

Testimony of Deputy Secretary Turk

U.S. Department of Energy

Before the

House Committee on Science, Space, and Technology

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Chairman Lucas, Ranking Member Lofgren, and Members of the Committee, it is an honor to appear before you today to discuss the President’s Fiscal Year (FY) 2025 Budget request for the Department of Energy (“the Department” or “DOE”).

I am grateful to this Committee and your colleagues throughout Congress for supporting an agency that accomplishes so much for this country.

It is the honor of a lifetime to serve the American people as the Deputy Secretary of Energy. The DOE workforce, from headquarters staff to scientists and engineers at the National Labs, is made up of dedicated and driven individuals who are working hard to advance the energy, economic, and national security of the United States. Through transformative science and technological solutions, we are making significant progress to address some of our Nation’s most pressing challenges.

The Department is committed to advancing this Administration’s energy, climate, and nuclear security and nonproliferation goals. I want to thank Congress for the ongoing, bipartisan support for the Department of Energy and I look forward to working closely with the Committee as you consider the FY 2025 budget for DOE.

Budget Topline

DOE proposes \$51 billion in budget authority for FY 2025. This Budget makes historic investments that will help the country lay the foundation to build a clean energy economy, invest in the American people, and ensure the U.S. reaches net-zero emissions by 2050.

This Budget delivers results for the American people by creating jobs and investing in innovation for the energy economy; expanding cutting-edge research at National Laboratories; investing in critical and emerging technologies; advancing critical climate goals including industrial decarbonization; building the clean innovation pipeline; building, maintaining, and modernizing critical national security infrastructure; preventing adversaries from acquiring nuclear weapons; reducing health and environmental hazards for at-risk communities; and bolstering the cybersecurity and resilience of the energy sector. In addition, we have worked hard to focus our budget request on strategic investments, while maintaining our commitment to fiscal responsibility.

Making the United States the leading nation for investing in clean energy.

We are working to create a workforce for the future with the creation of high-quality, good-paying jobs. As we continue to power through this evolutionary period in our history, the Department is focusing on onshoring and reshoring supply chains and turning America back into a manufacturing powerhouse.

The Budget invests \$1.6 billion to support clean energy workforce and infrastructure projects across the Nation, including: \$385 million to weatherize and retrofit homes of low-income Americans; \$95 million to electrify Tribal homes, provide technical assistance to advance Tribal energy projects, and transition Tribal colleges and universities to renewable energy; \$113 million for the Office of Manufacturing and Energy Supply Chains to strengthen domestic clean energy supply chains, and \$102 million to support utilities and State and local governments in building a grid that is more secure, reliable, resilient, and able to integrate electricity from clean energy sources. These investments, which complement and bolster the historic funding in the Bipartisan Infrastructure Law (BIL), the CHIPS and Science Act, and the Inflation Reduction Act (IRA), create good-paying jobs while driving progress toward the Administration's climate goals,

including a 100% carbon pollution-free electricity sector by 2035. Sustaining our early success requires long-term investments in annual appropriations that complement and bolster the historic funding in BIL and IRA.

The Budget provides dedicated funding for the Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization to facilitate a whole-of-government approach to workforce training, community engagement, and identification of Federal resources to spur economic revitalization in the hard-hit energy communities that have powered the Nation for generations.

The Budget includes \$24.1 million for the Office of Technology Transitions to focus on expanding the commercial impact of the Department of Energy's research investments and \$3 million for the Foundation for Energy Security and Innovation that OTT is helping steward.

Ensuring investments provide economic and clean energy benefits in the communities that have been left behind.

We are ensuring that our economy does not neglect historically disadvantaged communities and instead works with them to guarantee an equitable transition. The Office of State and Community Energy Programs includes \$385 million for the Weatherization Assistance Program to weatherize low-income homes. Weatherization programs work with local contractors and trades to improve home performance, which boosts local employment and creates new job opportunities, while uplifting America's most vulnerable families by reducing their annual energy costs by approximately \$372 per household. Among the many benefits associated with weatherization, low-income households experience improved health, safety, and comfort, save money on their monthly energy bills, and reduce their overall impact on the environment by using fewer natural resources.

Similarly, the State Energy Program is requesting \$70 million in FY 2025 for technical assistance to states, territories, and the District of Columbia to enhance energy security, advance state-led energy initiatives, and increase the affordability of energy. This request would provide funding for the Weatherization Assistance Program to support approximately 40,000 residential energy retrofits for low-income households.

The Budget includes \$8.2 billion for the Environmental Management program, reflecting this Administration's strong commitment to clean up and protect communities that supported defense production programs and government-sponsored nuclear energy research, including \$3.1 billion to continue cleanup progress at the Hanford site in Washington. As the largest environmental cleanup program in the world, Environmental Management plays a key role in cleaning the environment, contributing to national security priorities, investing in the future and aiding community efforts to build strong economies, growing jobs, and preparing for a clean energy future. This investment will enable the Department of Energy to treat radioactive tank waste, take down contaminated buildings, ship and dispose legacy waste and clean soil and groundwater.

The Budget also includes \$205 million for the Office of Legacy Management to protect human health and the environment by providing long-term management solutions at over 100 World War II and Cold War era sites where the federal government operated, researched, produced, and tested nuclear weapons and/or conducted scientific and engineering research. The Administration will ensure the investments for the cleanup of legacy pollution and long-term stewardship of these sites align with the Justice40 Initiative to benefit disadvantaged communities.

With cutting-edge R&D, supporting industry so that each future generation of clean energy technology will be more innovative than the last.

The Budget provides an investment of \$8.6 billion for the Office of Science, advancing toward the authorized level in the CHIPS and Science Act to support cutting-edge research at DOE's 17 National Laboratories and partner universities to build and operate world-class scientific user facilities. These investments support identifying and accelerating novel technologies for clean energy solutions, improving predictability of climate trends and extremes using high performance computing, providing new computing insight through quantum information, expanding innovation in microelectronics, and positioning the United States to meet the demand for isotopes. Within funding for Science, the Budget provides over \$800 million to advance the basic research needed to solve fundamental science and technology gaps towards the

development of fusion power as a clean energy source in the U.S using diverse set of tools and strategic approaches.

The Budget provides a historic investment of \$1.9 billion in advancing critical and emerging technologies, including biotechnology and biomanufacturing, quantum information sciences, and artificial intelligence (AI) and machine learning. This investment strengthens U.S. leadership in science, technology, and innovation and plays a central role in the Department's national security mission. Included in this investment is \$455 million for supporting the advancement of AI technologies and the development of foundational models to support new applications in science, energy, and national security. DOE's AI-related activities include fundamental research and development of AI and use of AI tools to explore machine learning, while assuring the safety, security and robustness of AI systems. DOE will also apply AI technologies to the stockpile stewardship mission and to early detection of foreign nuclear proliferation activities.

The Budget provides \$5 million to fund the recently established Office of Critical and Emerging Technologies (CET) that will coordinate efforts, support AI governance, and provide oversight across the Department. CET will develop a strategic outlook for these technologies, working with and through other DOE offices, enabling DOE leadership, as well as interagency, congressional, and external partners, to maximize the impact of DOE capabilities and investments in these key areas of national importance.

Advances Critical Climate Goals

The Budget includes \$10.6 billion in DOE climate and clean energy research, development, demonstration, and deployment programs, including over \$1 billion to improve technologies to cut pollution from industrial facilities, nearly \$900 million to commercialize technologies like sustainable aviation fuel and zero-emission trucks to cut emissions from the transportation sector, and over \$2.4 billion—a majority of which is included in the Energy Efficiency and Renewable Energy (EERE) Program—to improve carbon-free electricity generation, transmission, distribution, and storage technologies for reliability, resilience, and decarbonization. Specifically, within the EERE Program, the budget includes \$502 million for Vehicle Technologies Office, \$280 million for Bioenergy Technologies Office, \$318 million for

Solar Energy Technologies Office, \$199 million for Wind Energy Technologies Office, \$179 million for Hydrogen and Fuel Cell Technologies Office, and over \$500 million for Advanced Materials/Manufacturing and Industrial Efficiency and Decarbonation Offices. In addition, the Budget invests in advancing climate modeling within the Biological and Environmental Research Program in the Office of Science. Overall, this funding advances efforts crucial for achieving the goal of a 50- to 52-percent reduction from 2005 levels of economy wide net greenhouse gas pollution in 2030 and economy wide net-zero emissions no later than 2050, while also reducing energy bills for American families.

Accelerates Industrial Decarbonization

Addressing the climate crisis requires rapid decarbonization across energy use sectors. The industrial sector contributes about a quarter of U.S. greenhouse gas emissions and is a major opportunity for significant reductions. By investing more than \$965.8 million in discretionary DOE industrial decarbonization activities, the Budget reflects the importance of supporting U.S. industrial decarbonization through innovation, targeted investment, and technical assistance. The Budget supports funding for Industrial Emissions and Technology coordination to drive adoption of industrial decarbonization solutions and expanded research and development efforts across DOE.

Makes Historical Investments to Strengthen the Nation's Nuclear Security and Protect the Nation from Weapons of Mass Destruction Terrorism

The National Nuclear Security Administration (NNSA) is doing extraordinary work to meet the challenges of today's ever-changing geopolitical landscape. NNSA helps to provide the cornerstone of our national defense by maintaining a safe, secure, reliable, and effective deterrent, while simultaneously working with key allies and partners on our shared nonproliferation goals. From powering the nuclear Navy to investing in infrastructure revitalization and modernization efforts, such as the Uranium Processing Facility at Y-12 and plutonium modernization efforts at Savannah River and Los Alamos, NNSA successfully meets a difficult and varied mission space. NNSA's efforts to reduce nuclear risks in Ukraine following Russia's further invasion over two years ago provide just one example of the essential mission NNSA is responsible for and executes with the utmost expertise and capability.

The Budget provides a historic investment of \$25 billion in the Nation's nuclear security enterprise to implement the President's National Defense Strategy and the Nuclear Posture Review (NPR), including \$19.9 billion for Weapons Activities, which represents more than an \$800 million increase over FY 2024 enacted levels. This funding will modernize the Nation's nuclear deterrent and keep the American people safe. The Budget supports a safe, secure, reliable, and effective nuclear stockpile and makes necessary investments to reduce global nuclear threats, provide safe and effective integrated nuclear propulsion systems for the U.S. Navy, and modernize the Department of Energy's Nuclear Security Enterprise, including recapitalizing essential scientific and production facilities.

The Budget provides robust support for key modernization priorities, including Plutonium Modernization efforts that will strengthen NNSA's ability to produce no fewer than 80 plutonium pits per year at Los Alamos and Savannah River as close to 2030 as possible.

The Budget enhances DOE capabilities to prevent and respond to Weapons of Mass Destruction terrorist attacks by non-state actors at home and abroad. It also supports DOE's long-standing effort to advance nuclear and radioactive material security, enhancing U.S. security, health, and economic interests. In addition, the Budget continues investments to develop the next generation of arms control technologies, including space-based monitoring and verification, and experts to help mitigate against emerging and evolving national security risks.

Stockpile Management

The Budget proposes \$5.1 billion in FY 2025 for Stockpile Management to maintain a safe, secure, reliable, and effective nuclear weapons stockpile through stockpile modernization, stockpile sustainment, weapons dismantlement and disposition, production operations, and nuclear enterprise assurance. The Budget includes \$2.8 billion for six major modernization projects that extend the lifetime of the nation's nuclear stockpile while addressing required updates, replacing aging/obsolete components to ensure continued service life, and enhancing security and safety features.

Production Modernization

The Budget includes \$5.9 billion for Production Modernization to support production capabilities for nuclear weapons components critical to weapon performance, including primaries, secondaries, radiation cases, and non-nuclear components. Included within this budget total is \$2.9 billion for plutonium modernization to fund the equipment, facilities, and personnel required to reestablish the Nation's capability to produce 80 plutonium pits per year.

Stockpile Research, Technology, and Engineering

The Budget incorporates \$3.2 billion for Stockpile Research, Technology, and Engineering to provide the scientific foundation for stockpile decisions and actions; develop the personnel required to support the current and future stockpile; and provide the capabilities, tools, and components needed to support all missions. The funding includes \$683 million for the Inertial Confinement Fusion program to support facilities such as the National Ignition Facility and the Z facility in High-Energy-Density and ignition science experimental activities. The Budget also provides \$880 million for Advanced Simulation and Computing, which is supporting NNSA's exascale high-performance computing capability.

Infrastructure and Operations

The Budget proposes \$3.3 billion for Infrastructure and Operations to maintain, operate, and modernize the NNSA infrastructure in a safe and secure manner that supports program execution while maximizes return on investment and reduces enterprise risk. The FY 2025 Request provides funding for activities to enable plutonium pit production, expand capacity at the Kansas City National Security Campus (KCNSC), and address infrastructure modernization throughout the complex. The budget also includes \$881 million in Maintenance and Repair for predictive, preventive, and corrective maintenance activities to maintain facilities, property, assets, systems, roads, and vital safety systems.

Restores American Leadership in Arms Control and Nonproliferation

The Budget includes \$2.5 billion for Defense Nuclear Nonproliferation to enhance the Nation's ability to prevent adversaries from acquiring nuclear weapons or weapons-usable materials, technology, and expertise; counter efforts to acquire such weapons or materials; and respond to

nuclear or radiological incidents and accidents domestically and abroad. By limiting the number of nuclear-capable states and preventing terrorist access to materials and technology that can threaten the U.S. and allies, NNSA plays a critical role in enhancing global stability and constrains the range of potential threats facing the nation, our allies, and partners.

Powers the Nuclear Navy

The Budget includes \$2.1 billion for DOE's Naval Nuclear Propulsion Program to ensure safe and reliable operation of reactor plants in nuclear-powered submarines and aircraft carriers. The Budget prioritizes infrastructure modernization and investments to develop, refine, and deliver new technologies to the Navy and maintain America's advantage over its adversaries. The Budget continues to support the *Columbia*-Class Reactor System Development and recapitalizing spent fuel handling and examination capabilities at the aging Expanded Core Facility in Idaho.

Conclusion

I have been humbled and encouraged by our progress so far; this budget will help us accelerate developing a workforce for the future with the creation of high-quality, good-paying jobs. We are ensuring that our economy does not neglect historically disadvantaged communities and instead work with them to guarantee an equitable transition. As we continue to power through this evolutionary period in our history, the Department is focusing on onshoring and reshoring supply chains and turning America back into a manufacturing powerhouse. I want to again thank the Committee for its ongoing and bipartisan support for the DOE mission.

Thank you for the opportunity to be here today. I am happy to answer your questions.