



# AI & Energy

## Progress at what price?

Artificial Intelligence (AI) is transforming the way we live and work. It is helping researchers accelerate medical discoveries, enabling businesses to improve productivity, supporting scientific innovation and creating new tools that may help solve some of society's biggest challenges.

Yet behind every AI application is a growing network of data centres, servers and energy infrastructure. As AI adoption accelerates, so too does the demand for electricity required to power it.

The question for investors is not whether AI will shape the future. It almost certainly will.

The more important question is:

***How will this decision be judged by the next generation?***

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## What is the connection between AI and energy?

AI systems rely on powerful computing infrastructure. Training and operating advanced AI models requires large numbers of specialised computer processors operating around the clock in data centres.

According to the Energy and AI report from the International Energy Agency<sup>1,2</sup>, data centres consumed approximately 415 terawatt hours (TWh) of electricity in 2024, representing around 1.5% of global electricity consumption. Demand is expected to continue growing as AI adoption expands.

While AI is often described as existing “in the cloud”, the reality is that it depends on physical infrastructure that consumes electricity, requires cooling systems and increasingly influences energy investment decisions.<sup>1,2</sup>

<sup>1</sup>Energy demand from AI (iea.org)

<sup>2</sup>Energy and AI (iea.org)

<sup>3</sup>International Energy Agency (IEA): New report on Energy and AI

## Why it matters to investors

The growth of AI presents both opportunities and risks.

### Key concerns include:

- Rising electricity demand and associated emissions where fossil fuels remain part of the energy mix.
- Pressure on electricity grids and infrastructure.
- Water consumption required for cooling some data centres.
- The potential for growing environmental impacts if energy demand outpaces renewable energy development.

At the same time, AI may also help address many sustainability challenges.

### Potential benefits include:

- Improving renewable energy forecasting.
- Enhancing electricity grid efficiency.
- Reducing industrial waste and energy consumption.
- Supporting climate modelling and resilience planning.
- Accelerating scientific and clean technology innovation.<sup>2,3</sup>

For ethical investors, the challenge is balancing AI's potential benefits against the resources required to support its rapid growth.

# What Financial Advisers look for from Fund Managers

When assessing AI-related investments, ethical investment advisers typically favour fund managers that:

- ✓ Consider the environmental impacts associated with AI infrastructure.
- ✓ Assess company strategies for managing energy demand and emissions.
- ✓ Evaluate commitments to renewable energy procurement.
- ✓ Engage with companies on climate targets and energy efficiency.
- ✓ Monitor risks associated with data centre expansion.
- ✓ Support transparency regarding energy use and sustainability performance.
- ✓ Encourage innovation that contributes to both technological progress and environmental sustainability.

## The legacy we leave

Every generation is remembered for the infrastructure it builds.

Previous generations built factories, highways and power stations. Our generation is building digital infrastructure powered by data centres and artificial intelligence.

AI has the potential to improve lives, strengthen economies and help address global challenges. However, whether that promise is realised sustainably depends on the decisions being made today.

Future generations may not judge us on how advanced our technology became.

They may judge us on whether we had the foresight to ensure that technological progress was powered responsibly.

The question is not whether AI will change the world. The question is whether the energy choices behind that transformation will help create the future we want to leave behind.



**Speak with an Ethical Advisers' Co-op adviser about building a portfolio that considers AI and energy use.**

**<https://www.ethicaladviserscoop.org/>**