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Carbon Capture and Sequestration Market Forecasts to 2032 – Global Analysis By Source (Power Generation, Natural Gas Processing, Cement Production, Iron & Steel Manufacturing, Fertilizer Production, Chemical Processing, Bioenergy with CCS (BECCS) and Other Sources), Technology, Service, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Carbon Capture and Sequestration Market is accounted for $5.04 billion in 2025 and is expected to reach $18.18 billion by 2032 growing at a CAGR of 20.1% during the forecast period. Carbon Capture and Sequestration (CCS) is a climate mitigation strategy involving the capture of carbon dioxide (CO?) emissions from industrial sources or directly from the atmosphere. The captured CO? is compressed, transported, and securely stored in geological formations such as depleted oil fields or deep saline aquifers. CCS helps reduce greenhouse gas concentrations and supports decarbonization goals across energy, manufacturing, and chemical sectors. It is a critical tool for achieving net-zero emissions and enhancing long-term environmental sustainability.

Market Dynamics:

Driver:

Government and corporate commitments to decarbonization

As nations enforce net-zero targets and climate regulations, industries are under pressure to reduce emissions from hard-to-abate sectors like cement, steel, and

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chemicals. CCS technologies offer a viable pathway to meet these mandates without overhauling existing infrastructure. Additionally, corporate ESG strategies and investor expectations are driving increased adoption of carbon mitigation solutions, positioning CCS as a cornerstone of industrial sustainability.

Restraint:

Limited transport and storage networks

The expansion of CCS is hindered by limited availability of transport and storage infrastructure. While capture technologies are advancing, the lack of widespread CO? pipeline networks and suitable geological formations restricts deployment. Many regions face logistical challenges in connecting emission sources to storage sites, especially offshore or deep saline aquifers. Regulatory hurdles and permitting delays further complicate infrastructure development, making scalability difficult and increasing project timelines and costs.

Opportunity:

Emerging economies and industrial hubs

Emerging economies and industrial hubs present significant growth potential for CCS deployment. Countries in Asia-Pacific, Latin America, and the Middle East are investing in decarbonization technologies to align with global climate goals. Rapid industrialization and rising energy demand in these regions create a favorable environment for CCS integration. Moreover, international funding mechanisms and technology transfer initiatives are supporting pilot projects and capacity-building, enabling these markets to leapfrog into large-scale CCS adoption.

Threat:

Competition from alternative decarbonization technologies

As solar, wind, and green hydrogen become more cost-effective and scalable, industries may opt for cleaner energy sources over carbon capture retrofits. Additionally, public and policy support often favors low-carbon alternatives with fewer environmental risks, potentially diverting investment away from CCS. This shift could limit CCS’s role in future climate strategies unless its cost and efficiency improve.

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Covid-19 Impact:

The COVID-19 pandemic had a mixed impact on the CCS market. While initial disruptions in supply chains and project financing slowed progress, the crisis also underscored the importance of resilient and sustainable infrastructure. Governments prioritized green recovery packages, many of which included CCS funding and incentives. Remote operations and digital monitoring tools gained traction, improving project efficiency.

The power generation segment is expected to be the largest during the forecast period

The power generation segment is expected to account for the largest market share during the forecast period as fossil-fuel-based power plants remain major contributors to global CO? emissions, making them prime candidates for carbon capture retrofits. Utilities are increasingly integrating CCS to comply with emission regulations and extend the viability of existing assets. The sector benefits from established infrastructure and economies of scale, enabling cost-effective deployment of capture and storage technologies.

The pre-combustion capture segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the pre-combustion capture segment is predicted to witness the highest growth rate. This technology, commonly used in integrated gasification combined cycle (IGCC) plants, allows CO? to be removed before fuel combustion, resulting in higher capture efficiency and lower energy penalties. Advances in solvent chemistry and process integration are enhancing its commercial viability. Its compatibility with hydrogen production and industrial applications further supports its rapid growth trajectory.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share driven by strong policy support, mature infrastructure, and active industry participation. The U.S. leads with initiatives like the 45Q tax credit and large-scale projects such as Petra Nova and the Illinois Industrial CCS. Canada also supports CCS through federal funding and partnerships. The region’s robust oil and gas industry provides synergies for enhanced oil recovery (EOR) applications.

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Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR owing to continued investment in carbon removal technologies, expansion of pipeline networks, and integration with clean hydrogen and DAC projects are fueling growth. Public-private collaborations and regional hubs are accelerating deployment, while evolving climate policies ensure long-term market stability. The region's leadership in innovation and commercialization makes it a hotspot for CCS expansion.

Key players in the market

Some of the key players in Carbon Capture and Sequestration Market include Occidental Petroleum, ExxonMobil, Chevron, Shell, TotalEnergies, Equinor, Aker Carbon Capture, Carbon Clean, Svante, Climeworks, Global Thermostat, Linde, Air Liquide, Mitsubishi Heavy Industries, Honeywell UOP, Baker Hughes, and Schlumberger

Key Developments:

In July 2025, Climeworks raised US$162 million in equity funding the largest carbon-removal investment of 2025 to date pushing its total funding past US$1 billion. The funds will accelerate scaling of its DAC platform and technology development. This shows strong investor confidence in Climeworks' growth trajectory.

In July 2025, Shell Catalysts & Technologies and Technip Energies signed a global alliance agreement to exclusively deliver post-combustion amine-based carbon capture solutions using Shell's CANSOLV® system. This alliance pairs Shell's capture-technology IP with Technip's project engineering and delivery strength, aiming to make CCS more investable and scalable.

In June 2025, Climeworks and SAP entered a strategic alliance: SAP will secure ~37,000 tons of carbon removal credits via Climeworks' portfolio of DAC, biochar & rock-weathering until 2034. The partnership also involves co-creation of ERP-centric carbon removal tools and Climeworks adopting SAP's enterprise platform for scaling.

Sources Covered:

Power Generation

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- Natural Gas Processing
- Cement Production
- Iron & Steel Manufacturing
- Fertilizer Production
- Chemical Processing
- Bioenergy with CCS (BECCS)
- Other Sources

Technologies Covered:

- Pre-Combustion Capture
- Post-Combustion Capture
- Oxy-Fuel Combustion
- Direct Air Capture (DAC)
- Industrial Separation
- Other Technologies

Services Covered:

- Capture as a Service
- CO? Transport
- Storage
- Utilization

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- Other Services

End Users Covered:

- Enhanced Oil Recovery
- Dedicated Geological Storage
- Carbon Utilization
- Other End Users

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe

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- Asia Pacific
  - Japan
  - China
  - India
  - Australia
  - New Zealand
  - South Korea
  - Rest of Asia Pacific
- South America
  - Argentina
  - Brazil
  - Chile
  - Rest of South America
- Middle East & Africa
  - Saudi Arabia
  - UAE
  - Qatar
  - South Africa
  - Rest of Middle East & Africa

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What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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