

Point-Source Carbon Capture Market Forecasts to 2034 – Global Analysis By Capture Technology (Post-Combustion Capture, Pre-Combustion Capture and Oxy-Fuel Combustion Capture), Capture Medium, Deployment Scale, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Point-Source Carbon Capture Market is accounted for \$7.2 billion in 2026 and is expected to reach \$18.7 billion by 2034 growing at a CAGR of 12.6% during the forecast period. Point-source carbon capture is a technology that directly captures carbon dioxide emissions from concentrated industrial sources such as power plants, cement factories, steel mills, and chemical facilities before atmospheric release. The captured carbon dioxide is compressed, transported, and stored underground or reused in various industrial applications effectively. It contributes to emission reduction, climate mitigation, and supports decarbonization of hard-to-abate sectors globally. It is widely considered an effective solution for reducing emissions while enabling continued use of fossil fuel-based energy systems during the global transition toward cleaner and more sustainable energy pathways worldwide supporting long-term climate goals effectively across industries globally.

According to the International Energy Agency (IEA), global carbon capture, utilization, and storage (CCUS) capacity reached about 50 million tonnes of CO₂ per year in 2023, with point-source capture from industrial facilities and power generation accounting for the majority of this capacity.

Market Dynamics:

Driver:

Stringent climate regulations and emission policies

The growth of the point-source carbon capture market is largely supported by strict environmental regulations and emission reduction policies enforced worldwide. Regulatory authorities are implementing carbon taxes, emission limits, and sustainability mandates that push industries to control greenhouse gas releases. Sectors like cement, steel, and energy production face increasing compliance pressure due to decarbonization goals. As a result, carbon capture solutions are becoming necessary for operational continuity. Rising costs of emissions and stricter enforcement encourage industries to invest in capture technologies to meet legal requirements, reduce environmental impact, and support global climate change mitigation efforts effectively and consistently.

Restraint:

High capital and operational costs

The adoption of point-source carbon capture is significantly restricted by high installation and operating costs. Building capture facilities requires major investment in specialized equipment, integration systems, and storage infrastructure. Additionally, running these systems demands large amounts of energy, increasing ongoing expenses. These financial challenges create barriers, especially for smaller industries with limited budgets. Uncertainty regarding long-term profitability further discourages investment decisions. Many organizations hesitate to implement carbon capture due to cost-related risks. Consequently, the overall expense burden acts as a major limiting factor, slowing down large-scale deployment and market expansion of carbon capture technologies worldwide across industries.

Opportunity:

Expansion of industrial decarbonization projects

Rising global efforts toward decarbonizing industrial sectors are creating strong growth opportunities for point-source carbon capture. Energy-intensive industries like cement, steel, chemicals, and refining face increasing pressure to lower emissions but have limited alternatives to carbon capture. As a result, large-scale decarbonization initiatives are being implemented across various regions. Companies are upgrading existing facilities with carbon capture systems to meet sustainability goals. This shift is driving

significant demand for capture technologies, allowing industries to maintain productivity while reducing carbon footprints. Consequently, industrial decarbonization trends are accelerating market expansion and supporting long-term adoption of carbon capture solutions worldwide.

Threat:

Competition from alternative decarbonization technologies

A major threat to the point-source carbon capture market is the rise of competing low-carbon technologies such as renewable energy, electrified industrial systems, green hydrogen, and efficiency improvements. These solutions focus on preventing emissions instead of capturing them afterward. As they become more affordable and widely available, industries may shift preference toward these direct decarbonization methods. Policy support for renewable-based solutions further strengthens this trend. In many cases, these alternatives offer simpler and more cost-effective pathways to reduce emissions. Consequently, increasing competition from other clean technologies may slow the adoption and expansion of carbon capture systems worldwide.

Covid-19 Impact:

The COVID-19 pandemic influenced the point-source carbon capture market in both negative and positive ways. In the early stages, widespread lockdowns, halted industrial operations, and disrupted supply chains led to delays in carbon capture projects and reduced investments. Companies prioritized financial stability over sustainability initiatives, slowing market progress. However, the crisis also highlighted the importance of environmental resilience and encouraged stronger long-term climate commitments. Several governments introduced stimulus programs supporting clean energy technologies, indirectly benefiting carbon capture development. As industries recovered, investments resumed gradually, but project execution delays impacted overall market growth and slowed short-term expansion globally.

The post-combustion capture segment is expected to be the largest during the forecast period

The post-combustion capture segment is expected to account for the largest market share during the forecast period because it can be easily applied across a wide range of existing industrial plants. It works by removing carbon dioxide from flue gases after fuel combustion, making it highly suitable for sectors such as power generation, cement,

and steel. One of its key advantages is that it can be integrated into current facilities without requiring major operational changes. Ongoing advancements in capture materials and separation technologies further improve its performance. Due to its flexibility, scalability, and compatibility with existing infrastructure, this segment continues to lead market adoption globally across industries.

The chemicals & petrochemicals segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the chemicals & petrochemicals segment is predicted to witness the highest growth rate due to its substantial emission levels and strong decarbonization requirements. Many production processes in this sector release unavoidable carbon dioxide, making emission reduction through conventional methods challenging. Carbon capture offers an effective solution to address these process emissions. Increasing demand for environmentally friendly chemicals, fertilizers, and fuels is further driving adoption. In addition, sustainability initiatives and investments in cleaner production technologies are boosting implementation. As global climate commitments strengthen, this sector is expected to witness rapid growth in carbon capture deployment.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share owing to its robust policy framework, advanced industrial base, and high investment levels in emission reduction technologies. Supportive regulations, including financial incentives and tax credits, encourage widespread adoption of carbon capture solutions. The region's strong industrial presence across sectors like energy, chemicals, cement, and oil and gas further boosts demand. Ongoing development of large-scale carbon capture and storage projects enhances market growth. In addition, continuous innovation and collaboration between government bodies and private companies strengthen the region's leadership position, making North America the dominant market for carbon capture technologies globally.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, driven by rapid industrial expansion, rising energy consumption, and increasing focus on emission reduction. Major economies such as China, India, Japan, and South Korea are actively investing in carbon capture solutions to address emissions from

heavy industries like power, steel, cement, and chemicals. Strong government support, net-zero targets and favorable regulatory policies are further boosting adoption. The region's large industrial base and ongoing infrastructure growth also contribute significantly. Moreover, international collaborations and investments are accelerating technology deployment, supporting strong market growth across Asia Pacific.

Key players in the market

Some of the key players in Point-Source Carbon Capture Market include Exxon Mobil, Mitsubishi Heavy Industries, Ltd., Linde PLC, Halliburton, Huaneng, BASF, General Electric, Siemens AG, Honeywell UOP, Sulzer, Equinor, Shell, JX Nippon (ENEOS), Sinopec, Fluor Corporation, Aker Carbon Capture, SLB (Schlumberger) and Carbon Clean.

Key Developments:

In April 2026, ExxonMobil strengthens collaboration with QatarEnergy to expand international LNG partnership portfolio. The enhanced partnership with QatarEnergy signals ExxonMobil's intent to secure long-term supply stability and expand its international LNG portfolio, showing how major players position themselves to meet energy needs, technological developments, and market growth.

In November 2025, Mitsubishi Heavy Industries, Ltd. and ICM, Inc. have entered into a strategic alliance to accelerate innovation in ethanol dehydration. The collaboration focuses on integrating MHI's Mitsubishi Membrane Dehydration System (MMDS™) with ICM's bioethanol process design. Together, the companies aim to increase efficiency in ethanol production by reducing energy consumption, enhancing process reliability, and supporting the industry's efforts to lower carbon intensity.

In July 2025, BASF and Equinor have signed a long-term strategic agreement for the annual delivery of up to 23 terawatt hours of natural gas over a ten-year period. The contract secures a substantial share of BASF's natural gas needs in Europe. This agreement further strengthens our partnership with BASF. Natural gas not only provides energy security to Europe but also critical feedstock to European industries.

Capture Technologies Covered:

Post-Combustion Capture

Pre-Combustion Capture

Oxy-Fuel Combustion Capture

Capture Mediums Covered:

Solvent-Based Systems

Solid Sorbents

Membrane Separation

Deployment Scales Covered:

Large-Scale Industrial Facilities

Mid-Scale Manufacturing Plants

Small-Scale Distributed Units

End Users Covered:

Power Generation

Cement & Concrete

Iron & Steel

Chemicals & Petrochemicals

Oil & Gas Refining

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

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

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

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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

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