

114TH CONGRESS
1ST SESSION

S. _____

To extend, improve, and consolidate energy research and development programs, and for other purposes.

IN THE SENATE OF THE UNITED STATES

Mr. ALEXANDER (for himself, Mr. COONS, Ms. MURKOWSKI, Ms. CANTWELL, Mr. GARDNER, Mrs. FEINSTEIN, and Mr. HEINRICH) introduced the following bill; which was read twice and referred to the Committee on

A BILL

To extend, improve, and consolidate energy research and development programs, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Energy Title of America COMPETES Reauthorization
6 Act of 2015”.

7 (b) TABLE OF CONTENTS.—The table of contents of
8 this Act is as follows:

Sec. 1. Short title; table of contents.

TITLE I—ENERGY TITLE OF AMERICA COMPETES PROGRAMS

Sec. 101. Basic research.

Sec. 102. Advanced Research Projects Agency-Energy.

TITLE II—ELIMINATION AND CONSOLIDATION OF PROGRAMS

Sec. 201. Elimination of program authorities.

Sec. 202. Repeal of authorizations.

Sec. 203. Consolidation of duplicative program authorities.

1 **TITLE I—ENERGY TITLE OF**
 2 **AMERICA COMPETES PRO-**
 3 **GRAMS**

4 **SEC. 101. BASIC RESEARCH.**

5 Section 971(b) of the Energy Policy Act of 2005 (42
 6 U.S.C. 16311(b)) is amended—

7 (1) in paragraph (6), by striking “and” at the
 8 end;

9 (2) in paragraph (7), by striking the period at
 10 the end and inserting a semicolon; and

11 (3) by adding at the end the following:

12 “(8) \$5,271,000,000 for fiscal year 2016;

13 “(9) \$5,485,000,000 for fiscal year 2017;

14 “(10) \$5,704,000,000 for fiscal year 2018;

15 “(11) \$5,932,000,000 for fiscal year 2019; and

16 “(12) \$6,178,000,000 for fiscal year 2020.”.

17 **SEC. 102. ADVANCED RESEARCH PROJECTS AGENCY-EN-**
 18 **ERGY.**

19 Section 5012 of the America COMPETES Act (42
 20 U.S.C. 16538) is amended—

21 (1) in subsection (a)(3), by striking “subsection
 22 (n)(1)” and inserting “subsection (o)(1)”;

1 (2) in subsection (i), by striking paragraph (1)
2 and inserting the following:

3 “(1) IN GENERAL.—To the maximum extent
4 practicable, the Director shall ensure that—

5 “(A) the activities of ARPA-E are coordi-
6 nated with, and do not duplicate the efforts of,
7 programs and laboratories within the Depart-
8 ment and other relevant research agencies; and

9 “(B) ARPA-E does not provide funding
10 for a project unless the prospective grantee
11 demonstrates sufficient attempts to secure pri-
12 vate financing or indicates that the project is
13 not independently commercially viable.”;

14 (3) by redesignating subsection (n) as sub-
15 section (o);

16 (4) by inserting after subsection (m) the fol-
17 lowing:

18 “(n) PROTECTION OF INFORMATION.—The following
19 types of information collected by the ARPA-E from recipi-
20 ents of financial assistance awards shall be considered
21 privileged and confidential and not subject to disclosure
22 under section 552 of title 5, United States Code:

23 “(1) Plans for commercialization of technologies
24 developed under the award, including business plans,

1 technology-to-market plans, market studies, and cost
2 and performance models.

3 “(2) Investments provided to an awardee from
4 third parties (such as venture capital firms, hedge
5 funds, and private equity firms), including amounts
6 and the percentage of ownership of the awardee pro-
7 vided in return for the investments.

8 “(3) Additional financial support that the
9 awardee—

10 “(A) plans to or has invested into the tech-
11 nology developed under the award; or

12 “(B) is seeking from third parties.

13 “(4) Revenue from the licensing or sale of new
14 products or services resulting from research con-
15 ducted under the award.”; and

16 (5) in subsection (o) (as redesignated by para-
17 graph (3))—

18 (A) in paragraph (2)—

19 (i) in the matter preceding subpara-
20 graph (A), by striking “paragraphs (4)
21 and (5)” and inserting “paragraph (4)”;

22 (ii) in subparagraph (D), by striking
23 “and” at the end;

1 (iii) in subparagraph (E), by striking
2 the period at the end and inserting a semi-
3 colon; and

4 (iv) by adding at the end the fol-
5 lowing:

6 “(F) \$291,200,000 for fiscal year 2016;

7 “(G) \$303,600,000 for fiscal year 2017;

8 “(H) \$314,700,000 for fiscal year 2018;

9 “(I) \$327,300,000 for fiscal year 2019;

10 and

11 “(J) \$340,600,000 for fiscal year 2020 .”;

12 and

13 (B) in paragraph (4)(B), by striking
14 “(c)(2)(D)” and inserting “(c)(2)(C)”.

15 **TITLE II—ELIMINATION AND** 16 **CONSOLIDATION OF PROGRAMS**

17 **SEC. 201. ELIMINATION OF PROGRAM AUTHORITIES.**

18 (a) NUCLEAR SCIENCE TALENT EXPANSION PRO-
19 GRAM FOR INSTITUTIONS OF HIGHER EDUCATION.—Sec-
20 tion 5004 of the America COMPETES Act (42 U.S.C.
21 16532) is repealed.

22 (b) HYDROCARBON SYSTEMS SCIENCE TALENT EX-
23 PANSION PROGRAM FOR INSTITUTIONS OF HIGHER EDU-
24 CATION.—

1 (1) IN GENERAL.—Section 5005(e) of the
2 America COMPETES Act (42 U.S.C. 16533(e)) is
3 repealed.

4 (2) CONFORMING AMENDMENTS.—

5 (A) Section 5005(f) of the America COM-
6 PETES Act (42 U.S.C. 16533(f)) is amend-
7 ed—

8 (i) by striking paragraph (2);

9 (ii) by striking the subsection designa-
10 tion and heading and all that follows
11 through “There are” in paragraph (1) and
12 inserting the following:

13 “(f) AUTHORIZATION OF APPROPRIATIONS.—There
14 are”; and

15 (iii) by redesignating subparagraphs
16 (A) through (C) as paragraphs (1) through
17 (3), respectively, and indenting appro-
18 priately.

19 (B) Section 5005 of the America COM-
20 PETES Act (42 U.S.C. 16533) is amended by
21 redesignating subsection (f) as subsection (e).

22 (c) DISCOVERY SCIENCE AND ENGINEERING INNOVA-
23 TION INSTITUTES.—Section 5008 of the America COM-
24 PETES Act (42 U.S.C. 16535) is repealed.

1 (d) ELIMINATION OF DUPLICATIVE AUTHORITY FOR
2 EDUCATION PROGRAMS.—Sections 3181 and 3185 of the
3 Department of Energy Science Education Enhancement
4 Act (42 U.S.C. 7381l, 42 U.S.C. 7381n) are repealed.

5 (e) MENTORING PROGRAM.—Section 3195 of the De-
6 partment of Energy Science Education Enhancement Act
7 (42 U.S.C. 7381r) is repealed.

8 **SEC. 202. REPEAL OF AUTHORIZATIONS.**

9 (a) DEPARTMENT OF ENERGY EARLY CAREER
10 AWARDS FOR SCIENCE, ENGINEERING, AND MATHE-
11 MATICS RESEARCHERS.—Section 5006 of the America
12 COMPETES Act (42 U.S.C. 16534) is amended by strik-
13 ing subsection (h).

14 (b) DISTINGUISHED SCIENTIST PROGRAM.—Section
15 5011 of the America COMPETES Act (42 U.S.C. 16537)
16 is amended by striking subsection (j).

17 (c) PROTECTING AMERICA'S COMPETITIVE EDGE
18 (PACE) GRADUATE FELLOWSHIP PROGRAM.—Section
19 5009 of the America COMPETES Act (42 U.S.C. 16536)
20 is amended by striking subsection (f).

21 **SEC. 203. CONSOLIDATION OF DUPLICATIVE PROGRAM AU-**
22 **THORITIES.**

23 (a) UNIVERSITY NUCLEAR SCIENCE AND ENGINEER-
24 ING SUPPORT.—Section 954 of the Energy Policy Act of
25 2005 (42 U.S.C. 16274) is amended—

1 (1) in subsection (a), by inserting “nuclear
2 chemistry,” after “nuclear engineering,”; and

3 (2) in subsection (b)—

4 (A) by redesignating paragraphs (3)
5 through (5) as paragraphs (4) through (6), re-
6 spectively; and

7 (B) by inserting after paragraph (2) the
8 following:

9 “(3) award grants, not to exceed 5 years in du-
10 ration, to institutions of higher education with exist-
11 ing academic degree programs in nuclear sciences
12 and related fields—

13 “(A) to increase the number of graduates
14 in nuclear science and related fields;

15 “(B) to enhance the teaching and research
16 of advanced nuclear technologies;

17 “(C) to undertake collaboration with indus-
18 try and National Laboratories; and

19 “(D) to bolster or sustain nuclear infra-
20 structure and research facilities of institutions
21 of higher education, such as research and train-
22 ing reactors and laboratories;”.

23 (b) CONSOLIDATION OF DEPARTMENT OF ENERGY
24 EARLY CAREER AWARDS FOR SCIENCE, ENGINEERING,

1 AND MATHEMATICS RESEARCHERS PROGRAM AND DIS-
2 TINGUISHED SCIENTIST PROGRAM.—

3 (1) FUNDING.—Section 971(c) of the Energy
4 Policy Act of 2005 (42 U.S.C. 16311(c)) is amended
5 by adding at the end the following:

6 “(8) For the Department of Energy early ca-
7 reer awards for science, engineering, and mathe-
8 matics researchers program under section 5006 of
9 the America COMPETES Act (42 U.S.C. 16534)
10 and the distinguished scientist program under sec-
11 tion 5011 of that Act (42 U.S.C. 16537),
12 \$150,000,000 for each of fiscal years 2016 through
13 2020, of which not more than 65 percent of the
14 amount made available for a fiscal year under this
15 paragraph may be used to carry out section 5006 or
16 5011 of that Act.”.

17 (2) DEPARTMENT OF ENERGY EARLY CAREER
18 AWARDS FOR SCIENCE, ENGINEERING, AND MATHE-
19 MATICS RESEARCHERS.—Section 5006 of the Amer-
20 ica COMPETES Act (42 U.S.C. 16534) is amend-
21 ed—

22 (A) in subsection (b)(1)—

23 (i) in the matter preceding subpara-
24 graph (A)—

1 (I) by inserting “average” before
2 “amount”; and

3 (II) by inserting “for each year”
4 before “shall”;

5 (ii) in subparagraph (A), by striking
6 “\$80,000” and inserting “\$190,000”; and

7 (iii) in subparagraph (B), by striking
8 “\$125,000” and inserting “\$490,000”;

9 (B) in subsection (c)(1)(C)—

10 (i) in clause (i)—

11 (I) by striking “assistant pro-
12 fessor or equivalent title” and insert-
13 ing “untenured assistant or associate
14 professor”; and

15 (II) by inserting “or” after the
16 semicolon at the end;

17 (ii) by striking clause (ii); and

18 (iii) by redesignating clause (iii) as
19 clause (ii);

20 (C) in subsection (d), by striking “on a
21 competitive, merit-reviewed basis” and inserting
22 “through a competitive process using merit-
23 based peer review.”;

24 (D) in subsection (e)—

1 (i) by striking “(e)” and all that fol-
2 lows through “To be eligible” and inserting
3 the following:

4 “(e) SELECTION PROCESS AND CRITERIA.—To be eli-
5 gible”; and

6 (ii) by striking paragraph (2); and

7 (E) in subsection (f)(1), by striking “non-
8 profit, nondegree-granting research organiza-
9 tions” and inserting “National Laboratories”.

10 (c) SCIENCE EDUCATION PROGRAMS.—Section 3164
11 of the Department of Energy Science Education Enhance-
12 ment Act (42 U.S.C. 7381a) is amended—

13 (1) in subsection (b)—

14 (A) by striking paragraphs (1) and (2) and
15 inserting the following:

16 “(1) IN GENERAL.—The Director of the Office
17 of Science (referred to in this subsection as the “Di-
18 rector”) shall provide for appropriate coordination of
19 science, technology, engineering, and mathematics
20 education programs across all functions of the De-
21 partment.

22 “(2) ADMINISTRATION.—In carrying out para-
23 graph (1), the Director shall—

24 “(A) consult with—

1 “(i) the Assistant Secretary of Energy
2 with responsibility for energy efficiency
3 and renewable energy programs; and

4 “(ii) the Deputy Administrator for
5 Defense Programs of the National Nuclear
6 Security Administration; and

7 “(B) seek to increase the participation and
8 advancement of women and underrepresented
9 minorities at every level of science, technology,
10 engineering, and mathematics education.”; and

11 (B) in paragraph (3)—

12 (i) in subparagraph (D), by striking
13 “and” at the end;

14 (ii) by redesignating subparagraph
15 (E) as subparagraph (F); and

16 (iii) by inserting after subparagraph
17 (D) the following:

18 “(E) represent the Department as the
19 principal interagency liaison for all coordination
20 activities under the President for science, tech-
21 nology, engineering, and mathematics education
22 programs; and”;

23 (2) in subsection (d)—

24 (A) by striking “The Secretary” and in-
25 serting the following:

1 “(1) IN GENERAL.—The Secretary”; and

2 (B) by adding at the end the following:

3 “(2) REPORT.—Not later than 180 days after
4 the date of enactment of this subparagraph, the Di-
5 rector shall submit a report describing the impact of
6 the activities assisted with the Fund established
7 under paragraph (1) to—

8 “(A) the Committee on Science, Space,
9 and Technology of the House of Representa-
10 tives; and

11 “(B) the Committee on Energy and Nat-
12 ural Resources of the Senate.”.

13 (d) PROTECTING AMERICA’S COMPETITIVE EDGE
14 (PACE) GRADUATE FELLOWSHIP PROGRAM.—Section
15 5009 of the America COMPETES Act (42 U.S.C. 16536)
16 is amended—

17 (1) in subsection (c)—

18 (A) in paragraph (1) by striking “, involv-
19 ing” and all that follows through “Secretary”;
20 and

21 (B) in paragraph (2), by striking subpara-
22 graph (B) and inserting the following:

23 “(B) to demonstrate excellent academic
24 performance and understanding of scientific or
25 technical subjects; and”;

1 (2) in subsection (d)(1)(B)(i), by inserting “full
2 or partial” before “graduate tuition”; and
3 (3) in subsection (e), in the matter preceding
4 paragraph (1), by striking “Director of Science, En-
5 gineering, and Mathematics Education” and insert-
6 ing “Director of the Office of Science.”