

Science
(\$K)

| FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request | FY 2027 Request vs FY 2026 Enacted |
|--------------------|--------------------|--------------------|---------------------------------------|
| \$8,240,000 | \$8,250,000 | \$7,138,815 | -\$1,111,185 |

Note: The FY 2025 Enacted SC total does not include artificial intelligence supplement funding. The FY 2026 Enacted SC total does not include the Infrastructure Investment and Jobs Act supplement funding.

Proposed Appropriation Language

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for science activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, and purchase of not more than [35] 35 passenger motor vehicles, [\$8,250,000,000] \$7,138,815,000, to remain available until expended: *Provided*, That of such amount, [\$226,831,000] \$206,878,000 shall be available until September 30, [2027] 2028, for program direction.

Explanation of Change

Proposed appropriation language updates reflect the funding and replacement of passenger motor vehicle levels.

Public Law Authorization

Science:

- Public Law 87-195, “Foreign Assistance Act of 1961”
- Public Law 95-91, “Department of Energy Organization Act”, 1977
- Public Law 102-486, “Energy Policy Act of 1992”
- Public Law 108-153, “21st Century Nanotechnology Research and Development Act 2003”
- Public Law 108-423, “Department of Energy High-End Computing Revitalization Act of 2004”
- Public Law 109-58, “Energy Policy Act of 2005”
- Public Law 110-69, “America COMPETES Act of 2007”
- Public Law 111-358, “America COMPETES Reauthorization Act of 2010”
- Public Law 115-246, “American Super Computing Leadership Act of 2017”
- Public Law 115-246, “Department of Energy Research and Innovation Act”, 2018
- Public Law 115-368, “National Quantum Initiative Act”, 2018
- Public Law 117-167, “CHIPS and Science Act”, 2022
- Public Law 117-169, “Inflation Reduction Act of 2022”

Isotope R&D and Production:

- Public Law 101-101, “1990 Energy and Water Development Appropriations Act”, establishing the Isotope Production and Distribution Program Fund
- Public Law 103-316, “1995 Energy and Water Development Appropriations Act”, amending the Isotope Production and Distribution Program Fund to provide flexibility in pricing without regard to full-cost recovery

Workforce Development for Teachers and Scientists:

- Public Law 101-510, “DOE Science Education Enhancement Act of 1991”
- Public Law 103-382, “The Albert Einstein Distinguished Educator Fellowship Act of 1994”

Mission

The Office of Science's (SC) mission is to deliver scientific discoveries and major scientific tools to transform our understanding of nature and advance the energy, economic, and national security of the United States (U.S.).

Overview

The FY 2027 Request for SC is \$7,138.8 million, decrease of \$1,101.2 million from the FY 2026 Enacted level. Within this amount, SC prioritizes key Administration and Department priorities, emphasizing transformative advancements in artificial intelligence (AI), quantum information science (QIS), fusion energy, high-performance computing, and critical minerals and materials.

A primary focus for SC is artificial intelligence (AI), particularly through the groundbreaking Genesis Mission. This national initiative led by DOE aims to establish the world's most powerful scientific platform to accelerate discovery, strengthen national security, and drive energy innovation. The Genesis Mission integrates DOE's world-class supercomputing power, unique scientific data, and AI capabilities into a unified system to shrink discovery cycles from years to months. The Genesis Mission will harness scientific datasets to train scientific foundation models and create AI agents for testing hypotheses, automating research workflows, and accelerating scientific breakthroughs. Recent collaborations with industry partners further underscore the commitment to unite government, industry, and academia to redefine American leadership in AI. The FY 2027 Request supports the American Science Cloud, which is the open platform for the Genesis Mission, as well as research on national science and technology challenges through the Transformational AI Models Consortium and program investments. Further investments in AI workforce development will grow the domestic talent to address the Nation's most challenging scientific problems.

The FY 2027 Request includes focused investments in quantum information science (QIS), building on a long history of DOE leadership in quantum science. QIS leverages the principles of quantum mechanics to develop fundamentally new ways of processing information, with the potential to overcome limitations of current technologies and deliver significant scientific and technological breakthroughs. SC supports fundamental QIS research across its programs, including the National Quantum Information Science Research Centers. These centers aim to drive disruptive innovation in quantum computing, sensing, and communication, and to advance the use of quantum technologies for fundamental scientific discovery.

SC continues its support for fusion development, accelerating efforts to close key science and technology gaps in fusion energy. Following the release of U.S. Fusion Science and Technology Roadmap for developing commercial fusion power, DOE is collaborating with the private sector and academic institutions to achieve the true technology breakthrough of delivering fusion power to the grid and winning the fusion commercialization race.

High-performance computing (HPC) is another critical area for SC, serving as a foundational element for advancing both AI and QIS. SC's efforts in HPC and networking facilities involve operating world-class, open-access infrastructure that thousands of researchers rely on to advance their work. The convergence of AI, HPC, and quantum technologies is a strategic investment for DOE, capitalizing on their synergy for unparalleled scientific breakthroughs.

The FY 2027 Request also continues investments in critical minerals and materials (CMM) research. Focus areas include chemical processes and materials to enhance recovery and reuse of critical elements, using synthetic biology approaches to selectively remove or concentrate CMM from source materials and/or dilute solutions, and developing fundamental knowledge of how best to reduce or eliminate the need for critical elements in chemical processes and energy technologies.

These strategic investments are integral to SC's mission to grow the scientific and technical knowledge that spurs discoveries and innovations, explore nature's mysteries from subatomic particles to the building blocks of life, and provide researchers with state-of-the-art scientific user facilities. The Office of Science remains the Nation's largest Federal sponsor of basic research in the physical sciences and a leader in the U.S. scientific discovery and innovation enterprise. Through these efforts, SC continues to build the foundations for new technologies, businesses, and industries, contributing significantly to our nation's economy, national security, and quality of life. Select scientific accomplishments enabled by the SC programs are described in the program budget narratives. Additional descriptions of recent science discoveries can be found at <https://www.energy.gov/science/listings/science-highlights>.

SC also administers and/or bestows several awards to recognize talented scientists and engineers that advance DOE's missions, including the Presidential Early Career Award for Scientists and Engineers (PECASE), Ernest Orlando Lawrence Award, Enrico Fermi Award, and Distinguished Scientist Fellow opportunity. The Request continues support for these honorary awards.

Science
Funding by Congressional Control

(dollars in thousands)

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request | FY 2027 Request vs FY 2026 Enacted |
|---|----------------------------|----------------------------|----------------------------|---|
| Advanced Scientific Computing Research | | | | |
| ASCR Research | 1,036,235 | 1,116,328 | 1,104,446 | -11,882 |
| Total, Advanced Scientific Computing Research | 1,036,235 | 1,116,328 | 1,104,446 | -11,882 |
| Basic Energy Sciences | | | | |
| BES Research | 2,354,785 | 2,295,643 | 2,002,337 | -293,306 |
| Construction | | | | |
| 24-SC-10 HFIR Pressure Vessel Replacement (PVR), ORNL | 6,000 | 6,000 | – | -6,000 |
| 24-SC-12 NSLS-II Experimental Tools - III (NEXT-III), BNL | 5,500 | 5,500 | – | -5,500 |
| 21-SC-10 Cryomodule Repair & Maintenance Facility (CRMF), SLAC | 20,000 | 20,000 | 7,800 | -12,200 |
| 19-SC-14 Second Target Station (STS), ORNL | 52,000 | 52,000 | 80,000 | +28,000 |
| 18-SC-12 Advanced Light Source Upgrade (ALS-U), LBNL | 50,000 | 50,000 | 50,000 | – |
| 18-SC-13 Linac Coherent Light Source-II-High Energy (LCLS-II-HE), SLAC | 100,000 | 99,343 | 6,000 | -93,343 |
| Total, Construction | 233,500 | 232,843 | 143,800 | -89,043 |
| Total, Basic Energy Sciences | 2,588,285 | 2,528,486 | 2,146,137 | -382,349 |
| Biological and Environmental Research | | | | |
| BER Research | 851,000 | 835,000 | 360,967 | -474,033 |
| Construction | | | | |
| 24-SC-31 Microbial Molecular Phenotyping Capability (M2PC), PNNL | 19,000 | 19,000 | 35,000 | +16,000 |
| Total, Construction | 19,000 | 19,000 | 35,000 | +16,000 |
| Total, Biological and Environmental Research | 870,000 | 854,000 | 395,967 | -458,033 |
| Fusion Energy Sciences | | | | |
| FES Research | 590,000 | 634,973 | 677,751 | +42,778 |
| Construction | | | | |
| 14-SC-60 US Contributions to ITER | 200,000 | 170,684 | 77,500 | -93,184 |
| Total, Construction | 200,000 | 170,684 | 77,500 | -93,184 |
| Total, Fusion Energy Sciences | 790,000 | 805,657 | 755,251 | -50,406 |
| High Energy Physics | | | | |
| HEP Research | 848,570 | 861,156 | 710,458 | -150,698 |
| Construction | | | | |
| 18-SC-42 Proton Improvement Plan II (PIP-II), FNAL | 125,000 | 114,000 | 105,000 | -9,000 |
| 11-SC-40 Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment | 251,000 | 260,000 | 305,000 | +45,000 |
| Total, Construction | 376,000 | 374,000 | 410,000 | +36,000 |

(dollars in thousands)

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request | FY 2027 Request vs FY 2026 Enacted |
|---|----------------------------|----------------------------|----------------------------|---|
| Total, High Energy Physics | 1,224,570 | 1,235,156 | 1,120,458 | -114,698 |
| Nuclear Physics | | | | |
| NP Operation and Maintenance | 715,600 | 711,141 | 591,434 | -119,707 |
| Construction | | | | |
| 20-SC-52 Electron Ion Collider (EIC), BNL | 110,000 | 155,000 | 200,000 | +45,000 |
| Total, Construction | 110,000 | 155,000 | 200,000 | +45,000 |
| Total, Nuclear Physics | 825,600 | 866,141 | 791,434 | -74,707 |
| Isotope R&D and Production | | | | |
| IRP Research | 116,736 | 110,500 | 114,972 | +4,472 |
| Construction | | | | |
| 20-SC-51 U.S. Stable Isotope Production and Research Center (SIPRC), ORNL | 45,900 | 50,000 | 45,100 | -4,900 |
| 24-SC-92 Clinical Alpha Radionuclide Producer (CARP), BNL | – | 1,000 | – | -1,000 |
| 24-SC-91 Radioisotope Processing Facility, ORNL | 7,000 | 8,500 | 8,500 | – |
| Total, Construction | 52,900 | 59,500 | 53,600 | -5,900 |
| Total, Isotope R&D and Production | 169,636 | 170,000 | 168,572 | -1,428 |
| Accelerator R&D and Production | | | | |
| ARDAP Research | 27,000 | – | – | – |
| Total, Accelerator R&D and Production | 27,000 | – | – | – |
| Workforce Development for Teachers and Scientists | | | | |
| WDTS | 31,000 | 32,000 | 30,000 | -2,000 |
| Total, Workforce Development for Teachers and Scientists | 31,000 | 32,000 | 30,000 | -2,000 |
| Science Laboratories Infrastructure | | | | |
| PILT | 5,119 | 5,119 | 5,000 | -119 |
| Oak Ridge Landlord | 7,032 | 7,032 | 7,500 | +468 |
| SLI F&I | 42,692 | 40,000 | 50,000 | +10,000 |
| SLI Laboratory Operations Apprenticeship | 3,000 | 3,000 | 3,000 | – |
| OR Nuclear Operations | 46,000 | 46,000 | 46,000 | – |
| Construction | | | | |
| 21-SC-71 Princeton Plasma Innovation Center (PPIC), PPPL | 30,000 | 34,600 | – | -34,600 |
| 21-SC-72 Critical Infrastructure Recovery & Renewal (CIRR), PPPL | 10,000 | 9,400 | 12,282 | +2,882 |
| 20-SC-72 Seismic and Safety Modernization (SSM), LBNL | 23,000 | – | – | – |
| 20-SC-73 CEBAF Renovation and Expansion (CEBAF), TJNAF | 11,000 | 26,000 | – | -26,000 |
| 20-SC-77 Argonne Utilities Upgrade (AU2), ANL | 3,000 | 2,250 | 1,500 | -750 |

(dollars in thousands)

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request | FY 2027 Request vs FY 2026 Enacted |
|---|----------------------------|----------------------------|----------------------------|---|
| 20-SC-78 Linear Assets Modernization Project (LAMP), LBNL | 25,000 | 19,000 | 25,000 | +6,000 |
| 20-SC-79 Critical Utilities Infrastructure Revitalization (CUIR), SLAC | 20,000 | 15,000 | 18,075 | +3,075 |
| 20-SC-80 Utilities Infrastructure Project (UIP), FNAL | 35,000 | 18,000 | 48,815 | +30,815 |
| Total, Construction | 157,000 | 124,250 | 105,672 | -18,578 |
| Total, Science Laboratories Infrastructure | 260,843 | 225,401 | 217,172 | -8,229 |
| Safeguards and Security | | | | |
| S&S | 190,000 | 190,000 | 202,500 | +12,500 |
| Total, Safeguards and Security | 190,000 | 190,000 | 202,500 | +12,500 |
| Program Direction | | | | |
| PD | 226,831 | 226,831 | 206,878 | -19,953 |
| Total, Program Direction | 226,831 | 226,831 | 206,878 | -19,953 |
| Total, Office of Science | 8,240,000 | 8,250,000 | 7,138,815 | -1,111,185 |