

# **Global Smart Carbon Market Size Study & Forecast, by Source (Oil & Gas, Power Generation, Chemicals & Petrochemicals, Cement, Iron & Steel, Others), By Technology (Chemical Looping Combustion (CLC), Solvents & Sorbents, Bio-Energy CCS (BECCS), Direct Air Capture (DAC)), By Application (Urea Manufacturing, Synthetic Fuel, Chemical Production, Building Aggregates, Dry Ice, Others), and Regional Analysis, 2023-2030**

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## **Abstracts**

Global Smart Carbon Market is valued at approximately USD 3.60 billion in 2022 and is anticipated to grow with a healthy growth rate of more than 16.2% over the forecast period 2023-2030. Smart carbon is a technique of using Carbon Capture and Storage (CCS) and other technologies to minimize greenhouse gas emissions. Carbon dioxide from industrial emissions, power plants, and other sources is captured utilizing smart carbon technology. The trapped carbon is subsequently buried or utilized to make other products, including fuels and chemicals, depending on the situation. Smart carbon is a potential technology in order to lessen greenhouse gas emissions and combat climate change. The increasing focus on climate change mitigation, rising government regulations, surging adoption of CCS technologies are the key factors that are augmenting the market demand across the globe.

The surging demand for renewable energy is having a considerable positive impact on the smart carbon market. Smart carbon technologies are used to store renewable energy, such as solar and wind power, which ensures that renewable energy is available when it is needed. For instance, according to the 2021 report from the IEA (a

France-based international energy agency), renewable energy is predicted to draw 70% of all energy investment globally in 2021, with the majority of investment going to the power and end-use sectors, shifting away from conventional fossil fuel production. Therefore, increased expenditure on renewable energy sources are anticipated to fuel the Smart Carbon market at a considerable rate. Moreover, the increasing development of new smart carbon technologies, as well as rising research and development (R&D) activities present various lucrative opportunities over the forecast years. However, the high cost of smart carbon technologies and the lack of storage sites are challenging the market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Smart Carbon Market study include Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. North America dominated the market in 2022 with largest market share because the region has several high-capacity carbon capture and sequestration plants, major expenditures in research and development, and other factors. Additionally, the region's economy is being driven by financial efforts by the local governments. In June 2021, The US Department of Energy (DoE) announced USD 12 million in government funding with the aim of promoting six research and development programs pushing direct air capture (DAC) technology to create new instruments for effectively removing CO<sub>2</sub> from the environment. Whereas, Asia Pacific region is expected to be a fastest growing region over the forecast years. The presence of high-volume storage sites, mostly found in subsea oil and gas reservoirs with EOR activities, along with supportive government measures are projected to strengthen the market demand across the region.

Major market players included in this report are:

Aker Solutions

Dakota Gasification Company

Equinor ASA

Fluor Corporation

Linde plc

Maersk Oil

Mitsubishi Heavy Industries Ltd.

Siemens AG

Honeywell International

Exxon Mobil Corporation

Recent Developments in the Market:

In August 2022, Shell PLC acquired Sprang Energy Group, a provider of renewable energy with a goal of reducing carbon emissions. The acquisition is intended to increase Shell PLC's market share and potential for carbon capture and storage.

In June 2022, ExxonMobil Corporation declared that the company collaborated with Shell and the Guangdong Provincial Development and Reform Commission to assess the viability of a carbon capture and storage project at the Dayawan petrochemical industrial park in Huizhou, China.

Global Smart Carbon Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered - Source, Technology, Application, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analyst's working hours) with purchase. Addition or alteration to country, regional &

## segment scope\*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

### By Source:

Oil & Gas

Power Generation

Chemicals & Petrochemicals

Cement

Iron & Steel

Others

### By Technology:

Chemical Looping Combustion (CLC)

Solvents & Sorbents

Bio-Energy CCS (BECCS)

Direct Air Capture (DAC)

### By Application:

Urea Manufacturing

Synthetic Fuel

Chemical Production

Building Aggregates

Dry Ice

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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