



List of Recommendations Fact Sheet for the NIA Report on Transforming the U.S. Department of Energy

On January 19th, the Nuclear Innovation Alliance (NIA) released a [report](#) titled *Transforming the U.S. Department of Energy: Paving the Way to Commercialize Advanced Nuclear Energy*. This report provides recommendations on how the Department of Energy (DOE) can be more effective in helping to commercialize advanced nuclear energy technologies, and how it can catalyze the private-public partnership that is needed to reach full-scale commercialization. In total, the report contains 17 recommendations for DOE, split among three chapters. This fact sheet summarizes these recommendations to help promote their implementation and communicates the actions DOE should take to accelerate the commercialization of advanced nuclear energy.

Chapter 1: Developing an Advanced Nuclear Energy Strategic Plan

- 1-0. DOE should develop an Advanced Nuclear Energy Strategic Plan for commercializing advanced nuclear energy.
- 1-1. DOE should establish an Advanced Nuclear Energy Earthshot that would integrate the Office of Nuclear Energy's (NE) capabilities with the capabilities of other parts of DOE, including the Office of Clean Energy Demonstrations (OCED), the Advanced Research Projects Agency - Energy (ARPA-E), the Loan Programs Office (LPO), the Office of Technology Transitions (OTT), and DOE's National Laboratories. DOE should utilize these capabilities to support integrated fuel cycle, advanced reactor and supply chain innovation, and to establish the United States as a global leader in advanced nuclear energy.
- 1-2. DOE should focus the Advanced Nuclear Energy Earthshot on cost.
- 1-3. DOE should leverage its advisory committees in developing its Advanced Nuclear Energy Strategic Plan
- 1-4. DOE should swiftly and efficiently implement the High-Assay Low-Enriched Uranium (HALEU) and other programs established in Inflation Reduction Act (IRA), and the Advanced Reactor Demonstration Program (ARDP) and hydrogen funding in the Infrastructure Investment and Jobs Act (IIJA).
- 1-5. Building on earlier efforts, DOE should assess the entire zero carbon energy landscape and identify the scale and range of advanced reactor technologies that will be needed to reach our economic, security, and climate goals.
- 1-6. DOE should play a leading role in interagency coordination to devise and implement a comprehensive national strategy for exporting advanced nuclear energy.

Chapter 2: Becoming More Effective in Commercializing Advanced Nuclear Energy Technologies

- 2-1. DOE should align with the operations of entrepreneurial businesses, and streamline, standardize, and optimize its contracting, communication, and staffing, to promptly deploy the products that are the most viable. This is essential to satisfying the urgent need for climate mitigation and energy security.
- 2-2. DOE should hire more staff, with a focus on individuals with business expertise.
- 2-3. DOE should continue to promote early-stage design development, to germinate a wider range of technologies to select from as they mature. DOE should not fall into the trap of limiting its focus prematurely, and should utilize business principles to learn from failure and determine where additional investment should be allocated.
- 2-4. DOE should fund projects contingent on their progress, by setting payments based on achievement of technical and economic milestones. DOE should continuously evaluate the projects it is funding, adjusting payments and schedules where warranted.
- 2-5. DOE should help demonstration projects to bridge the gap between initial deployment and full commercialization and ensure that the companies building these technologies have the resources needed to achieve competitive success.
- 2-6. DOE should reduce the innovation barrier faced by start-ups seeking Nuclear Regulatory Commission licenses by funding their licensing fees.
- 2-7. DOE should establish a fast neutron testing capability to support future generations of reactor technology.
- 2-8. DOE should launch an integrated effort to support common supply-chain needs for advanced reactors through, for example, innovation hubs and LPO loans. DOE should canvass the advanced reactor community to identify common components or materials that could be standardized for development and production, develop estimates of market size, and determine what incentives the private sector would need to certify and produce the components.

Chapter 3: Integrating Advanced Nuclear Energy Efforts Across the Federal Government

- 3-1. The Administration should appoint a Senior Director for Civil Nuclear Energy at the White House to coordinate among all the government entities needed for the successful deployment of a new generation of nuclear reactors.
- 3-2. Congress should support DOE efforts to implement the HALEU fuel availability program, develop fast neutron testing capability, and hire more staff through targeted additional funding and flexibility

For the U.S. to address climate change and energy security, it will need a well-organized, efficient, and well-funded DOE. It will also need a business-minded DOE that will provide the infrastructure and resources needed to jump start a commercial advanced nuclear industry. The recommendations in this report provide a path for DOE to play a key role in creating the conditions necessary for success in commercializing advanced nuclear energy.

For more information on these recommendations and this report, please contact Erik Cothron, Analyst at NIA, at ecothon@nuclearinnovationalliance.org