

GLOBAL STATUS OF CCS 2025

STAYING THE COURSE

Facilities and capture at a glance

2025 has seen major policy advancements in some regions and new uncertainties in others, yet the overall direction is clear: CCS is scaling up, supported by increasingly durable policy frameworks, rising private-sector engagement, and expanding global infrastructure.

While we will not meet our gigatonne-scale CO₂ capture goals even if all the projects in the pipeline become operational, delays increase the cost and difficulty of achieving climate targets, making it more important than ever that we stay the course.

Number of projects continues to rise



Total number of commercial CCS projects in operation

- 47 in construction
- 610 in development
- 734 projects in pipeline, up 17% year on year



CCS facilities added to project pipeline since Global Status of CCS 2024 Report

Carbon management is entering a new phase of financial maturity

Advancements in the past year have increased certainty to industry and investors, steadily removing barriers to commercial deployment.

CCS projects have secured non-recourse debt financing for the first time, including Net Zero Teesside and Northern Endurance Partnership. Private capital is stepping up; Eni's partnering with Global Infrastructure Partners to co-own CCS assets across Europe signals institutional investor confidence.

Projects are reaching Final Investment Decision (FID) or financial close in Europe; Northern Lights Phase 2 in Norway, Eni HyNet North West in the UK, and Beccs

Carbon markets are evolving alongside finance

The EU-UK Emissions Trading System (ETS) linkage agreement marks renewed regional cooperation, while Norway and Switzerland's Article 6.2 deal creates one of the first international carbon removal frameworks.

The voluntary market is also growing, with Microsoft expanding its BECCS offtake from Stockholm Exergi to over 5 Mt, and the European Commission exploring an EU-level CDR purchasing programme.

Dedicated CO₂ transport and storage projects are a growing part of the landscape

This signals greater maturity in the CCS value chain and is creating the backbone for scalable deployment. Transboundary policy and regulation are critical to realising CCS in a number of countries, with growing international cooperation enabling cross-border CO₂ transport and storage.

Where there is policy, there are projects

Significant policy, legal, and regulatory progress for CCS over the past 12 months in many countries is driving growth in projects under operation, construction, and development. We are seeing clear links to expanding project pipelines where national policy frameworks have been established.

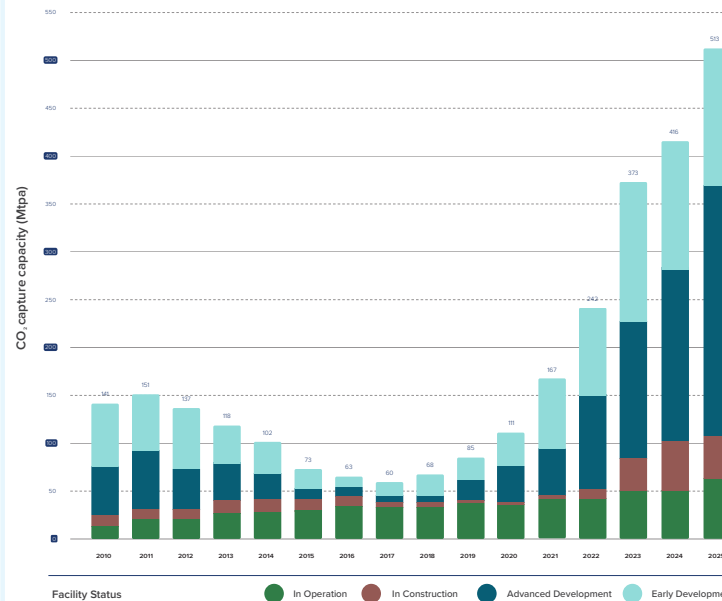
Capture capacity is increasing at every stage of development

Planned global capacity has been growing at a compound annual rate of over 30% since 2017.

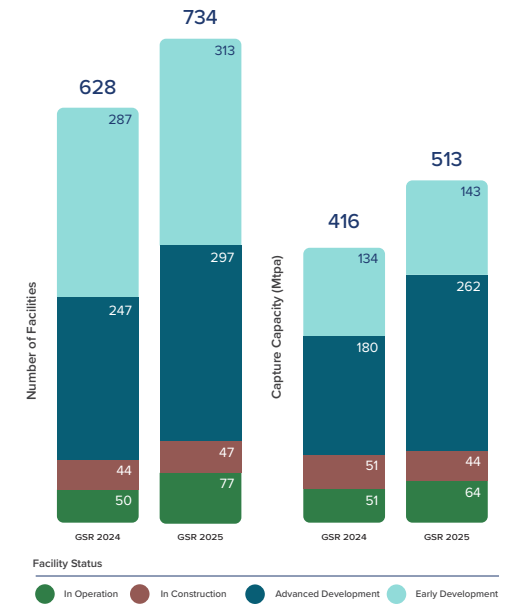


Capture capacity in operation in July 2025 - up 25% year on year.

CO₂ capture capacity of commercial CCS facility pipeline since 2010



Commercial CCS facilities by number and total capture capacity



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Regional spotlight

While progress is uneven across regions, advancements in the past year are giving greater certainty to industry and investors, and steadily removing barriers to commercial deployment.

Americas

The US continues to expand and refine established frameworks, while Brazil and Canada are advancing supportive incentives and regulations.

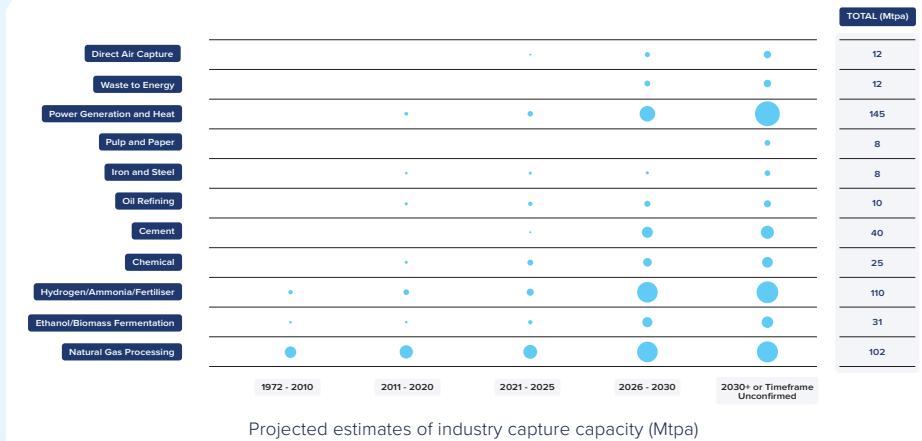
- Policy:** US 45Q and Canada's ITC are underpinning momentum, while Brazil is progressing with its regulatory frameworks. Federal uncertainty in the US has introduced some headwinds.
- Deployment:** 39 facilities are now operational in the region, having stored over 223 Mt CO₂, with a strong pipeline of projects advancing to final investment decisions (notably in Louisiana and Texas).
- Drivers:** NGCC with CCS can enable reliable, low-carbon power to support AI growth, while projects can deliver jobs, investments, and competitive low-carbon exports.

Europe and UK

Europe is on track to increase its operating capture capacity from under 3 Mtpa today to over 90 Mtpa by 2030.

- Projects:** Five projects are operational, with seven more having reached FID or financial close since mid-2024. The world's largest CCS cement plant, Brevik CCS, began operations in June 2025.
- Policy:** EU Net-Zero Industry Act mandates 50 Mtpa of CO₂ storage by 2030. Complementary initiatives like the Clean Industrial Deal, Innovation Fund, and state aid frameworks are driving industrial decarbonisation across the region.
- Collaboration:** EU-UK ETS linkage, alongside bilateral MoUs with Egypt, Switzerland, Greece, and Norway, is supporting cross-border cooperation. Newly-launched CO₂ shipping infrastructure is further enabling cross-border CCS deployment.

Operating CCS capacity is set to grow significantly by 2030 and diversify well beyond traditional sectors



APAC and India

APAC has seen a second facility come online in 2025, alongside significant regulatory progress in Australia, Indonesia, and Malaysia, strengthening the region's CCS momentum.

- Policy:** Regulatory advancements in Japan, Indonesia, and Malaysia are providing certainty for domestic projects and enabling regional CO₂ value chains.
- Deployment:** Gorgon and Moomba online; Kasawari, Tangguh, and Arthit are under construction, and 54 facilities are in earlier stages of development across APAC.
- Collaboration:** Cross-border MoUs, CO₂ shipping hubs, and innovative dual-cargo vessels are enhancing regional cooperation and improving deployment and transport of CCS infrastructure throughout APAC.

Japan

The Japanese government has reaffirmed CCS as a central pillar of its 2050 net zero strategy, with nine Advanced CCS Projects selected and a national roadmap targeting up to 240 Mtpa of CO₂ storage by 2050.

- Policy:** The CCS Business Act (2024) establishes a legal framework for licensing site exploration, storage, and pipeline operations, boosting investor confidence and providing regulatory clarity.
- Progress:** The planned introduction of a cap-and-trade emissions trading system into the carbon credit market in April 2026 is spurring interest in domestic CCS deployment.
- Planning:** Growing interest in the transboundary transport of CO₂ captured in Japan to storage sites in APAC is driving R&D and demonstration projects, and government-industry initiatives to standardise specifications and reduce transportation costs.

China

China is advancing as a global leader in fossil fuel decarbonisation, highlighted by Huaneng's 1.5 Mtpa CCS facility at the world's largest CCS project attached to a coal-fired power plant.

- Policy:** China's policy support has strengthened, with CCS embedded in China's sectoral transition plans, particularly for coal-fired power generation.
- Planning:** The 15th Five-Year Plan may formally incorporate CCS, providing long-term policy clarity and alignment at the national level.
- Progress:** Technology, manufacturing, and large-scale demonstration facilities are advancing, with Chinese firms improving efficiency, reducing costs, and scaling CCS solutions.

Middle East and Africa

Governments in the Middle East are aligning project development with supportive policy and regulatory measures.

- Deployment:** The Jubail hub (9 Mtpa) and Yanbu hub (2 Mtpa) are advancing, while Oman, Qatar, UAE, Nigeria, Kenya, and South Africa are advancing pilot projects and early-stage facilities.
- Policy:** Governments are embedding CCS in national strategies, with regulations, MRV frameworks, and carbon markets evolving to enable investment.
- Collaboration:** Cross-border MoUs, CO₂ transport networks, DAC, modular capture, and mineralisation pilots are driving regional deployment and export opportunities.

Global momentum is also reflected in infrastructure growth. Dedicated CO₂ transport and storage projects are increasing – doubling in Europe between 2023 and 2024 alone – laying the foundation for shared CCS networks that improve scalability and reduce costs.

Jarad Daniels,
CEO, Global CCS Institute

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