

# **Green Data Center Market Forecasts to 2034 – Global Analysis By Component (Solutions and Services), Enterprise Size (Small and Medium Enterprises and Large Enterprises), End User and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Green Data Center Market is accounted for \$123.1 billion in 2026 and is expected to reach \$501.5 billion by 2034 growing at a CAGR of 19.2% during the forecast period. A green data center is a facility designed and operated with a strong focus on minimizing its environmental impact. Green data centers employ energy-efficient technologies, such as low-power servers and advanced cooling systems, to reduce overall energy consumption. Green data centers are designed to be more resilient and sustainable in the long term. The adoption of technologies like virtualization and resource optimization ensures scalability and adaptability to future technological advancements.

According to International Energy Agency (IEA), data centers account for 1 to 1.5 percent of global electricity consumption.

### **Market Dynamics:**

#### **Driver:**

Technological advancements

Technological advancements have played a crucial role in driving the growth of the green data center market. Advanced power management technologies allow data centers to optimize energy usage by dynamically adjusting power allocation based on real-time demand. This helps minimize energy waste and ensures that resources are

allocated efficiently, resulting in significant energy savings.

**Restraint:****High initial cost**

Organizations face substantial upfront investments when transitioning from traditional data center infrastructure to greener alternatives. The integration of energy-efficient hardware, advanced cooling systems, and renewable energy sources involves considerable capital expenditure, posing financial challenges, especially for smaller businesses with limited budgets. Therefore, the high initial costs represent a significant restraint in the green data center market, impeding the widespread adoption of sustainable practices.

**Opportunity:****Energy efficiency**

Green data centers employ various strategies and technologies to optimize energy usage and reduce waste. These include server virtualization, where multiple virtual servers are hosted on a single physical server, reducing the overall energy consumption. By maximizing energy efficiency, green data centers can support long-term growth without excessive energy consumption and associated costs. As a result, energy efficiency is a significant factor accelerating the market growth.

**Threat:****Limited availability**

While green data centers aim to minimize their carbon footprint by relying on renewable energy sources like solar, wind, or hydropower, the accessibility and reliability of these sources can vary across regions. Moreover, some geographic areas may face challenges in obtaining a consistent and cost-effective supply of renewable energy. This constraint hampers the feasibility of green initiatives, as data centers heavily dependent on conventional energy sources may struggle to transition to a more sustainable model.

**Covid-19 Impact**

The COVID-19 pandemic had a significant impact on the market. The growing volume

of online activities, cloud services, and digital communication has accelerated the need for robust and efficient data storage and processing capabilities. On the other hand, organizations have been forced to reevaluate their goals and budgets due to the pandemic's effects on the economy and disruptions.

The media and entertainment segment is expected to be the largest during the forecast period

The media and entertainment segment is estimated to hold the largest share. Green data centers offer a compelling solution for media and entertainment companies seeking to balance their growing computational needs with environmental responsibility. Moreover, the shift to green data centers in the media and entertainment sectors is driven by the recognition that sustainable practices not only contribute to environmental conservation but also offer long-term cost savings.

The large enterprises segment is expected to have the highest CAGR during the forecast period

The large enterprises segment is anticipated to have lucrative growth during the forecast period. With substantial computing needs and extensive data storage requirements, large enterprises are increasingly recognizing the importance of adopting green data center practices. Moreover, these organizations are investing in energy-efficient technologies, such as server virtualization, advanced cooling systems, and renewable energy sources, to optimize resource utilization and reduce overall energy consumption.

### **Region with largest share:**

North America commanded the largest market share during the extrapolated period owing to the adoption of environmentally sustainable practices. The region is characterized by a strong awareness of environmental issues, stringent regulatory frameworks, and a robust IT infrastructure, all contributing to the prominence of green data centers. As the demand for digital services continues to grow, North America remains at the forefront of adopting innovative and eco-friendly solutions in the data center sector, solidifying its position as a key player in the market.

### **Region with highest CAGR:**

Asia Pacific is expected to witness profitable growth over the projection period, owing to

the rapid digital transformation, increasing data consumption, and a growing emphasis on sustainable practices. With the proliferation of digital technologies, cloud services, and expanding internet penetration, the demand for data processing capabilities has surged across the region. Moreover, the region's diverse climate conditions also contribute to the exploration of innovative cooling solutions and renewable energy integration in green data center designs.

### **Key players in the market**

Some of the key players in the Green Data Center Market include Cisco Technology Inc., Dell EMC Inc., Hitachi Ltd, Fujitsu Ltd, IBM Corporation, Eaton Corporation, HP Development Company, Schneider Electric SE, Vertiv Corporation, ABB Group, Huawei Technologies Co.Ltd., HCL Technologies Limited, Lenovo, Microsoft Corporation and Siemens AG.

### **Key Developments:**

In October 2023, Siemens and Microsoft partner to drive cross-industry AI adoption. Companies will work together to build additional copilots for manufacturing, infrastructure, transportation, and healthcare industries.

In April 2023, Siemens Digital Industries Software and IBM announced they are expanding their long-term partnership by collaborating to develop a combined software solution integrating their respective offerings for systems engineering, service lifecycle management and asset management.

In March 2022, Lenovo, an industry leader in PCs, storage and server performance and reliability and Kyndryl the world's largest IT infrastructure services provider announced an expansion of their global partnership to develop and deliver scalable hybrid cloud solutions and edge computing implementations.

### **Components Covered:**

Solutions

Services

### **Enterprise Sizes Covered:**

Small and Medium Enterprises

Large Enterprises

End Users Covered:

Healthcare

BFSI

Media and Entertainment

IT & Telecom

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

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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 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

### **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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