



Denmark's position paper on integrating permanent carbon dioxide removals in the EU ETS

Denmark's main priorities for integrating permanent removals in the EU ETS:

Permanent carbon dioxide removals (CDR) such as carbon capture and storage from biogenic sources (BioCCS) or directly from the atmosphere (DACCS) will play a significant role in meeting our climate goals, both at the EU and global level. The Commission's 2040 communication estimates that up to 75 Mt CO₂ from BioCCS and DACCS is needed to counterbalance residual emissions and reach the recommended 90 percent reduction target in 2040. Permanent CDR technologies should therefore be integrated into the EU's Emissions Trading System (ETS) as soon as possible in order to incentivise the deployment of the technologies and increase the long-term certainty for investors. This should be done with a consideration of key principles, including a continued focus on emission reductions, a strong monitoring, reporting and verification system (MRV) for ensuring permanent storage and key sustainability criteria.

An integration of permanent CDR into the EU ETS will:

- Provide a clear regulatory framework and investment security for incentivising deployment of permanent CDR technologies.
- Ensure a cost-effective climate regulation by aligning incentives between emission reductions and permanent CDR.
- Ensure liquidity of allowances in the EU ETS in the long term as the emissions cap moves closer to zero.

Key conditions for a successful integration:

- Avoiding abatement deterrence
- Only allowing permanent CDRs with robust accounting methods
- Ensuring environmental integrity

Long-term credibility and market-based principles deliver climate action

Emission trading is the most cost-efficient way of incentivising climate action in the EU. The latest revision of the EU ETS tightens the emission cap significantly signaling a political commitment and provides more long-term certainty for investors. With the Fit for 55 Package almost all sectors are covered by emissions trading leaving only the agricultural sector and carbon removals outside of the EU ETS.

There is currently no coherent policy framework for permanent CDR in the EU. Moreover, investment decisions in technologies such as BioCCS and DACCS mainly rely on voluntary carbon markets as well as EU and state subsidies which are not incentivising CDR technologies to the necessary level. Denmark therefore suggests that **permanent CDR should be integrated in the EU ETS as soon as possible to increase long-term policy and investment certainty**. This will also ensure a more cost-effective climate regulation where incentives for emission reductions and permanent CDR are better aligned.

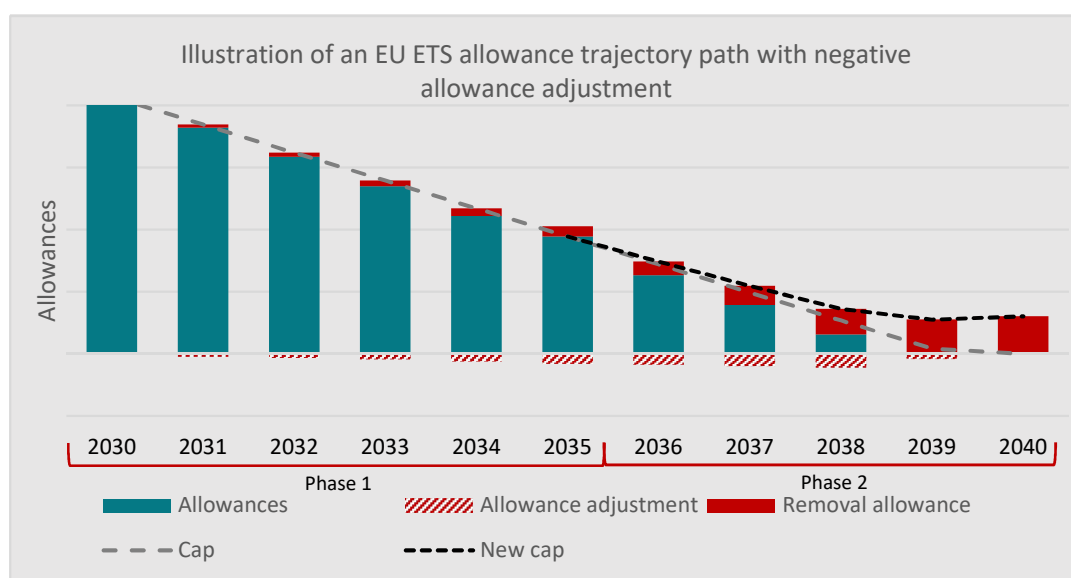
The Fit for 55 revision means that currently the last allowances in ETS1 will be issued by 2039 and in ETS2 for road transport and heating in buildings by the mid-2040s. If further emissions should be allowed from these sectors, there will be a need to consider new rules for issuing allowances. **Introducing permanent CDR technologies could therefore be a way forward to counterbalance residual emissions covered by the ETS.** In addition, Denmark strongly encourages the Commission to merge the two ETS systems from 2030 at the latest to ensure a uniform carbon price and adequate liquidity. A merged EU ETS which includes permanent CDR, would allow actors from both ETS systems to access removal allowances.



A simple integration and sequencing towards net zero strengthens investment security and allow cost-effective choices

The Commission has already been mandated to assess and possibly put forward a proposal on how permanently removed and stored CO₂ could be covered by emissions trading in 2026. Denmark suggests that a proposal should be based on a simple design that can be adjusted over time as the emissions cap moves closer to zero. Moreover, it is important that the introduction of permanent carbon removals goes hand in hand with an undeterred effort to reduce greenhouse gas emissions. Therefore, **Denmark suggests to integrate removal allowances in two phases. In the first phase removal allowances introduced in the ETS should be cancelled out by an existing allowance under the existing cap.** This would maintain the reduction path as decided in the current revision and ensure that permanent CDR provides additional abatement.

The proposed design in phase one will only be sufficient to upscale permanent carbon dioxide removals as long as there are still allowances to be cancelled out. As we move closer to 2040, the trajectory path must be revisited to make sure that the EU ETS can still operate for remaining hard-to-abate emissions while still providing incentives for permanent CDR technologies. **In the second phase permanent CDR allowances could therefore progressively be issued in addition to the existing allowances.** However existing allowances should to some extent still be replaced by CDR allowances to ensure a continued abatement. The concrete design and timing are subject to the general decision on how the ETS-sector shall contribute to the 2040 target. A theoretical illustration of the proposal can be viewed below:



Note: The figure shows a theoretical illustration of an ETS with permanent CDR. In phase 1, red removal allowances are counteracted by a corresponding allowance adjustment. When entering phase 2, removal allowances could supplement existing allowances to account for remaining hard-to-abate emissions.

Denmark proposes to consider introducing a rule-based mechanism or revising the Market Stability Reserve to make it fit for the introduction of CDR allowances. Supply thresholds should make sure on the one hand that the integration actually stimulates the demand for CDR technologies and on the other hand that a sufficient supply of allowances is in place to ensure continued liquidity and credibility in the EU ETS towards 2040. By sketching out the integration path from the start, the long-term certainty of the market for scaling up CDR-technologies can be strengthened.

Permanence and environmental integrity as key principles

Permanence must be ensured if CDR shall be valued equal to an emission reduction. CCS technologies can effectively store carbon in geological storage sites for thousands of years, which is acknowledged as permanent in the EU-legislation and by the IPCC. The CCS directive establishes a robust legal framework for environmentally safe permanent geological storage of CO₂ and the EU ETS already allows industries to take CCS into account when designing their net-zero pathways. As the atmospheric net result of mitigating CO₂ emissions and removing an equal amount of CO₂ using permanent CDRs are the same, incentives for all CCS technologies should be aligned to ensure a more cost-effective climate regulation.

An accelerated deployment of permanent CDR must take environmental integrity into account, especially regarding the use of sustainably sourced biomass for CDR based on biogenic sources such as BioCCS. The LULUCF-regulation ensures that net emissions from biogenic sources are accounted towards the EU's climate target. However, there is currently a lack of economic incentives in the LULUCF sector to effectively secure the carbon sink. When considering the entire 2040 framework, better incentives for long-term storage in the forestry sector must be applied to limit possible negative impacts on the carbon sink.

To this date, BioCCS and DACCS are the only permanent carbon removal technologies with a regulatory framework mature enough to ensure a safe integration in the EU ETS. However, development of robust MRVs for other CDR technologies that ensures a permanent storage of CO₂ could be considered.

Imperative to increase cost-competitiveness

Although the EU ETS provides a regulatory framework, the allowance price alone is too low for BioCCS and DACCS to be cost-competitive in the short run. Even if economic incentives for BioCCS and DACCS are valued equal to ETS prices, additional funding will be needed to supplement the allowance price, especially for DACCS. Denmark urges the Commission to consider how to make better use of the Innovation Fund to accelerate deployment of permanent CDR technologies. **Securing sufficient public and private funding for permanent CDR technologies must be a priority due to their vital role in the future EU ETS towards 2040 and beyond.** When considering private funding from e.g. the voluntary carbon market, additionality must be taken into account.

In addition, it is essential to bring down costs per stored CO₂. This requires a timely establishment of EU-regulation across the entire CCS value chain – capture, transport and storage. An important element is to establish a regulatory framework for CO₂ transport infrastructure as soon as possible to bring down costs and enable a successful large-scale deployment of CCUS. Therefore, **Denmark urges the Commission to launch its CO₂ transport package announced in the Industrial Carbon Management Strategy no later than 2025.**

