# Big tech’s AI energy surge outpaces green claims, threatening climate goals



Big tech companies are currently facing a significant challenge as their electricity consumption surges, escalating at a pace that outstrips even the most ambitious attempts at portraying their power as environmentally friendly. The rapid rise in energy demand, driven largely by artificial intelligence (AI) technologies, has implications reaching far beyond corporate boardrooms; it threatens to exacerbate climate change and disrupt energy grids across the globe.

This phenomenon is not just a theoretical concern. Recent reports suggest that the electricity consumption tied to artificial intelligence could drive planet-heating emissions up by as much as 80%. Such increases come even as data centres purportedly improve their energy efficiency. In practical terms, AI servers in the United States alone may soon consume an equivalent amount of energy as Sweden, underlining the looming environmental consequences of unchecked AI deployment. The International Energy Agency's latest findings echo these alarming projections, indicating a systemic rise in energy demands that impact traditional energy sources, including coal and natural gas.

As AI technologies gain traction, the environmental implications extend beyond mere electricity consumption. Many sustainability advocates have enthusiastically adopted generative AI, often conflating its potential benefits with the immediacy of climate action. However, the ease of producing misleading content through generative systems raises grave concerns. There have been instances where professionals in climate and energy sectors disseminated erroneous information, with one notable case involving a chatbot-generated diagnosis of a blackout being shared by a trusted expert. Such occurrences risk undermining the trust built by the climate movement, which has long relied on scientific accuracy to counter disinformation campaigns.

The environmental costs of AI's energy consumption are staggering. For instance, while a traditional Google search might use about 0.0003 kWh, an AI-driven query can consume five to ten times more energy. Projections indicate that AI could generate between 2,000 and 4,000 billion kg of CO2 annually, placing severe strain on already overburdened power grids. This challenge is compounded by water-intensive cooling systems employed in data centre operations, with some facilities consuming approximately 450,000 gallons of water daily. Such demands not only threaten local ecosystems but also highlight the intersections of energy and water scarcity.

In Australia, the landscape is no less dire. Energy companies are already reporting significant inquiries about data centre capacity that suggest future power consumption could reach striking figures—between 2% and 12% of the nation’s total electricity demand by 2030. This rapid growth is raising alarms among grid operators, whose projections now indicate an increase in reliance on coal and gas to meet these demands. While some shifts towards electric vehicles could mitigate emissions, the creation of new energy demands, particularly from data centres producing generative AI outputs, poses a distinct risk to Australia's climate targets.

Given these challenges, the call for government intervention grows louder. Existing regulations around accuracy and truthfulness in data dissemination are not sufficient to combat the emergence of machine-assisted misinformation. Moreover, the unchecked expansion of data centres must be curtailed to prevent further detriment to the climate. Countries like Ireland have shown that intervention is possible, but similar actions need to be replicated globally to tether the rampant growth of these facilities.

As the situation continues to unfold, the question remains: will governments take the necessary steps to rein in the energy consumption of big tech and mitigate its environmental impacts? The urgency of this matter cannot be overstated, for each moment of inaction risks compounding the harm to our climate and communities. A coordinated effort is essential, one that balances technological advancement with ecological responsibility, to ensure a sustainable future.

### Reference Map

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

## Bibliography

* <https://www.crikey.com.au/2025/05/12/artificial-intelligence-energy-demand-climate-change/> - Please view link - unable to able to access data
* <https://www.crikey.com.au/2025/05/12/artificial-intelligence-energy-demand-climate-change/> - This article discusses the escalating energy consumption driven by artificial intelligence (AI) and its implications for climate change. It highlights how big tech companies' power usage is increasing rapidly, outpacing their efforts to present their energy as 'clean'. The author expresses concern over the spread of misinformation through generative AI and the environmental impact of data centers supporting AI technologies. The piece calls for government intervention to regulate AI's environmental footprint and prevent further harm to the climate.
* <https://www.theguardian.com/technology/2024/mar/07/ai-climate-change-energy-disinformation-report> - A report highlighted by The Guardian reveals that the burgeoning electricity demands of AI could lead to an 80% increase in planet-heating emissions, even with improved energy efficiency in data centers. The article notes that AI servers in the U.S. could consume as much energy as Sweden does in just three years, raising concerns about the environmental impact of AI technologies.
* <https://www.staxengineering.com/stax-hub/the-environmental-impact-of-data-centers/> - This article examines the environmental impact of data centers, particularly focusing on their substantial water consumption for cooling purposes. It highlights that some data centers use water-based cooling systems, leading to significant water usage. For instance, a Google data center consumes approximately 450,000 gallons of water per day, which can strain local water resources, especially in drought-prone areas.
* <https://www.protect.earth/blog/the-hidden-cost-of-ai-energy-emissions-and-climate-impact> - This blog post delves into the hidden costs of AI, emphasizing its significant energy consumption and the resulting environmental impact. It discusses how each search on platforms like Google uses about 0.0003 kWh, and AI queries can consume 5 to 10 times more energy than standard searches. The post also highlights projections that AI's annual CO2 output could range from 2,000 to 4,000 billion kg, underscoring the urgent need to address AI's environmental footprint.
* <https://www.businessamlive.com/the-hidden-cost-of-ai-energy-consumption/> - This article explores the environmental implications of AI's energy consumption, noting that a ChatGPT request uses about 100 times more energy than a typical Google search. It also discusses the water footprint of AI, highlighting that data centers powering AI models use vast amounts of water for cooling, placing additional stress on already scarce resources as AI becomes more integrated into business operations.
* <https://www.lemonde.fr/en/economy/article/2024/06/20/in-the-us-tech-s-insatiable-appetite-for-electricity-is-a-cause-for-concern_6675236_19.html> - This article from Le Monde discusses the growing electricity consumption of American tech giants, driven by the development of data centers and artificial intelligence. It highlights concerns that the increasing demand could lead to power shortages, especially as coal and nuclear plants are scheduled for closure. The piece emphasizes the need for solutions to ensure the availability and reliability of electricity supply amid this surge in demand.