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Macro Roundup Article

Headline: The Growing Energy Footprint of Artificial Intelligence

Article Link: https://www.cell.com/joule/fulltext/S2542-4351(23)00365-3

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Tweet: AI servers could use 0.5% of the world's electrical generation by 2027. For context, data centers currently use around 1% of global electrical generation.

Summary: In recent years, data center electricity consumption has accounted for a relatively stable 1% of global electricity use, excluding cryptocurrency mining. There is increasing apprehension that the computational resources necessary to develop and maintain AI models and applications could cause a surge in data centers' contribution to global electricity consumption. Alphabet's chairman indicated in February 2023 that interacting with an LLM could "likely cost 10 times more than a standard keyword search." As a standard Google search reportedly uses 0.3 Wh of electricity, this suggests an electricity consumption of approximately 3 Wh per LLM interaction. This figure aligns with SemiAnalysis' assessment of ChatGPT's operating costs in early 2023, which estimated that ChatGPT [requires] 2.9 Wh per request.

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Primary Topic: Innovation/Research

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