up in the EU and cross-border transport solutions are required, it is possible that gas infrastructure companies will play a role in delivering CO2 transportation services within the overall CCS value chain. To do this effectively, such companies should be able to offer CO2 transport services to the market, based on a clear legal basis and this may require an amendment to the Gas Directive. To create a level playing field and conditions for long-term investments for CO_2 emitters across Europe, the approach to CO2 transport should be based on non-discriminatory third-party access and transparent tariffs.

In this respect, it is also important to safeguard that National Regulatory Authorities (NRAs) have revised mandates that enable the oversight of CO2 transport.

All modalities for CO2 transport

CO2 infrastructure, including transportation networks, is therefore a prerequisite for large-scale decarbonisation and it plays an important part in a net-zero scenario. Together with

the revision of the EU ETS Directive and the TEN-E regulation[1] – where all modalities for CO2 transport should be taken into account, this outcome would allow all regions in Europe to have cross-border access to safe geological storage, thus delivering cost-efficient opportunities for large-scale decarbonisation. As the EU looks to identify future network configuration scenarios, in particular under the Ten-Year Network Development Plan (TYNDP) process, CO2 transport infrastructure should be an important consideration, as such infrastructure will increasingly form part of integrated EU energy infrastructure.

Given that storage sites are not evenly distributed in Europe, it will be crucial to enable all modalities of CO2 transport, connecting CO2 emitters to storage sites. Cooperation between different entities along the CCS value chain, including emitters, transport solution providers and storage operators in industrial clusters will be required. This will have a positive effect on the full value chain – incentivising CO2 capture projects, reducing overall costs, and delivering climate change mitigation.

Hydrogen

Volumes of low-carbon hydrogen can be made available from natural gas with CCS, from new facilities as well as retrofitted existing plants as soon as CO2 infrastructure is in place[2]. As stated in the European Hydrogen strategy, low-carbon hydrogen will play a role for the industrial decarbonisation, where direct electrification would be too costly. The Commission should also consider retrofitting and repurposing existing natural gas infrastructure to support the development of dedicated hydrogen infrastructure. In this respect, CO2 infrastructure should be developed in parallel to hydrogen infrastructure. This will enable the production and transport of early, large-scale volumes of low-carbon hydrogen and limit initial infrastructure costs.

About the Zero Emissions Platform

The Zero Emissions Platform (ZEP) is a European Technology and Innovation Platform (ETIP) under the Commission's Strategic Energy Technology Plan (SET-Plan) and acts as the EU's technical adviser on the deployment of Carbon Capture and Storage (CCS), and Carbon Capture and Utilisation (CCU) under Horizon2020 R&I programme (grant agreement 826051).

ZEP supports the European Union's commitment to reach climate neutrality by 2050, defined as net-zero greenhouse gas (GHG) emissions by 2050. To this end, CCS technologies represent readily available and cost-efficient pathways for the decarbonisation of industrial and energy sectors in the European Union. Some applications of CCU – where CO2 is stored in a manner intended to be permanent – can also contribute to this goal.

[1] ZEP response to the adopted act: Proposal for a Regulation on guidelines for trans-European energy infrastructure and repealing Regulation, 2021; ZEP response to the EU ETS Consultation, 2021.
[2] Zero Emissions Platform, The crucial role of low-carbon hydrogen production to achieve Europe's climate ambitions. A technical assessment, 2021