Regional Spotlight

Americas

CCS progressing across region at varying rates

The US and Canada are continuing to support tax credit policies, and Brazil, which is leading Latin America, is making positive progress in regulatory development. The Americas have stored over 223 Mt of CO_2 as of 2023, and 39 projects are currently operational. This number is expected to grow with upcoming projects, such as Blue Point-Louisiana (JERA, 2025) and BKV-South Texas (BKV, 2025), reaching final investment decisions.

Dynamic – Readiness, policy support, and infrastructure vary widely across the Americas, yet the region is moving towards CCS adoption. The US and Canada are surging ahead with supportive tax policy and permitting activities in North America, while Brazil is leading the development of the regulatory foundation in Latin America.

Growth – Natural Gas Combined Cycle (NGCC) power generation with CCS can provide firm, low-carbon, cost-competitive, reliable baseload electricity to meet the power demands and fluctuations of future AI data centres across the Americas, while also creating jobs and providing economic benefits for local governments.

Foundation – Geologic storage with enhanced recovery, ongoing in the Americas (Brazil, Canada, and the US), offers a strong business case for early CCS projects while developing the infrastructure for wider deployment. Robust monitoring, reporting, and verification protocols are integral to these projects to demonstrate and ensure that the CO_2 is permanently stored.

Catalysts – Financial incentives, emerging revenue models, and global trade are accelerating near-term CCS deployment in the Americas as companies begin to prepare for trade-linked carbon accountability for exports.

Artificial intelligence data centres are a key driving force in electricity demand growth. Companies are contemplating the installation of new power generation to support data centre hubs across the Americas. At least eleven natural gas-fired power plants have been announced in US and Canada related to data centres as of mid-2025:

- Alberta Wonder Valley: 1.4 GW (Alberta, 2025)
- Beason AI: 4.5 GW (Giacobone, 2025)
- CloudBurst: 1.2 GW (Cloudburst Data Center, 2025)
- Edge ConneX: 0.12 GW (EdgeConneX, 2025)
- Engine No. 1, Chevron and GE Vernova: 4.0 GW (Chevron, 2025)
- Exxon Mobil: 1.5 GW (George, 2024)
- Frontier Infrastructure: 0.27 GW (Frontier Infrastructure, 2025)
- Homer City Redevelopment and Kiewit: 4.5 GW (Homer City Redevelopment, 2025)
- Meta Hyperion: 5.0 GW (Akhtar, 2025)
- Tallgrass-Crusoe: 1.8 GW (Jean, 2025)
- Williams Socrates: 0.4 GW (Williams, 2025a)

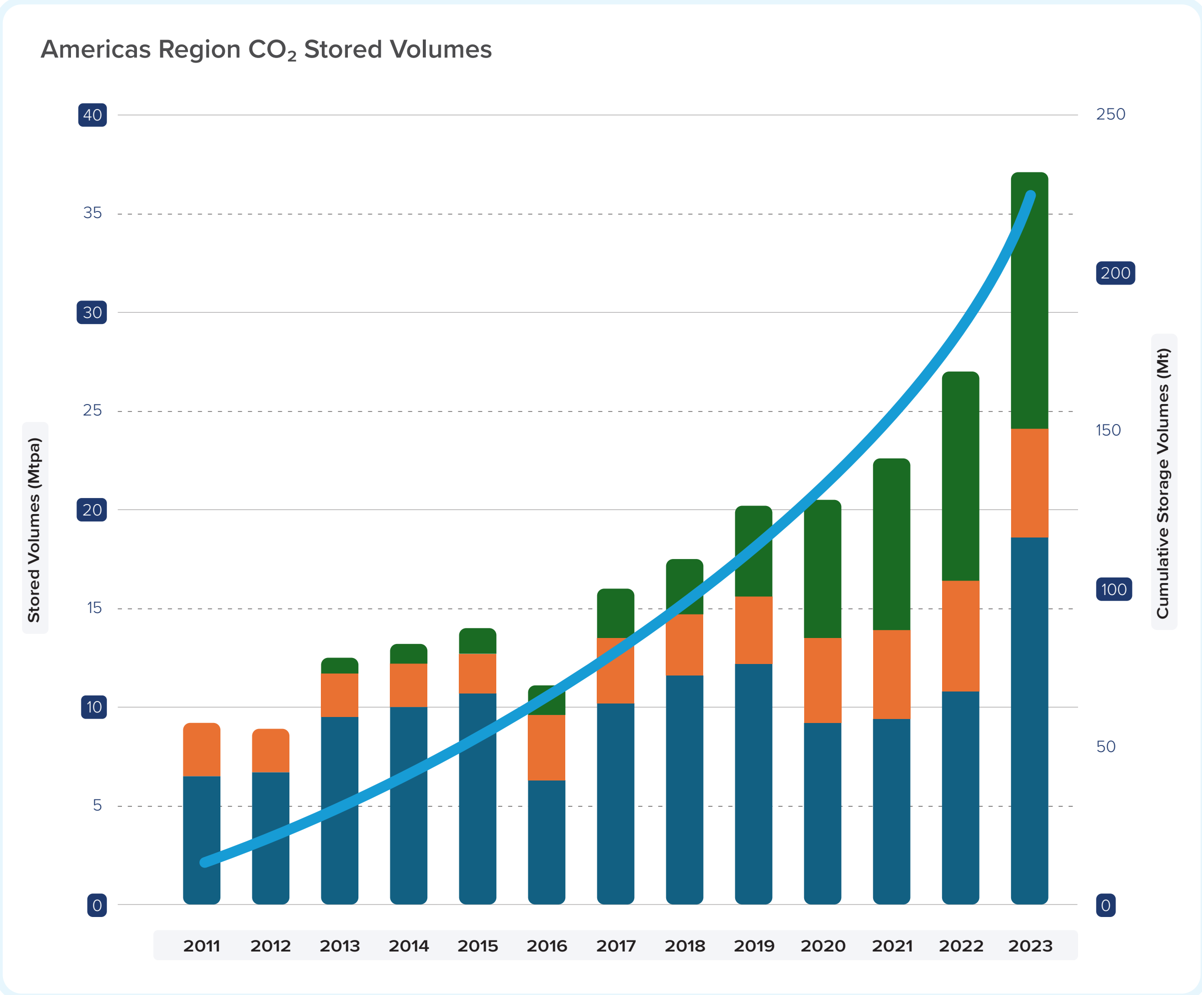
Companies like Alphabet (Panettieri, 2025) and Microsoft (Microsoft, 2025) have very aggressive goals of achieving a net zero or carbon-negative status by 2030. To meet emission reduction targets, leaders like the US, Canada, and Brazil are developing policies, demonstrating technology readiness, and offering incentives to project developers. Their leadership and sharing of lessons learned will help emerging countries accelerate their progress.

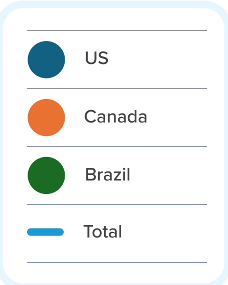
Economic growth is a top priority for both federal and state governments.
The convergence of AI-driven power demand, CCS-ready infrastructure, and state-level regulatory readiness is creating a rare opportunity for states to become economic beneficiaries of the AI energy boom.
This could lead to thousands of jobs and significantly boost a state's economy.

For example, the Meta Hyperion facility in Richland Parish, Louisiana, is anticipated to employ approximately 5,000 workers during construction, and generate 500 permanent jobs and 1,000 indirect jobs, with employee average salaries exceeding 150% of the state's per capita income (Louisiana Trade & Commerce, 2025). States receiving CCS investments are expected to benefit from these direct investments and related spillover effects, increasing state economic activity and associated jobs.

The Institute analysed Louisiana's potential overall economic benefits, based on estimated project announcements of $29.5 billion using our GENZO model (Williams, 2025b). Institute analysis suggests that $29.5 billion in carbon management infrastructure investments, with 45Q support and additional downstream CCS investments, could generate $90.2 billion in economic value for Louisiana over the next two decades. During the same period, these activities are estimated to support nearly 120,000 direct and indirect jobs each year, amounting to about 2.4 million job-years over 20 years (Li et al., 2022).

The Trump administration plans to pull the US out of the UN Framework Convention on Climate Change per the Executive Order 'Putting America First in International Environmental Agreements' (The White House, 2025) and is reversing climate policies of the Biden Administration.





Source: GCCSI, using the best available public data.

Policy

National elections have influenced CCS policies. Canada's recent election of Mark Carney as Prime Minister signals ongoing support from the federal government for CCS. One of the party's first actions was to extend the CCUS tax credit through 2035 (Merchant, 2025). Additionally, the Government of Canada announced an investment of over $14 million to the Energy Innovation Program (Merchant, 2025), moving forward with $21.5 million in clean energy projects in Alberta (Natural Resources Canada, 2025), and working to finalise its DAC quantifications protocol (The International CCS Knowledge Centre, 2024). The Pathways Alliance Oil Sands CCS project FID determination is expected in 2025 (Canada Natural on behalf of Pathways Alliance, 2024).

In the US, some uncertainty and mixed signals could curtail CCS deployment. The Trump administration plans to pull the US out of the UN Framework Convention on Climate Change per the Executive Order 'Putting America First in International Environmental Agreements' (The White House, 2025) and is reversing climate policies of the Biden Administration. In late spring, the US DOE announced the termination of 24 projects, including projects for CCS and decarbonisation initiatives, totalling $3.7 billion (Department of Energy, 2025) and the Environmental Protection Agency (EPA) proposed to repeal all greenhouse gas emission standards for fossil fuel-fired power plants (EPA, 2025) However, the US Congress continues to support the 45Q tax credit (GCCSI, 2025) and recently increased the credit for CO_2 utilisation and geologic storage with enhanced recovery.

Individual states are continuing to enact legislation in support of advancing CCS, with many making progress in developing their regulatory frameworks. When states proactively pass legislation, they send positive signals to industry about their regulatory readiness for CCS projects, which could attract AI data centres and other industries to their states, further stimulating economic growth.

In 2025, 12 states passed 24 carbon management legislative acts, with Louisiana leading the way; and four states (Louisiana, North Dakota, West Virginia and Wyoming have been granted CO_2 injection permitting authority, with two more states (Arizona and Texas) pending final approval in 2025 (EPA Underground Injection Control, 2025).

Brazil continues to lead CCS progress in Latin America and will host COP30. Brazil emerged as a leader in CCS with its Fuels of the Future Bill (Brazil, 2024a) and the introduction of the Brazilian Greenhouse Gas Emissions Trading System (Brazil, 2024b). By enacting these policies, Brazil continues to move forward with CCS, building on regulatory actions and investments made by its state oil company, Petrobras. Together, Brazil's leadership and Petrobras' experience can accelerate CCS deployment in other Latin American countries.

Mexico's pilot emissions trading system (Mexico, 2025) has concluded its pilot phase and was scheduled to enter its operational phase in 2025; however, regulations for this phase had not been published at the time of writing. There are also signs of ongoing progress from other Latin American countries, as evidenced by the Regional Dialogues on Carbon Pricing (REDiCAP), which aims to evaluate policy and carbon pricing tools to meet each Latin American country's Nationally Determined Contributions.

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Pathways Alliance Oil Sands CCS Project

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Case study: Brazil's regulatory actions and Petrobras' investments are the catalyst to CCS in Latin America

US state legislation

State	Legislation	
Arkansas	H.B.1411	To Clarify the Regulation of Carbon Capture and Sequestration; And to Establish the Carbon Dioxide Storage Fund
	H.B.1412	To Clarify Regulation of Pipeline Safety Authorization for Transportation of Hazardous Liquids or Carbon Dioxide
Colorado	H.B.25-1165	Geologic Storage Enterprise & Geothermal Resources
	S.B.25-307	Decarbonization Tax Credits Administration Cash Fund
Illinois	S.B.1723	EPA sole-source aquifer
	S.B. 1697	Carbon capture compensation
Indiana	H.B.1001	State Budget-Funds Carbon Sequestration Project Program and CO_2 Pipelines and Facility Trust Fund
	S.B. 457	Carbon Dioxide Sequestration
Louisiana	H.B.2	Capital Outlay: Provides authorization of LSU PERTT Lab Well No. 3
	H.B.304	Civil/Venue: Provides relative to venue for claims involving expropriation for carbon capture
	H.B.548	Energy: Provides for the dedication of revenue from carbon dioxide sequestration on state lands and water bottoms
	H.B.691	Energy: Establishes public safety and accountability procedures for carbon dioxide sequestration
	S.B.36	Minerals: Provides for carbon sequestration
	S.B.73	Environmental Control: Provides for sequestration of carbon dioxide
	S.B.244	Natural Resources Dep: Provides for the Dept. of Energy and Natural Resources
New Mexico	H.B.458	Carbon Dioxide Storage Stewardship Act
North Dakota	H.C.R. 3016	Recognizing the benefits of enhanced oil recovery and maintaining policies for the development of carbon capture and utilization
	S.B.2333	Low-Carbon Fuels
Oklahoma	S.B.269	Act relating to carbon sequestration
South Dakota	H.B.1052	Act to prohibit the exercise of eminent domain for a pipeline that carries carbon dioxide
Utah	H.B.352	Geologic Carbon Storage Amendments
	H.C.R.9	Establishment of an interstate compact for regional energy collaboration between Utah, Wyoming, and Idaho
West Virginia	S.B.627	Removing the prohibition against leasing state-owned pore spaces underlying lands designated as state parks
Wyoming	S.F.17	Carbon Dioxide and Enhanced Oil Recovery Stimulus

Finance

Financial drivers, innovative value streams, and trade requirements could accelerate the deployment of CCS in the near term. The recent passage of the US' Big Beautiful Bill Act enhances the 45Q tax credit for geologic storage with enhanced recovery, and this increased incentive could create another revenue stream for business models and build out future CO_2 transport infrastructure.

Voluntary carbon markets and potential "green premiums" (Breakthrough Energy, 2022) are other ways to offset capital and operational expenditures. This would help companies meet their emissions reduction targets and help finance current and future projects.

Global carbon trading requirements could impact future imports into the EU through CBAM (European Commission, 2024) where non-EU members must provide data on embedded emissions of the products if they sell to the EU. For example, CBAM could result in higher import costs for ammonia produced without CCS, given its higher carbon intensity, and although LNG is not included at this time, indirect effects could emerge if LNG is a feedstock for ammonia production.

By 2030, CBAM's scope is expected to extend and likely candidates include chemicals, polymers and plastic, and oil refining projects. The overall impact would result in higher costs for imports that do not reduce their carbon intensity to meet these new trade requirements.

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Geologic storage with enhanced recovery

45Q Tax Credit Modifications – One Big Beautiful Bill Act (2025)

Feature	Inflation Reduction Act (2022)	One Big Beautiful Bill Act (2025)
Credit Value (per ton)	• $85: Point source → Geologic storage (GS) • $180: DAC → GS • $60: Point source → Utilisation / GS with enhanced recovery • $130: DAC → Utilisation / GS with enhanced recovery	• $85: Point source → GS • $180: DAC → GS • $85: Point source → Utilisation / GS with enhanced recovery • $180: DAC → Utilisation / GS with enhanced recovery
Transferability	Allowed as of 2023	Allowed as of 2023
Inflation Adjustment	Commences 2027, with 2025 base index year	Commences 2027, with 2025 base index year
Foreign Entity of Concern (FEOC) Restrictions	Not applicable	New restrictions

The bill maintains the 45Q tax credit for point-source capture at $85/tonne and direct air capture (DAC) at $180/tonne in dedicated geologic storage, preserves transferability, and keeps the inflation adjustment date of 2027 with a base index year of 2025. The tax credit now includes parity for the utilisation of CO_2. In this new bill, CO_2 used or converted into valuable products or injected and geologically stored in a qualified enhanced oil recovery or natural gas recovery project site will qualify for the same dollar value credit as CO_2 that is permanently sequestered in a dedicated geologic storage site. The bill also introduces new restrictions for Foreign Entities of Concern.

Airhive DAC Canada, image courtesy of Airhive.

Regional Spotlight Americas

Case study: US data centres

Between 2025 and 2030, 55 GW of new data centre capacity is projected to come online in the US, with around 30% of facilities expected to incorporate on-site power (Bloom Energy, 2025).
Unfortunately, the grid has not kept pace, leading to emerging bottlenecks in transmission and distribution infrastructure. This causes delays in grid connections and increased costs for grid services. The rapid increase in demand and the slow response of grid capacity are driving the need for more behind-the-meter (on-site) power solutions. Larger data centre customers require power generation to be reliable, cost-effective, have lower emissions, and have flexibility to manage variable power loads.

This is because AI model training causes large and quick fluctuations or bursts in power demand (Ontiveros et al., 2025).

Data centres hosting large training operations could demand up to 1 GW in a single location by 2028 and 8 GW by 2030 (Pilz et al., 2025). NGCC with CCS, small modular nuclear reactors (SMR), and geothermal energy are all being considered to meet the increasing load growth and fluctuations.

US data centre power demand forecasts to 2030

Data source: The graphic represents the range of potential power demand cases in the next five years. (Stuckert et al., 2025).

Levelised costs of dispatchable power technologies in the US

Data source: US Energy Information Outlook, Annual Energy Outlook 2025.

Can NGCC with CCS be the answer?

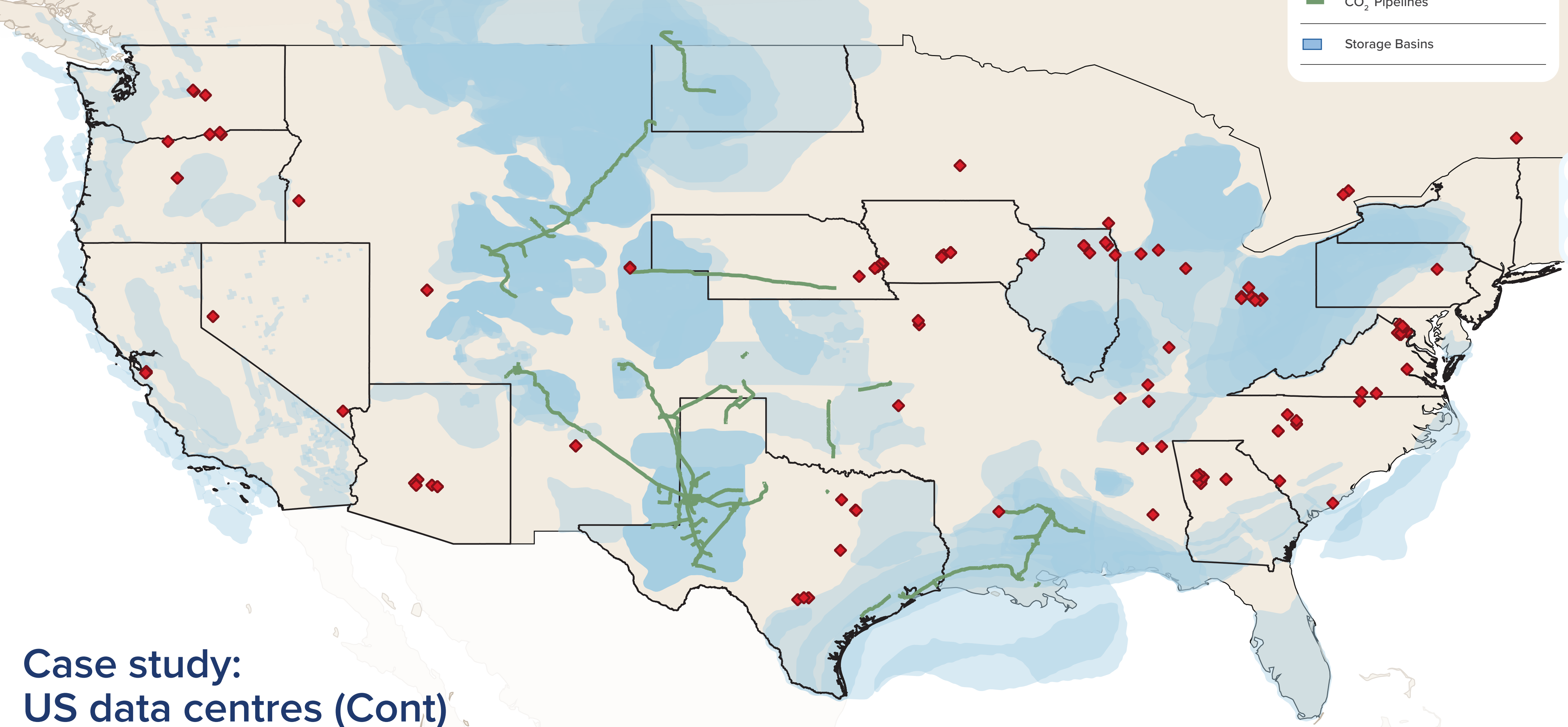
Data centres require 24/7 dispatchable power supplies. The US Energy Information Administration (EIA) published levelised costs of dispatchable power technologies in the US, as reproduced in the figure above (EIA, 2025). On a simple average cost per MWh and a capacity-weighted average cost, NGCC with CCS is the second lowest cost option – lower cost than nuclear, biomass, and even unabated NGCC when tax credits are included.

Although geothermal is lower cost, locations of the data centres could be constrained by the location of geothermal resources or would have to rely on heavily constrained power grids to bring that power to the data centres.

NGCC with CCS would not have this constraint and could be installed near the data centre behind the meter, providing dedicated power to the data centre.

Speed of deployment is also essential given the rapid growth of data centre demand. NGCC with CCS enables the more rapid deployment of local power generation at a reasonable cost, as well as the ability to decarbonise it with CCS as the required CO_2 transport infrastructure becomes more available.

Selected data centres in the US (not exhaustive)



Case study: US data centres (Cont)

Location, Location, Location

Given current grid limitations for transmission capacity, on-site NGCC plants in the Americas could provide data centres with the reliable and sustainable power generation required to meet demand. Additionally, NGCCs can also dispatch power to the grid when needed and receive credit for their contributions. Data centre locations require specific key factors, and in 2023, 15 states accounted for approximately 80% of the data centre power (Aljbour et al., 2024).

The recent announcement of a new AI data centre in Wyoming, powered by natural gas and featuring CCS technology, signals that the industry is increasingly recognising the value of natural gas generation with CCS (Jean, 2025). The project is expected to consume more electricity than Wyoming's entire state demand, rising to multiples of that over time (Gruver & O'Brien, 2025), demonstrating how NGCC with CCS can avoid the need for large-scale grid infrastructure to be built.

Future locations of data centre hubs that use on-site NGCC can be optimised for efficiencies in regions with abundant low-cost natural gas. Combined with enabling CCS regulatory frameworks, CO_2 pipelines, and geologic storage opportunities, these locations could be prime targets for firm and flexible low-carbon power sources. As identified in the figure above, there is a significant overlap of states, basins, and existing CO_2 pipelines for NGCC with CCS, which in turn increases the capability to provide reliable, sustained low-carbon energy for future data centres.

Data sources: https://www.datacentres.com/; https://datacentres.google/; https://aws.amazon.com/ ; https://datacentres.atmeta.com/ States highlighted are sourced from EPRI (Aljbour et al., 2024) Storage Basins from NATCARB, US DOE (2025).