MEDIA RELEASE

RELEASE DATE: 26 MAY 2026

Australians aware of AI's environmental costs. But few connect them to their own use.

New research has found that while many Australians are aware that generative AI technologies such as ChatGPT have environmental impacts, few have considered how their own everyday use contributes to its environmental costs.

The study conducted at the ARC Centre of Excellence for Automated Decision-Making and Society at UNSW explored public attitudes toward the ecological impacts of generative AI and the expansion of hyperscale data centres, including energy consumption, water use, e-waste, and carbon emissions.

Researchers say the findings highlight the need for stronger public education and environmental communication around the hidden costs of AI technologies.

"It is not until the public understands that 'cloud computing' actually operates in hyperscale data centres and other infrastructures such as transmission towers and undersea cabling, that generative AI's impacts on the natural world can be truly understood," said Chief Investigator Professor Deborah Lupton.

The hidden environmental impacts of generative AI

Australia already has more than 270 data centres, mostly located in Sydney and Melbourne, with more planned as part of the federal government's AI infrastructure expansion.

Hyperscale data centres consume vast quantities of electricity, much of it generated from fossil fuels. Projections estimate that by 2028, generative AI training and use could consume as much energy annually as 22% of all US households.

The impacts extend beyond energy use. Rare earth minerals used in AI infrastructure are often mined under dangerous conditions, including in countries such as the Democratic Republic of Congo. The rapid expansion of AI technologies is also contributing to growing volumes of e-waste, exposing nearby communities to toxic chemicals and heavy metals through air, soil and water pollution.

These impacts can be difficult for users to perceive because AI itself appears intangible rather than physical. Digital services rely on extensive infrastructures — including buried cables, transmission towers, servers and data centres — that remain largely invisible to everyday users.

Exploring public attitudes

To better understand how Australians think about these issues, researchers conducted a series of online focus groups with adults from diverse backgrounds across metropolitan and regional areas.

The focus groups combined discussion prompts, visual materials and future-focused creative exercises to explore how people understand AI's environmental impacts.

Researchers found participants were actively using AI models for work and leisure. They were generally aware of concerns surrounding AI's high electricity and water use, often through news reports or social media discussions. However, these impacts were largely viewed as distant and abstract rather than immediate consequences connected to daily technology use.

Many participants said they had never previously considered the physical infrastructure behind generative AI systems, including the scale of data centres and the e-waste generated to support them.

One participant reflected:

"Now that I think about it, it seems very obvious, but I just never really connected those thoughts. Because it's sort of a computer screen or mobile screen, I always think of it as a tiny thing in your phone. I never really associated it with the actual scale of these data systems."

Critical AI literacy and environmental literacy

One of the study's most significant findings was how quickly participants' perspectives shifted once the hidden infrastructures behind AI models became more visible.

Images of server farms, e-waste dumps and resource-intensive supply chains provided by the researchers during the focus groups helped participants understand generative AI not as a purely digital technology, but as a material system with real environmental consequences.

Researchers found people were more likely to remember vivid comparisons and analogies, such as claims that "just one prompt is enough to kill a tree" or that generating one sentence using a chatbot is "like pouring five litres of water down the drain".

The findings suggest environmental communication around generative AI needs to make these impacts more visible, embodied and relatable.

Several participants said they reconsidered how often they use generative AI tools after learning more about the environmental footprint associated with AI technologies, particularly for what they described as "unnecessary" or "trivial" tasks.

To help in public understanding, Lupton has also developed an open access explainer for generative AI that provides clear explanations for how these technologies work.

This research is part of the ADM+S ADM, Ecosystems and Multispecies Relationships project

Read the full article "Just One Prompt Is Enough to Kill a Tree": Knowledge and Attitudes Concerning the Environmental Impacts of Generative AI Among Australians

Media contact:
Kathy Nickels, Communications and Engagement Manager
ARC Centre of Excellence for Automated Decision-Making and Society

Mobile: 0433 431 550
katherine.nickels@qut.edu.au

ABOUT THE ARC CENTRE FOR EXCELLENCE FOR AUTOMATED DECISION-MAKING AND SOCIETY

The ARC Centre of Excellence for Automated Decision-Making and Society (ADM+S) is a cross-disciplinary, national research centre, which aims to create the knowledge and strategies necessary for responsible, ethical, and inclusive automated decision-making (ADM).

Funded by the Australian Research Council from 2020 to 2027, ADM+S is hosted at RMIT in Melbourne, Australia, with nodes located at seven other Australian universities, and partners around the world. The Centre brings together leading researchers in the humanities, social and technological sciences in an international industry, research and civil society network.

Our Centre aims to contribute to the mitigation of the social and economic risks in the development and implementation of ADM and artificial intelligence (AI), and to improve outcomes and efficiencies in four key focus areas where these technologies are already well advanced: news and media, transport and mobility, health care, and social services.