



GLOBAL CCS
INSTITUTE

THOUGHT LEADERSHIP

CCS POLICY LEGAL AND REGULATORY REVIEW 2025

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1.0 PURPOSE AND FOCUS OF THE REPORT

This report provides an overview of global carbon capture and storage (CCS) policy, legal and regulatory developments over the 2025 calendar year, and the status of CCS governance regimes. It also provides insights into global and regional trends over this period, including initiatives by governments to support the large-scale deployment of CCS.

The report covers CCS policy, legal and regulatory developments across the four main global jurisdictions – the Americas, Europe, Asia Pacific (APAC), and the Middle East and Africa (MEA). It also highlights current challenges to the large-scale deployment of the technology from a policy, legal and regulatory perspective.

If you'd like to jump to the regional analysis for a specific area, please select below.

- THE AMERICAS
- ASIA PACIFIC
- EUROPE
- MIDDLE EAST & AFRICA

Acronyms

APAC	Asia Pacific	Gt	Gigatonnes
ADNOC	Abu Dhabi National Oil Company	IAA	Industrial Acceleration Act
ARAMCO	Saudi Arabian Oil Company	ICAT	Initiative for Climate Action Transparency
AUI	Al Akhawayn University	ICC	Industrial Carbon Capture business model
BECCS	Bioenergy with Carbon Capture and Storage	IIJA	Infrastructure Investments and Jobs Act of 2021 (also referred to as the BIL)
BIL	Bipartisan Infrastructure Law of 2021 (also referred to as the IIJA)	IMO	International Maritime Organization
CAPEX	Capital Expenditure	IRA	Inflation Reduction Act of 2022
CBAM	Carbon Border Adjustment Mechanism	LNG	Liquefied Natural Gas
CCFD	Carbon Contract for Difference	LOI	Letter of Intent
CCS	Carbon Capture and Storage	LULUCF	Land-use, Land-Use Change, and Forestry
CCU	Carbon Capture and Utilisation	MEA	Middle East and Africa
CCUS	Carbon Capture, Utilisation and Storage	MMV	monitoring, measurement, and verification
CDR	Carbon Dioxide Removal	MoU	Memorandum of Understanding
CID	Clean Industrial Deal	Mt	Mega tonnes
CMC	Carbon Management Challenge	Mtpa	Million tonnes per annum
CO₂	Carbon dioxide	NDC	Nationally Determined Contribution
CO₂-e	Carbon dioxide equivalent	NOC	National Oil Company
DAC	Direct Air Capture	NPT	Non-Pipeline Transport
DACCS	Direct Air Capture with Carbon Storage	NSTA	North Sea Transition Authority
EEA	European Economic Area	NZIA	Net Zero Industry Act
EOR	Enhanced Oil Recovery	PCI	Projects of Common Interest (EU)
EPA	Environmental Protection Agency (US)	PMI	Projects of Mutual Interest (EU)
EPC	Engineering, Procurement, Construction	SAF	Sustainable Aviation Fuel
ETS	Emissions Trading System	SDE++	Sustainable Energy Production Subsidy Scheme
EU	European Union	SOE	State-owned Entity
FEED	Front-End Engineering Design	TIER	Technology Innovation and Emission Regulation (Alberta)
FID	Final Investment Decision	tpa	tonnes per annum
GCC	Gulf Cooperation Council	UAE	United Arab Emirates
GGR	Greenhouse Gas Removals	UK	The United Kingdom
GHG	Greenhouse Gas	UNFCCC	United Nations Framework Convention on Climate Change
GHGRP	Greenhouse Gas Reporting Program	US	The United States of America



2.0 KEY TAKEAWAYS AND OBSERVATIONS

2.1 The Americas

In 2025, CCS policy developments varied across the United States (US), Canada, and Mexico. In the US, the various states took on a more prominent leadership role as federal priorities shifted away from the low-carbon space. Federal funding pauses and project terminations created some uncertainty, but Congress preserved and enhanced the 45Q tax credit. In Canada, the CCS Investment Tax Credit (ITC) was reaffirmed. Specifically, the ITC's eligibility window was extended to 2035 and the ability to claim a 50% ITC for CCS projects was maintained. In addition, Canadian provinces have advanced new storage laws and offset protocols, while Mexico's state level carbon offset rules complemented the country's strengthened national climate commitments.

States and provinces increasingly drove CCS policy momentum through new legislation, permitting reforms, and regulatory refinement. In the US, 13 states passed over 20 CCS-related laws. Moreover, three more states received Class VI primacy which will help accelerate storage permitting. Canada saw stronger federal-provincial collaboration, including the Canada-Alberta Memorandum of Understanding (MoU), while Mexico's state of Colima implemented carbon tax and offset mechanisms.

Overall, 2025 demonstrated that CCS retains broad political appeal and market frameworks to support CCS and CCUS deployment remain intact or were even strengthened in certain instances. The US achieved parity between CO₂ utilisation and geological storage under the 45Q tax credit, expanding viable business models for hard to abate sectors. Brazil took major steps toward launching its national carbon market, including passing a law that established the framework for Brazil's GHG emissions trading system (SBCE), and initiating consultations on CCS/Bioenergy with CCS (BECCS) regulation – laying the foundations for integrating CCS into the SBCE. Scale up of CCS deployment will continue to benefit from robust financial incentives, market design, and clear regulatory pathways in the region.

2.2 Asia Pacific and India (APAC)

The APAC region is experiencing steady but uneven progress in developing CCS policy and regulatory frameworks, driven largely by rising international climate commitments and national net zero pledges. While early movers like Australia and Japan continue refining advanced frameworks, a growing number of economies, including Malaysia, Indonesia, South Korea, India, and Thailand are now developing or enhancing CCS specific legislation, regulations, strategies, and roadmaps. Despite this momentum, several nations with high emissions profiles, such as Brunei, Cambodia, and Timor Leste, still lack substantive policy action.

The region continues to rely on international cooperation, bilateral agreements, and regional coordination mechanisms to accelerate CCS deployment. Several countries now recognise CCS in their NDCs and explicitly link their progress to international support in the form of climate finance, technology transfer, and capacity building. This has stimulated a wave of government to government MoUs, focused on developing transboundary CCS value chains. At the same time, several APAC nations are working toward harmonising carbon market rules and exploring interoperability across emissions trading schemes (ETS).

In Southeast Asia, state-owned entities (SoEs) continue to drive CCS development. Examples include Petronas, having been awarded the first offshore carbon storage assessment permit after Malaysia's CCUS regulations entered into force in October; and Thailand's PTTEP, that have taken Final Investment Decision (FID) on conducting CCS operations in the Arthit gas field, marking Thailand's first commercial CCS project.

Over the past year, several countries have launched or expanded their ETS schemes and others have strengthened fiscal incentives to support CCS. New Zealand, Indonesia, and South Korea have begun integrating CCS into carbon crediting mechanisms, while India has announced major funding to accelerate CCS deployment across priority sectors. However, despite the growth of carbon markets and funding for CCS, challenges persist. These include differing market participation rules, limited CCS specific methodologies, low carbon prices relative to CCS costs, and lack of market harmonisation.

2.3 Europe

Across Europe, 2025 saw the consolidation of a comprehensive policy architecture at the EU level, aimed at accelerating industrial decarbonisation, and with CCS playing a central role. The EU advanced major legislative packages under the Clean Industrial Deal, the Net Zero Industry Act (NZIA), and updates to the EU ETS and Carbon Border Adjustment Mechanism (CBAM), enhancing the EU's industrial competitiveness and climate strategies. These initiatives were complemented by substantial research and innovation funding, most notably through Horizon Europe and the EU Innovation Fund. Taken together, these initiatives highlight the EU's intention to expand CO₂ storage capacity, and position European industry for global leadership in low carbon technologies.

Funding for commercial scale projects has also continued at the EU and Member State level. Complemented by new or updated regulatory tools, including the Strategic Project Status mechanism under the NZIA, and enhanced CBAM rules, the EU and European nations aim to provide regulatory certainty and clearer investment signals to stimulate CCS deployment.

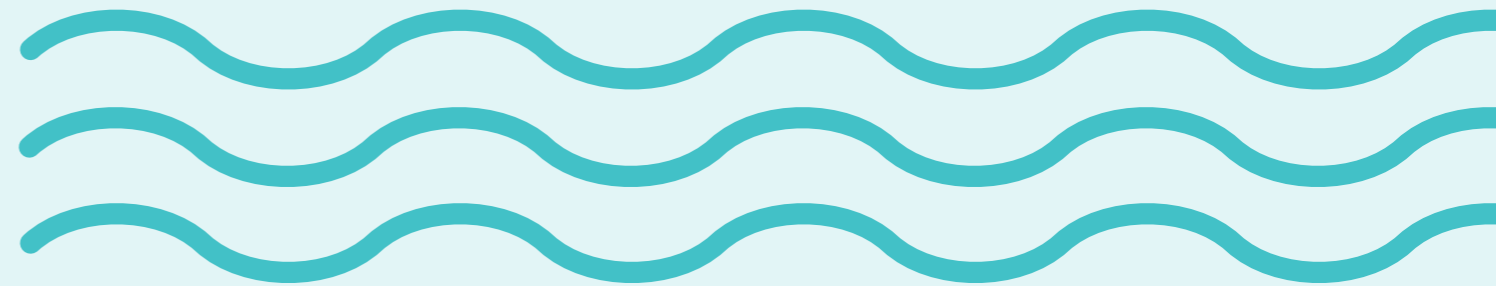
Over the past year, the EU and the once again emphasising the growing integration of CCS value chains. The EU expanded its portfolio of Projects of Common and Mutual Interest to include additional CO₂ transport networks and interconnection with neighbouring regions, while also pursuing wider international cooperation on carbon pricing and CO₂ transport. In the UK, 2025 brought major milestones in permitting and licensing rounds, investment decisions, and commercial project activity across industrial clusters. Together, these trends reflect a maturing regional ecosystem in which policy, finance, infrastructure, and commercial deployment are increasingly aligned to deliver large scale CCS as part of Europe's pathway to net zero.

2.4 Middle East and Africa

Across the MEA region, CCS policy is shifting from broad ambition to practical implementation as countries update NDCs, release national CCS frameworks, and begin embedding carbon management into climate and energy regulations. However, most countries still lack dedicated CCS legislation, and permitting remains tied to petroleum or general climate laws, limiting large scale deployment.

Carbon market development is accelerating, with South Africa, Kenya, and Nigeria, advancing mandatory or voluntary mechanisms, while regional collaboration grows through new MoUs and Article 6 partnerships. These international agreements often include funding components, reflecting the region's reliance on external finance and cooperation to progress CCS and broader decarbonisation initiatives.

State-owned energy companies continue to drive CCS deployment, particularly in the Middle East. The region has seen major project announcements and early DAC initiatives in the past year. Although regulatory frameworks remain incomplete, increasing coordination between governments and national oil companies indicates gradual movement toward more formalised CCS governance, even as funding and regulatory gaps remain the region's main barriers.



3.0 REGIONAL ANALYSIS

3.1 The Americas

3.1.1 Overview and key trends

The US's CCS landscape in 2025 was characterised by political instability at the federal level alongside accelerating momentum at the state level. Although CCS project development continued in states with established policy, federal actions during 2025 sent mixed signals. Early-year Executive Branch decisions paused or terminated significant funding streams from the Infrastructure Investments and Jobs Act of 2021, including the cancellation of billions of dollars in investment to at least 24 federally supported CCS projects which disrupted near-term project pipelines and created instability in the CCS market. However, the overall outlook for 2026 remains cautiously optimistic, driven by the resilience of tax-based incentives and the growing leadership of individual states along with a number of significant project announcements. State and province-level activity has also increased in Canada and Mexico over the past year.

Several key CCS-related developments in the Americas are summarised below.

Continued support for CCS at the federal level

Despite funding rollbacks, US federal policy preserved key economic pillars for CCS deployment. The passage of the One Big Beautiful Bill Act in mid 2025 maintained the 45Q tax credit for geological storage and extended parity to CO₂ utilisation via enhanced oil recovery, reinforcing the commercial case for CCS. At the same time, the introduction of restrictions on Foreign Entities of Concern reflects a broader trend toward securitisation and supply chain scrutiny in clean energy policy. The proposed rollback of the Environmental Protection Agency (EPA) Greenhouse Gas Reporting Program (GHGRP) created implementation risks for 45Q eligibility. The Internal Revenue Service (IRS) established a “safe harbour” mechanism using third party verification, but that only applies to calendar year 2025, which creates uncertainty for future years barring an extension or further clarification from the IRS.

Canada's CCS landscape has expanded in 2025, with several federal and provincial developments and updates for policies and fiscal mechanisms that benefit CCS at both the federal and provincial levels. This includes updates to offset protocols and the extension of the CCUS investment tax credit. Funding commitments have increased, with announcements to support technology development and innovation. Collaboration between federal and provincial governments has

also strengthened through initiatives such as the Canada-Alberta MoU. The outlook continues to be positive for collaboration between federal and provincial governments.

Enhanced policy support at the state and provincial levels

The most consistent and positive trend emerges at the state level, where legislative and regulatory activity expanded significantly in 2025. A growing number of states enacted CCS enabling laws covering various aspects including pore space access, long term stewardship funds, pipeline regulation, landowner compensation, and environmental safeguards. The granting of Class VI primacy to additional states (Arizona, Texas, and West Virginia) marks a structural shift toward decentralised permitting authority, which is likely to increase regulatory certainty for developers. This expansion of state primacy should help improve Class VI review and permitting timelines given additional resources available at the state level.

While certain states took pro-CCS legislative stance, others passed legislation aimed at strengthening regulatory authority which may slow project development. Several states introduced long term stewardship funds, higher reporting standards, and explicit protections for aquifers, landowners, and local communities. Others limited the use of eminent domain for CO₂ pipelines or required greater public benefit demonstrations. This underscores the importance of more education on the value of CCS along with increasing transparency, community engagement, and risk management by project developers and proponents.

Sub-national developments are also occurring in Mexico. Colima's establishment of carbon offset rules, and a voluntary low carbon label program augments the country's broader federal climate commitments.

3.1.2 Specific national and state/province policy, legal and regulatory developments

United States (US) federal policy

In January, the President issued an Executive Order, titled “Unleashing American Energy”, calling specifically for a pause in the disbursement of funds appropriated through the Inflation Reduction Act (IRA) of 2022 and the Infrastructure Investment and Jobs Act (IIJA) of 2021 (United States Congress, 2021, 2022; The White House, 2025). In May, the Secretary of the US Department

of Energy announced the termination of 24 CCUS projects sanctioned by the Office of Clean Energy Demonstrations (OCED), affecting US\$3.7 billion in spending.

In July, the US Congress, with support from the administration, passed the One Big Beautiful Bill Act (OBBBA), which preserved the 45Q tax credit for geological storage of CO₂ and gave parity to CO₂ utilisation through enhanced oil recovery (EOR) (Global CCS Institute, 2025c; United States Congress, 2025). In addition, restrictions were introduced for Foreign Entities of Concern (FEOCs), i.e., entities that have ties to China, Russia, North Korea or Iran. The Department of Energy defines FEOCs as being “owned by, controlled by, or subject to the jurisdiction or direction of a government of a foreign country that is a covered nation.”

The EPA proposed a rolled back the GHGRP in September, including Subpart RR - a verification mechanism for the 45Q tax credit (Environmental Protection Agency, 2025b). Facilities, suppliers, and underground CO₂ storage sites would not be required to report CO₂ emissions or storage. The CCS industry relies on the GHGRP Subpart RR as a reporting mechanism to claim the 45Q federal tax credits. Notwithstanding these developments, the US Internal Revenue Service issued a notice in December, establishing a “safe harbour” for 45Q tax credit eligibility but only for the 2025 calendar year. Effectively, it allows project developers to use independent, third-party certification of carbon storage only for those projects operating in 2025 (Internal Revenue Service and Department of the Treasury, 2025). The future of the GHGRP and Subpart RR remains in flux.

In parallel to these federal actions, several states have been passing legislation and developing regulations to support CCS project development. In 2025, over 20 legislative acts supporting CCS were enacted in 13 states. Furthermore, the states of West Virginia, Arizona, and Texas received Class VI primacy in 2025, bringing the number of states with Class VI primacy to six. These policy developments are explored below.

US state policies

Arizona

In September, the EPA announced a final rule approving Arizona's request to provide oversight of all classes of underground injection wells, thus granting Arizona Class VI primacy (Environmental Protection Agency, 2025a).

Arkansas

Arkansas enacted:

- HB 1411. This bill establishes the Carbon Dioxide Storage Fund to be used for testing, monitoring, long-term inspection, and remediation of post-

closure emergencies of underground CO₂ storage wells. Further, it authorizes the state's Oil and Gas Commission to adopt rules to implement the EPA's UIC Class VI regulations, sets CO₂ injection fees of US\$0.10/tonne (with US\$0.03 going to the Oil and Gas Commission and US\$0.07 the newly created Carbon Dioxide Storage Fund) and also requires well operators to pay a permit application fee of up to US\$50,000, and an annual well fee of US\$1,000 per Class VI injection well (Arkansas State Legislature, 2025).

- HB 1412. This bill clarifies regulatory authority over pipeline safety for transporting CO₂ in Arkansas by aligning state authority with federal pipeline safety frameworks (Arkansas State Legislature, 2025).

California

California enacted:

- SB-614. This bill establishes a comprehensive safety and regulatory framework for CO₂ pipelines by bringing them under the state's pipeline safety law, requiring new standards, siting restrictions, and oversight by the State Fire Marshal. It also effectively enables CCS development by allowing intrastate CO₂ pipelines—previously under a de facto moratorium—to proceed once those state safety regulations are in place and met, linking pipeline approval directly to CCS project viability. (California Legislature, 2025).

Colorado

Colorado enacted:

- HB25-1165. The legislation establishes the Geologic Storage Stewardship Enterprise under the Department of Natural Resources to ensure that the long-term costs associated with CO₂ wells, including plugging, abandonment, and remediation of geological storage facilities, are covered by operators. After well closure, the ownership of injected CO₂ and related infrastructure along with liability is transferred to the state releasing well operators from further regulatory liability (Colorado General Assembly, 2025).

Colorado also unveiled a carbon management roadmap, the state's first. The roadmap offers a strategic path to reducing greenhouse gas emissions and stimulating economic growth while exploring how carbon management technologies align with the state's natural resources, workforce, and community needs (Colorado Energy Office, 2025).

Illinois

Illinois enacted:

- SB 1697. This law requires CCS project developers to compensate landowners for surface damages related to construction of CO₂ pipelines, including impacts to crops, drainage, and conservation practices

(Illinois General Assembly, 2025a). It also provides remuneration to non-consenting pore space owners at fair rates established by the Department of Natural Resources through a public hearing process.

- SB 1723. This law prohibits near-term CO₂ storage activities in sole source aquifers, notably the Mahomet Aquifer and establishes the Mahomet Aquifer Advisory Study Commission to evaluate the risks and safety of CO₂ storage in the vicinity of the aquifer (Illinois General Assembly, 2025b).

Indiana

Indiana enacted:

- SB 457. This bill establishes the regulatory framework for permitting CO₂ wells along with their operation and closure and establishes the Carbon Sequestration Project Program to pay for the CO₂ regulatory framework. CO₂ storage operators will be required to pay an annual fee of US\$0.08 per tonne of injected CO₂ plus an administrative fee of US\$0.05 per tonne for CO₂ proposed for injection during the first 10 years, and a US\$0.01 per tonne filling fee for of CO₂ proposed for injection in the first 10 years. Further, the bill lays the framework for converting oil and gas wells for CO₂ storage (Indiana General Assembly, 2025).
- HB 1001. This law allocates US\$750k to the state's sequestration budget for FY25-26 and FY26-27 (Indiana State Legislature, 2025).

Louisiana

Louisiana enacted:

- SB 36 and 73. These bills aim to strengthen local community input into CO₂ storage projects through public comment periods or hearings by requiring the Louisiana Commissioner of Conservation to give substantial consideration to the comments before making decisions (Louisiana State Legislature, 2025d, 2025e).
- HB 691. This law introduces stringent new reporting requirements for CO₂ wells including well malfunctions and actual leaks. Reports must be made in 24 to 48 hours. Further, the bill introduces civil penalties of US\$200,000 per day and US\$25,000 per day criminal penalties for wilful or knowing failure to report. (Louisiana State Legislature, 2025c).
- HB 2. The law deems Louisiana State University's Research Well No. 3 at LSU's Petroleum Engineering Research Training and Testing Laboratory (PERTT Lab) a capital asset. Funds made available for this well are "for a public purpose" and be used for training related to carbon capture and sequestration, amongst other disciplines (Louisiana State Legislature, 2025a).
- HB 304. This bill requires that lawsuits over eminent domain exercised by CCS project developers be heard in the parish where the property is located (Louisiana State Legislature, 2025d)

- HB 548. The bill ensures that 30% of the revenue from CO₂ storage or pipeline activities on the state's Department of Wildlife and Fisheries lands go to the parishes where the activities are located, while the remaining funds go to the Wildlife and Fisheries Conservation Fund (Louisiana State Legislature, 2025b).

In October, the Governor of Louisiana signed an executive order to modify the state's Class VI program and the state's Department of Conservation and Energy also issued a memorandum to modify the state's Class VI permitting process. Together, these two orders will put more emphasis on community investments at the local level, public engagement, and economic development (Governor of Louisiana, 2025).

New Mexico

New Mexico enacted:

- HB 45. The Carbon Dioxide Storage Stewardship Act authorises state regulation of geologic CO₂ storage and sets rules for permitting, operation, and closure of sequestration projects and creates a long-term stewardship fund financed by US\$0.10 per tonne of CO₂ injection fees. Finally, it allows for transfer of long-term liability to the state after site closure, ensuring ongoing monitoring and management of stored carbon (New Mexico Legislature, 2025).

North Dakota

North Dakota enacted:

- SB 2333. This law creates a low-carbon fuels fund and provides incentives covering up to 50% of project costs to indirectly support CCS deployment at ethanol production facilities. It establishes limits on eligible and cumulative costs for a facility. The act defines eligible capital projects as new construction or replacement of existing infrastructure for CCS, beneficial use of CO₂ energy efficiency, or ethanol yield improvements (North Dakota Legislative Branch, 2025).

Oklahoma

Oklahoma enacted:

- SB 269. This law consolidates state-level control over CCS by establishing a comprehensive regulatory framework that gives the Oklahoma Corporation Commission exclusive authority over Class VI CO₂ injection wells and associated storage units. Further, it sets requirements for developing CO₂ storage projects, including unitization of pore space, minimum ownership thresholds (e.g., ~63%), application standards, public notice, and Commission approval before injection can occur. Finally, it creates long-term oversight and financial structures—such as a state revolving fund, reporting requirements, and post-injection site closure processes (including certification decades after injection ends)—to ensure accountability and support CCS deployment (Oklahoma State Legislature, 2025).

South Dakota

South Dakota enacted:

- HB 1052. This bill bans the use of eminent domain for CO₂ pipelines (South Dakota Legislature, 2025).

Texas

While Texas did not enact any new laws germane to CCS, it became the sixth state to receive Class VI primacy joining Arizona, West Virginia, Louisiana, Wyoming, and North Dakota (Environmental Protection Agency, 2025; Railroad Commission of Texas, 2025).

Utah

Utah enacted:

- HB 352. The legislation establishes a regulatory framework for geologic carbon storage by clarifying state jurisdiction over CO₂ injection wells and setting requirements for permitting, operation, and oversight of carbon sequestration facilities and storage units (Utah State Legislature, 2025a).
- HCR 9. This resolution calls for an energy compact with the states of Idaho and Wyoming that would facilitate the development of CCS infrastructure projects by aligning state policies, fostering investments, and enhancing coordination (Utah State Legislature, 2025b).

West Virginia

West Virginia enacted:

- SB 627. This bill removes the existing ban on leasing state-owned pore space beneath state parks, allowing the state to authorize underground carbon dioxide storage projects in those areas while generally keeping surface park land protected (West Virginia Legislature, 2025).

In February, the state also received Class VI primacy, the fourth state to receive it after Louisiana, Wyoming, and North Dakota (US Environmental Protection Agency, 2025; WV Office of the Governor, 2025).

Wyoming

Wyoming enacted:

- SF0017. The bill establishes a stimulus fund that provides US\$10/tonne for qualified EOR projects. Further, it establishes an account and reporting system to administer the payments—backed by an initial US\$10 million appropriation—to encourage carbon capture deployment while boosting oil production through CO₂ injection (State of Wyoming Legislature, 2025).

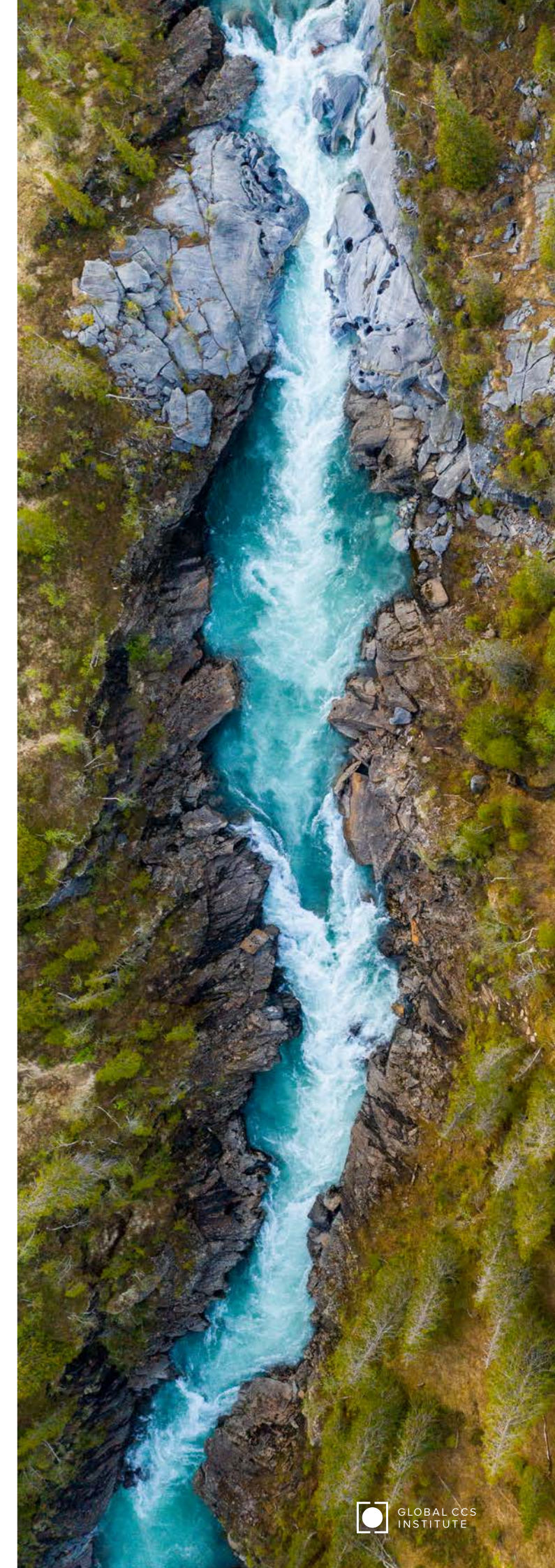


Figure 1 - Timeline of key policy, legal, and regulatory developments in the US (federal and states) over the review period



Canadian federal policies

In February, the federal government announced investments of CA\$14 million for innovations in CCS that would go towards supporting carbon management technologies under the Energy Innovation Program’s CCUS research, development and demonstration (Government of Canada and Natural Resources Canada, 2025). In March, the federal government released the DACCS federal offset protocol through Environment and Climate Change Canada. It aims to create an incentive for DAC project operators (Environment and Natural Resources Canada and Government of Canada, 2025). In July, the Minister of Energy and Natural Resources announced CA\$21.5 million to support the development of CCUS technologies (Government of Canada, 2025b).

In November, the re-elected Liberal Party extended the CCUS investment tax credit through 2035 as part of its federal budget, “Canada Strong”. The CCUS ITC will cover eligible capital expenditures for projects at 50% for point-source capture, and 37.5% for transport, utilisation (in concrete), and storage (Government of Canada, 2025a). The Prime Minister also signed a Prime Ministerial Directive that eliminated the consumer carbon tax while keeping the federal industrial carbon tax on large emitters in place (Government of Canada and Canada Revenue Agency, 2025).

Canadian provinces

Alberta

In May, the Alberta government announced that the price of TIER fund credits will be frozen indefinitely at CA\$95/tonne of CO₂-e (Bloomberg, 2025a). The government also announced updates to the province-specific Technology Innovation and Emissions Reduction Regulation (TIER) - facilities that volunteered to opt in to TIER can now opt out (Government of Alberta, 2025).

In November, the governments of Canada and Alberta signed a Memorandum of Understanding (MoU) to strengthen federal and provincial collaboration by establishing Canada’s energy dominance while building out large-scale CCS. The MoU establishes the centrality of CCUS to Canada and Alberta achieving net zero GHG emissions by 2050, while maintaining energy growth, and competitiveness (Prime Minister of Canada, 2025). Importantly, the MoU positions CCS as the primary pathway to decarbonise Alberta Oil sands.

British Columbia

In August, the government of British Columbia published its Carbon Capture and Sequestration (CCS) Offset Protocol under the province’s Greenhouse Gas Industrial Reporting and Control Act, British Columbia (Government of British Columbia, 2025).

Ontario

In December, Ontario’s Bill 27 - Resource Management and Safety Act, 2025 became law. The bill enacts the Geologic Carbon Storage Act, 2025 which will “enable the safe, responsible and permanent storage of carbon dioxide”. Regulations are to be developed in 2026 (Legislative Assembly of Ontario, 2025).

Brazil

In 2025, Brazil implemented Law 15,042/2024 that established the country’s national emissions trading system (SBCE). This law sets limits on GHG emissions and creates a cap-and-trade carbon market whereby companies that emit below the threshold earn carbon credits and can sell them to companies emitting above the threshold (Brazilian Official Gazette, 2024).

In October, the President of Brazil passed Decree No. 12,677/2025 (Presidency of the Republic, 2025) creating the Extraordinary Secretariat for the Carbon Market within the Ministry of Finance. This is an interim body, which will oversee the launch of the SBCE before a new regulatory agency is established.

Also in October, Brazil’s Ministry of Mines and Energy launched the CCUS Subcommittee under the Permanent Technical Committee on the Fuel of the Future (Hernandez and Journal of Petroleum Technology, 2025)

This outcome helps advance CCUS through Brazil’s Fuel of the Future law while anchoring Brazil’s position at COP30 for future developments.

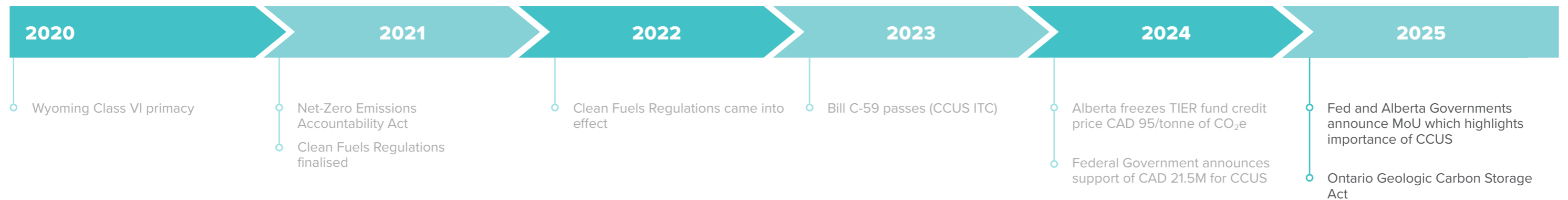
In November, Brazil’s Ministry of Mines and Energy (MME) launched Public Consultation No. 205 soliciting input on the regulation of CCS and BECCS projects. It is a first step in defining regulations that could help integrate CCS projects into the SBCE.

Mexico

In November, Mexico officially presented a new Nationally Determined Contribution (NDC) at COP30 in Belém, Brazil (Government of Mexico, 2025; World Resources Institute, 2025). The updated NDC introduces an emissions cap for 2035, a first for Mexico. It also covers all GHGs and sectors of the economy.

In December, the Mexican state of Colima established carbon offset rules under an earlier state finance law. All facilities with stationary sources that emit GHGs are subject to the state carbon tax (The State of Colima, 2025; Santana and OPIS Insights, 2026). Colima’s voluntary Low-Carbon Label program is designed to recognise decarbonisation efforts by CO₂-emitting facilities and reduce tax liabilities.

Figure 2 - Timeline of key policy, legal, and regulatory developments in Canada over the review period



3.2 Asia Pacific and India

3.2.1 Overview and key trends

Overall, the CCS-related policy and regulatory landscape in the Asia Pacific (APAC) region is at a nascent stage when compared to regions such as Europe and the US. Policy and regulatory support were largely absent in the region with the exception of a few early mover nations (Australia and Japan), until more recent intervention in several Southeast Asian nations. The early 2020s has seen increasing urgency and ambition for climate action at the international level, together with pledges to achieve net zero emissions to facilitate the global energy transition. Since then, slow, steady and continued momentum has underpinned CCS development, with some countries taking significant steps for the first time to either establish CCS legislation or make funding available for deployment. While the continuing momentum is promising, policy and regulations in some countries in the region, such as Brunei and Cambodia, continue to lag behind. The key CCS-related trends of the APAC region are presented below.

CCS-related policy developments in the region are underpinned by international and regional ambitions, cooperation and collective mechanisms

A key theme emerging from the region is that domestic policy support for CCS correlates to international momentum in the climate space and the availability of international support mechanisms. Many countries are now including CCS within their NDCs as part of more stringent interim emissions reduction targets for 2035, including Australia, India and Singapore. The NDCs of Singapore, Thailand, Malaysia and Indonesia, among others, also explicitly state that their efforts to support climate ambitions are conditional on international cooperation, climate finance, technology transfer and capacity building from international partners.

To this end, several MoUs and bilateral agreements have been established between countries such as Japan, Australia, Singapore, Indonesia and South Korea to cooperate on CCS, not only to facilitate transboundary CCS value chains¹ but also cooperate on capacity building, knowledge sharing and technology transfer.

In the region, APAC countries are also exploring the interoperability of the expanding compliance and voluntary carbon markets, in part inspired by policies developed in other jurisdictions around the world.

In the APAC context, the lack of unified rules has been cited as a key barrier for engaging in cross-border carbon trading within the region. This has led to countries such as Indonesia signing Mutual Recognition Agreements with Japan, enabling the equivalence of JCM credits and domestic Indonesian credits under the IDX Carbon scheme. At the ASEAN level, the development of the ASEAN Common Carbon Framework is another initiative to create a unified carbon market across the region. These examples highlight how coordination at the international and regional level is incentivising domestic emissions reduction policies, which in turn includes support for CCS.

Establishment of legal and regulatory foundations to enable CCS continues across the region

Establishing and refining the legal and regulatory frameworks for regulating the various aspects of the CCS project lifecycle has been an important focus for several countries in the region. APAC nations such as Indonesia, Malaysia, Japan, Thailand, New Zealand and South Korea have all established or proposed integrated CCS-specific legislation in the past two years and are continuing to refine and clarify obligations of project operators through subsequent regulations and guidance. Examples of recent developments include:

- Indonesia's PR No. 16 of 2024 on the Organisation of Carbon Storage in Carbon Storage Permit Areas, which builds on the requirements established by the earlier CCS-specific regulations, PR 14 of 2024 and MEMR 2/2023.
- Malaysia's CCUS Act 2025, which regulates the CCS project lifecycle, and implementing subsidiary regulations to complement the main Act.
- New Zealand's proposed CCS-specific legislation which creates a dedicated carbon storage permitting regime, run by the Environmental Protection Authority, with requirements to prove site suitability plus robust monitoring, closure, and decommissioning plans.

In addition to establishing the legal basis for conducting CO₂ storage activities within a particular jurisdiction, countries have also provided within these frameworks for enabling transboundary CO₂ storage activities. Key frameworks in this respect include Indonesia's PR 14 of 2024, Malaysia's CCUS Act, Australia's Environment Protection (Sea Dumping) Act and Japan's CCS Business Act. These provisions have been implemented in conjunction with several MoUs negotiated by these countries to collaborate on facilitating cross-border CCS activities, although no government-to-government bilateral agreements on transboundary transport and storage of CO₂ have yet been concluded.

Continued proliferation of carbon markets and other carbon pricing mechanisms

Several countries in the region have now established carbon markets and have indicated a potential role for credit generation through CCS activities. Since 2024, countries such as Thailand and Vietnam have both established emissions trading schemes, albeit these schemes are still in their early stages and are yet to be implemented. South Korea and China have approved new emissions caps for their respective schemes, with South Korea also announcing a Market Stability Reserve and increased auctioned allowances; and China expanding sector coverage. Japan's GX-ETS, currently a voluntary scheme, is set to become mandatory in 2026. Malaysia has announced the launch of an ETS in its 13th Five Year Plan. Singapore's carbon price increased yet again for the period 2026-2027.

Currently the only schemes in the region that allow or have proposed credit generation through CCS activities include Australia's ACCU Scheme, New Zealand's ETS and Indonesia's Economic Value of Carbon. South Korea has recently proposed to enable CO₂, removed through CCUS, to be deducted from company emissions accounts.

The increased proliferation of carbon markets and carbon pricing throughout the region increase the attractiveness for incentivising CCS project deployment through the ability to generate CO₂ credits. However, varying rules of participation and the absence of specific methodologies for CCS-related credit generation are key barriers. Critically, the prices generated by these schemes remain insufficient to incentivise commercial-scale deployment of CCS. Furthermore, the lack of interoperability of these carbon markets poses a challenge for projects with a transboundary component.

3.2.2 Specific national and state policy, legal and regulatory developments

Australia

Australia's updated NDC requires a reduction of 62-70% of net national greenhouse gas emissions below 2005 levels, covering all sectors of the economy. For the first time, Australia's NDC also explicitly recognises CCS as a potential mitigation technology for achieving its targets and commits to its acceleration in hard-to-abate sectors and the production of low-carbon hydrogen (Australian Government, 2025).

Australia has also published its Net Zero Plan, a whole of economy strategy to achieve its 2050 emissions target, involving six sectoral emissions reduction plans to support its net zero strategy. CCS features within the Resources Sector Plan, which spans 2025 to 2035

(Australian Government, 2025b). The plan envisages the expansion of CCS to 2030, the continued growth of CCS to 2035 and the continued use of CCS beyond to 2050 (Australian Department of Industry Science and Resources, 2025). It also highlights the government's intent to leverage Australia's geological capacity within the international market for transboundary CO₂ storage operations. The Regional Cooperation Initiative on Carbon Sequestration, established in 2024, is highlighted as the main mechanism for setting up the institutional framework for facilitating transboundary operations, including setting up bilateral agreements with regional and partner countries interested in investment and trade in CCS in Australia.

Australia is actively negotiating bilateral agreements with neighbouring countries to cooperate on CCS and conduct cross-border CO₂ transport and storage. The most recent development on this front is the Australia-South Korea Green Economy Partnership, concluded in December 2024 (DCCEE, 2024).

To further enable cross-border transport and storage of CO₂, in June, the Australian government released consultation documents relating to offshore CO₂ sequestration under the Sea Dumping Act. This included the draft Offshore CCS National Action List (NAL), the National Assessment Guidelines (Guidelines), and an updated Sea Dumping permit application. These developments require CCS project operators seeking to load captured CO₂, transport and dispose CO₂ in Australian waters to comply with multiple obligations. These include submitting information required as part of the Sea dumping permit and ensuring compliance with the guidelines and NAL. In addition, operators will also be required to comply with domestic regulatory requirements relating to offshore CO₂ storage at the Commonwealth and state level.

The Australian commonwealth government has also launched the Carbon Capture Technologies Program, and has granted funding for seven projects, amounting to A\$65 million. A second round of funding is anticipated for early 2026 (DCCEE, 2025).

¹ It should be noted that no government-to-government agreements to conduct transboundary CCS value chains have yet been executed by any government in the region.

THE ENVIRONMENT PROTECTION (SEA DUMPING) ACT 1981

The Sea Dumping Act implements Australia's obligations under the London Protocol and regulates the disposal of wastes at sea, and applies to all vessels, aircrafts and platforms in Australian waters, and to all Australian vessels and aircraft in any part of the sea. In accordance with the dumping provisions of the London Protocol, the injection of CO₂ streams in a sub-seabed geological formation will require a permit under the Act. The Sea Dumping Act complements the requirements for CCS project operators under the Offshore Petroleum and Greenhouse Gas Storage Act 2006.

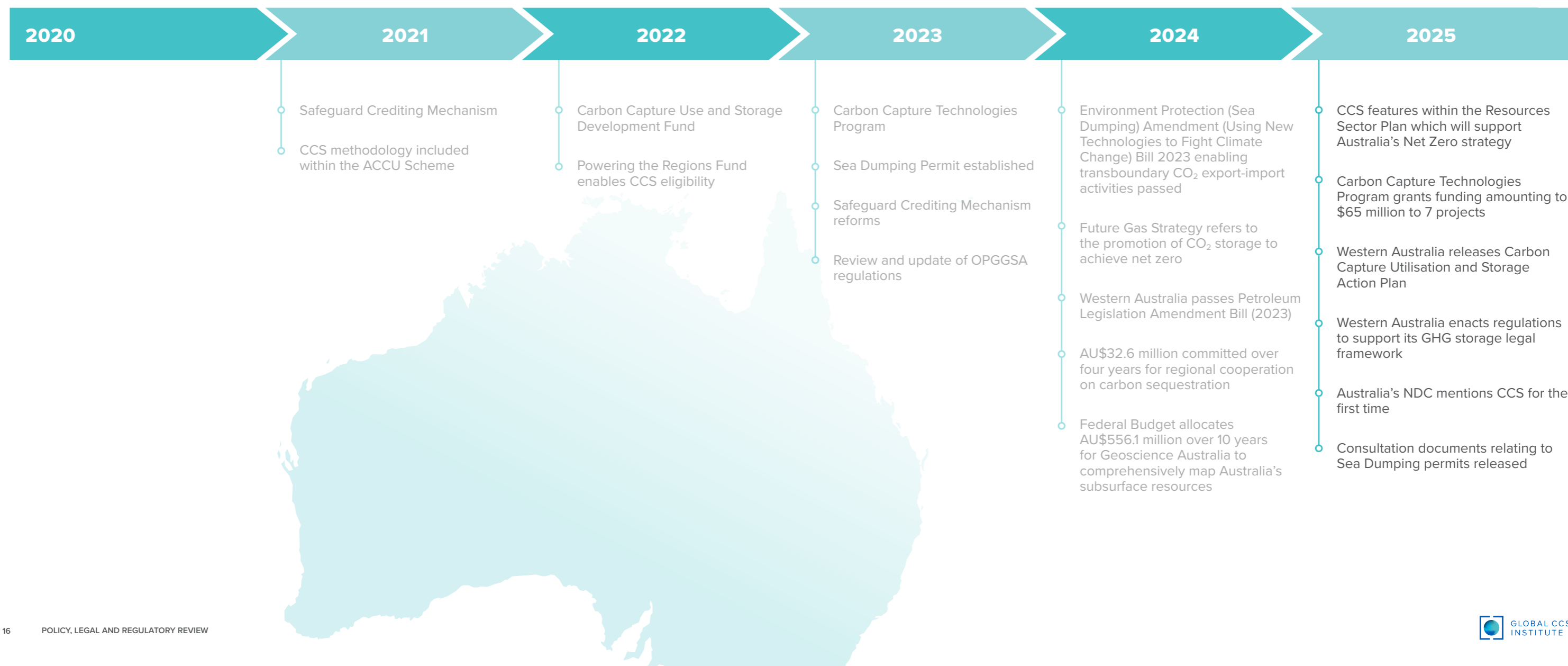
The implementation of the London Protocol's provisions relating to CO₂ sequestration under the Sea Dumping Act in Australia represents a first-of-a-kind example of a domestic process and procedure for fulfilling the Protocol's obligations relating to environmental protection in the context of CO₂ storage operations.

Western Australia

Since the Institute's last update, Western Australia has taken significant steps towards supporting the deployment of CCS within the state. A key aspect has been the enactment of a regulatory framework to facilitate CCS operations, which includes a licensing framework that mirrors the Commonwealth regime. The government is also developing secondary regulations under this primary Act. To this end, the government has established a set of injection and storage regulations and is in the process of introducing amendments to the state's wider petroleum regulations to expand its coverage to CCS operations.

In 2025, Western Australia also released its Carbon Capture Utilisation and Storage Action Plan. The strategy outlines key objectives and priority actions to deploy CCS, in support of the transition to a low-carbon economy in the state. Among its priority actions, the plan highlights the implementation of a leading legal and regulatory framework for CCUS and the attraction of investments and strategic international partnerships to prime its position as a key player in the international market for CCUS (Government of Western Australia, 2025).

Figure 3 - Main CCS policy, legal, and regulatory developments in Australia over the review period



Indonesia

Indonesia has continued to strengthen its regulatory frameworks to facilitate CCS hub development. Successive regulations have been issued each year since 2023, with a new addition to its regulatory package in late 2024: Regulation No. 16 of 2024 on the Organisation of Carbon Storage in Carbon Storage Permit Areas (Regulation 16 of 2024) (Ministry of Energy and Mineral Resources, 2024).

Regulation No. 16 of 2024 provides further detail on the process established under Presidential Regulation No. 14 of 2024, released earlier in 2024, for conducting CCS activities in WIPK areas. The new regulation covers aspects such as the allocation of WIPKs, grant of relevant permits, management of CCS-related assets, carbon storage business activities, fees and royalties and closure of CO₂ storage activities. The new regulation complements the requirements established by the earlier CCS-specific regulations, PR 14 of 2024 and MEMR 2/2023.

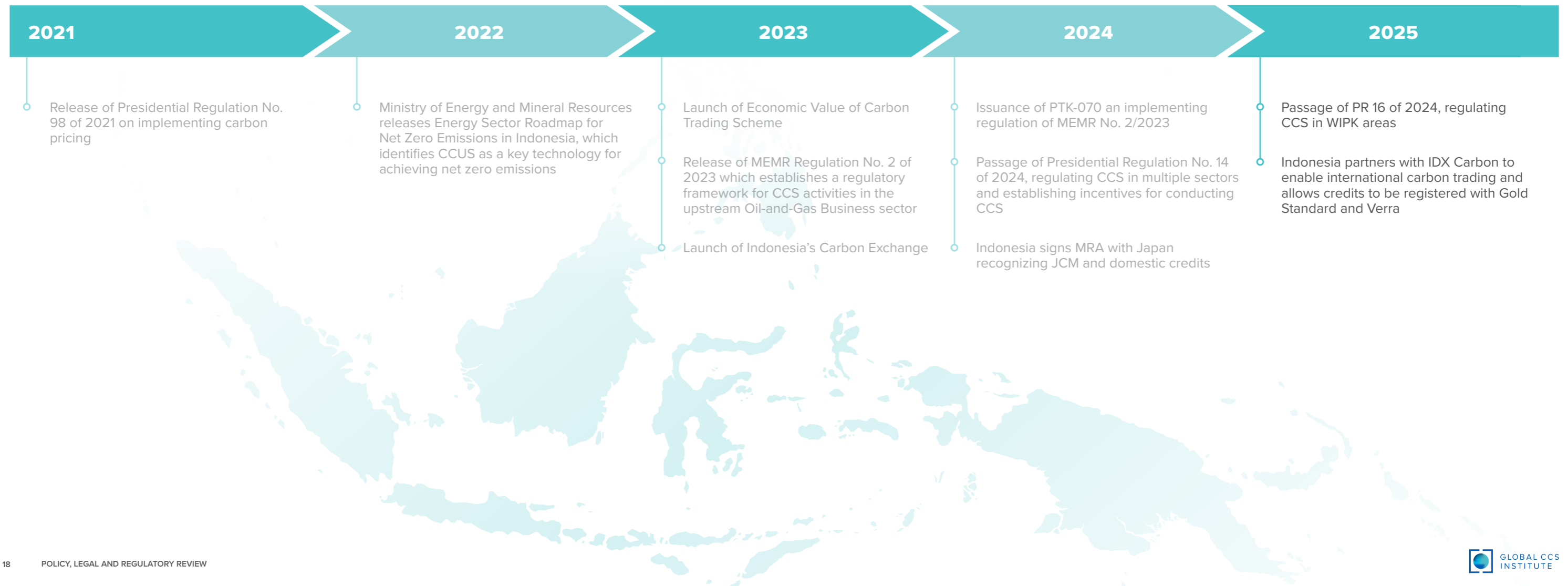
In addition, Indonesia also recently overhauled its system for awarding business licenses through Government Regulation No. 28 of 2025. Among other measures, the new regulation expands the scope of business activities requiring licenses to include CCS activities and integrates these CCS business licenses within the risk-based Online Single Submission (OSS) system (Central Government of Indonesia, 2025). A further regulatory development was Government Regulation No. 19 of 2025, which provides for a regulatory framework for collecting revenue from CCS activities, including compensation for permit issuance and exploration for CO₂ storage sites, royalties for CO₂ storage and financial obligations for cancellation and termination of injection drilling and exploration permits (Government of Indonesia, 2025).

In January, Indonesia partnered with IDX Carbon to initiate international carbon trading, with Indonesian projects also allowed to be recorded not only in the Indonesian National Registry System for Climate Change Control but also the Gold Standard or Verra registries

(Carbon Pulse, 2025). The latter was enabled due to concerns relating to the integrity of some credits under the domestic registry, which led Indonesia to sign Mutual Recognition Agreements (MRAs) with Gold Standard and Verra in October.

Indonesia has also signed an MRA with Japan, enabling the equivalence of JCM credits and domestic Indonesian credits under the IDX Carbon scheme (Carbon Herald, 2024). The new MRA, will enable streamlined future carbon trading between the two countries. Through establishing supportive institutional frameworks to facilitate domestic and international carbon trading, Indonesia is seeking to strengthen its position as a destination for hosting projects that generate credits under the Paris Agreement's Article 6 trading mechanisms.

Figure 4 - Main CCS policy, legal and regulatory developments in Indonesia over the review period



China

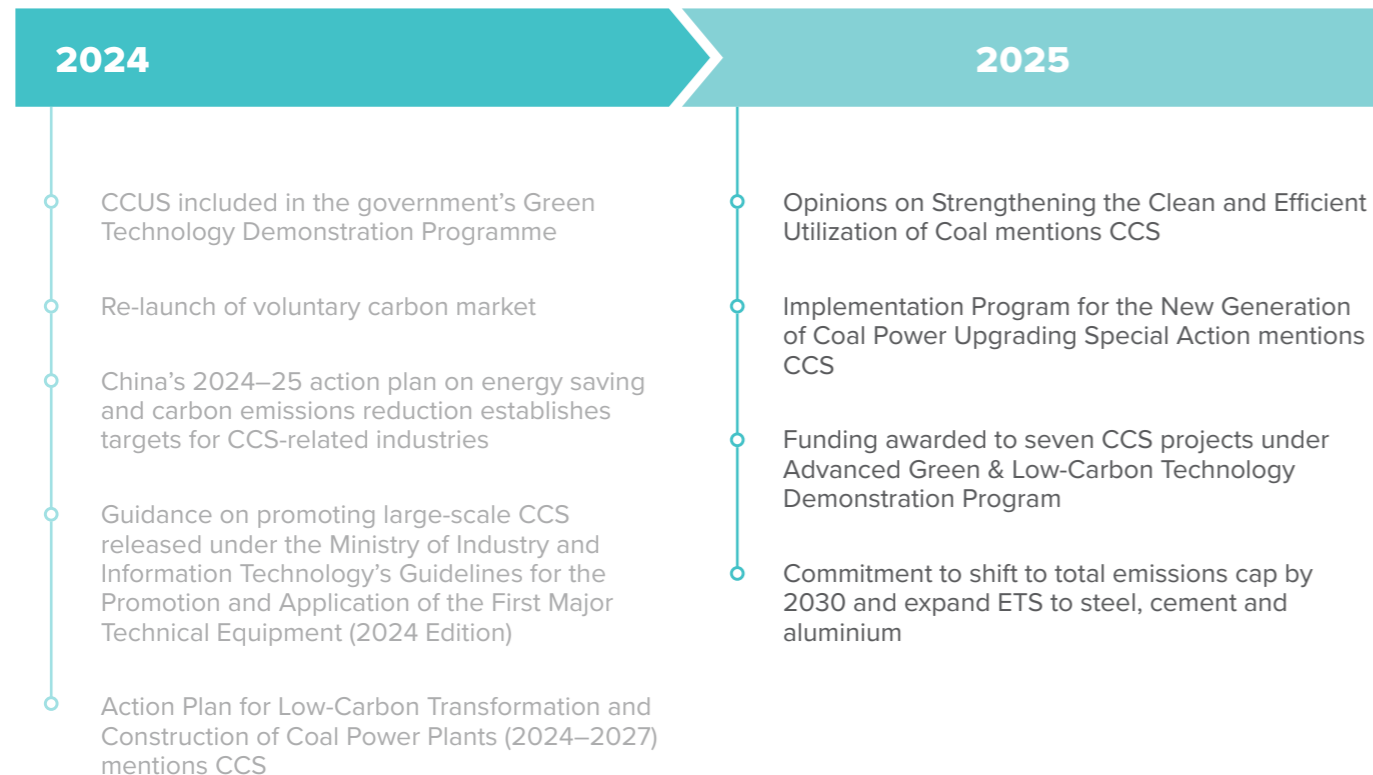
China has been steadily increasing policy support for CCS since announcing its commitment to achieve net zero emissions by 2060, in 2020. Several central government level policy documents have included support for the technology across recent years. Government support for large-scale demonstration projects has been extended in recent policy documents, particularly within the coal-fired power generation sector. The Implementation Program for the New Generation of Coal Power Upgrading Special Action (2025- 2027), was published in 2025.

Also in 2025, the Advanced Green and Low-Carbon Technology Demonstration Project Implementation Program awarded funding to seven CCS projects. These include three integrated CCS projects, a capture project in the cement sector, a long-distance CO₂ pipeline project, and capture projects at a fertiliser factory and a lithium-ion battery production facility (Global CCS Institute, 2025a). Furthermore, in October, the National

Development and Reform Commission (NDRC) issued a document on central government funding management for energy efficiency and carbon emissions reduction. The policy allocates government funding for relevant projects amounting to 20% of total investment. Local governments' funding percentages vary from 60% to 80% depending on the region. Large-scale CCUS projects are eligible for funding under the mechanism (China Department of Environmental Protection and Resources, 2025).

China hosts the world's largest carbon market. In 2025, China expanded its carbon trading market to include the steel, cement, and aluminium industries. The three sectors together account for around 3 GtCO₂-e emissions annually. The potential expansion of China's market to these sectors, the establishment of a mature carbon market, and the announcement of a carbon cap for 2030, is likely to encourage companies to plan for investment decisions relating to CCS to achieve long-term climate targets (Global CCS Institute, 2025a).

Figure 5 - Main CCS policy, legal and regulatory developments in China over the review period



India

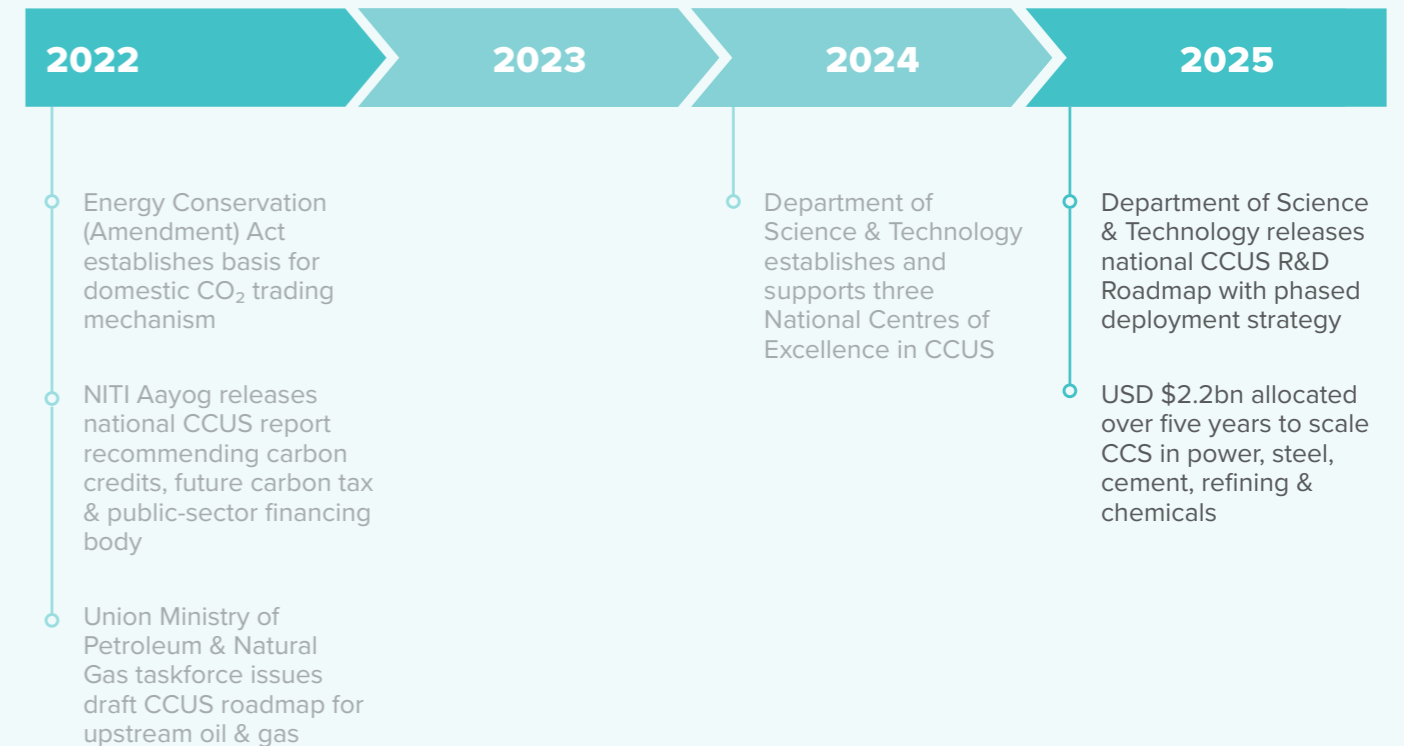
India has taken steps towards accelerating deployment through its policy support for CCS in recent years. A major milestone was the inclusion of CCS within the scope of India's Carbon Credit Trading Scheme (CCTS) in 2024. Since then, the federal government has committed to the development of further policy frameworks, which will outline the pathways and avenues for expansion of CCS in the country.

In December, India's Department of Science and Technology released the R&D Roadmap to Enable India's Net Zero Targets through Carbon Capture, Utilisation and Storage (CCUS). The roadmap will coordinate government action to support CCS, foster collaboration and mobilise investments to accelerate the technology's deployment. The roadmap's 3-phase R&D strategy prioritises near term, mid-term and long-term actions to scale up R&D measures in CCS. In the near term, the roadmap envisages the expansion of existing

proven CCS technologies across industrial sectors, while in the mid-term, next generation capture, utilisation and storage technologies will receive focus. In the long-term, investments into innovative and breakthrough solutions will be prioritised to ensure further cost reductions and efficiencies (Indian Department of Science & Technology, 2025).

In addition, a taskforce of the Union Ministry of Petroleum and Natural Gas has released a draft CCUS roadmap for 2030 for upstream exploration and production companies aimed at accelerating the adoption of CCS in India's upstream oil and gas sector (Indian Ministry of Petroleum and Natural Gas, 2025). The roadmap provides an indicative potential proposal for CCS adoption in the sector, focused on a few key pillars, including source-sink matching, CO₂ transport infrastructure options, geological storage options and technology choices for capture. The roadmap explicitly acknowledges that the measures proposed are indicative and subject to change.

Figure 6 - Main CCS policy, legal, and regulatory developments in India over the review period



New Zealand

In 2025, New Zealand unveiled its “Enabling CCUS” Package, which integrates permanent CO₂ storage into the NZ ETS. The policy outlines how operators participating in the NZ ETS will be able to store CO₂ by a certain tonnage and reduce their ETS liabilities by the equivalent amount of CO₂ stored. The inclusion of CCS within the NZ ETS is still at the proposed stage, and the policy clarifies the measures that will be taken to implement the proposed regime. This includes

amendments to the Climate Change Response Act 2002 to enable NZ ETS rewards and clarify how NZ ETS liability and repayment obligations will apply (Carbon Herald, 2025a).

In addition, under the new policy package, the government also unveiled a proposed regulatory framework for regulating CCS projects. With clear financial incentives and regulatory reforms underpinning the government’s policy agenda, the landscape for CCS investments in New Zealand is becoming increasingly favourable.

NEW ZEALAND EMISSIONS TRADING SCHEME AND CCS

The December, policy package announced the New Zealand government’s commitment to the inclusion of CCS within its domestic ETS. The NZ ETS Scheme was established under the Climate Change Response Act 2002, to assist New Zealand with achieving its obligations under the Paris Agreement, domestic emissions budgets and 2050 target. Currently under the scheme, emitters are required to surrender emissions allowances, named NZUs, which are issued by government auction. A secondary market also exists to enable trading of NZUs.

With the inclusion of carbon storage activities within the NZ ETS, the government proposes to enable carbon storage project operators to receive NZ ETS rewards through:

- Reducing existing surrender obligations of a current participant within the ETS, for example, through the injection of CO₂ received from a third party, or the reinjection of CO₂ into the field in which it was extracted.
- Receiving NZUs, where the value of CO₂ stored exceeds existing surrender obligations or where an operator does not have existing surrender obligations.

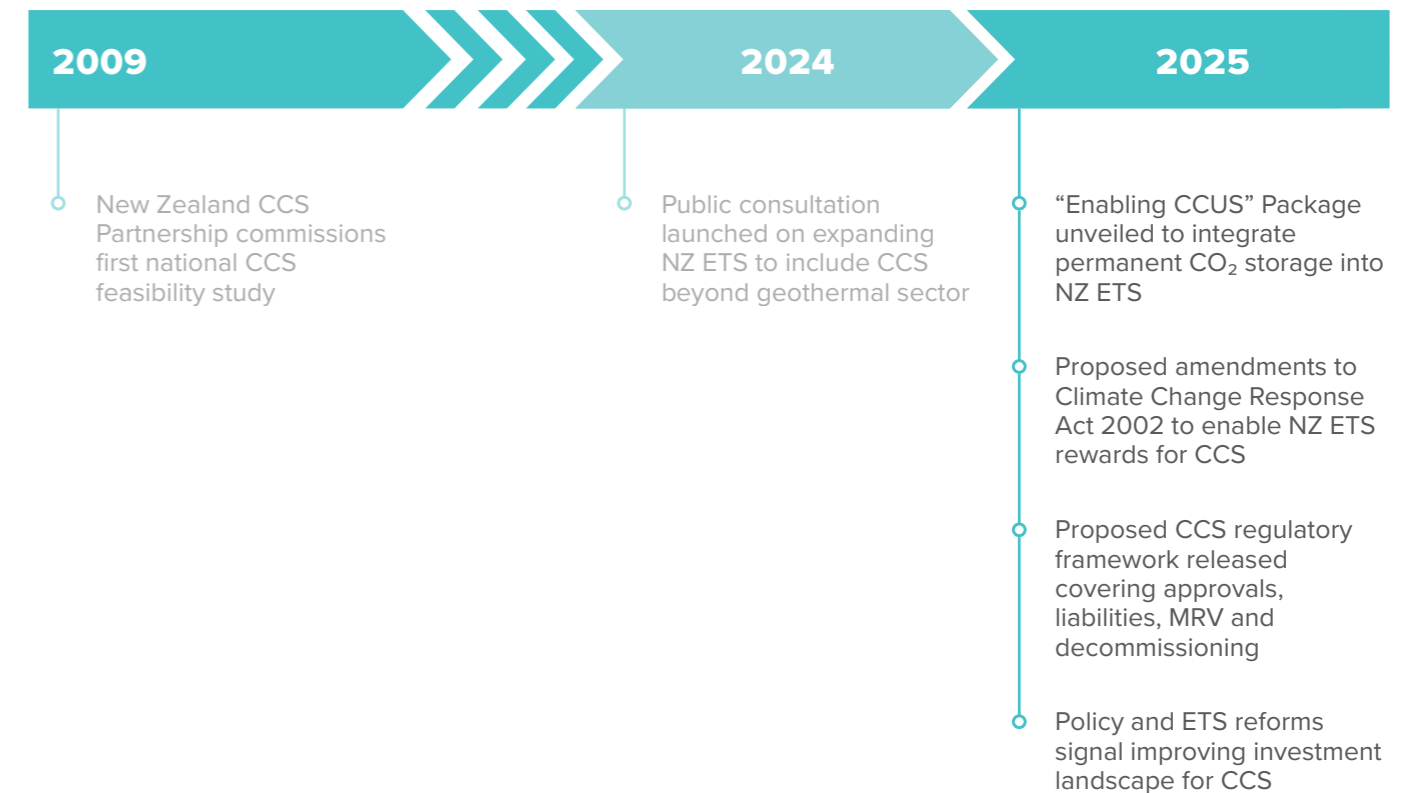
The government has proposed that NZ ETS repayment and surrender obligations would result for any CO₂ leakage from a storage site and any CO₂ produced by a third party reinjected for storage would incur liability for the CO₂ storage operator in the event of leakage.

The proposed regime will also incorporate requirements relating to reporting, reward and repayment obligations within subsidiary regulations. These include:

- Integration of CO₂ storage within natural gas emissions reporting, by requiring operators to distinguish between CO₂ reinjected into the field from which it was extracted and CO₂ sourced from a third party
- Inclusion of a new geological sequestration category to enable CO₂ storage to be rewarded, ensure that repayment obligations are triggered in the event of any reversals or leakages and
- Stipulation of monitoring requirements through the various phases of a CO₂ storage project.
- The process for identification of experts to verify CO₂ storage information relating to the NZ ETS parts of the proposed regime.

To encourage investment and the permanence of CO₂ storage, the proposed regime will also provide for the waiver of surrender obligations for leaks into the atmosphere of CO₂ stored within CO₂ storage sites, at least 15 years after the post-closure period. Proposed criteria for waiving these obligations require the decision-maker to consider whether the injected CO₂ is behaving as predicted and assess the risk that the CO₂ will have a significant impact on the integrity of the storage formation, the environment or on human health and safety. To assess the risk of CO₂ leakage, the decision maker must commission and consider an independent study from an expert body, the cost of which will be covered by the operator seeking the removal of surrender obligations.

Figure 7 - Main CCS policy, legal, and regulatory developments in New Zealand over the review period



Japan

After a landmark year in 2024, with the passing of the CCS Business Act and the acceptance of the London Protocol Amendment, Japan has continued to develop its institutional and regulatory foundations for CCS. In January, Japan updated its NDC, setting new long-term emission reduction targets of 60% below 2013 levels by 2035 and 73% by 2040 (UNFCCC, 2025b). Crucially, this update explicitly included CO₂ transport and storage in its emissions scope for the first time, illustrating Japan's policy trajectory and decarbonisation strategy towards CCS. On the same day, Japan's Cabinet approved the 7th Strategic Energy Plan, which recognises the need to strengthen the country's supply of decarbonised power sources and promotes the use of CCS as a decarbonisation tool for thermal power (Agency for Natural Resources and Energy, 2025). This expands the intended use of CCS from only the 'hard-to-abate'

sectors previously mentioned in the 6th edition of the plan. Alongside this, Japan also published its medium-to long-term national green transformation (GX) plan, entitled 'GX2040 Vision', which identifies CCUS as a key decarbonisation technology and claims that steps such as investment support will be taken to foster its deployment (METI, 2025a).

In May, the Japanese Diet passed amendments on the GX Promotion Act where it was decided that the country's voluntary carbon emissions trading system, the GX-ETS, would become mandatory in April 2026, with legally binding emissions caps for all companies emitting over 100,000 tonnes of CO₂ annually. In December, the Ministry of Economy, Trade and Industry (METI) finalised aspects of the ETS' design such as the mandatory publication of transition plans alongside compliance reporting and putting forward a suggested floor price for the trading scheme allowances of ¥1,700/tonne (AMT, 2026).

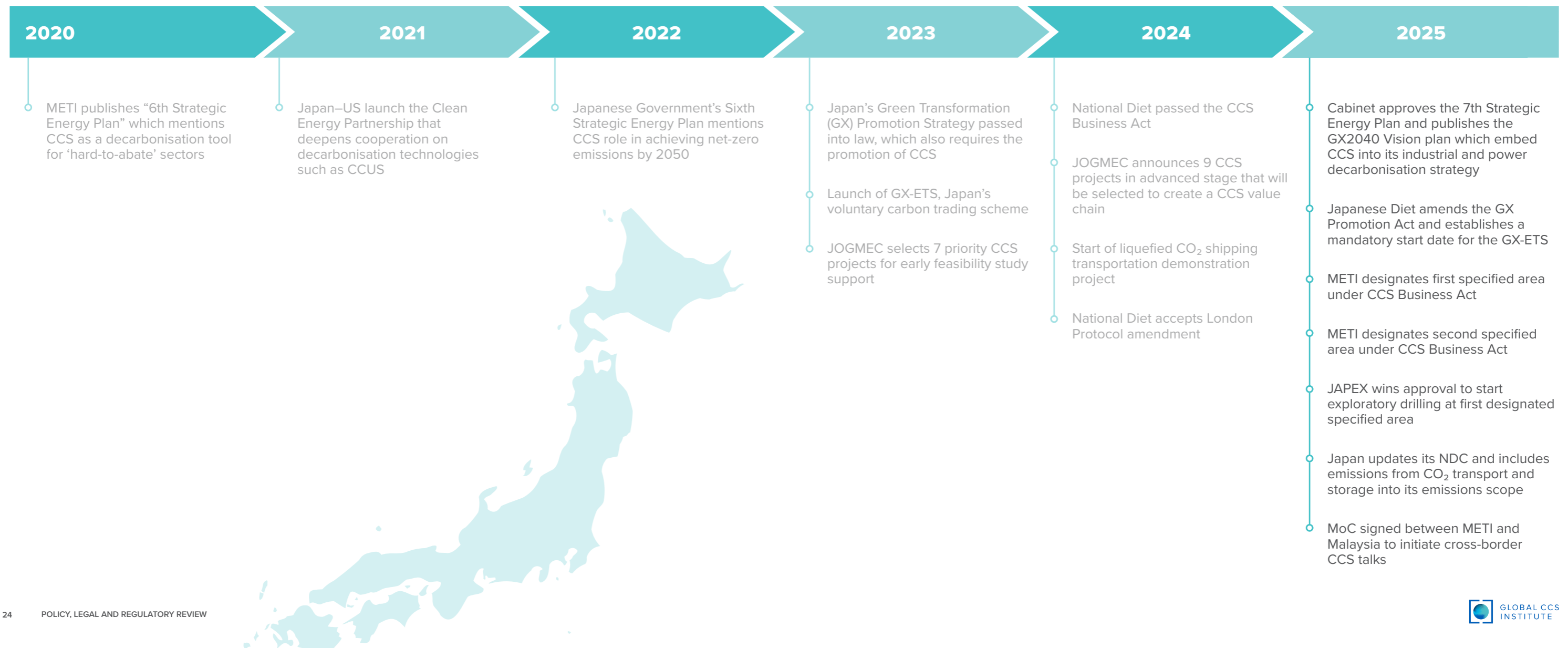
In the latter half of the year, a Memorandum of Cooperation (MoC) was also signed between METI and the government of Malaysia to initiate discussions on enabling cross-border CCS and strengthening cooperation through the creation of a framework for knowledge sharing (S&P Global, 2025). With 3 of the 9 "advanced CCS projects", clusters which have been given priority support by the Japanese government to serve as a model for future CCS projects, planning to store their captured CO₂ in Malaysia offshore storage sites, this agreement represents further progress in growing Japan's CCS landscape.

Further progress was also achieved with the selected "advanced CCS projects" as METI designated the first two specified areas, off the coasts of Tomakomai city and Kujukuri, for exploratory drilling under the CCS Business Act (METI, 2025b). This represents the first step in developing commercial-scale CCS in the country and allows companies to apply for drilling licenses to

investigate the existence of CO₂ storage potential. In September, the first of these licenses was awarded to JAPEX, enabling them to start construction on offshore test wells near Tomakomai city (JAPEX, 2025).

2025 also saw Japan advance work on designing a CCS support scheme to help accelerate deployment, with METI establishing a working group early in the year which later published an interim summary of a CfD-style scheme that was reviewed (METI, 2025b). Although nothing has so far been officially announced, this provides the basis for a future, more detailed support framework.

Figure 8 - Main CCS policy, legal, and regulatory developments in Japan over the review period




Malaysia

With 104.9Gt of potential CO₂ storage capacity, Malaysia is aiming to become a leading regional CCS hub. As part of its continued efforts to position itself as a major importer of CO₂ in the region, Malaysia signed an MoU with Singapore to cooperate on cross-border CCS (Ministry of Trade and Industry, 2025). In June, Petronas, the state-owned oil and gas major, signed an MoU with Korea Gas Corporation (KOGAS), state-owned by Korea, aimed at advancing cleaner energy solutions, including through CCS (Petronas, 2025).

In July, Malaysia's CCUS Act was enacted after being given royal assent (Malaysian CCUS Agency, 2025), establishing the legal framework for the capture, transport and long-term storage of CO₂. Some of the key features of this act include a licensing and permitting regime for the CCS value chain, an injection levy to fund long-term monitoring and, crucially for the Malaysian

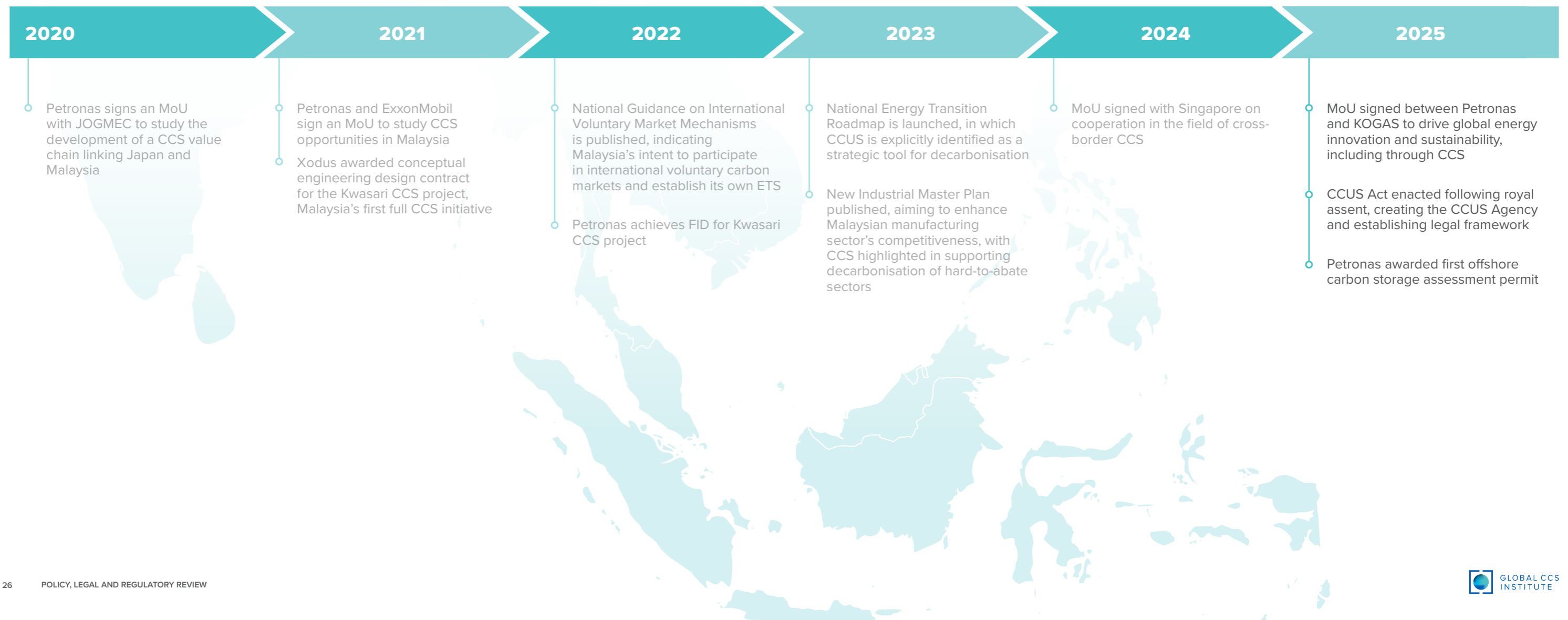
CCS sector, provisions that allow for the import of CO₂ from overseas for storage, although only under strict criteria. The CCUS Act also establishes the CCUS Agency, designating it as the body responsible for overseeing, regulating and promoting CCUS activities in the country (Government of Malaysia, 2025).

The associated Carbon Capture, Utilization and Storage (Offshore Permit and Licensing) Regulations 2025 (CCUS Regulations) were released and entered into force on 1 October. The CCUS Act 2025 and the CCUS Regulations apply to offshore geological storage in Peninsular Malaysia and the Federal Territory of Labuan, while CCS in the state of Sarawak is regulated under separate CCUS regulations. Under the new regulations, in November, Petronas was awarded the first offshore carbon storage assessment permit, allowing them to conduct geological assessments near the Duyong Field and taking a further step towards developing Malaysia's first commercially viable carbon storage site (Carbon Herald, 2025b).



MALAYSIA IS POSITIONING ITSELF AS A MAJOR CO₂ STORAGE HUB IN ASIA.

Figure 9 - Main CCS policy, legal, and regulatory developments in Malaysia over the review period



South Korea

South Korea's CCS deployment strategy is underpinned by its First National Carbon Neutral and Green Growth Basic Plan which targets 4.8 Mtpa of CO₂ by 2030 (Government of South Korea, 2023). Since 2024, South Korea has updated its interim emissions reduction target for 2035 as part of its NDC, committing to achieve a reduction of 53 – 61% reduction in net GHG emissions by 2035 compared to 2018 levels. The December 2025 update to its NDC explicitly recognises the role of CCS technologies as a sectoral mitigation measure for achieving South Korea's decarbonisation targets (UNFCCC, 2025d).

South Korea's Carbon Dioxide Capture, Usage and Storage Act came into effect in March. The Act establishes a permitting model for CCS activities both onshore and offshore, across each phase of the project lifecycle. In addition, in February, the government passed a new bill promoting the CCUS industry, which includes measures to support the development of CCUS technologies and fostering the industry (Ministry of Trade Industry and Energy South Korea, Ministry of Science and ICT and Ministry of Oceans and Fisheries, 2025). Measures proposed in the bill are both administrative and financial, and include:

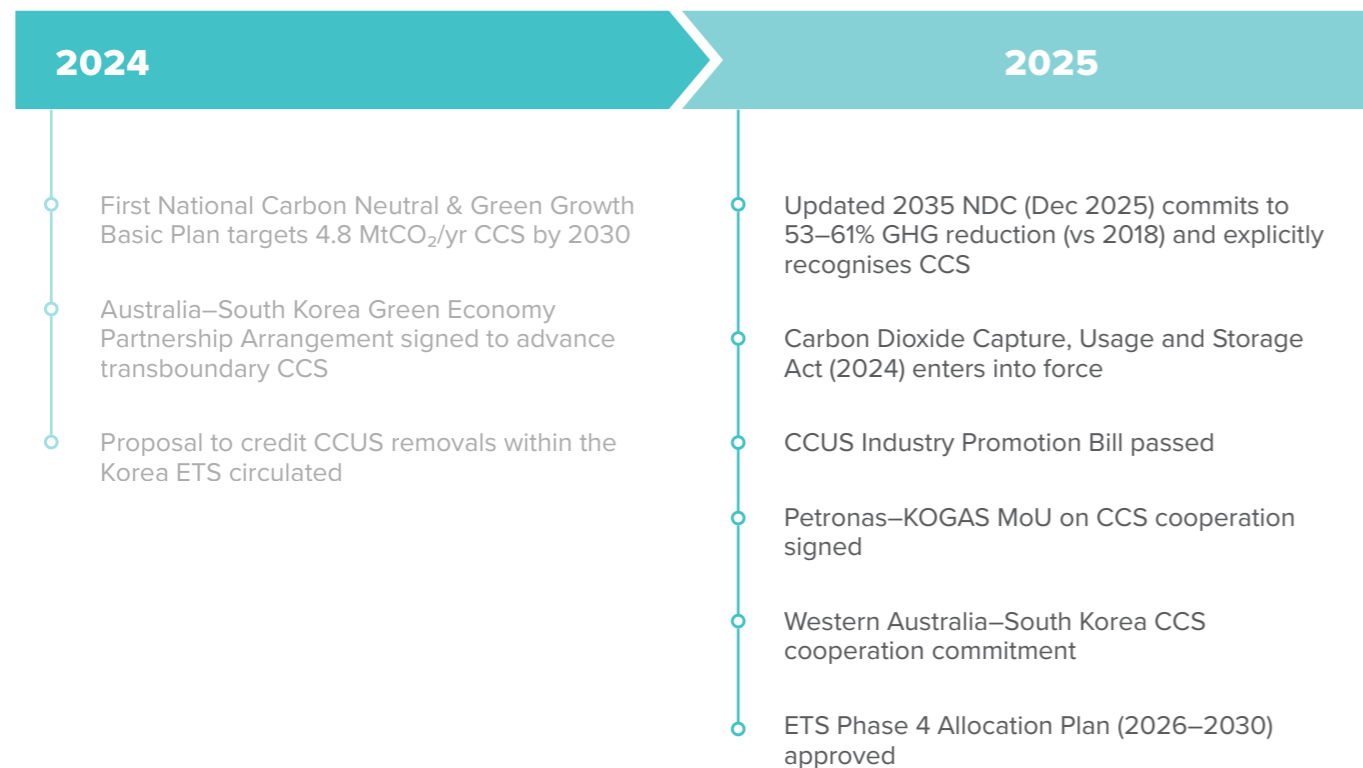
- the designation of potential offshore CO₂ storage sites, licenses for carbon storage businesses

- corporate support measures such as support for specialised CO₂ utilisation companies, technology certification, demonstration and commercialisation support, and subsidies and loans to cover project expenditure.

In December, South Korea and the state of Western Australia committed to partnering and cooperating on CCS (Western Australian Government, 2025). Several MoUs have also been signed between South Korean companies and those in neighbouring counties to conduct CCS. The latest among these is the Petronas and Korea Gas Corporation MoU, signed in June, which commits to advancing CCS as part of a suite of clean energy solutions for addressing the climate crisis (PETRONAS Global, 2025).

In 2025, Korea approved the National Emission Allowance Allocation Plan for Phase 4 of its ETS, which covers the period 2026-2030. The Plan establishes a total greenhouse gas emissions cap of 2.5373 GtCO₂-e, a Market Stability Reserve and increased auctioned allowances. The scheme covers about 89% of national GHG emissions and is expected to facilitate the delivery of South Korea's net zero target. The sectors covered include power generation, industry, waste, buildings, aviation and maritime transport and transport (International Carbon Action Partnership, 2025a).

Figure 10 - Main CCS policy, legal, and regulatory developments in South Korea over the review period



**CCS IS EXPLICITLY
RECOGNISED AS A SECTORAL
MITIGATION MEASURE FOR
ACHIEVING SOUTH KOREA'S
DECARBONISATION TARGETS.**

Singapore

Singapore's second NDC under the Paris Agreement, submitted in 2025, commits to reduce emissions to 45-50 MtCO₂-e in 2035, towards reaching net zero by 2050. The updated NDC contains multiple references to CCS as a mitigation measure, including a target of achieving 2 Mtpa of CO₂ abatement within the industry sector by 2030, as part of Singapore's Sustainable Jurong Plan. The NDC highlights that Singapore is exploring the feasibility of CCS technologies in the waste and power sectors and the appointment of the S- Hub consortium (comprising Shell and ExxonMobil) to study the feasibility of developing an end-to-end CCS project in Singapore. A further NDC highlight is Singapore's Low-Carbon Energy Research Programme which is focused on R&D to improve the techno-economic feasibility of CCUS technologies. To date, the initiative has awarded S\$55 million to support 12 R&D projects on low-carbon hydrogen and CCUS, with another S\$129 million allocated for the next phase of the programme (UNFCCC, 2025c).

In November, Singapore's National Climate Change Secretariat, Gold Standard, and Verra jointly published an Article 6.2 Crediting Protocol, integrating compliance and voluntary market structures. The Protocol provides standardised and streamlined procedures for governments to work with independent crediting standards to implement Article 6.2, resulting in consistent application of this approach and ensuring integrity in the implementation of Article 6.2 cooperation. The parties plan to work with interested governments, independent crediting standards, and market stakeholders to pilot and operationalise the Protocol, while developing an accompanying governance framework (Verra, 2025).

Singapore is working with other countries to develop CCS technology and associated value chains, as the country lacks domestic storage capacity and will utilise storage resources in neighbouring countries. To this end, Singapore has entered into various collaborative initiatives to advance cross-border CCS projects, with countries such as Malaysia, Indonesia, Japan, and Australia. The various developments relating to cross-border collaborations in 2025 include:

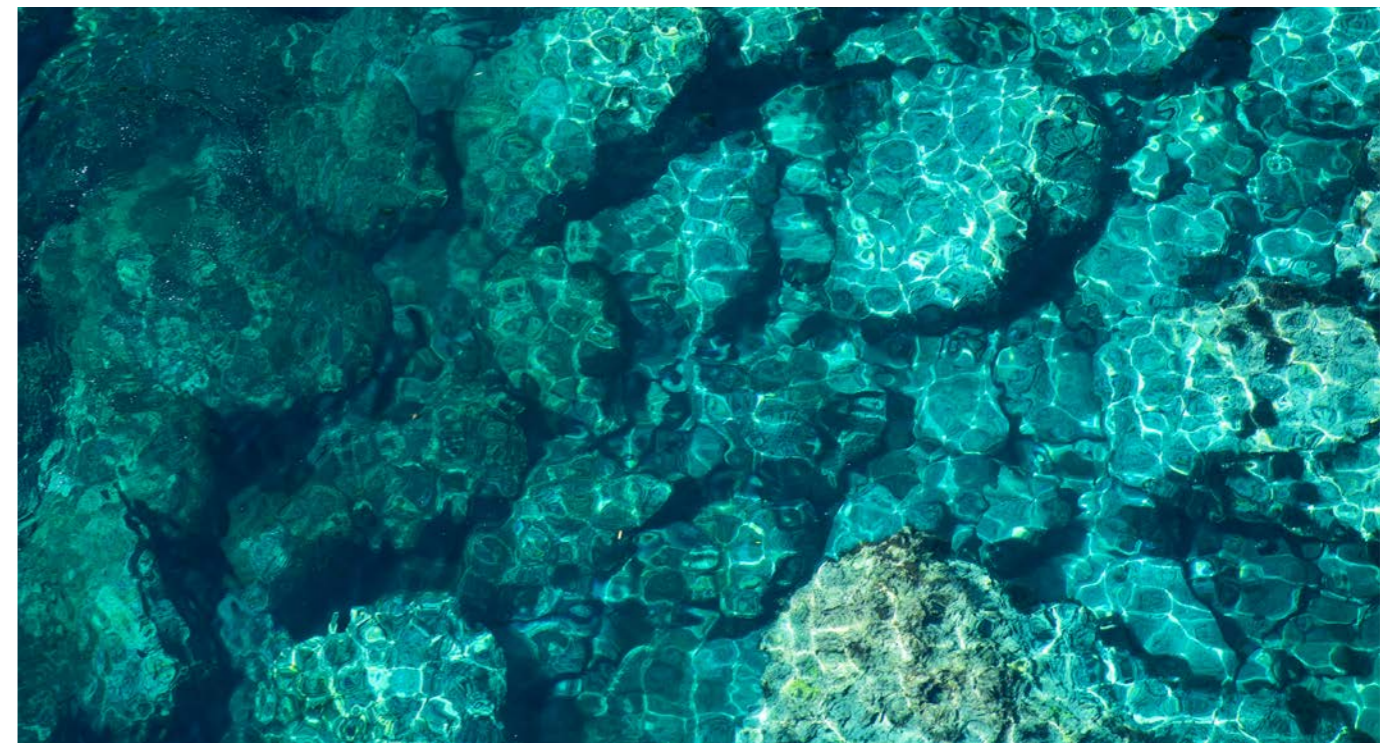
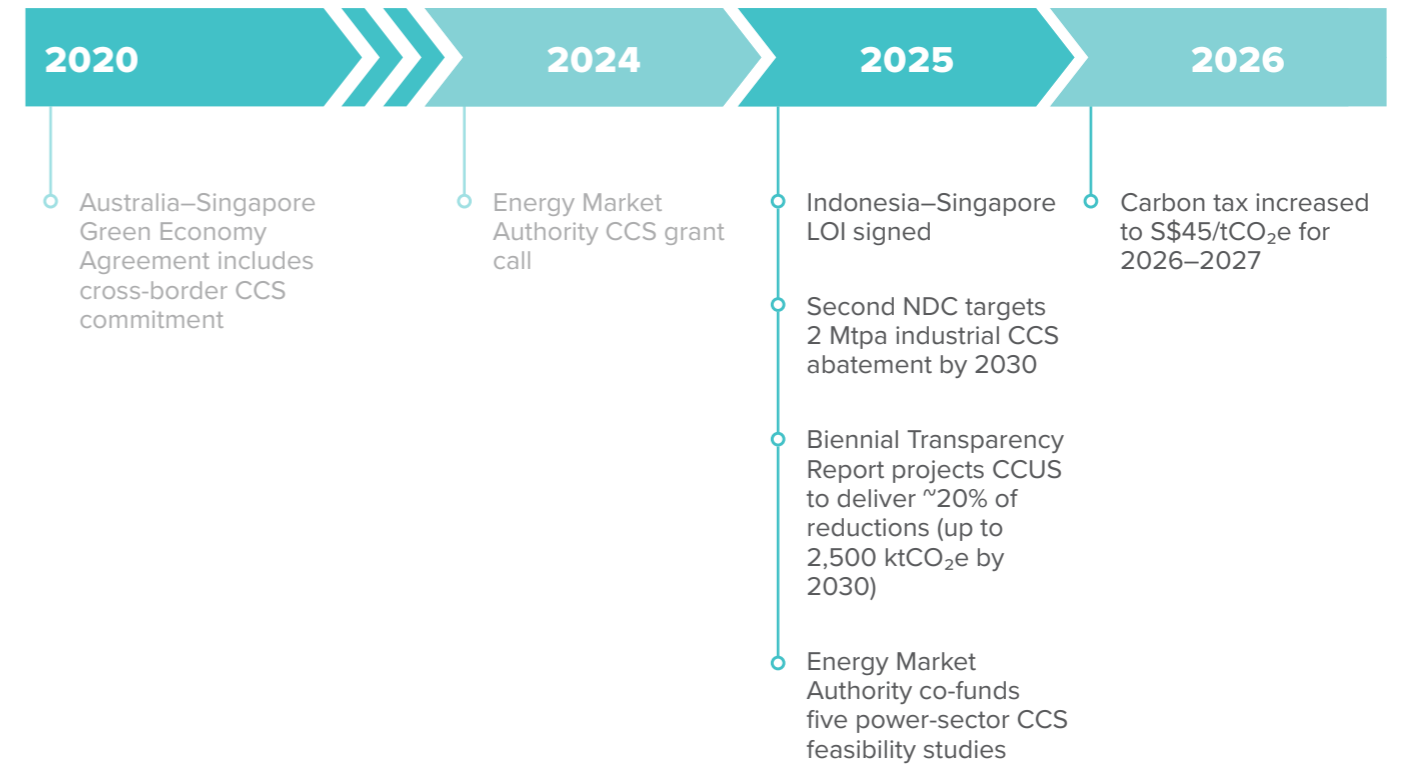
- An MoU signed with Indonesia, which would set up a joint working group to study the components of a legally binding government-to-government agreement on CCS to enable cross-border CO₂ storage (Ministry of Trade and Industry Singapore, 2025).
- An MoU signed with Malaysia to engage in bilateral negotiations to enable cross-border CCS, including the development of a government-to-government agreement to this end. Both countries will also explore best practices and share information on CCS, while also facilitating industry-led research projects (Singapore Ministry of Trade and Industry, 2025).

Singapore's carbon tax rate increased from S\$25/tCO₂-e, to S\$45/tCO₂-e for 2026 and 2027, further strengthening the impetus for businesses to reduce their CO₂ footprint in line with national climate ambitions (National Climate Change Secretariat Singapore, 2026).

A 2024 grant call resulted in co-funding of five power-sector CCS feasibility study proposals from Keppel's Infrastructure Division, Pacific Lights and YTL Power Seraya. The outcome of this study is expected to pave the way for Singapore's Economic Development Board to develop a strategy for Power Sector CCS (Energy Market Authority of Singapore, 2025).

Singapore has stated that its strategies to achieve its national climate ambitions will be predicated on international cooperation. To this end, Singapore has pursued several cooperation initiatives with other countries under Article 6.2 of the Paris Agreement to enable the transfer of international mitigation outcomes. MoUs have been concluded with Colombia, Costa Rica, Dominican Republic, Bhutan, Sri Lanka, Cambodia, Laos, Philippines, Malaysia, Kenya, Morocco, Senegal, Zambia and Fiji (Singapore Carbon Markets Cooperation, 2026). The MoUs are expected to result in legally binding implementation agreements, and the identification of potential Article 6 compliant mitigation activities to enable both countries to achieve their respective NDCs.

Figure 11 - Main CCS policy, legal, and regulatory developments in Singapore over the review period



Thailand

In recent years, Thailand has taken several steps that indicate that CCS will play a key role in achieving its decarbonisation agenda. However, progress on this front has been slow, as the draft amendments to existing petroleum legislation to permit CCS were still under review by the Ministry of Energy's Department of Mineral Fuels (DMF) in 2025.

Thailand has implemented a carbon tax in 2025, embedded within its excise tax currently levied on oil and petroleum products. The tax was approved by the Thai Cabinet at a rate of 200 baht (US\$5.88) per tonne of emissions (Reuters, 2025). The Thai government has also approved the establishment of a new emissions trading scheme, however, further details on the scheme, including its eventual start date, remain uncertain (Bloomberg, 2025c).

In September, PTTEP, Thailand's national oil and gas company, took the Final Investment Decision on conducting CCS operations in the Arthit gas field, marking Thailand's first CCS project that will contribute towards achieving its climate goals as outlined in its NDC. The Arthit CCS project has been highlighted as a flagship project for GHG emissions reduction under Thailand's NDC Action Plan. The project is expected to be operational in 2028 (PTTEP, 2025).

Thailand's new NDC under the Paris Agreement, submitted in November, makes explicit mention of the role of CCS in achieving its targets in the power and industrial sectors. Furthermore, Thailand's NDC Action Plan 2021 – 2030 highlights the role of CCS as a key mitigation measure for achieving its long-term targets. (Thailand Department of Climate Change and the Environment, 2025).

Vietnam

In June, Vietnam released rules relating to the launch and regulation of a new pilot ETS. The new domestic ETS launched in October and is expected to be fully operational by 2029. The ETS currently covers thermal power plants and the iron, steel, and cement industries. To fulfil compliance obligations, companies can use several flexible pathways and use carbon credits generated by international and other domestic mechanisms, including Clean Development Mechanism projects transitioning to Article 6.4 mechanisms under the Paris Agreement, and Joint Crediting Mechanism projects with Japan (International Carbon Action Partnership, 2025b). Despite these developments, a robust policy framework to support the development of the technology is still absent in Vietnam.

Vietnam's national oil, gas and energy company, PetroVietnam, aims to achieve a 20% reduction in emissions by 2030 and net zero emissions by 2050. Plans have also been announced to implement CCS pilot projects in central Vietnam and fields overlapping Malaysia and Vietnam. Furthermore, in 2025, JOGMEC signed an MoU with Petrovietnam to strengthen cooperation on CCS (JOGMEC, 2025).

Cambodia

In July, Cambodia submitted its third NDC (UNFCCC, 2025), which contained more ambitious climate goals (emissions reduction of 16% unconditional, and up to 55% with international support by 2035, against business-as-usual). The updated NDC mentions CCS for the first time however, due to the limited geological capacity for long-term CO₂ storage available in the country, the document focuses more on CCU pathways rather than CCS. In this context, CCU refers to the potential of capturing CO₂ emissions from coal-fired plants and repurposing them for industrial and food-grade applications (UNFCCC, 2025a).

3.3 Europe

3.3.1 Overview and key trends

In 2025, Europe has continued to show global leadership in CCS deployment. Strong policies, consistent government support and increasing cross-border collaboration have ensured continued progress in moving towards decarbonisation targets. Europe's CCS policy landscape continues to develop both within the EU and elsewhere. Significantly, there has been progress not only in the provision of financial incentives and support but also in influential policy areas aimed at retaining a European industrial base through the creation of demand for low carbon products. Key trends observed in CCS policy, legal, and regulatory developments over the past year are summarised below.

Continued financial support for CCS












Direct grants and subsidies remain a crucial component of EU, EEA and national policies. The EU has allocated

funding to CCS through programs such as the Innovation Fund, Horizon Europe, and the Connecting Europe Facility for Energy. Similarly, national governments continue to offer substantial funding to CCS initiatives through direct grants and subsidy programs.

The EU innovation Fund continues to be an important driver of projects, with €2.9 billion committed to 61 net zero projects in 2025 alone. Between January 2021 and December 2025, the Fund portfolio included 270 projects, with €15.6 billion committed since the fund's inception (EU Commission and Directorate General for climate action, 2025). 11 of the selected projects in the latest funding round are CCS projects (See Table 1). Alongside other national funding via State Aid and Carbon Contracts for Difference (CCfDs), the sheer scale of the EU Innovation Fund's commitments in 2025 suggests that the EU will continue the trend of strong support for CCS.

The Connecting Europe Facility is continuing to disburse funds to Projects of Common Interests (PCIs) and Projects of Mutual Interest (PMIs). In April, the CEF made available €600 million to fund PCIs and PMIs which included CCS projects.

Table 1 - List of CCS projects selected for funding under the EU Innovation Fund

CALL	PROJECT NAME	COMPANY	SECTOR	LOCATION	
Large Scale Projects	AirvaultGoCO ₂	Heidelberg Materials	Cement	France	
	Anthemis	Heidelberg Materials	Cement	Belgium	
	ApolloCO ₂ LT	DESFA	CO ₂ transport	Greece	
	Carbon Hub CPT01	Holcim	Cement and lime	Romania	
	Dream	Heidelberg Materials	Cement	Italy	
	VAIA	Vicat	Cement	France	
Medium Scale Projects	COnet2 Sea	Enagás	CO ₂ shipping	Spain	
	Leopard	Carmeuse	Lime	Belgium	
Pilot Projects	HuCCSar	Heidelberg Materials	CO ₂ transport and storage	Poland	
	MCC2Hub	Value Carbon	Maritime	Netherlands	
	SLALOM 2.0	LanzaTech	Refineries	Norway	

Continued supportive policy developments

In 2025, the EU made substantial advancements in EU-level regulations. The most significant advancement was the Clean Industrial Deal (CID) (released in February 2025), as it operates as the legislative ‘umbrella’ for the implementation of legislation such as Carbon Border Adjustment Mechanism (CBAM), Industrial Accelerator Act, and the Industrial Decarbonisation Facility. The CID is particularly important as it provides tangible mechanisms to accelerate CCS deployment across the continent. Overall, the CID aims to position decarbonisation as a driver of industrial competitiveness, especially for energy intensive sectors such as steel, chemicals, and metals. To reinforce these actions, the Commission launched a €600 million Horizon Europe funding call in November, to accelerate research and innovation aligned with the CID.

The EU has agreed its interim 2040 target of 90% net reduction in GHG and submitted its 2035 NDC to the UNFCCC, aiming for 66.25-72.5% emissions reduction compared to 1990 levels. Implementation of the Net Zero Industry Act (NZIA) progressed through four pieces of secondary legislation. The measures include CCS, and non-price criteria for CCS supply-chains.

The NZIA, which was introduced in 2024 and sets an EU-wide target of 50 Mtpa of CO₂ injection capacity by 2030, is projected to play a pivotal role in driving CCS deployment. If implemented as intended, it will provide a step change in CO₂ injection capacity in key Member States. The European Commission published a list of 44 obligated entities and their contributions to the target; and mandated qualifying oil and gas companies to develop their proportional share of injection infrastructure.

In October, the rules of the EU’s CBAM² were tightened, obligating companies to report embedded emissions.

The UK has made progress on CCS policy in 2025 through major permitting, funding, regulatory, and commercial actions. This included consultations on reforms to the UK ETS, the potential use of the Regulated Asset Base (RAB) model for CO₂ storage for independently operated CO₂ storage sites (i.e., merchant model/outside of cluster sequencing), strategies for commercialising CO₂ transport and storage networks, fair access to infrastructure, treatment of maritime emissions in the ETS, and future regulation of non pipeline CO₂ transport modes.

Enhanced regional and international cooperation on cross-border CO₂ transport

Throughout 2025, focus on cross-border collaboration continued and there has been a rapid proliferation of bilateral cooperation agreements between EU Member States and with countries in other regions (see Table 2). It is worth noting that the majority do not constitute bilateral agreements/arrangements under the London Protocol. They aim to advance wider cooperation on energy, decarbonisation, low-carbon hydrogen and other matters.

For example, Finland and France have both signed bilateral agreements with Norway in compliance with the London Protocol to facilitate cross-border CO₂ storage operations. EU nations have also signed similar agreements beyond the EU, for example the MOU signed between Denmark and Switzerland (Governments of Switzerland and Denmark, 2025), to export Swiss CO₂ for permanent geological storage in Denmark.

The UK and EU agreed to work towards linking their respective ETS’s opening up the potential for EU emissions to be stored in UK CO₂ storage sites. Other cooperation agreements and MoUs signed between countries to jointly explore CCUS are listed in Table 2. These agreements are not necessarily for cross-border transport of CO₂ for offshore geological storage, but cover broader cooperation on decarbonisation initiatives that involve CCUS.

Table 2 – Government-to-Government agreements on CCS/CCUS cooperation signed in 2025

COUNTRIES	NATURE OF BILATERAL AGREEMENT/ ARRANGEMENT IN PLACE FOR CCUS COOPERATION	SCOPE
Denmark - State of Alberta, Canada (May)	MoU	Establishes a 4-year framework for bilateral cooperation on CCS development and deployment.
Greece - Egypt (February)	MoU	Focused on cooperating on CCS including developing proposals for regulatory frameworks, feasible economic models, technical feasibility studies, and research into potential uses of CO ₂ in various applications.
Ireland - Extended MoU with UK (July)	MoU	Energy cooperation agreement covering decarbonisation of industrial emissions, building sector energy use and hydrogen infrastructure.
Italy - Canada (October)	Statement of Intent	Focused on strengthening cooperation on critical minerals, nuclear energy, and clean energy technologies.
Italy – Greece (May)	Joint Statement	Focused on the development of the Regional CCS Plan for the Mediterranean and strengthening cooperation on hydrogen.
Italy - Saudi Arabia (January)	MoU	Focused on strengthening energy cooperation in the areas of renewable energy, low emissions ammonia and hydrogen and CCUS.
Poland - Norway (September)	Statement of Intent	Poland’s Green Transformation Programme will incorporate CCUS technologies and look to expertise from Norway to strengthen administrative and institutional capacity and increase awareness of the technology.
Poland - Vietnam (September)	Announcement	Includes joint geological research and CCUS technology development as areas of future cooperation.
Sweden – Indonesia (November)	Announcement	Focused on promoting a carbon economy partnership, enabling carbon-credit based cooperation.
Switzerland – Denmark (September)	MoU	Focused on cooperation on technological CDR solutions, under the oversight of a Joint Working Group (Governments of Switzerland and Denmark, 2025)
United Kingdom – Norway (May)	MoU	Aims to promote green industrial development, strengthening energy security and facilitate trade and investment in low emissions solutions. Includes cooperation on CCS.
United Kingdom – Netherlands (July)	MoU	Focused on collaboration on promoting the global clean energy transition. Includes CCS as an area of cooperation, through measures such as regulatory and technical developments, knowledge sharing and cross-border CO ₂ transport and storage.
United Kingdom – Belgium	Joint Statement	Focused on ensuring energy security through low carbon solutions, including hydrogen and CO ₂ storage.
United Kingdom – China (March)	MoU	Focused on promoting emissions reductions, energy security and economic growth in both countries. Includes enhanced cooperation on CCS as a priority area through measures such as investment incentives, regulations, policy approaches and industry incentives, among others.

² The definitive phase of the EU’s CBAM came into force on 1 January 2026.

3.3.2 Specific supranational and national policy, legal and regulatory developments

European Union

Clean Industrial Deal (CID)

The CID, introduced in February, sets out concrete actions to turn decarbonisation into a driver for growth and competitiveness in European industries, specifically energy-intensive industries (such as steel, metals, chemicals) and the clean-tech sector. Key components of the CID include (European Commission, 2025c):

- Circularity – promoting recycling, reuse, and sustainable production to reduce waste and extend the life of materials.
- Industrial Accelerator Act (IAA) – aiming to accelerate the transition to low-carbon operations in energy-intensive sectors by strengthening demand for low-carbon products via green public procurement.
- Public Procurement Forums – revising public procurement frameworks to prioritise sustainability and support EU-made clean products.
- Action Plan for Affordable Energy – aiming to create an internal energy market in Europe, reducing reliance on imported power.
- Industrial Decarbonisation Bank – aiming to deploy €100 billion in financing for clean manufacturing and to accelerate industrial decarbonisation.
- InvestEU – regulation updates aiming to attract €50 billion in private investment.
- Clean Industrial Deal State Aid Framework (CISAF) - giving businesses and governments a more predictable five-year planning horizon.

In December, the European Commission launched a flagship call under the Horizon Europe programme, worth approximately €600 million, to fund research and innovation projects for clean technologies across sectors that will support the CID, including CCS (European Commission, 2025c).

In the context of CCS, the Clean Industrial Deal establishes a variety of support measures. For example, the CID provides for the creation of lead markets for clean technologies through frameworks such as the Industrial Carbon Management Strategy. The strategy is expected to establish a lead market for captured carbon. The Clean Industrial Deal State Aid Framework also enables funding for carbon capture equipment, provided the CO₂ captured is stored or utilised in accordance with applicable EU regulations.

New EU global climate and energy vision

In October, the EU released its new EU global climate and energy vision to outline how the EU can shape a global clean and resilient transition, while strengthening partnerships and contributing to the EU's competitiveness. The vision proposes to ramp up the EU's clean technology manufacturing capacity to reach 15% of the global technology market. It also promotes the fostering of bilateral partnerships and multilateral international alliances to support the energy transition, including the establishment of a dedicated taskforce to support other countries in developing robust carbon pricing policies (European Commission, 2025).

Agreement to link EU/UK ETSs

In May, the UK and EU agreed to work towards linking their respective ETS's, cooperate on carbon pricing and consider linking carbon pricing systems. Any future agreement will aim to create a larger market, avoid competitive distortions, and, crucially, enable allowances to be fungible between different schemes which opens up the potential for CO₂ captured in EU Member States to be stored in UK storage sites. In December, at the UK-EU summit of common understanding, the EU and UK released a joint statement agreeing to conclude EU-UK ETS negotiations by the next summit (projected for May 2026) (Department for Energy Security and Net Zero, 2025).

EU 2040 climate target release

The European Commission has set a target to achieve a 55% reduction in net GHG emissions by 2030, compared to the 1990 baseline. In July, the Commission proposed an amendment to the European Climate Law (2021) to set an interim EU-wide target for a 90% reduction in net GHG emissions by 2040, compared to the 1990 baseline; and reaching climate neutrality by 2050. The aim is to give investors certainty and provide a robust policy framework for increasing energy security whilst decarbonising.

In November, Member States formally agreed to a legally binding target of 90% by 2040, with a domestic target of 85% and up to 5% in international carbon credits. This mechanism allows Member States flexibility to adapt emissions reductions across sectors such as energy, waste, agriculture, LULUCF, and transport.

In December, the European Parliament and Council reached a provisional political agreement to adopt this 2040 target. Also in December, Member States agreed to submit an updated EU NDC to the UNFCCC, which is to reduce net GHG emissions by 66.25% – 72.5% below 1990 levels by 2035 (European Commission, 2025b). The strengthened target provides a stronger signal for the adoption of CCS and CDR technologies.

Net Zero Industry Act (NZIA)

In May, the European Commission adopted four pieces of secondary legislation to support the implementation of the NZIA.

One of these implementing decisions under Article 13, provides a decision framework for designating 'strategic project status' (SPS). Receiving an SPS award enables projects to fast-track planning permission, receive priority permitting, access larger financing and national-level priority treatment. The regulation sets out specific criteria and thresholds that projects must meet to be awarded SPS. Several CCS projects in Germany, and Denmark have already received SPS designation (European Commission, 2025f).

European Union level objective of CO₂ injection capacity under NZIA

In May, the European Commission adopted decision (EU) 2025/147944, specifying the pro rata contributions to the Union CO₂ injection capacity objective by 2030, from entities holding an authorisation to operate as an oil and gas company, defined in Directive 94/22/EC. 44 companies were listed in Annex 1 of the decision that delivers the implementation of Article 23 of the NZIA.

The obligations mandate companies that have production volumes above 5% of the cumulative EU production volumes of crude oil and gas, to develop their pro rata share of the EU-wide injection capacity target of 50 Mtpa. This decision mandates companies to survey potential geological reservoirs, develop the well(s), and identify T&S infrastructure needs (European Union, 2025).

Projects of Common Interest (PCIs) and Projects of Mutual Interest (PMIs)

In December, in line with the TEN-E Regulation, the EU framework for identifying and supporting trans-European energy infrastructure, the European Commission granted PCI or PMI status to the second round of projects (Regulation (EU) 2022/869). These projects are cross-border, deemed to facilitate system-wide decarbonisation, and promote a hub model (or priority geographical corridors) where other projects can connect in and collectively reduce the overall costs. The PCI/PMI list includes 17 CO₂ transport infrastructure projects which will help advance the development of the CCS market (EC, 2025).

CBAM

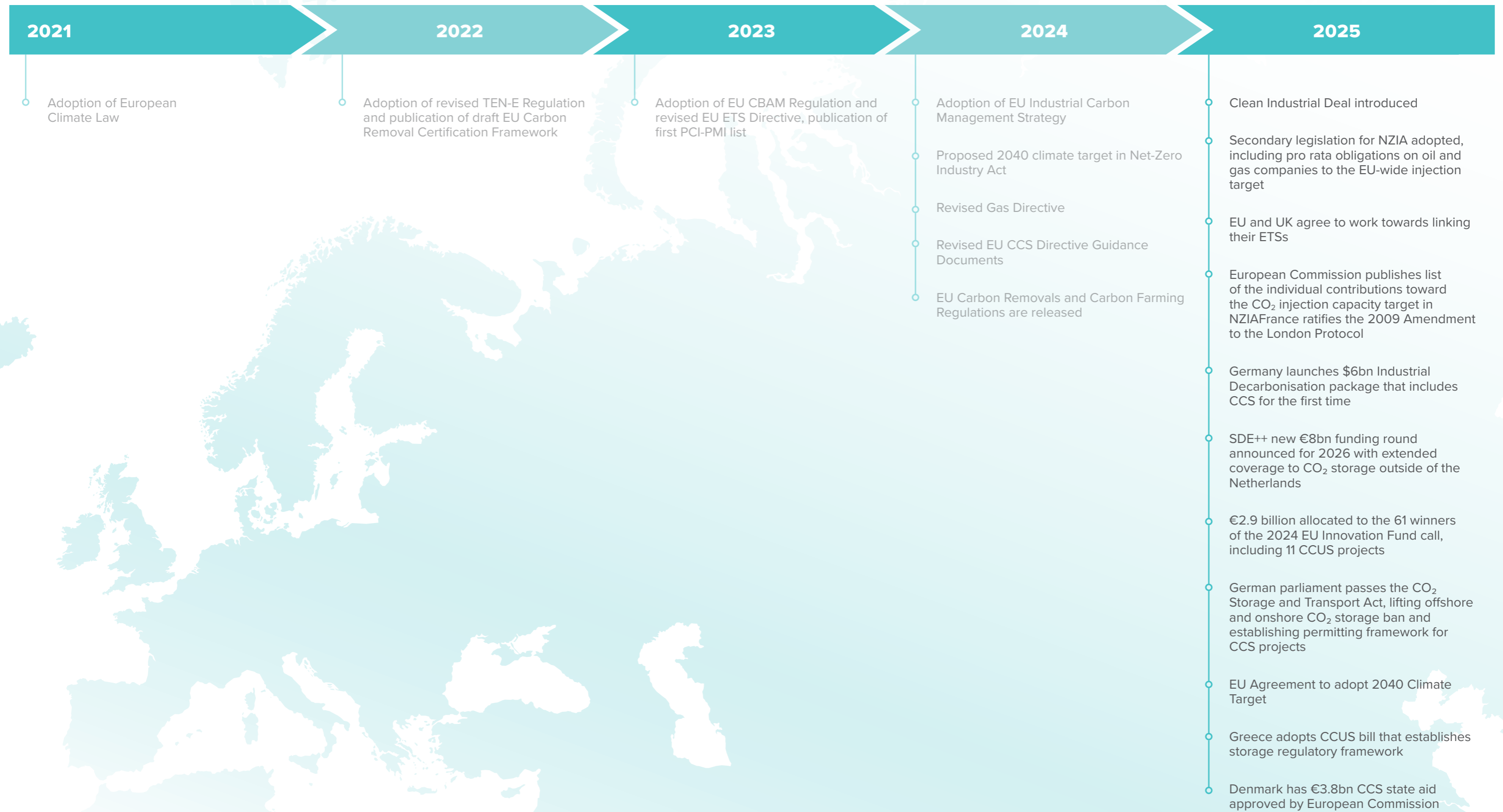
The definitive phase of the EU CBAM commences on 1 January 2026, at which point importers must start declaring embedded emissions in covered goods and surrender CBAM certificates corresponding to those emissions. On 17 December, the European Commission issued a comprehensive package of amendments in relation to the EU CBAM.

For the CCS sector, the key amendments include a 'de minimis' threshold, CBAM certificate sales benchmarked against the EU ETS, deductions for carbon prices paid in third countries, simplified embedded emissions calculations, and a gradual phase-out of free allocation for CBAM covered sectors in the EU ETS (European Commission, no date).

EU's fifth Innovation Fund Large-Scale Projects Call

In December, the European Commission officially opened the Innovation Fund 2025 Net Zero Technologies grant (IF25 NZT) call, one of the most ambitious funding rounds ever launched for large-scale decarbonisation and net-zero technologies. Through the IF24 call, a total of €2.7 billion, out of a maximum of €2.9 billion, was allocated to 54 projects. The programme kickstarts the commercialisation and deployment of innovative low-carbon and net-zero technologies, including CCS. Between 2020 and 2030, the Fund will mobilise an estimated €40 billion sourced from the EU ETS (European Commission, 2025b).

Figure 12 - Main CCS policy, legal, and regulatory developments in the EU/EEA countries over the review period



European Member States

Bulgaria

Bulgaria's Climate Change Mitigation Act stipulates that a significant share of auction revenues of all GHG emissions allowances allocated to Bulgaria through the EU ETS, should finance measures including CCS (Carbon Gap, 2025a). In 2025, Bulgaria published the final version of its updated National Energy and Climate Plan (NECP). It now includes CCS, BECCS and DACCS as options to reduce CO₂ emissions (Republic of Bulgaria, 2024).

Czech Republic

In December 2024, the Czech government approved the Czech Republic's NECP, in which CCUS is emerging as a major tool to achieve net zero by 2050 (Czech Republic Ministry of the Environment, 2025).

Denmark

In December, Denmark reached a major milestone in its CCS strategy after the Danish Energy Agency approved the country's first full-scale geological CO₂ storage site. The permit allows the Nini West field in the Danish sector of the North Sea (around 240 km northwest of Esbjerg) to be repurposed for CO₂ storage, and for 2.4 Mt of CO₂ to be stored over a 30-year period (Danish Energy Agency, 2025).

CCS subsidies in 2025 were provided through two main mechanisms including:

- The Negative Emissions Carbon Capture and Storage (NECCS) Fund which provides support for the removal of CO₂ from flue gas emitted from biomass facilities, such as cogeneration and biogas plants, as well as waste incinerators. The fund has awarded money to three projects – BioCirc CO₂; Bioman and Carbon Capture Scotland – that will receive funding annually, from 2026-2032 (Esau, 2024).
- The CCS Fund operates with a support period between 2029-2044. Subsidies are paid per tonne of carbon stored.

On 1 December, the Bifrost project was granted special European status as a PCI by the European Commission in recognition of its strategic contribution to cross-border CO₂ transport and storage. As a result of this status, the project is now eligible to apply for support under the 'Connecting Europe Facility' Programme.

France

The French government launched a CCUS strategy in 2024 that outlined phased plans to achieve CO₂ capture capacity of 4-8 Mtpa by 2030 and 30-50 Mtpa by 2050. An overall budget of €4.5 billion was allocated to CCS deployment through the France 2030 programme. In 2025, the French government rolled out the following funding calls, consultations, and strategies to implement this vision:

- Through the France 2030 programme, the Government supports the top 50 carbon emitters to decarbonise major industrial sites. In April, the government announced the relaunch of five calls for projects to support the decarbonisation of French industry, as part of the France 2030 plan. These projects include (Finovup, 2025):
 - AAP BCIAT - support for investments using biomass for heat production in industry, agriculture and the tertiary sector.
 - AAP DECARB FLASH - support for small decarbonisation projects of industrial sites.
 - ZIBAC - Phase 2: development of decarbonisation trajectories for the 11 most emitting industrial zones.
 - AAP IBAM PME - support for projects led by SMEs developing innovative solutions for decarbonisation.
 - AAP DEMIBAD - support for companies and research organisations in the implementation of low-carbon industrial demonstrators.
- In June, France ratified the 2009 amendment to Article 6 of the London Protocol, and proceeded to sign an MoU with Norway, to allow the transport of French CO₂ for permanent geological storage on the Norwegian Continental Shelf (Legifrance, 2025).
- That same month, in preparation for the 2026 second round of tenders for the state aid scheme to decarbonise industry, a public consultation was launched to refine the design of the support mechanism
- In October, the government launched the Green Budget, which outlined strategies to mobilise public and private finance for achieving France's 2030 decarbonisation targets. The strategies include increasing CCS capacity (Martini, 2025).
- A public consultation on the regulatory framework for CO₂ transport infrastructure was launched in December and closes in February 2026.

Germany

In October, the Ministry for Economic Affairs and Climate Action launched a €6 billion industrial decarbonisation initiative, which, for the first time, includes CCS. The programme focuses on emissions intensive sectors such as steel, cement, chemicals and glass. Under this initiative, companies are eligible to apply for a 15-year climate protection contract which provides long-term subsidies for emissions reductions (Bloomberg, 2025).

In November, Germany passed the Carbon Dioxide Storage and Transport Act (KSpTG) (Matter 21/1494, 21/2077, 21/2146 No. 1. 16), that amends the original 2012 Act. This Act enables the licencing and permitting of CCS projects, the operation of CO₂ pipelines and geological storage facilities, and lifts the ban on CCS R&D. The Act enables a national carbon management strategy, which allows Germany to achieve climate targets under the Federal Climate Protection Act (KSG) and crucially, allows federal states to opt into onshore geological CO₂ storage and lifts the ban on offshore storage. The German government will cover costs up to €3.4 billion from their Climate and Transformation Fund to develop CCS/CCU and capture and transport infrastructure for "impossible to abate" emissions, including glass, cement, lime, chemicals, waste incineration, gas-fired power plants, but excluding capture from power stations using fossil fuels (Act on the Permanent Storage and Transport of Carbon Dioxide 1, 2025).

Greece

In November, the Greek Ministry of Environment and Energy submitted a bill to Parliament on carbon dioxide capture, use, transport, and storage. This legislative initiative advances Greece's development of technologies for environmental protection, acquiring international expertise and strengthening domestic capabilities. The bill, which underwent public consultation between 4-19 November, establishes a comprehensive regulatory framework for the safe and permanent storage of CO₂ in geological formations. It includes provisions on licencing, access conditions to storage sites, and compensation measures for hosting regions. The bill was passed by the Greek parliament on 11 December (Athens Times, 2025).

Latvia

In April, the Latvian parliament amended its Law on Subterranean Depths, adding a framework for site exploration, licencing, permitting, operation, closure and long-term stewardship. These amendments entered into force on 1 July. Cabinet Ministers developed secondary legislation on dispute resolution, third-party access, and operator obligations. On 9 October, the Latvian parliament approved the amendments to the Law on Pollution which removed the ban on geological CO₂ storage. Latvia is aligning these new laws with the EU CCS Directive 2009 (Latvian Parliament, 2025).

Luxembourg

Luxembourg has a long-standing ban on any form of CO₂ geological storage and their NECP recognises that they cannot meet their net zero targets by reductions alone. In December, the Ministry of Environment, Climate and Biodiversity published a policy framework for the deployment of CCS and CDR. The framework concentrates on securing bilateral agreements with Luxembourg's neighbours, Germany, Belgium, France and the UK, for cross-border T&S. The framework outlines criteria for high quality removals (aligning with the EU's Carbon Removal Certification Framework), and safety rules for transporting CO₂ across borders. The framework reiterates the importance of the government's Climate and Energy Fund, which will provide state aid to T&S developers for pipeline and non-pipeline transport. The current intention is for some of Luxembourg's CO₂ to be stored offshore via the port of Rotterdam (FEDIL, 2025).

Netherlands

In March, a CO₂ emissions permit was allocated to the Porthos project. This is the first, in both the Netherlands and the EU, to be allocated to a CO₂ storage project. The permit allows the project to participate in the EU ETS (George, 2025).

The 2025 Sustainable Energy Production Subsidy Scheme (SDE++) application round closed on 6 November with a budget of €8 billion. Funding is available for 12 or 15 years, depending on the technology. Only companies based in the Netherlands are eligible to apply for funding (Pipeline Technology Journal, 2025). The application round had extended coverage to include CO₂ storage outside of the country. In July, the UK and Netherlands signed a cooperation agreement on CCUS research and knowledge sharing.

Poland

In its updated National Energy and Climate Plan, published in December, the Polish government sets out an ambitious approach to decarbonisation that includes CCS, DACCS and BECCS. The NECP identifies industry as the primary sector for CCS deployment while also recognising the technology's decarbonisation role for the power sector as well (Poland Ministry of Energy, 2025). The updated plan signals the government's intention to develop the regulations needed for CCS deployment, including changes to permitting laws in relation to onshore storage of CO₂, as well as the introduction of measures to develop and regulate a Polish CO₂ transport network (CATF, 2025).

Currently, Poland governs geological CO₂ storage through the Geological and Mining Law (2011), augmented by the 2023 amendments, and governs CO₂ transport through the Energy Law (1997). Together, these laws implement the EU CCS Directive 2009/31/EC. However, the regulatory framework is incomplete with no provision for a CCS network and exclusion of alternative modes of CO₂ transportation.

To address this, the Polish government announced in 2025 that both laws and associated regulations will be replaced by a unifying ‘CCS law’ under which all CCS provisions will fall. The new law will create a national CO₂ T&S operator, set purity standards, and formulate a national CCS strategy, in which Poland is concentrating on developing onshore storage, with the aim to have commercial CO₂ storage available by 2032/33.

The Ministry of Climate and Environment is currently developing the Green Transformation Programme concept to be implemented using Norwegian Funds between 2021-2028. As part of the programme, Norway’s extensive CCUS experience will be used to strengthen Poland’s institutional capabilities and promote CCUS technologies. This follows the MoU signed between Equinor and state backed Polish petroleum company Orlen to collaborate on CCS, including on identifying potential CO₂ storage sites in Poland (Poland Ministry of Climate and Environment, 2025).

Romania

Romania’s three main hydrocarbon companies; OMV, Romgaz, and Black Sea Oil&Gas account for over 20% of the EU’s total CO₂ injection capacity target of 50 Mtpa. The three companies, joined by 12 additional companies have initiated legal challenges against this obligation (Energy Policy Group, 2025). Since November, efforts to transpose the EU CCS Directive into domestic law have stalled, awaiting the conclusion of the litigation (Energy Industry Review, 2025).

Non-EU European countries and EEA members

Iceland

Due to organisational changes in the regulatory agencies in Iceland, the permitting of CCS projects falls within the ambit of the Environment and Energy Agency (UMHVERFIS, 2026).

In April, Carbfix received a storage permit for its injection site at Hellisheiði, Iceland, from the Environment and Energy Agency of Iceland. This marks a major milestone in the development of the Coda Terminal, a commercial-scale geological storage project. The CO₂ will be sourced from industrial emitters in Northern Europe and will be injected into basaltic bedrock where it will rapidly be mineralised. The permit allows for storage of up to 106,000 tpa of captured CO₂, for a total of 3.2 Mt over 30 years. This is the first permit ever issued for onshore geological storage of CO₂ in Europe under the EU CCS Directive (Carbfix, 2025).

Serbia

During 2025, the Serbian Ministry for Mining and Energy commenced drafting a new law that would enable the permanent geological storage of CO₂. The new law aims to create a unified legal and institutional system covering

exploration, production, transport and the use of underground geological formations for both natural gas storage and long-term CO₂ storage. The Ministry aims to develop a framework that closely aligns with EU rules, including legislation governing hydrocarbon licensing, offshore safety and the geological storage of CO₂. The Ministry also intends to define investors’ obligations regarding site remediation, rehabilitation and monitoring (Velev, 2026).

Switzerland

In June, Switzerland signed a bilateral agreement with Norway that establishes a legal framework for cross-border transport and permanent storage of CO₂, as well as cross-border exchanges of CDR credits. It is important to note that under the agreement, storage in products considered to permanently bind CO₂, such as mineral carbonates, is also allowed. Commercial scale cross-border CO₂ transport and storage is expected to start in the 2030’s (Lademan, 2025).

In September, Switzerland also signed a bilateral agreement with Denmark for the export and permanent geological storage of CO₂, allowing Swiss projects, such as the BECCS CO₂Energie project, to access North Sea sites and secure cross-border storage deals (Swiss Federal Office for the Environment, 2025).

In November, pursuant to the Climate and Innovation Act 2023 (Art.10), the Swiss government announced plans to purchase CDR credits, to complement the Swiss requirement for a compulsory carbon offsetting programme for distributors of fossil fuels within Switzerland. The announcement did not give precise tonnages – this will be agreed in Q2 of 2026 by the Swiss Federal Office of the Environment (FOEN). This agreement forms part of the implementation of the Swiss Long-term national CDR strategy. The strategy aims for 7 Mtpa of CDR by 2050, of which 2 Mt occurs within Switzerland, and the remaining 5 Mt is to be conducted abroad, primarily via BECCS and DACCS. Other novel CDR methods such as biochar are also considered (Carbon Gap, 2025).

Norway

In 2025, Norway signed, or commenced negotiations for bilateral agreements with the UK, Switzerland and France respectively, to enable cross-border transport and geological storage of CO₂. In addition, Norway updated its NDC to include an emissions reduction target of 70-75% by 2035, compared to 1990 levels (Government of Norway, 2025).

Norway’s CLIMIT programme provides part-financing for projects that develop CCS technologies, supporting projects from research and development to demonstration. The Fund is a collaboration between Gassnova SF, and the Research Council of Norway. Throughout 2025, the fund enabled 40 projects to start, and supported 54 ongoing, active projects (Gassnova, no date).

In November, the Norwegian Offshore Directorate issued new guidelines which clarified the requirements in Section 26 of the CCS storage regulations. This update requires all storage operators to submit status reports within three months after an exploration or exploitation licence is surrendered, lapsed, or expired (Energy-pedia, 2025).

United Kingdom

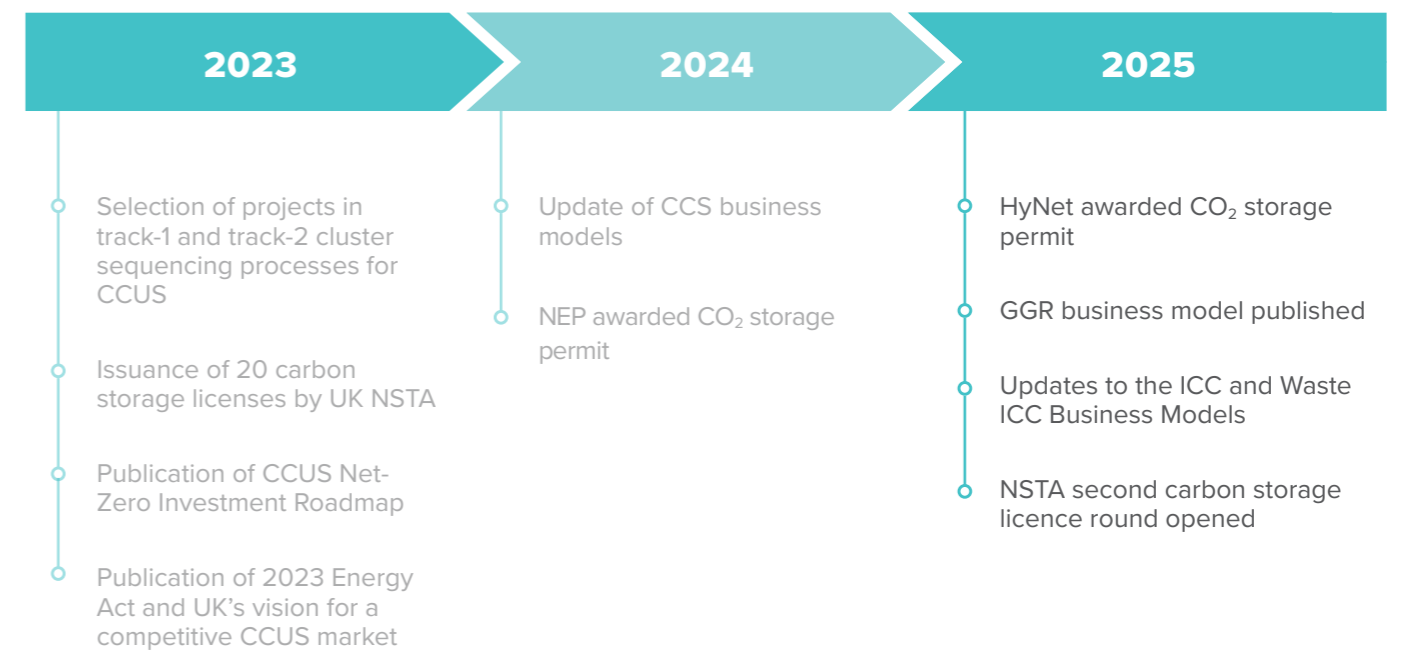
CCS has progressed noticeably in the UK in 2025, with several developments across funding announcements, regulatory evolution, business model refinement, and project progression. Key developments are discussed below.

In April, the North Sea Transition Authority (NSTA) issued three CO₂ storage permits for the HyNet CCS project in Liverpool Bay, enabling the development of CO₂ transport and storage infrastructure. The project aims to store 4.5 Mtpa of CO₂, sourced from industrial emitters in north-west England and north Wales, from 2028. The permits were issued alongside the economic licence awarded by the Department of Energy Security and Net Zero (DESNZ) (NSTA, 2025a).

On 9 December, the NSTA opened its second carbon storage licensing round for the UK Continental Shelf, inviting applications for storage development in 14 offshore areas. Five locations are in Scottish and nine in English waters. These locations fall into two categories, i.e. depleted hydrocarbon fields selected by the NSTA and saline aquifer sites identified by industry through the ‘Call for Nominations’. Licenses are expected to be issued in 2027 (NSTA, 2025c).

In November, DESNZ published the final report on their Net Zero Innovation Portfolio (NZIP) Fund that provided funding to net zero innovation over the period 2021-2025. In this period, DESNZ allocated a total of £1.3 billion to kickstart the commercialisation of a variety of low-carbon technologies in 10 areas, including, novel Greenhouse Gas Removals (GGRs), and advanced CCUS. £20.4 million have been provided to CCUS projects with matched funding of £19 million (DESNZ, 2025b).

Figure 13 - Main CCS policy, legal, and regulatory developments in the UK over the review period



Also in November, the UK government published updates to the Industrial Carbon Capture (ICC) business model and Waste ICC business model. These business models are private law contracts of up to 15 years (a 10-year initial period with possible annual extensions for up to a further 5 years) and each provides the emitter with revenue support through a payment per tonne of captured CO₂. This is intended to cover operational expenses (OPEX); T&S charges; and repayment of (plus a rate of return on) capital investment (CAPEX) in carbon capture equipment. The key updates to the ICC business model include (DESNZ, 2025a):

- Revised capture rate requirements.
- Revised operational condition precedents.
- Alteration to capture rate requirements to avoid skewing operational conditions precedent.
- Changes in capture rate breaches and termination.
- Additional Special Purpose Vehicles (SPVs) to accommodate third party financing arrangements and split ownership/operation by separate legal entities.
- Additional provisions for cross chain risks.
- More stringent post-capture measurement requirements.
- Exclusions for compensation on CO₂ utilisation.

The Waste ICC business model updates include:

- Altering the CAPEX payment period 8 years from commencement of construction.
- Allowing operators to recover any shortfall on the CAPEX payment.
- More stringent fossil vs biogenic CO₂ percentages against a historical baseline fossil percentage.
- Alignment of the Waste ICC with the UK ETS to ensure no direct conflict between the two mechanisms, and ongoing reviews.
- Updated MRV requirements for operators with a Waste ICC contract.
- Inclusion of GGRs into Waste ICC.
- The creation of a gainshare mechanisms for Waste ICC operators to sell GGR credits, create offtake agreements – this is prohibited until a review in Q3 2026.

In August, the UK Government also published the full GGR business model. These 15-year private contracts provide GGR projects with revenue certainty through two-way CfD-style payments, with the government paying an agreed strike price and the sales price of GGR credits in approved markets (UK Government, 2025).

The permit allows for first injection by 2027, with a permitted injection rate of 4 Mtpa, more than 100 million tonnes over 25 years (NSTA, 2025b).

3.4 Middle East and Africa

3.4.1 Overview and key trends

Across the Middle East and Africa (MEA), CCS policy has moved from conceptual ambition towards implementation. Various activities in the region signal a greater focus on policy mechanisms to achieve committed decarbonisation goals included in international and domestic policy documents. These include updated NDCs submitted in 2025 by South Africa and Qatar, Saudi Arabia, Morocco, and Kenya; a CCS policy framework released by Abu Dhabi; the release of national regulations in Oman, implementing the provisions of the CORSIA programme³; and South Africa entering phase 2 of its carbon tax regime implementation.

The Middle East is already well advanced in terms of commercial deployment of CCS in low-carbon hydrogen, power and mineralisation. Aramco's Jubail CCUS hub, ADNOC's Habshan and Ghasha facilities, QatarEnergy's CCS facility at the Ras Laffan Industrial City are all in construction in the region. This momentum continued into 2025 – the key CCS-related developments in the MEA region being:

Acceleration of carbon market development and establishment of carbon pricing mechanisms

2025 has seen an acceleration of carbon market development in the MEA region, with South Africa, Kenya, and Nigeria all releasing policies and regulations/draft regulations to support fully operational mandatory, as well as voluntary carbon markets. Nigeria has also mandated decarbonisation for upstream petroleum operators, and operationalised its carbon market to attract investors to the country.

The Global Carbon Council (GCC) and the Regional Voluntary Carbon Market Company (VCM), and Saudi Tadawul Group established a strategic partnership in late 2025, under which carbon credits, certified by the GCC are now traded on Saudi Arabia's VCM exchange platform. The agreement links an international crediting program with an exchange backed by the Public Investment Fund. More than 600,000 tonnes of CO₂ traded in the first month, highlighting the growing regional demand for high-integrity, independently verified carbon credits (Global Carbon Council, 2025).

Growing international and regional collaboration on decarbonisation, and funding for CCS.

The MEA region is moving towards international collaboration and partnerships to accelerate the deployment of CCS in the region. Several MOUs and cooperation agreements have been signed in 2025, including between Egypt and Greece; South Africa and the EU; and Saudi Arabia and Brazil and Italy respectively. Some of these long-term cooperation agreements also include a funding component to support domestic project development. It is expected that development of climate change mitigation projects, especially in Africa, will accelerate as utilisation of the mechanism under Article 6 of the Paris Agreement increases.

CCS is increasingly treated as strategic infrastructure, with governments in the region transitioning from strategy statements to the implementation of regulatory frameworks and funding allocated to CCS, enabling CCS infrastructure deployment at scale. Kenya has received €2.4 million from the German development agency, GIZ, to strengthen its voluntary carbon market. In the Middle East, the government of Oman has allocated US\$150 million to CCS in its Energy Investment Programme to 2032.

Several countries across the MEA region are actively involved in the Carbon Management Challenge, including Egypt, Saudi Arabia and the UAE as launching parties. Saudi Arabia acts as a co-lead of the initiative for the period 2024 to 2026 (Carbon Management Challenge, no date).

Acceleration of DAC project development

The region has seen an acceleration in DAC project development and announcements. Sirona Technology has progressed two projects in the MEA region - its Moringa project, located in Mahdha, Oman, that has commissioned its first unit; and the Jacaranda project in Kenya (developed in partnership with Cella). Both projects will capture CO₂ for storage through in-situ mineralisation. In Saudi Arabia, Aramco has unveiled the Kingdom's first DAC test unit in March. In July, KAPSARC and Climeworks (sponsored by the Ministry of Energy) launched a live demonstration of Climeworks' DAC testing unit located within KAPSARC's facilities in Riyadh.

³ The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) is the first global market-based scheme that applies to a specific sector. The scheme is one of the pillars of the International Civil Aviation Organization's (ICAO) commitment to progress towards net zero carbon emissions from international civil aviation by 2050

Continuation of state-owned entities leading CCS deployment

Over the past decade, state-owned entities in the Middle East have played a crucial role in advancing CCS development, mostly under existing petroleum/oil and gas legislation. This trend continued throughout 2025. Examples include:

- The certification of ADNOC's West Aquifer saline aquifer storage project by DNV, and the unveiling of Saudi Arabia's first DAC test unit. Governments across the African continent mainly continued to explore collaboration with developed countries around carbon market development and eligible projects under Article 6 of the Paris Agreement.
- Saudi Aramco's award of a US\$1.5 billion EPC contract to Larsen & Toubro (LTEH) for the development of the Jubail CCS hub.
- ADNOC's West Aquifer project in the UAE having received a further storage site certification by DNV in early 2026.
- Bapco Energies, together with SLB, conducting preliminary feasibility studies for a large-scale industrial CCS project targeting power generation, refining and aluminium production.

Despite this progress, dedicated CCS legal and regulatory frameworks are largely still absent in the MEA region. Permitting processes for existing CCS project developments are typically embedded in petroleum or oil and gas legislation, or in broader climate legislation and carbon market regulations. Together with the availability of funding, this remains the biggest challenge for the large-scale deployment of CCS, but across the region there are positive early signs, as entities work closely with policymakers on CCS initiatives.

3.4.2 Specific national policy, legal and regulatory developments

Middle East

Saudi Arabia

In January, Saudi Arabia and Italy signed a five-year MOU, to cooperate on energy, including low-emission hydrogen and ammonia, and CCS systems (Gas Processing & LNG, 2025). The Italy agreement came weeks after Saudi Arabia and France signed an MoU in December 2024 establishing a Strategic Partnership Council covering, among other areas, the energy transition (Faraj, 2024). A similar cooperation agreement was also signed with the government of Brazil, to cooperate on low-carbon hydrogen, sustainability and climate change (Government of Brazil, 2025).

In March, Aramco, in cooperation with Siemens Energy, launched the Kingdom's first DAC test unit, capable of removing 12 tonnes of CO₂ per year from the atmosphere. This test facility will be used to test next-generation CO₂ capture materials suitable to Saudi Arabia's distinct climate, and to achieve cost reductions that could accelerate large-scale deployment (Aramco, 2025). Shortly after, KAPSARC and Climeworks (sponsored by the Ministry of Energy) launched a live demonstration of Climeworks' DAC testing unit located within KAPSARC's facilities in Riyadh. The unit aims to test DAC performance under harsh, high-temperature conditions in anticipation of further domestic and international deployment (KAPSARC, 2025).

The Ministry of Energy has unveiled plans to tender a further 6 GW of gas-fired CCGT power generation projects with CCS in Saudi Arabia. This is part of a wider programme to upgrade existing and build new CCS-ready CCGT plants. A total of 42 GW is targeted, with 5.6 GW already connected to the grid, a further 9 GW under construction, and 21 GW already tendered (Enerdata, 2024).

In December, the Kingdom submitted its second NDC, committing to reducing, avoiding, and removing GHG emissions by 335 Mt of CO₂-e annually, by 2040, compared to (Kingdom of Saudi Arabia, 2025).

United Arab Emirates (UAE)

The UAE's landmark legislation, the Federal Decree-Law No. (11) of 2024 on the Reduction of Climate Change Effects came into force on 30 May (UAE Ministry of Climate Change and Environment, 2024). It lays the foundation for a national framework to reduce GHG emissions, and for the establishment of both mandatory and voluntary offsetting mechanisms. The Law introduces broad responsibilities for both public and private sector actors and is applicable to all emission sources within the UAE, including emissions in free zones.

The Law creates a National Carbon Credit Registry that tracks all carbon credit trading and offsetting activities across both the mandatory and voluntary markets. The registry is managed by the Ministry of Climate Change and the Environment (MOCCAE). In the absence of a fixed carbon price, these markets will establish a shadow price for carbon. Article 11 mandates international cooperation, which points to potential future cross-border carbon credit recognition.

The UAE government is also preparing to introduce a mandatory sustainable aviation fuel (SAF) requirement for airlines, moving beyond its current voluntary 1% uplift target by 2031 – which was part of a national SAF, and low-carbon aviation fuel policy roadmap led by the Ministry of Energy and Infrastructure (DII-Desert Energy, 2025).

Oman

In April, OQGN and Gasunie signed an MoU to develop a hydrogen corridor and collaborate on CCS initiatives, aiming to link Oman's hydrogen and carbon infrastructure with European demand centres (OSW, 2025).

In the latter half of 2025, OQGN announced it has commenced mapping of a domestic CO₂ pipeline network to support early adopters of CCUS in Oman. In December, a detailed Information Memorandum was released, inviting local and international companies to participate in the development of the network, that will consist of more than 800km of pipeline, and connect CO₂ emission sources with usage or storage locations. First-movers that could benefit from the CO₂ pipeline network include blue hydrogen and blue ammonia projects, that aim to store CO₂ emitted from their facilities or send it to utilisation locations. Three CCUS ecosystems have been identified (Global Flow Control, 2025):

- **Northern ecosystem**, – the project will entail the development of ~300km pipeline to route CO₂ from industrial sites in Sohar and Ibri to storage or utilisation sites.
- **Central ecosystem** – aiming to transport CO₂ from emitters in Duqm, via ~200km of pipeline, to potential storage locations in Block 6 (Oman's largest oil concession).
- **Southern ecosystem** – aiming to transport CO₂ from the Salalah Industrial Area, via ~300km of pipeline to storage sites in southern Block 6 (in Petroleum Development Oman's concession).

In parallel, OQGN is working with Occidental (Oxy) Oman to develop a pipeline to route emissions from Sohar and Ibri to a block in northern Oman, operated by Oxy for EOR. OQGN and other stakeholders are working with policymakers in Oman to realise this opportunity. (Oman Daily Observer, 2025).

Oxy Oman has also initiated a CO₂ enhanced oil recovery (EOR) pilot at the Safah Field (Block 9), testing CO₂ injection in mature reservoirs. The company plans to scale the technology across other assets and integrate CCS to support Oman's low-carbon oil production strategy (Oman Observer, 2025).

In October, Sirona Technologies' Moringa DAC project commenced operations. This is Oman's first DAC project, with an initial capture capacity of 300 tpa, and planning to scale up to 1,800 tpa in 2026, for permanent storage through in-situ mineralisation in Oman's peridotite formations. The project will use renewable energy from both Oman and the UAE to power operations (Ranevska, 2025a).

Oman's Civil Aviation Authority issued new national regulations, implementing the provisions of the CORSIA programme. All aviation service providers are now mandated to manage their CO₂ emissions in line with these requirements (Prabhu, 2025). National airlines are required to monitor and report CO₂ emissions from aviation activities and to purchase carbon offsets in accordance with ICAO standards. In its Energy Investment Programme to 2032, Oman has allocated US\$730 million to support the production of SAF.

Also included in Oman's Energy Investment Programme to 2032, US\$150 million have been allocated specifically to CCS, signalling an important role for CCS in the wider decarbonisation strategy (Watts, 2025). It is expected that CCS will form part of future production of low-carbon ammonia and hydrogen, as well as the decarbonisation of gas-fired power plants. (2025).

Qatar

QatarEnergy currently plans to scale its CCS capacity (currently at 2.2 Mtpa deployed) to 7–9 Mtpa by 2030, and over 11 Mtpa by 2035 (QatarEnergy, 2025). However, in April, Qatar unveiled a comprehensive action plan targeting a reduction of 37 Mt of CO₂ compared to business as usual by 2030, signalling increased opportunities for CCS and low-carbon technologies. The plan allocates emission reduction targets to the oil and gas sector (13.8-16.9 Mt), the energy and water sector (5.1-6.2 Mt), the transportation sector (3.0-3.6 Mt), and the building, construction and industry sector (1.6-2.9 Mt). Additional measures have been taken to fill the gap (The Peninsula, 2025).

In November, Samsung C&T Engineering and Construction Group was awarded a contract by QatarEnergy to design and build a large-scale carbon compression and transport facility at the Ras Laffan CCUS facility. The project aims to process and transport up to 4.1 Mtpa of CO₂ emitted by LNG liquefaction plants for permanent geological storage by 2030. The contract is valued at approximately KRW1.9 trillion (~US\$1.3 billion) (Samsung C&T Global, 2025).

In 2025, QatarEnergy selected TotalEnergies as the first international partner in the US\$28.75 billion North Field East expansion project, that includes CCS. Qatar submitted an updated NDC in 2025, upgrading its target to a 42 MtCO₂-e emissions reduction by 2040, compared to 2019 levels (changed from a 25% reduction on the business-as-usual scenario by 2030), with CCS central to delivery. Domestic capture capacity is targeted at 11 Mtpa of CO₂ by 2035. Qatar is committed to deploy CCS technologies in all LNG expansion projects towards reaching this target (Argus, 2025).

Bahrain

During 2025, Bahrain's Space Agency completed the second phase of a satellite project, developed in partnership with the UK Space Agency's International Bilateral Fund, that focuses on tracking CO₂ emissions to improve environmental monitoring in the region. The

technology is expected to significantly improve accuracy of CO₂ emissions measurement, and to support MRV activities in broader applications, such as CO₂ capture and carbon markets (Fast Company ME, 2025).

Bapco Energies, the Kingdom's national energy company, and SLB have conducted preliminary feasibility studies for a large-scale industrial CCS project targeting power generation, refining and aluminium production. The concept involves capturing CO₂ directly from these facilities, transporting it via onshore pipeline infrastructure, and injecting it into suitable depleted reservoirs. Implementation of the system is expected to between 2025 and 2030, with the aim to capture 20%-25% of Bahrain's domestic emissions (BapcoEnergies, no date). This aligns with Bahrain's NDC target of reducing CO₂ emissions by 30% by 2035 and to achieve net zero by 2060 – CCU and DAC are included as mitigation technologies.

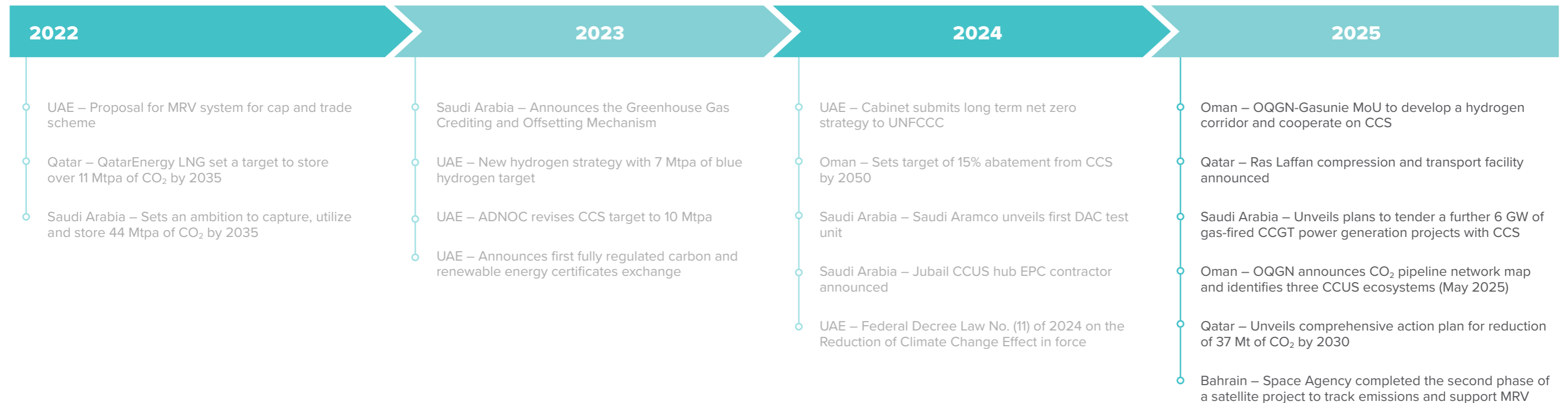
Kuwait

Kuwait is actively working to achieve its target of net zero by 2060. One of its core strategies is the deployment of CCUS by KPC in their petroleum production process.

As part of its 2024/25 action plan, KOC has also launched a series of strategic initiatives, aimed at reducing CO₂ emissions and support KPC's climate mitigation efforts. Included in these initiatives are (The Times Kuwait, 2025):

- **CCUS** – aiming to achieve 26 Mtpa of CCUS capacity across the oil sector by 2050. A detailed study is currently underway to assess the feasibility of CO₂ capture and storage in depleted underground oil reservoirs. To this end, KOC is in the process of developing a large scale CCUS hub in West Kuwait
- **Carbon offsetting mechanisms** – KOC is exploring certified mechanisms to offset residual emissions.

Figure 14 – Main CCS policy, legal, and regulatory developments in the Middle East over the review period



Africa

Africa still has limited CCS-specific legislation, and the absence of substantial public funding for CCS means the development of the technology is lagging behind other continents. An exception to this is Egypt, where Africa's first regulated voluntary carbon market was launched in 2024. By early 2025, approximately 30 projects were registered and 170,000 carbon credits available for trading. Recent developments include mostly policy signalling, further carbon market development, pilot project announcements, and capacity-building initiatives.

Worth noting is the proposed amendment to Mozambique's Petroleum Law to explicitly include CCS within the scope of petroleum operations, and recognises cross-border CCS activities under international law — a rare example of dedicated CCS legislative progress in Sub-Saharan (MozParks, 2025). Libya has also signalled support for CCS, with the integration of the technology into the development of its Structures A&E offshore gas project. The project is expected to commence operations in 2026 (Allawadi, 2023).

Nigeria

Nigeria launched a first-of-a-kind, publicly available CO₂ storage atlas in 2025, documenting all potential national geological storage resources. The atlas, that was developed in collaboration with the World Bank, International Finance Corporation, and the International Energy Agency, aims to attract investors and developers to Nigeria's CCUS industry. Prospective storage resources of approximately 10,700 Gt have been identified across priority CO₂ hub locations, where Nigeria aims to develop transport and storage networks. These include regions such as Lagos, Port Harcourt, and Warri, where the concentration of industrial emissions, favourable geology, and existing oil and gas transport networks make them ideal candidates for developing CCUS hubs. Depleted gas fields in the Niger Delta are especially promising for long-term storage of CO₂ (African Circular Business Alliance, 2025).

2025 also saw the finalisation of Nigeria's Carbon Market Activation Policy, and Manual of Procedures, that establishes carbon registry infrastructure, project eligibility rules aligned with Article 6 of the Paris Agreement, and incentives to scale carbon credit generation. The policy aims to unlock between US\$736 million and US\$2.5 billion of investment in emission reduction projects by 2030, and facilitate Nigeria's participation in regional, continental, and international carbon markets (Government of Nigeria, 2025).

By December, Nigeria had 57 registered voluntary emissions reduction projects, with 5.8 million credits issued. It is expected that the operationalised framework will generate up to US\$3 billion annually by 2030, through carbon credit trading (Ojoko, 2026).

In May, Nigeria's Upstream Petroleum Regulatory Commission (NUPRC) released an upstream decarbonisation template and made decarbonisation a prerequisite for upstream petroleum operators seeking licenses, permits, and other regulatory approvals. Upstream operators are obliged to (Abubaker, 2026):

- Integrate decarbonisation strategies, such as CCUS, into upstream operations.
- Establish a measurable and time-bound GHG reduction target.
- Comply with the Gas Flaring, Venting and Methane Emissions Regulations, 2023.
- Implement methane management programmes, including leak detection and repair, operational optimisation, and the integration of clean energy sources throughout the project's lifecycle.
- Create carbon management strategies such as carbon capture and storage, nature-based solutions and carbon offset programmes.

Kenya

Early in 2025, Sirona Technologies and Cella launched their shared DAC with carbon mineralisation initiative in Kenya, called Project Jacaranda — achieving the fastest recorded deployment of a DAC project to date. Project Jacaranda is strategically positioned at Lake Elementaita in Kenya's Great Rift Valley. The region is abundant in volcanic basalt formations and vast geothermal and solar resources, making it ideal for permanent CO₂ removal through in-situ carbon mineralisation (Ranevska, 2025b).

In April, Kenya submitted its second NDC, covering the period 2031 to 2035. It sets a target of 35% emissions reduction by 2035, of which 20% is unconditional and 80% conditional upon international support in terms of finance, investments, technology development and transfer, and capacity building, and participation in carbon markets (Republic of Kenya, 2025).

South Africa

In October, South Africa submitted its second NDC to the UNFCCC, expanding the five adaptation areas in its 2021 NDC to seven goals - the two additional areas relating to warning and information systems; and the introduction of climate adaptation monitoring systems. The mitigation target range for 2026-2030, as communicated in the 2021 updated NDC was maintained, and a mitigation target range for 2031-2035 was communicated for the first time — "South Africa's annual GHG emissions will be in a range from 320-380 Mt CO₂-eq in 2035". Compared to 2030, the 2035 range represents a 10% reduction at the upper end, and a 9% reduction at the lower end (Government of South Africa, 2025b).

During 2025, various government initiatives signalled significant progress in South Africa's carbon market and CO₂ emission mitigation efforts. The carbon tax rate of ZAR190/tCO₂-e is moving into phase 2 in 2026 and will be increasing to about ZAR400/tCO₂-e by 2030; and the carbon offset allowance is expanding from 10% to 15% for most sectors. In addition, allowances on emissions introduced in phase 1 of the carbon tax, will see a gradual reduction to soften the impact on emitters (ENGP, 2025).

In August, the Minister of Forestry, Fisheries and the Environment released Draft National Greenhouse Gas Carbon Budget and Mitigation Plan Regulations, along with the Draft Technical Guidelines for public comment, marking a further step towards implementing South Africa's climate change response under the Climate Change Act 22 of 2024. CO₂ is included in the list of GHGs covered by the Draft Regulations. The first commitment period will be 1 January 2026 to 31 December 2030.

The Draft Regulations:

- Establish a mandatory carbon budgeting system for high-emitting sectors and activities, and apply to entities with emissions of any listed GHG exceeding 30,000 tpa of CO₂-e.
- Outline how carbon budgets will be allocated, monitored and enforced.
- Require the submission and implementation of mitigation plans.
- Mandate reporting of emissions and mitigation progress on an annual basis.
- Set out penalties for non-compliance, including higher carbon tax rates and fines of up to ZAR10 million, or imprisonment for up to 10 years.

The Draft Guidelines provide detailed instructions on data collection, emissions calculation, reporting procedures, and verification requirements (Government of South Africa, 2025a).

Egypt

Egypt is increasingly positioning carbon markets and CCUS as key carbon management tools, while maintaining economic growth and energy security in a fossil fuel-dependent system. In 2024, Egypt launched the first regulated voluntary carbon market in Africa, and by early 2025, almost 30 projects had been registered, offering 170,000 carbon credits for trading (Nature News, 2026).

In February, Egypt and Greece signed an MoU on CCS, aiming to cooperate to reduce emissions in the energy sector. HEREMA, Greece's CCS licensing authority, will play a key role in the implementation of the agreement, including in sharing of expertise, best practices and business models; and alignment of Egypt's proposed CCS regulatory framework with the European and Greek national CCS regulatory frameworks (State Information Service Egypt, 2025).

Morocco

In September, Morocco submitted its third NDC, committing to an unconditional net reduction of GHG emissions across the economy of 21.6% (and a further 31.4% conditional) by 2035, compared to Business-as-Usual (Kingdom of Morocco, 2025). The Kingdom anticipates capturing and utilising around 2.2 Mtpa of CO₂.

Morocco's OCP announced in September it is preparing to fit its fertiliser plants at the world's largest phosphate complex with carbon capture modules. Captured CO₂ will be used to treat desalinated seawater, adjusting pH and remineralising it for household, agricultural, and industrial consumption. In addition, the captured CO₂ will be used in fertiliser production (Yabiladi, 2025).

In June, the Global CCS Institute signed an MoU with Morocco's Al Akhawayn University (AUI), with an aim to further advance CCS in Morocco and the broader Africa region. As part of the MoU, the Institute and AUI will work jointly on a number of collaborative initiatives, including delivering on capacity building needs for CCS and supporting dialogue across key stakeholders involved in policy and industry development (Global CCS Institute, 2025b).

The Africa CCUS Forum, co-hosted by the Global CCS Institute, IEAGHG's R&D Programme, Mohammed VI Polytechnic University, and the Gulf Coast Carbon Centre, is another highlight of Morocco's CCS development efforts. The forum brought together more than 100 stakeholders from across Africa to focus on practical enablers of CCS on the continent (Global CCS Institute, 2025d).

Algeria

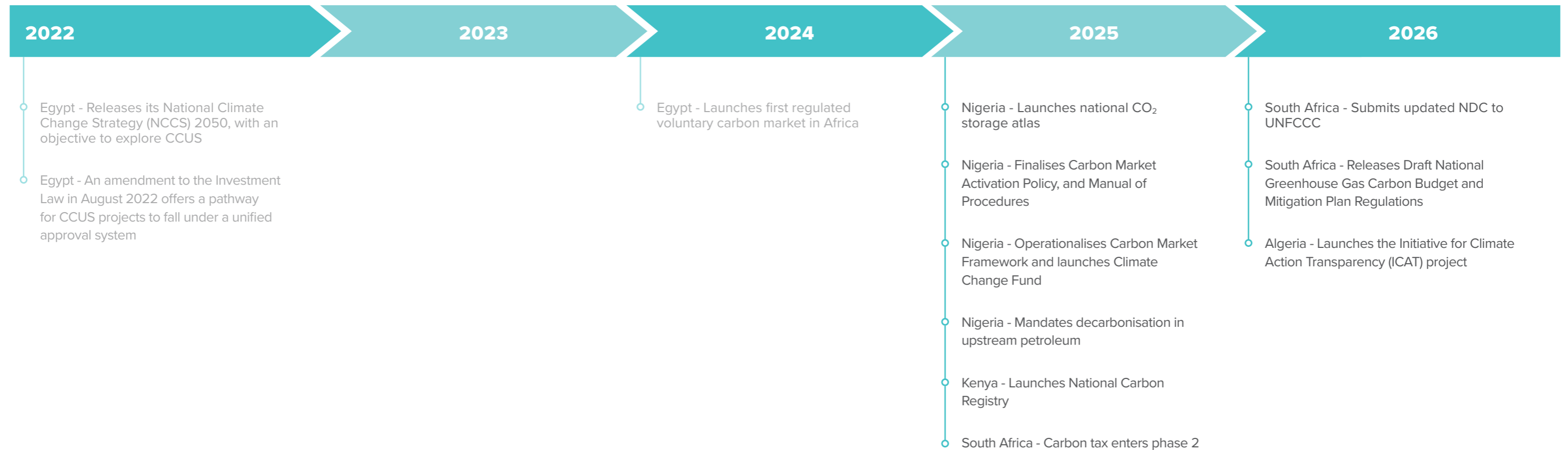
In February, Algeria launched its Initiative for Climate Action Transparency (ICAT) project, that aims to strengthen the country's climate transparency, through improved data tracking and the development of evidence-based policies. The project will build capacity and support national efforts towards climate change mitigation, through (ICAT, 2025):

- Enhancing Algeria's climate data measuring, reporting and verification system, by improving its institutional legal framework.
- Improving GHG inventory data, through enhancing data collection and management in key sectors, including energy and waste.
- Enhancing data quality and information to enable an update to Algeria's NDC – the project will update GHG emission scenarios in key sectors and train national experts to improve emission projections.
- Improving the monitoring of policies established to implement the actions set out in Algeria's NDC.

The Algerian government continues to expand fossil gas production for its own use and to position itself as a major supplier to Europe. Fossil fuel production is a major component of Algeria's economy, with the hydrocarbon sector representing 14% of GDP and 83% of product exports between 2019 and 2023 (Climate Analytics, 2025). The EU's CBAM, which entered its definitive phase on 1 January 2026 (following a transitional reporting phase from October 2023 to December 2025), could pose a challenge to Algeria's fossil fuel exports.

AFRICA IS RAPIDLY POSITIONING CARBON MARKETS AND CCUS AS CENTRAL TO ITS DECARBONISATION STRATEGY.

Figure 15 – Main CCS policy, legal, and regulatory developments in Africa over the review period



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