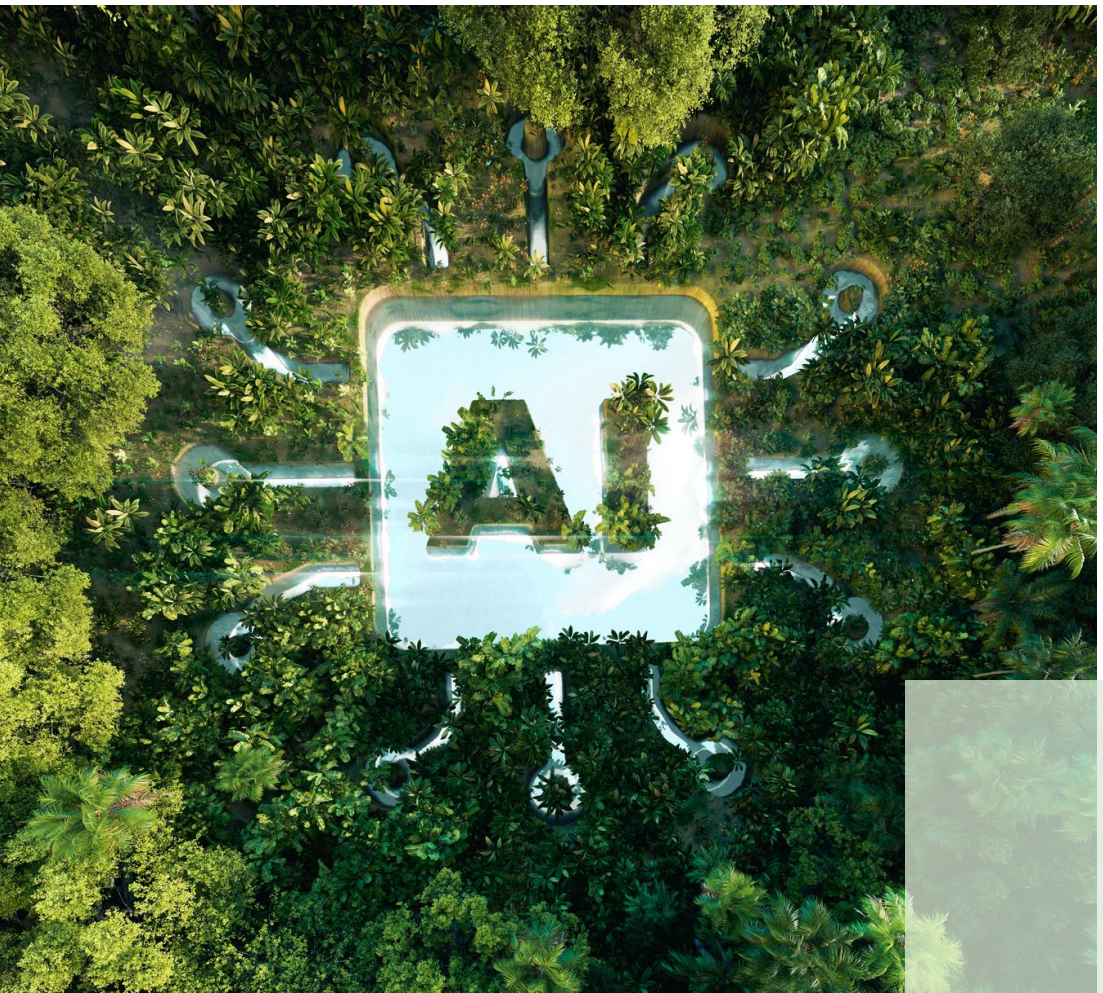
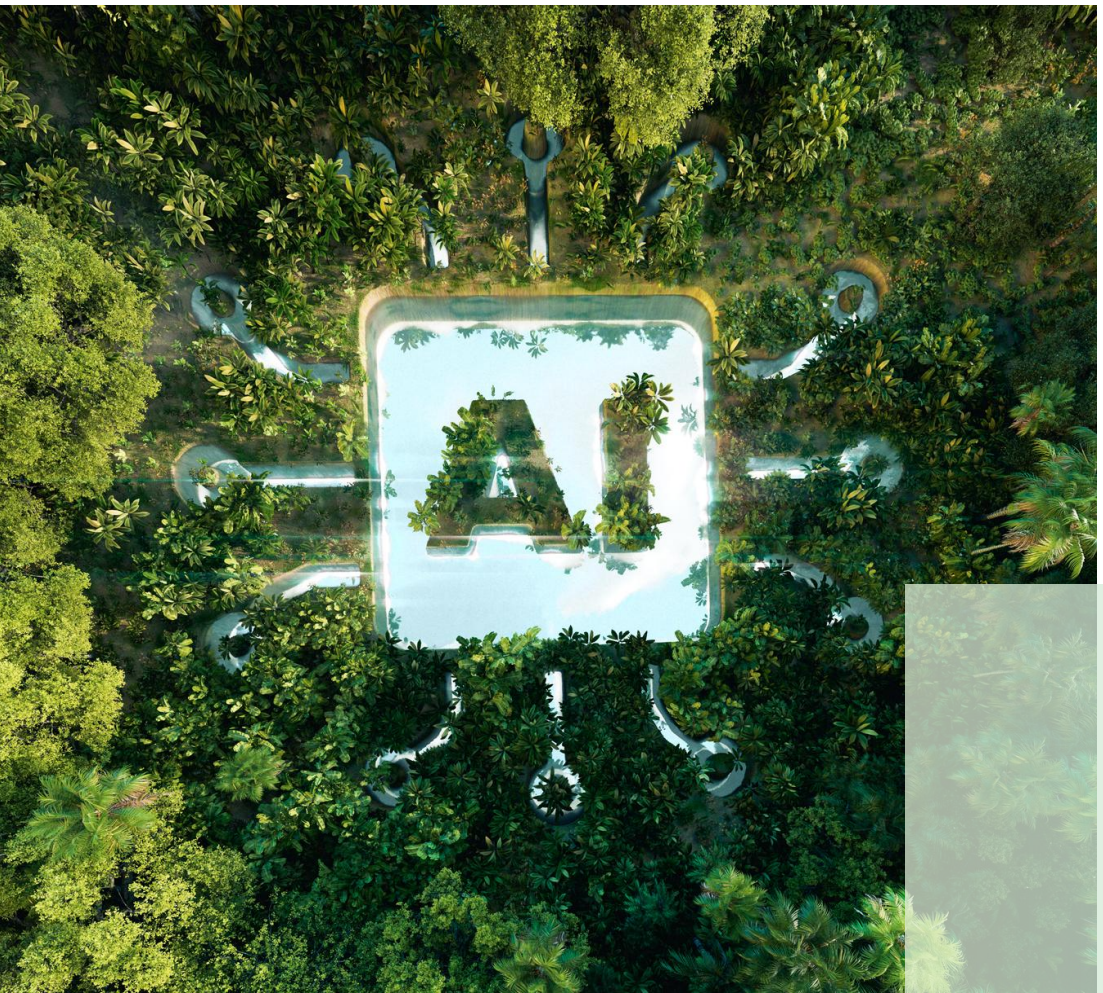
Autorité
de la concurrence



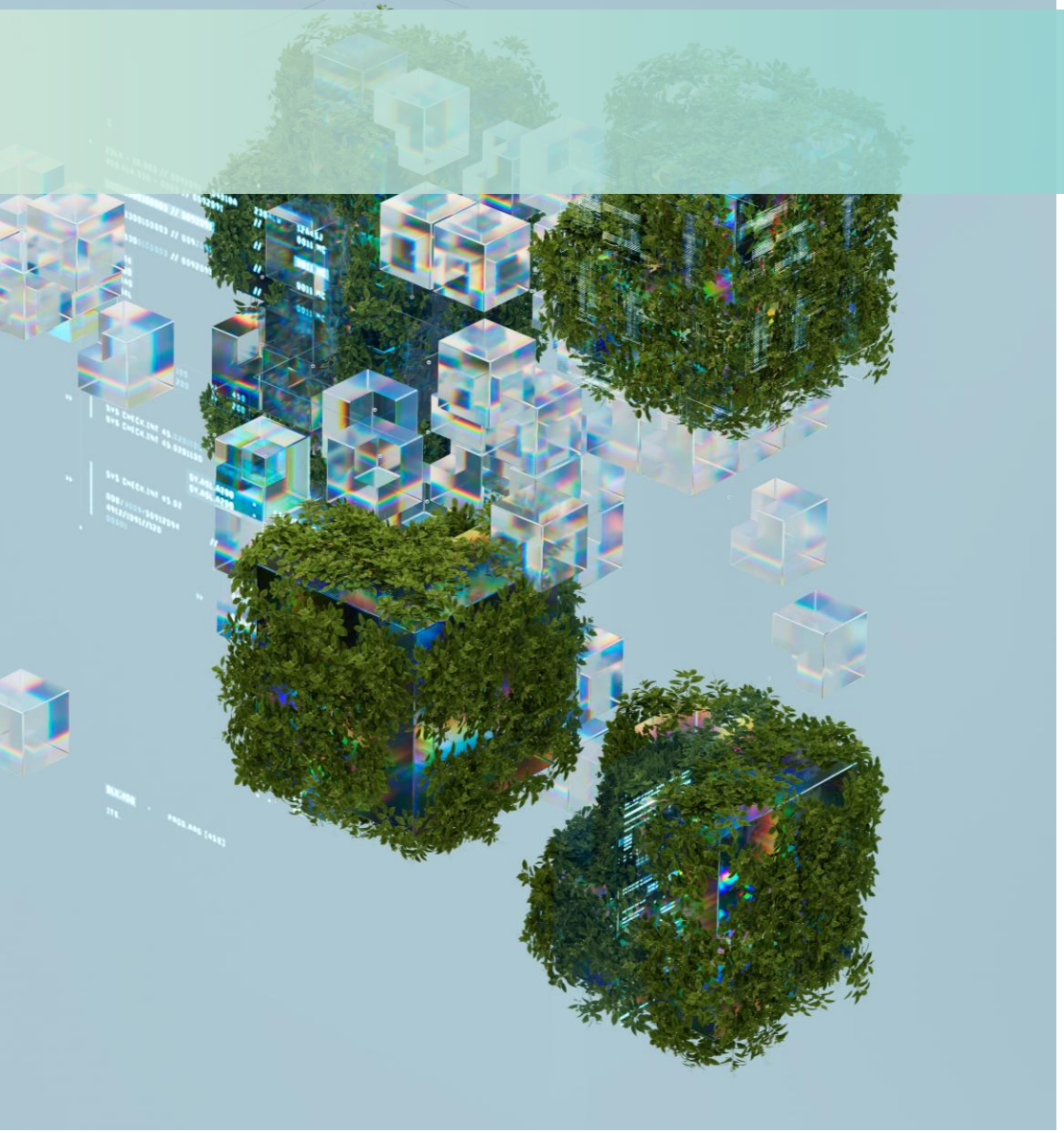
Press conference

17 December 2025

Autorité
de la concurrence

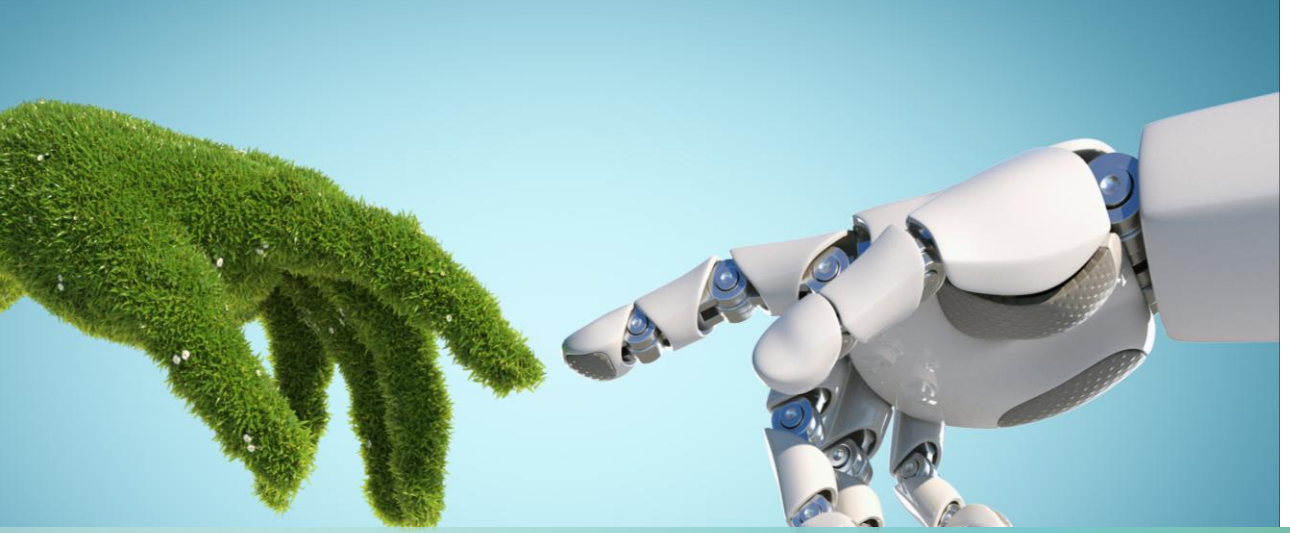


The *Autorité* publishes its study on the competition issues surrounding the energy and environmental impact of AI



Outline

1. **The energy and environmental impact of AI**
   - The energy impact
   - The environmental impact
2. **The competition issues**
   - Access to energy
   - The emergence of the frugality of AI services as a competitive parameter
   - Ongoing standardisation of the environmental footprint



PART 1

The energy and environmental impact of AI

THE ENERGY IMPACT

Data centres account for approx. **1.5% of global electricity consumption** and their consumption could, at a minimum, more than double by 2030 as a result of AI

In France, data centre consumption, estimated at 10 TWh in the early 2020s, could reach 12 to 20 TWh in 2030 and 19 to 28 TWh in 2035, i.e. almost **4% of the country's electricity consumption**

Some major operators, in particular US companies, are securing supply partnerships for decarbonised energy

THE ENVIRONMENTAL IMPACT

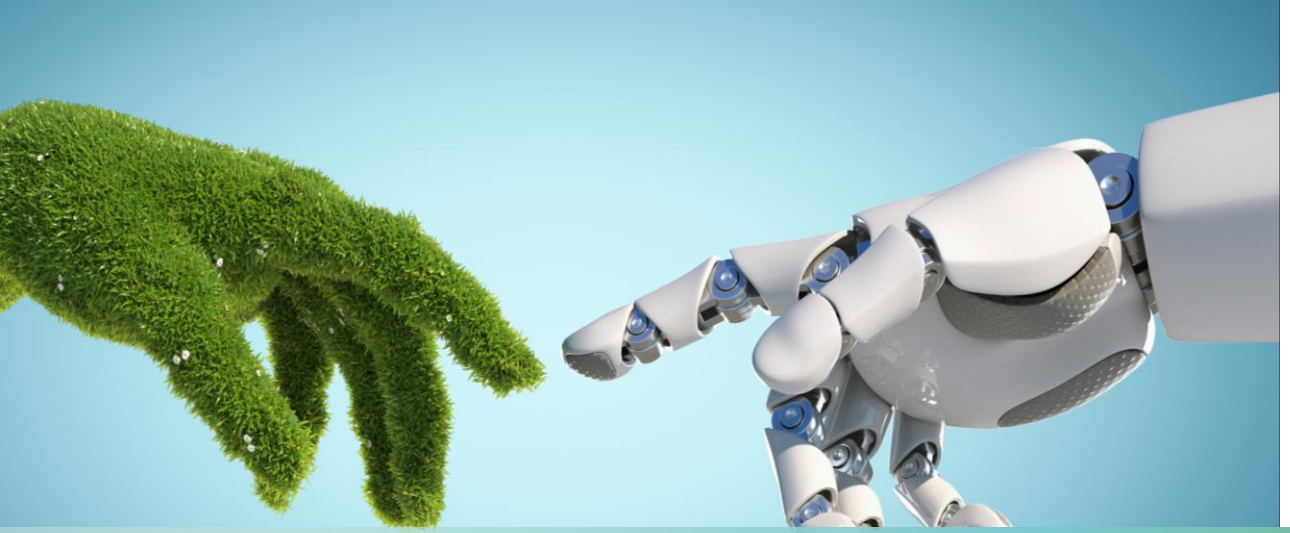
AI USES SIGNIFICANT RESOURCES (WATER, RARE METALS, LAND):

For example, according to the French Regulatory Authority for Electronic Communications (ARCEP), the volume of water withdrawn or consumed by French data centres is estimated at nearly **6 million m^3** / year (mainly linked to the production of the electricity required for data centre operations)

A SIGNIFICANT NET CARBON FOOTPRINT:

AI may improve the energy efficiency of certain sectors (article by Abitbol, Aghion and Antonin)

Several digital operators (Microsoft, Google) have announced sharp rises in their greenhouse gas emissions (ranging from +30% to +50%)



PART 2

The competition issues

1. ACCESS TO ENERGY (1/3)

ACCESS TO THE POWER GRID

Public authorities have identified several difficulties linked to the growing demand, in particular from data centres:

- risk of grid saturation;
- lengthy administrative procedures (5-7 years on average);
- preemption risks on suitable land

Public authorities have introduced several reforms aimed at addressing these challenges (cost sharing, fast-track procedures, changes to connection rules, etc.)

AI also tends to reduce the need to concentrate data centres in the same geographic areas

1. ACCESS TO ENERGY (2/3)

ENERGY COSTS

Electricity is estimated to account for 30% to 50% of a data centre's operating costs

The end of the ARENH mechanism has led to the introduction of a dual system:

- the redistribution of EDF's profits to end-consumers through a universal nuclear payment (VNU);
- the development by EDF of long-term nuclear production allocation contracts (CAPN). Several orders have already been placed by data centre operators

Other approaches, such as the direct purchase of electricity through power purchase agreements (PPA) from wind or solar energy producers, are also being implemented

1. ACCESS TO ENERGY (3/3)

COMPETITION RISKS

The biggest operators could **secure energy supplies on advantageous terms**

Energy suppliers could, for example as part of the CAPN mechanism, **adopt anticompetitive behaviours**, such as discrimination, refusal to supply or foreclosure of the market for large industrial consumers, to the detriment of competitors

Major digital operators could, **even if only occasionally, enter energy markets as suppliers**, especially abroad

2. THE EMERGENCE OF THE FRUGALITY OF AI SERVICES AS A COMPETITIVE PARAMETER (1/2)

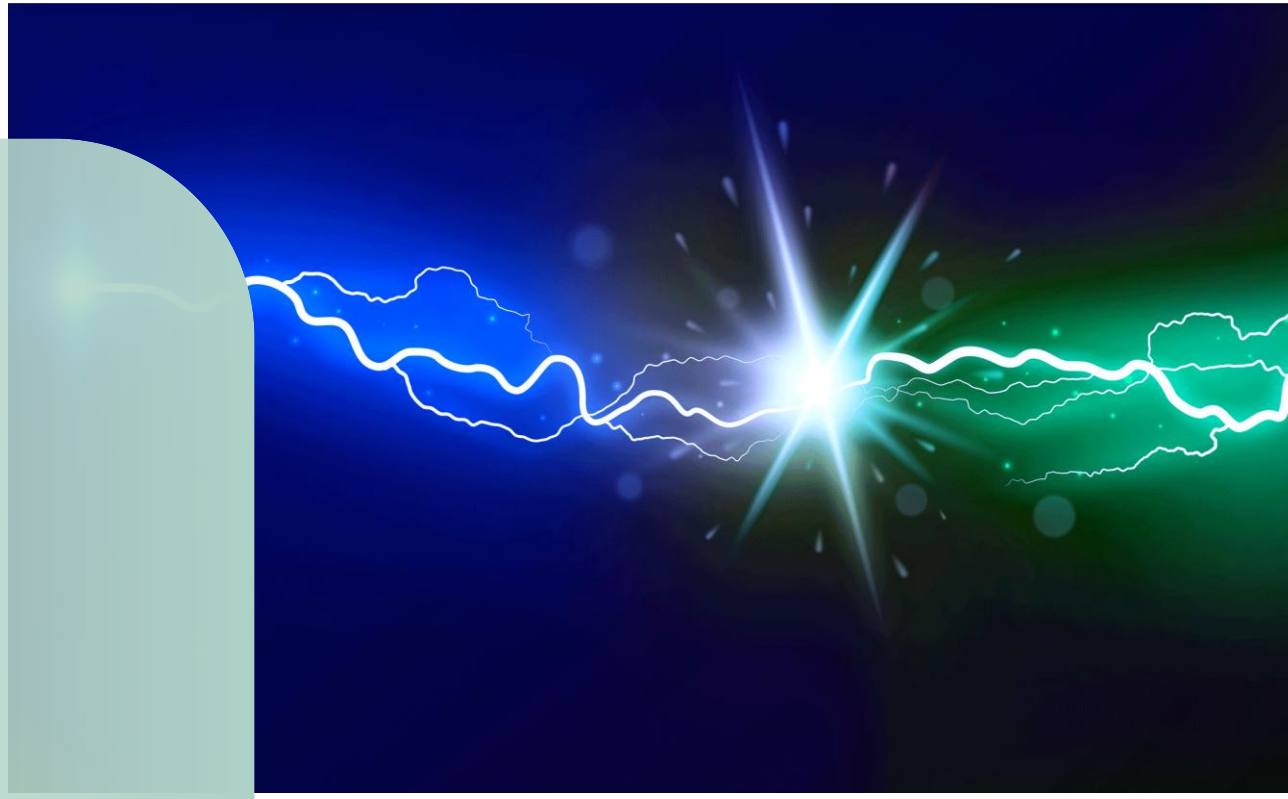
FRUGALITY IS BECOMING A COMPETITIVE PARAMETER

Frugality can help to stimulate the market at various levels:

- **Price**: cost optimisation based on actual needs
- **Quality**: resource-efficient, lighter footprint and can be adapted to smaller-scale deployments
- **Innovation**

2. THE EMERGENCE OF THE FRUGALITY OF AI SERVICES AS A COMPETITIVE PARAMETER (1/2)

COMPETITION RISKS



- The adoption of **misleading practices** regarding frugality, even unintentionally – for example, if the environmental footprint reported is not based on a scientifically robust methodology
- A failure to **disclose information on environmental footprint or frugality**, even where there is a demand for such information
- The **limiting of innovation** in the area of frugality

3. ONGOING STANDARDISATION OF THE ENVIRONMENTAL FOOTPRINT (1/3)

THREE OBSERVATIONS

1

Companies that model or use AI-based solutions **provide little information about their environmental impact**

2

There is **no shared methodology** for operators to communicate on this impact

3

The measures taken to date are difficult to compare, especially given the differences in their scope

3. ONGOING STANDARDISATION OF THE ENVIRONMENTAL FOOTPRINT (2/3)

A growing number of tools are focused on measuring environmental footprint and can be seen **as a move towards standardisation with a sustainability objective**:

- Some tools measure energy and carbon footprints (e.g. Green Algorithms)
- Others offer a complete life cycle analysis (e.g. the tool deployed by Carbone 4 for Mistral)
- There are tools to help design frugal AI solutions (e.g. CodeCarbon or CarbonTracker)
- Several tools offer an impact analysis of deployed solutions (e.g. Ecologits or Ecoindex)

Some operators are advocating for a step further: the **introduction of an environmental rating**

3. ONGOING STANDARDISATION OF THE ENVIRONMENTAL FOOTPRINT (3/3)

EXAMPLES OF POTENTIAL ANTICOMPETITIVE BEHAVIOURS

- **Standardisation tools that are not based on a scientifically robust methodology**
- Standardisation under conditions that **deprive certain operators of its benefits or prevent frugality** from serving as a competitive parameter
- **Practices that impede standardisation**
- **Exchanges between competitors** of commercially sensitive information
- **Exchanges of information between standards developers**
- The adoption of **collective behaviours whereby operators refrain from going further** than required by standards

WATCHPOINTS

SEVERAL WATCHPOINTS:

- The need for **reliable data on the energy and environmental impact.** Such transparency, including through the implementation of standards, would also ensure that frugality can play its full role as a competitive parameter

- The need to **ensure that access to areas suitable for data centres and to energy**, in particular attractively priced nuclear-generated electricity, **is not *de facto* reserved for the biggest operators only**

The *Autorité* invites all stakeholders to:

- take note of the study;

- report any **suspected anticompetitive practices** in the sector to the *Autorité*;

- **seek informal guidance** on the compatibility of their projects with sustainability objectives with competition rules