



NEP Industrial Carbon Management Strategy Position Paper

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The Negative Emissions Platform (NEP) is a Brussels-based partnership of European and international organisations focused on carbon removals. Our members are primarily technology companies, but also include project developers, investors, carbon marketplaces, and buyers of carbon removals. We provide a forum in which diverse like-minded organisations actively collaborate to improve political and public recognition of carbon removals.

NEP welcomes the European Commission's public consultation on the Industrial Carbon Management Strategy as a necessary initiative to scale up the deployment of carbon removal technologies.

It is undeniable that carbon dioxide removal (CDR) will be essential in achieving carbon neutrality for both the EU and the rest of the world. The Intergovernmental Panel on Climate Change (IPCC) recognised this in its sixth assessment, stating that net-zero by 2050 would be unattainable without CDR to address hard-to-abate emissions and neutralise any residual emissions.

Nevertheless, to get the sector to where it needs to be by 2050 requires the right policies and investment to build infrastructure and storage capabilities. This strategy is an opportunity for the EU to position itself as the home for the carbon removal sector, thereby solidifying its leadership role in the fight against the climate crisis.

For the Industrial Carbon Management Strategy to be a success, the EU needs to:

1. **Adopt clear definitions** distinguishing between Carbon Capture and Storage, Carbon Capture and Utilisation, and Carbon Dioxide Removal;
2. **Acknowledge that there are different forms of long-duration and permanent storage** and that EU infrastructure should support this;
3. **Understand that all CDR technologies will have risks and it is vital to mitigate those risks as much as possible.** CDR technologies should be assessed on equal footing in the Strategy, as a portfolio of activities will be needed to tackle the climate crisis;
4. **Ensure regulatory consistency** to provide legal clarity for the CDR sector;
5. **Provide significant financial incentives** to support the deployment of permanent CDR (e.g. through subsidies and grants) and through the **establishment of a compliance market**, all with the aim to ensure sector competitiveness and contribution to European climate goals;
6. **Ensure that cross-border transport rules are harmonised**, significantly reducing the burden for CDR companies, many of whom are SMEs;
7. **Cooperate globally** in particular with EEA, EFTA, neighbourhood countries, the UK, and countries/regions with significant storage potential, especially regarding cross-border transport and storage, technological transfer, and in research and innovation.



1) Defining and distinguishing between CCS, CCU, and CDR

Carbon capture and storage (CCS), carbon capture and utilisation (CCU), and carbon dioxide removal (CDR) are often used synonymously which can lead to confusion. Distinguishing between them is therefore necessary to create certainty for all stakeholders on expectations and to clarify policy-making and investment. We suggest the following definitions:

Carbon capture and storage:

A process in which a relatively pure stream of carbon dioxide (CO₂) from industrial and energy-related sources is separated (captured), conditioned, compressed and transported to a storage location for long-term isolation from the atmosphere.

Carbon capture and utilisation:

A process in which CO₂ is captured and then used to produce a new product. If the CO₂ is stored in a product for a climate-relevant time horizon, this is referred to as carbon dioxide capture, utilisation and storage (CCUS).

Carbon dioxide removal:

An activity that captures CO₂ from the atmosphere and durably stores it in geological, terrestrial, or ocean reservoirs, or in products. It is vital to note that whilst emission reductions should remain the priority, there will come a point where hard-to-abate and historical emissions will need to be actively removed for the EU and the world more broadly to get to net-zero[CS1], and then to go beyond this to capture the excess CO₂ that is already in the atmosphere.



Distinguishing between various CO₂ sources is crucial. CO₂ originating from the atmosphere becomes carbon negative when stored (e.g., through BECCS, DACS, Biochar Carbon Removal, BiCRS, Enhanced Rock Weathering, ocean CDR, and permanent storage in materials and products) and carbon neutral when used as fuel. On the other hand, geospheric CO₂, which comes from fossil sources, is carbon neutral when stored, making CCS from fossil point sources a mitigation technology rather than a CDR solution. However, when this geospheric CO₂ is utilised, it results in net emissions of CO₂, but at a later time. Each of these technologies serves distinct objectives and carries different consequences. This diversity should be mirrored in the Strategy and future policy formulation, either through distinct approaches or even separate strategies for CCS, CCU and CDR.

2) Addressing risks of CDR activities

NEP was disappointed to see that Bioenergy Carbon Capture and Storage (BECCS) was singled out in the public consultation regarding its potential environmental risks. The responses provided to the question appear to be biased and unbalanced.

Whilst it is essential to acknowledge that all CDR activities carry some degree of risk, the emphasis should be on addressing and mitigating these risks to ensure the successful deployment of these potentially crucial technologies in the fight against the climate crisis. For example, when dealing with energy-intensive activities, access to renewable energy sources will play a critical role in minimising environmental impacts. As for BECCS, the EU has already taken a step forward by agreeing on new sustainability criteria for biomass under the Renewable Energy Directive III, which can help ensure the responsible and sustainable implementation of this technology. Conducting thorough Life Cycle Assessments (LCAs) will also be crucial in identifying the environmental impact of BECCS and other technologies.

It is essential to have open and transparent discussions about these risks and work collectively to find solutions to minimise and alleviate them. When analysing the responses to this consultation, the European Commission should consider this and assess all technologies on equal footing.



3) Permanent storage

CDR activities are diverse in terms of the type of activity, the cost and the storage duration. Some CDR initiatives span several decades, while others hold the promise of lasting for millennia. In order to avoid passing the responsibility of addressing the climate crisis to future generations, NEP advocates for the EU to support CDR activities that demonstrate long-durability or permanence based on strong/trustworthy and independently audited MRV processes.

CO₂ networks with the purpose of permanent storage are a prerequisite for enabling CDR technologies. Permanent storage can come in various forms, including liquified gas, slurries, inert carbon in solid form, supercritical gas, dissolved CO₂, mineralisation or various kinds of biomass. The **Industrial Carbon Management Strategy should recognise that CO₂ storage can take many forms and ensure that the infrastructure is able to support this.** As a critical aspect of permanent CO₂ storage, **robust monitoring requirements should be established.** Monitoring ensures that the stored CO₂ remains secure and does not leak into the atmosphere, thus ensuring the efficacy of the storage solution.

The EU may also consider setting up clear targets for permanent CO₂ storage. Similarly to that proposed under the Net-Zero Industry Act, **the EU should set up an escalating target for 2035, 2040, 2045 and 2050 ensuring that the storage capacity matches the expected increasing demand of permanent carbon removals.** These storage targets should be envisaged for carbon in many forms, as listed above.



4) EU regulatory harmonisation

In recent years, the EU has increasingly recognised the significance of CCS, CCU and CDR in its climate and environment policies, notably in regard to the Carbon Removal Certification Framework (CRCF), Net-Zero Industry Act (NZIA), Renewable Energy Directive (RED) and Green Claims Directive.

The European Commission is also considering setting up separate carbon removals targets in its 2040 Climate Targets, which could provide the necessary regulatory incentive to facilitate the deployment of a CDR ecosystem. These legislative actions are commendable as they underscore the EU's commitment to addressing the challenges of climate change and promoting sustainable practices.

However, amidst these positive developments, it is crucial for the EU to ensure regulatory coherence and consistency among these policies. Inconsistencies in EU legislation could result in a lack of harmonisation, potentially leading to confusion for industries that are endeavouring to expand their efforts. **Legal certainty is essential to drive investment and therefore crucial if the EU wants to support deployment of these technologies.**

Addressing consistency will foster a more conducive environment for innovation and sustainable growth, as industries can confidently navigate the regulatory landscape without facing conflicting requirements or uncertainties.



5) Financial incentives & EU compliance markets

Presently, highly-durable and permanent CDR activities are costly, which might impede the backing of these technologies. The US's Inflation Reduction Act (IRA) has enticed several European CDR companies to invest in the US, benefiting from the supportive measures offered there. This situation represents a missed opportunity for the EU, which possesses significant potential to expand permanent CDR on a larger scale, thanks to its single market and open borders that facilitate the movement of equipment and the transportation and storage of CO₂.

Whilst the Net-Zero Industry Act could have the potential to address some of these issues, largely depending on the final agreement between the co-legislators, the EU has an opportunity with the Industrial Carbon Management Strategy to truly support the necessary adoption of permanent CDR.

The Strategy must therefore evaluate the necessary financial incentives to enhance CDR deployment. The European Commission should assess how to reduce the high costs, possibly through subsidies and funds (e.g. through the Innovation Fund) and/or through levelling the playing field by ensuring appropriate monitoring and insurance requirements for non-permanent removal methods. These approaches would offer financing certainty for companies operating in this sector.

Furthermore, establishing a compliance market for permanent carbon removals would provide financial sustainability for the sector and acknowledge its pivotal role in achieving climate objectives. Introducing distinct carbon removal objectives as part of the 2040 Climate Targets would be a significant stride in this direction. The proceeds generated through a compliance market could then provide additional financial support for the necessary expansion of the sector.



6) Cross-border transport

The transportation and storage of CO₂ are central challenges faced by CDR companies operating across borders, particularly those outside the EU. The administrative burden imposed on non-EU companies seeking to transport and store CO₂ within the EU (and vice versa) can be substantial and costly, posing a significant obstacle to their operations. This issue becomes particularly pronounced for SMEs, which often have limited resources and face greater financial constraints.

One of the key problems is the lack of harmonisation among EU countries regarding the categorisation of CO₂. The divergent classifications, with some countries viewing CO₂ as a waste product and others as a dangerous good, result in inconsistent regulatory requirements and administrative processes. This fragmentation creates uncertainty for CDR companies and complicates their efforts to navigate the cross-border landscape.

A successful Industrial Carbon Management Strategy should assess how to address these discrepancies and seek to harmonise these rules for companies looking to deploy CDR technologies and store CO₂ within the EU or transport it for storage outside the EU.



7) Global cooperation

The climate crisis is a global crisis. The EU will need to act globally. Creating a network of strong partnerships will not only enable the EU to enhance its own climate ambitions but also encourage other countries to take more ambitious steps towards carbon neutrality.

In particular, the EU should look at strengthening partnerships with EFTA, the EEA, neighbourhood countries and the UK. These countries play a significant role in the EU's economic and environmental landscape, and cooperation with them can lead to the exchange of best practices, technology transfers, and joint research and development projects. Such collaborative efforts will contribute to the wider adoption of sustainable practices and the promotion of CDR technologies beyond the EU's borders.

The EU should also recognise its currently limited capacity to store CO₂ and build stronger partnerships with other markets that offer the potential for additional storage. Facilitating the export of CO₂ to these countries could ease the burden on the EU's storage capacity and create new opportunities for global trade.

The EU possesses a chance to take the lead in shaping suitable global policies and standards. For instance, concerning the CRCF, the EU has the potential to lead in establishing regulations for certifying carbon removal, thereby stimulating greater international ambition. In this light, the EU should contemplate broadening the scope of the CRCF to encompass this aspect and also recognise that the voluntary market operates on an international scale.

The Industrial Carbon Management Strategy has the potential to shape the policies and finances needed to support the necessary deployment of the carbon removal sector for the EU to reach its climate objectives in the coming decades. NEP is committed to further engagement with the European Commission in this regard.

