# UK powers up for AI future with clean energy push and infrastructure overhaul



The UK is stepping up preparations to support the explosive growth of artificial intelligence by ensuring its energy infrastructure can meet rising compute demands. The AI Energy Council, a cross-sector body launched earlier this year, held its second meeting this week to accelerate planning and coordination between energy providers, tech firms, regulators and government.

With AI compute needs forecast to increase twenty-fold over the next five years, the Council is focused on securing sufficient power to drive innovation in healthcare, climate science and transport. Compute capacity—the processing backbone behind AI models—is central to breakthroughs across multiple sectors.

Chaired jointly by Science Secretary Peter Kyle and Energy Secretary Ed Miliband, the meeting reinforced a commitment to powering AI expansion through sustainable energy sources. Kyle described the moment as a “golden era for British AI,” while Miliband stressed AI’s potential to support the clean energy transition through enhanced grid management and system efficiency.

The Council includes energy giants EDF and Scottish Power, regulator Ofgem, the National Energy System Operator, and tech leaders such as Microsoft, ARM, Google and Amazon. Together, they are working to unlock over 400GW of grid capacity by reforming the UK’s connection system—a move that could accelerate AI-driven projects and boost economic growth.

The energy effort is a cornerstone of the government’s AI Growth Zones strategy, which aims to fast-track the development of AI data centres across the UK. These zones are designed to attract major investment, create new jobs and stimulate regional innovation. The initiative feeds into the wider AI Opportunities Action Plan, which focuses on building secure, sustainable AI infrastructure, increasing domestic compute power and expanding global partnerships.

Alongside energy and infrastructure, the plan addresses key enablers such as improved data access via a National Data Library and expanded AI talent programmes, including scholarships to increase diversity in the field. Regulators are also being asked to enable responsible innovation through clear safeguards and forward-looking policies.

The government is exploring advanced energy solutions, including small modular nuclear reactors, to meet AI’s power needs without compromising climate targets. This reflects a broader strategy to align technological ambition with net-zero goals—ensuring the UK remains a clean energy leader while scaling up its AI ecosystem. The AI Energy Council’s ongoing work signals a coordinated, long-term approach to powering transformative technology. By linking energy resilience with AI readiness, the UK is setting a model for how countries can lead responsibly in the age of artificial intelligence.

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## Bibliography

1. <https://www.innovationnewsnetwork.com/ai-energy-council-meeting-discusses-how-power-grid-will-unlock-ai-benefits/59343/?utm_source=rss&utm_medium=rss&utm_campaign=ai-energy-council-meeting-discusses-how-power-grid-will-unlock-ai-benefits> - Please view link - unable to able to access data
2. <https://www.gov.uk/government/news/ai-energy-council-to-ensure-uks-energy-infrastructure-ready-for-ai-revolution> - The UK government has established the AI Energy Council to ensure the nation's energy infrastructure is prepared for the demands of artificial intelligence (AI). Chaired by the Technology and Energy Secretaries, the council's inaugural meeting focused on delivering the power necessary to drive the UK's AI ambitions. The council comprises industry leaders from both the energy and technology sectors, including representatives from Microsoft, ARM, Google, and Amazon, as well as energy providers like EDF, Scottish Power, Ofgem, and the National Grid. The council aims to provide expert insights into meeting the energy demands of AI and to accelerate investment in innovative solutions, such as small modular reactors, to support the UK's AI initiatives. This initiative is part of the government's broader strategy to position the UK as a global leader in AI and to ensure that the country's energy infrastructure can support the rapid growth and integration of AI technologies across various sectors.
3. <https://www.gov.uk/government/publications/ai-opportunities-action-plan/ai-opportunities-action-plan> - The UK government's AI Opportunities Action Plan outlines a comprehensive strategy to position the country as a global leader in artificial intelligence (AI). The plan focuses on building sufficient, secure, and sustainable AI infrastructure, including the establishment of AI Growth Zones to facilitate the accelerated build-out of AI data centres. It also emphasizes the importance of sovereign AI compute resources, domestic compute capabilities, and international partnerships to enhance the UK's AI research and development. Additionally, the plan addresses the need for enhanced data access through the creation of a National Data Library and highlights the importance of fostering AI talent by supporting scholarship and fellowship schemes to increase diversity in the field. The plan also outlines the role of UK regulators in facilitating AI innovation and progress within their respective sectors. Overall, the AI Opportunities Action Plan aims to create a robust ecosystem that supports AI development and integration across various sectors, driving economic growth and technological advancement in the UK.
4. <https://www.gov.uk/government/news/upgrading-national-grid-to-power-ai-future-to-be-tackled-at-ai-energy-council> - The UK government's AI Energy Council convened to address the energy demands required to support the next wave of artificial intelligence (AI) breakthroughs. Chaired by the Technology and Energy Secretaries, the meeting focused on collaborating with energy providers, tech companies, and regulators to forecast the energy needed for a twenty-fold increase in compute capacity over the next five years. Discussions also covered which sectors are likely to adopt AI rapidly and how this could drive significant shifts in energy demand. The council aims to ensure that the UK's energy system is prepared to meet the growing needs of the AI sector, aligning with the government's broader strategy to position the UK as a global leader in AI and to ensure that the country's energy infrastructure can support the rapid growth and integration of AI technologies across various sectors.
5. <https://www.gov.uk/government/news/ai-energy-council-to-ensure-uks-energy-infrastructure-ready-for-ai-revolution> - The UK government has established the AI Energy Council to ensure the nation's energy infrastructure is prepared for the demands of artificial intelligence (AI). Chaired by the Technology and Energy Secretaries, the council's inaugural meeting focused on delivering the power necessary to drive the UK's AI ambitions. The council comprises industry leaders from both the energy and technology sectors, including representatives from Microsoft, ARM, Google, and Amazon, as well as energy providers like EDF, Scottish Power, Ofgem, and the National Grid. The council aims to provide expert insights into meeting the energy demands of AI and to accelerate investment in innovative solutions, such as small modular reactors, to support the UK's AI initiatives. This initiative is part of the government's broader strategy to position the UK as a global leader in AI and to ensure that the country's energy infrastructure can support the rapid growth and integration of AI technologies across various sectors.
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