

Successful CCS deployment requires amending the Net-Zero Industry Act Regulation (NZIA)

Aligning EU CO₂ injection capacity with an integrated value chain approach

The European Commission and leading international bodies like the International Energy Agency (IEA) agree that Carbon Capture and Storage (CCS) is essential to deliver Europe's 2050 net-zero objective, particularly for hard-to-abate sectors. CCS supports industrial decarbonization, enables low-carbon hydrogen at scale, and can contribute to engineered carbon removals, while keeping industry in Europe.

IOGP Europe is a strong supporter of CCS and our Members are working to develop projects at scale, for instance in Italy (Ravenna CCS), Netherlands (Aramis), and Denmark (Greensands). Members are also operating the Northern Lights project in Norway, the first large-scale CCS project in Europe. IOGP Europe further contributes to CCS by offering a platform to share technical expertise, develop operational and safety standards, and a platform of discussion between obligated entities and the European Commission.

Building on this expertise and experience, IOGP Europe has made clear recommendations to policy makers regarding an enabling policy framework. For CCS to be a success, regulations should incentivise the full value chain: from industrial CO₂ emitters to infrastructure players and storage developers. Over the past three years IOGP Europe played an active role in promoting CCS as a key solution for decarbonization. In particular, IOGP Europe has raised awareness on how to develop a viable business case for CCS value chains¹ and proposed pragmatic solutions for a future policy framework, including specific de-risking measures for CCS². However, if Europe were to put in place the right policy framework, it could be well placed to properly scale CCS building on industrial clusters, existing pipeline infrastructure, and the significant geological storage potential across the continent.

IOGP Europe supports the recognition of CCS as a strategic technology within the Net-Zero Industry Act (NZIA). However, the Act raises significant concerns for oil and gas producers.³ The NZIA sets an EU-wide objective of 50 Mtpa of annual CO₂ injection capacity by 2030, alongside a retroactive obligation under Article 23, requiring 44 oil and gas companies to make individual contributions towards delivering that target based on past production. It is effectively **placing investment obligations on these oil and gas companies ahead of the enabling conditions needed for value chain investments. This creates inevitable delays and carries risks of stranded assets due to the absence of critical mid-stream infrastructure and sufficient emitters that are ready to proceed with CO₂ capture.** In essence, Europe's CCS ambition will not be properly served by the CO₂ storage obligation set out in the NZIA. An alternative approach that instead stimulates the full value chain would be better equipped to deliver on this ambition.

As of 2026, only ~0.025 Mtpa of CO₂ storage capacity is operational and eligible to count towards the NZIA objective, and, as a result of inconsistent policy signals, most projects remain at an early stage. It is highly unlikely that the necessary CO₂ volumes captured or the infrastructure for transport will be in place by 2030 to allow their storage, making the 50 Mtpa target simply unachievable.

¹ See IOGP Europe (2023) [Creating a sustainable business case for CCS value chains](#).

² See IOGP Europe (2024) [The case for a European CCS bank](#).

³ See also IOGP Europe (2025) [IOGP Europe recommendations to address the implementation challenges of the Net-Zero Industry Act's \(NZIA\) 2030 CO₂ injection capacity objective](#).

The reasons for this include:

- **Uncertainty and risk aversion of CO₂ emitters:** Heavy CO₂ emitters operating in an uncertain regulatory and market environment in Europe are reluctant to commit to long-term CCS contracts without clear guarantees or incentives.
- **Inadequate incentives in the European Emissions Trading System (EU ETS) for CO₂ emitters:** The EU ETS currently provides an incentive only where European Union Allowance (EUA) prices are sufficient to cover the cost of deploying such technologies. However, the carbon price remains too low to fully de-risk investments in CCS technologies for hard-to-abate sectors. IOGP Europe's analysis estimates the full CCS value chain cost at 130-230€/tonne of CO₂, with capture representing over half of the total, at approximately 90-130€/tonne for most industries, leaving a significant gap compared to the current EU ETS price.⁴ To ensure the necessary investments are made, it will be crucial for the EU to address this gap through Contracts for Difference (CfDs) and other de-risking instruments.
- **Infrastructure bottlenecks:** CO₂ transport and storage infrastructure is still in the early stages of development and unlikely to be operational by 2030. The EU CO₂ market and infrastructure package is not expected until the end of 2026, while on-the-ground challenges persist, including double permitting and restrictions on offshore CO₂ transport under the London Protocol, currently ratified by only four Member States, as well as inadequate regulatory certainty regarding offshore CO₂ storage under the Helsinki Convention. Many Innovation Fund-supported carbon capture projects are also delayed, with most yet to begin the Front-End Engineering Design (FEED) stage, critical for enabling Final Investment Decisions (FID) in the coming years.
- **Permitting challenges:** CO₂ storage projects are inherently long lead-time and high-risk undertakings, typically requiring 10+ years from conception to injection under realistic conditions. Permitting alone often takes 2-5 years, and varies significantly across Member States, including where legal and political barriers persist. In addition to permitting, many factors may influence the feasibility of individual sites including variability in CO₂ behaviour, well abatement, geopolitical considerations, and geography. Significant time and capital commitments are required to de-risk each element.
- **Regional differences:** A persistent gap exists between different regions in the EU in terms of CCS market development due to divergence in the maturity of the regulatory framework, political commitment, and public acceptance of CCS.

Meeting the regulatory objective of upscaling CCS deployment depends on synchronized investment across capture, transport, and storage, and on an EU framework for shared CO₂ transport infrastructure or market governance, particularly critical for inland regions with constrained CO₂ transport connectivity. This is not achievable within the given timeframe because:

- The current pipeline of committed industrial emitters is insufficient to underpin early-stage infrastructure investment and achieve the necessary economies of scale.
- The EU legislative proposals on CO₂ markets and infrastructure is expected only in Q3 2026.

Furthermore, the exemptions and derogations provisions included in the NZIA Regulation⁵ are insufficient to safeguard obligated entities in situations where failure to meet the targets results from factors beyond their control. Additionally, obligated entities have no role/rights foreseen in triggering these clauses, further adding to operational uncertainty. As a result, companies remain exposed to penalties for circumstances over which they have no influence.

In conclusion, IOGP Europe believes that the NZIA as it stands creates impossible targets and obligations rather than enabling the effective rollout of CCS. It imposes a tax-like burden retroactively, which does not incentivize trust in the investment climate for the energy transition. It is largely for these reasons that **around 14 companies have initiated legal proceedings in the European Court of Justice to challenge the obligation for oil and gas producers to provide CO₂ storage injection capacity**. This reflects a wider concern in the industry over the economic, legal, and regulatory risks created by the NZIA legislation on CCS.

Ultimately, the NZIA's CCS-related retroactive obligations are hindering new investments in Europe, precisely the opposite of NZIA's goal.

IOGP Europe therefore calls for a constructive review of the relevant NZIA provisions to ensure they provide a realistic, investment-enabling framework for the entire CCS value chain, fully coherent with the broader objectives of the Net-Zero Industry Act and aligned with the EU's competitiveness agenda. Updating the current requirements to better match market readiness and infrastructure development will help unlock private investment, strengthen investor confidence, and facilitate the large-scale rollout of CCS needed to achieve the EU's 2050 climate objectives.

⁴ See IOGP Europe (2023) [Creating a sustainable business case for CCS value chains](#).

⁵ As foreseen by NZIA Regulation Art. 23.7 and Art. 23.11.