''(A) $30,500,000 for fiscal year 2023;
''(B) $75,000,000 for fiscal year 2024;
''(C) $105,000,000 for fiscal year 2025;
''(D) $83,000,000 for fiscal year 2026; and
''(E) $43,000,000 for fiscal year 2027.

''(d) STABLE ISOTOPE PRODUCTION AND RESEARCH CENTER.—

''(1) IN GENERAL.—The Secretary of Energy (referred to in this subsection as ''the Secretary'') shall establish a stable isotope production and research center—

''(A) to expand the ability of the United States to perform multiple stable isotope production campaigns at large-scale production, as authorized under section 311 of the Department of Energy Research and Innovation Act;

''(B) to mitigate the dependence of the United States on foreign-produced stable isotopes;

''(C) to promote economic resilience; and

''(D) to conduct research and development on stable isotope production and associated methods and technology.

''(2) FUNDING.—Out of funds authorized to be appropriated under section 311(e) of the Department of Energy Research and Innovation Act, there are authorized to be appropriated to the Secretary to carry out this subsection—

''(A) $74,400,000 for fiscal year 2023;
''(B) $46,000,000 for fiscal year 2024;
''(C) $31,200,000 for fiscal year 2025;
''(D) $33,300,000 for fiscal year 2026; and
''(E) $13,900,000 for fiscal year 2027.''

§ 18650. Increased collaboration with teachers and scientists

The Director shall support the development of a scientific workforce through programs that facilitate collaboration between and among teachers at elementary schools and secondary schools served by local educational agencies, students at institutions of higher education, early-career researchers, faculty at institutions of higher education, and the National Laboratories, including through the use of proven techniques to expand the number of individuals from underrepresented groups pursuing and attaining skills or undergraduate and graduate degrees relevant to the mission of the Office of Science.

(Pub. L. 115–246, title III, §312, as added Pub. L. 117–167, div. B, title I, §10111(a), Aug. 9, 2022, 136 Stat. 1456.)

§ 18651. High intensity laser research initiative

(a) In general

The Director shall establish a high intensity laser research initiative consistent with the recommendations of the National Academies report entitled ''Opportunities in Intense Ultrafast Lasers: Reaching for the Brightest Light'' and the report from the Brightest Light Initiative workshop entitled ''The Future of Intense Ultrafast Lasers in the U.S.''. The initiative should include research and development of petawatt-scale and of high average power laser technologies necessary for future facility needs in discovery science and to advance energy technologies, as well as support for a user network of academic and National Laboratory high intensity laser facilities.

(b) Leverage

The Director shall leverage new laser technologies for more compact, less complex, and low-cost accelerator systems needed for science applications.

(c) Coordination

(1) Director

The Director shall coordinate the initiative established under subsection (a) among all relevant programs within the Office of Science.

(2) Under Secretary

The Under Secretary for Science shall coordinate the initiative established under subsection (a) with other relevant programs within the Department and other Federal agencies.

(d) Authorization of appropriations

Out of funds authorized to be appropriated for the Office of Science in a fiscal year, there are authorized to be appropriated to the Secretary to carry out the activities described in this section—

(1) $50,000,000 for fiscal year 2023;
(2) $100,000,000 for fiscal year 2024;
(3) $150,000,000 for fiscal year 2025;
(4) $200,000,000 for fiscal year 2026; and
(5) $250,000,000 for fiscal year 2027.

(Pub. L. 115–246, title III, §313, as added Pub. L. 117–167, div. B, title I, §10112(a), Aug. 9, 2022, 136 Stat. 1459.)

§ 18652. Helium conservation program

(a) In general

The Secretary shall establish a program to reduce the consumption of helium for Department grant recipients and facilities and encourage helium recycling and reuse. The program shall competitively award grants for—

(1) the purchase of equipment to capture, reuse, and recycle helium;

(2) the installation, maintenance, and repair of new and existing helium capture, reuse, and recycling equipment; and

(3) helium alternatives research and development activities.

(b) Report

Not later than 2 years after August 9, 2022, and every 3 years thereafter, the Director shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a report on the purchase of helium as part of research projects and facilities supported by the Department. The report shall include—

(1) the quantity of helium purchased for projects and facilities supported by Department grants;

(2) a cost-analysis for such helium;

(3) to the maximum extent practicable, information on whether such helium was imported from outside the United States, and if available, the country or region of the world from which the helium was imported;

(4) expected or experienced impacts of helium supply shortages or prices on the research projects and facilities supported by the Department; and

(5) recommendations for reducing Department grant recipients' exposure to volatile helium prices and supply shortages.

(c) Coordination

In carrying out the program under this section, the Director shall coordinate with the Na-

tional Science Foundation and other relevant Federal agencies on helium conservation activities.

(d) Duration

The program established under this section shall receive support for a period of not more than 5 years, subject to the availability of appropriations.

(e) Renewal

Upon expiration of any period of support of the program under this section, the Director may renew support for the program for a period of not more than 5 years.

(Pub. L. 115–246, title III, § 314, as added Pub. L. 117–167, div. B, title I, § 10112(a), Aug. 9, 2022, 136 Stat. 1460.)

§ 18653. Office of Science Biological Threat Preparedness Research Initiative

(a) In general

The Secretary shall establish within the Office of Science a cross-cutting research initiative, to be known as the ''Biological Threat Preparedness Research Initiative'', to leverage the innovative analytical resources and tools, user facilities, and advanced computational and networking capabilities of the Department in order to support efforts that prevent, prepare for, predict, and respond to biological threats to national security, including infectious diseases.

(b) Competitive, merit-reviewed process

The Secretary shall carry out the initiative established under subsection (a) through a competitive, merit-reviewed process, and consider applications from National Laboratories, institutions of higher education, multi-institutional collaborations, industry partners and other appropriate entities.

(c) Activities

In carrying out the initiative established under subsection (a), the Secretary shall—

(1) determine a comprehensive set of technical milestones for the research activities described in that subsection;

(2) prioritize the objectives of—

(A) supporting fundamental research and development in advanced analytics, experimental studies, materials synthesis, and high-performance computing technologies needed in order to more quickly and effectively characterize, model, simulate, and predict complex natural phenomena and biological materials related to emerging biological threats;

(B) supporting the development of tools that inform epidemiological modeling, and applying artificial intelligence, machine learning, and other computing tools to accelerate such processes;

(C) supporting research and capabilities that enhance understanding and modeling of the transport of pathogens in indoor and outdoor air and water environments;

(D) identifying priority research opportunities and capabilities for molecular design and modeling for medical countermeasures;

(E) ensuring that new experimental and computational tools are accessible to relevant research communities, including private sector entities and other Federal research institutions; and

(F) supporting activities and projects that combine computational modeling and simulation with experimental research facilities and studies;

(3) leverage the research infrastructure of the Department, including scientific computing user facilities, x-ray light sources, neutron scattering facilities, nanoscale science research centers, and sequencing and biocharacterization facilities;

(4) leverage experience from existing modeling and simulation research and work sponsored by the Department and promote collaboration and data sharing between National Laboratories, research entities, and user facilities of the Department by providing necessary access and secure data transfer capabilities; and

(5) ensure that new experimental and computational tools are accessible to relevant research communities, including private sector entities, to address emerging biological threats.

(d) Coordination

In carrying out the initiative established under subsection (a), the Secretary shall coordinate activities with—

(1) other relevant offices of the Department;

(2) the National Nuclear Security Administration;

(3) the National Laboratories;

(4) the Director of the National Science Foundation;

(5) the Director of the Centers for Disease Control and Prevention;

(6) the Director of the National Institutes of Health;

(7) the Assistant Secretary for Preparedness and Response;

(8) the heads of other relevant Federal agencies;

(9) institutions of higher education; and

(10) the private sector.

(e) Infectious Diseases High Performance Computing Research Consortium

(1) In general

The Secretary, in coordination with the Director of the National Science Foundation and the Director of the Office of Science and Technology Policy, shall establish and operate an Emerging Infectious Diseases High Performance Computing Research Consortium (referred to in this section as the ''Consortium''), to support the initiative established under subsection (a) by providing, to the extent practicable, a centralized entity for multidisciplinary, collaborative, emerging infectious disease and biosecurity research and development through high performance computing and advanced data analytics technologies and processes, in conjunction with the experimental research facilities and studies supported by the Department.

(2) Membership

The members of the Consortium may include representatives from relevant Federal agen-