North America Green Data Center - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 100 pages | Mordor Intelligence

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Report description:

The North America Green Data Center Market size is estimated at USD 44.87 billion in 2025, and is expected to reach USD 113.42 billion by 2030, at a CAGR of 20.38% during the forecast period (2025-2030).

Key Highlights
- The expansion of mobile broadband, growth in big data analytics, and cloud computing are also expected to complement the growth of the North American green data center market.
- The market is fuelled by the increasing demand for high-performance virtual switches and machines and next-generation virtualization, enabling organizations to install software-oriented virtual application delivery control. The data center industry is witnessing rapid growth, focusing on efficiency and maximum uptime in the region.
- Hyperscale companies such as Facebook (Meta), Google, AWS, and Microsoft, and colocation companies such as Equinix, Digital Realty, Compass Datacenters, and DataBank are working to make their data centers sustainable. There is rising pressure on governments from environmentalists and the public to approach green sustainability.
- The advantages of green data centers are decreasing space requirements, lowering carbon emissions and long-term operating costs, and reducing water use and waste output. Moreover, investments are being made in technology to track carbon emissions and improve efficiency and the water use of facilities.
- The growth of the green data center is boosted by the increasing adoption of switching towards renewable energy sources. Moreover, the market's growth is expected to be supplemented by the modernization and construction of data features due to a surge in data production, putting a massive demand on energy sources to power and cool data centers.
- Higher Initial Investments restrain the market growth. Building or retrofitting a data center to meet green standards can be expensive. This includes the cost of energy-efficient servers, cooling systems, backup power supplies, and other infrastructure components.

- There was rapid digitalization and an increased emphasis on sustainability during the COVID-19 pandemic. Organizations had to ensure mission-critical systems were operational, had enough power to support them, and had obvious redundancy. To overcome all these challenges, Data center companies developed Data Structure Infrastructure Management (DCIM) software to remotely manage and inspect their data center infrastructure.

North America Green Data Center Market Trends

Increasing Demand for Data Storage Expected to Drive the Market Growth

- The demand for data storage and processing services continues to grow in the United States, driven by the expansion of cloud computing, the Internet of Things (IoT), and big data analytics. According to Cisco Systems, North America will have the most 5G connections made using wearable devices in 2022. The 439 million connections in North America would be 222 million more than those made to 4G networks in 2017. In North America and Asia Pacific, wearables are forecasted to account for around 70 percent of the wearable 5G connections globally in 2022. This growth has increased the need for data centers, including green data centers.
- The growing demand for data storage and processing has led to the construction and expansion of data center facilities. Many businesses and service providers are building new data center facilities. Many businesses and service providers are building new data centers or expanding existing ones to accommodate the increasing data load.
- An environmentally friendly data center's primary goals are energy efficiency and minimal environmental effect. A green or sustainable data center is a location for storing, managing, and transmitting data where all systems, including mechanical and electrical ones, conserve energy. It produces fewer carbon footprints, which reduces costs and improves efficiency.
- Further, these green data centers enable contemporary firms to conserve electricity and cut carbon emissions. Their use is expanding in the United States among large corporations and SMBs. Such data centers can successfully serve the aims of a vast array of company data, from collection to processing and review to distribution.
- Green data centers in the United States can apply to become accredited. The Leadership in Energy and Environmental Design (LEED) grading system is the most extensively utilized green building rating system (LEED). The United States Green Building Council created it, accessible in various categories. Data centers may be awarded a silver, gold, or platinum certification based on their ratings. Platinum certification is given to data centers with the greatest environmental responsibility and resource efficiency.
- Energy Star's National Data Center Energy Efficiency Information Program, part of a project by the US Environmental Protection Agency and the US Department of Energy, may also certify data centers. The program verifies the energy efficiency of buildings and consumer products. Energy Star certification is only given to data centers that perform in the top 25% of all data centers regarding energy efficiency. The market was experiencing growth and transformation due to increasing awareness of environmental sustainability, energy efficiency, and the need to reduce carbon footprints in the data center industry. Green data centers in the United States aim to minimize their environmental impact while maintaining high data processing and storage capabilities.

Power Solution Segment is Expected to Hold Significant Market Share

- Green data centers are built to maximize energy efficiency and lower environmental impact. The critical demand is greater energy efficiency because these data centers' power consumption and cooling problems are two of the most significant issues enterprises confront in the region and invest heavily in. It is vital to control these operating costs to improve business operations and maintain market competitiveness.
- Cooling is a significant contribution to data center power consumption. Green data centers employ efficient cooling techniques,

such as hot or cold aisle containment, free cooling, and liquid cooling, to reduce energy expenditure on temperature control.
- Many North American green centers invest in renewable energy sources to power their operations. This often involves entering into power agreements (PPAS) to secure clean and sustainable energy.
- Green data centers focus on reducing carbon emissions associated with power generation. This may involve carbon offset initiatives or investments in carbon-neutral power sources. Ensuring a stable and high-quality power supply is critical for data operations. The power segment addresses strategies for maintaining power quality and reliability.
- To ensure sustainability and minimize the environmental impact of this growth, data center operators are focusing on energy efficiency, renewable energy adoption, and advanced power management practices to effectively balance the rising demand for data processing with responsible power consumption. According to Cloudscene, as of September 2023, there were 5,375 data centers in the United States, the most of any country globally.

North America Green Data Center Industry Overview

North America's green data center market is marked by fragmentation and the presence of key industry players, including Fujitsu Ltd, Cisco Technology Inc., HP Inc., Dell EMC Inc., and Hitachi Ltd. These companies are implementing various strategies such as partnerships and acquisitions to augment their product portfolios and secure a sustainable competitive edge.

In January 2023, CleanArc Data Centers unveiled ambitious plans to construct hyperscale data centers while integrating clean energy contracts. The company's primary objective is to establish data center campuses with clean energy contract structures that significantly reduce carbon emissions, ultimately moving towards zero emissions. CleanArc's designs are initially tailored for hyperscale deployments throughout North America.

In July 2022, Vantage Data Centers, a prominent global provider of hyper-scale data center campuses, secured a substantial USD 300 million green loan in recognition of the sustainable design features incorporated into its VA13 data center located in Northern Virginia. The VA13 data center stands out due to its numerous sustainable attributes.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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