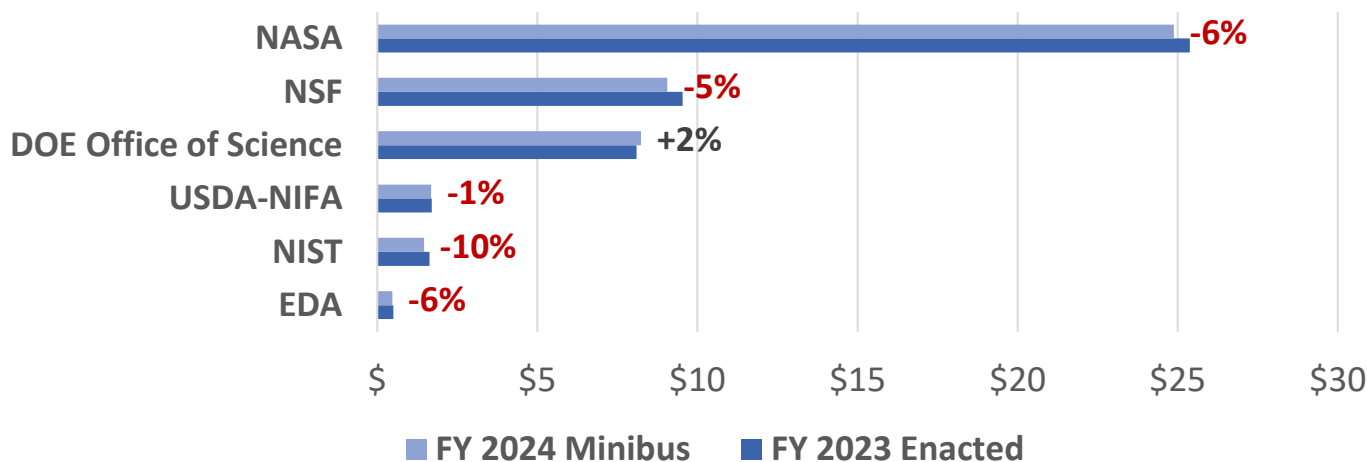


High Energy Physics Funding Outlook

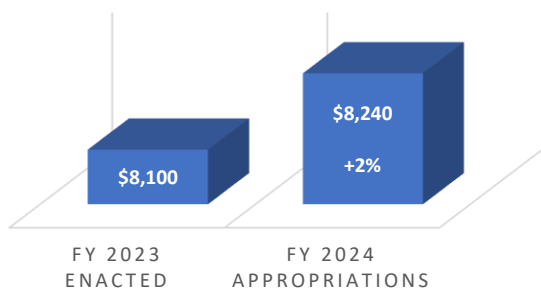
On March 9, the final FY 2024 Energy and Water bill, which funds the Department of Energy, was passed into law. Final funding for the DOE Office of Science and the High Energy Physics (HEP) programs fell between the House and Senate marks. With budget caps and funding constraints, the DOE Office of Science and associated programs did well compared to other science agencies. The DOE Office of Science was the only major science agency to receive an increase in FY 2024. On March 11, President Biden released the FY 2025 budget request, kicking off the FY 2025 congressional appropriations process. Below is an analysis of funding projections for the DOE Office of Science and High Energy Physics based on final FY 2024 appropriations and the FY 2025 budget request.

FY 2024 Appropriations for Select Federal Agencies (\$ in billions)

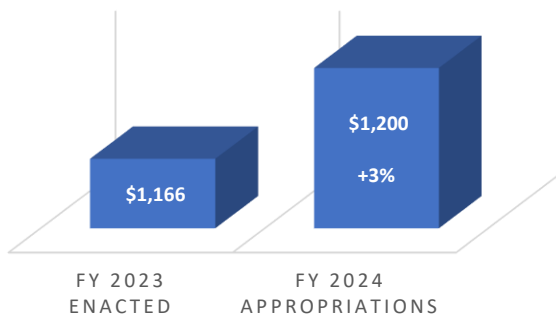


The final FY 2024 Energy and Water bill provides \$8.240 billion for the DOE Office of Science, an increase of \$140 million or 2 percent above the FY 2023 enacted level. This includes \$1.2 billion for HEP, a \$34 million or 3 percent increase above FY 2023.

FY 2024 OFFICE OF SCIENCE FUNDING
(\$ IN MILLIONS)

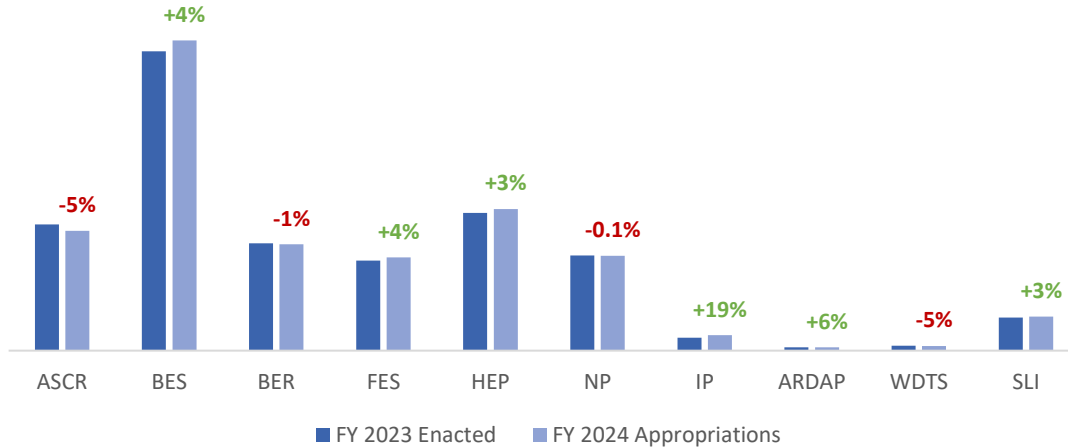


FY 2024 HEP FUNDING
(\$ IN MILLIONS)



HEP received one of the highest funding increases across the six major Office of Science programs.

FY 2024 Funding for Office of Science Programs



The final bill also provided additional guidance for specific HEP projects shown in the table below.

HEP Funding (\$ in millions based on congressional control points)

DOE HEP Program	FY 2023 Enacted	FY 2024 Appropriations
Research and Operations	868	824
<i>SURF</i>	30	35
<i>CMB-S4</i>	1	10
<i>ACORN</i>	2	5
<i>HL-LHC</i>	50	35.7
LBNF/DUNE (+\$4 M OPC)	176	255
PIP-II	120	125
Mu2E	2	0
Total, HEP	1,122	1,200

The final bill also advanced other areas of interest to the HEP community:

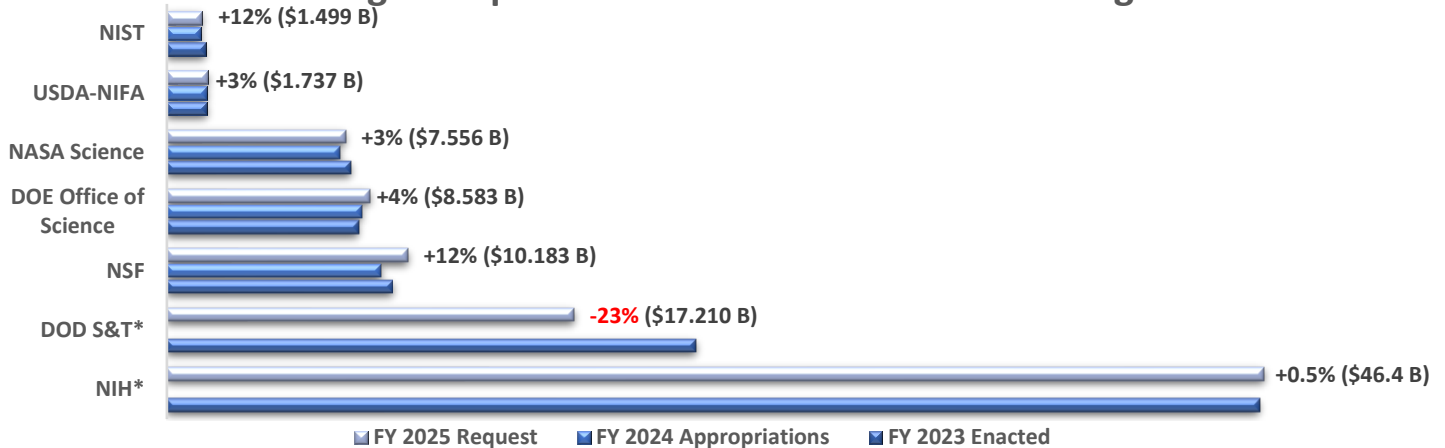
- At least \$245 million for **Quantum Information Science (QIS)**, with at least \$120 million for core research activities and \$125 million for the five National QIS Research Centers. Within this funding, the bill directs the Office of Science to identify near-term applications for quantum computing; expand quantum internet, networking, and communications testbeds; and provide up to \$15 million for the Quantum User Expansion for Science and Technology program (QUEST) program to expand researchers’ access to U.S. quantum computing hardware and cloud resources. DOE plans to allocate \$280 million in FY 2024 for QIS.

- At least \$135 million for **Artificial Intelligence (AI)** research and development activities across the DOE Office of Science and the Advanced Scientific Computing Research program is assigned the lead for that research mission.
- The final bill provides no specific direction on microelectronics research and **Microelectronics Science Research Centers**. DOE plans to move forward with a limited competition in FY 2024 to fund research groups that would eventually form a network or could consolidate into larger scale centers.
- The final bill rejected a general provision in the House bill that would have prohibited DOE from funding any diversity, equity, and inclusion (DEI) office, program, or training including the **Reaching a New Energy Sciences Workforce (RENEW)** and **Funding for Accelerated, Inclusive Research (FAIR)** initiatives. The bill would instead allow DOE to support DEI initiatives and fund FAIR and RENEW at FY 2023 enacted funding levels. DOE recently released FY 2023 funding solicitations for these two programs.

FY 2025 President’s Budget Request

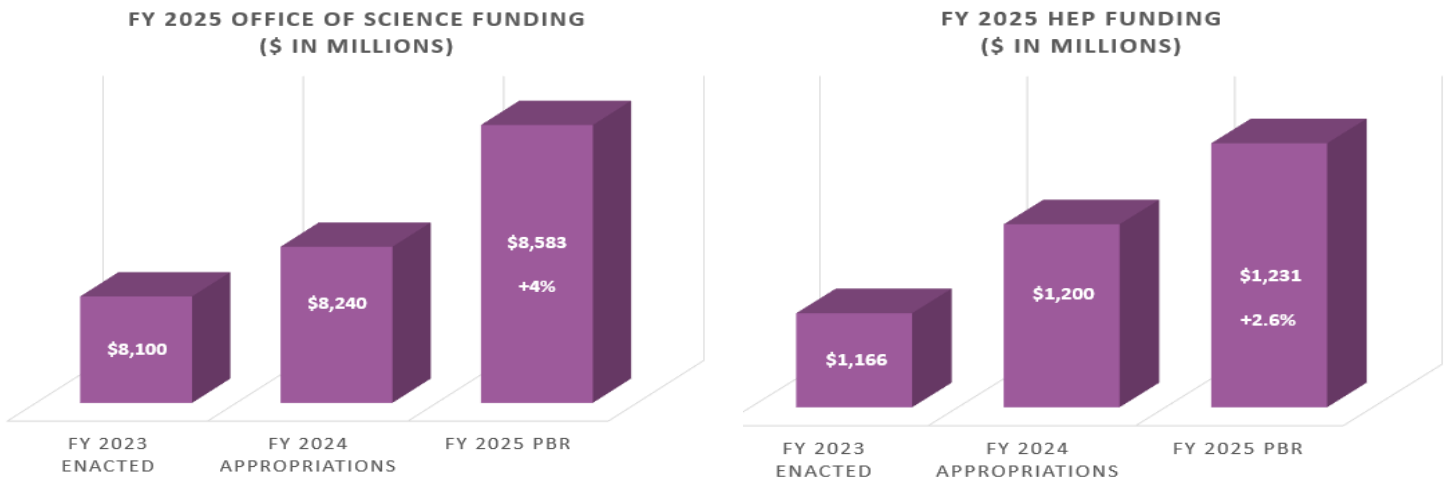
Shortly after Congress finalized FY 2024 appropriations for DOE, on March 11, President Biden released his fourth budget proposal to Congress to fund federal agencies and programs for FY 2025, which begins on October 1. Compared to prior year, the FY 2025 budget request is more modest and federal agencies would face constrained spending growth since the budget request mostly adheres to statutory spending caps put in place in the 2023 debt-limit law, the *Fiscal Responsibility Act*. Overall discretionary spending would total \$1.665 trillion, a modest \$6 billion increase over FY 2024. This would include \$895.2 billion for defense spending, an increase of \$9 billion, and \$770 billion for nondefense spending, a cut of \$3 billion. Despite this constrained budget environment, the DOE Office of Science would see a proposed funding increase.

FY 2025 Budget Request for Selected Science Federal Agencies



*NIH and DOD do not yet have final FY 2024 appropriations and the comparison is to FY 2023 enacted.

The Office of Science would be funded at \$8.583 billion, an increase of \$343 million or 4 percent above FY 2024 appropriations. HEP would be funded at \$1.231 billion, an increase of \$31 million or 3 percent above FY 2024. See graphics below.



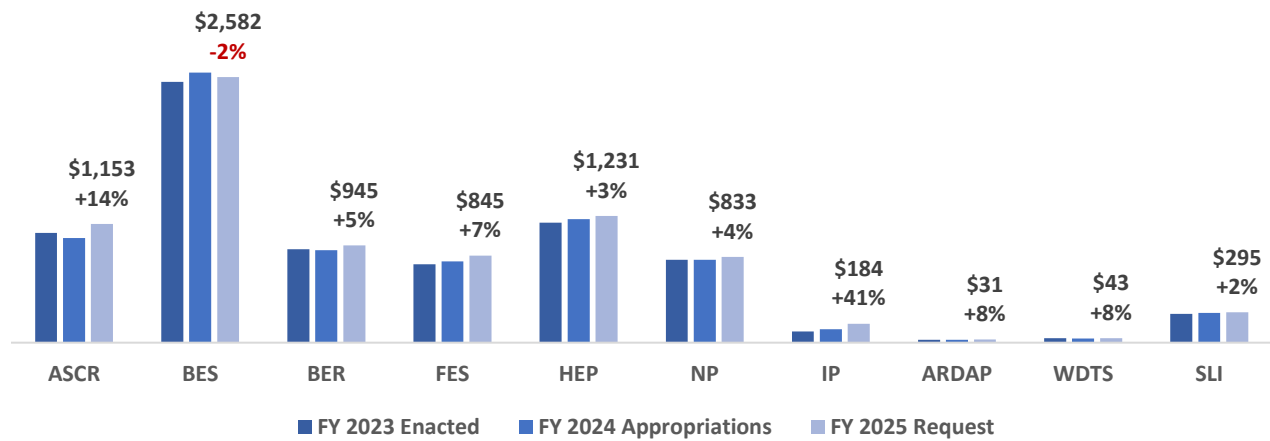
The budget request also proposes funding for specific HEP projects shown in the table below.

**HEP Funding
(\$ in millions)**

DOE HEP Program	FY 2023 Enacted	FY 2024 Appropriations	FY 2025 Budget Request
Research and Operations	868	824	826
<i>SURF</i>	30	35	35
<i>CMB-S4</i>	1	10	4.5
<i>ACORN</i>	2	5	10
<i>HL-LHC</i>	50	35.7	35.7
LBNF/DUNE	176	255	280
PIP-II	120	125	125
Mu2E	2	0	0
Total, HEP	1,122	1,200	1,231

HEP funding in the FY 2025 budget request compared to other DOE Office of Science program is shown below.

FY 2025 Budget Request for Office of Science Programs (\$ in millions)



To maintain U.S. leadership in science and technology, consistent with the *CHIPS and Science Act*, and advance HEP science missions and P5 projects, the FY 2025 community requests to Congress are above the budget request levels.

FY 2025 Funding for Office of Science and HEP (\$ in billions)

