

Press release

## ENVIRONMENT

### Arcep publishes its report on “The environmental challenges of generative AI”

Paris, 21 May 2026

As part of its Ambition 2030<sup>1</sup> strategy, digital infrastructure regulator Arcep set itself the goal of ensuring that these infrastructures were available everywhere, to everyone, and for a long time to come. Consumers' and businesses' swift and massive adoption of generative artificial intelligence (AI) services (48% of people in France were already using them in 2025, marking a 28-point increase in two years, according to the [2026 edition of the Digital Market Barometer](#)), the unleashed potential for innovation, and the development outlook for this technology, supported by massive investments, led Arcep to investigate the repercussions for users and for its regulatory responsibilities.

A first round of work culminated in a [report, in January 2026, on the impact of generative AI on an open internet](#). The second report, being published today, follows through on the previous work devoted to ICT's environmental footprint, with the core strategic aim of “*improving and sharing knowledge of the environmental impact of digital technology*”.

**A report informed by a dialogue with a range of experts, a review of the scientific literature and unprecedented tests conducted with the Centre of Expertise for Digital Platform Regulation (PEReN).**

Arcep delivers a summary of current knowledge of the environmental impact of generative AI, enabling initial assessments and the mapping out of potential courses of action. This summary draws on a review of scientific and institutional literature, on talks with a range of experts from the public and private sectors, academia and NGOs, as well as collaboration with the Centre of Expertise of Digital Platform Regulation (PEReN) which made it possible to carry out unprecedented tests on the energy consumption of multiple generative AI models during their usage (i.e. inference) phase.

**Among the report's main findings: a lack of transparency amongst AI model designers and service providers, regarding the environmental impact of their models and the inference phase which is set to become a major issue with surge in usage**

Generative AI is not intangible: its development relies on physical infrastructures, high-performance computing power and massive investments in data centres. The speed at which it has been adopted and the intensity of market competition surrounding its development can drive up tensions over certain resources, and amplify the associated environmental issues.

Data centres are a key driver of the environmental footprint of generative AI. Their development raises questions about energy consumption, water usage and land artificialisation. According to the International Energy Agency (IEA), data centres' global energy consumption could double between 2024 and 2030.

The lack of transparency from market stakeholders has hampered assessments of the environmental footprint of generative AI model training and inference. Recognised estimation methods do exist, however, and must be mobilised and widely disseminated.

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<sup>1</sup> [Arcep\\_Ambitions-2030\\_objectifs\\_actions\\_janv2025.pdf](#)

According to available academic works, the environmental impact of generative AI models during the training and inference phases is affected, in particular, by their size (number of parameters) and the length of their training, but also on the carbon intensity of the energy mix.

The less well documented environment impacts of the inference phase could become a significant issue as usage continues to climb. Groundbreaking work was conducted with PEReN on the energy consumption of prompts. It revealed that the largest models are always the heaviest energy consumers, and that some more energy-efficient models are capable of providing responses that are just as relevant as the large models. Limiting energy consumption does therefore not necessarily mean having to compromise the model's performance.

## **Nine recommendations for Europe to make AI development compatible with planetary boundaries**

To ensure that AI and its infrastructures are deployed under conditions that are compatible with the nine planetary boundaries, Arcep has formulated four courses of action covering nine recommendations. **These recommendations are aligned with the forthcoming and existing European legislative framework. Arcep has also formulated proposals to this end as part of European Commission public consultations.**

### **Action 1: Improve measurement and knowledge of the environmental impact of AI**

1. Enforce collection and publication by public authorities of environmental data on AI
2. Use internationally standardised methodologies for assessing the environmental impact, to facilitate comparisons between AI systems

### **Action 2: Promote the ecodesign of AI services as a strategic lever for European competitiveness**

3. Incorporate the ecodesign of AI services into European regulation of service providers
4. Strengthen eco-conditionality in innovation and public procurement models

### **Action 3: Give users the means to choose their generative AI services based on their environmental impact through targeted European regulation**

5. Impose greater environmental transparency from chipset suppliers and the main AI model and service providers
6. Guarantee open AI services

### **Action 4: Construct a development strategy for data centres in Europe that combines sovereignty and sustainability**

7. Inform public and investment choices: make transparency and data-driven regulation development assets for data centres in Europe
8. Strengthen European coordination between digital, energy and infrastructure policies to support the development of data centres
9. Encourage the coordinated territorial deployment of data centres.

Arcep will continue this work, as well as its dialogue with all of the stakeholders, to work together on eco-designed generative AI services and sustainable digital infrastructures.

## **Associated documents**

- [Arcep report](#)
- [PEReN study](#)

### **Arcep at a glance**

The Regulatory Authority for Electronic Communications, Postal Affairs and Press Distribution (Arcep), a neutral and expert arbitrator with the status of independent administrative authority (IAA), is the architect and guardian of internet, fixed and mobile electronic communications, postal and press distribution networks in France

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