

CALL FOR EVIDENCE FOR AN INITIATIVE (without an impact assessment)

TITLE OF THE INITIATIVE	Industrial carbon management strategy
LEAD DG – RESPONSIBLE UNIT	DG Energy C.2: Decarbonisation and Sustainability of Energy Sources – lead; DG for Climate Action C2: Low Carbon Solutions (ii): Research & Low carbon Technology Deployment and C3: Low Carbon Solutions (iii): Land Economy & Carbon Removals – co-leads
LIKELY TYPE OF INITIATIVE	Communication on an EU strategy to create a single market for CO ₂ transport and storage services by 2030
INDICATIVE TIMING	Q4-2023
ADDITIONAL INFORMATION	Carbon capture, use and storage (europa.eu)

This document is for information purposes only. It does not prejudice the final decision of the Commission on whether this initiative will be pursued or on its final content. All elements of the initiative described by this document, including its timing, are subject to change.

A. Political context, problem definition and subsidiarity check

Political context

The European Climate Law sets a binding objective of climate neutrality in the EU by 2050. It requires the EU to balance greenhouse gas emissions and removals by 2050 and achieve negative emissions after that. To reach climate neutrality, the Law also sets the intermediate target of reducing greenhouse gas emissions by at least 55% by 2030 compared to 1990. In July and December 2021, the Commission adopted the Fit for 55 legislative package consisting of proposals designed to implement the climate policy ambition for 2030.

In 2020, the Commission adopted an EU strategy on energy system integration to optimise decarbonisation. The strategy confirms that even a fully integrated energy system cannot eliminate CO₂ emissions from all parts of the economy. It therefore recognises the role of carbon capture and storage (CCS) and carbon capture and utilisation (CCU), in particular in hard-to-abate industries.

While emission reduction remains the highest priority of EU climate policies, the 2021 [Commission Communication on sustainable carbon cycles](#) underlined the need to capture, use or store CO₂ to reach climate neutrality. It set out an aspirational objective to remove and permanently store at least 5 million tonnes of CO₂ from the atmosphere using technological solutions by 2030. The certification framework for carbon removal proposed by the Commission in 2022 will provide the basis for identifying high-quality industrial carbon removals and their future recognition in EU climate policies.

In 2023, the Green Deal industrial plan for the net-zero age pointed to carbon capture and storage as one of the key technologies to meet the EU's climate-neutrality goals¹. The Net-Zero Industry Act provides for a simplified regulatory environment for CCS investments and sets an annual target for operating permanent CO₂ storage sites in the EU by 2030. The target is set at 50 million tonnes of operational annual CO₂ injection capacity by 2030².

¹ COM(2023) 62 final.

² COM(2023) 161.

Problem the initiative aims to tackle

Considering the objective of reaching climate neutrality by 2050 and in view of setting a 2040 climate target for the EU in line with the European Climate Law, it is important to analyse in which sectors of the economy and to what extent carbon management technologies (carbon capture, storage and utilisation) can provide viable and cost-efficient decarbonisation options. Companies using these technologies will need access to dedicated infrastructure to transport and store carbon permanently underground or use as feedstock. However, **the infrastructure is not developing fast enough** despite both the Emission Trading System³ (EU ETS) and a legal framework for the environmentally safe geological storage of CO₂⁴ being in place. One reason for this is that storage operators already face high upfront costs to identify, develop and assess storage sites before they can apply for the regulatory permit needed to operate. These costs are only justified if long-term storage customers can be secured. However, these customers are only willing to invest in carbon capture if access to an operational storage site is secured. As a result, only less than 2 million tonnes of CO₂ has been injected every year so far into permanent storage in the European Economic Area. At the same time, CO₂ capture projects alone, which have already been selected for support from the ETS Innovation Fund, would require around 4.6 million tonnes of storage capacity a year by 2029.

In addition, while the momentum for deploying carbon management in industry has increased, the EU lacks a dedicated regulatory environment for CO₂ transport and storage infrastructure. This in turn makes it difficult for CO₂ emitters and users and carbon removal companies to plan their investments. For example, today there are no rules guaranteeing open access to transport and storage infrastructure. There are also no minimum CO₂ quality standards for infrastructure access. Moreover, infrastructure planning is not coordinated or planned at EU level. All this threatens creating a fragmented market with national regulations entrenching suboptimal investments and solutions, preventing a single market to emerge.

Not all captured CO₂ will be permanently stored. On the way to climate neutrality, the EU will need to harness the full potential of carbon capture and utilisation (CCU). It is currently difficult to assess which applications of CCU would be compatible with climate policy objectives. The emerging market of carbon use already benefits from selective incentives included in the EU ETS, the Renewables Energy Directive⁵, the Innovation Fund and Horizon Europe. However, these do not seem to be enough to deploy CCU at scale.

Most global and EU paths to climate neutrality rely heavily on industrial carbon removals. This includes direct air carbon capture and storage (DACCS) and sustainable bioenergy with CCS (BECCS). **Industrial carbon removals are needed to neutralise the remaining emissions in sectors where decarbonisation is particularly difficult** and, if necessary, bring back atmospheric CO₂ to levels compatible with the objectives of the Paris Agreement⁶. Some pilot projects for industrial carbon removal exist in the EU. However, **their deployment and integration into EU climate policies still faces industry and governance issues that need to be tackled** with a long-term perspective in mind.

Industrial carbon management in the EU faces a number of challenges common in other emerging markets with limited supply and demand and heavy capital investments. These need to be addressed to create a market, including European technology suppliers, for CCS, CCU and carbon removal value chains.

Basis for EU action (legal basis and subsidiarity check)

Legal basis

This initiative is based on Articles 191 and 192 of the Treaty on the Functioning of the European Union (TFEU), under which the EU is entitled to act to ensure the protection of the environment and human health and on Article 194 TFEU under which the EU can act to promote the interconnection of energy networks, including CO₂ infrastructure.

³ Directive 2003/87/EC.

⁴ Directive 2009/31/EC.

⁵ Directive 2018/2001/EU.

⁶ COM(2021) 800.

Practical need for EU action

Industrial carbon management, which falls under the category of climate mitigation policy, can best be addressed at European level. Furthermore, since potential capture and storage sites are not spread evenly across the EU, cooperation and coordination is essential to bring consistency to the transport, utilisation and storage of CO₂. Subsidiarity and the EU added value of this initiative are therefore confirmed in this call for an EU strategy on industrial carbon management.

B. What does the initiative aim to achieve and how

The Communication will propose an EU strategy to create an industrial carbon management market by 2030 to support efforts in hard-to-abate sectors who need to apply carbon capture and storage, carbon capture and utilisation or industrial carbon removals to become climate neutral. The strategy will be based on the most recent 2050 modelling results available to the Commission, the results of two ongoing studies on CO₂ transport and storage infrastructure, input from [the Carbon Capture, Utilisation and Storage Forum \(CCUS Forum\)](#), a stakeholder consultation platform dedicated to industrial carbon management issues and the results of a public consultation.

To address the problems described above, the Commission will consider including the following elements in the strategy:

- proposing storage infrastructure targets for 2040 and 2050 to de-risk and better guide investments in the emerging market for industrial carbon management solutions;
- identifying regulatory needs for emerging CO₂ transport and storage infrastructure, including third-party access, CO₂ quality standards, regulatory oversight and long-term infrastructure planning;
- exploring the role of industrial carbon removals in EU climate policies;
- exploring coordinated EU and Member State funding in industrial carbon management projects that leverage private investment in solutions for long-term decarbonisation and CO₂ use;
- exploring a role for an industrial initiative;
- setting milestones for market development;
- exploring other potential measures that could facilitate the deployment of industrial carbon management in Europe
- exploring the issues related to industrial carbon management public awareness.

Likely impacts

The Communication will draw up a comprehensive policy approach to industrial carbon management technologies. Setting out the EU policy on these technologies and their potential roles in reaching carbon neutrality by 2050 should significantly stimulate investments and speed up deployment of carbon capture and storage, carbon capture and utilisation and carbon removals. In particular, it could facilitate investments in CO₂ transport and storage infrastructure. The strategy will also support national and international discussions on carbon management and CO₂ transport and storage infrastructure.

The strategy will map regulatory gaps concerning transport and storage infrastructure regulation and possible developments in this respect. This, in longer term would help industries time their investments better.

Together with existing initiatives, including the proposal for a Net-Zero Industry Act, the strategy will improve the environment for business investment decisions across the industrial carbon management value chains.

A faster development of the transport infrastructure and storage sites needed for a functioning market for CO₂ transport and storage services will contribute to the UN Sustainable Development Goals, in particular those related to industry, innovation and infrastructure (9) and climate action (13). With the Communication, stakeholders will have more detailed information on future policies enabling and reducing the cost of decarbonising EU industries.

Future monitoring

The implementation of the Communication will be monitored on the basis of existing reporting requirements:

- indicative storage and infrastructure targets in national energy and climate plans;
- notified CO₂ storage permits;
- the CO₂ infrastructure projects included in the list of CO₂ infrastructure projects promoted under the framework of Trans-European Energy Network every 2 years;
- notified State-aid projects;
- successful CO₂ capture, transport or storage projects funded under EU and Member State programmes.

Consultation strategy

Since 2021, DG Energy has been running the CCUS Forum. The Forum has been continuously consulted on ideas and issues that should be included in a carbon management strategy. The Forum has already prepared [some input](#) for the Commission to consider. The Commission will continue to work with the Forum to have input on the design of the strategy.

The Commission will seek input from Member States through the Information Exchange Group (IEG) established under the CCS Directive.

The Commission will also launch a dedicated public consultation with surveys for the general public and experts. There will be a 12-week period to provide feedback. The survey for the public will be available in all EU official languages. The expert survey will be available in English. The public consultation will conclude with a workshop.

Why we are consulting?

The consultation provides an opportunity to share views and provide feedback on the technological options to capture CO₂ emissions before they can reach the atmosphere, transport, store, or use them in a carbon management value chain.

The feedback received will serve as important input for the Commission to develop a strategy on how such technologies can best contribute to the objective of reaching climate neutrality for the EU by 2050 and set a strategic vision for industrial carbon management in the EU.

Target audience

The consultation is open to all individuals and parties who want to share their opinion on deploying carbon capture and storage, carbon capture and utilisation and industrial carbon removals.

EU stakeholders include Member States and their competent authorities, networks of professionals, business associations, industries involved in industrial carbon management, NGOs, scientific institutions and the public.

Stakeholders in non-EU countries and at multilateral level include, among others, Norway, Iceland, and Switzerland, their competent authorities, and international players in industrial carbon management projects.