



FY 2023 Appropriations Priorities

Energy, Water Development, and Related Agencies

Agency	Account	APLU FY2023 Request
Department of Energy (DOE)	Office of Science	\$8.8 billion
	Advanced Research Projects Agency – Energy (ARPA-E)	\$625 million

DEPARTMENT OF ENERGY (DOE)

OFFICE OF SCIENCE

APLU FY2023 Request: \$8.8 billion

FY2023 PBR = \$7.8 billion; FY 2022 = \$7.475 billion;

FY2021 = \$7.026 billion

APLU urges Congress to fund the DOE Office of Science with an appropriation of at least \$8.8 billion in FY2023. This funding is needed to enhance groundbreaking scientific discoveries, building and operating world-class scientific facilities, advance energy technologies needed for the nation to meet net-zero carbon emissions economy wide, developing industries of the future and emerging technologies, and maintaining the highly- skilled science and technology workforce that is essential for the United States to compete globally. The request level is consistent with FY 2022 authorized funding level in the House-passed DOE Science for the Future Act and the current draft of the Senate DOE Science for the Future Act. The House passed the DOE Science for the Future Act with strong bipartisan support (351-68).

The Office of Science is our nation’s largest supporter of foundational research in the physical sciences, the steward of 10 national laboratories, and the lead federal agency supporting fundamental research for energy production and security. Office of Science-supported researchers have made key advances in solar energy, bioenergy, solid state lighting, and batteries, among many other areas of energy, and continue to press forward with science in the quest to achieve a secure and sustainable energy future. Each year, the Office of Science provides the world’s largest array of scientific user facilities serving more than 33,000 researchers from universities, government laboratories, and industry. The Office of Science further supports 30,000 researchers, including Ph.D. scientists, engineers, graduate students, undergraduates, and technical and support personnel, through competitive awards annually at DOE laboratories and more than 300 institutions of higher education throughout the U.S.

The Office of Science plays a key role in preparing our next generation of STEM researchers, inventors, and entrepreneurs. Through its Early Career Research Program, DOE provides funds for outstanding scientists early in their careers helping to stimulate research careers in the disciplines supported by the DOE Office of Science. Additionally, the Office of Workforce Development for Teachers and Scientists (WDTS) sponsors student internships and other education and training programs at DOE’s 17 national laboratories. The DOE laboratories also provide opportunities for STEM training and education, annually engaging over 250,000 K-12

students, 22,000 K-12 educators, 4,000 undergraduate interns, 3,000 graduate students, and 1,600 postdoctoral researchers who will be among our nation's future energy leaders. The Office of Science also supports increased engagement with and participation by faculty and students from Minority Serving Institutions (MSI) and individuals from groups historically underrepresented in the STEM fields.

APLU recommends at least \$8.8 billion in funding for the Office of Science to:

- grow core research at national laboratories and research universities in the physical sciences, biological sciences, advanced materials, geosciences, computing and engineering to help develop future energy technologies and fully utilize new and updated world-class facilities and cutting-edge instrumentation, especially with ambitious goals to achieve net-zero emissions economy-wide no later than 2050;
- prepare the next generation of American scientific and engineering talent through competitively awarded grants and significantly expand existing workforce and education programs, such as the DOE Office of Science Graduate Fellowship and Computational Sciences Graduate Fellowship, while also creating new programs to address the nation's growing workforce needs in STEM and energy industries as well as meaningfully tackle issues of broadening participation and diversity, equity, and inclusion;
- accelerate the construction and upgrades of world-class scientific user facilities and maximize operations to support the more than 36,000 researchers from academia, industry and federal agencies that rely on these facilities for their science and engineering pursuits;
- advance new, strategic investments in innovative high-risk, high-reward research areas, such as quantum science and technology, genomics and engineering biology, microelectronics, next-generation communications, accelerator and laser systems, and artificial intelligence and scientific machine learning; and
- maintain and grow multi-disciplinary centers focused on addressing scientific grand challenges, such as Energy Frontier Research Centers, Bioenergy Research Centers, Energy Innovation Hubs, and national quantum information science research centers as well as artificial intelligence co-design and microelectronics research centers.

As more countries continue to invest heavily in research and development, it is imperative that the U.S. makes bold new investments in fundamental research to stay ahead of international competition, maintain U.S. competitiveness, and create American jobs of the future in key energy sectors as well as new technology areas such as high-performance computing, artificial intelligence, biotechnology, and quantum information science.

ADVANCED RESEARCH PROJECTS AGENCY-ENERGY (ARPA-E)

APLU FY2023 Request: \$625 million

FY2023 PBR = \$700 million; FY2022 = \$450 million;

FY2021 = \$427 million

ARPA-E provides funding to some of our nation's brightest minds in cross-disciplinary research teams to radically transform how we generate, store, and use energy. By leveraging talent in all sectors—from universities, to private industry, to government labs—ARPA-E fosters a robust and cohesive community of energy researchers and technology developers to advance high-potential, high-impact energy technologies. These technologies can radically transform how we generate, store, and use energy. APLU requests funding for ARPA-E at least \$625 million in

FY2023 to support additional solicitations and an increase in support for Scale-up and Demonstration projects. The level of funding is four percent above the House FY 2022 Energy and Water Appropriations bill.

In 2017, the National Academies of Science noted that “APRA-E has the ability to make significant contributions to energy R&D that likely would not take place absent the agency’s activities.” Thanks to federal investment in ARPA-E, since it was created in 2009, 109 companies have been formed, 4,871 peer-reviewed journal articles have been published to advance knowledge, and 789 patents have been issued by the U.S. Patent and Trademark Office. Continued funding for this game-changing agency will lead to more groundbreaking technological developments that boost our nation’s economy and keep the U.S. at the forefront of energy advancement.

ABOUT THE ASSOCIATION OF PUBLIC AND LAND-GRANT UNIVERSITIES

APLU is a research, policy, and advocacy organization dedicated to strengthening and advancing the work of public universities. With a membership of 244 public research universities, land-grant institutions, state university systems, and affiliated organizations, APLU's agenda is built on the three pillars of increasing degree completion and academic success, advancing scientific research, and expanding engagement. Annually, its 202 U.S. member campuses enroll 4.2 million undergraduates and 1.2 million graduate students, award 1.2 million degrees, employ 1.1 million faculty and staff, and conduct \$48.7 billion in university-based research.