Carbon Capture And Storage - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

Carbon Capture And Storage Market Analysis

The Carbon Capture And Storage Market size is estimated at USD 2.76 billion in 2025, and is expected to reach USD 5.37 billion by 2030, at a CAGR of 14.21% during the forecast period (2025-2030). Rising regulatory pressure, maturing capture technologies, and the recognition that heavy industries cannot meet net-zero obligations without dedicated abatement solutions underpin this expansion. Governments are tightening emissions caps, expanding carbon-pricing schemes, and raising tax incentives, creating a price signal that has shifted CCS from pilot-scale experiments to commercial deployment. The convergence of supportive policy and technology cost decline also attracts private capital from oil majors and industrial conglomerates that see CCS as a hedge against future carbon liability. Competition from renewable power does temper the outlook, yet sectors such as cement, steel, chemicals, and refineries have few practical alternatives, making CCS a structural requirement rather than a transitional option.

Global Carbon Capture And Storage Market Trends and Insights

Emerging Demand for CO?-EOR Projects

Enhanced oil recovery is regaining prominence because it creates dual revenue streams-monetizing captured carbon while extending production from mature reservoirs. Oil majors are pairing fertiliser, steel, and petrochemical emitters with depleted fields, turning capture hubs into profit-generating assets during the early adoption stage. The approach lowers payback periods, secures anchor customers, and accelerates infrastructure build-out in regions that already possess extensive pipeline networks. It

also provides practical experience in handling large CO? volumes, establishing a bridge to pure storage projects as EOR demand tails off over time. Revenue visibility from incremental barrels helps investors justify the high upfront capital required for capture plants and injection wells, smoothing the transition toward stand-alone sequestration services.

Expansion of Carbon-Pricing and ETS Schemes

Carbon markets now extend beyond cap-and-trade to include border adjustments and sector-specific levies, changing the economic calculus for manufacturers that export into regulated regions. The EU's Carbon Border Adjustment Mechanism applies a shadow price to imported emissions-intensive goods, forcing foreign producers to invest in CCS or risk losing market share. California extended its cap-and-trade through 2030 and tightened allowance allocations, making CCS a compliance cost-avoidance tool rather than a corporate social responsibility add-on. Voluntary carbon markets are maturing, and though questions around additionality persist, they still create secondary monetization routes for verified storage tonnes. Each of these policy levers lifts the floor price for abatement, narrowing the economic gap between capture costs and market incentives.

High CAPEX and OPEX of CCS Plants

Industrial-scale facilities routinely require USD 500 million-800 million in upfront investment, making equity financing challenging where policy certainty is weak. Even innovative solvent systems such as Carbon Clean's CycloneCC, which lowers capture cost to USD 30 per tonne, have yet to demonstrate economies of scale at commercial rates . Operating cost is further burdened by energy penalties that trim baseline plant efficiency 15-30%, forcing operators either to buy additional electricity or accept lower output. Access to concessional finance remains limited in developing economies, delaying uptake despite substantial emissions reduction needs. Capital intensity therefore prolongs payback periods and narrows the pool of early adopters to large corporations or state-owned enterprises capable of absorbing risk.

Other drivers and restraints analyzed in the detailed report include:

Stricter National Net-Zero Legislation / Scale-Up of Low-Carbon Synthetic-Fuel Projects / Growing Attractiveness of Cheaper Renewables /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Pre-combustion capture accounted for 82.19% of carbon capture and storage market share in 2024 because it dovetails with steam-methane reformers and biomass gasifiers already common in refineries and chemical complexes . The segment benefits from decades of operational data and lower incremental cost when installed during greenfield builds. However, the process imposes a 20-25% energy penalty, and solvent regeneration remains capital intensive. Oxy-fuel combustion is projected to grow 18.51% CAGR to 2030, propelled by projects such as the Brevik cement plant that capture process emissions without extensive flue-gas separation. By burning fuel in pure oxygen, the exhaust stream is nearly pure CO?, simplifying downstream compression. Technology providers are introducing modular oxy-fuel units suited for retrofit, and improved air-separation economics reinforce competitiveness against post-combustion alternatives. As heavy industries seek deep cuts with minimal efficiency loss, oxy-fuel's market share is expected to expand quickly, challenging pre-combustion's long-held lead in the carbon capture and storage market.

The Carbon Capture and Storage Market Report is Segmented by Technology (Pre-Combustion Capture, Post-Combustion Capture, and Oxy-Fuel Combustion Capture), End-User Industry (Oil and Gas, Coal and Biomass Power Plant, Iron and Steel, Cement, and Chemical), and Geography (Asia-Pacific, North America, Europe, South America, and Middle-East and Africa). The Market Forecasts

are Provided in Terms of Value (USD).

Geography Analysis

North America led with 51.24% carbon capture and storage market share in 2024, supported by generous 45Q tax credits that provide USD 85 per tonne for direct air capture and USD 60 for point-source capture. The U.S. Gulf Coast concentrates emitters, pipeline corridors, and saline aquifers, enabling hub concepts like ExxonMobil's proposed USD 100 billion Houston Ship Channel network. Canada complements the region with an investment tax credit of 60% for DAC equipment and 50% for other capture systems, spurring joint ventures such as Strathcona Resources and Canada Growth Fund's USD 2 billion partnership. Mexico positions itself as a cross-border transport partner, exploring shared storage solutions in depleted offshore fields.

Europe is projected to post the fastest CAGR at 26.64% between 2025-2030, underpinned by the Innovation Fund, the EU ETS, and Norway's pioneering Longship project, which began CO? injection at Northern Lights in 2025. Germany's draft CCS law removes the onshore storage ban and unlocks the North German Basin, while the Netherlands advances the Porthos hub and the UK pushes HyNet and Teesside clusters. Cross-border transport agreements are maturing, and shared infrastructure lowers unit costs for smaller industrial emitters. The combination of carbon pricing, border tariffs, and dedicated public grants accelerates private investment, ensuring that Europe closes the gap with early-moving North America.

Asia-Pacific represents the largest long-term upside, driven by China's 2060 neutrality pledge and the first oxy-fuel cement demonstration in 2025, which validated technology fit for regional process industries. Japan is co-developing shipping routes with Australia for liquefied CO?, linking heavy industrial zones with offshore storage in the Bonaparte Basin . Indonesia targets 15 CCS projects by 2030, leveraging abundant deep-saline aquifers, while South Korea's Green New Deal earmarks CCS expenditure across steel and petrochemicals. The region, however, grapples with fragmented regulations and access to affordable finance, factors that may delay full-scale take-off until post-2030.

List of Companies Covered in this Report:

Air Liquide / Aker Solutions / Baker Hughes / Carbon Clean / CF Industries Holdings, Inc. / Climeworks / Dakota Gasification Company / ENEOS Xplora Inc. / Equinor ASA / Exxon Mobil Corporation / Fluor Corporation / General Electric Company / Halliburton / Honeywell International LLC / Linde plc / MITSUBISHI HEAVY INDUSTRIES, LTD. / Occidental Petroleum Corporation / Shell plc / Siemens Energy / SLB Capturi / Svante Technologies Inc / TotalEnergies /

Additional Benefits:

 The market estimate (ME) sheet in Excel format /
3 months of analyst support /

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