

DECARBONIZING OUR ECONOMY:

Nuclear Energy Appropriation Priorities



The 94 nuclear power reactors operating across the country produce about 20 percent of U.S. electricity. These reactors are the largest source of carbon-free electricity in the U.S. by far.

As part of the plan to solve climate change and rebuild the economy, President Biden pledged to “leverage the carbon-pollution free energy provided by existing sources like nuclear” and make “far-reaching investments” in “critical clean energy technologies” including “advanced nuclear.” This focus on nuclear power makes sense. The 94 nuclear power reactors operating across the country produce about 20 percent of U.S. electricity. These reactors are largest source of carbon-free electricity in the U.S. by far.

That is why utilities that have committed to decarbonize are working to preserve their existing nuclear generation and are investigating new nuclear technologies. As these companies look towards a carbon-free grid, they see the need for clean power around the clock to partner with wind turbines, solar panels and energy storage in meeting the administration’s goal to decarbonize our electricity system by 2035. Advanced nuclear technologies are being developed to meet this need and federal investment can [accelerate the demonstration and commercialization of these new technologies](#).

The starting point to realize President Biden’s vision is to build upon the existing fleet of carbon-free nuclear plants and add new carbon-free sources to decrease the use of emitting generation. Operating in markets that do not value nuclear for being carbon-free, many of these plants are facing early closure without policy action. Government investment can [ensure the continued operation of existing reactors](#).

Finally, the long-standing impasse on nuclear waste must be resolved if nuclear energy is to achieve its full potential as part of an increasingly clean U.S. energy system. The President’s budget request can make a downpayment by taking [bold action to fulfill the Government’s responsibility on nuclear waste](#).

- **Advanced Reactor Demonstrations**

It is essential for the government to fully fund the existing public-private partnerships to demonstrate new technologies under the Advanced Reactor Demonstration Program and the Advanced Small Modular Reactor Program; these technologies can play a central role in decarbonizing our energy system by 2050.

- **DOE-NE Budget**

In keeping with the Biden-Harris administration's plan to significantly increase clean energy technology investments, the budget request for DOE-NE must increase from about \$2 billion in fiscal 2022 to about \$3 billion in fiscal 2026. This will enable completion of important programs discussed below, along with the needed investments in R&D infrastructure at national labs and universities that will help ensure America's innovators are able to deliver world-leading technologies to market.

- **Fuel Availability**

Ensuring the availability of uranium and advanced nuclear fuels will help improve the economics of today's reactors and support the next generation. DOE must provide an interim supply of HALEU, support the creation of a domestic HALEU production, and complete the public-private programs to develop advanced technology fuels.

- **Federal Energy Procurements**

As set forth in the Executive Order on Tackling the Climate Crisis at Home and Abroad, the Biden-Harris administration should use tools such as federal power purchase agreements to support the continued operation of existing nuclear power plants and the construction of next-generation reactors.

- **National Security**

Nuclear technology is uniquely positioned to strengthen U.S. national security by powering installations and remote locations with clean and resilient energy, and to power space exploration. The Biden-Harris administration should include in the budget request \$120 million to continue the micro-nuclear reactor demonstration at DoD/SCO.

- **Fossil Fuel Replacements**

The construction and operation of new nuclear reactors will require much of the same skilled workforce and infrastructure as exists at shutdown coal and gas plants. Consistent with the Biden-Harris administration's plans for Empowering Workers Through Revitalizing Energy Communities, the administration should work with Congress to establish a special incentive for advanced reactor construction in coal communities and other areas impacted by the transition from fossil fuel.

- **Preserve Existing Reactors**

The Biden-Harris administration has made the transition to a carbon-free electricity system a high priority but passing legislation to realize this vision may require extended effort, during which time more nuclear plants could be lost. Should Congress authorize a stop-gap program to retain plants at risk of closure, the administration should request the funding necessary to accomplish this goal.

- **Action on Nuclear Waste**

While Congress considers the future of the Nuclear Waste Policy Act, the Biden-Harris administration should seek Congressional authorization and funding to begin implementation of an integrated nuclear waste management system that allows for private consolidated interim spent fuel storage approaches.