

- (1) be for a term of 6 years; and
- (2) consist of 2 3-year funding allotments.

(g) Use of funds

Funds made available under this section may be used for—

- (1) the salary of the distinguished scientist and support staff;
- (2) undergraduate, graduate, and post-doctoral appointments;
- (3) research-related equipment;
- (4) professional travel; and
- (5) such other requirements as the Secretary determines to be necessary to carry out the purpose of the program.

(h) Review**(1) In general**

The appointment of a distinguished scientist under this section shall be reviewed at the end of the first 3-year allotment for the distinguished scientist through an open peer-review process to determine whether the appointment is meeting the purpose of this section under subsection (a).

(2) Funding

Funding of the appointment of the distinguished scientist for the second 3-year allotment shall be determined based on the review conducted under paragraph (1).

(i) Cost sharing

To be eligible for assistance under this section, an appointing institution of higher education shall pay at least 50 percent of the total costs of the appointment.

(j) Authorization of appropriations

There are authorized to be appropriated to carry out this section—

- (1) \$15,000,000 for fiscal year 2008;
- (2) \$20,000,000 for fiscal year 2009;
- (3) \$30,000,000 for fiscal year 2010;
- (4) \$31,000,000 for fiscal year 2011;
- (5) \$32,000,000 for fiscal year 2012; and
- (6) \$33,000,000 for fiscal year 2013.

(Pub. L. 110-69, title V, §5011, Aug. 9, 2007, 121 Stat. 620; Pub. L. 111-358, title IX, §902(e), Jan. 4, 2011, 124 Stat. 4045.)

Editorial Notes**AMENDMENTS**

2011—Subsec. (j)(4) to (6). Pub. L. 111-358 added pars. (4) to (6).

§ 16538. Advanced Research Projects Agency—Energy**(a) Definitions**

In this section:

(1) ARPA-E

The term “ARPA-E” means the Advanced Research Projects Agency—Energy established by subsection (b).

(2) Director

The term “Director” means the Director of ARPA-E appointed under subsection (d).

(3) Fund

The term “Fund” means the Energy Transformation Acceleration Fund established under subsection (o)(1).

(b) Establishment

There is established the Advanced Research Projects Agency—Energy within the Department to overcome the long-term and high-risk technological barriers in the development of transformative science and technology solutions to address the energy and environmental missions of the Department.

(c) Goals**(1) In general**

The goals of ARPA-E shall be—

(A) to enhance the economic and energy security of the United States through the development of energy technologies that—

- (i) reduce imports of energy from foreign sources;
- (ii) reduce energy-related emissions, including greenhouse gases;
- (iii) improve the energy efficiency of all economic sectors;
- (iv) provide transformative solutions to improve the management, clean-up, and disposal of radioactive waste and spent nuclear fuel; and
- (v) improve the resilience, reliability, and security of infrastructure to produce, deliver, and store energy; and

(B) to ensure that the United States maintains a technological lead in developing and deploying advanced energy technologies.

(2) Means

ARPA-E shall achieve the goals established under paragraph (1) through advanced technology projects by—

- (A) identifying and promoting revolutionary advances in fundamental and applied sciences;
- (B) translating scientific discoveries and cutting-edge inventions into technological innovations; and
- (C) accelerating transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty.

(d) Director**(1) Appointment**

There shall be in the Department of Energy a Director of ARPA-E, who shall be appointed by the President, by and with the advice and consent of the Senate.

(2) Qualifications

The Director shall be an individual who, by reason of professional background and experience, is especially qualified to advise the Secretary on, and manage research programs addressing, matters pertaining to long-term and high-risk technological barriers to the development of energy technologies.

(3) Relationship to Secretary

The Director shall report to the Secretary.

(4) Relationship to other programs

No other programs within the Department shall report to the Director.

(e) Responsibilities

The responsibilities of the Director shall include—

(1) approving all new programs within ARPA-E;

(2) developing funding criteria and assessing the success of programs through the establishment of technical milestones;

(3) administering the Fund through awards to institutions of higher education, companies, research foundations, trade and industry research collaborations, or consortia of such entities, which may include federally-funded research and development centers, to achieve the goals described in subsection (c) through targeted acceleration of—

(A) novel early-stage research with possible technology applications;

(B) development of techniques, processes, and technologies, and related testing and evaluation;

(C) research and development of advanced manufacturing process and technologies for the domestic manufacturing of novel energy technologies; and

(D) coordination with nongovernmental entities for demonstration of technologies and research applications to facilitate technology transfer;

(4) terminating programs carried out under this section that are not achieving the goals of the programs; and

(5) pursuant to subsection (c)(2)(C)—

(A) ensuring that applications for funding disclose the extent of current and prior efforts, including monetary investments as appropriate, in pursuit of the technology area for which funding is being requested;

(B) adopting measures to ensure that, in making awards, program managers adhere to the purposes of subsection (c)(2)(C); and

(C) providing as part of the annual report required by subsection (h)(1) a summary of the instances of and reasons for ARPA-E funding projects in technology areas already being undertaken by industry.

(f) Awards

In carrying out this section, the Director may provide awards in the form of grants, contracts, cooperative agreements, cash prizes, and other transactions.

(g) Personnel

(1) In general

The Director shall establish and maintain within ARPA-E a staff with sufficient qualifications and expertise to enable ARPA-E to carry out the responsibilities of ARPA-E under this section in conjunction with other operations of the Department.

(2) Program directors

(A) In general

The Director shall designate employees to serve as program directors for the programs established pursuant to the responsibilities established for ARPA-E under subsection (e).

(B) Responsibilities

A program director of a program shall be responsible for—

(i) establishing research and development goals for the program, including

through the convening of workshops and conferring with outside experts, and publicizing the goals of the program to the public and private sectors;

(ii) soliciting applications for specific areas of particular promise, especially areas that the private sector or the Federal Government are not likely to undertake alone;

(iii) building research collaborations for carrying out the program;

(iv) selecting on the basis of merit each of the projects to be supported under the program after considering—

(I) the novelty and scientific and technical merit of the proposed projects;

(II) the demonstrated capabilities of the applicants to successfully carry out the proposed project;

(III) the consideration by the applicant of future commercial applications of the project, including the feasibility of partnering with 1 or more commercial entities; and

(IV) such other criteria as are established by the Director;

(v) identifying innovative cost-sharing arrangements for ARPA-E projects, including through use of the authority provided under section 16352(b)(3) of this title;

(vi) monitoring the progress of projects supported under the program;

(vii) identifying mechanisms for commercial application of successful energy technology development projects, including through establishment of partnerships between awardees and commercial entities; and

(viii) recommending program restructure or termination of research partnerships or whole projects.

(C) Term

The term of a program manager shall be not more than 3 years and may be renewed.

(3) Hiring and management

(A) In general

The Director shall have the authority to—

(i) make appointments of scientific, engineering, and professional personnel without regard to the civil service laws;

(ii) fix the basic pay of such personnel at a rate to be determined by the Director at rates not in excess of Level II of the Executive Schedule (EX-II) without regard to the civil service laws; and

(iii) pay any employee appointed under this subparagraph payments in addition to basic pay, except that the total amount of additional payments paid to an employee under this subparagraph for any 12-month period shall not exceed the least of the following amounts:

(I) \$25,000.

(II) The amount equal to 25 percent of the annual rate of basic pay of the employee.

(III) The amount of the limitation that is applicable for a calendar year under section 5307(a)(1) of title 5.

(B) Number

The Director shall appoint not more than 120 personnel under this section.

(C) Private recruiting firms

The Secretary, or the Director serving as an agent of the Secretary, may contract with private recruiting firms for the hiring of qualified technical staff to carry out this section.

(D) Additional staff

The Director may use all authorities in existence on August 9, 2007, that are provided to the Secretary to hire administrative, financial, and clerical staff as necessary to carry out this section.

(h) Reports and roadmaps**(1) Annual report**

As part of the annual budget request submitted for each fiscal year, the Director shall provide to the relevant authorizing and appropriations committees of Congress a report that—

(A) describes projects supported by ARPA-E during the previous fiscal year;

(B) describes projects supported by ARPA-E during the previous fiscal year that examine topics and technologies closely related to other activities funded by the Department, and includes an analysis of whether in supporting such projects, the Director is in compliance with subsection (i)(1); and

(C) describes current, proposed, and planned projects to be carried out pursuant to subsection (e)(3)(D).

(2) Strategic vision roadmap

Not later than October 1, 2021, and every four years thereafter, the Director shall provide to the relevant authorizing and appropriations committees of Congress a roadmap describing the strategic vision that ARPA-E will use to guide the choices of ARPA-E for future technology investments over the following 4 fiscal years.

(i) Coordination and nonduplication**(1) In general**

To the maximum extent practicable, the Director shall ensure that—

(A) the activities of ARPA-E are coordinated with, and do not duplicate the efforts of, programs and laboratories within the Department and other relevant research agencies; and

(B) ARPA-E does not provide funding for a project unless the prospective grantee demonstrates sufficient attempts to secure private financing or indicates that the project is not independently commercially viable.

(2) Technology Transfer Coordinator

To the extent appropriate, the Director may coordinate technology transfer efforts with the Technology Transfer Coordinator appointed under section 16391 of this title.

(j) Federal demonstration of technologies

The Director shall seek opportunities to partner with purchasing and procurement programs

of Federal agencies to demonstrate energy technologies resulting from activities funded through ARPA-E.

(k) Advice**(1) Advisory committees**

The Director may seek advice on any aspect of ARPA-E from—

(A) an existing Department of Energy advisory committee; and

(B) a new advisory committee organized to support the programs of ARPA-E and to provide advice and assistance on—

(i) specific program tasks; or

(ii) overall direction of ARPA-E.

(2) Additional sources of advice

In carrying out this section, the Director may seek advice and review from—

(A) the President's Committee of Advisors on Science and Technology; and

(B) any professional or scientific organization with expertise in specific processes or technologies under development by ARPA-E.

(l) ARPA-E evaluation**(1) In general**

Not later than 3 years after December 27, 2020, the Secretary is authorized to enter into a contract with the National Academy of Sciences under which the National Academy shall conduct an evaluation of how well ARPA-E is achieving the goals and mission of ARPA-E.

(2) Inclusions

The evaluation may include—

(A) a recommendation on whether ARPA-E should be continued or terminated; and

(B) a description of lessons learned from operation of ARPA-E, and the manner in which those lessons may apply to the operation of other programs of the Department.

(3) Availability

On completion of the evaluation, the evaluation shall be made available to Congress and the public.

(m) Existing authorities

The authorities granted by this section are—

(1) in addition to existing authorities granted to the Secretary; and

(2) are not intended to supersede or modify any existing authorities.

(n) Protection of information

The following types of information collected by ARPA-E from recipients of financial assistance awards shall be considered commercial and financial information obtained from a person and privileged or confidential and not subject to disclosure under section 552(b)(4) of title 5:

(1) Plans for commercialization of technologies developed under the award, including business plans, technology-to-market plans, market studies, and cost and performance models.

(2) Investments provided to an awardee from third parties (such as venture capital firms, hedge funds, and private equity firms), including amounts and the percentage of ownership of the awardee provided in return for the investments.

(3) Additional financial support that the awardee—

- (A) plans to or has invested into the technology developed under the award; or
- (B) is seeking from third parties.

(4) Revenue from the licensing or sale of new products or services resulting from research conducted under the award.

(o) Funding

(1) Fund

There is established in the Treasury of the United States a fund, to be known as the “Energy Transformation Acceleration Fund”, which shall be administered by the Director for the purposes of carrying out this section.

(2) Authorization of appropriations

Subject to paragraph (4), there are authorized to be appropriated to the Director for deposit in the Fund, without fiscal year limitation—

- (A) \$435,000,000 for fiscal year 2021;
- (B) \$500,000,000 for fiscal year 2022;
- (C) \$575,000,000 for fiscal year 2023;
- (D) \$662,000,000 for fiscal year 2024; and
- (E) \$761,000,000 for fiscal year 2025.

(3) Separate budget and appropriation

(A) Budget request

The budget request for ARPA-E shall be separate from the rest of the budget of the Department.

(B) Appropriations

Appropriations to the Fund shall be separate and distinct from the rest of the budget for the Department.

(4) Allocation

Of the amounts appropriated for a fiscal year under paragraph (2)—

- (A) not more than 50 percent of the amount shall be used to carry out subsection (e)(3)(D);
- (B) at least 5 percent of the amount shall be used for technology transfer and outreach activities, consistent with the goal described in subsection (c)(2)(C) and within the responsibilities of program directors described in subsection (g)(2)(B)(vii); and
- (C) no funds may be used for construction of new buildings or facilities during the 5-year period beginning on August 9, 2007.

(Pub. L. 110–69, title V, §5012, Aug. 9, 2007, 121 Stat. 621; Pub. L. 111–358, title IX, §904, Jan. 4, 2011, 124 Stat. 4045; Pub. L. 115–246, title II, §202, Sept. 28, 2018, 132 Stat. 3134; Pub. L. 116–260, div. Z, title X, §10001, Dec. 27, 2020, 134 Stat. 2609.)

Editorial Notes

REFERENCES IN TEXT

Level II of the Executive Schedule, referred to in subsec. (g)(3)(A)(ii), is set out in section 5313 of Title 5, Government Organization and Employees.

AMENDMENTS

2020—Subsec. (b). Pub. L. 116–260, §10001(a), substituted “development of transformative science and technology solutions to address the energy and environmental missions of the Department” for “development of energy technologies”.

Subsec. (c)(1)(A). Pub. L. 116–260, §10001(b)(1), added subpar. (A) and struck out former subpar. (A) which read as follows: “to enhance the economic and energy security of the United States through the development of energy technologies that result in—

“(i) reductions of imports of energy from foreign sources;

“(ii) reductions of energy-related emissions, including greenhouse gases; and

“(iii) improvement in the energy efficiency of all economic sectors; and”.

Subsec. (c)(2). Pub. L. 116–260, §10001(b)(2), substituted “advanced technology projects” for “energy technology projects” in introductory provisions.

Subsec. (e)(3)(A). Pub. L. 116–260, §10001(c), struck out “energy” before “research”.

Subsec. (g)(3)(A)(iii). Pub. L. 116–260, §10001(h)(1), substituted “subparagraph” for “subpart” in two places in introductory provisions.

Subsec. (h). Pub. L. 116–260, §10001(d), amended subsec. (h) generally. Prior to amendment, text read as follows:

“(1) ANNUAL REPORT.—As part of the annual budget request submitted for each fiscal year, the Director shall provide to the relevant authorizing and appropriations committees of Congress a report describing projects supported by ARPA-E during the previous fiscal year.

“(2) STRATEGIC VISION ROADMAP.—Not later than October 1, 2010, and October 1, 2013, the Director shall provide to the relevant authorizing and appropriations committees of Congress a roadmap describing the strategic vision that ARPA-E will use to guide the choices of ARPA-E for future technology investments over the following 3 fiscal years.”

Subsec. (i)(1). Pub. L. 116–260, §10001(e), amended par. (1) generally. Prior to amendment, par. (1) read as follows: “To the maximum extent practicable, the Director shall ensure that the activities of ARPA-E are coordinated with, and do not duplicate the efforts of, programs and laboratories within the Department and other relevant research agencies.”

Subsec. (l)(1). Pub. L. 116–260, §10001(f)(1), added par. (1) and struck out former par. (1). Prior to amendment, text read as follows: “After ARPA-E has been in operation for 6 years, the Secretary shall offer to enter into a contract with the National Academy of Sciences under which the National Academy shall conduct an evaluation of how well ARPA-E is achieving the goals and mission of ARPA-E.”

Subsec. (l)(2). Pub. L. 116–260, §10001(f)(2)(A), substituted “may” for “shall” in introductory provisions.

Subsec. (l)(2)(A). Pub. L. 116–260, §10001(f)(2)(B), substituted “a recommendation” for “the recommendation of the National Academy of Sciences”.

Subsec. (o)(2). Pub. L. 116–260, §10001(g), amended par. (2) generally. Prior to amendment, par. (2) authorized appropriations for fiscal years 2008 to 2013.

Subsec. (o)(4)(B). Pub. L. 116–260, §10001(h)(2), substituted “(c)(2)(C)” for “(c)(2)(D)”.

2018—Subsec. (a)(3). Pub. L. 115–246, §202(1), substituted “subsection (o)(1)” for “subsection (n)(1)”.

Subsecs. (n), (o). Pub. L. 115–246, §202(2), (3), added subsec. (n) and redesignated former subsec. (n) as (o).

2011—Subsec. (a)(3). Pub. L. 111–358, §904(1), substituted “subsection (n)(1)” for “subsection (m)(1)”.

Subsec. (c)(2)(A). Pub. L. 111–358, §904(2), inserted “and applied” after “advances in fundamental”.

Subsec. (e)(3)(C). Pub. L. 111–358, §904(3)(A)(i), added subpar. (C) and struck out former subpar. (C) which read as follows: “research and development of manufacturing processes for novel energy technologies; and”.

Subsec. (e)(5). Pub. L. 111–358, §904(3)(A)(ii)–(C), added par. (5).

Subsec. (f). Pub. L. 111–358, §904(5), added subsec. (f). Former subsec. (f) redesignated (g).

Subsec. (g). Pub. L. 111–358, §904(4), redesignated subsec. (f) as (g). Former subsec. (g) redesignated (h).

Subsec. (g)(1). Pub. L. 111–358, §904(6)(B), added par. (1). Former par. (1) redesignated (2).

Subsec. (g)(2). Pub. L. 111-358, §904(6)(A),(C)(i), redesignated par. (1) as (2) and substituted “Program directors” for “Program managers” in heading.

Subsec. (g)(2)(A). Pub. L. 111-358, §904(6)(C)(ii), substituted “program directors for” for “program managers for each of”.

Subsec. (g)(2)(B). Pub. L. 111-358, §904(6)(C)(iii)(I), substituted “program director” for “program manager” in introductory provisions.

Subsec. (g)(2)(B)(iv). Pub. L. 111-358, §904(6)(C)(iii)(II), struck out “, with advice under subsection (j) as appropriate,” after “basis of merit” in introductory provisions.

Subsec. (g)(2)(B)(v) to (viii). Pub. L. 111-358, §904(6)(C)(iii)(III)–(VI), added cls. (v) and (vii) and redesignated former cls. (v) and (vi) as (vi) and (viii), respectively.

Subsec. (g)(2)(C). Pub. L. 111-358, §904(6)(C)(iv), inserted “not more than” after “shall be”.

Subsec. (g)(3). Pub. L. 111-358, §904(6)(A), redesignated par. (2) as (3).

Subsec. (g)(3)(A)(ii), (iii). Pub. L. 111-358, §904(6)(D)(i), added cls. (ii) and (iii) and struck out former cl. (ii) which read as follows: “fix the compensation of such personnel at a rate to be determined by the Director.”

Subsec. (g)(3)(B). Pub. L. 111-358, §904(6)(D)(ii), substituted “not more than 120” for “not less than 70, and not more than 120.”

Subsec. (h). Pub. L. 111-358, §904(4), redesignated subsec. (g) as (h). Former subsec. (h) redesignated (i).

Subsec. (h)(2). Pub. L. 111-358, §904(7), substituted “2010” for “2008” and “2013” for “2011”.

Subsec. (i). Pub. L. 111-358, §904(4), redesignated subsec. (h) as (i). Former subsec. (i) redesignated (j).

Subsec. (j). Pub. L. 111-358, §904(8), added subsec. (j) and struck out former subsec. (j). Prior to amendment, text read as follows: “The Secretary shall make information available to purchasing and procurement programs of Federal agencies regarding the potential to demonstrate technologies resulting from activities funded through ARPA-E.”

Pub. L. 111-358, §904(4), redesignated subsec. (i) as (j). Former subsec. (j) redesignated (k).

Subsecs. (k), (l). Pub. L. 111-358, §904(4), redesignated subsecs. (j) and (k) as (k) and (l), respectively. Former subsec. (l) redesignated (m).

Subsec. (l)(1). Pub. L. 111-358, §904(9)(A), substituted “6 years” for “4 years”.

Subsec. (l)(2)(B). Pub. L. 111-358, §904(9)(B), inserted “, and the manner in which those lessons may apply to the operation of other programs of the Department” after “ARPA-E”.

Subsecs. (m), (n). Pub. L. 111-358, §904(4), redesignated subsecs. (l) and (m) as (m) and (n), respectively.

Subsec. (n)(2)(C) to (E). Pub. L. 111-358, §904(10)(A), added subpars. (C) to (E).

Subsec. (n)(4). Pub. L. 111-358, §904(10)(B), (C), redesignated par. (5) as (4) and struck out former par. (4). Prior to amendment, text read as follows: “No amounts may be appropriated for ARPA-E for fiscal year 2008 unless the amount appropriated for the activities of the Office of Science of the Department for fiscal year 2008 exceeds the amount appropriated for the Office for fiscal year 2007, as adjusted for inflation in accordance with the Consumer Price Index published by the Bureau of Labor Statistics of the Department of Labor.”

Subsec. (n)(4)(B). Pub. L. 111-358, §904(10)(D), substituted “5 percent” for “2.5 percent” and inserted “, consistent with the goal described in subsection (c)(2)(D) and within the responsibilities of program directors described in subsection (g)(2)(B)(vii)” after “outreach activities”.

Subsec. (n)(5). Pub. L. 111-358, §904(10)(C), redesignated par. (5) as (4).

§ 16539. National Laboratory Jobs ACCESS Program

(a) In general

On or after the date that is 180 days after December 20, 2019, the Secretary may establish a

program, to be known as the “Department of Energy National Lab Jobs ACCESS Program”, under which the Secretary may award, on a competitive basis, 5-year grants to eligible entities described in subsection (c) for the Federal share of the costs of pre-apprenticeship programs and apprenticeship programs described in subsection (b).

(b) Pre-apprenticeship and apprenticeship programs described

A pre-apprenticeship program or apprenticeship program described in this subsection is a pre-apprenticeship program or apprenticeship program that—

(1) leads to recognized postsecondary credentials for secondary school and postsecondary students;

(2) is focused on skills and qualifications needed, as determined by the Secretary in consultation with the directors of the National Laboratories, to meet the immediate and ongoing needs of traditional and emerging technician positions (including machinists and cybersecurity technicians) at the National Laboratories and covered facilities of the National Nuclear Security Administration;

(3) is established in consultation with a National Laboratory or covered facility of the National Nuclear Security Administration;

(4) is registered with and approved by the Secretary of Labor or a State apprenticeship agency; and

(5) ensures that participants in the pre-apprenticeship program or apprenticeship program do not displace paid employees.

(c) Eligible entities described

An eligible entity described in this subsection is a workforce intermediary or an eligible sponsor of a pre-apprenticeship program or apprenticeship program that—

(1) demonstrates experience in implementing and providing career planning and career pathways toward pre-apprenticeship programs or apprenticeship programs;

(2)(A) has a relationship with a National Laboratory or covered facility of the National Nuclear Security Administration;

(B) has knowledge of the technician workforce needs of the laboratory or facility and the associated security requirements of the laboratory or facility; and

(C) is eligible to enter into an agreement with the laboratory or facility that would be paid for in part or entirely from grant funds received under this section;

(3) demonstrates the ability to recruit and support individuals who plan to work in relevant technician positions upon the successful completion of the pre-apprenticeship program or apprenticeship program;

(4) provides students who complete the pre-apprenticeship program or apprenticeship program with, or prepares such students for obtaining, a recognized postsecondary credential;

(5) uses related instruction that is specifically aligned with the needs of the laboratory or facility and utilizes workplace learning advisors and on-the-job training to the greatest extent possible; and