

ZEP response to the call for evidence on the certification of carbon removals

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 accompanied by full life-cycle analysis (LCA) needs to be at the basis of any regulatory framework that will support the removal of carbon dioxide (CDR).

ZEP is adamant that reaching net-zero greenhouse gas (GHG) emissions by 2050 in the EU is the ultimate objective and the main driver of the climate action. As noted in previous responses¹, ZEP believes that the 2030 target should put the EU on a cost-efficient pathway towards net-zero by 2050 and supports the creation of a common EU standard for the identification of activities that remove carbon from the atmosphere.

The European Green Deal and the European Climate Law on climate neutrality by 2050, and the Council conclusions, clarify that both GHG emissions reduction/mitigation and carbon dioxide removal will be needed to achieve the objective of net-zero GHG emissions by 2050. ZEP would like to emphasise that GHG emission reductions must be prioritised to reach climate neutrality and that Carbon Dioxide Removal is a supplementary measure.

As geological storage sites are not evenly distributed among member states, the large-scale deployment of cross-border, open-access European CO₂ transport and storage infrastructure is an essential prerequisite for the application of CDR on a relevant scale. This will enable all CO₂ emitters across Europe to connect to safe geological CO₂ storage. This infrastructure will be necessary to store both fossil and biogenic or atmospheric carbon, enabling both emission reductions and carbon removal respectively. It must be noted that the faster and deeper emission cuts inherently require less carbon removal to achieve climate neutrality. Therefore, quickly deploying a broad CO₂ transport and storage network in Europe is a no-regrets way to both reduce future dependence on carbon removal for climate neutrality while also enabling it to be deployed in the first place.

The definition of CDR needs to be clear and exhaustive to provide clarity to ongoing CCS projects and policy discussions, enable large-scale deployment and avoid costly, ineffective and sometimes even counterproductive measures.

ZEP's reports '[Europe needs robust accounting for Carbon Dioxide Removal](#)' and '[Europe needs a definition of CDR](#)' show that, when assessing the potential of a process to lead to CDR, four principles must be considered:

¹ ZEP response to 2030 Climate Target Plan, Available at <https://zeroemissionsplatform.eu/zep-response-to-2030-climate-target-plan/>

- Carbon dioxide is physically removed from the atmosphere.
- The removed carbon dioxide is stored out of the atmosphere in a manner intended to be permanent.
- Upstream and downstream greenhouse gas emissions, associated with the removal and storage process, are comprehensively estimated and included in the emission balance.
- The total quantity of atmospheric carbon dioxide removed and permanently stored is greater than the total quantity of carbon dioxide equivalent emitted to the atmosphere

The above-mentioned report also acknowledges the potential for nature-based CDR solutions but notes that these solutions require active management and are more susceptible to reversals, due to natural events caused by climate change. As mentioned in the Commission's call for evidence, some carbon removals are *"at risk of uncontrolled re-emission as well as measurement and monitoring difficulties, in particular with regard to practices that sequester carbon in natural ecosystems"*. This concern should be reflected in the certification mechanism. Permanence is crucial.

Certification of CDRs must be based on high-quality robust and transparent systems for monitoring, accounting and reporting, where CDRs are verified through a full life-cycle analysis of the climate impact. Double counting must be avoided. Methodologies for voluntary carbon markets should also be developed to the same robust and high-quality standard as the regulated ones. We have to do this right and must avoid diverting private and public funding into greenwashing practices.

The most efficient way to 'neutralise' GHG emissions is to remove atmospheric CO₂ and placing it back into geological storage.

A robust certification mechanism for carbon removal is crucial and must include reliably monitoring, reporting or verification that carbon removal is occurring with sufficient confidence. It is crucial to have clear definitions of removals before integrating CDR into the EU's existing climate architecture. In the impact assessment, the following intention is mentioned:

"The initiative will assess whether:

- An EU certification framework should set common minimum standards for the certification methodologies, including on monitoring, reporting and verification, or provide for comprehensive rules on the certification of each type of carbon removal.
- The different functions, including the prior validation of projects and the subsequent verification of carbon removals achieved, should be carried out by private operators or by public authorities, possibly as part of a centralised EU system."

Below is a list of key principles that ZEP would like to highlight:

- The certification should set a stringent and credible standard.
- The methodology must be very clear, including robust monitoring, LCA verification, accounting, and reporting. Robustness of monitoring, reporting and verification aspects must be among the main criteria.
- Trust in the certificate scheme and methodology is crucial. There needs to be a clear definition of the certificates and methodologies before describing how CDRs can be included in the EU ETS system (and any regulatory system).
- Cross-border trade of credits linked to Article 6 of the Paris Agreement in the wider European area, including Norway and the UK, should be harmonised.
- Voluntary Carbon Markets should develop to the same high-level standard as regulatory ones.
- Incentives to invest in CDR is crucially important and there is a strong need to foster cost-effective carbon removal solutions. Technical readiness and economic feasibility must, together with robustness, be among the main criteria. Comparability and competition between different carbon removal solutions are crucial.
- Permanence of carbon storage must be among the main criteria. The standard for permanence should be set at a level which is comparable to geological storage.
- Transparency is crucial in corporate reporting regarding the use of CDR.

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).

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.