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Report Reveals Insights on Sustainable Computing and AI for Environmental Progress

Brussels (Belgium), April 16, 2024 – A new report from Lisbon Council Research highlights the role of artificial intelligence (AI) for environmental responsibility and innovation, particularly in Europe. Entitled “Sustainable Computing for a Sustainable Planet,” the report produced in collaboration with NVIDIA explores how technological innovation in hardware and software can make environmental progress and artificial intelligence not only compatible but deeply synergetic.

Key highlights:

- The report remarks a notable increase in energy consumption for training large language models but not on their deployment. At the same time, advances in accelerated computing have moderated the overall growth in energy consumption relative to computational performance.
- The adoption of artificial intelligence is shown to bring energy efficiency benefits to the economy. While data centres could potentially account for 4% of global energy consumption in 2030, artificial intelligence is expected to reduce the remaining 96% of energy consumption and accelerate scientific discovery.
- Recent assessments within the European Union show challenges in science and innovation performance improvement compared to major trading partners, with China leading in volume of scientific publications and the U.S. excelling in quality and impact. The adoption of artificial intelligence by scientists is essential to maintaining European scientific leadership.

David Osimo, lead author of the report, stresses: “We can make computing not only more powerful but also more sustainable. The time for transformative change is now and Europe can be at the forefront of this revolution.”

The report's objective analysis underlines the importance of metrics in shaping policy decisions, driving innovation and managing trade-offs in the development of sustainable computing and artificial intelligence development. By prioritising energy efficiency and environmental sustainability, the report suggests that advances in artificial intelligence technology can be aligned with broader environmental goals. To move forward, the report recommends:

- Establish international collaborations, such as within the Group of Seven (G7) and the Organisation for Economic Co-operation and Development to develop and test new metrics for computing performance and energy efficiency.
- Promote policy incentives that encourage green innovation and energy efficiency in data centres and AI technologies.
- Emphasise the need for transparency in reporting data centre energy use to drive informed decision-making and sustainable practices.

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