

CCUS paving the way to a Net Zero Europe

CCSA EU Manifesto 2024-2029
EU legislative term

March 2024

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About the CCSA

The Carbon Capture and Storage Association (CCSA) is the lead European trade association focused on accelerating the commercial deployment of carbon capture, utilisation and storage (CCUS). We work with our members, governments and other organisations to ensure CCUS is developed and deployed at the pace and scale necessary to meet net zero goals and deliver sustainable growth across regions and nations. The CCSA has over 120 member companies that are active in exploring and developing different applications of carbon capture, CO₂ transportation by pipeline, ship and rail, utilisation, geological storage, and other permanent storage solutions, end-users of the technology and those in the supply chain, as well as members from management, legal and financial consulting sectors.



CCSA EU 2024 Manifesto

In light of the upcoming EU 2024-2029 legislative term, **the Carbon Capture & Storage Association (CCSA) presents its vision on how European policymakers can lay the foundation for the commercialisation of carbon capture, utilisation and storage (CCUS) technologies and deliver a healthy and robust CCUS market in Europe.**

Without a rapid roll-out of CCUS projects, transport and storage infrastructure, the EU will not be able to achieve its target greenhouse gas emissions reduction by 2040, let alone achieve climate neutrality by 2050. **CCUS technologies are available now and can be deployed to decarbonise crucial industrial sectors** – those sectors are at risk of disappearing from Europe within a generation. In short, **CCUS offers Europe the opportunity to decarbonise without de-industrialising.**

In what has the potential to become a multi-billion-euro industry, safeguarding and creating hundreds of thousands of jobs, CCUS can attract large-scale investments in Europe and increase the competitiveness of our economies.

There is a huge momentum for CCUS. With more than 75 market-ready projects, the EU is set to be a frontrunner in deploying CCUS globally. This will

make a considerable contribution to a Net Zero Europe by 2050.

Policymakers across Europe only have one chance to get it right and create the right regulatory environment and market conditions to allow this new sector to flourish at the required scale and in a timely manner.

The publication of the Commission's Industrial Carbon Management Strategy, the EU climate targets for 2040 as well as the adoption of the Net Zero Industry Act in 2024 from the starting shot for a decade of unprecedented actions – all focused on decarbonising Europe's industries.

European industries and emitters need a strategic solution to secure their future. CCUS offers a cost-efficient pathway to significantly reduce carbon footprints in various sectors like hard-to-abate industrial processes, including cement, lime, steel, chemicals, waste-to-energy, hydrogen production or power generation. By capturing CO₂ at the source or directly from the air to store it underground or utilise it in industrial processes, CCUS technologies enable these industries to decarbonise while maintaining competitiveness and ensuring energy security.



The CCSA identified the following key building blocks for a successful CCUS industry



Industrial Carbon Management Strategy published by the European Commission on the 6th of February 2024



50M
TONNES
of CO₂ per year
captured in the EU
BY 2030

UP TO

450 MILLION
TONNES OF CO₂ PER YEAR
CAPTURED IN THE EU
BY 2050



19,000 km of
CO₂ transport network in EU
BY 2040



TONNE

Approximately

280M
TONNES
of CO₂ per year to be
captured in the EU by
2040



How to enable a route to market for CCUS technologies

We have identified the steps that the EU institutions, as well as EU Member States and neighbouring countries, need to take during the legislative term 2024–2029.



Attractive
Investment
Framework



Sufficient
Storage



Healthy Supply
Chain & Skills

Defining schemes to support CCUS investments

The European Commission estimated that **a theoretical CCUS EU market** – with the potential of 360 to 790 million tonnes of captured CO₂ – **could lead to a total economic value between €45bn and €100bn**, contributing to the **creation of up to 170,000 net-zero direct jobs**¹. And this is only for the CCUS sector. If applied cost-effectively, **CCUS technologies will support tens of millions of manufacturing jobs and reverse deindustrialisation in Europe**. Our economy will become a world leader with high-quality, low carbon products.

CCUS investments will need governmental support schemes to define a market in the short term, thus paving the way to a commercially feasible market after 2030. CCUS technologies require large-scale investments. The EU will need to provide a robust regulatory framework to attract investments and stimulate route-to-market required solutions in the long term, avoiding overregulation in the initial phase.

To do so, **it is essential that:**

- **The EU and Member States support the deployment of CCUS investments by increasing public support this decade.**
- **Sufficient and coherent funding is guaranteed at the EU level** to support the deployment of available but capital-intensive technologies.
- **A commercially viable market exists after 2030 with the right regulatory conditions in place. Carbon Contracts for Difference (CCfDs) are one key tool for moving from subsidies to market-based investments, thus enhancing private capital that can be brought to the market.**

Different types of support can be available:

- **For project assessment: EU and National seed funding will help projects undertake feasibility studies and detailed engineering designs.** This helps ensure a healthy project pipeline capable of meeting climate targets, but it does not mean projects can move forward to deployment.
- **To allow companies to make Final Investment Decisions.** Companies need to know that they can recoup their initial capital investment to construct their projects over the course of operations, i.e. that the commercial and





Investing in Innovation

regulatory environment for the project will make it a viable investment. In the case where the business case relies upon a certain CO₂ price and protection against carbon leakage via the CBAM, governments may need to underwrite the risk of changes to these policies in the future (e.g. through a CCfD or similar contracts, like the SDE++ in the Netherlands or the Dispatchable Power Agreement in the UK), or provide a significant share of upfront capital (e.g. like in Norway).

- **For infrastructure financing:** The creation of an IPCEI on CO₂ capture, utilisation, transport and storage infrastructure will help projects obtain the required funding to build the CCUS network.
- **For R&D:** Dedicated objectives should support promising technologies such as BECCS and DACCS on their path towards economic maturity, allowing them to play their part in the ICMS's targets.



Timely Cluster Delivery

Mature CO₂ Transport Networks

Healthy Supply Chain & Skills

Europe-wide agreement on ambitious capture and storage targets

The current Commission has proposed a clear EU climate target for 2040 and modelled the capture and storage rates for 2030, 2040, and 2050. It is now up to EU Member States to agree on the essential and ambitious reduction target of 90% emissions reduction by 2040. However, they should also **turn CCUS market predictions into real targets, including capturing and storing 50 million tonnes of CO₂ annually by 2030** - as outlined in the Net Zero Industry Act. This is crucial to give a clear signal to industrial players as well as to investors, who have a long-term timeline and need to count on market stability and predictable outcomes. **Once the targets have been set, these should not be changed mid-way. Stability results in more innovation, jobs and acceleration of industry investments.**

Developing an increasingly supportive EU policy framework for CO₂ capture, transport, storage, and utilisation

Based on the Industrial Carbon Management Strategy, the EU institutions should focus on creating market conditions to drive investments in CO₂ capture, transport, storage, and utilisation projects. A stable and reliable regulatory environment must support the industry in this journey. **The CCSA emphasises the importance of supportive policies to accelerate the widespread adoption of CCUS, such as:**

- **Incentivising the development of capture projects.**
- **A CO₂ transport legislation that ensures initial transport networks are open, non-discriminatory, and built with future deployment plans in mind** (e.g. are efficiently designed, interoperable and resilient).



- **Guaranteeing adequate incentives to create sufficient storage capacity ahead of the finalisation capture projects**, given the longer lead times for storage projects.
- **Enabling a framework** to support the spread of **CCU technologies**.
- **Supporting the role of carbon removal technologies (i.e., DACCS and BECCS)** by defining specific objectives for carbon removals based on 2040 GHG emission reduction targets, developing support mechanisms and clarifying future business models.
- **Recognition of storage potential in EEA and other third countries (such as the UK)** to meet EU climate goals in the most timely and cost-effective manner.



Emphasising the importance of clear regulatory frameworks for CO₂ transport

It is crucial that the elements included in the Industrial Carbon Management Strategy are supported by a clear regulatory framework set to give visibility to CO₂ transport investments. Therefore, we recommend putting forward essential policies such as:

- **EU-wide coordination** of CO₂ storage and transport infrastructure, supporting clear rules on CO₂ standards.
- **Accelerating permitting** and streamlining access to faster approval processes and improving coordination.
- Making **CO₂ a commodity** to reach economies of scale.
- Advancing **constructive dialogues with third countries** (e.g., EEA countries as well as the UK) to facilitate carbon capture and cross-border CO₂ storage.

Advancing international and cross-border cooperation

EU emitters must have the possibility to benefit from third countries' storage sites through the alignment of schemes defined by the EU institutions and third-party countries. This wider market will foster competition, drive down prices, and accelerate climate action.

A robust international and cross-border collaboration is imperative to achieve a strong CCUS industry. The cooperation with third-party countries, including in the EEA and the UK², is not just advantageous but vital, ensuring that companies in the CCUS sector have viable and cost-efficient solutions to decarbonise their operations.

2. The London Protocol remains a crucial enabler in this regard. It is essential to address the willingness of signatory Member States to embrace the provisional amendment to Article 6, thus enabling cross-border CO₂ transport.



Storage sites located outside the EU represent an opportunity for all companies operating cross-border to store CO₂ while deploying enough operational CO₂ storage sites. This could enable operational CO₂ storage sites to be deployed at scale, reducing storage costs for industrial emitters and, in the end, consumers.

Therefore, it is crucial to strengthen cooperation and unlock a compelling business case via a Europe-wide market for CO₂ storage in pursuit of reaching net zero by 2050.

It will also be relevant to support the development of international carbon markets which can play a key role in reducing global GHG emissions cost-effectively, while fostering innovation.



Low Carbon
Products Demand

Support low carbon products

Low-carbon products derived from CCUS stand as a beacon in the transition towards net-zero solutions. Introducing these to the market at a large scale will reduce emissions across power, industrial, waste processing, construction and aviation sectors while providing society with sustainable products. Low-carbon products will allow intermediate and end consumers to identify and choose products with a lower carbon footprint. By doing so, consumers will support European industries while reducing their climate impact. CCUS has a key role to play here. **The CCSA fully stands behind the Antwerp Declaration that calls on policymakers to “empower consumers to choose net-zero and circular products, based on transparent product and environmental carbon footprints”³.**

Carbon capture technologies not only aid in curbing emissions but also unlock the potential of carbon capture and utilisation products.

The role of e-fuels, as endorsed by the European Commission, with roughly a third of captured CO₂ dedicated to e-fuels production by 2040, will help lower emissions and reduce carbon output in sectors resistant to direct electrification, such as aviation, and heavy transport.



Supportive
Public

Build public support and project-level communications

Public support for CCUS projects hinges on understanding and navigating the essential role of these technologies, particularly as Europe strives to achieve its climate objectives. These projects are pivotal for decarbonising industries, necessitating not only financial support and incentives but also widespread backing from society.



To effectively overcome these challenges, we aim to champion and raise awareness about CCUS projects. Proactive engagement with stakeholders at all levels and transparent communication on a project's potential benefits are key. This will help empower communities in project planning and, ultimately, contribute to the overall success of CCUS initiatives.

Therefore, it is important to ensure:

- **Clear communication on the impactful and urgent role of CCUS and other carbon removal technologies (DACCS and BECCS) in fighting climate change and helping decarbonise hard-to-abate sectors.**
- **Clear communication on the maturity and safety of CCS technologies.**
- **Cooperation between national governments, local authorities, and project developers,** with a transparent engagement at the community level.



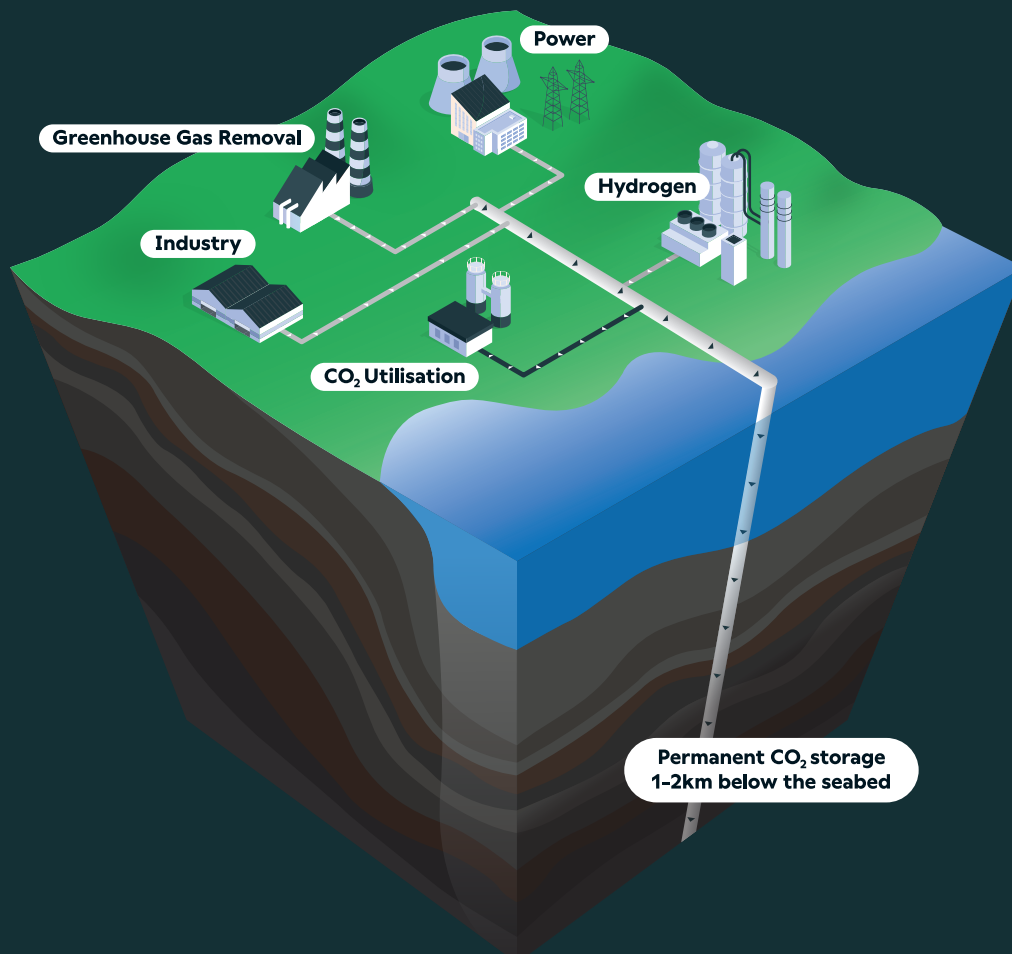
CCUS technologies⁴

- **Capture CO₂ from:**

- Power generation
- Industrial activity (cement, refinery, steel etc.)
- Hydrogen production
- Bioenergy sources (BECCS) and the air (DACCS)

- **Transport CO₂** via pipeline, ship or rail
- **Store CO₂** in deep geological formations, e.g. depleted oil & gas fields or deep saline formations.
- **Use CO₂** in products.

CCUS cluster



4. A tech-neutral approach has been used to list the various technologies.



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