

# Carbon Capture and Sequestration Market Growth Accelerates with Net-Zero Commitments

*Carbon Capture and Sequestration Market to Reach \$6.6 Billion by 2034, Driven by Clean Energy Investments*

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According to a new report published by Allied Market Research, the [carbon capture and sequestration \(CCS\)](#)

[market](#) size was valued at \$3.7 billion in 2024 and is projected to reach \$6.6 billion by 2034, growing at a CAGR of 5.8% from 2025 to 2034. With global economies prioritizing net-zero emissions, CCS has become a crucial technology in the fight against climate change.



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Carbon Capture and Sequestration Market to hit \$6.6B by 2034, fueled by clean energy funding, net-zero targets, and industrial adoption. ”

*Allied Market Research*

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Introduction to CCS

Carbon capture and sequestration is a process designed to reduce greenhouse gas emissions by capturing carbon dioxide (CO<sub>2</sub>) from industrial sources and power plants, transporting it, and safely storing it underground in

geological formations. By preventing CO<sub>2</sub> from entering the atmosphere, CCS helps mitigate global warming and supports energy-intensive industries in meeting emission reduction goals.

CCS is especially valuable for hard-to-abate sectors such as cement, steel, chemicals, and fossil-fuel power generation—industries where renewable alternatives are not yet fully scalable.

Key Findings

By Type – The “other” segment accounted for two-thirds of the market share in 2024.

By Technology – Pre-combustion capture will see the fastest growth (CAGR 5.9%).

By End-Use Industry – Power generation leads with projected CAGR of 6.9%, highlighting its role in global decarbonization.

By Region – Asia-Pacific dominates growth, driven by industrial demand and supportive climate policies.

## Market Dynamics

### □ Growth Drivers

The rise in [clean energy infrastructure](#) investments is fueling the adoption of CCS. Governments and private companies are injecting billions into scaling the technology.

The U.S. Department of Energy allocated \$1.3 billion for CCS projects, supporting shared CO<sub>2</sub> transport and storage infrastructure.

Companies like Microsoft are investing in carbon removal agreements, including partnerships with Louisiana-based projects and pulp & paper industries.

Such large-scale commitments enhance cost-effectiveness, strengthen scalability, and position CCS as a central pillar of the low-carbon economy.

### □ Challenges

Despite its promise, CCS faces hurdles:

Limited geological storage sites meeting depth and porosity requirements.

High costs and technical complexity in evaluating and maintaining storage reservoirs.

Concerns over long-term safety and leakage risks, which require strict monitoring.

These barriers may slow widespread adoption unless offset by policy support and technological innovation.

### □ Opportunities

The global shift to clean energy is creating strong opportunities for the CCS market:

Integration with hydrogen and bioenergy (BECCS) to reduce emissions.

Shared CCS hubs and clusters, allowing multiple industries to share pipelines and storage.

Public-private investments in large-scale CO<sub>2</sub> infrastructure, reducing financial barriers.

With climate policies tightening and industrial decarbonization accelerating, CCS is poised to play a critical role in global climate strategies.

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## Segments Overview

The carbon capture and sequestration market is segmented into type, technology, end-use industry, and region.

### □ By Type

Ocean sequestration

Terrestrial sequestration

Others

The terrestrial sequestration segment is projected to grow at the fastest CAGR of 6.1%. Strategies like afforestation, reforestation, and improved land management are gaining traction as nature-based carbon storage solutions.

### □ By Technology

Pre-combustion capture

Post-combustion capture

Oxy-fuel combustion capture

Others

Pre-combustion capture is anticipated to grow at a CAGR of 5.9%, driven by rising adoption of Integrated Gasification Combined Cycle (IGCC) plants and demand for efficient early-stage CO<sub>2</sub> removal methods.

## □ By End-Use Industry

Oil & Gas

Power Generation

Iron & Steel

Cement

Others

The power generation sector will expand at the fastest CAGR of 6.9%, as fossil fuel plants adopt CCS to cut emissions and comply with strict government regulations.

## Regional Insights

The CCS market is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

Asia-Pacific is expected to grow at the fastest CAGR of 6.7% during the forecast period.

Factors include rapid industrialization, high energy demand, and strong government support in countries like China and India.

Rising investments in CCS hubs, storage facilities, and large-scale pilot projects position Asia-Pacific as the leading CCS adopter in the coming decade.

## Competitive Landscape

Major players in the global [carbon capture and sequestration industry](#) include:

Siemens AG

Fluor Corporation

ExxonMobil Corporation

Chevron Corporation

Air Liquide

Linde Plc

Mitsubishi Heavy Industries Ltd.

China National Petroleum Corporation (CNPC)

Carbon Engineering Ltd.

These companies are investing in technology innovation, pilot projects, and large-scale CCS infrastructure to expand adoption and reduce costs.

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Conclusion

The carbon capture and sequestration market is set to nearly double by 2034, reaching \$6.6 billion, as nations and industries adopt CCS to meet net-zero emission targets. While storage limitations and high costs remain challenges, strong investments, government policies, and industrial applications will ensure CCS plays a vital role in the energy transition.

By enabling deep decarbonization for heavy industries and power generation, CCS is emerging as an indispensable tool in achieving global climate goals.

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