NUCLEAR ENERGY INSTITUTE

ACCELERATING THE ENERGY TRANSITION

POLICY PRIORITIES FOR NUCLEAR ENERGY IN A RELIABLE, CLEAN, AND AFFORDABLE ENERGY SYSTEM

MAY 2023

The energy system of tomorrow needs to be clean, reliable, and affordable. Nuclear carbon-free energy is proud to be at the center of the clean energy transition.

Nuclear energy's ability to provide 24/7 clean energy makes it the proven foundation for an energy system that decarbonizes the entire economy: the electric sector as well as transportation, manufacturing, agriculture. Every aspect of an economy that relies on energy.

Nuclear generation is an ideal partner to wind turbines, solar panels and energy storage. Policymakers at the state and federal levels and from both political parties have sought pathways to ensure the long-term operation of existing nuclear power plants while fostering innovation to develop and deploy new technologies at a meaningful scale.

Much has been accomplished, but more must be done to accelerate realizing the potential for nuclear energy in the U.S. and abroad.

1. Bolstering Energy Security

The U.S. and its allies are strengthening their commitment to nuclear energy following the Russian invasion of Ukraine, which has led to energy price spikes and fears of widespread energy shortages in Europe and beyond. To maximize the benefit nuclear energy can deliver to our collective energy security, we must fully fund the public-private efforts to establish a secure and reliable supply of nuclear fuels, build out the supply chains needed to support a next-generation of nuclear reactors, and expand federal efforts to ensure U.S. firms are able to compete and win in the growing global market for civil nuclear energy technologies.

2. Modernizing the Regulatory Process

U.S. nuclear power plants have demonstrated a remarkable safety record for more than 60 years, yet some federal regulations are evolving in a direction that increases complexity and regulatory burden without any increase in safety. The success of needed efforts to modernize the federal regulatory system will be measured by whether the system efficiently governs the safe operation of today's reactors and enables the licensing and operation of next-generation reactors at a rate and scale necessary to support U.S. decarbonization needs.

3. Accelerating Advanced Technology Deployment

New nuclear generation will be needed to achieve meaningful carbon reductions in the electric, transportation and industrial energy sectors. Government support including sustained R&D funding, a renewed federal indemnity framework, and expanded public-private programs to demonstrate new technologies is needed to accelerate and expand the deployment of advanced reactor technologies in order to meet the diverse set of market and customer needs.

4. Strengthening American Nuclear Energy Leadership

The U.S. led the world into the age of nuclear energy, and even today the U.S. nuclear industry is the global leader in technology innovation as well as in safe and reliable operation. Recent federal and private-sector investments have enabled important steps to sustain this leadership, but key gaps remain. Foremost among these is the need to update the system of civil nuclear export regulations and processes to enable U.S. firms to compete against their state-owned rivals. In addition, we must provide the education and training needed to prepare a next-generation nuclear energy workforce.

An area long overdue for progress is the spent fuel management issue. The long-standing impasse over nuclear waste must be resolved if nuclear energy is to achieve its full potential as part of an increasingly clean U.S. energy system. In addition, our irradiation testing capability and other R&D infrastructure are in need of modernization to support the needs of next-generation nuclear energy systems.

ACCELERATING THE ENERGY TRANSITION

The 117th Congress saw years of growing bipartisan support for nuclear energy translated into historic federal investments in both today's reactors and tomorrow's advanced nuclear energy systems. And at the state level, a growing number of governors and state legislatures are taking action to ensure the long-term operation of existing reactors and to pave the way for a new generation of nuclear power.

These investments in nuclear energy have come at precisely the right time. The 92 nuclear power reactors operating across the country produce nearly 20 percent of the United States' electricity, with an unmatched level of reliability. These reactors are the largest source of carbon-free electricity in the U.S. by far, generating nearly half the nation's clean energy supply. These reactors also produce power around the clock, for up to 24 months between refueling. These attributes make nuclear power reactors the ideal carbon-free, 24/7/365 partner to wind turbines, solar panels and energy storage in meeting the growing number of corporate and governmental decarbonization goals. And it is why utilities and states that have committed to a lower-carbon future are working to preserve their existing nuclear generation and are taking concrete steps to deploy new nuclear technologies.

Nearly

20%

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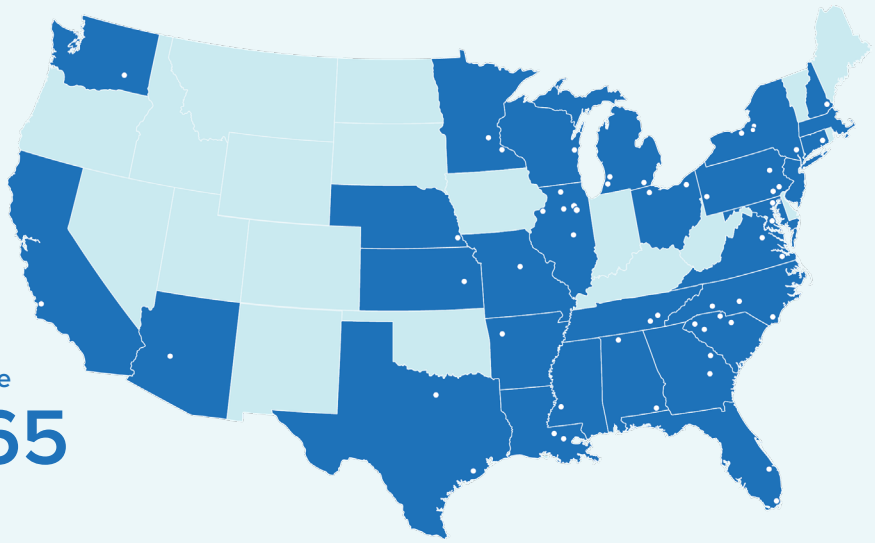
Nuclear plants operate

24/7/365



States and communities are also working to maximize the operation of existing nuclear power plants and spur new construction, because they know the economic and environmental benefits of nuclear energy. The nuclear energy sector directly employs approximately 100,000 workers in well-paying jobs and is the highest paying industry in the electric power generation sector. All told, the nuclear energy industry is responsible for nearly half a million direct, indirect and induced jobs across the U.S. economy. Average nuclear industry wages are 36 percent higher than prevailing local wages. That is why an increasing number of states and communities that host coal plants slated for closure are investigating the construction of nuclear power plants to provide clean energy and well-paying jobs for decades to come.

And has been made clear by the energy security concerns arising from the Russian invasion of Ukraine, more American workers should be designing and building more nuclear power plants, both here and abroad. Nuclear energy is a strategic industry, forming 100-year relationships with our partner nations. Competing and winning in the global marketplace isn't just a commercial victory—it is also a victory for U.S. standards for nuclear safety, nonproliferation and security.

Yet while the U.S. brought the world into the nuclear age and our companies dominated nuclear trade for decades, today the Russians dominate the global nuclear marketplace and China is fast expanding their nuclear sector. For the past two decades, Russia and China have pursued long-term strategies to develop a robust domestic nuclear program and export nuclear technology. Nearly two-thirds of all nuclear power plants under construction use Russian or Chinese designs, strengthening their influence in Africa, Asia, parts of Europe, and the Middle East. The U.S. has begun in recent years to recognize the strategic value of a strong nuclear energy industry, but more needs to be done to respond effectively to the threat posed by Chinese and Russian efforts to exert greater control over global energy markets through nuclear exports.

Action is required on several fronts to ensure that we get the most out of our existing nuclear power plants, that more plants are built at home, and that U.S. companies can compete aggressively against Russia and China and win more nuclear power plant contracts overseas. These outcomes can be achieved by:

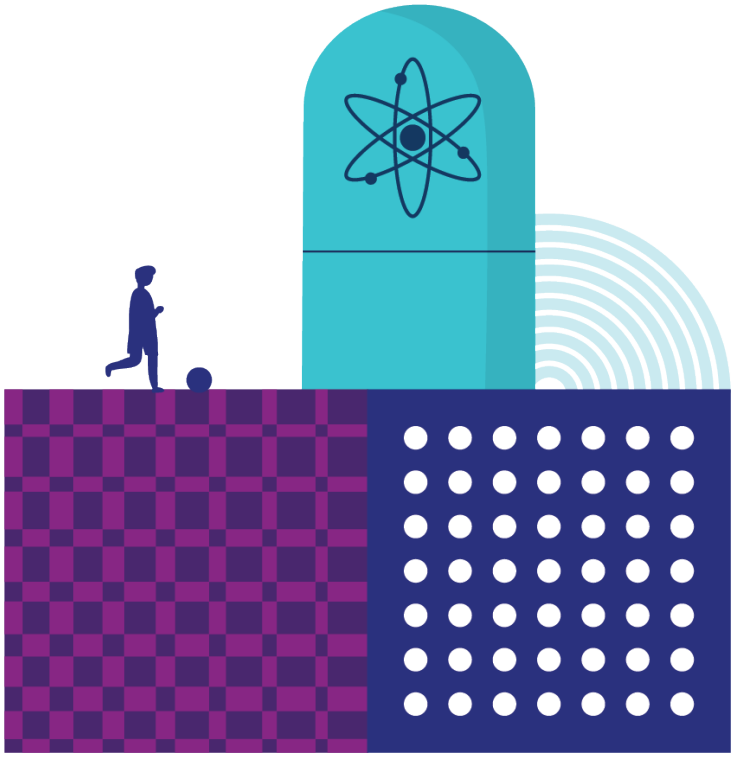
- **Bolstering Energy Security**
- **Reforming the Regulatory Process**
- **Accelerating Advanced Technology Deployment**
- **Restoring American Nuclear Energy Leadership**

On behalf of our more than 330 members, the Nuclear Energy Institute stands ready to work with policymakers to implement the actions outlined below to enable nuclear energy to reach its full potential in meeting our clean energy, energy security, economic, and job creation goals.

BOLSTERING ENERGY SECURITY

The U.S. and its allies are strengthening their commitment to nuclear energy as they seek to reduce carbon emissions while maintaining energy system reliability and affordability. This commitment has accelerated rapidly following the Russian invasion of Ukraine and the resulting energy price spikes and fears of widespread energy shortages, all tied to Russia's willingness to use oil and gas supply as an economic weapon.

To maximize the benefit nuclear energy can deliver to our collective energy security, we must fully fund the public-private efforts to establish a secure and reliable supply of nuclear fuels; the current global reliance on Russia as a major source of enriched uranium creates a vulnerability that must be addressed. We must also build out the supply chains needed to support a next-generation of nuclear reactors, and expand diplomatic efforts to ensure U.S. firms are able to compete and win in the growing global market for civil nuclear energy technologies.



Establishing a Reliable Nuclear Fuel Supply

To rebuild a domestic fuel supply immediately and effectively capable of replacing Russian production and providing long-term energy security for the country, miners and fuel supply chain companies will need to see a strong, reliable demand signal to make substantial capital investments. Legislative and Executive actions, along with nuclear plant operators, can provide that signal.

Congress should use existing or new authorities to make available $3.5 - $5.0 billion for the U.S. Department of Energy (DOE) to stand up a program that will create a diverse, competitive nuclear fuel market that will include expanded domestic fuel-cycle capabilities to support a growing nuclear fleet, including the production of HALEU for advanced reactors. DOE should be authorized to provide grants, make cost-share awards, provide debt or equity for facility construction, and enter into long-term off-take contracts, as needed, to create the sufficient conditions for new conversion, enrichment and deconversion capacity expansion in the U.S. These incentives should be provided through competitive selection with the end goal of establishing a secure and diverse fuel supply.

Building Out the Nuclear Energy Supply Chain

Congress has enacted strong incentives for strengthening domestic clean energy supply chains, including for nuclear energy. A robust supply chain is a necessary enabler of rapid deployment of new nuclear reactors. DOE should build on its February 2022 report “America’s Strategy to Secure the Supply Chain for a Robust Clean Energy Transition” to establish a program focused on developing the key points of the nuclear supply chain, capitalizing on recent DOE-led advancements in areas such as advanced manufacturing and next-generation instrumentation and control systems; such a program could identify opportunities both domestically and with key nuclear energy allies.

Supporting America’s Exports

With nearly 30 countries working to develop new nuclear programs and many others looking to expand their existing programs, the largest markets for new nuclear power plants are outside the U.S. Building nuclear plants overseas provides tremendous benefits to U.S. job creation and balance of trade; a 2020 report from UxC estimates U.S. exports of civil nuclear technology could total $1.3 to $1.9 trillion through 2050.

Due to the strategic and highly regulated nature of civil nuclear exports, government must work alongside industry to help U.S. firms compete against their state-owned rivals. However, U.S. policies to promote nuclear exports lag behind competitors such as those of Russia and China, thereby placing U.S. companies at a competitive disadvantage. To enable U.S. firms to compete and win in the global market, the Biden administration and Congress should urgently pursue policies that would:

- **Provide strategic direction to U.S. nuclear trade support**
  U.S. nuclear suppliers compete against governments, not companies. The U.S. must implement a whole-of-government strategy to regain a strong presence in global nuclear energy markets. This must entail White House coordination of the multiple agencies that have a critical role to play in U.S. nuclear energy cooperation and commercial supply.

- **Boost Advocacy**
  With the significant role of government-to-government engagement in nuclear commerce, it is critical that nuclear cooperation be part of the strategic engagement between the U.S. and our partners. Elevating nuclear engagement and advocacy in bilateral dialogues through intergovernmental agreements will be essential. Congress should provide the necessary oversight to encourage the negotiation and conclusion of bilateral agreements.

- **Modernize U.S. Trade Controls**
  The U.S. lacks bilateral cooperation agreements (Section 123 agreements) with most of the 30+ nations that are now considering the development of nuclear energy for the first time. Without a Section 123 agreement in place, U.S. competitiveness is hobbled by an uncertain and protracted process to gain export authorization. The expanding global market and aggressive engagement by China and Russia demand a new U.S. approach to ensure trade controls are in place for U.S. exporters to compete.

- **Enhance Export Financing**
  Financing is critical to U.S. nuclear competitiveness abroad. Congress and the administration should ensure that the Export-Import Bank, the U.S. International Development Finance Corporation and the U.S. Trade and Development Agency have the necessary authorities and are acting key enablers of U.S. nuclear energy exports. Congress should also ensure these agencies are working to modify policies as needed, and should expand the support available through these agencies to enhance U.S. competitiveness.

- **Provide appropriations to expand international programs at key agencies**
  The Department of State, DOE, the Department of Commerce and the U.S. Nuclear Regulatory Commission (NRC) all play important roles in facilitating U.S. nuclear energy technology exports. The administration should seek, and Congress should provide, sufficient funding for these agencies to keep up with the rapidly growing international interest in U.S. nuclear energy exports.

MODERNIZING THE REGULATORY PROCESS

Given the essential role that nuclear power plays in support a reliable, clean, and affordable energy supply, the U.S. Nuclear Regulatory Commission (NRC) must accelerate efforts to modernize its regulatory approaches to keep pace with new technologies. Safety will always be at the forefront of nuclear regulation, but the NRC must shed the inefficiencies that have permeated the agency during the past decades. Achieving efficiency in regulations and regulatory processes, including streamlining the environmental reviews in recognition of nuclear environmental benefits, are important to ensure this carbon-free technology is viable and that the American consumers and businesses are provided reliable, affordable energy. Yet while U.S. nuclear power plants have demonstrated a remarkable safety record over 60-plus years of operation, some federal regulations are evolving in a direction that increases complexity and regulatory burden without any increase in safety.

The success of the federal regulatory system will be measured by whether it efficiently governs the safe operation of today's reactors and enables the licensing and operation of next-generation reactors at a rate and scale necessary to support U.S. decarbonization needs. In addition, changes are needed in the system of civil nuclear export regulations and processes to enable U.S. firms to compete against their state-owned rivals.

Reforming the Regulatory and Fee System for Advanced Reactors

Congress should ensure the NRC is pursuing efficiency reforms for advanced reactor licensing and oversight, and should reinforce that the NRC's mission under the Atomic Energy Act includes a responsibility to enable the safe use of atomic energy to the maximum benefit of the general welfare. This could include directing the NRC to update its organizational mission statement, declaring new nuclear energy a national priority, or urging the NRC to set more aggressive targets for low cost and timely schedule of reviews. Congress should also provide additional off-fee-base funding to the NRC for the development of regulatory infrastructure and other licensing activities for advanced nuclear reactor technologies, to reduce the regulatory fee burden on nuclear technology innovators.

Promoting Efficiency in NRC Permitting

Both parties in Congress recognize that it simply takes too long to build things in America. We can do better. Congress and the Administration can ensure our environment is protected and our environmental laws are upheld while enabling worthwhile projects to move forward much faster than is currently the case. In particular, the administration can direct increased coordination among federal agencies in the implementation of the National Environmental Policy Act (NEPA) to allow lead agencies to satisfy the NEPA obligation government-wide, and increase the use of generic evaluations, incorporation by reference, environmental assessments, and categorical exclusions. And the NRC can expand the use of informal hearing procedures (e.g., written comments and public meetings) in lieu of formal hearing procedures (i.e., trial-like evidentiary hearings).

Addressing Regulatory Roadblocks to Next-Generation Fuel Designs

Congress and DOE have invested substantial sums in the development of next-generation nuclear fuels, including fuels for liquid metal and gas-cooled reactors along with so-called Accident Tolerant Fuels, several of which are well along in the commercial demonstration process. Congress should ensure these investments result in meaningful benefits by ensuring the NRC establishes an efficient licensing process for these and other advanced fuels.

ACCELERATING ADVANCED TECHNOLOGY DEPLOYMENT

Clean energy system analyses by governments, utilities, academia and nongovernmental organizations agree that new nuclear generation will be needed to achieve meaningful carbon reductions in the electric, transportation, and industrial energy sectors. Electric utilities, large energy users, and a growing number of state governments are including nuclear energy in their clean energy plans, but all are looking to mitigate the risk that comes with the deployment of any new technology. Government support including sustained R&D funding, a renewed federal indemnity framework, expanded public-private programs to demonstrate new technologies, and effective implementation of incentive policies are needed to accelerate and expand the deployment of advanced reactor technologies in order to meet the diverse set of market and customer needs.

Meeting Federal Commitments for Technology Development and Reactor Demonstration Projects

To help mitigate first-mover risk, it is essential for the government to fully-fund the existing public-private partnerships to develop and demonstrate new technologies under the Advanced Reactor Demonstration Program and the Advanced Small Modular Reactor Program. Additional cost-shared risk reduction and demonstration projects would help accelerate the demonstration of a wider range of technologies, including microreactors. And fully funding existing cost-shared programs to develop supporting technologies for both existing and new reactors (including advanced fuels, instrumentation and control systems, physical and cyber security, advanced manufacturing and hydrogen production) will help maximize the benefits of both today's and tomorrow's nuclear reactors.

Driving Down Nuclear Project Delivery Costs and Mitigating Early Deployment Risks

DOE's SunShot Initiative set an ambitious goal for solar power costs and pioneered the use of project delivery life cycle analysis to identify key areas in which project costs and timelines could be reduced with the aid of technology or process improvement; DOE then built its R&D agenda around those areas. More recently, DOE has launched Energy Earthshots for hydrogen and long duration energy storage with a similar aim. A nuclear energy Earthshot would establish a concrete goal (or goals) for advanced nuclear energy systems and would help DOE focusing its efforts on the cost reductions necessary for nuclear energy available to achieve its full potential (both on the grid and in new markets beyond the electricity sector).

In addition, the U.S. hasn't built many new nuclear power plants in recent years, and as a result our project execution isn't where needs to be. As a result, many of the customers interested in deploying new nuclear energy systems are waiting for the industry to get additional manufacturing and construction experience before placing orders for new reactors. Congress can help accelerate this process by enacting legislation that will authorize DOE to help cover the risks of cost overruns for first projects (including both demonstrations funded by DOE and projects not funded by DOE).

Extending the Foundation for Nuclear Insurance

The Price-Anderson Act established the contours for risk management at the outset of civilian nuclear power in the U.S. Price-Anderson establishes liability limits for the nuclear industry along with a mechanism to ensure that damage compensation is readily available within those limits. This framework has enabled a system of private nuclear insurance that is used across the industry to support the long-term operation of nuclear facilities. A permanent or long-term extension of the Price-Anderson will help to reduce uncertainty and enable the large-scale deployment of new reactors.

Accelerating Innovation Through NRC Fee Reductions

On average, NRC fees can total between $50 and $100 million for the review of a new nuclear power plant design, even one based largely on existing technology. These fees are a genuine barrier to innovation and consume resources that could be better applied elsewhere. Consistent with the Nuclear Energy Innovation Capabilities Act of 2017, Congress should expand funding for cost-shared grants to reduce (and ultimately eliminate) NRC fees to the industry for advanced reactor regulatory engagement.

Creating a Near-Term Demand Signal Through Federal Offtake Agreements

A December 2021 Biden administration executive order commits the federal government to procure 100% carbon free electricity by 2030, with 50% of that electricity available 24/7. As it works to implement that order, the administration should ensure its definition of 24/7 carbon-free electricity appropriately values nuclear energy as firm and carbon-free, and does so in a manner that can be used in the private sector. The administration should use tools such as federal power purchase agreements to support both existing nuclear power plants and the construction of next-generation reactors. If necessary, the administration should seek Congressional authority to extend such agreements to 30 years and should seek appropriations to ensure the 24/7 carbon-free attribute can be supported at a premium to market value of electricity commodity pricing.

Unlocking Private Capital Investment

Congress should extend the benefits of eliminating double taxation for Master Limited Partnerships to nuclear projects, enabling more private capital to flow into new nuclear. All other energy sources have this benefit, and nuclear energy should enjoy the same treatment.

Putting Tax Credits and Other Incentives to Work

Legislation passed in recent years has included strong incentives for both existing and new nuclear power plants. The IRS, Treasury Department, and DOE now have the important job of ensuring the various incentive programs achieve their full intent. As they work to establish rules for credit programs, DOE, IRS and Treasury must ensure that DOE's Civil Nuclear Credit program rules allow the program to operate effectively alongside the production tax credits for existing nuclear plants. IRS and Treasury must ensure they include a definition of gross receipts in determining the production tax credit for operating plants that reflects the real commercial transactions in the market. They must also provide the needed specificity on domestic content requirements and on how prevailing wage requirements will be applied to nuclear plant operations. And they must ensure all nuclear power plants are eligible for hydrogen tax credits.

Demonstrating New Nuclear Energy Systems for National Security

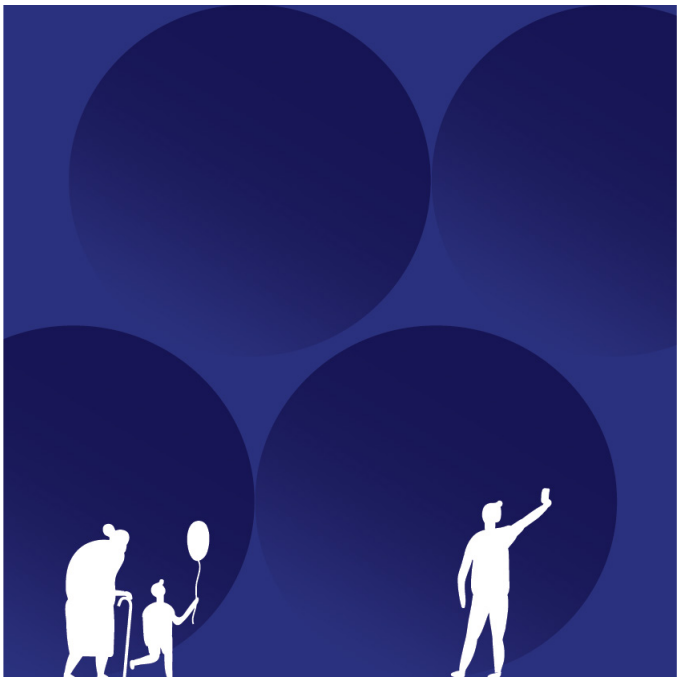
Nuclear technology is uniquely positioned to strengthen U.S. national security by powering installations and remote locations and to power space exploration. The administration should seek, and Congress should provide, full funding for the micro-nuclear reactor demonstration at the Department of Defense Strategic Capabilities Office. Congress should also request the Department of Defense to provide a full accounting of the anticipated costs of decarbonizing its operations and the impacts of doing so with and without firm, resilient sources like nuclear energy.

Preserving Jobs in Coal Communities

Nuclear energy presents a promising opportunity for communities facing economic stress from coal plant retirements. With recent advancements in small modular reactor (SMR) technologies, these new designs are well suited to utilize existing coal plant infrastructure. In addition, SMRs will be able to utilize the existing workforce from a retiring coal plant with minimal retraining. The prospect of a coal-to-nuclear transition provides great potential for coal communities who otherwise would be left with large employment and tax base shortfalls. To realize this potential, Congress should bolster programs aimed at supporting SMR deployments in coal communities. In addition, the IRA provided substantial support through PTC, ITC, and loan support for projects located in energy communities. The Administration should ensure these policies are implemented in a manner that provides maximum benefit to communities facing coal plant closures and who are looking to deploy SMRs.

STRENGTHENING AMERICAN NUCLEAR ENERGY LEADERSHIP

The US led the world into the age of nuclear energy, and even today the U.S. nuclear industry is the global leader in technology innovation. Recent federal and private-sector investments have enabled important steps to sustain this leadership, but key gaps remain. Foremost among these is the need to enable U.S. firms to compete against their state-owned rivals by updating the system of civil nuclear export regulations and processes. We must also provide the education and training needed to ready a next-generation nuclear energy workforce. An area long overdue for progress is the spent fuel management issue. The long-standing impasse over nuclear waste in the U.S. must be resolved if nuclear energy is to achieve its full potential as part of an increasingly clean U.S. energy system. In addition, our irradiation testing capability and other R&D infrastructure is in need of modernization to support the needs of next -generation nuclear energy systems.



Enabling U.S. Firms to Compete and Win in Export Markets

Unlike most other exports, nuclear energy exports require an intergovernmental framework agreement for nuclear cooperation. Less than one-third of foreign countries are covered under a nuclear energy cooperation agreement with the U.S. With the expansion of global interest in nuclear energy to meet carbon reduction and energy security needs, it is imperative that the State Department and other agencies have the resources to coordinate closely with the industry to ensure needed agreements are in place before our competitors in Russia and China lock up these new markets.

Improving Export Control Efficiency

It will be imperative to improve the speed and predictability of DOE's export control licensing process by expanding general and fast-track authorizations for low-risk activities, and by implementing bilateral mechanisms in key markets to facilitate export authorization. In particular, Congress should consider legislation and conduct oversight to ensure the DOE 10CFR810 export licensing process is made more efficient.

Expanding NRC International Engagement and Cooperation

Deployment of nuclear energy products, services and technologies requires review and approval by national regulatory authorities. And with the U.S. NRC viewed as the global gold standard among nuclear regulators, its engagement to expand the capacity of national regulatory authorities and cooperation with foreign regulators to evaluate and approve U.S. technologies can improve the competitiveness and time to market of U.S. offerings. For new reactor deployments, this should include assistance in the establishment of requirements appropriate to new technologies and cooperation on reviews and codes and standards to ultimately enable the deployment of standardized U.S. designs across multiple countries.

Building the Nuclear Energy Workforce of the Future

To meet decarbonization goals in the coming decades, the nuclear energy industry needs to attract sufficient numbers of highly skilled and diverse workers to sustain the existing operating fleet as well as the potential deployment of a new generation of advanced reactors. To accomplish this, STEM education needs to be expanded within K-12 curricula; and a federal 17th Energy Career Cluster needs to be implemented in schools to help promote energy jobs among students and prepare them for future energy careers. Moreover, policies need to be implemented that promote and support the development of skilled trade and craft workers through educational programs, apprenticeships, internships, and placement programs. To create a more diverse nuclear workforce, marginalized communities should have access to quality STEM education and programs, as well as transparent nuclear career pathways. Moreover, no worker should be left behind, so resources should be made available to help upskill and re-skill displaced workers as decarbonization of the energy grid occurs.

Expanding Partner Country Access to U.S. Nuclear Engineering Education

To compete and win in nuclear energy export markets, the U.S. needs to capitalize on every advantage it holds. One of the areas in which the U.S. holds the clear global lead is in nuclear engineering education. A program to fund students from nuclear energy partner nations to continue their education at U.S. institutions can serve as an instrument of U.S. trade policy and a key component of U.S. energy and security assistance. The State Department should be funded to set up such a program, modeled on the highly-successful International Military Education and Training program which provides training and education on a grant basis to students from allied and friendly nations.

Providing for the Long-Term Management of Used Fuel

In 1987, Congress amended the Nuclear Waste Policy Act and identified the Yucca Mountain site as the only site to be characterized for suitability to host a repository for spent nuclear fuel and other high-level radioactive wastes. Following an extensive evaluation of the site, in 2008 DOE submitted a license application to the NRC to construct a repository at Yucca Mountain. In 2010, DOE sought to withdraw the application, and it has now been more than a decade since Congress last appropriated funds to continue the Yucca Mountain licensing process. In the meantime, funds collected from nuclear energy generators to pay for the construction and operation of a repository have sat unused in the Nuclear Waste Fund, with a balance now exceeding $45 billion.

This long-standing impasse must be resolved if nuclear energy is to achieve its full potential as part of an increasingly clean U.S. energy system. While Congress considers the future of the Nuclear Waste Policy Act, the government should take steps to stand up an organization to resume management of the nuclear waste program. The administration should seek additional funding to continue ongoing efforts toward establishment of an integrated nuclear waste management system that allows for private consolidated interim spent fuel storage approaches.

Modernizing our R&D Capabilities

The U.S. currently lacks a fast neutron irradiation testing capability needed to develop advanced nuclear fuels and materials. The only resource available to U.S. companies in recent years was in Russia, and that option is off the table in the aftermath of Russia's aggression in Ukraine. Several U.S. allies are interested in developing a modern capability for fast neutron irradiation, so the DOE should take the lead in determining if a multinational consortium could be established to appropriately fund and execute a Versatile Test Reactor program with the objective to have a new fast neutron user facility up and running by the early 2030s.

Several of the leading U.S. advanced reactor concepts began as university-led research projects. Given the increasing global interest in nuclear energy, Congress recently passed legislation to increase the capability of nuclear research at universities (including at historically Black colleges and universities, Tribal colleges or universities, and junior, community, and associate-degree-granting colleges) to allow them to strengthen their advanced nuclear energy technology capabilities. The administration should seek and Congress should provide funding to implement these important provisions.

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