

**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. GORDON OF TENNESSEE**

Page 60, lines 21 through 24, strike “describing the status” and all that follows through “subsection (b)(5).” and insert “describing—

- 1 (1) any priorities established under subsection
- 2 (b)(5);
- 3 (2) the status of any Federal science agency
- 4 policies related to public access to the results of fed-
- 5 erally funded research; and
- 6 (3) how any policies developed or being devel-
- 7 oped by Federal science agencies, as described in
- 8 paragraph (2), incorporate input from the non-Fed-
- 9 eral stakeholders described in subsection (b)(4).

Page 62, line 15, through page 66, line 13, amend section 212 to read as follows:

10 **SEC. 212. AUTHORIZATION OF APPROPRIATIONS.**

11 (a) FISCAL YEAR 2011.—

- 12 (1) IN GENERAL.—There are authorized to be
- 13 appropriated to the Foundation \$7,481,000,000 for
- 14 fiscal year 2011.

1 (2) SPECIFIC ALLOCATIONS.—Of the amount
2 authorized under paragraph (1)—

3 (A) \$6,020,000,000 shall be made avail-
4 able for research and related activities;

5 (B) \$945,000,000 shall be made available
6 for education and human resources;

7 (C) \$166,000,000 shall be made available
8 for major research equipment and facilities con-
9 struction;

10 (D) \$330,000,000 shall be made available
11 for agency operations and award management;

12 (E) \$4,840,000 shall be made available for
13 the Office of the National Science Board; and

14 (F) \$14,830,000 shall be made available
15 for the Office of Inspector General.

16 (b) FISCAL YEAR 2012.—

17 (1) IN GENERAL.—There are authorized to be
18 appropriated to the Foundation \$8,127,000,000 for
19 fiscal year 2012.

20 (2) SPECIFIC ALLOCATIONS.—Of the amount
21 authorized under paragraph (1)—

22 (A) \$6,496,000,000 shall be made avail-
23 able for research and related activities;

24 (B) \$1,020,000,000 shall be made avail-
25 able for education and human resources;

1 (C) \$235,000,000 shall be made available
2 for major research equipment and facilities con-
3 struction;

4 (D) \$356,000,000 shall be made available
5 for agency operations and award management;

6 (E) \$5,010,000 shall be made available for
7 the Office of the National Science Board; and

8 (F) \$15,350,000 shall be made available
9 for the Office of Inspector General.

10 (c) FISCAL YEAR 2013.—

11 (1) IN GENERAL.—There are authorized to be
12 appropriated to the Foundation \$8,764,000,000 for
13 fiscal year 2013.

14 (2) SPECIFIC ALLOCATIONS.—Of the amount
15 authorized under paragraph (1)—

16 (A) \$7,009,000,000 shall be made avail-
17 able for research and related activities;

18 (B) \$1,100,000,000 shall be made avail-
19 able for education and human resources;

20 (C) \$250,000,000 shall be made available
21 for major research equipment and facilities con-
22 struction;

23 (D) \$384,000,000 shall be made available
24 for agency operations and award management;

1 (E) \$5,180,000 shall be made available for
2 the Office of the National Science Board; and

3 (F) \$15,890,000 shall be made available
4 for the Office of Inspector General.

5 (d) FISCAL YEAR 2014.—

6 (1) IN GENERAL.—There are authorized to be
7 appropriated to the Foundation \$9,436,000,000 for
8 fiscal year 2014.

9 (2) SPECIFIC ALLOCATIONS.—Of the amount
10 authorized under paragraph (1)—

11 (A) \$7,562,000,000 shall be made avail-
12 able for research and related activities;

13 (B) \$1,187,000,000 shall be made avail-
14 able for education and human resources;

15 (C) \$250,000,000 shall be made available
16 for major research equipment and facilities con-
17 struction;

18 (D) \$415,000,000 shall be made available
19 for agency operations and award management;

20 (E) \$5,370,000 shall be made available for
21 the Office of the National Science Board; and

22 (F) \$16,440,000 shall be made available
23 for the Office of Inspector General.

24 (e) FISCAL YEAR 2015.—

1 (1) IN GENERAL.—There are authorized to be
2 appropriated to the Foundation \$10,161,000,000 for
3 fiscal year 2015.

4 (2) SPECIFIC ALLOCATIONS.—Of the amount
5 authorized under paragraph (1)—

6 (A) \$8,160,000,000 shall be made avail-
7 able for research and related activities;

8 (B) \$1,281,000,000 shall be made avail-
9 able for education and human resources;

10 (C) \$250,000,000 shall be made available
11 for major research equipment and facilities con-
12 struction;

13 (D) \$447,000,000 shall be made available
14 for agency operations and award management;

15 (E) \$5,550,000 shall be made available for
16 the Office of the National Science Board; and

17 (F) \$17,020,000 shall be made available
18 for the Office of Inspector General.

Page 91, lines 3 through 21, strike “(a) SECTION 10
AMENDMENTS” and all that follows through “(b) SEC-
TION 10A AMENDMENTS”.

Page 121, line 8, strike “and”.

Page 121, line 9, insert “and” after the semicolon.

Page 121, after line 9, insert the following new clause:

1 “(ix) carbon capture and sequestra-
2 tion science and engineering;”.

Page 135, strike line 13 and all that follows through line 17 on page 141 and insert the following:

3 **SEC. 402. AUTHORIZATION OF APPROPRIATIONS.**

4 (a) FISCAL YEAR 2011.—

5 (1) IN GENERAL.—There are authorized to be
6 appropriated to the Secretary of Commerce
7 \$991,100,000 for the National Institute of Stand-
8 ards and Technology for fiscal year 2011.

9 (2) SPECIFIC ALLOCATIONS.—Of the amount
10 authorized under paragraph (1)—

11 (A) \$620,000,000 shall be authorized for
12 scientific and technical research and services
13 laboratory activities;

14 (B) \$125,000,000 shall be authorized for
15 the construction and maintenance of facilities;
16 and

17 (C) \$246,100,000 shall be authorized for
18 industrial technology services activities, of
19 which—

1 (i) \$95,000,000 shall be authorized
2 for the Technology Innovation Program
3 under section 28 of the National Institute
4 of Standards and Technology Act (15
5 U.S.C. 278n);

6 (ii) \$141,100,000 shall be authorized
7 for the Manufacturing Extension Partner-
8 ship program under sections 25 and 26 of
9 such Act (15 U.S.C. 278k and 278l); and

10 (iii) \$10,000,000 shall be authorized
11 for the Malcolm Baldrige National Quality
12 Award program under section 17 of the
13 Stevenson-Wydler Technology Innovation
14 Act of 1980 (15 U.S.C. 3711a).

15 (b) FISCAL YEAR 2012.—

16 (1) IN GENERAL.—There are authorized to be
17 appropriated to the Secretary of Commerce
18 \$992,400,000 for the National Institute of Stand-
19 ards and Technology for fiscal year 2012.

20 (2) SPECIFIC ALLOCATIONS.—Of the amount
21 authorized under paragraph (1)—

22 (A) \$657,200,000 shall be authorized for
23 scientific and technical research and services
24 laboratory activities;

1 (B) \$85,000,000 shall be authorized for
2 the construction and maintenance of facilities;
3 and

4 (C) \$250,200,000 shall be authorized for
5 industrial technology services activities, of
6 which—

7 (i) \$89,000,000 shall be authorized
8 for the Technology Innovation Program
9 under section 28 of the National Institute
10 of Standards and Technology Act (15
11 U.S.C. 278n);

12 (ii) \$150,900,000 shall be authorized
13 for the Manufacturing Extension Partner-
14 ship program under sections 25 and 26 of
15 such Act (15 U.S.C. 278k and 278l); and

16 (iii) \$10,300,000 shall be authorized
17 for the Malcolm Baldrige National Quality
18 Award program under section 17 of the
19 Stevenson-Wydler Technology Innovation
20 Act of 1980 (15 U.S.C. 3711a).

21 (c) FISCAL YEAR 2013.—

22 (1) IN GENERAL.—There are authorized to be
23 appropriated to the Secretary of Commerce
24 \$1,079,809,000 for the National Institute of Stand-
25 ards and Technology for fiscal year 2013.

1 (2) SPECIFIC ALLOCATIONS.—Of the amount
2 authorized under paragraph (1)—

3 (A) \$696,700,000 shall be authorized for
4 scientific and technical research and services
5 laboratory activities;

6 (B) \$122,000,000 shall be authorized for
7 the construction and maintenance of facilities;
8 and

9 (C) \$261,109,000 shall be authorized for
10 industrial technology services activities, of
11 which—

12 (i) \$89,000,000 shall be authorized
13 for the Technology Innovation Program
14 under section 28 of the National Institute
15 of Standards and Technology Act (15
16 U.S.C. 278n);

17 (ii) \$161,500,000 shall be authorized
18 for the Manufacturing Extension Partner-
19 ship program under sections 25 and 26 of
20 such Act (15 U.S.C. 278k and 278l); and

21 (iii) \$10,609,000 shall be authorized
22 for the Malcolm Baldrige National Quality
23 Award program under section 17 of the
24 Stevenson-Wydler Technology Innovation
25 Act of 1980 (15 U.S.C. 3711a).

1 (d) FISCAL YEAR 2014.—

2 (1) IN GENERAL.—There are authorized to be
3 appropriated to the Secretary of Commerce
4 \$1,126,227,000 for the National Institute of Stand-
5 ards and Technology for fiscal year 2014.

6 (2) SPECIFIC ALLOCATIONS.—Of the amount
7 authorized under paragraph (1)—

8 (A) \$738,500,000 shall be authorized for
9 scientific and technical research and services
10 laboratory activities;

11 (B) \$124,000,000 shall be authorized for
12 the construction and maintenance of facilities;
13 and

14 (C) \$263,727,000 shall be authorized for
15 industrial technology services activities, of
16 which—

17 (i) \$80,000,000 shall be authorized
18 for the Technology Innovation Program
19 under section 28 of the National Institute
20 of Standards and Technology Act (15
21 U.S.C. 278n);

22 (ii) \$172,800,000 shall be authorized
23 for the Manufacturing Extension Partner-
24 ship program under sections 25 and 26 of
25 such Act (15 U.S.C. 278k and 278l); and

1 (iii) \$10,927,000 shall be authorized
2 for the Malcolm Baldrige National Quality
3 Award program under section 17 of the
4 Stevenson-Wydler Technology Innovation
5 Act of 1980 (15 U.S.C. 3711a).

6 (e) FISCAL YEAR 2015.—

7 (1) IN GENERAL.—There are authorized to be
8 appropriated to the Secretary of Commerce
9 \$1,191,955,000 for the National Institute of Stand-
10 ards and Technology for fiscal year 2015.

11 (2) SPECIFIC ALLOCATIONS.—Of the amount
12 authorized under paragraph (1)—

13 (A) \$782,800,000 shall be authorized for
14 scientific and technical research and services
15 laboratory activities;

16 (B) \$133,000,000 shall be authorized for
17 the construction and maintenance of facilities;
18 and

19 (C) \$276,155,000 shall be authorized for
20 industrial technology services activities, of
21 which—

22 (i) \$80,000,000 shall be authorized
23 for the Technology Innovation Program
24 under section 28 of the National Institute

1 of Standards and Technology Act (15
2 U.S.C. 278n);

3 (ii) \$184,900,000 shall be authorized
4 for the Manufacturing Extension Partner-
5 ship program under sections 25 and 26 of
6 such Act (15 U.S.C. 278k and 278l); and

7 (iii) \$11,255,000 shall be authorized
8 for the Malcolm Baldrige National Quality
9 Award program under section 17 of the
10 Stevenson-Wydler Technology Innovation
11 Act of 1980 (15 U.S.C. 3711a).

Page 145, line 17, strike “shared-use” and insert
“user”.

Page 145, after line 24, insert the following:

12 (b) ADDITIONAL DUTIES.—The Director may assign
13 additional duties to the operational units listed in sub-
14 section (a) that are consistent with the missions of such
15 units.

Page 145, line 25, strike “(b)” and insert “(c)”.

Page 147, line 8, strike “to international” and insert
“to the development of international”.

Page 189, lines 15 and 16, strike “Office of Advanced Scientific Computing Research” and insert “Advanced Scientific Computing Research program”.

Page 190, lines 5 and 7, strike “Director” and insert “Secretary”.

Page 194, line 19, strike “REGIONAL AND GLOBAL CLIMATE” and insert “CLIMATE AND EARTH”.

Page 207, line 21, through page 209, line 23, amend section 611 to read as follows:

1 **SEC. 611. AUTHORIZATION OF APPROPRIATIONS.**

2 There are authorized to be appropriated to the Sec-
3 retary for the activities of the Office of Science—

4 (1) \$5,247,000,000 for fiscal year 2011, of
5 which—

6 (A) \$1,875,000,000 shall be for Basic En-
7 ergy Sciences activities under section 604;

8 (B) \$667,000,000 shall be for Biological
9 and Environmental Research activities under
10 section 605; and

11 (C) \$466,000,000 shall be for Advanced
12 Scientific Computing Research activities under
13 section 606;

14 (2) \$5,614,000,000 for fiscal year 2012, of
15 which—

1 (A) \$2,025,000,000 shall be for Basic En-
2 ergy Sciences activities under section 604;

3 (B) \$720,000,000 shall be for Biological
4 and Environmental Research activities under
5 section 605; and

6 (C) \$503,000,000 shall be for Advanced
7 Scientific Computing Research activities under
8 section 606;

9 (3) \$6,007,000,000 for fiscal year 2013, of
10 which—

11 (A) \$2,187,000,000 shall be for Basic En-
12 ergy Sciences activities under section 604;

13 (B) \$778,000,000 shall be for Biological
14 and Environmental Research activities under
15 section 605; and

16 (C) \$544,000,000 shall be for Advanced
17 Scientific Computing Research activities under
18 section 606;

19 (4) \$6,428,000,000 for fiscal year 2014, of
20 which—

21 (A) \$2,362,000,000 shall be for Basic En-
22 ergy Sciences activities under section 604;

23 (B) \$840,000,000 shall be for Biological
24 and Environmental Research activities under
25 section 605; and

1 (C) \$587,000,000 shall be for Advanced
2 Scientific Computing Research activities under
3 section 606; and

4 (5) \$6,878,000,000 for fiscal year 2015, of
5 which—

6 (A) \$2,551,000,000 shall be for Basic En-
7 ergy Sciences activities under section 604;

8 (B) \$907,000,000 shall be for Biological
9 and Environmental Research activities under
10 section 605; and

11 (C) \$634,000,000 shall be for Advanced
12 Scientific Computing Research activities under
13 section 606.

Page 211, lines 17 through 23, amend paragraph
(1) to read as follows:

14 “(1) IN GENERAL.—The Director shall establish
15 and maintain within ARPA-E a staff with sufficient
16 qualifications and expertise to enable ARPA-E to
17 carry out its responsibilities under this section in
18 conjunction with the operations of the rest of the
19 Department.”.

Page 216, lines 14 through 25, amend paragraph
(2) to read as follows:

1 “(2) AUTHORIZATION OF APPROPRIATIONS.—

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

5 “(A) \$300,000,000 for fiscal year 2011;

6 “(B) \$450,000,000 for fiscal year 2012;

7 “(C) \$600,000,000 for fiscal year 2013;

8 “(D) \$800,000,000 for fiscal year 2014;

9 “(E) \$1,000,000,000 for fiscal year 2015;

10 and

11 “(F) such sums as are necessary for each
12 of fiscal years 2016 through 2020.”.



AMENDMENT

**OFFERED BY MR. ROHRABACHER OF CALIFORNIA
TO THE AMENDMENT OFFERED BY MR. GOR-
DON OF TENNESSEE**

In the matter proposed to be inserted on page 216,
lines 14 through 25, strike lines 11 and 12 (and make
the necessary conforming changes).



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MS. EDDIE BERNICE JOHNSON OF
TEXAS**

Page 61, after line 4, insert the following new section:

1 SEC. 124. FULFILLING THE POTENTIAL OF WOMEN IN ACADEMIC SCIENCE AND ENGINEERING.

2
3 (a) DEFINITION.—In this section, the term “Federal
4 science agency” means any Federal agency that is responsible for at least 2 percent of total Federal research and
5
6 development funding to institutions of higher education,
7 according to the most recent data available from the National Science Foundation.

9 (b) WORKSHOPS TO ENHANCE GENDER EQUITY IN
10 ACADEMIC SCIENCE AND ENGINEERING.—

11 (1) IN GENERAL.—Not later than 6 months
12 after the date of enactment of this Act, the Director
13 of the Office of Science and Technology Policy shall
14 develop a uniform policy for all Federal science
15 agencies to carry out a program of workshops that
16 educate program officers, members of grant review
17 panels, institution of higher education STEM de-

1 partment chairs, and other federally funded re-
2 searchers about methods that minimize the effects of
3 gender bias in evaluation of Federal research grants
4 and in the related academic advancement of actual
5 and potential recipients of these grants, including
6 hiring, tenure, promotion, and selection for any
7 honor based in part on the recipient's research
8 record.

9 (2) INTERAGENCY COORDINATION.—The Direc-
10 tor of the Office of Science and Technology Policy
11 shall ensure that programs of workshops across the
12 Federal science agencies are coordinated and sup-
13 ported jointly as appropriate. As part of this proc-
14 ess, the Director of the Office of Science and Tech-
15 nology Policy shall ensure that at least 1 workshop
16 is supported every 2 years among the Federal
17 science agencies in each of the major science and en-
18 gineering disciplines supported by those agencies.

19 (3) ORGANIZATIONS ELIGIBLE TO CARRY OUT
20 WORKSHOPS.—Federal science agencies may carry
21 out the program of workshops under this subsection
22 by making grants to eligible organizations. In addi-
23 tion to any other organizations made eligible by the
24 Federal science agencies, the following organizations
25 are eligible for grants under this subsection:

1 (A) Nonprofit scientific and professional
2 societies and organizations that represent one
3 or more STEM disciplines.

4 (B) Nonprofit organizations that have the
5 primary mission of advancing the participation
6 of women in STEM.

7 (4) CHARACTERISTICS OF WORKSHOPS.—The
8 workshops shall have the following characteristics:

9 (A) Invitees to workshops shall include at
10 least—

11 (i) the chairs of departments in the
12 relevant discipline from at least the top 50
13 institutions of higher education, as deter-
14 mined by the amount of Federal research
15 and development funds obligated to each
16 institution of higher education in the prior
17 year based on data available from the Na-
18 tional Science Foundation;

19 (ii) members of any standing research
20 grant review panel appointed by the Fed-
21 eral science agencies in the relevant dis-
22 cipline;

23 (iii) in the case of science and engi-
24 neering disciplines supported by the De-
25 partment of Energy, the individuals from

1 each of the Department of Energy Na-
2 tional Laboratories with personnel manage-
3 ment responsibilities comparable to those
4 of an institution of higher education de-
5 partment chair; and

6 (iv) Federal science agency program
7 officers in the relevant discipline, other
8 than program officers that participate in
9 comparable workshops organized and run
10 specifically for that agency's program offi-
11 cers.

12 (B) Activities at the workshops shall in-
13 clude research presentations and interactive dis-
14 cussions or other activities that increase the
15 awareness of the existence of gender bias in the
16 grant-making process and the development of
17 the academic record necessary to qualify as a
18 grant recipient, including recruitment, hiring,
19 tenure review, promotion, and other forms of
20 formal recognition of individual achievement,
21 and provide strategies to overcome such bias.

22 (C) Research presentations and other
23 workshop programs, as appropriate, shall in-
24 clude a discussion of the unique challenges

1 faced by women who are members of histori-
2 cally underrepresented groups.

3 (D) Workshop programs shall include in-
4 formation on best practices and the value of
5 mentoring undergraduate and graduate women
6 students as well as outreach to girls earlier in
7 their STEM education.

8 (5) REPORT.—

9 (A) IN GENERAL.—Not later than 5 years
10 after the date of enactment of this Act, the Di-
11 rector of the Office of Science and Technology
12 Policy shall transmit to the Committee on
13 Science and Technology of the House of Rep-
14 resentatives and the Committee on Commerce,
15 Science, and Transportation of the Senate a re-
16 port evaluating the effectiveness of the program
17 carried out under this subsection to reduce gen-
18 der bias towards women engaged in research
19 funded by the Federal Government. The Direc-
20 tor of the Office of Science and Technology Pol-
21 icy shall include in this report any recommenda-
22 tions for improving the evaluation process de-
23 scribed in subparagraph (B).

24 (B) MINIMUM CRITERIA FOR EVALUA-
25 TION.—In determining the effectiveness of the

1 program, the Director of the Office of Science
2 and Technology Policy shall consider, at a min-
3 imum—

4 (i) the rates of participation by
5 invitees in the workshops authorized under
6 this subsection;

7 (ii) the results of attitudinal surveys
8 conducted on workshop participants before
9 and after the workshops;

10 (iii) any relevant institutional policy
11 or practice changes reported by partici-
12 pants; and

13 (iv) for individuals described in para-
14 graph (4)(A)(i) or (iii) who participated in
15 at least 1 workshop 3 or more years prior
16 to the due date for the report, trends in
17 the data for the department represented by
18 the chair or employee including faculty
19 data related to gender as described in sec-
20 tion 216.

21 (C) INSTITUTIONAL ATTENDANCE AT
22 WORKSHOPS.—As part of the report under sub-
23 paragraph (A), the Director of the Office of
24 Science and Technology Policy shall include a
25 list of institutions of higher education science

1 and engineering departments whose representa-
2 tives attended the workshops required under
3 this subsection.

4 (6) MINIMIZING COSTS.—To the extent prac-
5 ticable, workshops shall be held in conjunction with
6 national or regional disciplinary meetings to mini-
7 mize costs associated with participant travel.

8 (c) EXTENDED RESEARCH GRANT SUPPORT AND IN-
9 TERIM TECHNICAL SUPPORT FOR CAREGIVERS.—

10 (1) POLICIES FOR CAREGIVERS.—Not later
11 than 6 months after the date of enactment of this
12 Act, the Director of the Office of Science and Tech-
13 nology Policy shall develop a uniform policy to—

14 (A) extend the period of grant support for
15 federally funded researchers who have
16 caregiving responsibilities; and

17 (B) provide funding for interim technical
18 staff support for federally funded researchers
19 who take a leave of absence for caregiving re-
20 sponsibilities.

21 (2) REPORT.—Upon developing the policy re-
22 quired under paragraph (1), the Director of the Of-
23 fice of Science and Technology Policy shall transmit
24 a copy of the policy to the Committee on Science
25 and Technology of the House of Representatives and

1 to the Committee on Commerce, Science, and Trans-
2 portation of the Senate.

3 (d) COLLECTION OF DATA ON FEDERAL RESEARCH
4 GRANTS.—

5 (1) IN GENERAL.—Each Federal science agency
6 shall collect standardized annual composite informa-
7 tion on demographics, field, award type and budget
8 request, review score, and funding outcome for all
9 applications for research and development grants to
10 institutions of higher education supported by that
11 agency.

12 (2) REPORTING OF DATA.—

13 (A) The Director of the Office of Science
14 and Technology Policy shall establish a policy
15 to ensure uniformity and standardization of
16 data collection required under paragraph (1).

17 (B) Not later than 2 years after the date
18 of enactment of this Act, and annually there-
19 after, each Federal science agency shall submit
20 data collected under paragraph (1) to the Na-
21 tional Science Foundation.

22 (C) The National Science Foundation shall
23 be responsible for storing and publishing all of
24 the grant data submitted under subparagraph
25 (B) in conjunction with the biennial report re-

1 quired under section 37 of the Science and En-
2 gineering Equal Opportunities Act (42 U.S.C.
3 1885d).

Page 71, after line 16, insert the following new section:

4 **SEC. 216. COLLECTION OF DATA ON DEMOGRAPHICS OF**
5 **FACULTY.**

6 (a) COLLECTION OF DATA.—The Director shall re-
7 port, in conjunction with the biennial report required
8 under section 37 of the Science and Engineering Equal
9 Opportunities Act (42 U.S.C. 1885d), statistical sum-
10 mary data on the demographics of STEM discipline fac-
11 ulty at institutions of higher education in the United
12 States. At a minimum, the Director shall consider—

13 (1) the number and percent of faculty by gen-
14 der, race, and age;

15 (2) the number and percent of faculty at each
16 rank, by gender, race, and age;

17 (3) the number and percent of faculty who are
18 in nontenure-track positions, including teaching and
19 research, by gender, race, and age;

20 (4) the number of faculty who are reviewed for
21 promotion, including tenure, and the percentage of
22 that number who are promoted, by gender, race, and
23 age;

1 (5) faculty years in rank by gender, race, and
2 age;

3 (6) faculty attrition by gender, race, and age;

4 (7) the number and percent of faculty hired by
5 rank, gender, race, and age; and

6 (8) the number and percent of faculty in leader-
7 ship positions, including endowed or named chairs,
8 serving on promotion and tenure committees, by
9 gender, race, and age.

10 (b) RECOMMENDATIONS.—The Director shall solicit
11 input and recommendations from relevant stakeholders,
12 including representatives from institutions of higher edu-
13 cation and nonprofit organizations, on the collection of
14 data required under subsection (a), including the develop-
15 ment of standard definitions on the terms and categories
16 to be used in the collection of such data.

17 (c) REPORT TO CONGRESS.—Not later than 2 years
18 after the date of enactment of this Act, the Director shall
19 submit a report to Congress on how the Foundation will
20 gather the demographic data on STEM faculty, includ-
21 ing—

22 (1) a description of the data to be reported and
23 the sources of those data;

24 (2) justification for the exclusion of any data
25 described in paragraph (1); and

1 (3) a list of the definitions for the terms and
2 categories, such as “faculty” and “leadership posi-
3 tions”, to be applied in the reporting of all data de-
4 scribed in paragraph (1).



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OFFERED BY MS. DAHLKEMPER OF
PENNSYLVANIA**

Page 73, line 21, insert “**AND EDUCATION**” after
“**RESEARCH**”.

Page 73, line 22, insert “(a) **MANUFACTURING RE-
SEARCH.—**” before “The Director”.

Page 74, after line 13, insert the following new sub-
section:

1 (b) **MANUFACTURING EDUCATION.—**In order to help
2 ensure a well-trained manufacturing workforce, the Direc-
3 tor shall award grants to strengthen and expand scientific
4 and technical education and training in advanced manu-
5 facturing, including through the Foundation’s Advanced
6 Technological Education program.



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OFFERED BY Mr. Inglis

Page 83, line 7, strike "and".

Page 83, line 11, strike the period and insert ";
and".

Page 83, after line 11, insert the following new
paragraph:

- 1 (4) shall not have utilized Federal funds to en-
- 2 gage in the research for which the prize is being
- 3 awarded.



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OFFERED BY Mr. Neugebauer

Page 91, line 24, insert “, and by striking ‘which may be provided in cash or in-kind’ and inserting ‘which shall be provided in cash’” before the period at the end.



**AMENDMENT TO THE AMENDMENT IN THE
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OFFERED BY MR. EHLERS OF MICHIGAN**

Page 99, line 6, strike “and”.

Page 99, line 14, strike the period and insert “;
and”.

Page 99, after line 14, insert the following new
paragraph:

1 (9) support for initiatives that advance the inte-
2 gration of global challenges such as sustainability
3 into disciplinary and interdisciplinary STEM edu-
4 cation.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. WILSON OF OHIO**

Page 109, line 8, insert “, and students in rural
schools” after “1885b)”.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. WU OF OREGON**

Page 115, after line 4, insert the following new section:

1 SEC. 254. STEM INDUSTRY INTERNSHIP PROGRAMS.

2 (a) IN GENERAL.—The Director shall award grants,
3 on a competitive, merit-reviewed basis, to institutions of
4 higher education, or consortia thereof, to establish or ex-
5 pand partnerships with local or regional private sector en-
6 tities, for the purpose of providing undergraduate students
7 with integrated internship experiences that connect private
8 sector internship experiences with the students' STEM
9 coursework. Such partnerships may also include industry
10 or professional associations.

11 (b) PRIORITY.—In awarding grants under this sec-
12 tion, the Director shall give priority consideration to insti-
13 tutions of higher education or consortia thereof that dem-
14 onstrate significant outreach to and coordination with
15 local or regional private sector entities in developing aca-
16 demic courses designed to provide students with the skills
17 necessary for employment in local or regional companies.

1 (c) REPORT.—Not less than 3 years after the date
2 of enactment of this Act, the Director shall submit a re-
3 port to Congress on the number and total value of awards
4 made under this section, the number of students affected
5 by those awards, and any evidence of the effect of those
6 awards on workforce preparation and jobs placement for
7 participating students.



AMENDMENT

**OFFERED BY MR. BARTLETT OF MARYLAND TO
THE AMENDMENT OFFERED BY MR. WU OF
OREGON**

Page 1, line 2, strike “shall” and insert “may”.

Page 1, line 12, strike “consideration”.

Page 2, line 1, redesignate subsection (c) as subsection (e).

Page 1, after line 17, insert the following new subsections:

1 (c) COST-SHARE.—The Director shall require a 50
2 percent non-Federal cost-share from partnerships estab-
3 lished or expanded under this section.

4 (d) RESTRICTION.—No Federal funds provided under
5 this section may be used—

6 (1) for the purpose of providing stipends or
7 compensation to students for private sector intern-
8 ships; or

9 (2) as payment or reimbursement to private
10 sector entities.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. LUJÁN OF NEW MEXICO**

Page 115, after line 4, insert the following new section:

1 SEC. 254. TRIBAL COLLEGES AND UNIVERSITIES PROGRAM.

2 (a) IN GENERAL.—The Director shall continue to
3 support a program to award grants on a competitive,
4 merit-reviewed basis to tribal colleges and universities (as
5 defined in section 316 of the Higher Education Act of
6 1965 (20 U.S.C. 1059c)), including institutions described
7 in section 317 of such Act (20 U.S.C. 1059d), to enhance
8 the quality of undergraduate STEM education at such in-
9 stitutions and to increase the retention and graduation
10 rates of Native American students pursuing associate's or
11 baccalaureate degrees in STEM.

12 (b) PROGRAM COMPONENTS.—Grants awarded under
13 this section shall support—

14 (1) activities to improve courses and curriculum
15 in STEM;

16 (2) faculty development;

17 (3) stipends for undergraduate students partici-
18 pating in research; and

- 1 (4) other activities consistent with subsection
2 (a), as determined by the Director.
3 (c) INSTRUMENTATION.—Funding provided under
4 this section may be used for instrumentation.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. MCCAUL OF TEXAS**

Page 135, after line 6, insert the following new section:

1 SEC. 304. GREEN ENERGY EDUCATION.

2 (a) SHORT TITLE.—This section may be cited as the
3 “Green Energy Education Act of 2010”.

4 (b) DEFINITION.—For the purposes of this section:

5 (1) DIRECTOR.—The term “Director” means
6 the Director of the National Science Foundation.

7 (2) HIGH PERFORMANCE BUILDING.—The term
8 “high performance building” has the meaning given
9 that term in section 914(a) of the Energy Policy Act
10 of 2005 (42 U.S.C. 16194(a)).

11 (c) GRADUATE TRAINING IN ENERGY RESEARCH
12 AND DEVELOPMENT.—

13 (1) FUNDING.—In carrying out research, devel-
14 opment, demonstration, and commercial application
15 activities authorized for the Department of Energy,
16 the Secretary may contribute funds to the National
17 Science Foundation for the Integrative Graduate
18 Education and Research Traineeship program to

1 support projects that enable graduate education re-
2 lated to such activities.

3 (2) CONSULTATION.—The Director shall con-
4 sult with the Secretary when preparing solicitations
5 and awarding grants for projects described in para-
6 graph (1).

7 (d) CURRICULUM DEVELOPMENT FOR HIGH PER-
8 FORMANCE BUILDING DESIGN.—

9 (1) FUNDING.—In carrying out advanced en-
10 ergy technology research, development, demonstra-
11 tion, and commercial application activities author-
12 ized for the Department of Energy related to high
13 performance buildings, the Secretary may contribute
14 funds to curriculum development activities at the
15 National Science Foundation for the purpose of im-
16 proving undergraduate or graduate interdisciplinary
17 engineering and architecture education related to the
18 design and construction of high performance build-
19 ings, including development of curricula, of labora-
20 tory activities, of training practicums, or of design
21 projects. A primary goal of curriculum development
22 activities supported under this subsection shall be to
23 improve the ability of engineers, architects, land-
24 scape architects, and planners to work together on
25 the incorporation of advanced energy technologies

1 during the design and construction of high perform-
2 ance buildings.

3 (2) CONSULTATION.—The Director shall con-
4 sult with the Secretary when preparing solicitations
5 and awarding grants for projects described in para-
6 graph (1).

7 (3) PRIORITY.—In awarding grants with re-
8 spect to which the Secretary has contributed funds
9 under this subsection, the Director shall give priority
10 to applications from departments, programs, or cen-
11 ters of a school of engineering that are partnered
12 with schools, departments, or programs of design,
13 architecture, landscape architecture, and city, re-
14 gional, or urban planning.



AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE TO H.R. 5116
OFFERED BY Mr. Hall

Amend section 404(a)(3) to read as follows:

- 1 (3) The Engineering Laboratory, whose mission
- 2 is to develop and disseminate advanced manufac-
- 3 turing and construction technologies to the United
- 4 States manufacturing and construction industries
- 5 through activities including measurement science re-
- 6 search, performance metrics, tools for engineering
- 7 applications, and promotion of standards adoption.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE TO H.R. 5116
OFFERED BY MR. EHLERS OF MICHIGAN**

Page 169, strike lines 8 through 11 and insert the following:

1 “(1) criteria that the Secretary shall use to de-
2 termine eligibility for loan guarantees under this sec-
3 tion, including—

4 “(A) whether a borrower is a small- or me-
5 dium-sized manufacturer; and

6 “(B) whether a borrower demonstrates
7 that a market exists for the innovative tech-
8 nology product, or the integral component of
9 such product, to be manufactured, as evidenced
10 by written statements of interest from potential
11 purchasers;



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE TO H.R. 5116
OFFERED BY MR. BARTLETT OF MARYLAND**

Page 170, after line 24, insert the following (and redesignate subsequent provisions accordingly):

1 “(r) MINIMIZING RISK.—The Secretary shall promul-
2 gate regulations and policies to carry out this section in
3 accordance with Office of Management and Budget Cir-
4 cular No. A-129, entitled ‘Policies for Federal Credit Pro-
5 grams and Non-Tax Receivables’, as in effect on the date
6 of enactment of this section.”.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE TO H.R. 5116
OFFERED BY MR. BILBRAY OF CALIFORNIA**

Page 170, after line 24, insert the following (and redesignate subsequent provisions accordingly):

1 “(r) SENSE OF CONGRESS.—It is the Sense of Con-
2 gress that no loan guarantee shall be made under this sec-
3 tion unless the borrower agrees to use a federally-approved
4 electronic employment eligibility verification system to
5 verify the employment eligibility of—

6 “(1) all persons hired during the contract term
7 by the borrower to perform employment duties with-
8 in the United States; and

9 “(2) all persons assigned by the borrower to
10 perform work within the United States on the
11 project.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. LIPINSKI OF ILLINOIS**

Page 183, after line 2, insert the following new sub-
section:

- 1 (g) DOMESTICALLY SOURCED HARDWARE.—
- 2 (1) PLAN.—The Director shall develop a plan
- 3 to increase the percentage of domestically sourced
- 4 hardware for planned and ongoing projects of the
- 5 Department of Energy. In developing this plan, the
- 6 Director shall—
- 7 (A) give consideration to technologies that
- 8 the United States does not currently have the
- 9 capacity to manufacture and to procurement ac-
- 10 tivities that can strengthen United States high-
- 11 technology competitiveness broadly;
- 12 (B) seek opportunities to engage and part-
- 13 ner with domestic manufacturers; and
- 14 (C) annually assess levels of domestically
- 15 available goods relevant to planned and ongoing
- 16 projects of the Office of Science.
- 17 (2) INTERNATIONAL AGREEMENTS.—This sub-
- 18 section shall be applied in a manner consistent with

1 United States obligations under international agree-
2 ments.

3 (3) REPORT TO CONGRESS.—Not later than 1
4 year after the date of enactment of this Act, the Di-
5 rector shall transmit the plan developed under this
6 subsection to the Committee on Energy and Natural
7 Resources of the Senate and the Committee on
8 Science and Technology of the House of Representa-
9 tives, and shall transmit any appropriate updates to
10 those committees.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MRS. BIGGERT OF ILLINOIS**

Page ~~225~~ 183, after line ~~8~~ 2, add the following new sub-
section:

(g)
1 (g) MERIT-REVIEWED STUDY.—As part of the Presi-
2 dent's annual budget request, the Secretary shall include
3 a detailed summary of the degree to which current re-
4 search activities are competitive and merit-reviewed, in-
5 cluding a list of activities that would have been undertaken
6 in the absence of Congressionally-directed projects and an
7 analysis of the effects of increasing the proportion of com-
8 petitive, merit-reviewed activities on the strategic objec-
9 tives of the Office of Science.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. INGLIS OF SOUTH CAROLINA**

Page 186, line 24, insert "including hydrogen,"
after "liquid transportation fuels,".



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE**

OFFERED BY Mr. Smith of Nebraska

Page 187, after line 10, insert the following new paragraph (and make the necessary conforming changes):

1 (2) RESEARCH PLAN.—(A) Not later than 1
2 year after the date of enactment of this Act, the Di-
3 rector shall prepare and transmit to Congress a re-
4 search plan describing how the activities authorized
5 under this subsection will be undertaken.

6 (B) In developing the plan in subparagraph
7 (A), the Director may utilize an existing research
8 plan and update such plan to incorporate the activi-
9 ties identified in paragraph (1).

10 (C) Not later than 3 years after the initial re-
11 port under this paragraph, and at least once every
12 3 years thereafter, the Director shall update the re-
13 search plan and transmit it to Congress.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. BILBRAY OF CALIFORNIA AND
*MR. CARAMENDI OF CALIFORNIA***

Page 202, after line 4, insert the following new sub-
section (and make the necessary conforming changes):

- 1 (e) ENABLING TECHNOLOGY DEVELOPMENT.—The
2 Director shall carry out activities to develop technologies
3 necessary to enable the reliable, sustainable, safe, and eco-
4 nomically competitive operation of a commercial fusion
5 power plant.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. SMITH OF NEBRASKA**

Page 210, after line 25, insert the following new paragraph (and make the necessary conforming changes):

- 1 (3) in subsection (e)—
- 2 (A) by striking “and” at the end of para-
- 3 graph (3)(D);
- 4 (B) by striking the period at the end of
- 5 paragraph (4) and inserting “; and”; and
- 6 (C) by adding at the end the following new
- 7 paragraph:
- 8 “(5) pursuant to subsection (c)(2)(C)—
- 9 “(A) ensuring that applications for funding
- 10 disclose the extent of current and prior efforts,
- 11 including monetary investments as appropriate,
- 12 in pursuit of the technology area for which
- 13 funding is being requested;
- 14 “(B) adopting measures to ensure that, in
- 15 making awards, program managers adhere to
- 16 the objectives in subsection (c)(2)(C); and
- 17 “(C) providing as part of the annual report
- 18 required by subsection (h)(1) a summary of the

- 1 instances of and reasons for ARPA-E funding
- 2 projects in technology areas already being un-
- 3 dertaken by industry.”.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. BARTLETT OF MARYLAND**

Page 215, line 8, through page 216, line 2, amend
subsection (k) to read as follows:

1 “(k) EVENTS.—

2 “(1) The Director is authorized to convene, or
3 organize, and sponsor events that further the objec-
4 tives of ARPA-E, including events that assemble
5 awardees, the most promising applicants for ARPA-
6 E funding, and a broad range of ARPA-E stake-
7 holders (which may include members of relevant sci-
8 entific research and academic communities, govern-
9 ment officials, financial institutions, private inves-
10 tors, entrepreneurs, and other private entities), for
11 the purposes of—

12 “(A) demonstrating projects of ARPA-E
13 awardees;

14 “(B) demonstrating projects of finalists for
15 ARPA-E awards and other energy technology
16 projects;

17 “(C) facilitating discussion of the commer-
18 cial application of energy technologies developed

1 under ARPA-E and other government-spon-
2 sored research and development programs; or

3 “(D) such other purposes as the Director
4 considers appropriate.

5 “(2) Funding for activities described in para-
6 graph (1) shall be provided as part of the technology
7 transfer and outreach activities authorized under
8 subsection (o)(4)(B).’”.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MS. EDDIE BERNICE JOHNSON OF
TEXAS**

Page 223, after line 18, insert the following new subsection (and redesignate the subsequent subsections accordingly):

1 (g) PRIORITY CONSIDERATION.—The Secretary shall
2 give priority consideration to applications in which 1 or
3 more of the institutions under subsection (b)(1)(A) are
4 1890 Land Grant Institutions (as defined in section 2 of
5 the Agricultural Research, Extension, and Education Re-
6 form Act of 1998 (7 U.S.C. 7061)), Predominantly Black
7 Institutions (as defined in section 318 of the Higher Edu-
8 cation Act of 1965 (20 U.S.C. 1059e)), Tribal Colleges
9 or Universities (as defined in section 316(b) of the Higher
10 Education Act of 1965 (20 U.S.C. 1059c(b)), or Hispanic
11 Serving Institutions (as defined in section 318 of the
12 Higher Education Act of 1965 (20 U.S.C. 1059e)).



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY Mr. Hall**

At the end of the bill, add the following new title:

**1 TITLE VII—PERSONS WITH
2 DISABILITIES**

3 SEC. 701. PERSONS WITH DISABILITIES.

4 For the purposes of the activities and programs sup-
5 ported by this Act and the amendments made by this Act,
6 institutions of higher education chartered to serve large
7 numbers of students with disabilities, including Gallaudet
8 University, Landmark College, and the National Technical
9 Institute for the Deaf and those with programs serving
10 or those serving disabled veterans, shall receive special
11 consideration and have a designation consistent with the
12 designation for other institutions that serve populations
13 underrepresented in STEM to ensure that institutions of
14 higher education chartered to or serving persons with dis-
15 abilities benefit from such activities and programs.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. PETERS OF MICHIGAN**

Page 224, line 3, strike “or”.

Page 224, line 4, redesignate subparagraph (D) as
subparagraph (E).

Page 224, after line 3, insert the following new sub-
paragraph:

1 (D) that enables advanced vehicles, vehicle
2 components, and related technologies that re-
3 sult in significant energy savings; or



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MRS. BIGGERT OF ILLINOIS**

Page 224, line 17, insert “, including the Department of Energy Federally Funded Research and Development Centers” after “Federal entity”.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. LUJÁN OF NEW MEXICO**

At the end of the bill, add the following new subtitle:

**1 Subtitle D—Cooperative Research
2 and Development Fund**

3 SEC. 641. SHORT TITLE.

4 This subtitle may be cited as the “Cooperative Re-
5 search and Development Fund Authorization Act of
6 2010”.

**7 SEC. 642. COOPERATIVE RESEARCH AND DEVELOPMENT
8 FUND.**

9 (a) IN GENERAL.—The Secretary of Energy shall
10 make funds available to Department of Energy National
11 Laboratories for the Federal share of cooperative research
12 and development agreements. The Secretary of Energy
13 shall determine the apportionment of such funds to each
14 Department of Energy National Laboratory and shall en-
15 sure that special consideration is given to small business
16 firms and consortia involving small business firms in the
17 selection process for which cooperative research and devel-
18 opment agreements will receive such funds.

1 (b) REPORTING.—Each year the Secretary shall sub-
2 mit to Congress a report that describes how funds were
3 expended under this subtitle.

4 (c) AUTHORIZATION OF APPROPRIATIONS.—There
5 are authorized to be appropriated to the Secretary such
6 sums as are necessary to carry out this section each fiscal
7 year.



AMENDMENT

**OFFERED BY MRS. BIGGERT OF ILLINOIS TO THE
AMENDMENT OFFERED BY MR. LUJAN OF
NEW MEXICO**

Page 2, line 7, insert “No funds allocated for this section shall come from funds allocated for the Office of Science.” after “fiscal year.”.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. BARTLETT OF MARYLAND**

At the end of the bill, add the following new title:

1 TITLE VII—SENSE OF CONGRESS

2 SEC. 701. SENSE OF CONGRESS.

3 It is the sense of Congress that, among the programs
4 and activities authorized in this Act, those that correspond
5 to the recommendations of the National Academy of
6 Sciences' 2005 report entitled "Rising Above the Gath-
7 ering Storm" remain critical to maintaining long-term
8 United States economic competitiveness, and accordingly
9 shall receive funding priority.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE
OFFERED BY MR. HALL OF TEXAS**

In section 632(g)(1)—

- (1) strike “or” at the end of subparagraph (C);
- (2) strike the period at the end of subparagraph (D) and insert “; and”; and
- (3) add at the end the following new subparagraph:

1 (E) that enhances the energy independence
2 and security of the United States by enabling
3 improved or expanded supply and production of
4 domestic energy resources, including coal, oil,
5 and natural gas.



**AMENDMENT TO THE AMENDMENT IN THE
NATURE OF A SUBSTITUTE**

OFFERED BY Mr. Hall

At the end of the bill, add the following new title:

**1 TITLE VII—VETERANS AND
2 SERVICE MEMBERS**

3 SEC. 701. VETERANS AND SERVICE MEMBERS.

4 In awarding scholarships and fellowships under this
5 Act, an institution of higher education shall give pref-
6 erence to applications from veterans and service members,
7 including those who have received or will receive the Af-
8 ghanistan Campaign Medal or the Iraq Campaign Medal
9 as authorized by Public Law 108-234 (10 U.S.C. 1121
10 note; 118 Stat. 655) and Executive Order No. 13363.

