U.S. Data Center Power Market Landscape 2024-2029

Market Report | 2024-10-28 | 63 pages | Arizton Advisory & Intelligence

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Report description:

The U.S. data center power market by investment is expected to grow at a CAGR of 11.63% from 2023 to 2029.

KEY HIGHLIGHTS

-A shift toward sustainability is evident in data center operations, driving the adoption of innovative solutions. Fuel cells in one such innovation in the U.S. data center power market. For instance, in 2024, Bloom Energy partnered with Intel Corporation to deploy fuel cell-based Energy Servers at Intel's Santa Clara data center, boosting its power capacity by several megawatts.
-AI adoption is on the rise in the U.S., driving the expansion of AI data centers. U.S. President, Joe Biden endorsed Microsoft's USD 3.3 billion investment in an AI data center in Racine, Wisconsin, emphasizing that it will generate 2,300 construction jobs and 2,000 permanent positions.
-Growing industrial demand has caused the U.S. government to raise electricity prices, affecting data center operations. For instance, average energy costs increased from USD 0.169 per kWh in July 2023 to USD 0.178 per kWh in July 2024.

SEGMENTATION INSIGHTS

-U.S. developers aim to boost battery storage capacity to over 30 GW by the end of 2024, outpacing petroleum liquids, geothermal, and wood-based energy. California leads with 7.3 GW, followed by Texas at 3.2 GW, while other states contribute 3.5 GW, driven by the rise in wind and solar energy generation.
-Diesel generators remain the preferred option in the U.S. data center power market, though some are transitioning to gas generators. TC Energy Corporation, a major North American natural gas pipeline operator, predicts that the growing energy demands of data centers will drive a significant increase in natural gas use for electricity generation in the US.

Segmentation by Electrical Infrastructure
-UPS Systems
-Generators

-Transfer Switches & Switchgears
-PDUs
-Other Electrical Infrastructure
Segmentation by UPS System Capacity
-<=500 kVA
->500-1,000 kVA
->1,000 kVA
Segmentation by Generator Capacity
-0-1.5 MW
-1.5-3 MW
->=3 MW
Segmentation by Generator Type
-DRUPS
-Diesel, Gas & Bi-fuel Generators
-HVO Fuel
-Fuel Cells
Segmentation by Tier Standards
-Tier I & II
-Tier III
-Tier IV

REGIONAL ANALYSIS

-Rising investments in cloud and colocation services in the U.S. drive the demand for next-generation generators. In 2023 and 2024, Northern Virginia and the Midwest notably increased their adoption of advanced power infrastructure.
-Northern Virginia, Dallas, and Silicon Valley lead in adopting diverse fuel options, such as DRUPS systems, fuel cells, and natural gas. Hitachi Energy, FuelCell Energy, and Bloom Energy drive innovation, improving data center efficiency through strategic collaborations.

VENDOR LANDSCAPE

-The US data center power market is highly competitive, with major players such as ABB, Eaton, and Schneider Electric leading in power infrastructure. Cummins, Hitachi Energy, and Caterpillar dominate the generator segment of the U.S. data center power industry.
-In 2024, global investors are expected to lead significant mergers & acquisitions (M&As) in the data center sector, driven by the need for digital infrastructure driven by artificial intelligence (AI). This trend is anticipated to promote renewable-powered infrastructure and boost the UPS and generator markets in the Southwestern, Western, and Northeastern U.S. to tackle power challenges.

Key Vendors Profiles

-ABB
-Caterpillar
-Cummins
-Eaton
-Legrand
-Rolls-Royce

-Schneider Electric
-Vertiv

Other Prominent Vendors

-Aggreko
-Aksa Power Generation
-AEG Power Solutions
-AMETEK Powervar
-Anord Mardix
-Artesyn Embedded Power (Advanced Energy)
-Aten
-Austin Hughes Electronics
-BACHMANN
-BENNING Elektrotechnik Und Elektronik
-Borri
-Canovate
-CENTIEL
-Chatsworth Products
-Cisco Systems
-Controlled Power Company
-Cyber Power Systems
-Dataprobe
-Delta Electronics
-Detroit Diesel
-EAE Elektrik
-Enconnex
-Enlogic
-EverExceed Industrial
-Exide Technologies
-Fuji Electric
-Generac Power Systems
-General Electric
-Genesal Energy
-Hewlett Packard Enterprise
-HIMOINSA (Yanmar)
-Hitachi Hi-Rel Power Electronics
-HITEC Power Protection
-HITZINGER
-Huawei
-INNIO
-KEHUA Data (KEHUA Tech)
-KOEL (Kirloskar)
-Kohler
-Marathon Power
-Mitsubishi Electric
-MPINarada

-Natron Energy
-Panduit
-Piller Power Systems
-Plug Power
-Powertek
-Pramac
-Riello Elettronica
-Rittal
-SAFT(TOTAL)
-Shenzhen KSTAR Science & Technology (KSTAR)
-Siemens
-Socomec
-SolarEdge Technologies
-Thycon
-Toshiba
-VYCON
-WTI - Western Telematic
-ZAF Energy Systems
-ZincFive

KEY QUESTIONS ANSWERED:

1.What is the growth rate of the U.S. data center power market?
2.How big is the U.S. data center power market?
3.How many MW of power capacity is expected to reach the U.S. data center power market by 2029?

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