DOE/CF-0208

Department of Energy
FY 2025
Budget in Brief

FY 2025 Congressional Justification

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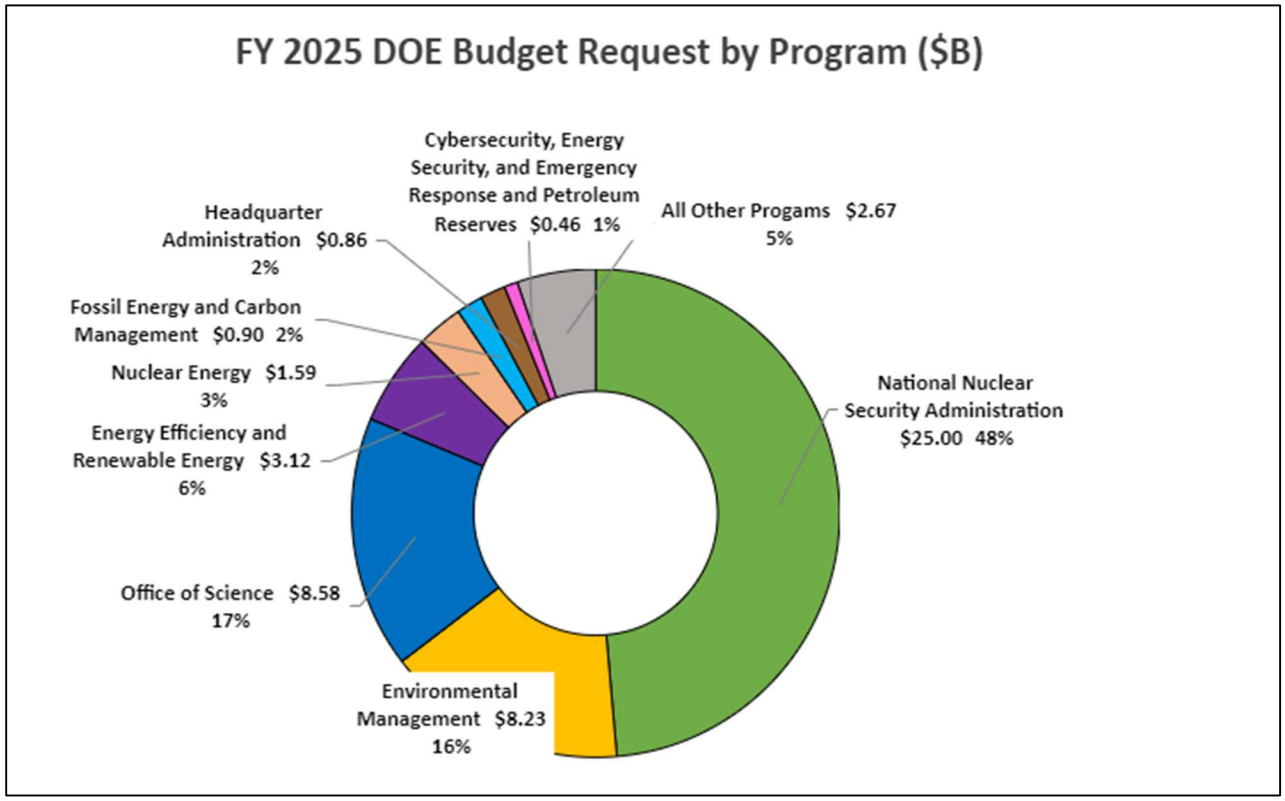
FY 2025 PRESIDENT'S BUDGET FOR DOE

DOE BUDGET ($BILLIONS)	2023 ENACTED*^	2024 ANNUALIZED CR	2025 REQUEST
DEFENSE (050)	*$30.96*	*$30.96*	*$33.52*
NON-DEFENSE (NON-050)	*$16.86*	*$17.01*	*$17.90*
TOTAL BUDGET AUTHORITY	**$47.82**	**$47.97**	**$51.42**

***** Includes $300 million in emergency designated funding enacted in Division M, Additional Ukraine Supplemental Appropriations, of the Consolidated Appropriations Act, 2023 (P.L. 117-328) for the Office of Nuclear Energy.
^ FY 2023 Enacted does not reflect the $2.0 billion rescission of mandatory funding for the Office of Petroleum Reserves.

Total = $51.42 Billion



The President's Fiscal Year (FY) 2025 Budget for the Department of Energy supports the Nation's prosperity by addressing its climate, energy, environmental, and nuclear security challenges through transformative science and technological solutions.

DOE proposes $51 billion in budget authority for FY 2025, a $3.6 billion, or 7.5 percent, increase from the FY 2023 Enacted Level. The 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; reducing health and environmental hazards for at-risk communities, bolstering the cybersecurity and resilience of the energy sector; and making historic investments to strengthen the Nation's nuclear security. DOE is uniquely prepared to continue and expand on this urgent work.

CREATES JOBS AND INVESTS IN INNOVATION FOR THE ENERGY ECONOMY

The Budget invests $1.6 billion through DOE, more than double the 2021 enacted level and 29 percent above the 2023 enacted level, 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 and Inflation Reduction Act, create good-paying jobs while driving progress toward the Administration's climate goals, including producing carbon pollution-free electricity by 2035. The Budget also 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.

EXPANDS CUTTING-EDGE RESEARCH AT NATIONAL LABORATORIES AND UNIVERSITIES

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, 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 Science budget also expands innovation in microelectronics and positions the United States to meet the demand for isotopes.

INVESTS IN CRITICAL AND EMERGING TECHNOLOGIES

The Budget provides a historic investment of $1.9 billion in advancing critical and emerging technologies, including biotechnology and biomanufacturing, quantum information sciences, exascale high speed computing, 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, 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 nuclear security mission, including 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 coordinated strategic outlook for these technologies, working with and through other DOE offices, enabling DOE leadership, as well as interagency, congressional, and external stakeholders, 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 pollution-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 $966 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 in the Industrial Efficiency and Decarbonization Office.

BUILDS THE CLEAN ENERGY INNOVATION PIPELINE

The Budget includes $8.5 billion across DOE to support researchers and entrepreneurs transforming innovations into commercial clean energy products, including in areas such as: offshore wind, industrial heat, sustainable aviation fuel, and grid infrastructure. Across DOE, the Budget provides over $325 million to support the research, development and commercialization of technologies and processes to increase the domestic supply of sustainable critical minerals and materials essential for several clean energy technologies. The Budget supports $76 million to advance technologies that can enable earlier detection of methane leaks and integrate across a network of methane monitoring sensors for more reliable measurement and mitigation and $150 million to make small quantities of high-assay, low-enriched uranium (HALEU) available for ongoing advanced nuclear reactor demonstrations. The Budget also assumes enactment of the Administration's request for $2.16 billion in FY 2024 supplemental funding to procure low-enriched uranium (LEU) and HALEU, which coupled with a long-term ban on imports of LEU and HALEU from Russia, would prompt sufficient private sector investment to reinvigorate U.S. uranium enrichment and reduce our current dependence on Russian imports for roughly 20 percent of LEU used in civilian nuclear power reactors. The $8.5 billion also includes $845 million for a Department-wide initiative to accelerate the viability of commercial fusion energy, coordinating academia, national laboratories, and the private sector, which supports the Bold Decadal Vision for Commercial Fusion Energy. The Budget funds eight crosscutting DOE Energy Earthshots™ initiatives which could substantially reduce the cost of energy for the American consumer through innovations in clean energy generation, energy efficiency, and storage. In addition, the Budget provides $30 million to accelerate commercial demonstration projects through a new National Laboratory Demonstration Support Program.

REDUCES HEALTH AND ENVIRONMENTAL HAZARDS FOR AT-RISK COMMUNITIES

The Budget includes $8.23 billion for the Environmental Management program and reflects 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 across EM sites.

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.

BOLSTERS THE CYBERSECURITY AND RESILIENCE OF THE ENERGY SECTOR

The Budget provides $200 million for the Office of Cybersecurity, Energy Security, and Emergency Response to enhance the security of energy technologies and the energy supply chain. The amount also includes assistance to States, local governments, Tribes, and Territories for emergency planning and preparation, including events caused by the impacts of climate change. An additional $261 million is provided for operation and maintenance of the Strategic Petroleum Reserve, Northeast Home Heating Oil Reserve, and Naval Petroleum and Oil Shale Reserves.

MAKES HISTORIC INVESTMENTS TO STRENGTHEN THE NATION'S NUCLEAR SECURITY AND PROTECT THE NATION FROM WEAPONS OF MASS DESTRUCTION TERRORISM

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. 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 Nuclear Security Enterprise, including recapitalizing essential scientific and production facilities.

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 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 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.

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 Expended Core Facility in Idaho.

SUPPORTS OTHER DEFENSE ACTIVITIES

The Budget provides $1.1 billion to support defense activities conducted by the Department including Legacy Management, Environment, Health, Safety and Security, Enterprise Assessments, Specialized Security Activities, Hearings and Appeals, and Defense Related Administrative Support.

ADMINISTRATION AND OVERSIGHT

Energy Information Agency

The Budget includes $141.7 million for the Energy Information Agency (EIA) to enable EIA to continue delivering the critical, independent energy information products on which its stakeholders rely, including weekly petroleum and natural gas inventory reports, comprehensive monthly forecasts of energy markets, and long-term outlooks for U.S. and global energy production and consumption.

Office of Technology Transitions

The Budget includes $27.1 million to focus on expanding the commercial and public impact of the Department of Energy's research investments and enabling technology commercialization that supports the missions of the Department. OTT serves a multi-faceted role across the Research, Development, Demonstration, and Deployment continuum to support the transition of our technologies to the market by collaborating across DOE Program Offices to manage lab-to-market and other technology commercialization activities, including the statutory Technology Commercialization Fund, the Energy I-Corps, the Energy Program for Innovation Clusters, Energy Technology University Prize, and the Lab Partnering Service. Funding is separately requested to support the Foundation for Energy Security and Innovation (FESI) which will support the mission of DOE and will increase private and philanthropic sector investments to accelerate the commercialization of energy technologies.

Departmental Administration

The Budget includes $335 million for Departmental Administration (DA) programs to support initiatives that achieve energy equity and environmental justice across the DOE complex and laboratories, assist underserved communities, accelerate international climate progress, deploy American innovation, and support economic prosperity at home and abroad, and increase energy security and clean energy initiatives. To further support the President’s commitment to clean energy goals, the Budget includes additional funding to continue DOE’s transition from GSA leased gas powered vehicles to electric vehicles and charging infrastructure and expand statistical/analytical capabilities that will provide near-real time analysis to be used by policymakers across the government to inform decisions. To continue protecting DOE against cyber-vulnerabilities, resources are needed for critical cybersecurity investments, including those related to the implementation of Zero Trust principles and post-quantum cryptography pilot programs, and managing Artificial Intelligence in critical infrastructure and cybersecurity. The Request advances the DA programs critical functions including management and mission support organizations that have enterprise-wide responsibility for international engagement and promotion of global market opportunities, administration, accounting, budgeting, contract and project management, human resources, congressional and intergovernmental liaison, energy policy, information management, life-cycle asset management, legal services, workforce diversity and equal employment opportunity, ombudsman services, small business advocacy, sustainability, and public affairs.

Office of the Inspector General

The Budget includes $149 million in discretionary authority in FY 2025. *Pursuant to 5 USC 406(g)(3)(E), the Office of the Inspector General has determined that the budget proposal would substantially inhibit performance of duties. A statement from the OIG is included to accompany the OIG Budget proposal.*

DEPARTMENT OF ENERGY

Appropriation Summary

FY 2025

(Dollars in Thousands)

	FY 2023 Enacted[1],[2],[3]	FY 2024 Annualized CR	FY 2025 Request[4]	FY 2025 Request vs. FY 2023 Enacted $	FY 2025 Request vs. FY 2023 Enacted %
Department of Energy Budget by Appropriation					
Energy Efficiency and Renewable Energy	3,460,000	3,460,000	3,118,000	-342,000	-9.9%
Electricity	350,000	350,000	293,000	-57,000	-16.3%
Cybersecurity, Energy Security and Emergency Response	200,000	200,000	200,000	0	0.0%
Strategic Petroleum Reserve	207,175	207,175	241,169	33,994	16.4%
Naval Petroleum and Oil Shale Reserves	13,004	13,004	13,010	6	0.0%
SPR Petroleum Account	100	100	100	0	0.0%
Northeast Home Heating Oil Reserve	7,000	7,000	7,150	150	2.1%
Total, Petroleum Reserve Accounts	**227,279**	**227,279**	**261,429**	**34,150**	**15.0%**
Total, Cybersecurity, Energy Security, and Emergency Response	**427,279**	**427,279**	**461,429**	**34,150**	**8.0%**
Nuclear Energy (270)	1,623,000	1,623,000	1,440,660	-182,340	-11.2%
Fossil Energy and Carbon Management	890,000	890,000	900,000	10,000	1.1%
Uranium Enrichment Decontamination and Decommissioning (UED&D)	879,052	879,052	854,182	-24,870	-2.8%
Energy Information Administration	135,000	135,000	141,653	6,653	4.9%
Non-Defense Environmental Cleanup	358,583	358,583	314,636	-43,947	-12.3%
Science	8,100,000	8,100,000	8,583,000	483,000	6.0%
Office of Technology Transitions	22,098	22,098	27,098	5,000	22.6%
Office of Clean Energy Demonstrations	89,000	89,000	180,000	91,000	102.2%
Federal Energy Management Program	0	0	64,000	64,000	N/A
Grid Deployment Office	0	0	101,870	101,870	N/A
Office of Manufacturing & Energy Supply Chains	0	0	113,350	113,350	N/A
Office of State and Community Programs	0	0	574,000	574,000	N/A
Advanced Research Projects Agency - Energy	470,000	470,000	450,000	-20,000	-4.3%
Nuclear Waste Disposal Fund	10,205	10,205	12,040	1,835	18.0%
Departmental Administration	283,000	283,000	334,671	51,671	18.3%
Indian Energy Policy and Programs	75,000	75,000	95,000	20,000	26.7%
Inspector General	86,000	86,000	149,000	63,000	73.3%
Title 17 Innovative Technology Loan Guarantee Program	-136,018	-71,362	-184,558	-48,540	35.7%
Advanced Technology Vehicles Manufacturing Loan Program	9,800	9,800	27,508	17,708	180.7%
Tribal Energy Loan Guarantee Program	4,000	4,000	6,300	2,300	57.5%
Total, Credit Programs	**-122,218**	**-57,562**	**-150,750**	**-28,532**	**23.3%**
Energy Projects	221,969	221,969	0	-221,969	-100.0%
Critical and Emerging Technologies	0	0	5,000	5,000	N/A
Total, Energy Programs	**17,357,968**	**17,422,624**	**18,061,839**	**703,871**	**4.1%**
Weapons Activities	17,116,119	17,116,119	19,848,644	2,732,525	16.0%
Defense Nuclear Nonproliferation	2,490,000	2,490,000	2,465,108	-24,892	-1.0%
Naval Reactors	2,081,445	2,081,445	2,118,773	37,328	1.8%
Federal Salaries and Expenses	475,000	475,000	564,475	89,475	18.8%
Total, National Nuclear Security Administration	**22,162,564**	**22,162,564**	**24,997,000**	**2,834,436**	**12.8%**
Defense Environmental Cleanup	7,025,000	7,025,000	7,059,695	34,695	0.5%

	FY 2023 Enacted[1],[2],[3]	FY 2024 Annualized CR	FY 2025 Request[4]	FY 2025 Request vs. FY 2023 Enacted $	FY 2025 Request vs. FY 2023 Enacted %
Other Defense Activities	1,035,000	1,035,000	1,140,023	105,023	10.1%
Defense Uranium Enrichment D&D	586,035	586,035	384,957	-201,078	-34.3%
Total, Environmental and Other Defense Activities	**8,646,035**	**8,646,035**	**8,584,675**	**-61,360**	**-0.7%**
Nuclear Energy (050)	150,000	150,000	150,000	0	0.0%
Total, Atomic Energy Defense Activities	**30,958,599**	**30,958,599**	**33,731,675**	**2,773,076**	**9.0%**
Southeastern Power Administration	0	0	0	0	N/A
Southwestern Power Administration	10,608	10,608	11,440	832	7.8%
Western Area Power Administration	98,732	98,732	100,855	2,123	2.2%
Falcon and Amistad Operating and Maintenance Fund	228	228	228	0	0.0%
Total, Power Marketing Administrations	**109,568**	**109,568**	**112,523**	**2,955**	**2.7%**
Federal Energy Regulatory Commission	0	0	0	0	N/A
Total, Energy and Water Development and Related Agencies	**48,426,135**	**48,490,791**	**51,906,037**	**3,479,902**	**7.2%**
Excess Fees and Recoveries, FERC	-9,000	-9,000	-9,000	0	0.0%
Title XVII Loan Guar. Prog Section 1703 Negative Credit Subsidy Receipt	-14,000	-14,000	-2,051	11,949	-85.4%
UED&D Fund Offset	-586,035	-586,035	-384,957	201,078	-34.3%
Sale of Northeast Gasoline Supply Reserve	0	0	-95,000	-95,000	N/A
Discretionary Funding by Appropriation	**47,817,100**	**47,881,756**	**51,415,029**	**3,597,929**	**7.5%**
DOE Budget Function	**47,817,100**	**47,881,756**	**51,415,029**	**3,597,929**	**7.5%**
NNSA Defense (050) Total	22,162,564	22,162,564	24,997,000	2,834,436	12.8%
Non-NNSA Defense (050) Total	8,796,035	8,796,035	8,734,675	-61,360	-0.7%
Defense (050)	*30,958,599*	*30,958,599*	*33,731,675*	*2,773,076*	*9.0%*
Science (250)	8,100,000	8,100,000	8,583,000	483,000	6.0%
Energy (270)	8,758,501	8,823,157	9,100,354	341,853	3.9%
Non-Defense (Non-050)	*16,858,501*	*16,923,157*	*17,683,354*	*824,853*	*4.9%*

[1] Funding does not reflect the mandated transfer of $99.75 million in FY 2023 from Naval Reactors to the Office of Nuclear Energy and the inclusion of the mandated transfer in the calculation of the rate of operations for FY 2024 for operation of the Advanced Test Reactor.

[2] Funding does not reflect the transfer of $20 million from the Office of Nuclear Energy to the Office of Science for Nuclear Facilities Oak Ridge National Laboratory Operations and Maintenance.

[3] FY 2023 Enacted levels for base funding includes $300 million for the Office of Nuclear Energy that was enacted in Division M, Additional Ukraine Supplemental Appropriations, of the Consolidated Appropriations Act, 2023 (P.L. 117-328).

[4] FY 2025 levels include the reallocation of $173 million in funding from Defense Environmental Cleanup to Weapons Activities to support the transition of oversight of the Savannah River Site to NNSA.

DEPARTMENT OF ENERGY

Organization Summary

FY 2025

(Dollars in Thousands)

	FY 2023	FY 2024	FY 2025	FY 2025 Request vs. FY 2023 Enacted	
	Enacted[(1),(2),(3)]	Annualized CR	Request (4)	$	%
Department of Energy Budget by Organization					
Undersecretary for Nuclear Security and National Nuclear Security Administration					
Federal Salaries and Expenses	475,000	475,000	564,475	89,475	18.8%
Weapons Activities	17,116,119	17,116,119	19,848,644	2,732,525	16.0%
Defense Nuclear Nonproliferation	2,490,000	2,490,000	2,465,108	-24,892	-1.0%
Naval Reactors	2,081,445	2,081,445	2,118,773	37,328	1.8%
Total, Undersecretary for Nuclear Security and National Nuclear Security Administration	**22,162,564**	**22,162,564**	**24,997,000**	**2,834,436**	**12.8%**
Undersecretary for Science and Innovation					
Science	8,100,000	8,100,000	8,583,000	483,000	6.0%
Energy Efficiency and Renewable Energy	3,460,000	3,460,000	3,118,000	-342,000	-9.9%
Fossil Energy and Carbon Management	890,000	890,000	900,000	10,000	1.1%
Nuclear Energy	1,773,000	1,773,000	1,590,660	-182,340	-10.3%
Nuclear Waste Disposal Fund	10,205	10,205	12,040	1,835	18.0%
Electricity	350,000	350,000	293,000	-57,000	-16.3%
Energy Projects	221,969	221,969	0	-221,969	-100.0%
Critical and Emerging Technologies	0	0	5,000	5,000	N/A
Total, Undersecretary for Science and Innovation	**14,805,174**	**14,805,174**	**14,501,700**	**-303,474**	**-2.0%**
Undersecretary for Infrastructure (S3)					
Office of Clean Energy Demonstrations	89,000	89,000	180,000	91,000	102.2%
CESER and Petroleum Reserves					
Cybersecurity, Energy Security and Emergency Response	200,000	200,000	200,000	0	0.0%
Petroleum Reserves					
Strategic Petroleum Reserve	207,175	207,175	241,169	33,994	16.4%
Naval Petroleum and Oil Shale Reserves	13,004	13,004	13,010	6	0.0%
SPR Petroleum Account	100	100	100	0	0.0%
Northeast Home Heating Oil Reserve	7,000	7,000	7,150	150	2.1%
Total, Petroleum Reserves	**227,279**	**227,279**	**261,429**	**34,150**	**15.0%**
Total, CESER and Petroleum Reserves	**427,279**	**427,279**	**461,429**	**34,150**	**8.0%**
Federal Energy Management Program	0	0	64,000	64,000	N/A
Indian Energy Policy and Programs	75,000	75,000	95,000	20,000	26.7%
Grid Deployment Office	0	0	101,870	101,870	N/A
Loan Programs Office					
Title 17 Innovative Technology Loan Guarantee Program	-136,018	-71,362	-184,558	-48,540	35.7%
Advanced Technology Vehicles Manufacturing Loan Program	9,800	9,800	27,508	17,708	180.7%
Tribal Energy Loan Guarantee Program	4,000	4,000	6,300	2,300	57.5%
Total, Loan Programs Office	**-122,218**	**-57,562**	**-150,750**	**-28,532**	**23.3%**

	FY 2023 Enacted[1],[2],[3]	FY 2024 Annualized CR	FY 2025 Request [4]	FY 2025 Request vs. FY 2023 Enacted $	FY 2025 Request vs. FY 2023 Enacted %
Power Marketing Administrations (PMAs)					
Southeastern Power Administration	0	0	0	0	N/A
Southwestern Power Administration	10,608	10,608	11,440	832	7.8%
Western Area Power Administration	98,732	98,732	100,855	2,123	2.2%
Falcon and Amistad Operating and Maintenance Fund	228	228	228	0	0.0%
Total, Power Marketing Administrations (PMAs)	**109,568**	**109,568**	**112,523**	**2,955**	**2.7%**
Office of Manufacturing & Energy Supply Chains	0	0	113,350	113,350	N/A
Office of State and Community Programs	0	0	574,000	574,000	N/A
Total, Undersecretary for Infrastructure (S3)	**578,629**	**643,285**	**1,551,422**	**972,793**	**168.1%**
Direct Reports					
Environmental Management					
Non-Defense Environmental Cleanup	358,583	358,583	314,636	-43,947	-12.3%
Uranium Enrichment Decontamination and Decommissioning (UED&D)	879,052	879,052	854,182	-24,870	-2.8%
Defense Environmental Cleanup	7,025,000	7,025,000	7,059,695	34,695	0.5%
Defense Uranium Enrichment D&D	586,035	586,035	384,957	-201,078	-34.3%
Environment, Health, Safety, and Security	215,539	215,539	232,463	16,924	7.9%
Office of Enterprise Assessments	85,427	85,427	94,154	8,727	10.2%
Specialized Security Activities	335,000	335,000	390,000	55,000	16.4%
Legacy Management	190,909	190,909	205,258	14,349	7.5%
Defense-Related Administrative Support	203,648	203,648	213,649	10,001	4.9%
Office Of Hearings And Appeals	4,477	4,477	4,499	22	0.5%
Advanced Research Projects Agency - Energy	470,000	470,000	450,000	-20,000	-4.3%
Energy Information Administration	135,000	135,000	141,653	6,653	4.9%
Office of the Secretary	6,642	6,642	7,215	573	8.6%
Congressional & Intergovernmental Affairs	5,000	5,000	7,112	2,112	42.2%
Office of the Chief Financial Officer	62,283	62,283	67,345	5,062	8.1%
Economic Impact & Diversity	34,140	34,140	36,530	2,390	7.0%
Office of International Affairs	32,000	32,000	37,874	5,874	18.4%
Chief Information Officer	215,000	215,000	229,434	14,434	6.7%
Artificial Intelligence and Technology Office	1,000	1,000	0	-1,000	-100.0%
Industrial Emissions and Technology Coordination	0	0	2,000	2,000	N/A
Strategic Partnership Projects	40,000	40,000	40,000	0	0.0%
Miscellaneous Revenues	-100,578	-100,578	-100,578	0	0.0%
Office of Management	66,000	66,000	77,000	11,000	16.7%
Project Management Oversight & Assessments	13,550	13,550	16,312	2,762	20.4%
Office of Human Capital Management	35,300	35,300	39,000	3,700	10.5%
Office of Small & Disadvantaged Business Utilization	4,200	4,200	5,241	1,041	24.8%
General Counsel	41,725	41,725	41,725	0	0.0%
Office of Policy	23,950	23,950	34,138	10,188	42.5%
Public Affairs	5,936	5,936	7,972	2,036	34.3%
Undistributed Other Departmental Administration	500	500	0	-500	-100.0%
Defense Related Administrative Support	-203,648	-203,648	-213,649	-10,001	4.9%
Office of Technology Transitions (OTT)	22,098	22,098	27,098	5,000	22.6%
Inspector General	86,000	86,000	149,000	63,000	73.3%
Total, Direct Reports	**10,879,768**	**10,879,768**	**10,855,915**	**-23,853**	**-0.2%**

	FY 2023 Enacted[1],[2],[3]	FY 2024 Annualized CR	FY 2025 Request [4]	FY 2025 Request vs. FY 2023 Enacted $	FY 2025 Request vs. FY 2023 Enacted %
Federal Energy Regulatory Commission	0	0	0	0	N/A
Receipts and Offsets					
Receipts and Offsets	-609,035	-609,035	-491,008	118,027	-19.4%
Total, Receipts and Offsets	**-609,035**	**-609,035**	**-491,008**	**118,027**	**-19.4%**
Total, Funding by Organization	**47,817,100**	**47,881,756**	**51,415,029**	**3,597,929**	**7.5%**

[1] Funding does not reflect the mandated transfer of $99.75 million in FY 2023 from Naval Reactors to the Office of Nuclear Energy and the inclusion of the mandated transfer in the calculation of the rate of operations for FY 2024 for operation of the Advanced Test Reactor.

[2] Funding does not reflect the transfer of $20 million from the Office of Nuclear Energy to the Office of Science for Nuclear Facilities Oak Ridge National Laboratory Operations and Maintenance.

[3] FY 2023 Enacted levels for base funding includes $300 million for the Office of Nuclear Energy that was enacted in Division M, Additional Ukraine Supplemental Appropriations, of the Consolidated Appropriations Act, 2023 (P.L. 117-328).

[4] FY 2025 levels include the reallocation of $173 million in funding from Defense Environmental Cleanup to Weapons Activities to support the transition of oversight of the Savannah River Site to NNSA.

Program Office Details

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
National Nuclear Security Administration					
Federal Salaries and Expenses	475,000	475,000	564,475	+89,475	+18.8%
Weapons Activities	17,116,119	17,116,119	19,848,644	+2,732,525	+16.0%
Defense Nuclear Nonproliferation	2,490,000	2,490,000	2,465,108	-24,892	-1.0%
Naval Reactors[1]	2,081,445	2,081,445	2,118,773	+37,328	+1.8%
Total, National Nuclear Security Administration	**22,162,564**	**22,162,564**	**24,997,000**	**+2,834,436**	**+12.8%**

Appropriation Overview

The **National Nuclear Security Administration (NNSA)** FY 2025 Budget Request is $24,997,000,000 to fund NNSA's mission to support the security and safety of our Nation. NNSA's FY 2025 Budget Request pursues five major national security endeavors:

- Maintain a safe, secure, reliable, and effective nuclear weapons stockpile;
- Reduce global nuclear threats and keep materials out of the hands of terrorists and adversaries;
- Provide safe and effective integrated nuclear propulsion systems for the U.S. Navy;
- Strengthen key science, technology and engineering capabilities to support all missions; and,
- Modernize the Department of Energy's Nuclear Security Enterprise.

Key to all these efforts is providing the necessary federal oversight for growing mission requirements.

Program Highlights

The **Weapons Activities** FY 2025 Budget Request is $19,848,644,000, a $2,732,525,000 (16.0 percent) increase above FY 2023 Enacted.

The **Defense Nuclear Nonproliferation (DNN)** FY 2025 Budget Request is $2,465,108,000, a $24,892,000 (1.0 percent) decrease from FY 2023 Enacted.

The **NNSA Federal Salaries and Expenses (FSE)** FY 2025 Budget Request is $564,475,000, a $89,475,000 (18.8 percent) increase above FY 2023 Enacted.

The **Naval Reactors (NR)** FY 2025 Budget Request is for $2,118,773,000, a $37,328,000 (1.8 percent) increase from FY 2023 Enacted.

Major Out-year Priorities and Assumptions

NNSA's FYNSP topline for FY 2026– FY 2029 is $108.7 billion. The Request is fully informed by and supports the 2022 Nuclear Posture Review and National Security Strategy and is also aligned with Department of Defense (DoD) requirements to ensure the U.S. nuclear deterrent continues to be safe, secure, reliable, and effective. The Request continues to modernize America's nuclear stockpile and infrastructure, and the underlying science that supports strategic decisions and certification of the stockpile, as detailed in the annual *Stockpile Stewardship and Management Plan (SSMP)*. The Request supports the U.S Navy's nuclear fleet through safe and effective integrated nuclear propulsion systems. The Request also supports the nonproliferation goals outlined in NNSA's *Prevent, Counter, and Respond—A Strategic Plan to Reduce Global Nuclear Threats (NPCR)*.

[1] Funding does not reflect the mandated transfer of $99.75 million in FY 2023 to the Office of Nuclear Energy and the inclusion of the mandated transfer in the calculation of the rate of operations for FY 2024 for operation of the Advanced Test Reactor.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Federal Salaries and Expenses					
Federal Salaries and Expenses	491,800	491,800	564,475	+72,675	+14.8%
Use of Prior Year Balances	-16,800	-16,800	-	+16,800	-100.0%
Total, Federal Salaries and Expenses	**475,000**	**475,000**	**564,475**	**+89,475**	**+18.8%**

Appropriation Overview

The **National Nuclear Security Administration (NNSA) Federal Salaries and Expenses** (FSE) funds recruiting, training, and retention of federal staff who perform program and project management for Weapons Activities (WA) and Defense Nuclear Nonproliferation (DNN). It does not include funding for the Federal staff supporting the WA Secure Transportation Asset program or the Naval Reactors account. The growth in the FSE account will support 2,084 Federal Full-time Equivalents (FTEs) which is 220 above the FY 2023 enacted. The request includes 2,060 FTEs paid from FSE and 24 paid through the Working Capital Fund. FSE also provides space and occupancy needs, travel costs, support service contractors, training, and other related expenses. Eighty-two percent of FY 2025 FSE funds are for federal salaries and benefits.

The NNSA workforce consists of a diverse team of scientists, engineers, project and program managers, foreign affairs specialists, and support staff that perform program and project management and appropriate oversight of the national security missions related to the WA and DNN accounts.

NNSA federal staff are located throughout the United States, reflecting NNSA's work with the nuclear security enterprise. NNSA's federal workforce is in Washington, DC; Germantown, Maryland; Albuquerque, New Mexico; and at eight federal field offices: Kansas City Field Office (Missouri); Lawrence Livermore Field Office (California); Los Alamos Field Office (New Mexico); Nevada Field Office (Nevada); Pantex Field Office (Texas); Y-12 Field Office (Tennessee); Sandia Field Office (New Mexico); and Savannah River Field Office (South Carolina).

NNSA also manages the Department of Energy's (DOE) Overseas Presence business line in the DOE Working Capital Fund (WCF), which funds 24 FTEs, including 22 DOE FTEs in 21 diplomatic missions and 2 Headquarters FTEs for transition to and from overseas locations. NNSA supervises both federal employees and locally employed staff overseas and reimburses the Department of State for International Cooperative Administrative Support Services and Capital Security Cost Sharing charges.

Program Highlights

The $564,475,000 request supports a federal staff of 2,084 FTEs providing appropriate oversight to ensure NNSA can meet growing mission requirements and commitments including modernizing the nuclear deterrent, recapitalizing the aging infrastructure, and continuing to meet the requirements of nonproliferation and counterterrorism programs. This request includes $14,475,000 for up to 85 FTEs for the transfer of landlord responsibility; including primary authority, accountability, and site stewards from DOE Environmental Management (EM), Savannah River Operations Office to NNSA The transfer was deemed necessary given the steadily increasing NNSA mission requirements at the Savannah River Site and the concurrent progression of the EM clean-up mission toward a defined end-state.

The NNSA workforce is critical to the success of the Nation's nuclear security enterprise. The right number of people, with the right skills, in the right positions is key to the growing mission. The specialized Federal workforce are responsive to the dynamic geopolitical environment providing programmatic direction, leadership, and oversight for the timely development and delivery of a modernized nuclear deterrent, requirements for nonproliferation and counterterrorism programs, foundational science capabilities, and recapitalization of critical aging infrastructure for the Nuclear Security Enterprise (NSE).

The NNSA Office of Cost Estimating and Program Evaluation has begun the NNSA Strategic Workforce Planning initiative to identify workload drivers and workforce distribution across the NNSA to plan and program federal FTEs into the FY 2026-2030 FYNSP Program. Initial results indicated a need for additional FTEs over the NNSA staffing plan. Once complete, the Strategic Workforce Plan will be used to inform FY 2025 FTE allocations by mission area. In addition, NNSA is committed to fill current and future positions and will use a variety of methods to grow and shape the professional staff including recruitment events and excepted service hiring authority. NNSA will continue to monitor the evolving need for federal oversight in support of the nuclear modernization missions and adjust future staffing plans accordingly. NNSA established a full-time recruitment team focused on conducting outreach and recruitment for NNSA's mission critical occupations. This includes agency-sponsored career fairs, in which candidates can discuss career opportunities with hiring managers and have follow-up interviews, as well as career fairs targeted towards college students, transitioning military personnel and spouses, and individuals with disabilities. NNSA's recruitment and hiring actions will continue to support the Administration goals of promoting racial and economic equity across the Federal Government pursuant to Executive Order 13985, while promoting science and research and development. NNSA has continued to expand its recruitment and outreach efforts through sourcing and participating in numerous events to ensure the Agency is reaching all segments of society, to include all minority communities.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Weapons Activities					
Stockpile Management	4,954,107	4,954,107	5,140,688	+186,581	+3.8%
Production Modernization	5,116,705	5,116,705	5,877,692	+760,987	+14.9%
Stockpile Research, Technology, and Engineering	2,949,996	2,949,996	3,174,152	+224,156	+7.6%
Academic Programs and Community Support	111,912	111,912	128,188	+16,276	+14.5%
Infrastructure and Operations	2,602,580	2,602,580	3,299,866	+697,286	+26.8%
Secure Transportation Asset	344,437	344,437	371,424	+26,987	+7.8%
Defense Nuclear Security	872,100	872,100	1,180,000	+307,900	+35.3%
Information Technology and Cybersecurity	445,654	445,654	646,000	+200,346	+45.0%
Legacy Contractor Pensions and Settlement Payments	114,632	114,632	30,634	-83,998	-73.3%
Subtotal, Weapons Activities	**17,512,123**	**17,512,123**	**19,848,644**	**+2,336,521**	**+13.3%**
Use of Prior Year Balances	-396,004	-396,004	-	+396,004	100.0%
Total, Weapons Activities	**17,116,119**	**17,116,119**	**19,848,644**	**+2,732,525**	**+16.0%**

Appropriation Overview

The FY 2025 Request supports the current nuclear stockpile, warhead modernization programs to include life extension programs (LEP) and modifications, production facilities and capabilities modernization efforts, the scientific tools necessary to execute these efforts, and recapitalization of physical infrastructure and essential facilities to ensure the deterrent remains viable. Programs funded within the Weapons Activities appropriation support the Nation's nuclear stockpile and its attendant nationwide infrastructure of science, technology, engineering, and production capabilities. Weapons Activities provides for the maintenance and refurbishment of nuclear weapons to continue sustained confidence in their safety, reliability, and military effectiveness without resuming nuclear explosive testing; continued investment in scientific, engineering, and manufacturing capabilities to enable production and certification of the enduring nuclear weapons stockpile; and manufacture of nuclear weapon components. Weapons Activities also provides for continued maintenance and investment in the National Nuclear Security Administration (NNSA) nuclear complex to be more responsive and resilient.

NNSA's laboratories, plants, and sites employ approximately 57,000 people across the Nuclear Security Enterprise, primarily at eight geographical sites, to execute these programs managed by a Federal workforce composed of civilian staff supplemented with a small number of military assignees. Following the transfer of responsibility for management of the Savannah River Site (SRS) management and operating contract from the Office of Environmental Management to NNSA, the Nuclear Security Enterprise will add an additional 13,000 personnel. Additional details about the Weapons Activities programs will be included in the FY 2025 Stockpile Stewardship and Management Plan (SSMP).

Program Highlights

Stockpile Management

The Stockpile Management program maintains a safe, secure, reliable, and effective nuclear weapons stockpile. In FY 2025, **Stockpile Major Modernization** is scheduled to continue and complete Phase 6.6 (*Full-Scale Production*) activities including completion of Last Production Unit (LPU) for the B61-12 Life Extension Program (LEP) and W88 Alteration (ALT) 370; continue Phase 6.4 (*Production Engineering*) activities for the W80-4 LEP; continue Phase 6.3 (*Development Engineering*) activities for the W87-1 Modification Program; and continue and complete Phase 2 (*Feasibility Study and Design Options)* for the W93 Program. The W93 will commence Phase 2A (Feasibility and Cost Study). The B61-13 will complete design definition. W80-4 ALT SLCM is not currently funded in FY 2025 request. Should Congress appropriate funds in FY 2024 NNSA and DOD will establish program requirements for FY 2025. **Stockpile Sustainment** will execute the activities

necessary to sustain a safe, secure, reliable, and effective stockpile. **Weapons Dismantlement and Disposition (WDD)** will provide safe and secure dismantlement of nuclear weapons and components and continue legacy component disposition. **Production Operations (PO)** will provide site-specific, production-enabling capabilities to enable weapons production, including process improvements and investments focused on increased efficiency of production performance. **Nuclear Enterprise Assurance (NEA)** will prevent, detect, and mitigate potential consequences of subversion, both to the stockpile and to the associated capabilities to design, produce, and test nuclear weapons.

Production Modernization

The Production Modernization portfolio focuses on the production capabilities for nuclear weapons components critical to weapon performance, including primaries, secondaries, radiation cases, and non-nuclear components. Production Modernization funds the equipment, facilities, and personnel required to reestablish the Nation's capability to produce 80 pits per year (ppy). FY 2025 funding will support Plutonium Pit Production at both Los Alamos National Laboratory and the Savannah River Site. Production Modernization also supports qualification of explosive, pyrotechnic, and propellant materials for the NNSA's nuclear security enterprise across five sites; implements the program necessary to produce tritium in support of the nuclear weapons stockpile and other national programs; funds modernization of uranium operations, delivery of canned subassemblies and components needed to maintain the stockpile, as well as support to the U.S. nonproliferation and naval nuclear propulsion programs; supports the restart and modernization of lapsed depleted uranium (DU) alloying and component manufacturing capabilities for meeting short- and long-term mission requirements; maintains production of the Nation's enriched lithium supply; and provides funding to modernize production of non-nuclear components and warhead assembly/disassembly operations required for both the active stockpile and warhead modernization programs.

Stockpile Research, Technology, and Engineering (SRT&E)

The SRT&E portfolio provides the scientific foundation for science-based stockpile decisions and actions, develops the personnel required to support the current and future stockpile, and includes the capabilities, tools, and components needed to support all missions. The FY 2025 funding supports the continued implementation of the Enhanced Capabilities for Subcritical Experiments (ECSE) and preparations for the deployment of NNSA's first exascale high-performance computing system. These two capabilities are required to meet W80-4 LEP confirmation experiment and reduce uncertainty in the W87-1 Modification certification. The Inertial Confinement Fusion (ICF) program leverages its experimental design expertise and computational modeling tools, diagnostic technology, target engineering and fabrication infrastructure, and national High-Energy-Density (HED) facilities to ensure high fidelity experimental capabilities and data are available to support a range of NNSA missions. The program represents the only experimental option available to address many of the weapon relevant HED science challenges without resuming underground explosive nuclear testing. In addition to the procurement and utilization of NNSA's first exascale machine, the funding supports the development and deployment of improved physics and engineering codes needed to support stockpile decisions to operate on this new platform. Funding in this area also supports the development of new materials, technologies, and processes to modernize the nuclear systems and production complex, as well as supporting several experimental testbed capabilities. This is accomplished through warhead component and production technology development and maturation.

Academic Programs and Community Support

Academic Programs and Community Support enables robust and diverse science, technology, engineering, and mathematics (STEM) research for educational communities through a variety of methods (i.e., grants, fellowships, collaborations, user access). Investments in consortia and centers of excellence provide collaborative groups to address important scientific and technical questions related to NNSA mission areas. Research efforts leverage multi-disciplinary approaches, and preeminent scientists in relevant fields. This program also includes a Community Capacity Building Program to provide benefits to communities affected by activities at NNSA's sites.

Infrastructure and Operations (I&O)

I&O maintains, operates, and modernizes the NNSA infrastructure in a safe and secure manner to support program execution while seeking to maximize return on investment and reduce enterprise risk. The program plans, prioritizes, and constructs facilities and infrastructure to support all NNSA programs, except for new complex-construction projects, which are funded by the capability sponsor. 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. Furthermore, the funding allows NNSA to execute Recapitalization projects to improve the condition and extend the design life of structures, capabilities, and systems to meet program demands. The requested funding will reduce future operating costs by replacing older facilities with new, more efficient facilities. Additionally, the funding will and reduce safety, security, environment, and program risk. Funding is also requested to support ongoing Savannah River Site activities previously funded in Defense Environmental Cleanup, as well as infrastructure investments necessary to begin transitioning SRS to an enduring mission site.

I&O contains funds that provide safety oversight, manage nuclear material accountability, packaging and transportation expertise, waste management, and environmental support to both existing and emerging missions. The FY 2025 Request includes increased funding for the Pantex Plant to address groundwater contamination.

Secure Transportation Asset (STA)
STA supports safe, secure transport of the Nation's nuclear weapons, weapon components, and special nuclear material throughout the National Security Enterprise (NSE). Nuclear weapon life-extension programs, limited-life component exchanges, surveillance, dismantlement, nonproliferation activities, and experimental programs rely on STA activities to ensure safe, secure, and on-schedule transport. The FY 2025 Request supports modernizing and sustaining STA transportation assets, including life extension of the Safeguards Transporter until it is replaced by the Mobile Guardian Transporter; vehicle sustainment; replacement of armored tractors, escort, and support vehicles; upgrades of the Tractor Control Unit to accommodate for communications and security; and continued development and testing of the Mobile Guardian Transporter. The first Mobile Guardian Transporter production unit is planned for completion in FY 2028 and will begin a phased in approach to replace the current Safeguard Transporter. Program Direction resources in this account provide salaries and expenses for the secure transportation workforce, including Federal Agents.

Defense Nuclear Security (DNS)
DNS provides protection for NNSA personnel, facilities, nuclear weapons, and materials from a full spectrum of threats, ranging from minor security threats to acts of terrorism. DNS is responsible for security at NNSA's national laboratories, production plants, processing facilities, and the Nevada National Security Site (NNSS). Employing more than 1,800 Protective Force officers, DNS secures more than 5,000 buildings and protects more than 69,000 personnel. The FY 2025 request includes funding to fill positions in key security program areas required to implement a risk-based, layered protection strategy at the sites. The request also supports increased security needs associated with known mission growth in weapons programs across the NSE, including plutonium pit production, Kansas City expansion efforts, and preparation for operation of the Uranium Processing Facility (UPF). In addition, the request reflects support for FY 2025 Core Security requirements, as well as initiatives for the Physical Security Center of Excellence (PSCOE) and the Center for Security Technology, Analysis, Response, and Testing (CSTART) as well as funding for the WEPAR project, which will install a new Perimeter Intrusion Detection and Assessment System (PIDAS) section, thus reducing the Y-12 National Security Complex (Y-12) Protected Area by approximately 50% while integrating with the UPF.

Information Technology (IT) and Cybersecurity
The NNSA Office of the Associate Administrator for Information Management and Chief Information Officer (OCIO) is responsible for information management, information technology (IT), and cybersecurity for the NNSA enterprise. To effectively achieve this, the OCIO has implemented an organizational structure that supports its functions under three organizations: the Office of Information Technology, the Office of Cybersecurity, and the Office of Mission Integration. The OCIO supports IT and cybersecurity services and solutions, which include continuous monitoring, cloud-based technologies, and enterprise security technologies (i.e., identity, credential, and access management). As a mission partner, OCIO ensures and enables the availability of a secure infrastructure for mission activities and information sharing for the NNSA and its mission partners. The office manages the IT portfolio, federal IT investments, services, and projects in alignment with the NNSA and the Department of Energy Office of the Chief Information Officer strategies, as well as other national policy drivers. The FY 2025 Request enables the development and execution of integrated IT initiatives that provide an effective and secure technology infrastructure across the enterprise.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Defense Nuclear Nonproliferation Programs					
Material Management and Minimization	464,285	464,285	377,097	-87,188	-18.8%
Global Material Security	532,763	532,763	543,864	+11,101	+2.1%
Nonproliferation and Arms Control	230,656	230,656	224,980	-5,676	-2.5%
Defense Nuclear Nonproliferation R&D	767,902	767,902	802,850	+34,948	+4.6%
NNSA Bioassurance Program	20,000	20,000	-	-20,000	-100.0%
Nonproliferation Construction	71,764	71,764	40,000	-31,764	-44.3%
Total, Defense Nuclear Nonproliferation Programs	**2,087,370**	**2,087,370**	**1,988,791**	**-98,579**	**-4.7%**
Nuclear Counterterrorism and Incident Response Program	469,970	469,970	536,189	+66,219	+14.1%
Legacy Contractor Pensions and Settlement Payments	55,708	55,708	7,128	-48,580	-87.2%
Use of Prior Year Balances	-123,048	-123,048	67,000	+56,048	-45.5%
Total, Defense Nuclear Nonproliferation	**2,490,000**	**2,490,000**	**2,465,108**	**-24,892**	**-1.0%**

Appropriation Overview

The National Nuclear Security Administration's (NNSA) nonproliferation, counterproliferation, and counterterrorism activities are critical to implementing the President's National Security Strategy and demonstrating "renewed arms control and nonproliferation leadership." NNSA's programs help reduce the dangers posed by nuclear weapons, including by extending the U.S.' defenses against nuclear threats far beyond its borders. These programs help prevent adversaries from acquiring nuclear weapons or weapons-usable materials, technology, and expertise; countering efforts to acquire such weapons or materials; and responding to nuclear or radiological incidents and accidents domestically and abroad. NNSA shares knowledge, accrued through the U.S.' long experience in managing special nuclear materials, with partners around the world to achieve international nonproliferation and nuclear security goals. NNSA uses the unique technical and scientific knowledge that underpins the Stockpile Stewardship Program for a range of nonproliferation missions, from assessing foreign weapons programs and potential terrorist devices to managing the proliferation risks posed by civil nuclear applications. 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.

This appropriation funds six programs that, as part of a whole-of-government approach, provide policy and technical leadership to prevent or limit the spread of weapons of mass destruction (WMD)-related materials, technology, and expertise; develop technologies to detect nuclear proliferation and steward foundational nonproliferation capabilities; secure or eliminate inventories of nuclear weapons-related materials and infrastructure; and sustain technically trained emergency management personnel to respond to nuclear and radiological incidents and accidents domestically and abroad. DNN's mission is complementary to Defense Programs' Stockpile Stewardship Program at NNSA. Together, the programs form the basis of a strong nuclear defense. DNN's activities are carried out within a dynamic global security environment, as described in NNSA's annual report *Prevent, Counter, and Respond–A Strategic Plan to Reduce Global Nuclear Threats*[2].

[2] https://www.energy.gov/nnsa/downloads/prevent-counter-and-respond-strategic-plan-reduce-global-nuclear-threats-npcr.

This environment is characterized by the persistent threat of state and non-state actors seeking to obtain nuclear and radioactive materials, state actors potentially undermining nonproliferation regimes and arms control agreements to which the U.S. is adherent, as well as instability caused by Russia's continued invasion of Ukraine. There is also an increased risk of the availability of nuclear and radioactive materials as a result of the global expansion of commercial nuclear power and possible spread of fuel cycle technology, increased opportunities for illicit nuclear material trafficking and sophisticated procurement networks, and technology advances (including cyber-related tools) that may shorten nuclear weapon development timelines and complicate nuclear safeguards and security missions.

Program Highlights

- **Material Management and Minimization (M3)**
  M3 programs reduce and, when possible, eliminate weapons-usable nuclear material around the world to achieve permanent threat reduction. The FY 2025 Budget Request supports the conversion or shutdown of research reactors and isotope production facilities that use highly enriched uranium (HEU), the continued support of non-HEU-based Molybdenum-99 (Mo-99) production facilities in the U.S., the recovery of high-assay low enriched uranium, the removal and disposal of weapons-usable nuclear material, the removal of plutonium from the state of South Carolina and implementation of the dilute and dispose strategy for plutonium disposition, and costs to downblend HEU.

- **Global Material Security (GMS)**
  GMS directly contributes to national security efforts to reduce global nuclear security threats and plays a leading role in implementing *National Security Memorandum-19 to Counter Weapons of Mass Destruction Terrorism and Advance Nuclear and Radioactive Material Security*. The FY 2025 Budget Request supports programs to prevent terrorists and other actors from obtaining nuclear and radioactive material to use in an improvised nuclear device (IND) or a radiological dispersal device (RDD) by working domestically and with partner countries to improve the security of vulnerable materials and facilities, and to build partners' capacity to detect, disrupt, and investigate illicit trafficking of these materials. GMS works with countries in bilateral partnerships and with multilateral partners such as the IAEA, the Global Partnership against the Spread of Weapons and Materials of Mass Destruction, the WCO, the United Nations Office on Drugs and Crime (UNODC), and INTERPOL. GMS is leveraging its over 20 years of security expertise and global presence in over 100 countries to respond and adapt to the changing threat environment. Across its three subprograms, GMS is reinforcing partnerships in eastern Europe, Central Asia, and Southeast Asia to counter Russian and Chinese influence, expanding its work to bolster energy security of critical nuclear power plants, promoting security-by-design for advances and small modular reactors, increasing its investment in non-radioisotopic alternative technologies, and continues to expand its counter nuclear smuggling engagement with law enforcement and security institutions.

- **Nonproliferation and Arms Control (NPAC)**
  NPAC programs strengthen nonproliferation and arms control regimes through innovative policy development and implementation to prevent proliferation, ensure peaceful nuclear uses, and enable verifiable nuclear reductions. To advance this mission, NPAC builds the capacity of the IAEA and partner countries to implement international safeguards obligations, builds domestic and international capacity to implement export control obligations, supports the negotiation and implementation of agreements and associated monitoring regimes to verifiably reduce nuclear weapons and nuclear programs, and develops approaches and strategies to address emerging nonproliferation and arms control challenges and opportunities.

- **Defense Nuclear Nonproliferation Research and Development (DNN R&D)**
  DNN R&D directly contributes to nuclear security as a key component for the innovation of U.S.' technical capabilities to detect nuclear detonations; foreign nuclear weapons programs' activities; and the presence, movement, or diversion of special nuclear materials. The program also sustains and develops foundational nonproliferation technical capabilities that ensure the technical agility needed to support a broad spectrum of U.S. nonproliferation missions and anticipate threats. Finally, the program funds capabilities at the National Laboratories that can support time-critical decisions in the event of a nuclear or radiological incident and assist in determining the origin of interdicted materials or nuclear devices. DNN R&D uses the unique facilities and scientific skills of DOE, academia, and industry to perform research, conduct technology demonstrations, develop prototypes, and produce and deliver sensors for integration into

operational systems. The FY 2025 Budget Request supports planned R&D activities for early detection of proliferation and supports production of nuclear detonation detection satellite payloads. The FY 2025 Budget Request also establishes a new line of research, demonstration, and validation activities in support of space-based monitoring and verification (Space MVP) to support the Outer Space Treaty and address emerging challenges in the space environment with new investments in independent space-based verification technologies; and it supports efforts to sustain and develop foundational nonproliferation technical capabilities by providing targeted, long-term support for enabling infrastructure, science and technology, and an expert workforce.

- **NNSA Bioassurance Program**
  No funding requested in FY 2025.

- **Nonproliferation Construction (supports Material Management and Minimization)**
  Nonproliferation Construction consolidates construction costs for DNN projects. The FY 2025 budget request will support the development of turnover and testing procedures, and installation of the second-floor dowel and various commodities for the Surplus Plutonium Disposition Project.

- **Nuclear Counterterrorism and Incident Response Program (NCTIR)**
  - **Counterterrorism and Counterproliferation (CTCP)**
    The CTCP subprogram provides the nation's technical capability to understand, attribute and defeat nuclear devices, including improvised nuclear devices and lost or stolen foreign nuclear weapons. This knowledge in turn informs U.S. Government policies, regulations, activities, and cooperation among key interagency and international mission partners on terrorist and proliferant state nuclear threats. In support of this mission, the FY 2025 Request for CTCP supports programs to manage and deploy the DOE/NNSA Nuclear Emergency Support Team (NEST), comprised of scientific personnel trained and equipped t to respond rapidly to nuclear or radiological incidents and accidents worldwide; maintain a nuclear forensics capability to attribute the source of nuclear material outside of regulatory control or used in a nuclear attack; and to educate, through training and exercises, domestic and international partners to respond effectively to nuclear or radiological incidents. The FY 2025 Request also sustains a DOE/NNSA effort to y assess the ways in which increasingly sophisticated Artificial Intelligence (AI) models could assist in the proliferation of sensitive nuclear weapons information or technologies. CTCP also integrates DOE/NNSA policy, planning, and operations on counterproliferation priorities, supporting urgent needs and proactively pursuing opportunities to prevent nuclear threats and develop technologies to apply to the counterproliferation mission.

  - **Emergency Management (EM)**
    The EM subprogram provides both the structure and processes to ensure a comprehensive and integrated approach to all-hazards emergency management. Thus, improving readiness and effectiveness of the DOE Emergency Management System and the Nuclear Security Enterprise (NSE) on a programmatic and performance level regardless of the nature of the emergency impacting the DOE/NNSA enterprise or its equities anywhere in the world. This promotes unity of effort and a culture of continuous improvement to safeguard the health and safety of workers and the public, protect the environment, and enhance the resilience of the Department and the Nation. The EO subprogram coordinates plans and procedures for preparedness, mitigation, and response to, and recovery from, all hazards emergency accidents, incidents, events, and to support operational emergencies. In addition, the FY 2025 Budget Request supports Continuity of Operations, Continuity of Government, and Enduring Constitutional Government programs to advance the National Continuity Policy and ensure the continued performance and delivery of essential lines of business and services under any circumstances. The FY 2025 Budget Request also provides for 24/7/365 Headquarters Emergency Operations Center communications and coordination support to the DOE/NNSA Emergency Management Enterprise, nuclear security enterprise, and Departmental Senior Leadership.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Naval Reactors					
Naval Reactors Operations and Infrastructure	668,802	668,802	763,263	+94,461	+14.1%
Naval Reactors Development	746,000	746,000	868,380	+122,380	+16.4%
S8G Prototype Refueling	20,000	20,000	-	-20,000	-100.0%
Columbia-Class Reactor Systems Development	53,900	53,900	45,610	-8,290	-15.4%
Program Direction	58,525	58,525	62,848	+4,323	+7.4%
Construction	534,218	534,218	378,672	-155,546	-29.1%
Total, Naval Reactors[3]	**2,081,445**	**2,081,445**	**2,118,773**	**+37,328**	**+1.8%**

Appropriation Overview

The Naval Reactors (NR) appropriation includes funding for U.S. Navy nuclear propulsion work, beginning with reactor plant technology development and design, continuing through reactor plant operation and maintenance, and ending with final disposition of naval spent nuclear fuel.

Program Highlights

Funding for the program supports continued safe and reliable operation of the Navy's nuclear-powered fleet (67 submarines, 11 aircraft carriers, and 5 research, development, and training platforms). The Program's development work consists of maintaining, refining and improving existing technology, and developing new technology, to ensure that the U.S. Navy's nuclear propulsion plants are increasingly efficient and effective and will be capable of meeting future threats to national security.

In addition to supporting the existing nuclear fleet, NR has two major DOE initiatives—the *Columbia*-Class Reactor System Development and recapitalizing spent fuel handling and examination capabilities at the aging Expended Core Facility in Idaho.

Ensuring the continuity of a sea-based strategic deterrent, the President's FY 2025 Budget provides for the research, design, and development of the reactor plant system for the *Columbia*-Class submarine, to include the development of a life-of-ship reactor core. The budget further provides funding for the Spent Fuel Handling Recapitalization Project, supporting the capability to refuel and defuel aircraft carriers and submarines, which is critical to maintaining the nuclear fleet's operational availability for national security missions.

- **Naval Reactors Operations and Infrastructure**
  The FY 2025 Request supports initiating the defueling of land-based reactor prototype, facility and systems maintenance and regulatory requirements across the Program's four DOE sites, environmental remediation, and necessary minor construction projects to recapitalize deteriorating infrastructure and equipment.

- **Naval Reactors Development**
  The FY 2025 Request supports the unique technologies used in naval reactors that are crucial to delivering superior navy fleet operations and dominance in the maritime domain.
- **S8G Prototype Refueling**
  The decrease in FY 2025 is consistent with the project's planned funding profile and scheduled completion in FY 2024.

[3] Funding does not reflect the mandated transfer of $99.75 million in FY 2023 to the Office of Nuclear Energy and the inclusion of the mandated transfer in the calculation of the rate of operations for FY 2024 for operation of the Advanced Test Reactor.

- ***Columbia*-Class Reactor Systems Development**
  The FY 2025 Request is consistent with the planned project profile and supports production, analysis, and testing execution.
- **Program Direction**
  The FY 2025 Request increase supports staffing plans to meet planned FTE levels, personnel and pay related costs, and supports NR executing its mission to provide federal oversight of the program's DOE laboratories.

- **Construction**
  The decrease in FY 2025 reflects the funding profile for major construction, supports the Spent Fuel Handling Recapitalization Project, in addition to the new start Naval Examination Acquisition Project, and funding to complete the security upgrades project at the Knolls Laboratory.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Office of Science					
Advanced Scientific Computing Research	1,068,000	1,033,108	1,152,682	+84,682	+7.93%
Basic Energy Sciences	2,534,000	2,503,632	2,582,285	+48,285	+1.91%
Biological and Environmental Research	908,685	835,644	945,225	+36,540	+4.02%
Fusion Energy Sciences	763,222	804,668	844,496	+81,274	+10.65%
High Energy Physics	1,166,000	1,196,301	1,230,768	+64,768	+5.55%
Nuclear Physics	805,196	771,203	833,091	+27,895	+3.46%
Isotope R&D and Production	109,451	153,551	183,900	+74,449	+68.02%
Accelerator R&D and Production	27,436	29,175	31,273	+3,837	+13.99%
Workforce Development for Teachers and Scientists	42,000	42,100	43,100	+1,100	+2.62%
Science Laboratories Infrastructure	280,700	293,918	295,180	+14,480	+5.16%
Safeguards and Security	184,099	200,000	195,000	+10,901	+5.92%
Program Direction	211,211	236,700	246,000	+34,789	+16.47%
Total, Office of Science	**8,100,000**	**8,100,000**	**8,583,000**	**+483,000**	**+5.96%**

Appropriation Overview

The Office of Science (SC) is the nation's largest Federal supporter of basic research in the physical sciences. The SC portfolio has two thrusts: direct support of scientific research and direct support of the design, development, construction, and operation of unique, open-access scientific user facilities. The SC basic research portfolio includes grants and contracts supporting over 29,000 researchers located at over 300 institutions and 16 DOE national laboratories, spanning all 50 states, District of Columbia, and U.S. territories. The portfolio of 28 scientific user facilities serves nearly 40,000 users per year. SC programs invest in basic research for the advancement of clean energy, to transform our understanding of nature, and to strengthen the connection between advances in fundamental science and technology (S&T) innovation.

The SC Request increases investments in Administration priorities including artificial intelligence (AI) and machine learning (ML), basic research on climate change and clean energy, the SC Energy Earthshots initiative, Microelectronics Science Research Centers, and accelerating fusion development in support of the Bold Decadal Vision for Commercial Fusion Energy. The SC Request also promotes the domestic establishment of critical isotope supply chains to reduce U.S. dependency on foreign supply and increase U.S. resilience. SC continues efforts to support underserved communities through increased investment in the Reaching a New Energy Sciences Workforce (RENEW) and Funding for Accelerated, Inclusive Research (FAIR) initiatives. As part of this increase, a RENEW graduate fellowship will support graduate studies for students who received their bachelor's degree from emerging research institutions, underserved communities, Historically Black Colleges and Universities (HBCUs), and Minority Serving Institutions (MSIs).

The FY 2025 Request includes increased investment to support the 28 SC scientific user facilities, which are unique resources stewarded by DOE for the nation and made available to the scientific community free of charge, based on merit review to support the best scientific ideas. In FY 2025, DOE estimates that nearly 40,000 researchers will access these cutting-edge tools to push the frontiers of S&T, with nearly half doing research supported by other funding agencies, including the National Science Foundation, the National Institutes of Health, the National Aeronautics and Space Administration, and the Department of Defense, as well as from industry. These facilities have delivered extraordinary breakthroughs, such as powering our nation's response to COVID by supporting rapid development of vaccines and helping usher new battery technologies to the marketplace. Further, these facilities are often the portal through which the next generation of researchers begin their engagement with DOE and its national laboratories, providing invaluable opportunities for developing the diverse, equitable, and inclusive workforce our country needs to meet the major economic and national security challenges ahead.

Program Highlights

- **Advanced Scientific Computing Research (ASCR)**
  ASCR advances science and U.S. competitiveness through investments in computational science, applied mathematics, computer science, networking, and software research as well as development and operation of multiple, large, high performance and leadership computing and high performance networking user facilities. The Request funds:
  - Critical basic research investments in applied mathematics and computer science to combine the power of exascale computing and artificial intelligence for a new science era.
  - Extended frontiers in AI for science, security, and technology that leverages the unique capabilities of the DOE ecosystem to expand responsible, trustworthy, and secure application of AI technologies.
  - Next-generation facilities by maintaining facility operations and existing upgrade projects. The Request includes increased support for the planned advancement of the High Performance Data Facility (HPDF).
  - Engage U.S. microelectronics vendors to advance DOE goals for next generation HPC including continued improvements in energy utilization, usability and interoperability for a wide range of use cases, including AI.

- **Basic Energy Sciences (BES)**
  BES supports fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels to provide the foundations for new energy technologies, to mitigate the environmental impacts of energy use, and to support DOE missions in energy, environment, and national security. The Request funds:
  - Core research activities to support Administration Priorities on clean energy, including science underpinning the DOE Energy Earthshots, AI/ML, critical materials, microelectronics, Quantum Information Science (QIS), biopreparedness, and accelerator S&T.
  - Continued support for the Energy Frontier Research Centers, Energy Earthshot Research Centers, the Batteries and Energy Storage and the Fuels from Sunlight Energy Innovation Hub programs, and the computational materials and chemical sciences programs.
  - Continued operation of BES scientific user facilities: five x-ray light sources, two neutron scattering sources, and five research centers for nanoscale science. At 90 percent of the rebaselined funding levels, the support will balance high priority activities required for safe and reliable operations while maintaining strong user support.
  - Five construction projects: the Linac Coherent Light Source-II High Energy, the Second Target Station, the Cryomodule Repair and Maintenance Facility, the NSLS-II Experimental Tools-III, and the High Flux Isotope Reactor Pressure Vessel Replacement projects.
  - Planning of future Major Items of Equipment (MIEs) for beamlines at the Advanced Light Source, Advanced Photon Source, and the Stanford Synchrotron Radiation Lightsource.

- **Biological and Environmental Research (BER)**
  BER supports fundamental research to understand complex biological, biogeochemical, and physical principles of natural systems at scales extending from the genome of microbes and plants to the environmental, climate, and human processes at the scale of the planet Earth that advance understanding of the relationships between energy, the environment, and climate science, from local to global scales and ultimately advance U.S. energy systems and pathways. The Request funds:
  - Enhanced research on climate science with a new climate initiative focused on rural climate-energy predictability.
  - SC Energy Earthshots initiative, including the Energy Earthshot Research Centers, with a focus on translational research to lower risk and speed adoption of basic research for a carbon-neutral bioeconomy.
  - Biopreparedness efforts for adding functionality to collaborative cyber infrastructure allowing distributed networks of scientists to work on multidisciplinary research priorities. This includes enhanced low dose radiation research.
  - Expanded modeling research, in particular the DOE Exascale Energy Earth System Model, to utilize advanced software and AI/ML for running on future DOE computer architectures allowing for unprecedented analyses of extreme events for energy, such as the electrical grid and urban energy systems, and other stakeholder applications.
  - Continued operation of BER Scientific user facilities: the Joint Genome Institute, the Atmospheric Radiation Measurement (ARM) user facility, and the Environmental Molecular Sciences Laboratory.
  - Initiation of the Drizzle, Aerosol, and Cloud Observation Chamber project to complement ARM's field observations of cloud-aerosol interactions.

- Continuation of the Microbial Molecular Phenotyping Capability project.

- **Fusion Energy Sciences (FES)**
  FES supports research to understand matter at very high temperatures and densities and to build the scientific foundation needed to develop a fusion energy source. The Request is aligned with the recommendations of the recent Long-Range Plan (LRP) developed by the Fusion Energy Sciences Advisory Committee (FESAC) and the Administration's Bold Decadal Vision for commercial fusion development, and funds:
  - Fusion Innovation Research Engine Centers: multi-institutional, multi-disciplinary research and development (R&D) centers to address critical S&T gaps outlined in the FESAC LRP and supporting both public and private fusion efforts.
  - Partnerships with the private sector through the Milestone program, the Innovative Network for Fusion Energy (INFUSE) program, and a pilot program to perform open research on private fusion and plasma S&T facilities.
  - DIII-D national fusion facility: Continue development of operating scenarios for advanced tokamaks devices.
  - National Spherical Torus Experiment-Upgrade: Continue collaborative research at other facilities while recovery and repair activities are ongoing and support commissioning in preparation for plasma operation.
  - U.S. Contributions to ITER project focusing on the design, fabrication, and delivery of in-kind hardware components; construction cash contributions to support the ITER Organization.
  - Two construction projects: U.S. Contributions to ITER and the Matter in Extreme Conditions Petawatt upgrade.
  - One MIE: the Material Plasma Exposure eXperiment project.

- **High Energy Physics (HEP)**
  HEP supports research to understand how the universe works at its most fundamental level, enabling the discovery of the most elementary constituents of matter and energy, the probing of the interactions among them, and the exploration of the basic nature of space and time. The Request funds:
  - AI/ML to extract signals of signature particle physics from HEP data with increasingly high volumes and complexity and to improve accelerator and detector operations in real-time and in extremely high data rate environments.
  - QIS co-development of quantum information, theory, and technology aligned with HEP science drivers and exploring new capabilities in quantum sensing and computing.
  - Microelectronics to accelerate R&D into sensor materials, detector devices, advances in front-end electronics, and integrated sensor/processor architectures.
  - Core research activities, with emphasis on the physics of the Higgs boson, neutrinos, dark matter, and dark energy; exploring the unknown; and enabling early and visible scientific results from HEP project investments.
  - Operations for the Fermilab Accelerator Complex and the Facility for Advanced Accelerator Experimental Tests II including critical upgrades, improvements, and deferred maintenance.
  - Continuing support for two construction projects: Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment and Proton Improvement Plan II; and four MIE projects: Accelerator Controls Operations Research Network, Cosmic Microwave Background Stage 4, and the High Luminosity Large Hadron Collider ATLAS and CMS Detector Upgrade Projects.

- **Nuclear Physics (NP)**
  NP supports experimental and theoretical research to discover, explore, and understand all forms of nuclear matter. The Request funds:
  - High priority world-class nuclear physics research and core competencies in quantum chromodynamics, nuclei and nuclear structure and astrophysics, and fundamental symmetries at universities and laboratories.
  - Operations of all NP user facilities at nearly 90 percent optimal funding including: the Relativistic Heavy Ion Collider; the 12 GeV Continuous Electron Beam Accelerator Facility; the Argonne Tandem Linac Accelerator System; and the newly constructed Facility for Rare Isotope Beams.
  - Support for QIS research efforts to enable precision NP measurements, development of quantum sensors based on atomic-nuclear interactions, and development of quantum computing algorithms.
  - Expanded support for AI/ML research aimed at the automated optimization of accelerator availability and performance, as well as software enabling data-analytics-driven discovery.

- Continued support for the Electron-Ion Collider construction project, the High Resolution Spectrometer to study fast neutron beams at FRIB and the Ton-scale Neutrinoless Double Beta Decay MIE to determine whether the neutrino is its own antiparticle.

- **Isotope R&D and Production (DOE IP)**
  DOE IP supports fundamental research in nuclear and radiochemistry, chemical separations, accelerator and reactor physics, and isotope enrichment to produce priority radioactive and stable isotopes in short supply that no domestic entity has the capability to meet market demand; a priority is to reduce U.S. dependence on foreign isotope supply chains. The Request funds:
  - Core research activities to develop innovative isotope production, chemical processing, and enrichment technologies, including domestic supply chains of isotopes required to support Administration Priorities on fighting cancer, fusion energy, microelectronics, Quantum Information Science (QIS), and biopreparedness.
  - Mission readiness of facilities to produce isotopes in short supply or otherwise not available increases to approximately 85 percent, relative to FY 2023.
  - Modernization and refurbishment activities to increase safe, robust, and reliable operations across production sites to better tackle growing gaps in isotope supply chains.
  - The University Isotope Network to produce research and "boutique" radioisotopes. The FRIB Isotope Harvesting effort completes transition to routine operations.
  - Initial operations of the Stable Isotope Production Facility MIE as the first domestic large scale gas centrifuge cascade to produce Xe-129 for polarized lung imaging.
  - Continued support for three construction projects: Stable Isotope Production and Research Center, Radioisotope Processing Facility, and Clinical Alpha Radionuclide Producer.

- **Accelerator R&D and Production (ARDAP)**
  ARDAP supports cross-cutting basic R&D in accelerator S&T, access to unique SC accelerator R&D infrastructure, workforce development, and public-private partnerships to advance new technologies for use in SC's scientific facilities and in commercial products. The Request funds:
  - Research, development, and deployment of accelerator technology and the implementation of the first consortium-based approach to accelerator R&D, and workforce development.
  - Public-private partnerships to develop technologies that include advanced superconducting wire and cable, superconducting accelerators, and advanced radiofrequency power sources for accelerators.
  - Operation of the Accelerator Test Facility.

- **Workforce Development for Teachers and Scientists (WDTS)**
  WDTS invests in sustaining a skilled and diverse talent pool in science, technology, engineering, and mathematics (STEM) to support DOE missions. The Request funds:
  - Sustained support for the core STEM workforce training programs to develop a highly skilled future S&T workforce.
  - Strategic investment in building innovative pathways for continuous and connected engagement toward a workforce development ecosystem.
  - Support for critical infrastructure to operationalize the workforce development mission based on evidence-based management practices.
  - Intentional outreach and engagement for broadening participation through targeted outreach to individuals and institutions/schools from emerging research and underserved communities.

- **Science Laboratories Infrastructure (SLI)**
  SLI supports scientific and technological innovation at the SC laboratories by sustaining and modernizing general purpose infrastructure and fostering safe, efficient, reliable, resilient, and environmentally responsible operations. The Request funds eight ongoing construction projects, a Laboratory Operations Apprentice Program, at least eight General Plant Projects, and Payment in Lieu of Taxes.

- **Safeguards and Security (S&S)**
  S&S maintains security measures to protect personnel and assets in an environment of open scientific research. The Request funds implementation of the Department's credentialing directive and sustained efforts for S&S elements.

- **Program Direction (PD)**
  PD supports the Federal workforce that plans, develops, and oversees SC investments in world-leading basic research and scientific user facilities, and provides critical oversight to 10 of DOE's national laboratories. The Request funds Salaries, Benefits, Travel, Support Services, Other Related Expenses, and the Working Capital Fund.

($K)

	FY 2023 Enacted[1]	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Sustainable Transportation & Fuels					
Vehicle Technologies	455,000	455,000	501,790	+46,790	+10%
Bioenergy Technologies	280,000	280,000	280,000	0	0%
Hydrogen and Fuel Cell Technologies	170,000	170,000	170,000	0	0%
Renewable Energy					
Renewable Energy Grid Integration	45,000	45,000	65,000	+20,000	+44%
Solar Energy	318,000	318,000	318,000	0	0%
Wind Energy	132,000	132,000	199,000	+67,000	+51%
Water Power	179,000	179,000	160,000	-19,000	-11%
Geothermal Technologies	118,000	118,000	156,191	+38,191	+32%
Buildings & Industry					
Advanced Manufacturing	450,000	450,000	0	-450,000	-100%
Advanced Materials & Manufacturing Technologies	0	0	220,000	+220,000	+100%
Industrial Efficiency & Decarbonization	0	0	287,227	+287,227	+100%
Building Technologies	332,000	332,000	340,000	+8,000	+2%
Corporate Support					
Program Direction	186,000	186,000	194,792	+8,792	+5%
Strategic Programs	21,000	21,000	21,000	0	0%
Facilities and Infrastructure	205,000	205,000	205,000	0	0%
Operations and Maintenance	*102,370*	*102,370*	*91,570*	*-10,800*	*-11%*
Facility Management	*57,630*	*57,630*	*59,430*	*+1,800*	*+3%*
Establish DOE 18th National Laboratory	*0*	*0*	*0*	*0*	*0%*
21-EE-001-Energy Materials and Processing at Scale (EMAPS)	*45,000*	*45,000*	*54,000*	*+9,000*	*+20%*
Total, EERE Organization	**2,891,000**	**2,891,000**	**3,118,000**	**+227,000**	**+8%**
Undersecretary for Infrastructure (EERE Appropriated funding)					
State and Community Energy Programs Total	493,000				
Manufacturing and Energy Supply Chains Total	19,000				
Federal Energy Management Program Total	57,000				
Grand Total, EERE Appropriation	**3,460,000**				

Appropriation Overview

The Office of **Energy Efficiency and Renewable Energy (EERE)**'s mission is to accelerate the research, development, demonstration, and deployment (RDD&D) of technologies and solutions to equitably transition America to net-zero greenhouse gas emissions economy-wide by no later than 2050, and ensure the clean energy economy benefits all Americans, creating good paying jobs for the American people—especially workers and communities impacted by the energy transition and those historically underserved by the energy system and overburdened by pollution.

EERE's work will be driven by four crosscutting principles:

- Building the clean energy economy in a way that benefits all Americans. The Budget helps address environmental injustices that disproportionately affect communities of color, low-income communities, and indigenous

[1] FY 2023 Enacted comparable to show Advanced Manufacturing Office (AMO) Budget which comprises of the two organizational offices (AMMTO and IEDO) established in FY 2023

communities.

- Fostering a diverse STEM workforce. The budget supports increasing awareness of clean energy job opportunities at minority-serving institutions and ensure that organizations receiving EERE funding are incorporating diversity and equity in their own work.
- Developing more robust workforce training opportunities to build a pipeline for permanent, good-paying jobs for the clean energy workforce.
- Working in a unified and coordinated way with state and local governments to accelerate an equitable transition to clean energy economies that benefit everyone.

Program Highlights

The Department's Equity Action Plan identifies key activities related to Community Benefits Plans, merit reviews, procurement (acquisition and financial assistance), R&D strategy, and Tribal and disadvantaged community engagement.

Sustainable Transportation & Fuels supports RDD&D to increase access to domestic, clean transportation fuels and improve the energy efficiency, convenience, and affordability of transporting people and goods.

Vehicle Technologies supports research, development, and demonstration (RD&D) of efficient and sustainable transportation technologies that will improve energy efficiency, fuel the economy, and enable America to use less fossil fuel. This Request prioritizes expanding demonstration and deployment projects to accelerate the nationwide adoption and deployment of electric vehicles and charging infrastructure, particularly to benefit underserved communities. Increased funding in the Request continues research for next generation batteries, develops new recycling processing technologies, scales up lithium battery recycling to diversify the lithium-ion supply chain and focus on domestic supply chain security, and addresses decarbonizing non-road sectors.

Bioenergy Technologies advances technologies that convert domestic biomass and other waste resources into affordable, low-carbon biofuels and bioproducts. This Request increases support for Sustainable Aviation Fuel (SAF) RDD&D, including funds to construct and operate integrated biorefineries at demonstration scale that are capable of producing SAFs, and identify alternative pathways and feedstocks.

Hydrogen and Fuel Cell Technologies supports efforts to enable widespread adoption of hydrogen and fuel cell technologies. The Request focuses on RD&D to enable more affordable and durable fuel cell systems for vehicle and stationary markets. The Request supports RD&D of clean hydrogen production, delivery, and storage, including materials development, and integration with diverse net-zero emissions generation sources to support the Hydrogen Energy EarthShot and the H2@Scale initiative. This includes increased funding to demonstrate new transportation applications (e.g., marine, rail, off-road, medium-duty) and heavy-duty hydrogen fueling infrastructure.

Renewable Energy supports RDD&D to reduce the costs and accelerate the integration and utilization of renewable energy technologies as part of a reliable, secure, and resilient, fully decarbonized electricity system by 2035 and a net zero energy system by 2050.

Renewable Energy Grid Integration supports system-wide planning and operation of grids with high levels of variable renewable energy and includes improved technologies, tools, data, and operational practices as well as system-level simulations and demonstrations to validate the safety, reliability, and affordability of power systems.

Solar Energy Technologies accelerates the development and deployment of solar technologies – creating many thousands of good-paying jobs in the process – while supporting the reliability, resilience, and security of the U.S. electric grid. The Request increases funding for demonstration of technologies to operate and control a power system with increasing levels of solar energy.

Wind Energy Technologies supports an updated and expanded portfolio of research and innovation designed to accelerate the advancement and deployment of offshore, land-based, and distributed wind energy technologies and their integration with the electric grid. The Request prioritizes: (1) Near-term Offshore Wind (NOW) initiative, which is focused on accelerating near-term fixed-bottom offshore wind development through R&D; and (2) the Floating Offshore Wind

Accelerated Research and Development (FORWARD) program, a major body of R&D supporting the DOE Floating Offshore Wind EarthShot.

Water Power Technologies supports a broad portfolio of research activities to strengthen the body of scientific and engineering knowledge and support industry efforts to develop, maintain, and deploy hydropower and marine energy technologies at all scales. The Request focuses primarily on increasing hydropower flexibility for the grid. The Request increases funding for early-stage demonstrations in irrigation modernization and technologies to expand demonstrations and technical assistance for new, low-impact hydropower by investing in demonstration of technologies to power nonpowered dams or infrastructure. Device design and fabrication to serve remote, underserved, coastal and islanded communities is supported with this Request.

Geothermal Technologies supports the deployment of geothermal energy in both the electric and non-electric sectors to help reach a carbon pollution-free electricity sector by 2035 and a net-zero economy by 2050. The Request prioritizes increased funding for the Enhanced Geothermal EarthShot, as well as a new portfolio focused on advanced materials and high-temperature components to enable downhole development in Enhanced Geothermal Systems (EGS) environments. Efforts will increase focus on the R&D and validation of new drilling and zonal isolation techniques that are required to reduce costs and achieve the DOE target.

Buildings & Industry supports RDD&D of high impact technologies to increase energy efficiency, transform the grid edge to support all sector decarbonization goals, and reduce on-site emissions from our nation's homes, buildings, and industrial facilities while also strengthening U.S. manufacturing competitiveness and producing thousands of good-paying jobs.

Industrial Efficiency and Decarbonization accelerates the innovation and adoption of cost-effective technologies to increase energy efficiency and reduce GHG emissions in the U.S. industrial sector. This Request increases investment in industry-specific decarbonization RD&D with initiatives focusing on energy and emission-intensive industries. It also increases investments in priority cross-sector technologies for decarbonization based on the DOE Industrial Decarbonization Roadmap, including support of the Industrial Heat EarthShot. The FY 2025 Request also invests in high-priority water desalination technologies**.** The Request supports technical assistance to increase the adoption of decarbonization technologies, including an expanded Onsite Energy program and an increased focus on energy-intensive sectors in the Better Plants and Better Climate Challenges.

Advanced Manufacturing and Materials Technologies invests in the next-generation energy-related materials and manufacturing technologies needed to drive U.S. industrial competitiveness and enable economy-wide decarbonization by 2050. The Request includes an increase for advanced manufacturing and materials research to develop technologies to improve the availability of critical materials and increase the resilience of materials supply chains in support of strengthening domestic sourcing of such materials. The Request also increases circular economy-related research supporting design for recyclability, recycling, and remanufacturing processes for multiple material classes. In addition, the Request supports advances in additive manufacturing and smart manufacturing, as well as manufacturing advances for high performance materials, emerging battery technologies, and power electronics.

Building Technologies invests in high-impact RDD&D, adoption acceleration, and regulatory mechanisms that reduces energy intensity of and emissions from buildings to achieve a decarbonized building sector by 2050 and to enable the low carbon grid through better integration of buildings. The Request increases RD&D to lower equipment and installation costs, and to accelerate adoption of low emissions heating and cooling technologies, reducing energy bills for businesses and households. The Request enables the low carbon grid through increased RD&D on buildings as the point of grid edge transformation through efforts such as Connected Communities. The Request expands engagement and support of local communities to rapidly scale equitable building retrofits through the Buildings Upgrade Prize and expanded Better Buildings and Better Climate Challenges.

Corporate Support Programs includes a range of activities to continuously improve EERE organizational efficiency, effectiveness, and responsiveness, with a focus on human capital, systems and tools, program and project management, and laboratory facilities and infrastructure as part of EERE's stewardship of the National Renewable Energy Laboratory (NREL) in Golden, Colorado. This investment also includes support for crosscutting strategic programs that advance the EERE mission.

Facilities and Infrastructure ensures that EERE fulfills its role as the steward of NREL by maintaining and upgrading key research and support infrastructure to not only enable the development of innovative technology solutions but also attract world-class research scientists**.** The Request prioritizes:

- Increased investments in the Energy Materials and Processing at Scale (EMAPS) line-item construction project, a planned design and construction of a multi-disciplinary research capability in process integration.
- Increased funding to maintain the Energy Systems Integration Facility (ESIF) operations and prioritizes the upgrade and operations of the Kestrel High Performance Computer (HPC).

Program Direction enables EERE to maintain and support a world-class Federal workforce. The Request provides additional resources for program and project management, oversight activities, contract administration, workforce management, data management, IT and systems support, and Headquarters and field site non-laboratory facilities and infrastructure.

Office of Strategic Programs supports high-impact, crosscutting, integrative activities most efficiently executed by a single crosscutting organization in coordination with EERE technology programs and other DOE offices. This includes support for crosscutting strategic analysis, activities that inform key audiences and stakeholders about EERE work to enable a clean energy economy, and funding to address high energy costs, reliability, and inadequate infrastructure challenges faced by islands and remote communities as part of the Energy Transitions Initiative, in partnership with other EERE Technology Offices and other DOE offices. The Request also includes funding to expand international collaboration and coordination.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Carbon Management Technologies					
Hydrogen with Carbon Management	95,000	95,000	85,000	-10,000	-10.53%
Carbon Transport and Storage	110,000	110,000	97,200	-12,800	-11.64%
Carbon Dioxide Removal	70,000	70,000	90,200	+20,200	+28.86%
Carbon Dioxide Conversion	50,000	50,000	60,000	+10,000	+20.00%
Point-Source Carbon Capture	135,000	135,000	96,200	-38,800	-28.74%
Carbon Management – Policy, Analysis, and Engagement	0	0	7,000	+7,000	N/A
Subtotal, Carbon Management Technologies	**460,000**	**460,000**	**435,600**	**-24,400**	**-5.30%**
Resource Sustainability					
Advanced Remediation Technologies	55,000	55,000	15,000	-40,000	-72.73%
Methane Mitigation Technologies	60,000	60,000	75,800	+15,800	+26.33%
Natural Gas Decarbonization and Hydrogen Technologies	26,000	26,000	24,400	-1,600	-6.15%
Minerals Sustainability	54,000	54,000	78,200	+24,200	+44.81%
Resource Sustainability – Analysis and Engagement	0	0	2,000	+2,000	N/A
Subtotal, Resource Sustainability	**195,000**	**195,000**	**195,400**	**+400**	**+0.21%**
Energy Asset Transformation	**6,000**	**6,000**	**6,000**	**0**	**0%**
University Training and Research	**13,000**	**13,000**	**19,000**	**+6,000**	**+46.15%**
Special Recruitment	**1,000**	**1,000**	**1,000**	**0**	**0.00%**
Program Direction	**70,000**	**70,000**	**97,000**	**+27,000**	**+38.57%**
NETL Infrastructure	**55,000**	**55,000**	**51,000**	**-4,000**	**-7.27%**
NETL Research and Operations	**87,000**	**87,000**	**95,000**	**+8,000**	**+9.20%**
Interagency Working Group	**3,000**	**3,000**	**0**	**-3,000**	**-100.00%**
Total, Fossil Energy and Carbon Management	**890,000**	**890,000**	**900,000**	**+10,000**	**+1.12%**

Appropriation Overview

The Office of Fossil Energy and Carbon Management (FECM) conducts research and development (R&D) to ensure responsible use and minimize the environmental impacts of fossil fuels, critical minerals and materials, and industrial processes, while working to achieve net-zero emissions across the economy. The Office's programs use research, development, demonstration, and deployment (RDD&D) approaches to advance technologies to reduce carbon emissions and other environmental impacts from energy production and industrial processes and to manufacture responsible carbon-based products.

FECM is working to advance carbon management to achieve deep decarbonization, advance technologies that lead to sustainable production and use of energy resources, and advance domestic engagement and international collaboration to leverage expertise in these areas. This is done by funding technology priorities of point-source carbon capture, carbon transport and storage (CTS), carbon dioxide conversion (CDC), hydrogen with carbon management, carbon dioxide removal (CDR), methane mitigation, and critical mineral and materials (CMM) production.

The FY 2025 Request for FECM will extend the impact of the Department of Energy's (DOE) R&D activities by leveraging creative funding mechanisms—such as prizes, competitions, technical assistance, and programs targeted to small businesses. The goal is to enable the commercialization of climate and clean energy innovations that will reduce costs, accelerate deployment, and spur job creation and do so across a more geographically diverse and impactful R&D portfolio. This request also includes funding for the basic operating costs of FECM and investment at the National Energy Technology Laboratory (NETL).

FECM's FY 2025 priorities follow:

- **Accelerate Low-Carbon Hydrogen:** Develop technologies that leverage the natural gas infrastructure for hydrogen production, transport, storage, and use, coupled to carbon management.
- **Facilitate the Future Demonstration of Point Source Carbon Transport and Storage:** R&D for point-source carbon capture and storage (CCS) combined with CTS in the power and industrial sectors to enable wider, strategic commercial deployment and provide low-carbon alternatives for hard to decarbonize sectors to meet net-zero emissions goals by 2050.
- **Reduce Methane Emissions:** Develop technologies and regional initiatives to quantify, monitor and reduce methane emissions from fossil fuel infrastructure including oil, gas, and coal.
- **Advance Carbon Dioxide Removal and Carbon Dioxide Conversion:** Advance direct air capture (DAC), biomass with carbon removal and storage (BiCRS), marine and terrestrial CDR, and mineralization technologies and develop and advance novel approaches and enabling technologies to convert and use captured carbon emissions to create fuels and products.
- **Advance Critical Minerals, Rare Earth Elements (REE), and Mine Remediation:** Improving REE separation/recovery technologies to manufacture products from carbon ores and to address current market and process economics. Advancing R&D to address abandoned mines.
- **Increase Efficient Use of Big Data and Artificial Intelligence (AI):** Use AI, machine learning (ML), and data analysis to create learning algorithms to help discover new materials, optimize processes, and run autonomous systems.
- **Invest in Thoughtful Transition Strategies:** Invest in technologies and approaches and deploy regional initiatives that provide economic and environmental benefits to affected communities and invest in American workers as we transition to a net-zero carbon economy.

Program Highlights

Carbon Management Technologies

The Office of Carbon Management (OCM) supports RDD&D aimed at achieving a net-zero carbon economy by focusing on the entire carbon management value chain of capture, removal, conversion, transport and storage. OCM addresses emissions associated with the power and industrial sectors, as well as the accumulated emissions in the atmosphere, and seeks to permanently store CO_2 and/or convert CO_2 into value-added products to reduce negative climate impacts.

Descriptions of major funding and programmatic changes and highlights within the Carbon Management Technologies program for the FY 2025 Budget Request are as follows:

Hydrogen with Carbon Management

The Hydrogen with Carbon Management subprogram invests in R&D to evaluate carbon-based clean hydrogen (i.e., coupled to CCUS) as a fuel and support development of technologies to use clean hydrogen from any source. The subprogram's efforts are an integral part of DOE's Hydrogen Shot, with a goal of reducing the cost of clean hydrogen to $1/kg within one decade (1-1-1) while expanding employment of the U.S. energy workforce. Seeking a cost-competitive decarbonized alternative to unabated fossil fuels, the subprogram has a research, development and demonstration (RD&D) portfolio consisting of a new generation of carbon neutral or net-negative GHG emissions technologies. Gasification, reversible solid oxide fuel cells, technologies in hydrogen (H_2) turbines, and advanced materials, sensors and controls all support this goal.

The $85 million FY 2025 Budget Request for Hydrogen with Carbon Management will provide research, development, and a platform for developing the advanced systems of the future, while reducing emissions. In FY 2025, the subprogram will not fund R&D specific to traditional fossil power generation, but rather, will narrow the focus to work on H_2-fueled turbines, fuel cells, CCUS-relevant technologies, and production of clean hydrogen through gasification. Improvements to these technologies are also applicable to other energy systems. These improvements to new and existing plants will also make them less carbon intensive and allow these assets to provide continued low-cost baseload power and resilient flexible grid services. This subprogram aligns with the Administration's priority of reducing environmental impacts from the power sector and providing economic and environmental benefits to affected communities.

Carbon Transport and Storage

The CTS subprogram is uniquely positioned to support the United States (U.S.) as it helps the carbon transport and storage industry achieve the scale necessary to decarbonize the economy while considering associated economic, environmental and social benefits and impacts. This subprogram is making key investments in advanced technology RDD&D, large-scale transport scenarios, commercial-scale storage facilities, and regional transport and storage hubs to achieve economies of scale that reduce costs and enable deeper emissions reductions. The subprogram also plans to design strategies for developing carbon storage infrastructure, improve technology performance through our R&D, build educational partnerships to grow our workforce, and provide technical assistance to external entities including communities and stakeholders. The FY 2025 Budget Request provides $97.2 million for the CTS subprogram activities that address the performance challenges of operating and monitoring commercial scale CO_2 storage sites. Activities supported by the CTS subprogram aim to improve storage and operational efficiency, improve understanding of overall costs and advance de-risking strategies to reduce those costs. Achieving each of these elements through site characterization and developing advanced monitoring and modeling tools is critical for enabling a CCUS industry that is safe, economically viable, and environmentally benign.

Carbon Dioxide Removal and Carbon Dioxide Conversion

The CDR subprogram advances a diverse set of technology pathways in service of facilitating gigatonne-scale removal by mid-century. It emphasizes rigorous analysis of life cycle impacts and consideration of project design to ensure clear benefits to affected communities. The subprogram R&D of CDR technologies, such as DAC and marine carbon dioxide removal that includes direct ocean capture (DOC) with permanent storage; biomass with carbon removal and storage; and mineralization to remove accumulated emissions from the atmosphere to counterbalance emissions from hard-to-abate sectors to achieve net-zero GHG emissions by mid-century.

The Carbon Dioxide Conversion (CDC) subprogram invests in research, development, and demonstration to advance technologies that recycle CO_2 into value-added products, such as building materials, fuels, and chemicals, through mineralization, catalytic conversion, and biological approaches. Through these investments, the CDC subprogram can help the U.S. achieve the goals of a carbon pollution-free electricity sector by 2035, while simultaneously developing technologies that help traditional industries build new business models for the future, while creating high-wage jobs and reducing GHG and other emissions in communities dependent on and impacted by energy and industrial production.

In FY 2025, the Budget Request provides $90.2 million for CDR and $60 million in the CDC subprograms. CDR funding will support continued activities to advance novel DAC and DOC materials and processes to help optimize and reduce the cost, front-end engineering and design studies for biomass with carbon removal and storage, and novel approaches that can leverage industrial waste minerals and naturally occurring minerals to capture atmospheric CO_2. Carbon conversion technologies have the potential to develop additional markets for carbon-based products. Areas of research include, but are not limited to, new projects focused on the catalytic conversion of carbon waste streams to higher value products such as fuels, chemicals, polymers, and nutraceuticals; mineralization to building products; generation of solid carbon products; and algal systems designed to integrate captured CO_2. Specific focus on catalysts made from low-cost materials and improved reactor designs will be pursued to lower the energy penalty and capital cost of the conversion process.

Point-Source Carbon Capture

The Point-Source Carbon Capture R&D subprogram focuses on committed emissions associated with infrastructure that are expected to persist through mid-century. Natural gas power generation and CO_2-emitting industrial sectors, such as cement, steel, pulp and paper, and hydrogen production are particular priorities. The FY 2025 Budget Request provides $96.2 million in the Point-Source Carbon Capture subprogram for pre- and post-combustion capture R&D on transformational gas separation technologies that can help achieve decarbonization goals. This includes technologies such as non-aqueous solvents, sorbents, membranes, and cryogenic processes. R&D activities will investigate approaches that can be flexible in operation and result in higher rates of CO_2 capture.

Additionally, the Point-Source Carbon Capture subprogram will leverage its extensive experience on carbon capture technology development for power sector applications to increase focus on hard to decarbonize industrial applications, specifically, cement, steel, pulp and paper, and hydrogen production. In FY 2025, R&D will focus on optimization of technologies for these applications to reduce cost and improve performance. Funding will also maintain progress on R&D to decarbonize power generation.

Carbon Management – Policy, Analysis, and Engagement
The Office of Carbon Management conducts systems, economic, and environmental analysis that is primarily focused on: cost and performance for carbon management technologies; the role of carbon management in energy markets; life cycle analysis; energy markets assessments; integration of carbon management technologies with the U.S. Power Grid; and effects of carbon management deployment in local communities.

A variety of analysis methodologies are used in combination to provide a robust understanding of the cost, performance, and barriers to the deployment of carbon management technologies. Through a system of coordinated efforts and thoughtful engagement with stakeholders, realistic carbon management deployment scenarios can be crafted using market and technology-based information. This subprogram also supports social science and socioeconomic research to understand impacts of carbon management on communities and interagency engagement with key federal partners. Activities will aid in proactive, place-based community engagement and planning that include consideration of CCUS and CDR development, in the context of broader energy options, to both ensure that carbon management projects work for communities and to increase siting certainty for future development. The FY 2025 Budget Request for Policy, Analysis, and Engagement is $7 million and includes funding to support Department-wide greenhouse gas analytics and reporting.

Resource Sustainability
The Resource Sustainability Office addresses critical issues associated with reducing the environmental impacts of fossil energy production and use. This includes conducting R&D that reduces the environmental impact from the extraction, development, transportation, distribution, and storage of existing fossil fuel assets and reducing emissions throughout the supply chain. Descriptions of major programmatic changes and highlights within the Resource Sustainability program for the FY 2025 Budget Request, which totals $195.4 million, are as follows:

Advanced Remediation Technologies
The Advanced Remediation Technologies program will conduct RD&D of novel technologies and approaches to address wellbore integrity, induced seismicity, produced water treatment, and offshore safety and spill prevention. A redesigned field program will focus on conducting research to minimize the environmental impacts associated with unconventional oil and gas production, and exploration of pathways that would result in a positive impact on climate, such as coupling production with CO_2 storage.

Methane Mitigation Technologies
The Methane Mitigation Technologies program will conduct RD&D to advance methane sensor technologies to detect and quantify methane emissions from production fields, pipelines, infrastructure equipment, storage facilities, and abandoned wells; pipeline materials, pipeline sensors, and pipeline data management and computational tools; and advanced modular natural gas conversion technologies for the purpose of beneficially utilizing otherwise flared or stranded natural gas. The program will collect, analyze, and distribute methane emissions data, information, and knowledge to inform efforts on methane mitigation technology development and support the Environmental Protection Agency's (EPA) Greenhouse Gas Inventory. The program will expand field research on methane measurement technologies and analysis methods for quantifying emissions at basin-level assessments. The program will implement a strategy to reconcile methane emissions estimates from surface-based measurements (bottom-up) and atmospheric measurements (top-down) that will minimize and resolve the difference between these two segments on a large-scale.

Natural Gas Decarbonization and Hydrogen Technologies
The Natural Gas Decarbonization and Hydrogen Technologies (NGDHT) subprogram will support RD&D to advance clean hydrogen production and infrastructure for natural gas decarbonization; hydrogen production from produced water; technologies for enabling safe and efficient transportation within the U.S. natural gas pipeline system; and fundamental research to enable subsurface hydrogen storage. Programmatic activities will be conducted in support and coordination with the Hydrogen and Carbon Management Division within FECM and with the Hydrogen and the Fuel Cell Technologies Office within DOE's Office of Energy Efficiency and Renewable Energy.

Mineral Sustainability
The Mineral Sustainability Program will advance technologies to support domestic supply chain networks required for the economically, environmentally, and geopolitically sustainable production and processing of CMM. This mission will be accomplished by prioritizing the use of unconventional resources such as coal waste and by-products from industry feedstocks for domestic CMM, REEs and carbon ore to products production. The program will also focus on utilizing materials to be recovered from currently

mined and previously mined resources outside of traditional thermal and metallurgical markets that can support high-wage employment and value-added production in communities and regions dependent on traditional mining.

Resource Sustainability – Analysis and Engagement
Analysis and Engagement will focus on analysis and studies that support the environmentally prudent production, transport, storage, and use of domestic fossil fuels with an understanding of their role as a strategic asset for the U.S. and its allies for global energy security and provides evidence-based, portfolio-wide analysis for decision-makers. This includes economic and environmental analysis, modeling, market analysis, analysis of markets and market volatility, studies that support the overall Resource Sustainability Program, and data driven assessments of the impacts of different tools and levers that can be used to provide reliable and affordable fossil energy supplies to the domestic market. The program will inform research priorities, engagement with domestic and international governments and organizations, and provide market and industry analysis to inform the Department on fossil energy resources.

Other FECM Program Activities

Energy Asset Transformation
The Energy Asset Transformation program supports transformation of decommissioned and retiring energy assets across the U.S. for use in clean energy and manufacturing by providing technical and financial assistance and developing publicly available tools and resources. This will help ensure that historic energy communities have a path forward and can benefit from both short-term and permanent employment, opportunities for worker retraining programs, access to local work that does not require relocation, and opportunities to work in cutting-edge technology sectors. Importantly, transformation allows communities to become active participants in crafting their own economic future.

The FY 2025 Budget Request of $6 million will support fossil asset transformation efforts across the U.S., through both direct assistance and paper case studies. It will also continue to support place-based interagency efforts related to energy transition and fossil asset transformation, including by contributing to DOE's funding of the Rapid Response Teams associated with the Energy Communities Interagency Working Group.

University Training and Research
The request of $19 million provides funding for University Training and Research (UTR), which comprises funding for University Carbon Research (UCR), Historically Black Colleges and Universities (HBCU) and other Minority Serving Institutions (MSI).

National Energy Technology Laboratory

NETL and HQ Program Direction and Special Recruitment Programs
The Request of $97 million for NETL/HQ Program Direction and $1 million for Special Recruitment provides for the FECM organization's headquarters federal workforce and contractor support including salaries and benefits, support service contracts, travel, training, the working capital fund, and other employee costs. These staff are responsible for the oversight and administration of the FECM Programs and natural gas regulatory activities. In addition, funding for NETL federal technical staff and contractor support that provide Acquisition, Finance and Legal functions is supported.

NETL Infrastructure
The FY 2025 Budget Request of $51 million supports the fixed costs of maintaining NETL's lab footprint in three geographic locations: Morgantown, WV; Pittsburgh, PA; and Albany, OR. The footprint of these sites is approximately 240 acres, including 165 research laboratories. The Request provides funding for general plant projects to maintain research capabilities and combat deferred maintenance, the lease of NETL's high performance computer and for information technology development, modernization, and enhancement.

NETL Research and Operations
The Request of $95 million supports the salaries, benefits, travel, and other employee costs for the NETL staff of scientists, engineers and technical professionals who conduct onsite research and project management activities for FECM programs. The Request also funds partnership, technology transfer, and other collaborative research activities and supports the variable operating costs of NETL's research sites.

($K)

	FY 2023 Enacted - Comparable [1,2,3,4]	FY 2024 Annualized CR - Comparable [1,2,3]	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Nuclear Energy					
University and Competitive Research Programs	130,276	130,276	143,400	+13,124	10%
Reactor Concepts RD&D	279,872	279,872	88,300	-191,572	-68%
Fuel Cycle Research and Development	404,900	404,900	446,690	+41,790	10%
Nuclear Energy Enabling Technologies	88,413	88,413	105,100	+16,687	19%
Advanced Reactor Demonstration Program	288,315	288,315	218,248	-70,067	-34%
Infrastructure	346,224	346,224	333,922	-12,302	-4%
Idaho Sitewide Safeguards and Security	150,000	150,000	150,000	0	0%
International Nuclear Energy Cooperation	3,320	3,320	8,000	+4,680	141%
Program Direction	81,680	81,680	97,000	+15,320	19%
Total, Nuclear Energy	**1,773,000**	**1,773,000**	**1,590,660**	**-182,340**	**-10%**

Appropriation Overview

Nuclear Energy (NE) supports the diverse civilian nuclear energy programs of the U.S. Government to research and develop nuclear energy technologies, including generation, safety, and security technologies, to assist in unleashing the clean energy transition through strategic, innovative research, development, demonstration, and deployment.

Program Highlights

- **University and Competitive Research Programs**
  The Request provides for Nuclear Energy University Programs including university-led competitive research and development; university infrastructure support; scholarships, fellowships and faculty awards; and university research reactor fuel services. This program also provides NE's full legally required participation in the Small Business Innovation Research (SBIR), Small Business Technology Transfer (STTR), and the Technology Commercialization Fund, as well as university-led research and development to the maximum extent practicable.

- **Reactor Concepts Research, Development and Demonstration**
  Activities include support for Light Water Reactor Sustainability through cost-shared efforts to extend the life and improve the economic competitiveness of the existing commercial nuclear reactor fleet through research in the areas of materials aging and degradation, safety margin characterization, safety technologies, and instrumentation and controls; research into other Advanced Reactor Technologies, such as fast reactor technologies and high temperature reactor technologies for the production of electricity and high temperature process heat to improve the economic competitiveness and flexibility of nuclear energy as a resource capable of meeting the Nation's energy, environmental and energy security goals; and Integrated Energy Systems.

[1] Funding does not reflect the transfer of SBIR/STTR to the Office of Science.

[2] Funding does not reflect the mandatory transfer of $99.7M from Naval Reactors for operation of the Advanced Test Reactor.

[3] Does not reflect the mandatory transfer of $20.0M to the Office of Science for ORNL Nuclear Facilities O&M

[4] FY 2023 Enacted levels for base funding include $20 million for the National Reactor Innovation Center, $120 million for Risk Reduction for Future Demonstrations, and $60 million for ARDP Demonstration Reactors that was enacted in Division M, Additional Ukraine Supplemental Appropriations, of the Consolidated Appropriations Act, 2023 (P.L. 117-328).

- **Fuel Cycle Research and Development**
  The Request supports R&D on advanced fuel cycle technologies that have the potential to accelerate progress on managing and disposing of the nation's spent fuel and high-level waste including efforts to establish one or more interim storage options for commercial spent fuel, improve resource utilization and energy generation, reduce waste generation, and limit proliferation risk. Advancements in fuel cycle technologies support the enhanced availability, economics, and security of nuclear-generated electricity in the United States (U.S.), further enhancing U.S. energy independence and economic competitiveness. This program also contributes to the Department's policies and programs for ensuring a reliable and economic nuclear fuel supply including the availability of High-Assay Low-Enriched Uranium (HALEU). Also included in this program are R&D efforts investigating options for the permanent disposition of spent nuclear fuel as well as efforts toward implementing a consent-based siting solution for interim storage of these materials.

- **Nuclear Energy Enabling Technologies**
  The Request supports R&D and strategic investments in research capabilities to develop innovative and crosscutting nuclear energy technologies essential for nuclear energy to contribute to our nation's net-zero energy transition. This program funds high-priority R&D on advanced manufacturing methods, fabrication, and instrumentation technologies that includes strong investments in modeling and simulation tools and provides access to unique nuclear energy research capabilities through its Nuclear Science User Facilities and the Gateway for Accelerated Innovation in Nuclear (GAIN) initiative (sub-program).

- **Advanced Reactor Demonstration Program**
  The Advanced Reactor Demonstration Program focuses Departmental and non-federal resources on the development of commercial reactor technologies that may be ready for demonstration and deployment in the mid-term. The program partners with U.S. based teams to address technical, operational, and regulatory challenges to enable commercialization of a diverse set of advanced nuclear reactor designs.

- **Infrastructure and Idaho National Laboratory Sitewide Safeguards and Security**
  The Request supports the secure and effective availability of Idaho National Laboratory to support nuclear energy as well as other DOE and U.S. government research requirements. The Idaho National Laboratory Facilities Operations and Management subprogram continues investments at the Advanced Test Reactor (ATR) and Advanced Test Reactor Critical Facility (ATRC) to improve reliability and availability of the ATR and continue operations at the Transient Reactor Test Facility (TREAT), unique capabilities that fulfill the acute needs of our existing, future, and naval reactor fleets. The Idaho Sitewide Safeguards and Security program will increase the workforce and focus on continued implementation of infrastructure investments, capital improvements, emerging technology investments, and enhanced cybersecurity program capabilities to adequately secure site assets.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Nuclear Waste Fund Oversight					
Nuclear Waste Fund Oversight	**10,205**	**10,205**	**12,040**	**+1,835**	**+18%**
Total	**10,205**	**10,205**	**12,040**	**+1,835**	**+18.0%**

Appropriation Overview

The Nuclear Waste Fund Oversight program supports the Department's responsibilities for managing the Nuclear Waste Fund (NWF), administering the Standard Contract, and maintaining the security of the Yucca Mountain site.

Program Highlights

The Nuclear Waste Fund Oversight program's FY 2025 Budget Request activities include:

- Implementation of an appropriate investment strategy and prudent management of the NWF investment portfolio;
- Administration of the Standard Contract for the disposal of spent nuclear fuel (SNF) and high-level radioactive waste (HLW) between contract holders and the government;
- Provision of legal services for activities related to nuclear waste disposal, including but not limited to interim storage;
- Management of the physical security requirements for the Yucca Mountain site under DOE Order 473.3A as well as site maintenance and fulfillment of environmental requirements;
- Execution of the annual agency financial report and audit; and
- Operation and maintenance costs for Yucca Mountain legacy licensing and data management system.

These funds are inclusive of program direction activities and management and technical costs necessary to carry out the program's mission.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Critical and Emerging Technologies					
Program Direction	0	0	5,000	+5,000	N/A
Total, Critical and Emerging Technologies	**0**	**0**	**5,000**	**+5,000**	**N/A**

Appropriation Overview

On October 30, 2023, the White House issued an Executive Order 14110 on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence that tasked DOE to establish an office to coordinate development of AI and other critical and emerging technologies across Department of Energy programs and its 17 national laboratories. In response, DOE has established the Office of Critical and Emerging Technologies (CET). The office has primary responsibility for coordinating efforts to ensure a unified Departmental voice on issues related to critical and emerging technologies, including artificial intelligence and machine learning, quantum information science and technology, semiconductors and microelectronics, and biotechnology (including biomanufacturing, synthetic biology, genomics, pandemic surveillance and detection). The office also houses the Department's Chief AI Officer, who is responsible for driving development and implementation of AI-related federal mandates and strategies, supporting AI governance, and foster collaboration across the DOE complex.

DOE houses world-class expertise, facilities, and capabilities in critical and emerging technology; however, these competencies are spread across numerous program offices and laboratories. The office will lead coordination across these diverse elements to coordinate implementation of EO 14110 (Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence), E.O. 14081 (Advancing Biotechnology and Biomanufacturing Innovation), and E.O. 14080 (Implementation of the CHIPS Act), working with other federal agencies, the Executive Office of the President (EOP), National Security Council, national and international organizations and institutions, industry, and other external stakeholders.

This new office will report to the Undersecretary for Science and Innovation, which oversees 13 of the 17 DOE national labs, and will be staffed by an interdisciplinary team of experts with the requisite technical and communication skills to formulate a coherent vision and strategy to ensure that DOE's capabilities in critical and emerging technology are leveraged across the Department, the interagency, and external stakeholders. Staff will include leads on AI, biotechnology, microelectronics, quantum, stakeholder engagement, each supported with detailees from programs and/or the national laboratories.

Program Highlights

In FY 2025, activities include but are not limited to: coordinating across program elements to track and troubleshoot progress in executing the aforementioned executive orders; leveraging expertise from program offices and national laboratories to develop coordinated responses to White House data calls and policy processes; engaging external stakeholders and building strategic partnerships; supporting DOE leadership on engagements related to critical and emerging technology; and organizing convenings to ensure the Department is mobilizing its collective resources to support the Nation's mission.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Office of Electricity					
Grid Controls and Communications					
Transmission Reliability and Resilience	34,000	34,000	39,000	+5,000	+14.7%
Energy Delivery Grid Operations Technology	31,000	31,000	31,000	0	0%
Resilient Distribution Systems	55,000	55,000	49,000	-6,000	-10.9%
Cyber Resilient and Secure Utility Communications Networks (SecureNet)	15,000	15,000	15,000	0	0%
Total, Grid Controls and Communications	135,000	135,000	134,000	-1,000	-0.7%
Grid Hardware, Components, and Systems					
Energy Storage	95,000	95,000	94,800	-200	-0.2%
Transformer Resilience and Advanced Components	27,500	27,500	32,500	+5,000	+18.2%
Applied Grid Transformation Solutions	10,000	10,000	12,000	+2,000	+20.0%
Total, Grid Hardware, Components, and Systems	132,500	132,500	139,300	+6,800	+5.1%
Program Direction	17,793	17,793	19,700	+1,907	+10.7%
Total, Office of Electricity	**285,293**	**285,293**	**293,000**	**+7,707**	**+2.7%**

Organization Overview

A reliable, resilient, and secure power grid is vital to our national security, economic security, and the services Americans rely upon. Working closely with its private and public partners, the Office of Electricity (OE) leads the Department's research, development, and demonstration programs to strengthen and modernize our Nation's power grid. These efforts will reinforce, transform, and improve energy infrastructure so every American home and business has reliable access to affordable energy and the U.S. sustains its global leadership in the clean energy transformation.

America's energy security, economy, and sustained global leadership is anchored in a robust power grid. Through a mix of physical science, social science, and risk science solutions and in partnership with the private and public sectors, OE harnesses innovation to drive a more resilient, reliable, affordable, and secure North American energy system while maintaining energy independence.

The ability to move abundant clean electricity from where it is produced to where and when it is needed is the cornerstone of a reliable electric grid. The electricity delivery system must adapt to all generation resource and load types, and ensure reliable, resilient grid operations under increasingly extreme conditions. OE leads the Department's efforts in developing new technologies to strengthen, transform, and improve electricity delivery infrastructure so new generation and loads can be fully integrated into the energy ecosystem and consumers have access to resilient, reliable, secure, and clean sources of electricity.

A dramatic structural transformation of the electricity delivery system is underway to ensure that reliability is maintained during the rapid integration of renewable generation and customer-based technologies, including distributed generation and the electrification of transportation and building infrastructures. America's grid is transforming into a more dynamic and structurally complex system with bidirectional power flows. Managing this transition will require significant reengineering and advancements in grid technology and system architectures.

Program Highlights

Transmission Reliability and Resilience (TRR) is focused on ensuring the reliability and resilience of the U.S. electric grid through R&D on system observability and control capabilities. TRR is also developing and demonstrating operational tools for grid enhancing technologies (GETS), developing and validating models to characterize evolving system's needs, identifying pathways to achieve an equitable transition to decarbonization and electrification, addressing ongoing industry

challenges, and mitigating risks across integrated energy systems. The Request includes increases for operational and control tools to modernize the transmission system and to develop new models to increase the net power flowing through transmission lines.

Energy Delivery Grid Operations Technology (EDGOT) enhances the analytical capability needed to ensure reliable and resilient energy delivery and to identify scalable solutions to changing climate conditions and other emerging threats. The core of the EDGOT portfolio is the North America Energy Resilience Model (NAERM), a hybrid data/model platform for the assessment of significant interdependencies within the energy sector that could affect reliability. The Request focuses on developing and enhancing the portfolio of tools to help address data limitations hindering our ability to analyze extreme events and to transition the underlying capabilities to a robust, secure operational state.

Resilient Distribution Systems (RDS) develops transformative technologies, tools, and techniques to enable industry to modernize the distribution portion of the electric delivery system. RDS pursues strategic investments that improve reliability, increase resilience, support vehicle electrification, integrate distributed energy resources, and increase consumer choice. The Request supports next-level advancements in the development and demonstration of microgrid technology as strategic building blocks of the future grid; transformative control approaches to keep electricity affordable, reliable, resilient, and secure; and sensor data analytics R&D on data standards required for advanced analytics and software interoperability.

Cyber Resilient and Secure Utility Communications Networks (SecureNet) develops solutions to strengthen the security and resilience of the information layer that enables operation of the electricity delivery system. The program's core R&D focus is on grid communication and data network information security and resilience, including enabling components and technologies such as alternate timing and blockchain. The Request supports grid communications architecture development, technology R&D, and stakeholder partnership activities. The Request also addresses cybersecurity and resilience considerations across OE's programs.

Energy Storage propels U.S. leadership in the development, deployment, and utilization of energy storage technologies by advancing high-potential storage technologies that incorporate safe, low-cost, and earth-abundant elements; validating next generation storage technologies to be grid- and end-user ready; and enhancing the energy community's ability to analyze and adopt storage. Highlighted activities in FY 2025, including Opportunities for Alternative Systems and Supply-Chain Innovations and Solutions, Storage Prize for Entrepreneurial Enrichment and Development, Blue Sky First Responder Training, and Enhanced Validation of Energy Storage Technologies, provide competitive, collaborative, and nimble mechanisms to nurture a rapidly growing domestic energy storage innovation ecosystem.

Transformer Resilience and Advanced Components (TRAC) develops innovations to control, convert, condition, and transport electricity, equipping the grid to achieve decarbonization goals while enhancing its reliability and resilience. TRAC encompasses materials research, exploratory concepts, and modeling and analysis to fill fundamental R&D gaps, encourage the adoption of new technologies and approaches, and develop solutions to address supply chain challenges identified through industry collaboration. The Request accelerates efforts to address HVDC hardware technical challenges; supports a field demonstration exercise of distribution-scale medium-voltage advanced power electronic systems; develops advanced, solid-state, flexible, and modular transformers; and supports R&D of advanced conductors.

Applied Grid Transformation Solutions addresses the pressing need for assessing and testing new grid systems and subsystems (including energy storage, transmission, distribution, and power control and conversion systems) in integrated pilot environments. These assessments provide utilities and other decision makers, including state regulators and energy officials, with the information they need to quantify and validate functionality, performance, and economic benefits before deploying new technologies. The Request includes enhancing at least one existing national electrical grid advanced testing capability and at least one new pilot demonstration in a field or laboratory environment to validate technological maturity and show how new technologies achieve desired technical, economic, societal, policy, and market outcomes.

Program Direction supports OE's team of experts as they share their technical, analytical, and policy expertise with offices throughout DOE and with energy transition stakeholders across the country. OE made progress building a strong team in FY 2023 and 2024 by addressing skill gaps and supporting succession planning. Continued program direction support in

FY 2025 is crucial to grow and sustain a talented workforce to support our Nation's initiatives to provide a reliable, resilient, secure, and affordable 21st century power grid for the American people.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Office of Clean Energy Demonstrations					
Clean Energy Demonstrations	64,000	64,000	100,000	+36,000	+56.3%
Program Direction	25,000	25,000	80,000	+55,000	+220.0%
Total, Office of Clean Energy Demonstrations	89,000	89,000	180,000	+91,000	+102.2%

Appropriation Overview

The Office of Clean Energy Demonstrations (OCED) delivers clean energy demonstration projects at scale in partnership with the private sector to accelerate deployment, market adoption, and the equitable transition to a decarbonized energy economy. Funding requested in FY 2025 will complement OCED's current demonstration projects to fill gaps and continue to pursue cutting-edge strategies to help advance the goals of carbon-free electricity and a net-zero carbon emission economy.

Through resources appropriated by the Infrastructure Investment and Jobs Act and Inflation Reduction Act, OCED funds demonstration projects in clean hydrogen, carbon management, advanced nuclear reactors, long-duration energy storage, industrial decarbonization, and renewables, including in rural areas, and on current and former mine lands. The FY 2025 Budget builds the base annual appropriations so OCED can continue to drive commercialization and unlock private investment, to set the Nation on a course to a modernized and upgraded energy system that leads the world in an advanced clean energy infrastructure.

OCED programs demonstrate clean energy solutions at or near full- and commercial-scale, in real-world operational environments, and in partnership with the private sector and local communities. The primary goal is to enable market liftoff and resolve critical risks to commercialization and adoption of clean energy solutions across all sectors to ensure bankability, marketability, and replicability. OCED programs and funding are focused predominantly on these demonstration-to-deployment objectives, as differentiated from research and development. OCED also serves as a project management oversight center of excellence for other DOE offices overseeing large-scale demonstration projects, applying lessons learned from past DOE demonstrations and adopting best practices for project management.

Program Highlights

Clean Energy Demonstrations ($100,000,000): FY 2025 planned investments include the following:

- Extreme Heat Demonstration ($70,000,000): OCED will demonstrate community-scale energy solutions to address the impacts of extreme heat on low-income and disadvantaged communities as part of a joint project with Office of State and Community Energy Programs (SCEP) which has also requested $35 million for this program.

- National Laboratory Demonstration Support Program ($30,000,000): Funding requested to develop and implement efforts to expand and streamline connections between demonstration projects and associated communities and the deep expertise housed in DOE's National Laboratory network to improve likelihood of commercial success.

Program Direction ($80,000,000): Program Direction funds federal salaries and benefits, including training, travel, performance awards, Working Capital Fund expenses, associated support services contracts, and administrative expenses.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Cybersecurity, Energy Security, and Emergency Response					
Preparedness, Policy, and Risk Analysis	26,857	26,857	28,500	+1,643	+6.1%
Risk Management Tools & Technologies	125,000	125,000	106,500	-18,500	-14.8%
Response and Restoration	23,000	23,000	33,000	+10,000	+43.5%
Program Direction	25,143	25,143	32,000	+6,857	+27.3%
Total, Cybersecurity, Energy Security, and Emergency Response	**200,000**	**200,000**	**200,000**	**+0**	**+0.0%**

Appropriation Overview

The **Office of Cybersecurity, Energy Security, and Emergency Response (CESER)** leads the Department's efforts to secure the U.S. energy infrastructure against all hazards, reduce the risks of and impacts from cybersecurity and other disruptive events, and leads response and restoration activities. CESER is the designated head Office for DOE's responsibilities as lead agency for Emergency Support Function #12 (Energy), or ESF #12, under the National Response Framework. CESER is also the Sector Risk Management Agency (SRMA) for national efforts to enhance preparedness, resiliency, and recovery of the U.S. energy infrastructure. The U.S. energy sector powers and fuels the economy, national security, and the daily lives of Americans. With critical energy infrastructure facing evolving threats and hazards, especially from significant climate-related incidents and rapidly evolving cybersecurity threats, CESER divisions and programs coordinate with electricity and oil and natural gas infrastructure owners and operators; State, Local, Tribal, and Territory (SLTT) governments; and Federal agencies to understand and mitigate risk, develop guidance and tools to mitigate risk and enhance resilience and security, and respond when incidents do occur. CESER leads, coordinates, and provides technical expertise across DOE in implementing its cybersecurity-by-design strategy, in which cybersecurity considerations are incorporated into new clean energy technologies as they are developed by the applied energy offices.

Program Highlights

Preparedness, Policy, and Risk Analysis (PPRA) program is focused on providing day-to-day sector risk management and preparedness through cultivating strong partnerships with the energy sector community – including electric utilities and oil and natural gas owner/operators, State, Local, Tribal, and Territorial (SLTT) governments, vendors and commercial providers, and the Federal Interagency, with insights and support from threat and intelligence sources and academia and laboratory partnerships to identify, assess, and actively manage cyber, physical security, and climate-based risks and threats to our Nation's energy infrastructure. PPRA works to strengthen the security and resilience of critical energy infrastructure and surrounding communities through threat- and intelligence-informed risk analysis, exercises, training and workforce development, and policies and standards developed in partnership with other Federal entities, regulators, and States. These efforts reduce the current and future risk to and provide a more resilient system for our critical energy infrastructure. The FY 2025 Budget Request sustains the growth of the energy sector security and resilience in collaboration with government and industry partners. By fostering public-private partnerships and cultivating trusted relationships, this program will enhance the Department's efforts to support SLTT and industry in addressing all threats and challenges to the U.S. energy sector. This includes information sharing, risk assessments, capacity building, planning, resilience, and targeted training and preparedness exercises.

Risk Management Tools and Technologies (RMT) program is responsible for leading CESER's effort to research, develop, demonstrate, and deploy tools and technologies that address the growing risks to U.S. energy infrastructure against all hazards. RMT develops tools, technologies, and techniques to broadly address cyber, cyber-supply chain, electromagnetic pulse, geomagnetic disturbance, natural hazards (such as wildfires, hurricanes, and floods), and physical threats in

partnership with the DOE National Laboratories, energy sector owners and operators, manufacturers, and academia. As the energy sector continues to evolve with new sources of generation, communications protocols, and architectures, RMT is focused on reducing the risk of energy disruptions from all hazard events through a threat- and intelligence-informed position to ensure it addresses current, emerging, and evolving threats and risks. Working closely with the energy sector, academia, and National Laboratories, the FY 2025 Budget Request supports a more economically competitive, secure, and resilient U.S. energy infrastructure. RMT-supported tools and technologies seek to provide U.S. energy companies cutting-edge protection, monitoring, detection, response, containment, forensics, and recovery capabilities. U.S. energy systems are evolving rapidly to address the impacts of climate-based risks, to meet customer expectations for reliability and resiliency, and to ensure safety and efficiency. CESER will invest in tools and technologies to keep pace with those systems, work with States and communities on hardening measures and support grid owners and operators to mitigate physical security threats.

Response and Restoration (R&R) program coordinates a national effort to maintain awareness of cyber, physical, and natural hazards threats and impacts to the U.S. energy sector and support an effective and efficient response from those incidents. This involves close partnership with the industry, State, and interagency partners with response and restoration activities. R&R delivers a range of capabilities to ensure the effective restoration of energy systems in an all-hazards environment (including cyber); provides near real-time situational awareness and energy sector monitoring to identify threats and risks, improve sector risk management, increase resilience through risk reduction activities, and rapidly respond to incidents, events, and hazards impacting or potentially impacting the sector. The FY 2025 Budget Request will enhance the robust all-hazards emergency response capabilities with cybersecurity-specific staffing, training, tools, threat analysis, and incident response protocols and build upon its regional response approach to include targeted recruitment, staffing, and operational/collaboration facilities in strategic U.S. regions including Puerto Rico and the U.S. Virgin Islands.

The Department will operationalize the Energy Threat Analysis Center (ETAC) to address cyber threats to the U.S. energy sector, building off the success of the pilot. DOE will operationalize it pending input by OMB, Congress, and other critical partners in FY 2024 to ensure that the ETAC can be an enduring capability to support energy security and national security. The ETAC will leverage analytic tools and insights from energy infrastructure owners, operators and DOE's National Laboratories, and the intelligence community to exchange data, identify risks and threats to critical energy infrastructure, and develop mitigation strategies and technical advisories that help energy systems operators protect their systems from adversaries. CESER will continue to coordinate ETAC activities with DOE's Office of Intelligence and Counterintelligence and Cybersecurity and Infrastructure Security Agency Joint Cyber Defense Collaborative within the Department of Homeland Security. In conjunction with critical partners, CESER will also periodically assess the ETAC's analytical and information-sharing capabilities to ensure the Center's effectiveness and preparedness in the face of an ever-advancing threat landscape.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Office of Petroleum Reserves					
Naval Petroleum and Oil Shale Reserves					
Production Operations	11,004	11,004	11,010	+6	+0.1%
Management	2,000	2,000	2,000	0	0.0%
Total, Naval Petroleum and Oil Shale Reserves	**13,004**	**13,004**	**13,010**	**+6**	**+0.1%**
Strategic Petroleum Reserve					
Facilities Development and Operations	163,444	161,303	208,717	+45,273	+27.7%
Management for SPR Operations	28,651	30,792	32,452	+3,801	+13.3%
Northeast Gasoline Supply Reserve	15,080	15,080	0	-15,080	-100.0%
Total, Strategic Petroleum Reserve	**207,175**	**207,175**	**241,169**	**+33,994**	**+16.4%**
Northeast Home Heating Oil Reserve					
Northeast Home Heating Oil Reserve	7,000	7,000	7,150	+150	+2.1%
Total, Northeast Home Heating Oil Reserve	**7,000**	**7,000**	**7,150**	**+150**	**+2.1%**
SPR Petroleum Account					
SPR Petroleum Account	100	100	100	0	0%
Total, SPR Petroleum Account	**100**	**100**	**100**	**0**	**0%**
Total, Office of Petroleum Reserves	**227,279**	**227,279**	**261,429**	**+34,150**	**+15.0%**
Energy Security & Infrastructure Modernization Fund	**0**	**0**	**0**	**0**	**0.0%**

Appropriation Overview

The Office of Petroleum Reserves consist of emergency petroleum security/supply programs, a Strategic Petroleum Reserve (SPR) modernization program, and post-sale remediation activities at the Naval Petroleum and Oil Shale Reserves (NPOSR) Nos. 1 and 3. The SPR storage sites are located at four government-owned Gulf Coast locations with oversight from the Project Management Office in Harahan, Louisiana, and Headquarters in Washington, DC. Both the Northeast Home Heating Oil Reserve (NEHHOR) and the Northeast Gasoline Supply Reserve (NGSR) consist of government-owned refined petroleum products stored in leased commercial storage in terminals in the Northeast. Legacy environmental clean-up/remediation continues at the previously sold NPOSR No. 1 (Elk Hills, CA), and landfill monitoring and closure continues as part of post-sale activities at NPOSR No. 3 (Casper, WY).

Program Highlights

- **Strategic Petroleum Reserve**
  The SPR Program provides strategic and economic security against foreign and domestic disruptions in oil supplies via an emergency stockpile of crude oil. The program fulfills United States' obligations under the International Energy Program, which avails the U.S. of International Energy Agency assistance through its coordinated energy emergency response plans and provides a deterrent against energy supply disruptions. The SPR Program will perform sustainment and construction activities, as well as cavern wellbore testing and remediation activities to ensure the availability of the SPR's crude oil inventory. Additional funding is included to the Major Maintenance Program for required upgrades to

the West Hackberry site. Due to the disestablishment and sale of the NGSR, a subprogram within the SPR account, no new funding is requested.

- **SPR Petroleum Account**
  The SPR Petroleum Account Program funds SPR petroleum acquisition, transportation, and drawdown activities. The Program will be used as a source of funding for drawdown costs related to crude oil movements from the SPR.

- **Naval Petroleum and Oil Shale Reserves**
  Following the 1998 sale of the Government's interests in the NPOSR-1 (Elk Hills, CA), environmental cleanup/remediation activities under the Corrective Action Consent Agreement with the State of California Department of Toxic Substances Control (DTSC) began. Of the 131 areas of concern (AOCs) for which DOE is responsible for environmental cleanup, as of August 2023, 111 AOCs have received no further action certification from California's DTSC. The remaining 20 AOCs require remediation.

- **Northeast Home Heating Oil Reserve**
  The NEHHOR FY 2025 Budget continues to maintain a 1-million-barrel inventory of government-owned ultra-low sulfur distillate stored in three Northeast commercial storage terminals, as a short-term supplement to the Northeast systems' commercial supply of heating oil for deployment in the event of an emergency supply disruption. New commercial storage lease contracts will be awarded for FY 2025 through FY 2029. Actual awarded amounts are TBD. The Program will continue to focus its oversight and management on product quality analysis of the Reserve, as well as information technology support for the sales system.

- **Energy Security and Infrastructure Modernization Fund**
  The FY 2025 President's Budget Requests no appropriation for the Energy Security and Infrastructure Modernization Fund (ESIM or the Fund). The ESIM fund was established in Section 404 of the Bipartisan Budget Act of 2015 to finance modernization of the SPR. Sales of SPR crude oil will be used to fund the completion of the Life Extension Phase II (LE2) project needed to ensure the SPR can maintain its operational readiness capability, meet its mission requirements, and operate in an environmentally responsible manner. The CARES Act (Pub. L. 116-136, Section 14002) provided the Department flexibility to conduct the final sale into FY 2022 to raise funding for the SPR Modernization Program, in accordance with Section 404 of the Bipartisan Budget Act of 2015 (Pub. L. 114-74). As a result, Section 404 sales of SPR oil were concluded in FY 2021.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Indian Energy Policy and Programs					
Indian Energy Policy and Programs	61,000	61,000	81,000	+20,000	+32.8%
Program Direction	14,000	14,000	14,000	0	0%
Total	**75,000**	**75,000**	**95,000**	**+20,000**	**+26.7%**

Appropriation Overview

The Office of Indian Energy Policy and Programs (IE) offers financial and technical assistance to Indian Tribes, including Alaska Native villages, and eligible Tribal entities for advancing electrification and clean energy development and deployment on Indian lands, reducing energy costs, and assisting economic development in Tribal communities where unemployment and poverty rates far exceed national averages. This assistance is intended to overcome barriers to deploying energy generation (used for heat and electric power) and energy efficiency projects to reduce or stabilize energy costs and address energy poverty, as well as to provide power to unelectrified homes. IE's program aligns with the Justice40 initiative by demonstrating 100% of its financial and technical assistance benefit Tribes and disadvantaged Tribal communities.

Financial assistance supports funding opportunities toward energy development and electrification in Indian Country. Technical assistance supports American Indians and Alaska Natives in overcoming barriers to project development and in planning to transition to clean energy. The FY 2025 Budget Request reflects an overall increase to continue the multi-year initiatives started in FY 2022 to: 1) transition all of the nation's Tribal colleges and universities to renewable energy; and 2) electrify the roughly 20,000 Tribal homes that currently lack electricity. DOE will work together with U.S. Department of Agriculture and the Department of Interior to ensure that Tribal energy policy, regulation, and incentives are properly aligned, the right mix of loans, grants, and technical assistance is deployed to achieve the objectives as cost-effectively as possible, while fully respecting Tribal sovereignty and self-determination. In addition to the two initiatives, the FY 2025 Budget includes funds for IE to continue its support for Native communities' transition to clean energy through its ongoing financial and technical assistance and support for the Clean Energy Innovator Fellows Program which funds recent graduates and energy professionals to assist and provide critical resources to Tribes and Tribal entities in advancing clean energy solutions. The FY 2025 Budget Request increase would also support IE's efforts to reduce the cost share barrier to Tribes and eligible Tribal in applying for grants while expanding the financial assistance to more Tribes.

Program Highlights

Technical assistance is provided at no cost to Indian Tribes and Tribal entities to address a specific technical or financial barrier or to assist with energy planning. Between FY 2010 and FY 2023, over 445 technical assistance requests were completed, providing technical, financial, and energy planning expertise to overcome barriers to Indian energy development. This technical assistance provides Tribes and Tribal entities with a tangible product or specific deliverable to address a need or barrier and move projects forward. The FY 2025 Budget continues to support technical assistance and expand DOE's network of subject matter experts and partner organizations to provide local technical assistance.

Financial assistance provides funding opportunities for energy infrastructure deployment to American Indian and Alaska Native communities across the Nation in the form of competitive grant awards. Between FY 2010 and FY 2022, IE invested over $120 million in more than 210 Tribal energy projects, leveraged by over $93 million in recipient cost share. Seventy-six percent (over $93 million) has been invested in hardware installation projects in more than 100 Native communities, projects having tangible impacts in these often underrepresented and disadvantaged communities. These investments will install nearly 46-megawatts of new generation and provide electricity to over 8,800 Tribal buildings across the Nation. In FY 2023, IE committed an additional $72 million to 31 clean energy projects on Tribal lands, which represent an additional 18.6 MW of new clean generation and power to 2,300 Tribal buildings.

The FY 2025 Budget Request supports continued deployment of clean energy technology and Tribal lands and will build a pipeline of projects by providing funding for planning, capacity building, and feasibility studies. Additionally, IE will continue support provided in FY 2025 for Clean Energy Innovator Fellows, increasing access to Tribal clean energy career opportunities for recent graduates and energy professionals while building capacity in Tribal governments and

organizations. IE will also continue its efforts to transition Tribal colleges and universities to renewable energy, provide power to unelectrified homes, assist Tribes and Tribal entities in accessing to DOE programs and resources, and expand the use of the Indian Energy Purchase Preference.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Title 17 Innovative Technology Loan Guarantee Program					
Administrative Expenses	66,206	66,206	55,000	-11,206	-17%
Offsetting Collections	-19,061	-137,568	-239,558	-220,497	1157%
Rescission of Prior Year Balances	-150,000	0	0	+150,000	100%
Total	**-102,855**	**-71,362**	**-184,558**	**-81,703**	**79%**

Appropriation Overview

Through the Title 17 Clean Energy Financing Program (Title 17), as authorized under Title XVII of the Energy Policy Act of 2005 (EPAct of 2005), as amended, DOE can finance projects in the United States that support clean energy deployment and energy infrastructure reinvestment to reduce greenhouse gas emissions and air pollution. There are four project categories within the Title 17 Program: 1) Innovative Energy, financing for projects that deploy New or Significantly Improved Technology that is technically proven but not yet widely commercialized in the United States; 2) Innovative Supply Chain, financing for projects that employ a new or significantly improved technology in the manufacturing process for a qualifying clean energy technology or for projects that manufacture a new or significantly improved technology; 3) State Energy Financing Institution (SEFI)-supported, financing for projects that support deployment of qualifying clean energy technology and receive meaningful financial support or credit enhancements from an entity within a state agency or financing authority; and 4) Energy Infrastructure Reinvestment (EIR), financing for projects that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or upgrade operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or greenhouse gas emissions.

Through Title 17, the Loan Programs Office (LPO) provides access to debt capital for high-impact and large-scale energy infrastructure projects and first-time commercial deployments in the United States. Eligible projects must meet air pollutant or greenhouse gases emissions requirements; offer a reasonable prospect of repayment of the principal and interest on the guaranteed obligation; and meet additional eligibility requirements specific to the appropriate project category. The FY 2025 Budget provides $55 million for LPO to administer Title 17 authorities.

The Title 17 Program is ideally positioned to accelerate the deployment of innovative projects that can help launch new energy technologies and markets, reduce greenhouse gas emissions, and drive American economic growth by providing flexible, custom financing and access to debt capital to meet specific project needs. This budget will allow LPO to originate new loan guarantees and actively monitor its Title 17 portfolio and provide resources to help provide oversight of project milestones, address issues that may arise, and provide guidance and risk mitigation for the long-term success of projects.

Program Highlights

The FY 2025 Budget Request includes $55 million, wholly offset by an estimated $240 million in collected fees, for administrative expenses to continue originating loans for the Title 17 Program and effectively monitor the existing portfolio.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Advanced Technology Vehicles Manufacturing					
Administrative Expenses	9,800	9,800	27,508	+ 17,708	181%
Total, Advanced Technology Vehicles Manufacturing	**9,800**	**9,800**	**27,508**	**17,708**	**181%**

Appropriation Overview

The Advanced Technology Vehicles Manufacturing (ATVM) Direct Loan Program supports the manufacturing of advanced technology vehicles and associated components in the United States. ATVM provides loans for the cost of re-equipping, expanding, or establishing manufacturing facilities in the United States to produce advanced technology vehicles or qualified components and for associated engineering integration costs.

In FY 2025, the Loan Programs Office (LPO) requests $27.508 million for Administrative Expenses to originate ATVM direct loans and monitor the program's growing portfolio. The FY 2025 Budget Request does not request new loan authority. LPO anticipates utilizing existing loan authority to obligate approximately $7 billion in loans in FY 2024 and $12 billion in FY 2025 – which this increased request for Administrative Expenses would support.

Program Highlights

The program has been key in propelling the resurgence of the American auto manufacturing industry and accelerating U.S. electric vehicle (EV) manufacturing. The Budget will allow LPO to continue growing the portfolio of this crucial program. This includes providing access to capital for domestic manufacturers revitalizing U.S. auto supply chains, creating good-quality jobs, securing domestic supply chains from raw materials to parts, and retooling factories to compete globally.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Tribal Energy Loan Guarantee Program					
Administrative Expenses	2,000	2,000	6,300	+ 4,300	215%
Tribal Energy Loan Guarantee Credit Subsidy	2,000	2,000	0	-2,000	-100%
Total, Tribal Energy Loan Guarantee Program	**4,000**	**4,000**	**6,300**	**+2,300**	**58%**

Appropriation Overview

The Tribal Energy Loan Guarantee Program (TELGP) is authorized by Section 2602 of the Energy Policy Act of 1992, as amended, to help finance tribal investment in energy projects that can support economic development and tribal sovereignty. The Consolidated Appropriations Act, 2022, enacted a change for that fiscal year, which was subsequently made permanent by the Inflation Reduction Act of 2022, to broaden TELGP authority to allow applicants to apply for direct loans financed by the United States Treasury Federal Financing Bank and guaranteed by the Department, in addition to partial loan guarantees of other eligible lenders. This change has greatly increased interest in and accessibility to the program. The FY 2025 Budget requests $6.3 million to administer the TELGP in response to this increased activity level.

Program Highlights

TELGP provides debt capital to tribal borrowers and organizations installing energy projects that lead to economic development or modernizing power generation and distribution that benefit tribal communities.

The request also supports LPO's ongoing close collaboration with the Department's Office of Indian Energy Policy and Programs and outreach to tribal members, including ongoing communication with tribal leaders, participating in tribal energy annual summits and other tribal events, and organization of listening sessions and workshops to discuss developing and financing of tribal energy projects.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Power Marketing Administrations					
Southeastern Power Administration					
Southeastern Power Administration	100,960	100,960	98,943	-2,017	-2%
Less Alternative Financing/Offsetting Collections	-100,960	-100,960	-98,943	2,017	-2%
Total, Southeastern Power Administration	**0**	**0**	**0**	**0**	**0**
Southwestern Power Administration					
Southwestern Power Administration	162,802	162,802	182,891	+20,089	+12.0%
Less Alternative Financing/Offsetting Collections	-152,194	-152,194	-171,451	-19,257	-12.0%
Total, Southwestern Power Administration	**10,608**	**10,608**	**11,440**	**+832**	**+8%**
Western Area Power Administration					
Western Area Power Administration (CROM)	1,125,529	1,127,278	1,178,908	+53,379	+5%
Less Alternative Financing/Offsetting Collections (CROM)	-1,026,797	-1,028,546	-1,078,036	-51,239	+5%
Rescission of Prior Year Balances	0	0	-17	-17	N/A
Use of Prior Year Balances	0	0	0	0	0%
Total, Western Area Power Administration (CROM)	**98,732**	**98,732**	**100,855**	**+2,123**	**+2%**
Falcon and Amistad O&M Fund					
Operation and Maintenance	7,928	7,928	8,210	+282	+4%
Less Alternative Financing/Offsetting Collections	-7,700	-7,700	-7,982	-282	+4%
Use of Prior Year Balances	0	0	0	0	0%
Total, Falcon and Amistad O&M Fund	**228**	**228**	**228**	**0**	**0%**
Colorado River Basins Power Marketing Fund					
Spending Authority from Offsetting Collections	258,466	535,238	584,231	+325,765	+126%
Offsetting Collections	-258,466	-535,238	-584,231	-325,765	+126%
Total, Colorado River Basins Power Marketing Fund	**0**	**0**	**0**	**0**	**0%**
Total, Western Area Power Administration	**98,960**	**98,960**	**101,083**	**+2,123**	**+2%**
Total, Power Marketing Administrations	**109,568**	**109,568**	**112,523**	**+2,955**	**+3%**

Appropriations Overview

The four **Power Marketing Administrations (PMAs)** sell electricity primarily generated by federally owned hydropower projects. Preference in the sale of power is given to public entities and electric cooperatives. Revenues from the sale of Federal power and transmission services are used to repay all related power and transmission costs.

Program Highlights

- **Southeastern Power Administration**
  Southeastern markets and delivers all available Federal hydroelectric power from 22 U.S. Army Corps of Engineers (Corps) multipurpose projects to preference customers in an eleven-state area in the southeastern United States.

Southeastern does not own or operate any transmission facilities, and contracts with regional utilities that own electric transmission systems to deliver the Federal hydropower to Southeastern's customers. Southeastern's use of receipts and alternative financing offsets its appropriations resulting in a net-zero balance for the program.

- **Southwestern Power Administration**
  Southwestern markets and delivers Federal hydroelectric power from 24 Corps multipurpose projects to preference customers in a six-state area and participates with other water resource users in an effort to balance diverse interests with power needs. To deliver power to its customers, Southwestern maintains 1,381 miles of high-voltage transmission lines, 26 substations/switching stations, and 51 microwave and VHF radio sites. To maintain the infrastructure and modernize systems to increase the reliability, efficiency, and use of Federal assets, Southwestern utilizes appropriations, Federal power receipts, and alternative financing. Of these, 94.0% is derived from use of receipts and alternative financing, resulting in a net appropriation of 6.0%.

- **Western Area Power Administration**
  Western Area Power Administration (WAPA) markets and transmits Federal power to a 1.3-million-square-mile service area in 15 central and western states from 57 Federally-owned hydroelectric power plants operated by the Bureau of Reclamation (the Bureau), the Army Corps of Engineers (the Corps), and the International Boundary and Water Commission. WAPA's capital program, conducted in close coordination with preference customers, continues to emphasize replacement, upgrade, and modernization of the electric system infrastructure to bring continued reliability, improved connectivity, and increased flexibility and capability to the power grid. Through extensive partnering efforts, WAPA has obtained significant stakeholder and customer participation in financing much of the capital program. Through transparency WAPA demonstrates the value of its efficient operations that preference customers enjoy. WAPA will continue to make significant efforts to be open, transparent, and inclusive of customers and stakeholders in its operational choices and capital planning efforts. WAPA is strengthening its Asset and Risk Management to further ensure capital investments are sufficient and wisely deployed for our Nation and for our customers.

- **Bonneville Power Administration**
  Bonneville operates under a business-type budget under the Government Corporation Control Act, 31 U.S.C 9101-10 and on the basis of the self-financing authority provided by the Federal Columbia River Transmission System Act of 1974 (Transmission Act) (Public Law 93-454). Authority to borrow from the U.S. Treasury is available to Bonneville on a permanent, indefinite basis.

  Section 40110 of the Infrastructure Investment and Jobs Act (Public Law 117-58), enacted by the President on November 15, 2021, provides Bonneville $10 billion in additional permanent borrowing authority "… to assist in the financing of construction, acquisition and replacement of the Federal Columbia River Power System and to implement the authority of the Administrator of the Bonneville Power Administration." The amount of Bonneville U.S. Treasury borrowing authority outstanding at any one time cannot exceed $17.7 billion.

  Bonneville is responsible for meeting the net firm power requirements of requesting customers through a variety of means, including energy conservation programs, acquisition of renewable and other resources, and power exchanges with utilities both in and outside the region.

  Bonneville provides electric power, transmission, and energy services to a 300,000-square-mile service area in eight states in the Pacific Northwest. Bonneville wholesales the power produced at 31 Federal projects operated by the Corps and the Bureau and from certain non-Federal generating facilities. Bonneville operates and maintains over 15,100 circuit-miles of high voltage transmission lines and 259 substations. From these revenues, Bonneville funds the expense portion of its budget and the power operations and maintenance costs of the Bureau and the Corps in the Federal Columbia River Power System (FCRPS). The capital portion of the budget is funded primarily through borrowing from the U.S. Treasury at market rates for similar projects and with some non-Federal financing.

Bonneville is self-financed and receives no direct annual appropriations from Congress. In FY 2025, estimated total requirements of all Bonneville programs of $4,870 million include estimated budget obligations of $4,236 million and estimated capital transfers of $633 million. Estimated obligations include operating expenses of $2,999 million, capital investments of $1,092 million, and $55 million in projects funded in advance. These investments provide electric utility and general plant requirements associated with the FCRPS's transmission services, capital equipment, hydroelectric projects, conservation, and capital investments to mitigate impacts on the environment, fish, and wildlife.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Federal Energy Management Program					
Federal Energy Management	29,000	29,000	32,800	+3,800	+13%
Federal Energy Efficiency Funds	14,000	14,000	14,000	0	0%
Program Direction	14,000	14,000	17,200	+3,200	+23%
Total, Federal Energy Management Program	**57,000**	**57,000**	**64,000**	**7,000**	**+12%**

Appropriation Overview

The Federal Energy Management Program (FEMP), within the Office of the Under Secretary for Infrastructure (S3), works to develop guidance and resources that enable Federal agencies to meet statutory and Executive requirements related to energy, water, and greenhouse gas emissions. FEMP tracks and reports Federal agency energy, water, and greenhouse gas performance to Congress. FEMP works to ensure the Federal government's energy and water management infrastructure is efficient, resilient, and secure in support of continuous mission operations. FEMP provides technical assistance and financial assistance to agencies and works with its stakeholders to identify affordable solutions, facilitate public-private partnerships, and provide energy leadership to the country. Specifically, FEMP supplies agencies with the information, tools, and assistance they need to meet and track their energy-related requirements and goals. It also administers the Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) Grant Program.

Program Highlights

- **Federal Energy Management** is focused on developing resources and tools, providing technical assistance and replicable solution sets, issuing guidance, facilitating public-private partnerships for project financing, tracking agency performance, and collaborating with agencies to implement required training to achieve the goal of building a 100 percent clean energy economy with net-zero emissions.
- **Federal Energy Efficiency Fund (FEEF)**, authorized by 42 U.S. Code § 8253, assists multiple agencies in implementing energy and water conservation measures. FEMP has run 6 annual funding cycles to date with this program, supporting 60 projects and 3 trillion Btus in total energy annual savings at Federal facilities.[5] The Infrastructure Investment and Jobs Act (IIJA) authorized $250M additional funding for this program, which will be open in multiple tranches over the next 2-3 years for federal agencies to submit projects. Continued base funding under the FEEF is critical to address the scale of federal need: agencies have identified over $7B cost effective measures that have not yet been implemented, and agencies must also address statutory and executive requirements to convert federal facilities to net zero emissions.

[5] Based on historical annual Btu saved per $ of efficiency investment through Energy Savings Performance Contracts and average AFFECT cost leverage of 30:1, it is estimated that 2,000 Btus are saved annually per $1 of efficiency investment through the AFFECT grants.

($K)

	FY 2023 Enacted[6][7]	FY 2024 Annualized CR[1]	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Electricity Appropriation Account					
Transmission Permitting and Technical Assistance	0	0	0	0	0
Grid Planning and Development	16,000	16,000	0	-16,000	-100.0%
Grid Technical Assistance	25,000	25,000	0	-25,000	-100.0%
Wholesale Electricity Market Technical Assistance and Grants	16,500	16,500	0	-16,500	-100.0%
Interregional and Offshore Transmission Planning	2,000	2,000	0	-2,000	-100.0%
Program Direction	5,207	5,207	0	-5,207	-100.0%
Total, Electricity Appropriation Account	**64,707**	**64,707**	**0**	**-64,707**	**-100.0%**
Grid Deployment Appropriation Account					
Transmission Planning and Permitting	0	0	35,500	+35,500	N/A
Distribution and Markets	0	0	24,355	+24,355	N/A
Hydropower Incentives	0	0	250	+250	N/A
Microgrid Generation and Design Deployment	0	0	30,000	+30,000	N/A
Program Direction	0	0	11,785	+11,785	N/A
Total, Grid Deployment Appropriation Account	**0**	**0**	**101,870**	**+101,870**	**N/A**
Total, Grid Deployment	**64,707**	**64,707**	**101,870**	**+37,163**	**+57.4%**

Appropriation Overview

The Grid Deployment Office (GDO) works to provide electricity by maintaining and investing in critical generation facilities to ensure resource adequacy and improving and expanding transmission and distribution systems to make sure all communities have access to reliable, affordable electricity. Working in strong partnership with energy sector stakeholders on a variety of grid initiatives, GDO supports the resilience of our Nation's electric system by mitigating risk and strengthening our transmission and distribution infrastructure. GDO's priorities are to develop and deploy innovative grid modernization solutions to address local, state, regional and national electricity system needs, and ensure the availability of clean, firm generation capacity, like hydropower and nuclear energy.

GDO funds activities that supports five key priorities:

Planning – modernize distribution and transmission planning processes to drive the development of highest-need grid projects that provide greatest long-term benefits to consumers.

Financing – deploy the Infrastructure and Investment Jobs Act (IIJA) and the Inflation Reduction Act (IRA) authorities and coordinate existing financial tools within the Department to help accelerate interregional transmission builds and enhance the resilience of the grid.

Permitting – coordinate with States and Federal permitting agencies to help facilitate and streamline siting and permitting processes while supporting meaningful engagement with communities affected by transmission development.

Coordination – early, frequent, and collaborative engagement with States, Territories, American Indian Tribes, Alaska Natives, and stakeholders throughout the process of evaluating needed transmission and distribution infrastructure to

[6] The FY 2025 Budget Request to Congress proposes to split the Electricity appropriation account into two accounts: Electricity and Grid Deployment. Had the proposed FY 2025 structure been in place in FY 2023, the $64.7 million shown under the Electricity appropriation in FY 2023 would have appeared in Grid Deployment. The Comparability Matrix in GDO's Overview section of the FY 2025 Budget Request to Congress shows details for the prior and proposed budget structures.

[7] The Consolidated Appropriations Act, 2023 provided an additional $1 billion in the Disaster Relief Supplemental to improve the resilience of the Puerto Rican electric grid. Funding was appropriated to the Electricity account and will be managed by GDO.

meet energy goals and deploying the Department's tools and authorities to accelerate the infrastructure deployment while integrating energy justice principles.

Partnerships – leverage partnerships with the National Laboratories to further utilize laboratory expertise to plan, design, and execute grid deployment programs, focusing on grid planning modeling and technical assistance.

Program Highlights

Transmission Planning and Permitting supports innovative efforts in transmission reliability and clean energy analysis and programs in addition to energy infrastructure and risk analysis to enhance grid resilience. The FY 2025 Request kickstarts scoping efforts for the second National Transmission Planning Study[8], initiates study and convening efforts to advance offshore wind transmission development in the Gulf of Mexico, and prioritizes technical assistance that aims to optimize planning, siting, and permitting processes to accelerate transmission buildout.

Distribution and Markets works with electricity system partners and stakeholders to establish and improve centrally organized market components and bilateral market arrangements as well as advance distribution-level market opportunities that will enable a clean, reliable, resilient, and equitable grid. In FY 2025, the Request continues to address improving, expanding, or establishing new wholesale electricity markets, focuses on supporting the integration and utilization of long-duration energy storage, and expands distribution level modeling for grid planning with the national laboratories.

Hydropower Incentives develops modeling and analyses of the results from the capital improvements funded through the IIJA's Hydroelectric Incentives program. The FY 2025 Request supports the development of analytics for follow-up monitoring of the impact of hydropower incentives on the modernization and maintenance of existing U.S. hydropower assets.

Microgrid Generation and Design Deployment is a new program proposed in FY 2025 that focuses on grid resiliency at scale by deploying microgrid solutions to communities with high frequency and/or long duration of outages. In FY 2025, the program will initiate awards to communities to conduct strategic analysis, project design, and generation investment activities for microgrids.

[8] https://www.energy.gov/gdo/national-transmission-planning-study

($K)

	FY 2023 Enacted[9]	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Manufacturing & Energy Supply Chains					
Manufacturing Capacity and Competitiveness [10]	-	-	53,350	+53,350	N/A
Workforce Capacity and Competitiveness [11]	16,000	16,000	20,000	+4,000	+25.00%
Supply Chain Mapping, Modeling & Analysis[12]	2,000	2,000	20,000	+18,000	+900.00%
Program Direction	1,000	1,000	20,000	+19,000	+1,900.00%
Total, Manufacturing & Energy Supply Chains	**19,000**	**19,000**	**113,350**	**+94,350**	**+496.58%**

Appropriation Overview

The Office of Manufacturing and Energy Supply Chains (MESC) plays a critical and unique role in catalyzing investments in America's energy future to support the re-shoring, skilling, and scaling of U.S. manufacturing across energy supply chains. MESC addresses vulnerabilities in U.S. energy supply chains, serves as the frontline of energy manufacturing deployment, and accelerates America's transition to a resilient, equitable energy future through direct investments in manufacturing capacity, and workforce development. MESC also develops and manages the energy supply chain-focused analytical tools needed to inform energy programs and investments across DOE, the U.S. Government, and the private sector by identifying gaps, vulnerabilities, and other needs across U.S. clean energy supply chains.

All of MESC's current and proposed activities support the Administration's Made in America efforts in the form of sustained investments in domestic manufacturing capacity for clean energy products and critical materials, and in the domestic workforce and industrial sectors needed to compete in the global manufacturing market. MESC also uses terms and conditions of Federal financial assistance awards and Federal procurements to maximize the use of goods, products, and materials produced in, and services offered in, the United States, in accordance with Executive Order 14005 and consistent with applicable law.

MESC's FY 2025 Budget Request of $113.35 million supports the program mission through the following activity areas:

- Catalytic investments in companies scaling manufacturing capacity for key energy products and components in the U.S.;
- Investments in U.S. workforce training institutions, from universities to vocational programs, to ensure the U.S. workforce has the skills to lead in energy manufacturing; and
- Mapping, modeling and analysis of U.S. energy supply chains to support manufacturing and workforce investments and other program development at MESC, DOE, and across the U.S. Government.

Program Highlights:

- **Manufacturing Capacity and Competitiveness:** Provides funding for resources and competitive financial assistance programs to make direct investments in manufacturing capacity to strengthen, secure, and expand U.S. clean energy supply chains. These activities address known gaps and emerging vulnerabilities across the full spectrum of energy supply chains, focusing on bringing manufacturing capacity of essential materials and products that have historically been off-shored or under-invested back to the U.S., including manufacturing capacity for critical materials, grid infrastructure, clean power generation, carbon management technologies, sustainable vehicles, and efficient building and industrial materials. The subprogram also supports activities to ensure competitiveness of the U.S. industrial sector through investments in retrofits to reduce emissions and increase efficiency of existing manufacturing operations, as well as to build new facilities to produce cost-effective lower carbon chemicals, cement, metals, and other products.

[9] MESC program was funded in the Energy Efficiency and Renewable Energy (EERE) appropriation in FY 2023.
[10] Formerly Batteries and Critical Materials
[11] Formerly Facility and Workforce Assistance
[12] Formerly Energy Sector Industrial Base

- **Workforce Capabilities and Competitiveness**: Funds activities to support and sustain the U.S. clean energy manufacturing workforce, including the Industrial Assessment Centers (IACs) that help small and medium sized U.S. manufacturers save energy and improve productivity by providing no-cost operational improvement assessments conducted by university-based teams of engineering students. Also funds clean energy transition workforce development, for direct assistance to develop the domestic workforce in areas such as the conversion of facilities to electric vehicles manufacturing.

- **Supply Chain Mapping, Modeling & Analysis**: Supports analytical tools and activities that will inform energy supply chain investments across and beyond DOE by identifying current and projected supply chain gaps at a granular, actionable level. The budget request develops a world-class supply chain analytics asset capable of driving vulnerability and opportunity assessment of U.S. supply chains, with integration and augmentation of National Laboratory capabilities and proprietary DOE energy supply chain data; dynamic scenario assessment and wargaming capabilities (i.e., supply chain simulations of export controls, bans, and other actions related to national and economic security) to inform international agreements; and industry collaboration and technical information exchange to validate insights.

- **Program Direction**: Enables MESC to maintain and support a world-class Federal workforce that supports analysis of the U.S. industrial sector as well as strategic investments and technical assistance to support private-sector efforts to boost the security of U.S. supply chains. The FY 2025 Budget Request sustains full-time equivalent (FTE) employees and contractors required to support the proposed base budget level and continues to establish base operations for the program, including administrative operations and support across all subprograms.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
State and Community Energy Programs					
Weatherization Assistance Program	366,000	366,000	385,000	+19,000	+5%
State Energy Program	66,000	66,000	70,000	+4,000	+6%
Community Energy Programs	12,000	12,000	44,000	+32,000	+267%
Energy Future Grants	27,000	27,000	35,000	+8,000	+30%
Program Direction	22,000	22,000	40,000	+18,000	+82%
Total, State and Community Energy Programs	**493,000**	**493,000**	**574,000**	**+81,000**	**+16%**

Appropriation Overview

The Office of State and Community Energy Programs (SCEP) within the Office of the Under Secretary for Infrastructure, as authorized by the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), implements efforts under the Weatherization Assistance Program, State Energy Program, Community Energy Programs (which includes the Local Government Energy Program and Energy Communities (IWG), and Energy Future Grants). These programs work to increase energy affordability and support states and local communities seeking to update and modernize their energy systems and create economic opportunities in the energy transition by working with community-level implementation partners and state agencies.

SCEP partners with state and local organizations to significantly accelerate the deployment of clean energy technologies, catalyze local economic development and create jobs, reduce energy costs, and avoid pollution through place-based strategies involving a wide range of government, community, business, and other stakeholders.

SCEP manages activities supporting state and community energy infrastructure, programs, and policies by providing direct funding as well as technical assistance. SCEP serves as the primary gateway into the Department of Energy (DOE) for states, tribes, and communities interested in greater energy affordability, energy-related economic opportunity, security, and resilience, and connects them to programs, funding, and technical assistance opportunities across the DOE.

The FY 2025 Request complements the Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act of 2022 (IRA) investment and provides SCEP with key additional resources and programmatic direction to address high energy prices, reduce costs for families and businesses, and cut pollution through energy efficiency and other clean energy measures.

Program Highlights

- The **Weatherization Assistance Program** (WAP) supports the largest network of residential energy retrofit providers in the country, providing a foundation for the coordination and implementation-related services funded by other Federal and non-Federal sources. Funds are allocated on a statutory formula basis and awarded to a single agency in each State and Territory that manages the deployment of services to increase the energy efficiency of homes occupied by low-income households. These agencies, in turn, contract with approximately 700 local service provider organizations to deliver weatherization services to low-income families in every geographic area of the country. WAP is one of the federal government's best tools to reduce energy costs for the American people. The FY 2025 Budget enables DOE to reach 40,000 more households that face high energy costs and that will not receive federal support even with funding provided in the IIJA, which DOE estimates will enable services for approximately 500,000 of the 33 million eligible households.

- The **State Energy Program** (SEP) supports states in updating and modernizing energy systems by providing funding for planning, development and implementation of energy policies, plans, and programs to reduce energy costs, enhance economic competitiveness, improve security planning, and improve the environment. SEP provides states with capacity building resources, technical assistance, best-practice sharing networks and other assistance to facilitate the implementation of their plans, policies, and programs.

- **Community Energy Programs** (CEP) partner with local governments, Tribes, and communities to support their priorities for upgrading and modernizing energy systems, taking advantage of economic opportunities in the energy transition, and addressing energy challenges. CEP includes the Local Government Energy Program and the Energy Communities IWG.[13]

    - The Local Government Energy Program provides targeted competitive awards, on-site capacity, peer exchanges, and technical assistance to support the development and deployment of transformative clean energy deployment programs of qualifying local governments, with a focus on disadvantaged communities.

    - The Energy Communities IWG is an ongoing interagency effort, led by the White House and administered by DOE, that works with communities where a high proportion of income and economic activity comes from energy industries affected by the energy transition (particularly those affected by coal and power plant closures, but also including oil and gas). The Energy Communities IWG supports economic development efforts, capacity building activities, and the coordination of interagency efforts to deliver Federal resources to support these communities in their transition to more sustainable, resilient, and equitable economies.

    - **Energy Future Grants** (EFG) support technical assistance to help states and communities address challenges or embrace challenges or embrace opportunities in partnership with private sector partners that are difficult to address by individual states or local governments. In FY 2025, SCEP will continue the Energy Future Grants (EFG) initiative, with a particular focus on strengthening community resiliency by addressing the impacts of extreme heat on low-income and disadvantaged communities. SCEP will undertake the FY 2025 EFG in coordination with DOE's Office of Clean Energy Demonstrations (OCED) to deliver solutions at greater scale and impact. SCEP will work with OCED in a joint effort to plan, design, and demonstrate community-scale energy solutions addressing extreme heat impacts on low-income and disadvantaged communities. The $35 million requested for EFG would be used for community engagement, planning, and design phases across a suite of projects. OCED would then utilize the $70 million requested in OCED's budget request for the implementation and demonstration of these community solutions. This program model will build upon best practices learned in previous EFG iterations to deliver more targeted program outcomes. An important program priority is to secure clean energy benefits for all Americans, especially those historically underserved by the energy system and overburdened by pollution.

- **Program Direction** enables SCEP to maintain and support a world-class Federal workforce that ensures programs are adequately staffed to support states and communities to ensure that the lean energy economy benefits the diverse range of American communities. The FY 2025 Budget provides resources for program and project management, oversight activities, contract administration, workforce management, IT support, stakeholder engagement capacity building resources and support, and Headquarters and field site non-laboratory facilities.

  In FY 2025, funding is also requested for the Office of Community Engagement (OCE), which aims to strengthen community engagement efforts. The goal of OCE is to partner with state and local organizations to rapidly accelerate the deployment of clean energy technologies and practices. This will be achieved through strategies that involves a comprehensive range of government, community, and business stakeholders to promote local economic development and the creation of high-quality jobs.

[13] Energy Communities IWG is a continuation of the Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization program, managed by Fossil Energy and Carbon Management through FY 2023.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Environmental Management by Site					
Carlsbad/Waste Isolation Pilot Plant (WIPP)	466,523	466,523	436,729	-29,794	-6.4%
Idaho National Laboratory	471,500	471,500	471,043	-457	-0.1%
Oak Ridge	637,010	637,010	657,705	+20,695	+3.2%
Paducah	329,809	329,809	330,316	+507	+0.2%
Portsmouth	580,131	580,131	599,926	+19,795	+3.4%
Richland	1,113,669	1,113,669	1,106,914	-6,755	-0.6%
River Protection	1,730,408	1,730,408	2,001,165	+270,757	+15.6%
Savannah River	1,807,872	1,807,872	1,617,073	-190,799	-10.6%
Lawrence Livermore National Laboratory	36,842	36,842	1,917	-34,925	-94.8%
Los Alamos National Laboratory	331,835	331,835	280,937	-50,898	-15.3%
Nevada	62,652	62,652	63,377	+725	+1.2%
Sandia National Laboratories	4,003	4,003	1,816	-2,187	-54.6%
Separation Process Research Unit	15,300	15,300	845	-14,455	-94.5%
West Valley Demonstration Project	95,866	95,866	96,757	+891	+0.9%
Energy Technology Engineering Center	26,409	26,409	10,000	-16,409	-62.1%
Moab	67,000	67,000	64,200	-2,800	-4.2%
Other Sites					
Closure Sites Administration	4,067	4,067	1,350	-2,717	-66.8%
Lawrence Berkeley National Laboratory	15,000	15,000	-	-15,000	-100.0%
Science Excess Facilities	10,554	10,554	-	-10,554	-100.0%
Program Direction	317,002	317,002	334,958	+17,956	+5.7%
D&D Fund Deposit	586,035	586,035	384,957	-201,078	-34.3%
Mission Support	142,183	142,183	154,485	+12,302	+8.7%
Subtotal, Environmental Management by Site	**8,851,670**	**8,851,670**	**8,616,470**	**-235,200**	**-2.7%**
Mercury Storage Receipts	-3,000	-3,000	-3,000	-	0.0%
D&D Fund Offset	-586,035	-586,035	-384,957	+201,078	-34.3%
Total, Environmental Management by Site	**8,262,635**	**8,262,635**	**8,228,513**	**-34,122**	**-0.4%**

Appropriation Overview

The **Office of Environmental Management (EM)** supports the Department of Energy (DOE) to meet the challenges of the nation's Manhattan Project and Cold War legacy responsibilities. EM was established in 1989 and is responsible for the cleanup of millions of gallons of liquid radioactive waste, thousands of tons of spent (used) nuclear fuel and nuclear materials, disposition of large volumes of transuranic and mixed/low- level waste, huge quantities of contaminated soil and water, and deactivation and decommissioning of thousands of excess facilities. This environmental cleanup program results from six decades of nuclear weapons development and production and Government-sponsored nuclear energy research. It involves some of the most dangerous materials known to mankind. To date, EM has completed cleanup activities at 92 sites in 30 states and in the Commonwealth of Puerto Rico. EM is currently responsible for cleaning up the remaining 15 sites in 11 states.

Cleaning up these remaining sites will support the Justice40 Initiative and advance the Administration's equity goals. Justice40 is a government-wide effort to deliver 40 percent of the overall benefits from certain Federal investments, including the remediation and reduction of legacy pollution, and training and workforce development, to disadvantaged communities. Under Justice40, EM's work will primarily focus on benefits from soil and groundwater remediation and STEM education. The EM budget also supports a whole-of-Government effort to advance equity for all Americans by including historic support for marginalized people and locations with increased resources for the Minority Serving

Institutions Partnership Program and the Community Capacity Building initiative to invest in historically underserved communities.

Program Highlights

- **Savannah River**

  At the Savannah River Site, the FY 2025 request supports the Liquid Waste Program, to achieve additional risk reduction by stabilization and immobilization of high activity radionuclides through vitrification into canisters at the Defense Waste Processing Facility and disposition of decontaminated salt solution in Saltstone Disposal Units. To reach the end state of the Savannah River Site Liquid Waste Mission, the Savannah River Site will accelerate risk reduction by optimizing the fully integrated Liquid Waste system. This will initially be performed by processing higher curie salt feed batches through the Salt Waste Processing Facility and then implementing the Next Generation Solvent at the Salt Waste Processing Facility to increase throughput. Additionally, the Savanah River Site will prioritize the closure of Tank 9, 10, and 11 which reside below the water table. These tanks carry the highest liability to the Liquid Waste Mission and will be accelerated to reduce this risk as early as possible.

  The FY 2025 request also supports continued risk reduction of the Nuclear Materials Program missions to store, stabilize, and disposition EM-owned nuclear materials and spent nuclear fuel, as well as support the necessary mission for maintaining the safe and environmental compliant state of excess nuclear processing facilities until their future decommissioning. The Nuclear Materials Program missions at the Savannah River Site includes operations of H-Canyon, L-Basin, and the surveillance and maintenance of excess nuclear facilities in F-Area. The FY 2025 request maintains the safe and environmental compliant state of the Savannah River Site excess nuclear facilities.

  The FY 2025 request funds operations, maintenance and utilities for the Savannah River National Laboratory.

  The decrease over the FY 2023 Enacted level is attributed to the reduction in legacy pension requirements, as they will be fully funded, completion of Phase I activities of dedicated H-Canyon Sludge Batch Tank, and the transfer of site responsibilities to the National Nuclear Security Administration to include transfer of K-area facilities, site infrastructure and land management activities, community and regulatory support and safeguards and security activities.

- **Office of River Protection**

  The Department is working to complete and operate the treatment facilities to safely immobilize and dispose of tank waste at Hanford. The FY 2025 budget request represents continued progress toward important cleanup required by the Amended Consent Decree and Tri-Party Agreement. The request is designed to maintain safe operations of the tank farms to protect workers, the public, and the environment; enable the development and maintenance of infrastructure necessary to enable waste treatment operations; and progress single shell tank retrievals. The budget request also focuses on the Waste Treatment on Immobilization Plant High-Level Waste Facility to advance facility engineering and design. The mission of the Waste Treatment Plant Project is to construct a treatment facility to blend waste from the tank farms with molten glass, which is placed into stainless steel canisters suitable for long-term storage of high-level waste and disposal of low-level waste.

  The increase from the FY 2023 Enacted level reflects the beginning of the Hot Commissioning and ramp up of capability for Direct-Feed Low-Activity Waste Strategy. The increase also reflects the design and construction activities associated with the Advanced Modular Pretreatment System and the 200 West Area Risk Management Project.

- **Richland**

  The Richland Operations Office manages all cleanup activities at Hanford not managed by the Office of River Protection, while also providing site-wide services shared by the two offices. Cleanup activities include soil and groundwater remediation, facility decontamination and decommissioning, and disposition of waste other than the tank waste managed by the Office of River Protection. Richland's FY 2025 request continues important cleanup progress required by the Tri-Party Agreement. It will maintain safe operations; perform Hanford site-wide services; support Direct Feed Low-Activity Waste startup and commissioning; and conduct critical site infrastructure projects. The budget request also supports progress in modifications to the Waste Encapsulation and Storage Facility for transfer of the cesium-strontium capsules to dry storage by August 2025, continued groundwater treatment progress, accelerated Resource Conservation and Recovery Act compliance well drilling, additional groundwater treatment implementation, and completion of 105KW

Fuel Storage Basin above and below water debris disposition and deactivation activities.

The decrease from the FY 2023 Enacted level is due to progress of the 105-K West Fuel Storage Basin deactivation, 100K East area waste site remediation and structure demo completion, and completion of the 105-K East reactor Interim Safe Storage. The River Corridor reduction reflects progress on risk mitigation activities.

- **Oak Ridge**
  The FY 2025 budget request continues cleanup activities at the Oak Ridge site, including slab and soil remediation at the East Tennessee Technology Park; addressing high-risk excess contaminated facilities at Oak Ridge National Laboratory (ORNL) and Y-12 National Security Complex, disposition of U-233 material and transuranic waste; design for the On-Site Waste Disposal Facility to support cleanup of ORNL and Y12; and continued investment in mercury characterization and remediation technologies.

  The increase from the FY 2023 Enacted level supports continued progress on cleanup of excess contaminated facilities, the Mercury Construction Project and processing of transuranic debris waste offset by the ramp-down of cleanup activities at East Tennessee Technology Park.

- **Idaho**
  At the Idaho Site, the FY 2025 Request continues progress in characterizing, packaging, and shipping stored contact-handled and remote-handled transuranic waste. The Request also furthers processing, characterizing, packaging, and shipping mixed low-level radioactive waste and remote-handled mixed low-level radioactive waste to off-site disposal facilities. The FY 2025 Request continues the deactivation and decommissioning activities at the Radioactive Waste Management Complex as part of Resource Conservation and Recovery Act closure activities and continues dismantlement and demolition activities making progress toward the capping of the Subsurface Disposal Area. The funding request continues hot operation of the Integrated Waste Treatment Unit to treat the sodium-bearing tank waste. In addition, activities continue toward completion of construction on the Product Storage Building expansion to store treated sodium bearing waste. This request supports the continuation of construction for the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility Landfill Disposal Cell and Evaporation Pond Project. This request also supports surveillance and maintenance and risk reduction related activities for spent nuclear fuel and completes Peach Bottom Fuel transfers. Continued design and engineering work for an interim spent fuel staging project is ongoing.

  The decrease from the FY 2023 Enacted level reflects the completion of wet to dry spent fuel transfers in FY 2023 and support for continued design efforts for a Spent Nuclear Fuel Staging Facility. The decrease also reflects continued transition from waste treatment operations to closure activities, as well as progress in decontamination and demolition of the Accelerated Retrieval Project facilities. The decrease also reflects an anticipated reduction in costs once transition to Integrated Waste Treatment Unit operations is complete. The decrease is offset by increased funding to support construction activities for the Subsurface Disposal Area Cap.

- **Carlsbad**
  The Carlsbad Field Office is responsible for managing the National Transuranic Waste Program and the Waste Isolation Pilot Plant (WIPP), the Nation's only mined geologic repository for the permanent disposal of defense-generated transuranic waste. The Waste Isolation Pilot Plant FY 2025request supports disposal facility operations, regulatory and environmental compliance actions, the Central Characterization Project to perform transuranic waste characterization/certification activities to maintain progress toward legacy transuranic waste related milestones at generator sites, transuranic waste transportation capabilities, continued progress on repairing or replacing infrastructure, modernizing underground equipment to zero-emission battery-electric vehicles powered equipment, the Safety Significant Confinement Ventilation System (15-D-411), and Utility Shaft (15-D-412).

  The decrease from the FY 2023 Enacted level is attributed to reductions for the Safety Significant Confinement Ventilation System and Utility Shaft projects as the projects move towards completion, offset by increased shipments requiring additional shifts of personnel.

- **Paducah**
  The FY 2025 budget request supports activities to continue environmental remediation and to further stabilize the gaseous diffusion plant. The stabilization activities include non-destructive assay characterization, activities to remove hazardous materials, and surveillance and maintenance. This budget request also supports the safe operation of the Depleted Uranium Hexafluoride Conversion facility.

  The increase from the FY 2023 Enacted level reflects an increase to safeguards and security due to security optimization projects and DOE order implementation to reduce the limited area footprint and comply with DOE orders, and continuity of post-retirement benefits program.

- **Portsmouth**
  The FY 2025 budget continues progress on decontamination and decommissioning activities. This budget request also supports the safe operation of the Depleted Uranium Hexafluoride Conversion facility. The FY 2025 Budget Request includes funding the On-Site Waste Disposal Facility, Line-Item Capital Project #2 (20-U-401) to receive the debris from the X-333 Process Building. The request also supports funding the On-Site Waste Disposal Facility, Line-Item Capital Project #3 (25-U-401) to receive the debris from the X-330 Process Building. The mission of these projects is to construct an on-site facility for the disposal of debris generated from the demolition of the Portsmouth Gaseous Diffusion Plant and associated facilities.

  The increase from the FY 2023 Enacted level supports increased construction of the On-Site Waste Disposal Facility CAP 2 (20-U-401) and initiation of On-Site Waste Disposal Facility CAP 3 (25-U-401). The increase also supports the installation of a cylinder evacuation improvement project that will yield a 10-15% improvement in plant processing efficiency.

- **Los Alamos National Laboratory**
  FY 2025 activities will continue to focus on the removal of legacy waste, conduct of soil and groundwater investigations and remediation where needed, and protection of surface water at the Los Alamos National Laboratory. Consistent with the priorities established with the New Mexico Environment Department in the 2016 Consent Order, cleanup activities will continue to focus on groundwater and soil remediation and surface water protection. The Chromium Plume Control Interim Measure to control migration of a hexavalent chromium plume beneath Mortandad and Sandia Canyons will continue. Additionally, Plume-Center Characterization activities will continue to investigate and develop a corrective measure for remediation of the hexavalent chromium plume. Characterization and risk assessment for the Royal Demolition Explosives (RDX) groundwater plume in Cañon de Valle will continue. Implementation of the individual storm water permit will continue, and investigation and cleanup of several aggregate areas will be completed. Characterization and cleanup at Technical Area 21 will continue as well as retrieval and repackaging of the below-grade transuranic waste to include readiness activities and infrastructure needs to manage the processing and packaging of the waste at Area G. In addition, the FY 2025 request will continue deactivation and decommissioning activities for the Ion Beam project, a National Nuclear Security Administration high-risk excess facility.

  The decrease from the FY 2023 Enacted level primarily reflects progress on planning for decontamination and demolition of deactivated National Nuclear Security Administration excess high-risk facilities.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Departmental Administration					
Office of the Secretary	6,642	6,642	7,215	+573	9%
Congressional & Intergovernmental Affairs	5,000	5,000	7,112	+2,112	42%
Chief Financial Officer	62,283	62,283	67,345	+5,062	8%
Environmental Justice and Equity[14]	34,140	34,140	36,530	+2,390	7%
International Affairs	32,000	32,000	37,874	+5,874	18%
Artificial Intelligence and Technology Office	1,000	1,000	-	-$1,000	0%
Chief Information Officer	215,000	215,000	229,434	+14,434	7%
Industrial Emissions and Technology Coordination	0	0	2,000	+2,000	
Subtotal, DA	**356,065**	**356,065**	**387,510**	**+31,445**	9%
Other Departmental Administration					
Management	66,000	66,000	77,000	+11,000	17%
Project Management	13,550	13,550	16,312	+2,762	20%
Chief Human Capital Officer	35,300	35,300	39,000	+3,700	10%
Office of Small & Disadvantaged Business Utilization	4,200	4,200	5,241	+1,041	25%
General Counsel	41,725	41,725	41,725	0	0%
Office of Policy	23,950	23,950	34,138	+10,188	43%
Public Affairs	5,936	6,436	7,972	+2,036	34%
Undistributed	500				
Subtotal, Other DA	**191,161**	**191,161**	**221,388**	**+30,727**	**16%**
Strategic Partnership Projects (SPP)	40,000	40,000	40,000	**0**	0
Total, Departmental Administration (Gross)	**587,226**	**587,226**	**648,898**	**+61,672**	**11%**
Defense-Related Administrative Support (DRAS)	-203,648	-203,648	-213,649	**-10,001**	**5%**
Subtotal, Departmental Administration	**383,578**	**383,578**	**435,249**	**+51,671**	**13%**
Miscellaneous Revenues					
Revenues Associated with SPP	-40,000	-40,000	-40,000	0	0%
Other Revenues	-60,578	-60,578	-60,578	0	0%
Subtotal, Miscellaneous Revenues	**100,578**	**-100,578**	**-100,578**	**0**	0%
Total, Departmental Administration (Net)	**283,000**	**283,000**	**334,671**	**+51,671**	**18%**

Appropriation Overview

The **Departmental Administration (DA)** appropriation funds 14 management and mission support functional organizations that have enterprise-wide responsibility for administration, accounting, budgeting, contract and project management, human resources management, congressional and intergovernmental liaison, energy policy, information management, life-cycle asset management, legal services, energy jobs, energy justice, workforce diversity, equal employment opportunity, ombudsman services, small business advocacy, sustainability, Arctic energy coordination, and public affairs.

[14] Formerly Economic Impact & Diversity

The DA appropriation also budgets for Strategic Partnership Projects (SPP) expenses and offsetting collections and for Miscellaneous Revenues that offset the costs of the overall program of work. Additionally, the DA program of work operates by executing Defense Related Administrative Support (DRAS) funding appropriated within Other Defense Activities (ODA) to account for the support DA programs provide for the Defense portion of Department of Energy (DOE).

Program Highlights

In 2025 the DA Budget increase of $51,671,000 reflects a dedication to strengthen enterprise-wide management and mission support functions, per the Administration's priorities, as the highlights below outline:

- **Office of the Secretary (OSE):** Funding will continue to support leadership and policy direction at the Department.
- **Office of the Chief Financial Officer (CFO):** Funding ensures the effective management and financial integrity of DOE programs, activities, and resources by developing, implementing, and monitoring DOE-wide policies and systems in the areas of budget administration, finance and accounting, internal controls and financial policy, corporate financial systems, and strategic planning. The FY 2025 Request CFO supports Evidence Act Implementation, and funding to support efforts to implement a planning, programming, budgeting, and execution (PPBE) process within the Department.
- **Economic Justice & Equity (EJE) formerly Economic Impact & Diversity (ED):** Funding supports EJE's role as central coordinator and departmental subject matter expert on equity and justice, to include technical assistance to minority businesses, Minority Serving Institutions, and third-party evaluation of Justice40 benefits. EJE continues to develop and execute DOE policies to implement applicable statutes and Executive Orders that impact diversity goals affecting equal employment opportunities, minority businesses, minority educational institutions, and historically underrepresented communities. Funding supports a new senior Energy Justice Fellowship program to increase access to new researchers and build the EJ Policy/Analysis career employee pipeline and prioritizes efforts to advance DOE Equity Action Plan, promote Diversity, Equity, Inclusion, and Accessibility (DEIA) principles within DOE, and institutionalize energy justice decision making.
- **International Affairs (IA):** Funding supports the Administration's efforts to strategic implementation of U.S. international energy policy and supports DOE's mission to ensure America's security and prosperity by addressing its energy, environmental, and climate challenges through innovative science and technology solutions. IA develops and leads the Department's bilateral and multilateral R&D cooperation, connecting DOE's program offices to advantageous international relationships.
- **Office of the Chief Information Officer (OCIO):** Funding supports OCIO's continued modernization of DOE's IT infrastructure and IT services to provide the capacity, flexibility, and resiliency required of a modern and secure enterprise. Proposed modernization initiatives will continue to reduce the threat of attacks to both DOE's IT and operational technology assets through automation, scale capacity commensurate with demand, and establish IT enterprise capabilities. Cyber vulnerabilities will continue to be addressed through funds specifically dedicated to cyber response and recovery management in this Request.
- **Management (MA):** Funding supports MA's mission fulfillment, and continued expansion of the Department's electric vehicle fleet and charging infrastructure as part of DOE's transition from GSA-leased gas-powered vehicles to GSA-leased Zero Emission Vehicles.
- **Office for Human Capital (HC):** Funding supports current operational levels, maintain HC's vital customer service mission, and support ongoing initiatives related to developing more agile, cost-effective operations and modernizing hiring practices to improve the DOE workforce's ability to deliver mission outcomes. Additional funding will support hiring increases related to building Talent Teams and dedicated resources to provide HR and hiring managers with new digital tools and capabilities that are needed to effectively support mission needs.
- **Office of Policy (OP):** Funding supports enhanced energy policy and analysis work as an essential function to support urgently needed technology, economic, job creation, and energy-related goals; and expanded capabilities to provide statistical analysis and dashboard tracking and reporting related to climate, economic, environmental, and security goals to be used across the government.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Environment, Health, Safety and Security Mission Support					
Environment, Health, Safety and Security Mission Support	138,854	138,854	141,908	+3,054	+2.2%
Program Direction	76,685	76,685	90,555	+13,870	+18.1%
Total, Environment, Health, Safety and Security Mission Support	**215,539**	**215,539**	**232,463**	**+16,924**	**+7.9%**

Appropriation Overview

Environment, Health, Safety and Security (EHSS) supports implementing DOE's commitment to maintain a safe and secure work environment for all Federal and contractor employees; ensure operations do not adversely affect the environment, health, and safety of surrounding communities; and protect national security and other entrusted assets. EHSS supports achieving DOE's mission in a safe, secure, environmentally responsible manner by providing consistent policy, technical assistance, and corporate leadership for environment, health, safety, and security program areas.

Specifically, EHSS maintains and supports implementation of policies and guidance that promote safe, environmentally sustaining work practices in the areas of occupational, facility, nuclear, and radiation safety; environmental protection; and quality assurance; supports Departmental and national preparedness and response efforts associated with radiation emergencies and accidents and domestic and international research on exposures of workers and the public to nuclear, radiological, and other hazardous materials; provides health and environmental services to the people of the Marshall Islands; provides medical screenings for former DOE and DOE-related vendor employees, and supports the Department of Labor in implementation of the Energy Employee Occupational Illness Compensation Program Act; provides technical security and analytical expertise to develop and assist in the implementation of safeguards and security programs that protect national security assets entrusted to DOE; implements U.S. Government nuclear weapons-related technology classification and declassification program; maintains policies and guidance related to physical protection, personnel and information security and nuclear materials accountability; provides technical assistance to DOE programs, site offices and laboratories to implement cost effective security measures tailored to the mission; maintains corporate security-related information management systems to determine the potential for an undue risk to individual sites, DOE, and national security; provides for the protection of DOE Headquarters facilities and access authorizations for DOE Headquarters personnel.

Program Highlights

In FY 2025, the Request proposes to:

- Continue to improve DOE's mission performance by assisting program offices and field sites in improving their safety culture by facilitating the work of the DOE Safety Culture Improvement Panel, including safety culture assistance visits, leadership training for a strong safety culture, expanding the community of interest to share best practices, performing assessments, and monitoring performance including analyzing and monitoring-results to improve safe accomplishment of work.
- Manage programs that support worker and former worker health and safety, promote safety and security excellence and efficiency across the complex such as Integrated Safety Management and the Voluntary Protection Program.
- Lead DOE efforts to address concerns associated with Per-and Polyfluoroalkyl Substances (PFAS) which are the subject of increasing environmental and health-related concern and support conservation and sustainability programs that improve environmental performance.
- Manage programs that promote improvements in EHSS knowledge and capabilities such as the Nuclear Safety Research and Development Program and international health studies.

- Continue to improve the Nuclear Safety and Quality Assurance policy and cost-effective implementation with updates to Directives and Standards associated with Facility Safety, Readiness, Quality Assurance, Nuclear Safety Basis, and Nuclear Training.
- Update the Insider Threat Program (ITP) Strategic Plan and complete the remaining steps necessary to achieve Full Operating Capability (FOC) per the National Insider Threat Task Force Minimum Standards.
- Support cost effective implementation of EHSS requirements including continued support for implementation of DOE's Design Basis Threat Order.
- Identify and assess effective, safe, and reliable physical security technologies to replace obsolete systems at nuclear facilities and laboratories.
- Manage DOE's classification program to protect national security interests and develop advanced computer tools to decrease the cost and increase the accuracy of derivative classifier work throughout the DOE/NNSA complex.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
ARPA-E Projects	433,000	433,000	408,000	-25,000	-5.8%
Program Direction	37,000	37,000	42,000	+5,000	+13.5%
Total, Advanced Research Projects Agency – Energy	**470,000**	**470,000**	**450,000**	**-20,000**	**-4.3%**

Appropriation Overview

The U.S. Department of Energy's Advanced Research Projects Agency-Energy (ARPA-E) was established by the America COMPETES Act of 2007 (Public Law 110–69), as amended. The mission of ARPA-E is to enhance the economic and energy security of the U.S. through the development of energy technologies that reduce imports of energy from foreign sources; reduce energy-related emissions, including greenhouse gases; improve the energy efficiency of all economic sectors; provide transformative solutions to improve the management, clean-up, and disposal of radioactive waste and spent nuclear fuel; and improve the resilience, reliability, and security of infrastructure to produce, deliver, and store energy. ARPA-E will ensure that the U.S. maintains a technological lead in developing and deploying energy technologies. ARPA-E will identify and promote revolutionary advances in energy, translating scientific discoveries and cutting-edge inventions into technological innovations. It will also accelerate transformational technological advances in areas where industry by itself is not likely to invest due to technical and financial uncertainty. ARPA-E focuses on novel early-stage energy research and development with technology applications that can be meaningfully advanced with a small investment over a defined period of time. ARPA-E coordinates its work with DOE's basic research and applied programs and other Federal research agencies to ensure work is not duplicated.

Program Highlights

ARPA-E has established a nimble, effective management structure and developed a portfolio of technical programs that is delivering innovative, investable opportunities to the commercial sector. ARPA-E will continue to deliver value to the U.S. economy with continued emphasis on maintaining a healthy portfolio of projects. These projects cover a broad range of topics, with a growing focus on additional scale-up of the most promising projects that have demonstrated success in technical development, project management, and definition of commercial pathways.

Since its inception in 2009 through September 2023, ARPA-E has provided approximately $3.68 billion in funding to over 1,530 projects through focused programs and open funding solicitations. A total of 218 ARPA-E projects have attracted more than $11.8 billion in private-sector follow-on funding, 300 project teams have partnered with other agencies for further development, and 150 companies have been formed from ARPA-E projects. In addition, ARPA-E project teams have generated 7,047 peer-reviewed journal articles and received 1,073 patents from the U.S. Patent and Trademark Office.

In FY 2025, ARPA-E will support research and development (R&D) on climate adaptation and resiliency energy innovations. In doing so, ARPA-E will contribute to the Administration’s Net Zero Gamechangers Initiative to achieve a net zero emissions economy by 2050 and adapt and strengthen resilience to the impacts of climate change. ARPA-E will also support the Administration’s energy technology agenda that will drive innovation while creating good paying jobs, assure the U.S. remains the world’s leader in energy technologies, and strengthen energy reliability and security. ARPA-E will work with partners from across the Federal Government to develop transformative solutions for the climate crisis and lay the foundation for future improvements in R&D across the Federal Government.

In FY 2025, ARPA-E plans to continue funding for Seeding Critical Advances for Leading Energy technologies with Untapped Potential (SCALEUP) and release up to 10 new focused Funding Opportunity Announcements (FOAs), including R&D in support of the Net Zero Gamechangers Initiative five priority areas. The focused FOAs will address new areas not represented in the present portfolio and develop new opportunities opened by the outcomes of previous programs. The assessment process for the new programs is now underway.

Potential technology areas for focused programs in FY 2025:

ARPA-E is developing programs for transformational research across a wide range of energy technologies, and applications including:

- Raw materials for the new-energy economy: Extraction and processing
- Low-carbon electricity generation and resilient distribution: Wind, hydro, geothermal, and nuclear, undergrounding
- Electrification of transportation and heat: Aviation, batteries, and thermal storage
- Waste management and resource recovery: Carbon capture, utilization, and storage (CCUS), nuclear, building materials

ARPA-E will also continue its stand-alone Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program to provide additional support to small businesses beyond the significant number of awards to small businesses via ARPA-E's standard non-SBIR/STTR solicitations.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
U.S. Energy Information Administration					
National Energy Information System	135,000	135,000	141,653	+$6,653	+4.9%
Total, U.S. Energy Information Administration	**135,000**	**135,000**	**141,653**	**+$6,653**	**+4.9%**

Appropriation Overview

The U.S. Energy Information Administration (EIA) is the statistical and analytical agency within the U.S. Department of Energy. EIA collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. EIA is the nation's premier source of energy information, and, by law, its data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. government.

Program Highlights

EIA conducts a wide range of data collection, analysis, forecasting, and dissemination activities to ensure that its customers, including Congress, federal and state governments, the private sector, the public, and the media, have ready access to timely, reliable, and relevant energy information. EIA's data and analysis inform important energy-related decisions, such as policy development; the availability of energy sources; and government, business, and personal investment decisions.

To accomplish its mission, EIA delivers a comprehensive range of energy data and analysis. Examples of key information products on which EIA stakeholders rely include:

- Weekly petroleum and natural gas inventory reports.
- Monthly short-term forecasts of energy markets.
- Long-term outlooks for U.S. and global energy production and consumption.
- Residential, commercial, and manufacturing energy consumption trends and characteristics.

Notably, FY 2025 funding will enable EIA to begin work on the 2026 *Commercial Buildings Energy Consumption Survey* (CBECS), a complex, multi-year survey that provides the only comprehensive, statistically reliable source of information on energy consumption, expenditures, and end uses in U.S. commercial buildings. In FY 2025, EIA will also continue efforts to develop a next generation energy modeling system to better represent key aspects of the energy transition in its outlooks and to improve the transparency and accessibility of data and analysis to stakeholders. In addition, EIA, working in conjunction with other federal agencies, plans to conduct research on potential statistical methodology and resources needed to fully develop and maintain a set of natural capital accounts related to U.S. energy reserves.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Office of Enterprise Assessments					
Enterprise Assessments	27,486	27,486	30,022	+2,536	+9.2%
Program Direction	57,941	57,941	64,132	+6,191	+10.7%
Total, Office of Enterprise Assessments	**85,427**	**85,427**	**94,154**	**+8,727**	**+10.2%**

Appropriation Overview

The **Office of Enterprise Assessments (EA)** supports the Department's mission priorities and strategic plan for the secure, safe, and efficient operation of the Department's science and energy research, environmental cleanup activities, and nuclear weapons complex by conducting independent assessments of security and safety performance throughout the Department, taking enforcement action for contractor violations of security and safety regulations, and providing training programs that institutionalize enterprise security and safety lessons learned.

EA reports directly to the Office of the Secretary and is independent of the DOE programs that develop and implement security and safety policy and programs and therefore is more able to provide objective and timely information to DOE senior leadership, contractor organizations, and other entities on the methods to appropriately protect national security material and information assets; and whether Departmental operations provide for the safety of its employees and the public. EA activities evaluate the Department's effectiveness in promoting protection strategies that are based on informed risk management decisions. EA is designated to implement statutorily authorized contractor enforcement programs pertaining to classified information security, nuclear safety, and worker safety and health. EA also operates the DOE National Training Center (NTC) in Albuquerque, New Mexico, to enhance the proficiency and competency of the Department's security and safety personnel, and to support DOE workforce development through other programs including safety culture improvement and the Department's Diversity, Equity, Inclusion and Accessibility (DEIA) Strategic Plan.

EA has initiated a program to support Executive Order 14035: Diversity, Equity, Inclusion and Accessibility in the Federal Workforce to create a respectful, inclusive, and safe workplace where employees can thrive, develop their potential, and contribute to the success of their organization that will increase productivity and morale and may reduce employee turnover.

Program Highlights

- Conducting comprehensive independent security performance assessments and follow-up assessments at DOE National Security / Category I Special Nuclear Material sites, using limited notice safeguards and security performance tests to provide accurate, up-to-date assessments of DOE site security response capabilities; and evaluating actions to detect insider threats from individuals who may seek to compromise national security and/or the ability of the Department to meet its mission;
- Enhancing the methods and tools used to conduct comprehensive and threat-informed independent cybersecurity assessments, including unannounced red team performance testing, to identify vulnerabilities in the Department's National Security, Intelligence, scientific, and other information systems against external and internal attacks;
- Conducting nuclear safety, worker safety and health, and emergency management independent performance assessments of the Department's operations including high hazard nuclear construction projects and operations
- Enhancing the effectiveness of the DOE enforcement function that holds contractor organizations accountable for noncompliance with worker safety and health, nuclear safety, Unclassified Controlled Nuclear Information, and classified information security regulations;
- Providing training programs that promote the competency and proficiency of DOE federal and contractor employees and performing other related functions via the DOE National Training Center in Albuquerque, NM, to institutionalize security and safety data analysis and safety lessons learned in support of improved DOE security and safety performance, advance strong safety culture and DEIA principles across the enterprise; and
- Using risk-informed and fact-based analysis to identify emerging trends in safety, security, and cybersecurity within the Department.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Legacy Management					
Legacy Management	168,926	168,926	181,289	+12,363	+7%
Legacy Management - Program Direction	21,983	21,983	23,969	+1,986	+9%
Total, Legacy Management	**190,909**	**190,909**	**205,258**	**+14,349**	**+8%**

Appropriation Overview

Legacy Management (LM) protects 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. Residual hazards remain at these sites after cleanup is completed due to technical limitations of remedial work. As a result, the U.S. Department of Energy (DOE) maintains a post-closure obligation to reduce legacy pollution and protect human health and the environment after cleanup is completed. LM fulfills DOE's post-closure obligation by providing long-term stewardship (LTS) of sites that have no continuing mission. In just five years, LM anticipates adding over 20 new sites to its LTS portfolio.

The LM request provides funding for its core LTS activities including Long-Term Surveillance and Maintenance (LTS&M) at its current sites. Funding also supports determination of the condition, and risk posed by physical, radiological, and chemical hazards at abandoned Defense-Related Uranium Mine (DRUM) sites. Funding further enables the Archives and Information Management program, assures post-retirement benefits to former contractor workers, and executes the Department's Uranium Leasing Program. Other functions include asset management, furthering the goals of Environmental Justice (EJ) as well as providing education, communication, and outreach to many affected State, Native American, and local communities.

Program Highlights

The request supports LM's mission capabilities and its core LTS activities mentioned above. Approximately $80,456,000 will support LTS&M activities, transition activities for over 20 new sites over five years, and the acceleration of major maintenance and repair at sites and field offices. This will also support inventorying, risk screening, and safeguarding of DRUM sites on public, Navajo Nation, Tribal, and private lands. Lastly, it supports appropriate implementation of mitigating actions at LM sites to enhance climate resilience.

Additionally, $11,984,000 will allow LM to strengthen its foundational Environmental Justice program activities, enabling the program to reach a larger number of affected communities. This funding also supports Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations and Executive Order 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All. Environmental justice funding continues LM activities such as the Teaching Radiation, Energy and Technology Workshop and Community Leaders Institute. Funding will allow for increasing current EJ activities executed by current partners and establishing new EJ activities to be executed by Minority Serving Institutions (MSIs) near LM sites. Equity and climate resilience are assessed and appropriately implemented for all LM's activities.

The remaining $112,818,000 supports legacy benefits for former contractor workers; deployment and implementation of enhancements to address the increased number and complexity of Known Exploited Vulnerabilities; execution of beneficial land reuse activities at DOE properties to revitalize land and assets; extensive community interaction and outreach to support the LTS mission; and the proposed cost-of-living pay increase for civilian employees.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Office of Hearings and Appeals					
Office of Hearings and Appeals	4,477	4,477	4,499	+$22	+1%
Total, Office of Hearings and Appeals	**4,477**	**4,477**	**4,499**	**+$22**	**+1%**

Appropriation Overview

Office of Hearings and Appeals (OHA) is the central administrative adjudicatory body for the Department of Energy. OHA's jurisdiction includes conducting evidentiary hearings to determine an employee's eligibility for a security clearance, deciding Freedom of Information Act (FOIA) and Privacy Act appeals, investigating and conducting hearings on certain contractor whistleblower complaints, and ruling on requests for relief from DOE regulations and orders, such as regulatory relief from the appliance energy efficiency standards. OHA also offers alternative dispute resolution (ADR) services such as mediation for a variety of matters.

Program Highlights

OHA continues to process cases promptly upon receipt. In security clearance cases, decisions were issued, on average, in just 10 days after receiving the hearing transcript. With respect to FOIA appeals, while Federal law allows 20 working days for processing appeals, OHA adjudicated them, on average, in just 10 working days.

In a new area of jurisdiction, OHA issued the first six civil penalty decisions ever under 42 U.S.C § 6303 for violations of the Energy Policy and Conservation Act. OHA orders recommended civil penalties totaling over 5 million dollars.

The ADR office implemented an aggressive educational campaign throughout DOE. Among other achievements, the office conducted over 20 ADR trainings (reaching over 1,000 employees); conducted three Lunchtime Series programs (reaching over 2,700 employees); debuted an electronic "Listening Circle" as a tool for group ADR work; and conducted a DOE-wide needs assessment, inviting DOE and NNSA leaders to identify issues their teams faced and the trainings they would like offered. As a result of these efforts, ADR Office cases filed in FY 2023 doubled.

OHA is ranked number one at DOE having achieved the highest cumulative scores on the Federal Employee Viewpoint Survey (FEVS). As in previous years, every OHA employee participated in taking the FEVS.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2024 Annualized CR	
				$	%
Office of the Inspector General					
Office of the Inspector General	86,000	86,000	149,000	+63,000	+73.3%
Total, Office of the Inspector General	**86,000**	**86,000**	**149,000**	**+63,000**	**+73.3%**

Pursuant to 5 USC 406(g)(3)(E), the Office of the Inspector General has determined that the budget proposal would substantially inhibit performance of duties. A statement from the OIG is included to accompany the OIG Budget proposal.

Appropriation Overview

The **Office of the Inspector General (OIG)** reviews the integrity, economy, and efficiency of Department of Energy (DOE) programs and operations, including the National Nuclear Security Administration (NNSA) and the Federal Energy Regulatory Commission. The OIG has the authority to inquire into all DOE programs and actions as well as related activities. Audits, inspections, investigations, and other reviews are used to detect and prevent fraud, waste, abuse, and violations of the law.

In addition, the Federal Information Security Modernization Act of 2014 directs the OIG to conduct an annual evaluation of DOE's information security systems. The OIG is also required to conduct an evaluation of DOE's implementation of the Cybersecurity Information Sharing Act of 2015 every two years. The OIG is also charged with reviewing the Department's efforts to eliminate improper payments, in conformance with the Payment Integrity Information Act of 2019. The OIG routinely conducts reviews of the most significant management challenges facing the Department, to include its Environmental Management program. In addition, the OIG addresses alleged violations of law that impact Department programs, operations, facilities, and personnel.

The DOE OIG has been historically underfunded. The FY 2025 OIG Request, if granted, would be a step in correcting the shortfall in the base budget. It also provides $3.5 million for oversight of the Puerto Rico Energy Resilience Fund.

Highlights of the FY 2025 Budget Request

The OIG will utilize these resources to accomplish its mission. The OIG's focus includes:

- **Data Analytics.** The OIG will continue to expand its utilization of data analytics. The OIG will strengthen investments in human capital, technical infrastructure, policy and stakeholder engagement, data acquisition, and data management and integration, to support scaling data analytics capabilities, including integration of artificial intelligence (AI). In FY 2025, the OIG plans to build a high side data analytics capability for more efficient oversight of the Department's classified programs and operations.
- **Cybersecurity Oversight Efforts.** The OIG is responsible for the audit and evaluation of the Department's unclassified systems. The Department has experienced substantial problems with cybersecurity. As the Department's expenditures increase under the Infrastructure Investment and Jobs Act, Inflation Reduction Act and the Puerto Rico Energy Resilience Fund, it will become increasingly important to secure its systems from vulnerabilities that could result in the loss of billions of dollars' worth of innovative or sensitive technologies developed using taxpayer dollars.
- **Inspections, Intelligence/Counterintelligence Oversight, and Special Projects.** This division conducts intelligence and counterintelligence oversight. The OIG's inspections teams will also continue to address allegations received through the OIG's Hotline, and whistleblower complaints, which have increased significantly in the last four years.
- **Investigations.** The OIG experienced an overall increase in casework in FY 2023, with a substantial increase in a variety of criminal investigations, particularly related to cybercrimes, child exploitation, and Pandemic Relief fraud. In addition, the OIG saw an increase in the already significant amount of contract and grant fraud investigations. The Office of Investigations' work and partnerships with other law enforcement entities resulted in significant cost savings to the Department and funds put to better use, as well as the return of over $224 million to the Treasury. We expect these trends to continue into FY 2025 as the OIG continues its proactive case work in fraud detection and information sharing with Data Analytics.

- **Facilities/Technology.** The OIG will continue its efforts to open offices in strategic locations and acquire a sensitive compartmented information facility. Additionally, the OIG will address information technology solutions to the problem of the OIG operating on a multitude of networks, resulting in delays, missed communications, and a daily loss of productivity in OIG operations. The OIG's intent to move its entire workforce on to one Departmental platform will undoubtedly improve mission capabilities.
- **NNSA Modernization Efforts.** NNSA has undertaken a modernization effort that involves major projects such as the weapons complex transformation. The OIG will conduct audits, inspections, reviews, and assessments to identify opportunities to improve the efficiency and effectiveness of these modernization efforts.
- **Environmental Management**. The Department's environmental cleanup and disposal liabilities of $534,314,000,000 remains on the Government Accountability Office's Biennial High Risk List. The OIG will continue its efforts to review the efficacy of the Department's environmental programs to prevent fraud, waste, and abuse.
- **Incurred Cost Audits of Management and Operating (M&O) Contracts.** The OIG will continue conducting, independent incurred cost audits of the Department's M&O Contracts, valued at $28.4 billion as of FY 2024. Additionally, the OIG will continue to conduct Disclosure Statement compliance audits and will begin conducting real time testing for labor and materials in support of this effort.
- **Audits.** The OIG performs audits on Departmental programs and operations, focused on providing reliable and credible financial and performance information. Audits provide substantial deterrence and detection capabilities over taxpayer funds and give Departmental management and Congress a well-informed perspective.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Office of Technology Transitions					
Program Direction	13,183	13,183	13,183	-	-
Technology Transitions Programs	8,915	8,915	10,915	+2,000	+22%
Foundation for Energy Security and Innovation	0	0	3,000	+3,000	N/A
Total, Office of Technology Transitions	**22,098**	**22,098**	**27,098**	**+5,000**	**+23%**

Appropriation Overview

The mission of the Office of Technology Transitions (OTT) is to expand the commercial and public impact of the Department of Energy's research investments and enable technology commercialization that supports the missions of the Department. OTT serves a multi-faceted role across the Research, Development, Demonstration, and Deployment (RDD&D) continuum to support the transition of our technologies to the market. OTT does so by providing public-private partnering support, technology transfer policy leadership, market-informed analytics, commercial adoption risk assessments, and Departmental expertise in the use of prizes and partnership intermediary agreements. OTT collaborates across DOE Program Offices to manage lab-to-market and other technology commercialization activities, including the statutory Technology Commercialization Fund, the Energy I-Corps, the Energy Program for Innovation Clusters (EPIC), Energy Technology University Prize, and the Lab Partnering Service. OTT, in coordination with Program Offices, stewards DOE technology transition activities, including policy reform, data collection and analysis, industry stakeholder convenings, and strategic communication and amplification of DOE technology transfer success stories across the DOE--including programs, field offices, and the National Laboratories and Production Facilities. OTT's Request includes a separate funding line to support expenses associated with managing the Foundation for Energy Security and Innovation (FESI).

Program Highlights

OTT's key activities in FY 2025 include:

- Technology Commercialization Fund – focuses on commercializing promising technologies, including those from the National Laboratories, by 1) enhancing the pipeline of technologies positioned for commercial deployment, and 2) enabling the commercialization ecosystem.
- Energy Program for Innovation Clusters (EPIC) – encourages the growth of regional energy innovation ecosystems across the US through competitive funding for incubators and accelerators.
- Energy I-Corps – trains National Laboratory scientists/engineers through an immersive commercialization program centered around customer outreach and partnership with the private sector.
- Energy Tech University Prize – supports student engagement through a business plan competition for multidisciplinary student teams to identify an energy technology, assess its market potential, and propose a commercialization strategy.
- Lab Partnering Service – provides external stakeholders the ability to connect with leading DOE National Laboratory expertise, technologies, and facilities through a searchable, online platform.
- Market and Commercialization Analysis – supports development of commercialization roadmaps and market adoption risk assessments to inform DOE investment decisions; supports alignment of existing technology roadmaps and program plans to identified commercialization pathways.
- Tech Transfer Coordination – stewards DOE's technology transfer policy mission through the statutory Tech Transfer Working Group and Tech Transfer Policy Board and ensures coordinated policy-making across the Department.
- Outcome Tracking – sustains impact and outcome tracking and mandatory reporting, effectively leveraging data to illustrate success of commercialization activities across DOE.
- Foundation for Energy Security and Innovation (FESI) – authorized by Section 10691 of the CHIPS and Science Act, FESI will work with DOE to carry out its critical mission to ensure America's continued security and prosperity through transformative science and technology solutions.

($K)

	FY 2023 Enacted	FY 2024 Annualized CR[15]	FY 2025 Request	FY 2025 Request vs FY 2023 Enacted	
				$	%
Federal Energy Regulatory Commission (FERC)					
Just and Reasonable Rates, Terms and Conditions	226,921	226,916	235,663	+8,742	3.9%
Safe, Reliable, and Secure Infrastructure	172,762	171,011	180,591	+7,829	4.5%
Mission Support through Organizational Excellence	108,717	110,473	115,746	+7,029	6.5%
FERC Revenues	-508,400	-508,400	-532,000	-23,600	4.6%
Subtotal, Federal Energy Regulatory Commission	**-**	**-**	**-**	**-**	**N/A**
Fees and Recoveries in Excess of Annual Appropriations	-9,000	-9,000	-9,000	-	0%
Total, Federal Energy Regulatory Commission	**-9,000**	**-9,000**	**-9,000**	**-**	**0%**

Organization Overview

The Federal Energy Regulatory Commission (FERC or the Commission) is an independent agency within the Department of Energy (DOE) that regulates the transmission and wholesale sale of electricity and natural gas in interstate commerce, as well as the transportation of oil by pipelines in interstate commerce. FERC also reviews proposals to build interstate natural gas pipelines, natural gas storage projects, and liquefied natural gas (LNG) terminals, and FERC licenses non-Federal hydropower projects. The Commission assists consumers in obtaining reliable, safe, secure, and economically efficient energy services at a reasonable cost through appropriate regulatory and market means, and collaborative efforts. Congress assigned these responsibilities to FERC in various laws including the Federal Power Act, the Public Utility Regulatory Policies Act, the Natural Gas Act, the Natural Gas Policy Act, and the Interstate Commerce Act. More recently, as part of the Energy Policy Act of 2005, Congress gave FERC additional responsibilities to protect the reliability and cybersecurity of the Bulk-Power System through the establishment and enforcement of mandatory reliability standards, as well as additional authority to enforce FERC regulatory requirements through the imposition of civil penalties and other means. Regulated entities pay fees and charges sufficient to recover the Commission's full cost of operations.

Program Highlights

Ensure Just and Reasonable Rates, Terms, and Conditions
The nation’s security and economic prosperity depend on maintaining economically efficient, safe, reliable, and secure energy services at a reasonable cost for consumers. FERC’s regulations and orders ensure just and reasonable rates, terms, and conditions for jurisdictional services.

In carrying out its regulatory role, FERC uses a range of ratemaking activities as well as market oversight and enforcement. FERC’s ratemaking activities leverage both regulatory and market means, and involve the issuance of orders and the establishment of rules and policies. FERC’s enforcement activities include both increasing compliance and detecting and deterring market manipulation. Through these efforts, FERC ensures that consumers have access to the energy services they need and that service providers are reasonably compensated.

Ensure Safe, Reliable, and Secure Infrastructure

[15] A full-year 2024 appropriation for this account was not enacted at the time the Budget was prepared; therefore, the Budget assumes this account is operating under the Continuing Appropriations Act, 2024 and Other Extensions Act (Division A of Public Law 118-15, as amended). The amounts included for 2024 reflect the annualized level provided by the continuing resolution.

Infrastructure for which FERC approval is required includes interstate natural gas pipelines and storage projects, LNG facilities, and non-Federal hydropower projects. In addition, the Commission has authority to site electric transmission facilities in certain circumstances. Ensuring the development of safe, reliable, and secure infrastructure that is in the public interest and that provides energy for consumers at a reasonable cost is a significant, multifaceted challenge.

FERC's regulatory role in reviewing proposed infrastructure projects involves balancing the benefits of a proposed project against its potential adverse impacts, including environmental concerns as well as impacts to landowners and communities. Additionally, FERC considers the minimization of risks to the public in the operation of a proposed infrastructure project. To promote safe, reliable, and secure infrastructure, FERC ensures the sustainability and safety of non-Federal hydropower projects and LNG facilities throughout their entire life cycle; oversees the development and review of, as well as compliance with, mandatory reliability and security standards for the Bulk-Power System; and helps to secure the Bulk-Power System from cyber and physical threats. The Commission also protects FERC-jurisdictional energy infrastructure through collaboration and sharing of best practices.

Provide Mission Support Through Organizational Excellence

The public interest is best served when the Commission operates in an efficient, responsive, and transparent manner. The Commission pursues this goal by maintaining processes and providing services in accordance with governing statutes, authoritative guidance, and prevailing best practices. The Commission will use its resources efficiently, empower its employees, and earn the public trust.

FERC makes investments in its people, information technology (IT) resources, and facilities to drive success and accomplish the agency's mission. The Commission places extremely high value on its employees and is focused on ensuring that employees have a performance management system that clarifies expectations, removes barriers to performance and engagement, and provides useful feedback that supports employee effectiveness.

The Commission promotes transparency and equity, open communication, and a high standard of ethics to facilitate trust and understanding of FERC's activities. FERC supports these goals by maintaining legal and other processes in accordance with the principles of due process, fairness, and integrity. FERC's proactive communication, along with an online document repository and timely responses to inquiries, fosters awareness and understanding of the Commission's activities. FERC considers matters involving environmental justice and equity consistent with its statutory authority, reflecting its commitment to working with communities who may be directly impacted by Commission decisions on jurisdictional infrastructure proposals. The Commission also promotes understanding, participation, and engagement with the public, stakeholders, Tribes, and jurisdictional entities and engages with the public through its Office of Public Participation.

FY 2025 Request Highlights

The Commission's FY 2025 Request includes the necessary resources to support its programmatic strategic goals and initiatives. The request supports 1,576 FTE and reflects a personnel compensation increase of $39.6 million or 12.8 percent above the FY 2023 enacted level and accounts for a 2.0 percent pay raise in January 2025. The Commission's FTE request will address a gap in resources to effectively meet high-risk strategic priorities and core functional area requirements such as undertaking forward looking strategic studies to improve reliability oversight and providing cybersecurity expertise to assess evolving risks to the Bulk-Power System. The FTE increase will also help in expanding external engagement efforts and strengthening the Commission's data analytics capabilities.

The Commission's request also includes $152.5 million in FY 2025 to support IT investments. This is an increase of $36.9 million, or 31.9 percent, over the FY 2023 enacted level. This increase provides additional funding to support IT investments for mission delivery, IT infrastructure, cybersecurity, data analytics capabilities, and management. In FY 2025, the Commission aims to conduct a series of proof of concepts to harness the generative potential of Artificial Intelligence (AI) in operations, which could enhance efficiencies in the execution of the Commission's mission. The Commission will continue to execute Federal mandates for IPv6 requirements and zero trust cybersecurity principals as well as invest in cloud native security technologies and cybersecurity monitoring capabilities that ensure proactive identification of threats and vulnerabilities impacting mission systems. In addition, FERC will continue maturing its data infrastructure by evolving its data analytics capabilities, pursuant to the requirements of the Evidence Act. This supports data-driven decision making and

offers a public facing data infrastructure in response to Open Data requirements. FERC is also implementing significantly improved data governance and stewardship tools as it matures its delivery of the Enterprise Data Inventory requirements and contributions to Data.gov.

As a result of a multi-year building modernization and space reduction effort, the Commission's FY 2025 Request realizes a reduction in rental costs of $8.9 million compared to FY 2023 enacted levels. The Commission consolidated all National Capital Region lease locations into the headquarters building and reduced its real estate footprint by approximately 156,000 square feet.

The FY 2025 Request funds consultants and Commission studies to support the environmental justice and equity goals described in its Equity Action Plan, including removing barriers that historically overburdened and underserved communities may experience regarding FERC's processes and practices.

FERC will utilize Inflation Reduction Act (IRA) funds in FY 2025 to augment and support its permitting efforts to conduct effective and timely environmental reviews and permitting of infrastructure projects. IRA funds will support 44 FTE in FY 2025 and provide additional training and development for current staff to improve the way the Commission expeditiously implements its statutory responsibilities over infrastructure permitting. FERC will also use IRA funds during FY 2025 to bolster and support its public engagement efforts by continuing to utilize contractor assistance for outreach activities to communities with environmental justice concerns located in project areas.