

# PUBLIC SUBMISSION

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## Submitter Information

**Organization:** Bipartisan Policy Center

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## General Comment

See attached file(s)

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## Attachments

BPC Input on Development of a National AI Research and Development Strategy



## BPC Response to RFI on the 2025 National AI R&D Strategic Plan

The Bipartisan Policy Center appreciates the opportunity to respond to this RFI on the Development of a 2025 National Artificial Intelligence (AI) Research and Development (R&D) Strategic Plan. Through our AI and Energy Project, BPC is exploring bipartisan policy opportunities at the intersection of AI, energy, and infrastructure. We are committed to forward-looking solutions that meet AI's growing electricity demands, accelerate AI infrastructure development, and optimize AI's use in the United States energy sector.

In April 2025, BPC launched an [AI and Energy Task Force](#), composed of tech leaders, power producers, utilities, scholars, nongovernmental organizations, and industry experts. The Task Force focuses include electricity demand and grid reliability, AI innovation, and AI applications in energy. From ensuring grid stability to optimizing clean energy development, AI can be a powerful tool if the right policies are in place. BPC and the Task Force will be researching and shaping policy solutions that foster a competitive edge in AI while ensuring an abundant energy supply for generations to come.

This response is informed by BPC's recent report, [Accelerating AI Sustainability and Innovation at the Department of Energy](#). DOE played an important role in the development of modern AI and in reducing the energy use of AI systems. DOE's decades of investment in computing advancements have enabled the current AI revolution. Similar to how DOE and other scientific agencies make complementary investments in R&D to advance the frontiers of innovation, DOE's expertise in AI complements that of other agencies—such as the National Science Foundation's National Artificial Intelligence Research Resource (NAIRR) program—by investing in AI R&D and resources relevant to DOE's mission areas. Moreover, DOE has unique expertise in AI as an agency that studies, uses, and develops AI applications. This cross-cutting knowledge will be essential as the federal government seeks to develop applications for AI. As the future of AI unfolds, it will be imperative that DOE takes a leading role in advancing R&D in AI to ensure that our nation maintains its position at the forefront of this next technological revolution.

BPC recommends the following to advance AI R&D through DOE:

- Simplifying and increasing access to AI compute
- Collaborating with industry to develop energy-efficient AI systems
- Investing in AI applications to accelerate energy and fuel technology development
- Enhancing the reliability of electricity grid and energy assets with AI tools
- Delivering reliable, affordable, clean power to meet data center electricity needs

Simplifying and increasing access to AI compute. Currently, DOE's allocation processes for computing facilities are based on a competitive process. This may have the unintended consequence of awarding compute time to scientists and researchers already familiar with and accustomed to winning DOE awards. This limits access to AI computing resources for scientists and researchers in resource-poor environments who would benefit most from access to DOE facilities. When building out a program for access to AI-capable supercomputers and testbeds, DOE should expand access to DOE's AI resources through streamlined processes for smaller academic teams and new research entities.

Collaborating with industry to develop energy-efficient AI systems. DOE should focus R&D investments in energy-efficient AI systems that complement private sector investments. In recent years, industry partners have invested increasingly more resources into developing energy-efficient AI chips and networking components for data transfer. In prior decades this work was enabled and supported by DOE and has now reached a tipping point where the private sector is equipped and motivated to pursue these goals on its own.

DOE was highly successful in advancing energy efficiency of supercomputing chips by setting aggressive efficiency targets for industry to meet in its Exascale Computing Program. Moving forward, continued collaboration with industry will be important to ensure federal resources are directed to areas lacking private-sector expertise or interest. This may include hardware-software integration, optimizing AI algorithms for scientific applications, and investing in R&D for energy-efficient data centers. DOE should deepen collaborations with companies to develop energy-efficient and custom AI systems for scientific research and other application areas relevant to DOE's mission. These partnerships should focus on AI-specific workloads, such as scientific modeling, that differ from commercial AI systems.

DOE should also invest in R&D to advance data center energy efficiency. This could include advanced cooling technologies and applications of waste heat. This should be a cross-cutting effort that builds off DOE's existing knowledge in this field at the Office of Science, Building Technologies Office, and Federal Energy Management Program.

Investing in AI applications to accelerate energy and fuel technology development. AI has the potential to accelerate every step of the energy and fuel technology development process from R&D to manufacturing, scaleup, commercialization, adoption, and operations. DOE is well-positioned to lead the nation in developing AI R&D for these applications. DOE should build off its existing expertise to help lay groundwork for private sector adoption of AI-based applications that enhance the energy system. This should start with close collaboration between the DOE Office of Science and applied energy offices to develop research portfolios that meaningfully incorporate AI as a tool for accelerating energy and fuel technology invention, scaleup, and deployment.

Enhancing the reliability of electricity grid and energy assets with AI tools. Beyond technology development, DOE should invest in R&D to build AI applications that improve the



operations, maintenance, and management of the electricity grid and other energy assets including nuclear power plants. This could include using AI to improve forecasting of flexible generation based on weather patterns to aid in matching energy generation and load, develop more accurate models of climate impacts to enable resilient infrastructure investments, and support predictive maintenance of grid infrastructure and energy assets.

DOE should partner closely with utilities, regional transmission organizations, and other relevant private sector stakeholders in this effort to advance AI-enabled solutions that solve barriers to deployment of smart grid technologies. DOE can make investments through R&D to advance technological feasibility of AI grid applications and test beds to pilot and prove technologies in environments that mimic real-world scenarios. This could build off existing grid test beds at the DOE national labs.

Delivering reliable, affordable, clean power to meet data center electricity needs. With the increasing electricity demand forecasts from AI and data centers, DOE should support the development of power projects by supporting partnerships between project developers and AI and data center companies seeking reliable energy. DOE could help facilitate the timely development of the power projects, transmission facilities, and cost allocation frameworks that are necessary to ensuring ample supplies of power for AI and data centers. DOE support also could include assistance from the Loan Program Office, which could supply project developers with needed capital while also providing a long-term customer that derisks demand-side challenges for nascent energy technologies that have not yet been widely deployed. This is a crucial opportunity to leverage AI and data center electricity demand to finance clean energy demonstration projects—such as advanced geothermal and advanced nuclear—to scale these nascent technologies to commercial viability.

Sincerely,

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Bipartisan Policy Center

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