

Our position

Carbon capture, utilisation and storage as a key technology to achieve the EU's net neutrality climate objectives

AmCham EU speaks for American companies committed to Europe on trade, investment and competitiveness issues. It aims to ensure a growth-orientated business and investment climate in Europe. AmCham EU facilitates the resolution of transatlantic issues that impact business and plays a role in creating better understanding of EU and US positions on business matters. Aggregate US investment in Europe totalled more than €3.7 trillion in 2022, directly supports more than 4.9 million jobs in Europe, and generates billions of euros annually in income, trade and research and development.

Executive summary

The EU has set ambitious decarbonisation goals, positioning itself as a world leader in sustainable development. Carbon capture, utilisation and storage (CCUS) technologies have a critical role to play in achieving these targets, particularly for hard-to-abate sectors. Addressing current challenges for CCUS deployment within the EU requires political leadership at the national level, sufficient funding, an ambitious and comprehensive EU regulatory framework, a technology-neutral approach, EU CO₂ accounting standards and integrated reporting systems, close cooperation with the private sector as well as strong transatlantic cooperation.

Introduction

The EU has affirmed its position as a global leader in sustainability by adopting the European Green Deal and the Fit for 55 package and implementing ambitious regulation for decarbonising all sectors of the economy to achieve climate neutrality in the EU by 2050. To achieve this goal, the EU has committed to reducing its net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels, and the European Commission recommended in 2024 reducing net greenhouse gas emissions in the EU by 90% by 2040 compared to 1990 levels.

One of the regulatory initiatives meant to help achieve these targets is the European Commission's communication on its Industrial Carbon Management Strategy, adopted on 6 February 2024. The strategy highlights the importance of deploying CO₂ transport infrastructure, boosting CCS and carbon removals and fostering carbon utilisation. The strategy recommends mandatory targets for carbon capture and storage (CCS) in the EU: 50 million tonnes of CO₂ per year by 2030, 280 million tonnes per year by 2040 and 450 million tonnes per year by 2050.

The Commission's CCUS communication emphasises that CCUS technologies are essential to achieve the EU's net-zero ambitions and reduce CO₂ emissions, specifically for the hard-to-abate heavy industry such as steel, cement and chemicals. CCS is also imperative to decarbonise hydrogen production, as hydrogen is frequently used as feedstock in different industrial sectors. Strengthening the EU's CCUS capacity can also create jobs.¹ Europe must take full advantage of the economic opportunities of CCUS.

A significant number of CCS projects across Europe are currently in development. However, very few are in operation or even under construction as the business case for industry to encourage investments in CCS is still largely absent. This is due to the upfront costs involved along the entire value chain, the current low EU CO₂ Emissions Trading System (ETS) price, the lack of subsidies and the lack of a comprehensive integrated regulatory framework, notwithstanding that the EU recognised CCS as a strategic net-zero technology and is accelerated permitting procedures through the recently adopted Net-Zero Industry Act.

The below paper contains several recommendations to strengthen the EU's CCUS capacity and improve the business case for CCUS investments in the EU, including encouraging EU Member States to mention CCUS provisions in their NECPs, simplifying EU and national funding opportunities for the deployment of CCS projects, investing in transport and storage infrastructure, and aligning on transatlantic regulatory initiatives to develop global CO₂ carbon accounting rules for storage and transport work.

Political leadership

The National Climate and Energy Plans (NECPs) are an important planning tool for EU Member States to achieve the 2030 climate objectives. However, more than two-thirds of Member States have not recognised the role of CCUS as a technology to decarbonise hard-to-abate sectors in their NECPs. As a first step, all Member States must have an ambitious CCUS strategy in their NECPs.

Proposed actions:

- The European Commission should encourage EU Member States to include concrete CCUS provisions in their revised NECPs.
- Member States should recognise the role of CCUS technologies in their NECPs.

Increased funding for CCS projects

EU policymakers have historically assumed that the EU's ETS market will eventually deliver the financial incentive for industry to invest in carbon capture to avoid paying for ETS allowances to emit CO₂. However, because industry benefits from free allowances and because the price of emitting CO₂ is significantly below the cost of a carbon capture project, the ETS has not been sufficient by itself to create a business case for such investments. With the upcoming end of free ETS allowances and the resulting increase in the price of permits, the economic arguments may change. However, at present CCS is progressing most rapidly in EU Member States that provide a financial support mechanism at the national level.

Proposed actions:

- Encourage EU Member States to implement more financial support mechanisms for the deployment of CCS projects.
- Streamline and simplify EU and national funding opportunities for net-zero technologies, as mentioned in the Net-Zero Industry Act, in particular for CCS projects.

Storage capacity and transport

Storage capacity and transport infrastructure are essential to unlock the potential of CCS in the EU. An estimated 19,000 km of pipelines for CO₂ transport will be required in the EU to achieve the Commission's 2040 CO₂ reduction recommendations. A significant portion of this infrastructure must be built across national borders, which creates additional challenges.

Proposed actions:

- The European Commission and the EU Member States must address the regional dimension of both transport and storage infrastructure.

¹ Estimates have shown that the number of European jobs linked directly and indirectly to the emergence of a market for CCUS may approach 150,000 in 2050.

- The EU must facilitate opening more CO₂ storage sites across the EU, and the Commission should move forward with an EU investor's atlas of potential CO₂ storage sites.
- EU regulation must better define and increase transparency around CO₂ storage permitting procedures, and transfer responsibility from operators back to the competent authorities.
- The EU must introduce regulatory initiatives to promote CO₂ utilisation to produce, for example, CO₂-based synthetic fuels, plastics, chemicals etc.

Comprehensive EU carbon removal policy across the whole value chain

A comprehensive EU carbon removal policy is needed to strengthen CCS technologies in the EU.

Proposed actions:

- The European Commission should explore all options to incorporate carbon removal into EU climate policy, including in the EU ETS.

A technology-neutral approach

Reducing emissions through hydrogen requires a fair and unbiased approach to technology, without favouring specific production methods.

Proposed actions:

- The European Commission and the EU Member States should focus on low-carbon sources and follow an inclusive, technologically neutral approach to promote CCS projects in the most cost-effective way.

CO₂ accounting and reporting standards

EU standards on CO₂ accounting and reporting and integrated CO₂ management systems are needed to enhance the capacity of CCS technology. The European Commission should closely cooperate with the CCUS Forum, European standardisation bodies and the private sector to develop these standards and tools.

Proposed actions:

- EU policymakers should collaborate and share knowledge through the Commission's proposed EU CO₂ aggregation platform, which could also provide contracting and procurement transparency.

Transatlantic collaboration

International cooperation on innovative CCUS technologies is essential, including sharing best practices, developing global standards and promoting cross-border infrastructure.

Proposed actions:

- The EU and the US must have stronger alignment on CCUS regulatory initiatives and more dialogue to develop global CO₂ carbon accounting rules for storage and transport work, in line with the United Nations Framework Convention on Climate Change transparency framework.

Public perception

The CCUS technologies needed to decarbonise the EU suffer from a reputational challenge, with NGOs often calling for the use of CCUS technologies as a last resort. This is due to misunderstandings about the application of CCUS technologies and their impact on the EU society.

Proposed actions:

- The European Commission and the EU Member States should develop and publish informational resources on the importance of CCUS technologies to achieve the EU's net-neutrality targets.

Conclusion

Achieving the EU's decarbonisation goals requires the strategic implementation of CCUS technologies, particularly for hard-to-abate sectors. Robust political leadership, enhanced funding mechanisms and a comprehensive regulatory framework are key to success in this effort.

Furthermore, Member States' NECPs must integrate CCUS strategies, and increased financial support at the national level is essential to incentivise investment. Developing extensive CO₂ transport infrastructure and unlocking storage capacity across borders are also crucial. Clear regulatory frameworks for CO₂ storage and utilisation will further encourage industry participation.

A comprehensive carbon removal policy and a technology-neutral approach to emissions reduction will ensure cost-effective pathways to decarbonisation. In addition, standardised CO₂ accounting and reporting systems will enhance transparency and integration, fostering stakeholder cooperation.

Transatlantic collaboration on CCUS initiatives will facilitate best practices and global standards. Addressing public perception challenges through educational initiatives is also vital.

Coordinated efforts at the national and EU levels, robust funding, comprehensive policies and international cooperation are essential for achieving the EU's net-zero emissions targets and maintaining its global climate leadership.