



**DEPARTMENT OF ENERGY  
FY 2021 BUDGET REQUEST  
FACT SHEET  
FEBRUARY 10, 2020**

The President's Budget Request for FY 2021 totals \$35.4 billion for the Department of Energy (DOE). This year's request further bolsters America's path to energy independence and continued historic economic growth by investing in and empowering reliable, affordable energy, advancing transformative scientific innovation, and enhancing U.S. national security.

**DEPARTMENT OF ENERGY**  
**Requests \$35.4B**  
Promoting Energy Independence  
Progressing Scientific Research  
Protecting the nation through nuclear security

The FY 2021 Budget Request provides:

- **\$3.1 billion to secure energy independence and fund innovations for affordable, reliable, and efficient energy sources.**
- \$5.9 billion to progress cutting-edge scientific research including development necessary for Industries of the Future, and supports state-of-the art scientific tools and facilities keeping U.S. researchers at the forefront of scientific innovation.
- **\$26.4 billion to strengthen cybersecurity, continue progress at major nuclear cleanup sites, and modernize the aging U.S. nuclear deterrent and nuclear security infrastructure, as well as bolster non-proliferation efforts.**

To accelerate progress on national priorities and advance the DOE mission, the FY 2021 Budget Request invests:

- \$2.6 billion in early-stage technology research and development for affordable, reliable, and efficient renewable energy, nuclear energy, and fossil energy.
- **\$259 million for Artificial Intelligence (AI) across the DOE enterprise to improve the robustness, reliability, and transparency of Big Data and AI technologies, as well as quantification and development of software tools for DOE mission**

**applications.**

- **\$710 million for the Exascale Computing Initiative, including \$475M for the Office of Science (SC) and \$235M for the National Nuclear Security Administration (NNSA).**
- **\$248 million for Quantum Funding.**
- \$185 million in grid cyber funding under the Office of Cybersecurity, Energy Security, and Emergency Response (CESER).
- \$6.4 billion for Environmental Management and Legacy Management to clean up and monitor past cleanup of sites that supported development of the U.S. nuclear deterrent.
- \$19.8 billion for the National Nuclear Security Administration (NNSA) to support the President's nuclear security objectives. The request maintains a safe, secure and effective nuclear deterrent.

## **Investments**

### **Industries of the Future**

The Industries of the Future are key technologies that promise to fuel American prosperity far into the future, while improving the security of our homeland. The Budget highlights the Department's support for the Administration's Industries of the Future initiative with investments of over \$1.5B:

- Quantum information sciences, including initial research for a quantum internet;
- Data-driven science using artificial intelligence and machine learning;
- Next-generation microelectronics;
- Rare earth and separation science for critical minerals;
- Genomic sciences to inform biosecurity research; and,
- Across a broad spectrum of critical areas and initiatives.

## **Energy**

The FY 2021 Budget Request proposes \$3.1 billion in funding for energy independence and innovation, and focuses on intradepartmental collaboration, joint capabilities, integration, and development of energy sector and advancing energy storage, security, reliability, and resilience, including:

- \$720 million for the Office of Energy Efficiency and Renewable Energy, includes \$97M in support of the Energy Storage Grand Challenge;
- \$731 million for the Office of Fossil Energy Research & Development, includes \$546M for Advanced Coal Energy Systems and Carbon Capture, Utilization and Storage (CCUS) program;

- \$1.3 billion for the Office of Nuclear Energy, including \$295M million in funding for the Versatile Advanced Test Reactor project and \$150 million to establish a Uranium Reserve to address challenges to the production of domestic uranium;
- \$195 million for the Office of Electricity, includes \$40M for the Grid Storage Launchpad; and
- \$185 million for the Office of Cybersecurity, Energy Security, and Emergency Response to reduce the risk and impacts from cyber threats as well as other natural and adversarial caused disruptive events.

### **Science**

The FY 2021 Budget Request proposes \$5.8 billion in funding for the Office of Science to support scientific research, as well as construction and operation of open-access, scientific user facilities, including investments for:

- \$237 million in quantum information sciences, for understanding quantum systems behavior, to address scientific challenges beyond the capabilities of current computer technology and exploratory research towards quantum internet;
- \$475 million for the Exascale Computing Initiative, supporting DOE's commitment to deploy an Exascale computer system in calendar year 2021, followed by additional Exascale computing capability in 2022.
- \$125 million in artificial intelligence and machine learning;
- \$45 million for next-generation microelectronics; and
- \$2.4 billion for basic scientific research in core programs along with new multidisciplinary research initiatives to include data and computational collaboration with the National Institute of Health, next generation biology, rare earth and separation science, and strategic accelerator technology.

The FY 2021 Budget Request also proposes \$4.9 million in funding for the recently established Artificial Intelligence and Technology Office, the Department's hub for the development, coordination, and execution of efforts across the enterprise in artificial intelligence and machine learning.

### **National Security**

The FY 2021 Budget Request proposes \$26.4 billion for national security programs at the Department of Energy, including the Office of Environmental Management (EM), and Office of Legacy Management, and NNSA.

## **Office of Environmental Management**

- Funding requested for EM is \$6.1 billion for cleanup of 16 sites in 11 states.
  - \$5.0 billion for Defense Environmental Cleanup, includes \$1.7B to support the Liquid Waste Program at Savannah River Site to achieve risk reduction by stabilization and immobilization of high activity radionuclides through vitrification into canisters at the Defense Waste Processing Facility and \$1.3B for the Office of River Protection to safely manage and treat approximately 56 million gallons of radioactive liquid and chemical waste currently stored in underground storage tanks at Hanford;
  - \$276 million for Non-Defense Environmental Cleanup; and
  - \$881 million for Uranium Enrichment Decontamination and Decommissioning.

## **Office of Legacy Management**

- \$317 million is requested for the Office of Legacy Management (LM), including \$150 million for a reform proposal to transfer management of the Formerly Utilized Sites Remedial Action Program (FUSRAP) from the U.S. Army Corps of Engineers to LM

## **National Nuclear Security Administration**

- The NNSA budget request for FY 2021 totals \$19.8 billion.
  - \$9.5 billion to sustain and modernize the U.S. nuclear stockpile, includes \$4.3 for Stockpile Management to support stockpile sustainment, dismantlement, and modernization of the nuclear weapon program and \$2.5B for Production Modernization to support strategic materials production capabilities for nuclear weapons, requests funds equipment, facilities, and personnel required to reestablish the Nation's ability to produce pits with the goal of producing 30 pits in 2026 at Los Alamos National Laboratory and an additional 50 pits per year by 2030 at Savannah River Site;
  - \$4.4 billion to recapitalize and improve aging infrastructure, continuing the long-term effort to modernize the NNSA infrastructure, improving working conditions of NNSA's deteriorating facilities and equipment, and address safety and programmatic risks;
  - \$1.7 billion for physical security, information technology, cybersecurity, and other support for the NNSA nuclear security enterprise;
  - \$2.0 billion for nuclear nonproliferation, includes funding for enhanced nuclear counterterrorism and emergency operations to address nuclear threats by preventing the unwanted acquisition of nuclear weapons or weapons-usable

materials, countering efforts to acquire such weapons or materials, and responding to nuclear or radiological incidents;

- \$1.7 billion in Naval Reactors to provide safe and effective integrated nuclear propulsion systems to the U.S. Navy, continues funding for delivery of the reactor core for the Columbia-class submarine and refueling of the S8G prototype reactor; and,
- \$0.4 billion for Federal Salaries and Expenses.