Asia Pacific Green Data Center Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

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Report description:

The Asia Pacific Green Data Center Market is expected to register a CAGR of 20.87% during the forecast period. A local telecommunications company in Singapore says that data centers use 7% of the country's total energy. By 2030, this number is expected to rise to 12%.

Key Highlights
Singapore also accounts for 60% of Southeast Asia's total data center supply. Over the life of a data center, the cost of power increases unpredictably, increasing operating expenses.This is an issue of serious environmental concern and a cause for firms worldwide to take steps toward sustainability.
Energy use in data centers throughout APAC is rising to match skyrocketing demand. The APAC region consumes a significant amount of the total energy used by data centers worldwide, and there is no sign of slowing demand. The lack of energy management methods coupled with the unprecedented rise in demand is the major concern for the data center power market in the APAC region.
This market is being hampered by rising power and utility prices.The rapid rise in power consumption has driven state providers to increase their prices by at least 10% over the last couple of years. The decreasing cost due to increased competition with the increasing number of new entrants into the market is also cutting into the profits of data center providers.
The use of the Internet of Things and artificial intelligence spurred by the COVID-19 situation increased the need for higher-density processors, which produced more heat and thus required more cooling power. Moreover, data center energy usage increased due to increased teleworking and other virtual activities brought on by the COVID-19 pandemic. Developments in the form of using sustainable technologies were, thus, on the rise.

APAC Green Data Center Market Trends

Rise in Electricity Prices Affecting the Market Negatively

Rising energy prices lead to increased business costs and narrow profit margins for companies. Prices of energy commodities - including oil, natural gas, and coal - soared in recent weeks as supply remains tight and demand has increased since a Covid-induced slowdown. This has contributed mainly to power shortages in Asia.
China has recently allowed the price of coal-fired power to rise sharply in the hope that market forces can address a power crunch that has threatened growth and caused ripple effects worldwide.
In the Asia Pacific, limited land size, tropical climate, lack of cost-effective renewable energy supply, and shifting policies for data center development are vital challenges impeding the growth of data centers in the region and causing an increase in rental rates. For instance, in July this year, ST Telemedia announced its subsidiary, ST Telemedia Global Data Centres India, has started construction on its greenfield sited data center facility in Noida, India. It added that consistent with their focus on sustainability. The new data center will be a green building and source more than half of its power from renewable energy resources.
But there are green options, including measures to increase renewable energy supply and use viable cleaner fuel alternatives such as hydrogen for expanding the need for world-class data center facilities in clean energy sources. Furthermore, in February this year, Sify Technologies announced that it has entered into power purchase agreements (PPAs) with Vibrant Energy Holdings for 231 megawatts (MW) of solar and wind energy capacity to invest in over $33 billion for 200 MW of green energy for IT capacity of data centers in Asia Pacific data center market, in the next four years to power data centers with an intense global push towards renewable energy.
It is incumbent on the government authorities to provide regulatory certainty and set a roadmap for data center development that considers its climate impact. Government support for technological innovations such as hydrogen will help data center developers and operators integrate these sustainable features into the design and siting of their data centers.

Rise in Efficient Liquid Cooling Techniques Aid the Market Growth

Data centers are increasing rack density to provide more robust client services as workloads grow. From smaller, modular facilities to large, hyperscale data centers, efficiency and performance go hand in hand. With the increased rack space, air cooling will no longer be viable. ?
According to Summer, a medium data center server rack uses 3-6 kilowatts per rack or node. However, HPCs with 60 kilowatts per rack or node are now available.Similarly, according to a recent Uptime Institute survey of 422 respondents, racks with densities of 20 kW and higher are becoming a reality for many data centers.
Such an increase in rack space and capacity creates a need for immersion-based cooling technology that absorbs heat far more efficiently than air due to the dielectric liquid. Regarding shipments, the adoption of racks ranging from 42U to 48U is high amongst some major technology companies such as Google, Microsoft, and Facebook. With cloud computing growth, the need for 42U, 45U, and 48U racks will increase. ?

Several companies based out of Taiwan are engaging in significant developmental activities in the immersion cooling landscape. For instance, in June 2020, Taiwan-based cooling solution developer Kaori Heat Treatment will kick off a shipment of a liquid immersion cooling system to a Chinese data center.

APAC Green Data Center Market Competitor Analysis

.The Asia-Pacific Green Datacenter market is expected to be of moderate concentration, as many players are investing in research and development to innovate green technologies. Some major players in the market are Fujitsu Limited, Cisco Systems, Inc., Hewlett-Packard Company, Dell, and Hitachi Ltd.

APAC Green Data is a developer of data center campuses on Australia's East Coast designed to capture fundamental cost advantages related to land acquisition, renewable power supply, and other infrastructure and utilities. APAC Green Data plans to create and configure its projects to deliver sustained and long-term competitive cost advantages, providing low-cost "around the clock' renewable power supply, and assisting data center operators and customers in meeting their accelerating carbon reduction and Net Zero targets.

In May 2022, Centrin Data and Huawei Digital Power signed a strategic cooperation agreement in Beijing, agreeing to cooperate on data center infrastructure, data center business, smart photovoltaics, green energy storage, comprehensive smart energy management, and "other fields." Centrin Data will cooperate with Huawei Digital Energy in areas such as consulting design, engineering construction, operation and maintenance management, etc.

In September 2022, Equinix and the NUS Center for Energy Research and Technology will partner to advance hydrogen technologies for data centers. This collaboration will explore and develop hydrogen fuel technologies for green data centers in the tropical climate of Singapore by enabling operators to easily switch between various clean fuel options, including hydrogen, biogas, and different renewable liquid fuels, and by also allowing data centers to reduce carbon emissions while meeting the rising demand for data, colocation, and interconnection services.

Additional Benefits:

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

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