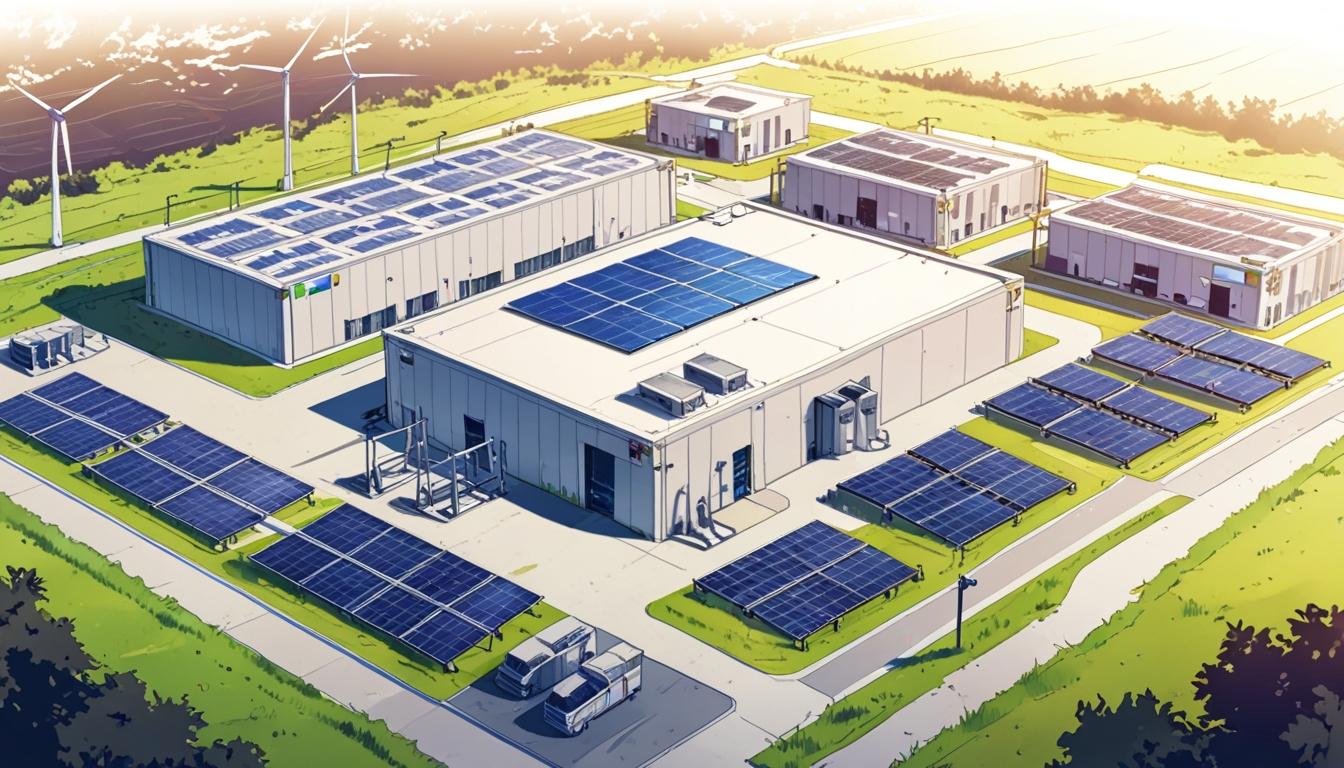
# Rising demand for clean energy powers AI data centre growth and climate tech innovation



The rapid expansion of artificial intelligence (AI) technologies is driving a surge in demand for clean energy to power the energy-intensive data centres that underpin the AI boom. These data centres, which consume significant amounts of electricity, currently account for 1-2% of global electricity use. Industry estimates suggest this figure could rise to 3-4% by the end of the decade, underscoring the growing importance of sustainable power solutions in this sector.

Key technology firms such as Amazon and Microsoft are intensifying their investments in AI infrastructure while simultaneously seeking to reduce costs and carbon emissions. This dual focus has opened new avenues for climate technology startups that specialise in energy solutions for the data centre industry. Many of these startups are scaling their operations to meet the increased demand for clean and reliable energy sources.

Luca Mezossy-Dona, Chief Executive Officer of Ionate, a London-based company that develops hardware for detecting disturbances in power grids, told Business Insider, "We're definitely feeling a lot of market pull because of the AI boom." Similarly, Pippa Gawley, a partner at Zero Carbon Capital, a climate fund, highlighted logistical challenges in integrating data centres with existing power grids. "We've had people say it may take two to five years, in some geographies, to get data centres connected to the grid," she said. "So, as a result, getting an uninterrupted power supply is important to them."

The strain placed on local electricity networks by large-scale data centres is already evident. For example, Elon Musk’s company, xAI, has requested 300 megawatts of grid power for its supercomputer facility in Memphis, Tennessee, receiving approval for 150 megawatts.

The opportunities created by the AI expansion extend beyond grid connectivity. There is growing interest in decentralised and more reliable clean energy sources, including nuclear power, clean hydrogen, and energy storage solutions. Matthew Nordan, general partner at Azolla Ventures, remarked on the rising demand for data centre startups in the firm’s portfolio. He cited startups like Scalvy, which produces modular power electronics for data centre racks that convert voltage and current more efficiently, and Zanskar, which uses AI to enhance geothermal power generation. Nordan described geothermal energy as a "critical" power source for "power-hungry AI data centres."

Big technology companies are playing a crucial role in driving demand for climate tech solutions. Harry Morgan, a principal at 7percent Ventures, explained that startups benefit from the clean energy commitments of hyperscalers such as Microsoft and Amazon. These tech giants are exploring emerging technologies like small modular nuclear reactors to accelerate energy project deployments. Morgan noted, "It's less on the pure play energy generation side, but what we've seen recently has been focused on project construction and the ability to deploy things at speed." He also mentioned the integration of robotics for solar plant manufacturing and battery storage for next-generation energy assets as notable developments.

Despite the surge in new opportunities, the wider climate tech sector has experienced a dip in funding. According to Pitchbook data reported by Business Insider, climate startups raised $10 billion in the first quarter of 2025, a decline of 50% compared to $20 billion in the first quarter of 2024.

Climate tech entrepreneurs and investors recognise the challenge of serving an energy-intensive sector while pursuing decarbonisation goals. However, many do not view these aims as conflicting. Morgan stated, "The broader impact of data centres could be really positive from a climate perspective." He elaborated that if data centres increasingly use renewable sources like solar and wind power, it can drive greater adoption of these technologies and reduce their costs over time.

Nordan shared a similar view, saying, "I don't see an inherent tradeoff in this for climate tech startups. When you're only good at lowering the embodied emissions of cement or converting voltage with lower losses, it's impactful whether you're doing that in a data centre or some more prosaic environment." He added that while business leaders must focus on capitalising their ventures amid fluctuating funding landscapes, data centres represent an important entry market for scaling innovations.

Mezossy-Dona also commented on the potential for technological advancements to enhance efficiency. "Data centres are power hungry, but the right innovations will make them fundamentally more efficient," he said.

As the AI industry continues to grow, the intersection between technological innovation, clean energy provision, and climate tech entrepreneurship is set to play an increasingly vital role in meeting the substantial power needs of data centres worldwide.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://www.goldmansachs.com/insights/articles/ai-to-drive-165-increase-in-data-center-power-demand-by-2030> - This article corroborates the claim about the rapid expansion of AI driving significant power demand increases in data centers. It notes that AI is responsible for a substantial portion of power usage and predicts significant growth by 2030.
2. <https://www.iea.org/news/ai-is-set-to-drive-surging-electricity-demand-from-data-centres-while-offering-the-potential-to-transform-how-the-energy-sector-works> - This article supports the idea that data centers will increasingly contribute to electricity demand due to AI growth, suggesting they could drive more than 20% of the growth in electricity demand by 2030.
3. <https://mitsloan.mit.edu/ideas-made-to-matter/ai-has-high-data-center-energy-costs-there-are-solutions> - It highlights the high energy costs associated with AI data centers and discusses potential solutions, aligning with the article's focus on sustainability and efficiency improvements in data centers.
4. <https://www2.deloitte.com/us/en/insights/industry/technology/technology-media-and-telecom-predictions/2025/genai-power-consumption-creates-need-for-more-sustainable-data-centers.html> - This article underscores the growing power consumption of AI data centers and the need for sustainable solutions, mirroring the article's emphasis on climate tech innovations and clean energy sources.
5. <https://www.iea.org/commentaries/what-the-data-centre-and-ai-boom-could-mean-for-the-energy-sector> - The article discusses the impact of AI on data center energy consumption and its implications for the energy sector, aligning with the broader themes of climate tech and sustainability presented in the original piece.
6. <https://www.noaa.gov/news-release/climate-and-energy-tech-startups-see-investment-shifts-amid-funding-challenges> - Although not directly linked to data centers, this article could provide context on broader funding trends in climate tech startups, which are relevant to the challenges and opportunities faced by ventures aiming to address data center energy needs.
7. <https://news.google.com/rss/articles/CBMikgFBVV95cUxQQTNONHZGNGh5X2lOZGxsR2VnaS0xaHBfYlQwSnZlRjF1d1B1TmE1ZWhCaExES194Ul9TU0dXMTJkeEcta3FfUTZodjZMd1VJTVBlU00yMEpwb0Fval9BRGltYm1vWVNDNzA0X1FyanhYSVZldEUyZE9zVlpQZ1VJRFJYMXpYWDVNQS1YMTY1dUJ4UQ?oc=5&hl=en-US&gl=US&ceid=US:en> - Please view link - unable to able to access data