

Carbon Neutral Data Center Market Outlook 2025-2034: Market Share, and Growth Analysis By Data Center Type (Hyperscale Data Centers, Enterprise Data Centers, Colocation Data Centers, Other Data Center Types), By Solution (Hardware, Software and Platform, Support Service), By Industry

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Abstracts

The Carbon Neutral Data Center Market is valued at USD 9.6 billion in 2025 and is projected to grow at a CAGR of 20.2% to reach USD 50.1 billion by 2034. Carbon-neutral data centers represent a sustainable approach to managing the growing demand for digital infrastructure. By balancing carbon emissions through renewable energy sources, carbon credits, and energy-efficient technologies, these facilities aim to operate with minimal environmental impact. The rise of data-intensive applications, including cloud computing, streaming services, and artificial intelligence, has underscored the need for data centers to become more sustainable. As a result, the carbon-neutral data center market is emerging as a key component of the global drive toward greener IT operations. The market is gaining momentum as more companies pledge to achieve net-zero emissions. Leading tech firms, including hyperscale data center operators, have committed to powering their facilities with 100% renewable energy, incorporating advanced cooling solutions, and exploring innovations like carbon-capture technologies. In addition, governments and industry groups are supporting this transition through incentives, carbon pricing, and stricter regulations on energy efficiency. These initiatives have created a favorable environment for the growth of carbon-neutral data centers. However, challenges persist in achieving true carbon neutrality. High upfront costs for renewable energy installations, limited access to renewable energy grids in certain regions, and the complexity of tracking and verifying carbon offsets pose hurdles for data center operators. Despite these obstacles,

continued investment in renewable infrastructure, ongoing innovation in energy-efficient technologies, and robust carbon accounting standards are expected to drive the market forward, making carbon-neutral data centers an increasingly attainable goal.

Key Insights Carbon Neutral Data Center Market

- Increased adoption of renewable energy sources, such as solar and wind, to power data centers. - Development of advanced energy storage solutions to ensure a consistent supply of renewable energy. - Growing interest in liquid cooling technologies to reduce energy consumption in data centers. - Greater use of artificial intelligence and machine learning to optimize energy efficiency and resource utilization. - Partnerships between data center operators, renewable energy providers, and governments to achieve sustainability goals. - Rising demand for cloud services and data storage, coupled with corporate sustainability commitments. - Government incentives and regulatory pressures encouraging the adoption of green data center practices. - Advancements in renewable energy technologies and energy-efficient data center designs. - Increasing awareness among consumers and investors, driving companies to adopt environmentally responsible practices. - High initial costs for renewable energy installations and infrastructure upgrades. - Limited renewable energy availability and grid access in certain regions. - Complexity of accurately measuring, verifying, and offsetting carbon emissions.

Carbon Neutral Data Center Market Segmentation

By Data Center Type

Hyperscale Data Centers

Enterprise Data Centers

Colocation Data Centers

Other Data Center Types

By Solution

Hardware

Software and Platform

Support Service

By Industry

IT and Telecom

Banking

Financial Services

and Insurance (BFSI)

Government or Public Sector

Healthcare

Manufacturing

Retail

Other Industries

Key Companies Analysed

3M Company

ABB Ltd.

Alibaba Group Holding Limited

Alphabet Inc.

Amazon.com Inc.

Cisco Systems Inc.

Dell Inc.

Digital Realty Trust Inc.

Eaton Corporation plc

Equinix Inc.

Fujitsu Ltd

Hewlett Packard Enterprise

The International Business Machines Corporation

Intel Corporation

Microsoft Corporation

Ark Data Centres Limited

Cologix Holdings Inc.

CyrusOne Inc.

DataBank Holdings Ltd.

Digital Fortress Inc.

Lunavi Inc.

Iron Mountain.Inc

NTT Communications Corporation

QTS Realty Trust

ServerFarm

SingleHopLLC

Sungard Availability Services LP

Switch Inc.

Telehouse America Inc.

Carbon60 Networks Inc.

Carbon Neutral Data Center Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modeling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends.

Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behavior are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

Carbon Neutral Data Center Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption.

Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

North America — Carbon Neutral Data Center market data and outlook to 2034

United States

Canada

Mexico

Europe — Carbon Neutral Data Center market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Carbon Neutral Data Center market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Carbon Neutral Data Center market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Carbon Neutral Data Center market data and outlook to 2034

Brazil

Argentina

Chile

Peru

** We can include data and analysis of additional countries on demand.*

Research Methodology

This study combines primary inputs from industry experts across the Carbon Neutral Data Center value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

Key Questions Addressed

What is the current and forecast market size of the Carbon Neutral Data Center industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

Your Key Takeaways from the Carbon Neutral Data Center Market Report

Global Carbon Neutral Data Center market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Carbon Neutral Data Center trade, costs, and supply chains

Carbon Neutral Data Center market size, share, and outlook across 5 regions and 27 countries, 2023-2034

Carbon Neutral Data Center market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Carbon Neutral Data Center market trends, drivers,

restraints, and opportunities

Porter's Five Forces analysis, technological developments, and Carbon Neutral Data Center supply chain analysis

Carbon Neutral Data Center trade analysis, Carbon Neutral Data Center market price analysis, and Carbon Neutral Data Center supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest Carbon Neutral Data Center market news and developments

Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

Complimentary report update to incorporate the latest available data and the impact of recent market developments.

** The updated report will be delivered within 3 working days*

Contents

1. TABLE OF CONTENTS

- 1.1 List of Tables
- 1.2 List of Figures

2. GLOBAL CARBON NEUTRAL DATA CENTER MARKET SUMMARY, 2025

- 2.1 Carbon Neutral Data Center Industry Overview
 - 2.1.1 Global Carbon Neutral Data Center Market Revenues (In US\$ billion)
- 2.2 Carbon Neutral Data Center Market Scope
- 2.3 Research Methodology

3. CARBON NEUTRAL DATA CENTER MARKET INSIGHTS, 2024-2034

- 3.1 Carbon Neutral Data Center Market Drivers
- 3.2 Carbon Neutral Data Center Market Restraints
- 3.3 Carbon Neutral Data Center Market Opportunities
- 3.4 Carbon Neutral Data Center Market Challenges
- 3.5 Tariff Impact on Global Carbon Neutral Data Center Supply Chain Patterns

4. CARBON NEUTRAL DATA CENTER MARKET ANALYTICS

- 4.1 Carbon Neutral Data Center Market Size and Share, Key Products, 2025 Vs 2034
- 4.2 Carbon Neutral Data Center Market Size and Share, Dominant Applications, 2025 Vs 2034
- 4.3 Carbon Neutral Data Center Market Size and Share, Leading End Uses, 2025 Vs 2034
- 4.4 Carbon Neutral Data Center Market Size and Share, High Growth Countries, 2025 Vs 2034
- 4.5 Five Forces Analysis for Global Carbon Neutral Data Center Market
 - 4.5.1 Carbon Neutral Data Center Industry Attractiveness Index, 2025
 - 4.5.2 Carbon Neutral Data Center Supplier Intelligence
 - 4.5.3 Carbon Neutral Data Center Buyer Intelligence
 - 4.5.4 Carbon Neutral Data Center Competition Intelligence
 - 4.5.5 Carbon Neutral Data Center Product Alternatives and Substitutes Intelligence
 - 4.5.6 Carbon Neutral Data Center Market Entry Intelligence

5. GLOBAL CARBON NEUTRAL DATA CENTER MARKET STATISTICS – INDUSTRY REVENUE, MARKET SHARE, GROWTH TRENDS AND FORECAST BY SEGMENTS, TO 2034

5.1 World Carbon Neutral Data Center Market Size, Potential and Growth Outlook, 2024- 2034 (\$ billion)

5.1 Global Carbon Neutral Data Center Sales Outlook and CAGR Growth By Data Center Type, 2024- 2034 (\$ billion)

5.2 Global Carbon Neutral Data Center Sales Outlook and CAGR Growth By Solution, 2024- 2034 (\$ billion)

5.3 Global Carbon Neutral Data Center Sales Outlook and CAGR Growth By Industry, 2024- 2034 (\$ billion)

5.4 Global Carbon Neutral Data Center Market Sales Outlook and Growth by Region, 2024- 2034 (\$ billion)

6. ASIA PACIFIC CARBON NEUTRAL DATA CENTER INDUSTRY STATISTICS – MARKET SIZE, SHARE, COMPETITION AND OUTLOOK

6.1 Asia Pacific Carbon Neutral Data Center Market Insights, 2025

6.2 Asia Pacific Carbon Neutral Data Center Market Revenue Forecast By Data Center Type, 2024- 2034 (USD billion)

6.3 Asia Pacific Carbon Neutral Data Center Market Revenue Forecast By Solution, 2024- 2034 (USD billion)

6.4 Asia Pacific Carbon Neutral Data Center Market Revenue Forecast By Industry, 2024- 2034 (USD billion)

6.5 Asia Pacific Carbon Neutral Data Center Market Revenue Forecast by Country, 2024- 2034 (USD billion)

6.5.1 China Carbon Neutral Data Center Market Size, Opportunities, Growth 2024-2034

6.5.2 India Carbon Neutral Data Center Market Size, Opportunities, Growth 2024-2034

6.5.3 Japan Carbon Neutral Data Center Market Size, Opportunities, Growth 2024-2034

6.5.4 Australia Carbon Neutral Data Center Market Size, Opportunities, Growth 2024-2034

7. EUROPE CARBON NEUTRAL DATA CENTER MARKET DATA, PENETRATION, AND BUSINESS PROSPECTS TO 2034

- 7.1 Europe Carbon Neutral Data Center Market Key Findings, 2025
- 7.2 Europe Carbon Neutral Data Center Market Size and Percentage Breakdown By Data Center Type, 2024- 2034 (USD billion)
- 7.3 Europe Carbon Neutral Data Center Market Size and Percentage Breakdown By Solution, 2024- 2034 (USD billion)
- 7.4 Europe Carbon Neutral Data Center Market Size and Percentage Breakdown By Industry, 2024- 2034 (USD billion)
- 7.5 Europe Carbon Neutral Data Center Market Size and Percentage Breakdown by Country, 2024- 2034 (USD billion)
 - 7.5.1 Germany Carbon Neutral Data Center Market Size, Trends, Growth Outlook to 2034
 - 7.5.2 United Kingdom Carbon Neutral Data Center Market Size, Trends, Growth Outlook to 2034
 - 7.5.2 France Carbon Neutral Data Center Market Size, Trends, Growth Outlook to 2034
 - 7.5.2 Italy Carbon Neutral Data Center Market Size, Trends, Growth Outlook to 2034
 - 7.5.2 Spain Carbon Neutral Data Center Market Size, Trends, Growth Outlook to 2034

8. NORTH AMERICA CARBON NEUTRAL DATA CENTER MARKET SIZE, GROWTH TRENDS, AND FUTURE PROSPECTS TO 2034

- 8.1 North America Snapshot, 2025
- 8.2 North America Carbon Neutral Data Center Market Analysis and Outlook By Data Center Type, 2024- 2034 (\$ billion)
- 8.3 North America Carbon Neutral Data Center Market Analysis and Outlook By Solution, 2024- 2034 (\$ billion)
- 8.4 North America Carbon Neutral Data Center Market Analysis and Outlook By Industry, 2024- 2034 (\$ billion)
- 8.5 North America Carbon Neutral Data Center Market Analysis and Outlook by Country, 2024- 2034 (\$ billion)
 - 8.5.1 United States Carbon Neutral Data Center Market Size, Share, Growth Trends and Forecast, 2024- 2034
 - 8.5.1 Canada Carbon Neutral Data Center Market Size, Share, Growth Trends and Forecast, 2024- 2034
 - 8.5.1 Mexico Carbon Neutral Data Center Market Size, Share, Growth Trends and Forecast, 2024- 2034

9. SOUTH AND CENTRAL AMERICA CARBON NEUTRAL DATA CENTER MARKET DRIVERS, CHALLENGES, AND FUTURE PROSPECTS

- 9.1 Latin America Carbon Neutral Data Center Market Data, 2025
- 9.2 Latin America Carbon Neutral Data Center Market Future By Data Center Type, 2024- 2034 (\$ billion)
- 9.3 Latin America Carbon Neutral Data Center Market Future By Solution, 2024- 2034 (\$ billion)
- 9.4 Latin America Carbon Neutral Data Center Market Future By Industry, 2024- 2034 (\$ billion)
- 9.5 Latin America Carbon Neutral Data Center Market Future by Country, 2024- 2034 (\$ billion)
 - 9.5.1 Brazil Carbon Neutral Data Center Market Size, Share and Opportunities to 2034
 - 9.5.2 Argentina Carbon Neutral Data Center Market Size, Share and Opportunities to 2034

10. MIDDLE EAST AFRICA CARBON NEUTRAL DATA CENTER MARKET OUTLOOK AND GROWTH PROSPECTS

- 10.1 Middle East Africa Overview, 2025
- 10.2 Middle East Africa Carbon Neutral Data Center Market Statistics By Data Center Type, 2024- 2034 (USD billion)
- 10.3 Middle East Africa Carbon Neutral Data Center Market Statistics By Solution, 2024- 2034 (USD billion)
- 10.4 Middle East Africa Carbon Neutral Data Center Market Statistics By Industry, 2024- 2034 (USD billion)
- 10.5 Middle East Africa Carbon Neutral Data Center Market Statistics by Country, 2024- 2034 (USD billion)
 - 10.5.1 Middle East Carbon Neutral Data Center Market Value, Trends, Growth Forecasts to 2034
 - 10.5.2 Africa Carbon Neutral Data Center Market Value, Trends, Growth Forecasts to 2034

11. CARBON NEUTRAL DATA CENTER MARKET STRUCTURE AND COMPETITIVE LANDSCAPE

- 11.1 Key Companies in Carbon Neutral Data Center Industry
- 11.2 Carbon Neutral Data Center Business Overview
- 11.3 Carbon Neutral Data Center Product Portfolio Analysis
- 11.4 Financial Analysis
- 11.5 SWOT Analysis

12 APPENDIX

12.1 Global Carbon Neutral Data Center Market Volume (Tons)

12.1 Global Carbon Neutral Data Center Trade and Price Analysis

12.2 Carbon Neutral Data Center Parent Market and Other Relevant Analysis

12.3 Publisher Expertise

12.2 Carbon Neutral Data Center Industry Report Sources and Methodology

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