AI Investing:
Giant Opportunity or the Next Energy Crisis?

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Recently I attended two industry conferences. AI was a predominant theme at both events. Everyone is talking about which AI companies make the best investments and how to use AI to increase productivity and profitability. Very few people are talking about the environmental or social impact of AI. I want to explore the pros and cons of both using AI and investing in AI companies.

Now my confession, given how busy I've been, I used AI to help write about AI. My generating a single ChatGPT likely consumed about 0.3 watt-hours of electricity. While this is small for an individual, similar to running a laptop for a few minutes, the cumulative impact is massive. Millions of global queries result in significant energy usage across data centers.

The AI Revolution

Artificial intelligence has become the defining investment theme of the decade. Companies are spending hundreds of billions of dollars on AI chips, data centers, software, and infrastructure. Investors who recognized the trend early have already been rewarded through the explosive performance of AI-related stocks.

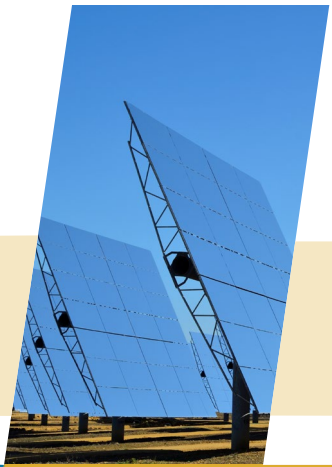
But beneath the excitement lies a less discussed reality: AI's growth requires unprecedented amounts of electricity, water, and capital. The same technology that promises massive productivity gains may also strain power grids, increase utility costs, and raise difficult environmental questions. For investors, understanding both sides of the AI story is essential.

The Bull Case: AI Could Be a Historic Productivity Revolution

Studies from McKinsey estimate that generative AI could add between $2.6 trillion and $4.4 trillion annually to the global economy through improved productivity, automation, and enhanced decision-making. AI is already helping companies write software, automate customer service, improve marketing, accelerate research, and streamline operations. (McKinsey & Company)

Examples are already appearing across industries:

- Software developers use AI coding assistants to complete projects faster.
- Customer service representatives resolve issues more quickly.
- Manufacturers use AI for quality control and predictive maintenance.
- Financial institutions employ AI for fraud detection and risk management.



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The Reality Check: Productivity Gains Are Not Guaranteed

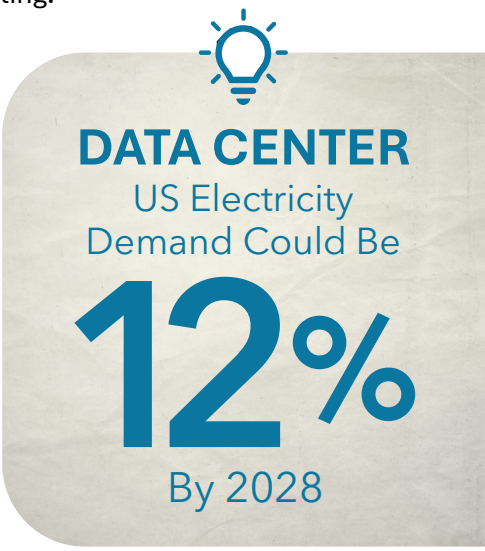
Investors should be careful about assuming every AI dollar spent will produce immediate returns. Recent studies suggest that while workers often report substantial time savings, organizations do not always experience equivalent productivity gains. Employees frequently spend time checking, correcting, and validating AI-generated outputs—a phenomenon increasingly referred to as "botsitting."

The Environmental Cost of AI

The greatest challenge facing AI may not be technological, it may be physical.

Every AI model requires massive data centers filled with advanced processors running around the clock. These facilities consume extraordinary amounts of electricity and water.

Industry estimates suggest data centers currently consume approximately 4.4% of U.S. electricity demand and could account for as much as 12% by 2028 as AI adoption accelerates. Water consumption is becoming another concern. Data centers require significant cooling infrastructure, often in regions already facing water shortages. Community opposition to new AI projects has increased substantially, with dozens of projects delayed or challenged because of concerns about electricity and water usage. (Tom's Hardware)



The rapid growth of AI data centers is placing unprecedented pressure on regional power infrastructure. In northern Nevada, NV Energy announced plans to shift significant electrical capacity previously serving the Lake Tahoe area to support expanding data-center demand. The move affects roughly 49,000 residents and businesses, requiring local utilities to secure alternative energy sources and fueling criticism that AI development is being prioritized over existing customers.

In Utah, the proposed Stratos Project in Box Elder County could become one of the nation's largest AI data-center developments. Even after plans to reduce its size by approximately 50%, the project would require enormous amounts of electricity and significant water resources. Concerns over impacts on local aquifers, agriculture, wildlife, and the already-stressed Great Salt Lake have generated widespread opposition, including thousands of formal protests, public demonstrations, lawsuits, and referendum efforts challenging the project's approval.

The Bottom Line

AI is simultaneously one of the most promising technologies ever developed and one of the most resource-intensive. On one hand, it could generate trillions of dollars in economic value, improve productivity across industries, and create entirely new business models. On the other hand, it is driving unprecedented demand for electricity, water, and infrastructure, creating environmental concerns and potential conflicts between data centers and local communities. (McKinsey & Company)

Is the cost to our environment worth the increased productivity and economic windfall for the companies benefitting from AI and their investors?



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