

Green Data Centers Market Forecasts to 2034 – Global Analysis By Software (Data Center Infrastructure Management (DCIM), Building Management Systems and Compliance & Monitoring Tools), Infrastructure, Services, Enterprise Size, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Green Data Centers Market is accounted for \$57.12 billion in 2026 and is expected to reach \$229.70 billion by 2034 growing at a CAGR of 19.0% during the forecast period. Green data centers are designed to deliver robust digital infrastructure with a strong emphasis on sustainability and energy efficiency. They rely on optimized hardware, smart cooling mechanisms, and automated power controls to cut down overall energy usage. Many facilities shift toward renewable power sources, helping reduce dependence on fossil fuels and limit greenhouse gas emissions. Techniques such as virtualization, consolidation, and AI-based monitoring improve server utilization and reduce excess equipment. Additionally, efficient water usage and green construction materials contribute to lower environmental impact. These centers enable organizations to reduce costs, meet sustainability targets, and support expanding digital workloads responsibly.

According to ITU & World Bank (2023), Data centers consume 1–1.5% of global electricity, with projections showing rapid growth unless sustainability measures are adopted. Green data centers can cut energy use by 40% through renewable energy, efficient cooling, and optimized IT infrastructure.

Market Dynamics:

Driver:

Rising energy consumption and cost reduction pressure

Expanding digital services such as cloud platforms and data-intensive applications have sharply increased the power requirements of modern data centers. Growing energy bills and operational costs are compelling organizations to seek more efficient alternatives. Green data centers focus on minimizing power consumption through optimized hardware, smart energy monitoring, and efficient cooling technologies. These measures help reduce electricity expenses while improving overall system performance. Lower energy usage also enhances operational efficiency and long-term profitability. As energy prices remain volatile and continue to rise, cost optimization through sustainable data center practices is becoming a major factor accelerating the adoption of green data centers.

Restraint:

High initial capital investment

The development of green data centers involves high upfront costs driven by the need for efficient hardware, innovative cooling technologies, and renewable energy systems. Investments in smart power management, eco-friendly construction, and advanced monitoring tools raise initial capital requirements. Many smaller organizations struggle to justify these expenses due to limited financial resources. Extended return-on-investment timelines further reduce willingness to adopt sustainable infrastructure. Although operating costs may decline over time, the substantial initial financial burden continues to act as a key barrier, restricting faster adoption of green data center solutions.

Opportunity:

Growing demand for cloud computing and hyperscale data centers

Increasing adoption of cloud services and large-scale digital platforms is opening major opportunities for green data centers. Hyperscale facilities consume vast amounts of energy, making sustainability a critical priority. Environmentally efficient designs help providers expand capacity while controlling emissions and costs. Cloud companies are actively deploying renewable energy, smart cooling systems, and intelligent energy management tools. As more businesses move applications and data to the cloud, the

need for scalable and sustainable infrastructure grows. This trend strongly supports long-term opportunities in the green data centers market.

Threat:

Rapid technological obsolescence

Continuous advancements in data center technologies can threaten green infrastructure investments. Energy-efficient hardware and systems adopted today may be surpassed by more advanced solutions in a short time. This raises concerns about asset depreciation and long-term value. Organizations face higher costs due to frequent upgrades and replacements. Operational complexity also increases with evolving technologies. Fear of investing in solutions that may soon become outdated can discourage adoption. As innovation accelerates, managing technological change remains a critical challenge for green data center market growth.

Covid-19 Impact:

The outbreak of COVID-19 initially challenged the green data centers market due to project delays, logistics issues, and reduced on-site workforce availability. Many planned investments were postponed as businesses reassessed budgets and priorities. At the same time, widespread adoption of remote working, online platforms, and cloud-based applications caused a sharp rise in data generation and processing needs. This increased focus on operational efficiency and sustainability. To handle higher energy demand responsibly, operators accelerated the adoption of green technologies. Consequently, the pandemic ultimately strengthened the long-term outlook for green data centers by highlighting the need for efficient and resilient digital infrastructure.

The data center infrastructure management (DCIM) segment is expected to be the largest during the forecast period

The data center infrastructure management (DCIM) segment is expected to account for the largest market share during the forecast period due to its ability to enhance operational efficiency and sustainability. These systems offer comprehensive insight into energy use, cooling efficiency, infrastructure performance, and space utilization. Through intelligent monitoring and data-driven analytics, DCIM enables operators to minimize power waste and optimize overall facility performance. It also supports proactive maintenance and informed decision-making, which are crucial for reducing environmental impact. As sustainability goals become more stringent, data center

operators increasingly rely on DCIM to track, manage, and improve efficiency, reinforcing its dominant position within green data center operations.

The managed services segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the managed services segment is predicted to witness the highest growth rate due to increasing demand for outsourced expertise. Organizations prefer managed solutions to handle complex sustainability-driven operations such as energy optimization, predictive maintenance, and real-time monitoring. These services reduce the burden on in-house teams while ensuring efficient and reliable performance. By leveraging automation and data-driven insights, managed service providers help minimize power waste and improve operational resilience. As enterprises focus on scalability, cost efficiency, and sustainability compliance, demand for managed services continues to rise, driving rapid growth compared to consulting and integration services.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share as a result of its mature IT ecosystem and strong commitment to sustainable operations. Major cloud service providers and data center operators in the region actively invest in energy-efficient designs and renewable energy integration. Supportive regulatory frameworks and sustainability-focused policies encourage the adoption of green infrastructure. Rapid growth in digital services, including cloud platforms and data-intensive applications, increases the need for efficient data centers. Access to advanced technologies, reliable renewable energy sources, and experienced service providers further strengthens the region's dominance, making North America the largest contributor to the green data centers market.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR due to accelerating digital transformation and infrastructure expansion. Rapid adoption of cloud services, smart technologies, and data-driven applications is increasing the need for efficient data processing facilities. Regional governments are encouraging sustainable development through supportive policies and renewable energy initiatives. New data center projects increasingly incorporate energy-efficient designs to manage rising power demand. Growing investments by hyperscale operators and improving awareness of environmental impact contribute to strong growth,

positioning Asia Pacific as the highest growth rate region in the green data centers market.

Key players in the market

Some of the key players in Green Data Centers Market include IBM Corporation, Hewlett Packard Enterprise, Dell Technologies, Cisco, NEC Corporation, Schneider Electric, ZutaCore, Super Micro, Delta Electronics, ABB Ltd., Huawei Technologies, Eaton Corporation, Digital Realty Trust, NTT Communications and Vertiv.

Key Developments:

In December 2025, IBM and Confluent, Inc. announced they have entered into a definitive agreement under which IBM will acquire all of the issued and outstanding common shares of Confluent for \$31 per share, representing an enterprise value of \$11 billion. Confluent provides a leading open-source enterprise data streaming platform that connects processes and governs reusable and reliable data and events in real time, foundational for the deployment of AI.

In December 2025, Dell Technologies is acquiring the Israeli company Dataloop AI for \$120 million in an all-cash deal, Calcalist has learned. The deal marks a significant strategic step for the American computing giant, which in recent years has expanded its investments in artificial intelligence and is building end-to-end AI infrastructure solutions for corporate customers.

In March 2024, NEC Corporation and Sumitomo Corporation have signed a strategic partnership agreement to expand global sales of NEC's agricultural ICT platform CropScope. Based on this partnership, NEC and Sumitomo aim to develop markets mainly in South America and the ASEAN region by utilizing Sumitomo's global network.

Softwares Covered:

Data Center Infrastructure Management (DCIM)

Building Management Systems

Compliance & Monitoring Tools

Infrastructures Covered:

Renewable Power Generators

Energy-efficient Power Distribution

Power Backup & Energy Storage

Cooling Technologies

Services Covered:

Consulting

Integration & Deployment

Managed Services

Enterprise Sizes Covered:

Large Enterprises

Small & Medium Enterprises (SMEs)

End Users Covered:

BFSI

Retail

IT & Telecom

Healthcare

Manufacturing

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 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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