

Decarbonization Market Forecasts to 2030 – Global Analysis By Service (Carbon Accounting and Reporting Services, Waste Reduction and Circular Economy Services and Sustainable Transportation Services), Renewable Energy, Technology, Deployment, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Decarbonization Market is accounted for \$355.3 billion in 2024 and is expected to reach \$779.9 billion by 2030 growing at a CAGR of 14.0% during the forecast period. Decarbonization is the process of reducing or eliminating carbon dioxide (CO₂) and other greenhouse gas emissions from various sectors, particularly energy, transportation, and industry. It involves transitioning to low-carbon or renewable energy sources, improving energy efficiency, and adopting cleaner technologies. The goal of decarbonization is to mitigate climate change by decreasing the carbon footprint of human activities. This shift is essential for achieving global climate targets, such as those outlined in the Paris Agreement, and for ensuring a sustainable and resilient future for the planet.

Market Dynamics:

Driver:

Increasing corporate sustainability initiatives

Corporate sustainability initiatives in the market are growing as businesses recognize the need to reduce their environmental impact. Companies are adopting cleaner technologies, investing in renewable energy, improving energy efficiency, and setting

net-zero emissions targets. These efforts not only help mitigate climate change but also enhance brand reputation, attract environmentally-conscious consumers, and comply with regulatory pressures. Increased commitment to sustainability is driving innovation and creating new opportunities in the market.

Restraint:

Lack of public awareness and support

A lack of public awareness and support in the market can hinder the adoption of renewable energy technologies and sustainable practices. Without broad understanding, people may resist necessary policy changes or investments in green solutions, slowing down progress. This can lead to continued reliance on fossil fuels, delay climate action, and reduce the effectiveness of government incentives, ultimately undermining efforts to meet carbon reduction targets and mitigate climate change.

Opportunity:

Advancements in renewable energy technologies

Recent advancements in renewable energy technologies, such as enhanced solar panels, offshore wind farms, and advanced energy storage systems, are accelerating the market. Innovations like perovskite solar cells and floating wind turbines increase efficiency and scalability. Additionally, breakthroughs in hydrogen production and carbon capture technologies contribute to reducing emissions, enabling industries to transition to cleaner energy sources. These developments are crucial for achieving global climate targets.

Threat:

Economic challenges and budget constraints

Economic challenges and budget constraints can severely impact the market by limiting investment in renewable energy projects, technology development, and infrastructure upgrades. Governments and businesses may struggle to fund green initiatives, slowing the transition to cleaner energy. Additionally, financial limitations can lead to reduced research and innovation, making it harder to scale up sustainable solutions and reach climate goals, ultimately prolonging dependence on fossil fuels and delaying decarbonization efforts.

Covid-19 Impact:

The COVID-19 pandemic disrupted the market by causing delays in renewable energy projects, supply chain disruptions, and reduced investments in green technologies. While emissions temporarily dropped due to global lockdowns, economic uncertainty and budget constraints slowed the transition to cleaner energy. However, it also highlighted the need for resilient, sustainable energy systems, prompting governments to consider green recovery plans, potentially accelerating long-term decarbonization efforts post-pandemic.

The solar energy segment is expected to be the largest market share during the forecast period

The solar energy segment is expected to account for the largest market share during the forecast period. Advances in solar technology, such as more efficient panels and energy storage solutions, have lowered costs and increased scalability. As a result, solar power is rapidly being adopted globally, contributing to reduced carbon footprints, energy independence, and sustainable economic growth. It's a key driver in achieving climate targets and promoting clean energy transitions.

The energy and utility segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the energy and utility segment is predicted to witness the highest growth rate as they drive the shift from fossil fuels to renewable energy sources like wind, solar, and hydro. Utilities are investing in cleaner grids, energy storage, and smart technologies to enhance efficiency and reduce emissions. This transformation requires substantial infrastructure upgrades, policy support, and innovation to ensure a sustainable, low-carbon energy future, while meeting rising global energy demands.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share. The U.S. and Canada are investing in renewable energy sources, electric vehicles, and carbon capture technologies. State and federal incentives support clean energy transitions, while corporate sustainability goals accelerate market adoption. However, challenges such as infrastructure upgrades, political differences, and economic pressures remain in the region's decarbonization efforts.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. Countries like China, India, Japan, and Australia are investing heavily in renewable energy sources like solar, wind, and hydropower. These nations are aiming to shift away from fossil fuels in favour of cleaner energy. Additionally, there is a growing emphasis on green bonds and sustainable investments in APAC. Investors are increasingly looking for opportunities in low-carbon projects, and governments are providing incentives for green projects.

Key players in the market

Some of the key players in Decarbonization market include Tesla, Orsted, NextEra Energy, Enel Green Power, Siemens, Schneider Electric, Mitsubishi Heavy Industries, Deloitte, Brookfield Renewable Partners, General Electric, Dominion Energy, BP, Shell, LanzaTech, TotalEnergies, Microsoft and Google.

Key Developments:

In January 2025, Google (GOOGL.O), opens new tab will buy carbon credits from an Indian initiative that turns large amounts of agricultural waste into biochar # a form of charcoal that removes carbon dioxide from the atmosphere and returns it to the soil. The deal # signed by Google and Indian supplier Varaha # is one of the biggest ever involving biochar, and is the tech giant's first foray into India's carbon dioxide removal (CDR) sector.

In October 2024, LanzaTech and Eramet announced plans for first-of-a-kind integrated Carbon Capture, Utilization and Storage (CCUS) project in Norway. The plant will produce ethanol and is expected to begin operations in 2028. Eramet will supply furnace gas as feedstock to the facility from the Porsgrunn Manganese Alloys smelter but will not participate in its financing.

Services Covered:

Carbon Accounting and Reporting Services

Waste Reduction and Circular Economy Services

Sustainable Transportation Services

Renewable Energies Covered:

Solar Energy

Wind Energy

Hydropower

Geothermal Energy

Biomass and Bioenergy

Technologies Covered:

Renewable Energy Technologies

Carbon Capture and Storage (CCS)

Energy Efficiency Solutions

Carbon Removal Technologies

Electric Vehicles (EVs)

Deployments Covered:

On-Premises

Cloud

End Users Covered:

Oil & Gas

Manufacturing

Energy and Utility

Aerospace & Defense

Agriculture

Automotive & Transportation

Government

Other End Users

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

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

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 2022, 2023, 2024, 2026, and 2030
- 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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