# Google AI's Expansion Leads to Sharp Rise in Greenhouse Gas Emissions



### Google AI and Its Environmental Impact

Google has reported a significant rise in greenhouse gas emissions linked to its expanding AI infrastructure. According to the company's annual environment report, emissions have increased by 48% since 2019. The main contributors to this surge are higher energy consumption in data centers and supply chain emissions.

AI's energy demands are substantial, with Google's AI system, Gemini, playing a central role. For instance, a ChatGPT request consumes roughly 2.9 watt-hours of electricity compared to 0.3 watt-hours for a typical Google search.

The increase in energy usage has raised questions about Google's ability to meet its net-zero emissions goal by 2030. Google's report highlights the complexity and unpredictability of AI's environmental impact as a significant challenge. Plans to invest in clean energy sources like wind and geothermal power aim to mitigate some of these effects. The company also plans to replenish 120% of the freshwater used in its operations by 2030; currently, it has replenished only 18%.

Efforts to incorporate AI in combating climate change include Google's DeepMind project, which uses AI to optimize wind power. However, energy demands from AI technologies may temporarily increase emissions before they begin to decline, posing a hurdle to achieving sustainability targets.

Major tech companies share similar challenges. Microsoft reported a 29% rise in emissions last year due to similar investments in AI infrastructure, and like Google, aims to be carbon-neutral by the end of the decade.