

The logo consists of the letter 'A' in a white sans-serif font, followed by the number '23' in a bold black sans-serif font, both contained within a white circle. The background of the top half of the page is a photograph of a welder in a dark protective suit, with bright orange sparks emanating from the welding point. The entire image is overlaid with a semi-transparent orange filter.

A23

2025

ARTICLE 23 | EXPLAINER

CO₂ Storage in the Net Zero Industry Act

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WHAT IS THE NZIA AND WHY DOES IT MATTER FOR INDUSTRIAL DECARBONISATION?

The Net-Zero Industry Act (NZIA)¹ is an EU regulation adopted in 2024 to boost Europe's manufacturing capacity of key net-zero technologies critical for reaching climate neutrality.² Among these key net-zero technologies is Carbon Capture and Storage (CCS), a group of technologies that capture CO₂ emissions from point sources, like industrial plants and store them safely and permanently underground away from the atmosphere where they would otherwise contribute to global warming. CCS is needed in sectors such as cement, steel, and chemicals to tackle process emissions that cannot be decarbonised through electrification and renewable energy.

Speeding up electrification, rolling out more renewable energy, increasing efficiency and making better use of circular solutions are all essential for cutting emissions. Just as important is sharply reducing fossil fuel use and lowering overall energy demand. If these measures advance quickly, the need for CCS may shrink, but will likely remain considerable due to sectors that rely on it to fully decarbonise their processes. Both the IPCC's and the UNCCC's cli-

mate modelling show that CCS will be needed to reach net zero.³⁴ Analysis by Bellona Europa and E3G suggests that CCS should be used mainly where it brings the highest climate value, based on four criteria: 1) whether alternatives exist; 2) how much CO₂ can be cut; 3) how practical the project is; and 4) the CO₂ source in question.⁵

Despite our reliance on this technology to reach our climate goals, CCS deployment has been slow. There are several reasons for this: emissions have not been adequately priced in the EU ETS to create a meaningful incentive for investment in the technology; early regulatory initiatives have largely failed to create the regulatory certainty needed for investments to move forward; and to a large extent due to the so-called 'CCS paradox'⁶. Companies are reluctant to invest in capture facilities without a clear idea where those captured emissions could be stored and how to transport them to storage sites, while at the same time investments into transport and storage development won't be made without a clear signal of demand from industries ready to capture their emissions. The NZIA addresses this by obliging oil and gas producers across the EU to take the first step and invest in the development of CO₂ injection capacity needed to meet the EU's 2030 climate targets. With CO₂ injection capacity in place or under development, investor confidence grows, leading to more investment in capture facilities and transport infrastructure. In this way, the regulation helps break the cycle of mutual hesitation that is the 'CCS paradox'⁷

For the first time, EU law sets a clear obligation to develop CO₂ injection capacity on oil and gas producers: by 2030, 44 oil and gas companies within the EU must deliver enough injection capacity to store 50 million tonnes of CO₂ per year in the EU, kickstarting the market for the technological abatement of CO₂ emissions.

Now, let's look at the details of this obligation on oil and gas producers under the NZIA.



What's CO₂ injection capacity?

According to the NZIA, CO₂ injection capacity is the annual amount of CO₂ that can be injected in an operational geological storage site, (...), with the purpose of reducing emissions or increasing carbon removals.



1 European Commission (2024), Regulation (EU) 2024/1735 of the European Parliament and of the Council of 13 June 2024 on establishing a framework of measures for strengthening Europe's net-zero technology manufacturing ecosystem (Net-zero industry act), available [here](#).

2 By reaching at least 40% of the Union's annual deployment needs to cover the production of the net-zero technologies necessary to achieve the 2030 climate and energy targets.

3 https://www.ipcc.ch/site/assets/uploads/2024/06/005_SB60_IPCC_Side_Event_WGII_TFI.pdf?utm_source=chatgpt.com

4 https://unfccc.int/resource/climateaction2020/tep/thematic-areas/carbon-capture/index.html?utm_source=chatgpt.com

5 <https://bellona.org/news/industry/2023-07-carbon-capture-and-storage-ladder-assessing-the-climate-value-of-ccs-applications-in-europe>

6 This is directly related to something called the "First Mover Disadvantage" where first movers face a disproportionately high cost compared to following project developers, which could incentivize market participants to hold back on investing to develop the market, and mutual dependency between parts of the CCS value chain (capture, transport, storage) – the "chicken and egg" paradox – as each part requires predictability in the development of the others to move forward and reduce investment risk. Available here: [What's Blocking the CO₂ Market? Unpacking Potential Market Failures - Bellona EU](#)

7 As highlighted in the most recent annual knowledge sharing report of the Innovation Fund, "the main challenges encountered by projects capturing CO₂ for permanent storage are delays in developing CO₂ hubs and transport infrastructure, and the limited availability of CO₂ storage sites on the market within their relevant time frames". To date, the Porthos project is the only CO₂ storage site in the EU with a storage permit, and is expected to be operational in 2026. European Commission (2025), 2025 annual knowledge sharing report of the Innovation Fund, available [here](#).

OBLIGATIONS OF OIL AND GAS PRODUCERS

The obligation falls on 44 oil and gas producers (the 'obligated entities') registered in EU Member States, which together accounted for 95% of the EU's crude oil and natural gas production between 2020 and 2023. Each producer's contribution to the 50 million tonnes of CO₂ per year (Mtpa) storage target is proportional to its share of oil and gas production during this period. For example, an oil and gas company that was responsible for 2% of the EU's oil and gas production during that period will need to contribute 2% of the 50Mtpa target, equaling 1 million ton of injection capacity per year by 2030.⁸

 **They can meet their share of the obligation in three non-mutually-exclusive ways:**

-  By developing storage projects individually or jointly with other obligated entities;
-  By entering into agreements with other obligated entities; or
-  By contracting third-party developers or investors to deliver the capacity for them.

 **This 50 Mt injection capacity cannot be deployed just anywhere; it has to be delivered**

-  in storage sites (depleted oil or gas fields and saline aquifers) permitted under the CO₂ Storage Directive, complying with its safety standards,
-  on EU territory – either on- or offshore.



What's the CO₂ Storage Directive?

The CO₂ Storage Directive (2009/31/EC) regulates the safe and permanent geological storage of CO₂. Its main purpose is to ensure that CO₂ storage is done in a way that protects the environment and human health.

Storage sites will have to be designed to be operational for a minimum of 5 years and provide fair, open and non-discriminatory access to available captured CO₂.

To encourage obligated entities to take the first step in meeting their obligation, by 30 June 2025, all 44 producers had to submit a "delivery plan" to the European Commission detailing

- the volume of new CO₂ storage and injection capacity they will have ready by 2030, and
- the methods and interim milestones to achieve that volume.

These delivery plans are not public. But from 30 June 2026, obligated entities have to report to the Commission yearly on their progress. Unlike the delivery plans, these progress reports will be made public.

In two cases, the NZIA allows obligated entities to be exempted from their obligation or to receive an extension for meeting their obligation:

CASE 1: EXEMPTION



If a Member State already has storage sites with final investment decisions (FIDs) that provide more annual injection capacity than the total volume obligated entities from that Member State are required to develop, the Member State can request to exempt those obligated entities from the portion of their obligation already covered.

CASE 2: EXTENSION



If there is a major mismatch between

- a. the demand for injection capacity from CO₂ capture projects and the main infrastructure needed for the transport of CO₂ in progress or planned to be operational by 2030, and
- b. the producers' required contributions,

the Member State can exceptionally request to extend the deadline for obligated entities to meet their individual obligation.

Now let's look at the specific requirements and enablers the law sets out to make sure that oil and gas producers actually deliver this target.

44 oil and gas producers - responsible for 95% of EU's oil and gas output - must together deliver 50 Mt of CO₂ storage capacity per year by 2030.



RESPONSIBILITIES OF MEMBER STATES

Member States are responsible on the one hand for enforcing the obligations, and on the other for enabling the deployment of injection capacity by obligated entities. In practice, that means adopting effective penalties for non-compliance, facilitating the development of CO₂ transport infrastructure, or streamlining permitting and other administrative processes so applications are handled as quickly and consistently as possible.

One of the NZIA's strongest enforcement tools is the requirement for Member States to set penalties for non-compliance. These penalties must be in place by 30 June 2026, and must be

- ✓ effective (as in capable of achieving their intended effect),
- ✓ proportionate (pending clarification on what they should be proportionate to)
- ✓ dissuasive (as in strong enough to discourage non-compliance).

From December 2024, Member States must submit a yearly report to the European Commission on the progress of Industrial Carbon Management (ICM) projects and towards the 2030 injection capacity target. They must also publish maps of all areas suitable for CO₂ storage and share geological data on decommissioned fields. This information and data will allow the Commission to track the progress of this emerging market and provide the information needed to decide whether exemptions or extensions are justified.

Annual progress reports by obligated entities must include

- ✓ A record of ongoing CO₂ capture, transport and storage projects, including the permitting status of storage sites and the expected dates for FID and entry into operation.
- ✓ An estimate of the capacity needs for injection, storage and transport.
- ✓ A description of national support measures, as well as strategies and targets for CO₂ capture, including any measures related to cross-border CO₂ transport.

Beyond reporting, Member States have to take reasonable efforts⁹ to develop or facilitate the build-out of the necessary CO₂ transport infrastructure to connect emitters with storage sites, and, when CO₂ captured in one country is stored in another, they have to coordinate with the other government(s) involved.



What's Industrial Carbon Management?

Industrial carbon management refers to the set of technologies and strategies used to capture, transport, store, and use carbon dioxide (CO₂) emissions from industrial and energy production, as well as to remove CO₂ from the atmosphere. It includes carbon capture and storage (CCS), carbon capture and utilization (CCU), and carbon dioxide removal (CDR). Industrial carbon management is a key part of the EU's climate strategy.



Member States must not only enforce compliance but actively enable CO₂ storage deployment – through penalties, streamlined permitting, and infrastructure development.



THE ROLE OF THE EUROPEAN COMMISSION

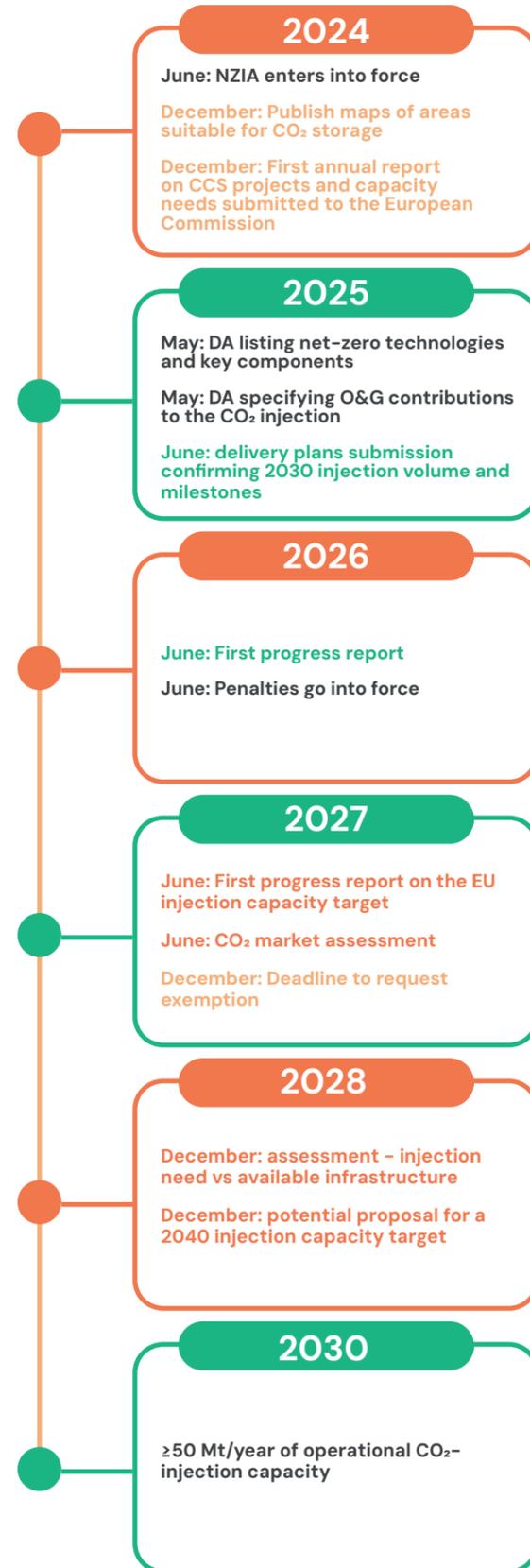
By 30 June 2027, and every two years after, the Commission will report to the European Parliament and the Council on progress towards the annual CO₂ injection capacity target. The reports will cover the state of the CO₂ market and the geographic distribution of storage sites across the EU. **Based on this, the Commission will decide by 31 December 2028 whether to set a new EU-level injection capacity target for 2040.**

At the same time, the European Commission will assess how the captured CO₂ market is developing, looking at fair access, suitability for hard-to-abate sectors, gaps in transport and storage infrastructure, and whether the 2030 injection-capacity obligation is actually promoting a storage market in the EU. If shortcomings remain, the Commission could propose a new legislation to regulate the market and address them.

Timeline

Colour codes:

- Oil & gas producers
- Member States
- European Commission



What's the Net Zero Europe Platform?

The Net-Zero Europe Platform is the NZIA's coordination hub. It brings together representatives of the European Commission and EU countries to monitor progress toward the Regulation's objectives, ensure consistent implementation across Member States, and share practical guidance and best practices.

CCS, A KEY NET-ZERO TECHNOLOGY

The obligation on oil and gas producers to develop injection capacity is one of the strongest, and arguably the most important, measures in the NZIA to kick-start the market for technological CO₂ abatement. But it is not the only one. In addition to target-setting and de-risking measures, the NZIA also introduces clear and short permitting deadlines and market-pull mechanisms such as public procurement to further drive and incentivise the deployment of key net-zero technologies, including CCS.

The NZIA identifies a list of net-zero technologies that are needed to drive decarbonisation and strengthen Europe's manufacturing capacity. When certain criteria are met¹⁰, Member States must recognise CO₂ storage, and related CO₂ capture and transport projects, as 'Net-Zero Strategic Projects' (NZSPs). NZSPs benefit from support in accessing finance through the Net-Zero Europe Platform as well as from faster permitting timelines. The total time to secure all necessary permits to operate a CO₂ storage site must not exceed 18 months.¹¹

This means, national authorities have to process all permit applications as quickly as domestic law allows, give net-zero technology projects – now including CCS – the highest priority and public-interest status with all the benefits that those come within their country, and handle urgently any related disputes.¹²

¹⁰ Article 4 of the NZIA – the list includes CCS, CO₂ transport and utilisation technologies.

¹¹ Projects must be located in the EU, contribute to the injection capacity objective and the storage sites must be permitted under the CCS Directive.

¹² Articles 13 to 16 of the NZIA.



What does it mean to have a public interest status?

Projects can be considered to serve the public interest even when they might conflict with other public interests, such as nature conservation or environmental protection. This legal status allows Member States to prioritise these projects in permitting and planning processes. For example, if a CO₂ storage site faces opposition due to environmental concerns, its strategic designation could allow it to move forward anyway, as long as it meets safety and environmental regulatory requirements.¹³

To make this work in practice, each Member State must set up a single point of contact (“one-stop shop”) to coordinate permitting and administrative procedures, so project developers only deal with one authority rather than several. For example, in Denmark, the Danish Energy Agency acts as a central contact point for CCS permitting, streamlining coordination between different authorities.

The NZIA also sets rules for incentive schemes that promote the purchase of net-zero technology products. In public procurement, authorities must apply minimum environmental sustainability requirements. They must also consider resilience if more than 50% of the supply of a specific net-zero technology or its components comes from third countries¹⁴.

In 2025, the European Commission adopted a complementary list of key components primarily used to manufacture net-zero technologies and considered critical for supply-chain resilience. These components enjoy the same accelerated permitting, streamlined administration and financial-advisory support, and are subject to the same market-access conditions.

Get In Touch



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