

Question Sam Altman and venture-capital firm Andreessen Horowitz are among the investors putting \$20 million into Exowatt, a company launched to tackle the clean-energy needs of big data centers. What does this investment mean in order to show the direction of the data center sector, and opportunities for the investors in the field?

Subject-matter Expertise Data Centers, Energy

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Takeaways

- The \$20 million investment into Exowatt by Sam Altman and VC Andreessen Horowitz highlights a significant trend towards sustainability in the data center sector, addressing both regulatory pressures and market demands for greener tech.
- Exowatt's focus on clean energy solutions indicates a trend towards data centers adopting renewable energy sources and energy-efficient technologies, signaling an acknowledgment of increasing interdependence between data centers and AI.
- Investment in Exowatt represents an opportunity for significant financial returns as Exowatt develops and scales its clean energy technologies within the data center market, while also allowing investors to align their portfolios with sustainability goals.
- Exowatt is working on a technology that would store solar power as heat for up to 24 hours, providing a more reliable, continuous form of clean energy for data centers.
- Investors must specify power quality solutions that will safeguard their assets in the face of voltage imbalance and harmonics generated by EV fast chargers, which can lead to loss of service and data.

Answers

Director of Strategy

United Kingdom

22 Apr 2024, 7:22
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The \$20 million investment into Exowatt by Sam Altman and VC Andreessen Horowitz underscores a significant trend towards sustainability in the data center sector. This move reflects a strategic focus on reducing the environmental impact of data centers, which are notorious for their high energy consumption. By funding clean energy solutions, investors are addressing both regulatory pressures and market demands for greener tech. This investment highlights the potential for innovation in creating more efficient, sustainable operations within data centers. It suggests a market ripe for technological advancements such as new energy storage methods, advanced cooling systems, and efficient power management. The financial appeal is substantial, as the need for data center services escalates parallel to the digital economy's growth, expanding the market for environmentally friendly solutions. Moreover, investing in sustainability enhances the reputational standing of investors and companies alike, positioning them as leaders in promoting eco-friendly technology infrastructure. This strategic positioning can lead to more partnerships, favorable deals, and positive public relations.

**Founder CEO -
Marketing**

India

22 Apr 2024, 7:45 am
local

Direction of Data Center (DC) Sector: Focus on Clean Energy- Investment highlights growing concern about high energy consumption of DCs & push for sustainable solutions. Exowatt's focus on clean energy solutions indicates trend towards DCs adopting renewable energy sources & energy- efficient technologies Growing Importance of AI- DCs are crucial for powering AI applications. This investment could signal acknowledgment of increasing interdependence between DCs & AI, with both sectors likely to experience significant growth. Opportunities for Investors: Sustainability is Lucrative- Investors are recognizing potential for profit in sustainable DC solutions. Companies like Exowatt that can address environmental impact of DCs while maintaining efficiency could be attractive investments AI-powered Efficiency-There may be opportunities for investors in AI-powered solutions that can optimize DC operations & further reduce energy consumption Overall, this investment indicates promising convergence of clean energy, AI & DC sector. Investors who can identify companies at forefront of these trends are likely to find attractive opportunities. Stricter regulations in DC can further increase demand.

**Senior Energy
Expert**United States of
America22 Apr 2024, 8:45
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There is no question that the explosive growth in AI & data centers is driving up growth in electricity demand. The investment in Exowatt is indicative of the desire to pair data centers with clean energy technology. This is quite challenging, as data centers are typically run 24 hours a day, and clean energy is typically intermittent (e.g., solar and wind generated power does not provide electricity continuously). So, Exowatt is trying to solve two problems, in that it has a proposed technology that would store solar power as heat for up to 24 hours, and then stored heat would be used to generate electricity when the sun is not shining at night, thus providing a more reliable, continuous form of clean energy. Similar proposals have been made beyond the context of AI data centers; that is, creating cost- efficient energy storage to provide baseload power for 24 hours from intermittent resources like solar or wind, and it is an extremely challenging problem to solve. If the Exowatt technology is sufficiently efficient at storing solar energy, then that would open up additional investments in this technology, and help solve the problem of rising power demand from data centers.

Managing Partner

United Kingdom

22 Apr 2024, 9:22 am
local

Data Centers are key assets. They need clean, uninterrupted power supplies. Power distribution networks need to boost both access & resilience at their low- voltage substations. In Norway, where there is 90% EV penetration, voltage imbalance & harmonics are degrading transformers in their LV system. Most power distribution networks are not designed for what most Governments wants. Some parts of our LV substations are going to fail when we fully electrify our transport & heat. Voltage imbalance + harmonics, the fifth & seventh, generated by EV fast chargers will generate thermal gain in transformers. Some may fail, as will many electrical control assets with conventional capacitors. This problem is ubiquitous. Across the Globe, many investors do not realize this problem, so they don't see this coming. The same goes for some DSOs, as this threat is not yet apparent in markets with a low EV mix. I can share the facts with you as the Norwegian tech we use, based on electromagnetism, samples 4 million bits of data per second. Investors must specify power quality solutions that will safeguard their asset. Failure to do so will lead to a loss of service & data. 1st be aware of the problem

Director of IT

United States of
America

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pm local

The current situation involves the intersection of data centers, artificial intelligence (AI), and energy demand. Data centers, which house servers and other computing equipment, play a critical role in supporting various digital services and applications. With the proliferation of AI technologies, data centers are experiencing increased demand for computational resources to support AI model training, inference, and other tasks. This surge in demand is driving up energy consumption in data centers, leading to concerns about environmental sustainability and energy efficiency. Addressing these challenges requires innovative solutions, such as optimizing data center infrastructure, implementing energy-efficient technologies, and exploring renewable energy sources to mitigate the environmental impact of rising energy demands driven by AI and data centers.