

TITLE \_\_—ENERGY INNOVATION AND WORKFORCE  
DEVELOPMENT

Sec. \_\_01. Short title.

Subtitle A—Funding

Sec. \_\_11. Authorization of appropriations for energy research, development,  
demonstration, and commercial application activities.

Subtitle B—Grand Energy Challenges Research Initiative

Sec. \_\_21. Short title.

Sec. \_\_22. Grand Energy Challenges Research Initiative.

Subtitle C—Improvements to Existing Energy Research and Development  
Programs

Sec. \_\_31. Advanced Research Projects Agency—Energy.

Sec. \_\_32. Domestic vehicle battery manufacturing research.

Sec. \_\_33. Lightweight materials research and development.

Sec. \_\_34. Amendments to the Methane Hydrate Research and Development  
Act of 2000.

Sec. \_\_35. Program to exploit low-Btu gas and conserve helium resources.

Sec. \_\_36. Office of Arctic Energy.

Subtitle D—Energy Workforce Development

Sec. \_\_41. Short title.

Sec. \_\_42. Standards for energy career academies.

Sec. \_\_43. Energy career academies.

Sec. \_\_44. Energy utility trades program for community colleges.

Sec. \_\_45. Student awareness of energy career opportunities.

Sec. \_\_46. Coordination of energy workforce training programs.

Sec. \_\_47. Direct hire authority.

Sec. \_\_48. Critical pay authority.

Sec. \_\_49. Reemployment of civilian retirees.

Subtitle E—Strengthening Education and Training in the Subsurface  
Geosciences and Engineering for Energy Development

Sec. \_\_61. Short title.

Sec. \_\_62. Definitions.

Sec. \_\_63. Policy.

Sec. \_\_64. Research personnel and programs.

Sec. \_\_65. Scholarships and fellowships.

Sec. \_\_66. Career technical and community college education.

Sec. \_\_67. Use of funds by institutions.

Sec. \_\_68. Advisory Committee.

Sec. \_\_69. Office; regulations.

Sec. \_\_70. Authorization of appropriations.

Sec. \_\_71. Study of availability of skilled workers.

Subtitle F—Miscellaneous

Sec. \_\_81. Other transactions authority.  
Sec. \_\_82. Definition of National Laboratory.  
Sec. \_\_83. Protection of results.

1 **TITLE \_\_ —ENERGY INNOVATION**  
2 **AND WORKFORCE DEVELOP-**  
3 **MENT**

4 **SEC. \_\_01. SHORT TITLE.**

5 This title may be cited as the “Energy Innovation  
6 and Workforce Development Act of 2009”.

7 **Subtitle A—Funding**

8 **SEC. \_\_11. AUTHORIZATION OF APPROPRIATIONS FOR EN-**  
9 **ERGY RESEARCH, DEVELOPMENT, DEM-**  
10 **ONSTRATION, AND COMMERCIAL APPLICA-**  
11 **TION ACTIVITIES.**

12 (a) ENERGY EFFICIENCY; DISTRIBUTED ENERGY  
13 AND ELECTRIC ENERGY SYSTEMS; RENEWABLE EN-  
14 ERGY.—

15 (1) IN GENERAL.—There are authorized to be  
16 appropriated to the Secretary to carry out research,  
17 development, demonstration, and commercial appli-  
18 cation activities described in paragraph (2)—

19 (A) \$1,974,000,000 for fiscal year 2010;

20 (B) \$2,388,000,000 for fiscal year 2011;

21 (C) \$2,821,000,000 for fiscal year 2012;

22 and

23 (D) \$3,258,000,000 for fiscal year 2013.

24 (2) ACTIVITIES.—Paragraph (1) applies to—

1 (A) energy efficiency and conservation re-  
2 search, development, demonstration, and com-  
3 mercial application activities, including activi-  
4 ties authorized under subtitle A of title IX of  
5 the Energy Policy Act of 2005 (42 U.S.C.  
6 16191 et seq.);

7 (B) distributed energy and electric energy  
8 system activities, including activities authorized  
9 under subtitle B of title IX of that Act (42  
10 U.S.C. 16211 et seq.); and

11 (C) renewable energy research, develop-  
12 ment, demonstration, and commercial applica-  
13 tion activities, including activities authorized  
14 under subtitle C of title IX of that Act (42  
15 U.S.C. 16231 et seq.).

16 (b) NUCLEAR ENERGY.—Section 951 of the Energy  
17 Policy Act of 2005 (42 U.S.C. 16271) is amended by  
18 striking subsection (b) and inserting the following:

19 “(b) AUTHORIZATION OF APPROPRIATIONS FOR  
20 CORE PROGRAMS.—There are authorized to be appro-  
21 priated to the Secretary to carry out nuclear energy re-  
22 search, development, demonstration, and commercial ap-  
23 plication activities, including activities authorized under  
24 this subtitle—

25 “(1) \$998,000,000 for fiscal year 2010;

1           “(2) \$1,196,000,000 for fiscal year 2011;

2           “(3) \$1,394,000,000 for fiscal year 2012; and

3           “(4) \$1,592,000,000 for fiscal year 2013.”.

4           (c) FOSSIL ENERGY.—Section 961(b) of the Energy  
5 Policy Act of 2005 (42 U.S.C. 16291(b)) is amended—

6           (1) in paragraph (2), by striking “and” after  
7 the semicolon at the end;

8           (2) in paragraph (3), by striking the period at  
9 the end and inserting a semicolon; and

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

11           “(4) \$1,074,000,000 for fiscal year 2010;

12           “(5) \$1,272,000,000 for fiscal year 2011;

13           “(6) \$1,470,000,000 for fiscal year 2012; and

14           “(7) \$1,668,000,000 for fiscal year 2013.”.

15           (d) OFFICE OF SCIENCE.—Section 971(b) of the En-  
16 ergy Policy Act of 2005 (42 U.S.C. 16311(b)) is amend-  
17 ed—

18           (1) in paragraph (3), by striking “and” after  
19 the semicolon at the end; and

20           (2) by striking paragraph (4) and inserting the  
21 following:

22           “(4) \$5,800,000,000 for fiscal year 2010;

23           “(5) \$6,468,740,000 for fiscal year 2011;

24           “(6) \$7,214,586,000 for fiscal year 2012; and

25           “(7) \$8,046,427,000 for fiscal year 2013.”.

1           **Subtitle B—Grand Energy**  
2           **Challenges Research Initiative**

3   **SEC. 21. SHORT TITLE.**

4           This subtitle may be cited as the “Grand Energy  
5 Challenges Research Initiative Act”.

6   **SEC. 22. GRAND ENERGY CHALLENGES RESEARCH INITIA-**  
7                                   **TIVE.**

8           (a) ESTABLISHMENT.—The Secretary, acting  
9 through the Under Secretary for Science and the Under  
10 Secretary for Energy (referred to in this section as the  
11 “Under Secretaries”), shall establish a Grand Energy  
12 Challenges Research Initiative for the purposes of accel-  
13 erating the solutions to Grand Energy Challenges through  
14 the establishment of large-scale, multidisciplinary activi-  
15 ties that blend research in basic, applied, and engineering  
16 sciences, technology development, and other relevant dis-  
17 ciplines.

18           (b) ADMINISTRATION.—The Under Secretaries shall  
19 initiate large-scale research activities that bring together  
20 the skills and talents of multiple investigators to enable  
21 high-risk, cross-cutting research of a scope and complexity  
22 that would not be practicable with individual investigators.

23           (c) GRAND ENERGY CHALLENGES.—Not later than  
24 180 days after the date of enactment of this Act, the  
25 Under Secretaries shall publish in the Federal Register

1 a description of Grand Challenges in Energy that in-  
2 cludes—

3 (1) the Challenges described in the Basic Re-  
4 search Needs Workshops reports published by the  
5 Office of Basic Energy Sciences of the Office of  
6 Science of the Department of Energy;

7 (2) the Challenges described in the reports enti-  
8 tled “Directing Matter and Energy: Five Challenges  
9 for Science and the Imagination” and “New Science  
10 for a Secure and Sustainable Energy Future” of the  
11 Basic Energy Sciences Advisory Committee of the  
12 Department of Energy; and

13 (3) the energy-related Challenges described in  
14 the report entitled “Grand Challenges for Engineer-  
15 ing” of the National Academy of Engineering.

16 (d) GRAND CHALLENGE RESEARCH GRANTS.—

17 (1) IN GENERAL.—The Department of Energy  
18 shall carry out the research activities of the Initia-  
19 tive by competitively awarding grants to, entering  
20 into cooperative agreements with, or executing other  
21 transactions with (consistent with section 1007(g) of  
22 the Energy Policy Act of 2005 (42 U.S.C. 7256(g))  
23 consortiums that clearly indicate to the Department  
24 the manner by which the proposed research—

1 (A) is motivated by and is designed to ad-  
2 dress 1 or more of the Grand Energy Chal-  
3 lenges described in subsection (c);

4 (B) will contribute to fundamental sci-  
5 entific, engineering, and technology under-  
6 standing; and

7 (C) will integrate diverse approaches to  
8 solving 1 or more of the Grand Energy Chal-  
9 lenges through a robust management plan de-  
10 signed to achieve success.

11 (2) CONSORTIUMS.—To be eligible for a Grand  
12 Energy Challenge research grant, cooperative agree-  
13 ment, or other transaction, a consortium shall—

14 (A) be made up of 1 or more of the fol-  
15 lowing groups—

16 (i) institutions of higher education;

17 (ii) National Laboratories of the De-  
18 partment of Energy;

19 (iii) Federally-funded research and de-  
20 velopment centers;

21 (iv) private industry; and

22 (v) not-for-profit institutions;

23 (B) be comprised of at least 1 non-Federal  
24 entity; and

1 (C) develop a multiyear road map that pro-  
2 vides achievable metrics for overcoming the  
3 Grand Energy Challenges described in sub-  
4 section (c).

5 (e) AUTHORIZATION OF APPROPRIATIONS.—There  
6 are authorized to be appropriated to such sums as are nec-  
7 essary to carry out this section for each of fiscal years  
8 2010 through 2019.

9 **Subtitle C—Improvements to Exist-**  
10 **ing Energy Research and Devel-**  
11 **opment Programs**

12 **SEC. 31. ADVANCED RESEARCH PROJECTS AGENCY—EN-**  
13 **ERGY.**

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

16 (1) in subsection (a)(3), by striking “subsection  
17 (m)(1)” and inserting “subsection (n)(1)”;

18 (2) in subsection (c)(1)(A)—

19 (A) in the matter preceding clause (i), by  
20 striking “energy technologies” and inserting  
21 “technologies”; and

22 (B) in clause (ii), by striking “, including  
23 greenhouse gases” and inserting “and green-  
24 house gas emissions from all sources”;



1           (3) in subsection (e)(1), by striking “all” and  
2           inserting “the initiation of”;

3           (4) by redesignating subsections (f) through  
4           (m) as subsections (g) through (n), respectively;

5           (5) by inserting after subsection (e) the fol-  
6           lowing:

7           “(f) ADMINISTRATION.—In carrying out this section,  
8           ARPA-E may initiate and execute grants, contracts, coop-  
9           erative agreements, and other transactions separate from  
10          the Department of Energy.”;

11          (6) in subsection (g)(1)(B)(iv) (as redesignated  
12          by paragraph (4)), by striking “subsection (j)” and  
13          inserting “subsection (k)”;

14          (7) in subsection (h)(2) (as redesignated by  
15          paragraph (4))—

16                  (A) by striking “2008” and inserting  
17                  “2009”; and

18                  (B) by striking “2011” and inserting  
19                  “2012”; and

20          (8) in subsection (l)(1) (as redesignated by  
21          paragraph (4)), by striking “4 years” and inserting  
22          “7 years”; and

23          (9) in subsection (n)(2)(B) (as redesignated by  
24          paragraph (4)), by striking “and 2010” and insert-  
25          ing “through 2020”.

1 **SEC. 32. DOMESTIC VEHICLE BATTERY MANUFACTURING**  
2 **RESEARCH.**

3 The United States Energy Storage Competitiveness  
4 Act of 2007 (42 U.S.C. 17231) is amended—

5 (1) by redesignating subsections (l) through (p)  
6 as subsections (m) through (q), respectively;

7 (2) by inserting after subsection (k) the fol-  
8 lowing:

9 “(1) DOMESTIC VEHICLE BATTERY MANUFACTURING  
10 RESEARCH.—

11 “(1) IN GENERAL.—The Secretary, acting  
12 through the Assistant Secretary for Energy Effi-  
13 ciency and Renewable Energy, shall conduct a re-  
14 search program on manufacturing batteries and bat-  
15 tery systems to support electric drive vehicles.

16 “(2) PURPOSES.—The purpose of the program  
17 shall be to improve existing processes, or develop  
18 new manufacturing processes, to enable higher qual-  
19 ity and less expensive energy batteries for electric  
20 drive vehicles.

21 “(3) PARTICIPANTS.—The program shall be  
22 conducted by teams of researchers, which may in-  
23 clude—

24 “(A) energy storage systems manufactur-  
25 ers;

1                   “(B) material and equipment suppliers of  
2                   battery and battery system manufacturers;

3                   “(C) electric drive vehicle manufacturers;

4                   “(D) National Laboratories;

5                   “(E) other Federal agencies;

6                   “(F) State and local governments; and

7                   “(G) institutions of higher education.”;

8                   (3) in subsection (n) (as redesignated by para-  
9                   graph (1)), by striking “and (k)” and inserting “(k),  
10                  and (l)”;

11                  (4) in subsection (q) (as redesignated by para-  
12                  graph (1))—

13                         (A) in paragraph (5), by striking “and” at  
14                         the end;

15                         (B) in paragraph (6), by striking the pe-  
16                         riod at the end and inserting “; and”;

17                         (C) by adding at the end the following:

18                                 “(7) the domestic vehicle energy storage manu-  
19                                 facturing research program under subsection (l)  
20                                 such sums as are necessary for each of fiscal years  
21                                 2009 through 2018.”.

1 **SEC. 33. LIGHTWEIGHT MATERIALS RESEARCH AND DE-**  
2 **VELOPMENT.**

3 Section 651 of the Energy Independence and Security  
4 Act of 2007 (42 U.S.C. 17241) is amended by striking  
5 subsection (b) and inserting the following:

6 “(b) AUTHORIZATION OF APPROPRIATIONS.—There  
7 are authorized to be appropriated to carry out this section  
8 \$100,000,000 for the period of fiscal years 2010 through  
9 2013.”.

10 **SEC. 34. AMENDMENTS TO THE METHANE HYDRATE RE-**  
11 **SEARCH AND DEVELOPMENT ACT OF 2000.**

12 (a) FINDINGS.—Section 2 of the Methane Hydrate  
13 Research and Development Act of 2000 (30 U.S.C. 2001)  
14 is amended—

15 (1) in paragraph (4), by striking “and” at the  
16 end;

17 (2) in paragraph (5), by striking the period at  
18 the end and inserting a semicolon; and

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

20 “(6) methane is a powerful greenhouse gas that  
21 may be exchanged between terrestrial methane hy-  
22 drate reservoirs and the atmosphere by natural or  
23 anthropogenic processes; and

24 “(7) the short- and long-term release of meth-  
25 ane from arctic or marine reservoirs may have sig-

1       nificant environmental effects, including global cli-  
2       mate change.”.

3       (b) METHANE HYDRATE RESEARCH AND DEVELOP-  
4       MENT PROGRAM.—

5             (1) IN GENERAL.—Section 4 of the Methane  
6       Hydrate Research and Development Act of 2000 (30  
7       U.S.C. 2003) is amended by striking subsection (b)  
8       and inserting the following:

9       “(b) GRANTS, CONTRACTS, COOPERATIVE AGREE-  
10       MENTS, INTERAGENCY FUNDS TRANSFER AGREEMENTS,  
11       AND FIELD WORK PROPOSALS.—

12             “(1) ASSISTANCE AND COORDINATION.—In car-  
13       rying out the program of methane hydrate research  
14       and development authorized by this section, the Sec-  
15       retary may award grants to, or enter into contracts  
16       or cooperative agreements with, institutions that—

17             “(A) conduct basic and applied research to  
18       identify, explore, assess, and develop methane  
19       hydrate as a commercially viable source of en-  
20       ergy;

21             “(B) identify and characterize methane hy-  
22       drate resources using remote sensing and seis-  
23       mic data;

1           “(C) develop technologies required for effi-  
2           cient and environmentally sound development of  
3           methane hydrate resources;

4           “(D) conduct basic and applied research to  
5           assess and mitigate the environmental impact of  
6           hydrate degassing (including natural degassing  
7           and degassing associated with commercial de-  
8           velopment);

9           “(E) develop technologies to reduce the  
10          risks of drilling through methane hydrates;

11          “(F) conduct exploratory drilling, well test-  
12          ing, and production testing operations on per-  
13          mafrost and nonpermafrost gas hydrates in  
14          support of the activities authorized by this  
15          paragraph, including drilling of 3 or more full-  
16          scale production test wells; or

17          “(G) expand education and training pro-  
18          grams in methane hydrate resource research  
19          and resource development through fellowships  
20          or other means for graduate education and  
21          training.

22          “(2) ENVIRONMENTAL MONITORING.—The Sec-  
23          retary shall conduct a long-term environmental mon-  
24          itoring program to study the effects of production  
25          from methane hydrate reservoirs.

1           “(3) COMPETITIVE PEER REVIEW.—Funds  
2           made available under paragraphs (1) and (2) shall  
3           be made available based on a competitive process  
4           using external scientific peer review of proposed re-  
5           search.”.

6           (2) CONFORMING AMENDMENT.—Section 4(e)  
7           of the Methane Hydrate Research and Development  
8           Act of 2000 (30 U.S.C. 2003(e)) is amended in the  
9           matter preceding paragraph (1) by striking “sub-  
10          section (b)(1)” and inserting “paragraphs (1) and  
11          (2) of subsection (b)”.

12          (c) AUTHORIZATION OF APPROPRIATIONS.—The  
13          Methane Hydrate Research and Development Act of 2000  
14          is amended by striking section 7 (30 U.S.C. 2006) and  
15          inserting the following:

16          **“SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

17          “‘There are authorized to be appropriated to the Sec-  
18          retary to carry out this Act, to remain available until ex-  
19          pended—

20                  “(1) for use in carrying out section 4(b)(1)—

21                          “(A) \$60,000,000 for fiscal year 2011;

22                          “(B) \$70,000,000 for fiscal year 2012;

23                          “(C) \$80,000,000 for fiscal year 2013;

24                          “(D) \$90,000,000 for fiscal year 2014;

25                          and

1                   “(E) \$90,000,000 for fiscal year 2015; and  
2                   “(2) for use in carrying out section 4(b)(2),  
3           \$10,000,000 for each of fiscal years 2010 through  
4           2015.”.

5 **SEC. 35. PROGRAM TO EXPLOIT LOW-BTU GAS AND CON-**  
6 **SERVE HELIUM RESOURCES.**

7           (a) **DEFINITION OF LOW-BTU GAS.**—In this section,  
8 the term “low-Btu gas” means a fuel gas with a heating  
9 value of less than 250 Btu per cubic foot measured as  
10 the higher heating value resulting from the inclusion of  
11 noncombustible gases, including nitrogen, helium, argon,  
12 and carbon dioxide.

13           (b) **AUTHORIZATION.**—The Secretary shall support  
14 programs of research, development, commercial applica-  
15 tion, and conservation to expand the domestic production  
16 of low-Btu gas and helium resources, including the pro-  
17 grams described in subsection (c).

18           (c) **PROGRAMS.**—

19                   (1) **MEMBRANE TECHNOLOGY RESEARCH.**—The  
20 Secretary, in consultation with other appropriate  
21 agencies, shall support a civilian research program  
22 to develop advanced membrane technology that is  
23 used in the separation of gases from applications, in-  
24 cluding those that—



1 (A) pull off constituent gases that lower  
2 the Btu content of natural gas; or

3 (B) pull gases from landfills and separate  
4 out methane.

5 (2) HELIUM SEPARATION TECHNOLOGY.—The  
6 Secretary shall support a research program to de-  
7 velop technologies for separating, gathering, and  
8 processing helium in low concentrations that occurs  
9 naturally in geologic reservoirs or formations, includ-  
10 ing low-Btu gas production streams.

11 (3) INDUSTRIAL HELIUM PROGRAM.—The Sec-  
12 retary, working through the Industrial Technologies  
13 Program of the Department of Energy, shall support  
14 a research program—

15 (A) to develop technologies for recycling,  
16 reprocessing, and reusing helium; and

17 (B) to develop industrial gathering tech-  
18 nologies to capture helium from other chemical  
19 processing, including ammonia processing.

20 (d) INCENTIVES FOR INNOVATIVE TECHNOLOGIES.—  
21 Section 1703(b) of the Energy Policy Act of 2005 (42  
22 U.S.C. 16513(b)) is amended by adding at the end the  
23 following:

24 “(11) Low-Btu gas (as defined in section  
25 \_\_\_36(a) of the Energy Innovation and Workforce

1 Development Act of 2009) and helium gas  
2 projects.”.

3 **SEC. 36. OFFICE OF ARCTIC ENERGY.**

4 (a) IN GENERAL.—Title II of the Department of En-  
5 ergy Organization Act (42 U.S.C. 7131 et seq.) is amend-  
6 ed by adding at the end the following:

7 **“SEC. 218. OFFICE OF ARCTIC ENERGY.**

8 “(a) ESTABLISHMENT.—The Secretary may establish  
9 within the Department an Office of Arctic Energy (re-  
10 ferred to in this section as the ‘Office’).

11 “(b) PURPOSES.—The purposes of the Office shall  
12 be—

13 “(1) to promote research, development, and de-  
14 ployment of electric power technology that is cost-ef-  
15 fective and especially well suited to meet the needs  
16 of rural and remote regions of the United States, es-  
17 pecially regions in which permafrost is present or lo-  
18 cated nearby;

19 “(2) to promote research, development, and de-  
20 ployment in regions described in paragraph (1) of—

21 “(A) enhanced oil recovery technology, in-  
22 cluding heavy oil recovery, reinjection of carbon,  
23 and extended reach drilling technologies;

1           “(B) gas-to-liquids technology and liquified  
2           natural gas (including associated transportation  
3           systems);

4           “(C) small hydroelectric facilities, river  
5           turbines, and tidal power; and

6           “(D) natural gas hydrates, coal bed meth-  
7           ane, and shallow bed natural gas; and

8           “(3) to promote research, development, and de-  
9           ployment in those regions of cold weather of alter-  
10          native energy research, including wind, geothermal,  
11          fuel cells, biomass, ocean hydrokinetic energy, and  
12          solar energy.

13          “(c) LOCATION.—The Secretary shall locate the Of-  
14          fice at an institution of higher education with expertise  
15          and experience in the matters described in subsection (b).

16          “(d) ANNUAL REPORTS.—The Secretary shall submit  
17          to Congress an annual report that describes the research  
18          program that is proposed to carry out subsection (b)(3).

19          “(e) AUTHORIZATION OF APPROPRIATIONS.—There  
20          are authorized to be appropriated to the Secretary to carry  
21          out this section—

22                 “(1) \$15,000,000 for fiscal year 2010;

23                 “(2) \$20,000,000 for fiscal year 2011; and

24                 “(3) \$22,500,000 for fiscal year 2012 and each  
25          fiscal year thereafter.”.

1 (b) CONFORMING AMENDMENTS.—

2 (1) Section 3197 of the Floyd D. Spence Na-  
3 tional Defense Authorization Act for Fiscal Year  
4 2001 (42 U.S.C. 7144d) is repealed.

5 (2) The table of contents in the first section of  
6 the Department of Energy Organization Act (42  
7 U.S.C. 7101) is amended by adding at the end of  
8 the items relating to title II the following:

“Sec. 218. Office of Arctic Energy.”.

9 **Subtitle D—Energy Workforce**  
10 **Development**

11 **SEC. 41. SHORT TITLE.**

12 This subtitle may be cited as the “Energy Workforce  
13 Development Act of 2009”.

14 **SEC. 42. STANDARDS FOR ENERGY CAREER ACADEMIES.**

15 Section 3164 of the Department of Energy Science  
16 Education Enhancement Act (42 U.S.C. 7381a) is amend-  
17 ed—

18 (1) by redesignating subsections (e) through (f)  
19 as subsections (d) through (g), respectively; and

20 (2) by inserting after subsection (b) the fol-  
21 lowing:

22 “(c) ENERGY CAREER ACADEMIES.—The Director of  
23 Science, Engineering, and Mathematics Education shall  
24 establish (using methodologies that are consistent with  
25 methodologies used for smaller learning communities and

1 endorsed by the Association for Career and Technical  
2 Education) best practices for career pathway programs at  
3 public secondary schools that—

4           “(1) prepare students for careers in the energy  
5           technology industry (as defined in section 1101 of  
6           the Energy Policy Act of 2005 (42 U.S.C. 16411);  
7           and

8           “(2) provide sufficient training to allow acad-  
9           emy graduates to secure entry-level employment or  
10          apprenticeships in the energy technology industry.”.

11 **SEC. 43. ENERGY CAREER ACADEMIES.**

12          The Department of Energy Science Education En-  
13          hancement Act is amended—

14               (1) by redesignating sections 3168 and 3169  
15               (42 U.S.C. 7381d, 7381e) as sections 3169 and  
16               3170, respectively; and

17               (2) by inserting after section 3167 (42 U.S.C.  
18               7381e–1) the following:

19 **“SEC. 3168. ENERGY CAREER ACADEMIES.**

20               “(a) PURPOSE.—The purpose of this section is to es-  
21               tablish a program of grants to public secondary schools  
22               to help create or expand energy career academies.

23               “(b) DEFINITIONS.—In this section:

24                       “(1) COMMUNITY COLLEGE.—The term ‘com-  
25                       munity college’ means a junior or community college

1 (as defined in section 312(f) of the Higher Edu-  
2 cation Act of 1965 (20 U.S.C. 1058(f))).

3 “(2) DIRECTOR.—The term ‘Director’ means  
4 the Director of Science, Engineering, and Mathe-  
5 matics Education.

6 “(3) ENERGY CAREER ACADEMY.—The term  
7 ‘energy career academy’ means a public secondary  
8 school that meets the best practices determined by  
9 the Director under section 3164(c).

10 “(c) GRANTS.—From the amounts made available  
11 under subsection (h), the Secretary, acting through the  
12 Director and in consultation with the Secretary of Labor,  
13 shall award renewable 5-year grants to State departments  
14 of education on a competitive basis, to provide assistance  
15 to school districts for the costs of establishing or expand-  
16 ing energy career academies.

17 “(d) FEDERAL AND NON-FEDERAL SHARES.—

18 “(1) FEDERAL SHARE.—The Federal share of  
19 the costs described in subsection (c) shall not exceed  
20 33 percent.

21 “(2) NON-FEDERAL SHARE.—The non-Federal  
22 share of the costs described in subsection (c) shall  
23 be—

24 “(A) not less than 67 percent; and

1                   “(B) provided from non-Federal sources,  
2                   in cash or in kind, fairly evaluated, including  
3                   services.

4           “(e) APPLICATION.—To be eligible to receive a grant  
5 under this section, a school district shall submit to the  
6 Director an application at such time, in such manner, and  
7 containing such information as the Director may require  
8 that describes—

9                   “(1) the process by which, and selection criteria  
10                  with which, the school district will select and des-  
11                  ignate a school to host the proposed energy career  
12                  academy;

13                  “(2) how the State department of education will  
14                  ensure that funds made available under this section  
15                  are used to establish or expand an energy career  
16                  academy;

17                  “(3) how the State department of education will  
18                  use technical assistance and support from the De-  
19                  partment, industry partners, community colleges,  
20                  and other entities with experience and expertise in  
21                  energy workforce training;

22                  “(4) the curricula and materials to be used in  
23                  the energy career academy;

1           “(5) the availability of funds from non-Federal  
2 sources for the costs of the activities authorized  
3 under this section; and

4           “(6) a plan to sustain the program without  
5 Federal funding.

6           “(f) DISTRIBUTION.—In awarding grants under this  
7 section, the Director shall ensure a wide, equitable dis-  
8 tribution of grants among regions of the United States.

9           “(g) EVALUATION AND REPORT.—

10           “(1) EVALUATION.—Each school district that  
11 receives a grant under this section shall develop and  
12 carry out an evaluation and accountability plan for  
13 the activities funded through the grant that meas-  
14 ures the impact of the activities, including measur-  
15 able objectives for student academic achievement,  
16 and job placement statistics for academy graduates.

17           “(2) REPORT TO DIRECTOR.—The State de-  
18 partment of education shall submit to the Director  
19 a report describing the results of the evaluation and  
20 accountability plan.

21           “(3) REPORT TO CONGRESS.—Not later than 2  
22 years after the date of enactment of the Energy  
23 Workforce Development Act of 2009, the Director  
24 shall submit a report describing the impact of the



1 activities assisted with funds made available under  
2 this section to—

3 “(A) the Committee on Science and Tech-  
4 nology of the House of Representatives;

5 “(B) the Committee on Energy and Com-  
6 merce of the House of Representatives;

7 “(C) the Committee on Energy and Nat-  
8 ural Resources of the Senate; and

9 “(D) the Committee on Health, Education,  
10 Labor, and Pensions of the Senate.

11 “(h) AUTHORIZATION OF APPROPRIATIONS.—There  
12 are authorized to be appropriated to carry out this sec-  
13 tion—

14 “(1) \$14,000,000 for fiscal year 2009;

15 “(2) \$22,500,000 for fiscal year 2010; and

16 “(3) \$30,000,000 for fiscal year 2011.”.

17 **SEC. 44. ENERGY UTILITY TRADES PROGRAM FOR COM-**  
18 **MUNITY COLLEGES.**

19 The Protecting America’s Competitive Edge Through  
20 Energy Act (42 U.S.C. 16531 et seq.) is amended—

21 (1) by redesignating sections 5006 through  
22 5012 (42 U.S.C. 16534 through 16538) as sections  
23 5007 through 5013, respectively; and

24 (2) by inserting after section 5005 (42 U.S.C.  
25 16533) the following:

1 **“SEC. 5006. ENERGY UTILITY TRADES PROGRAM FOR COM-**  
2 **MUNITY COLLEGES.**

3 “(a) PURPOSE.—The purpose of this section is to ad-  
4 dress the decline in the number of qualified employees for  
5 the energy utility industry.

6 “(b) DEFINITION OF COMMUNITY COLLEGE.—In this  
7 section, the term ‘community college’ means a junior or  
8 community college (as defined in section 312(f) of the  
9 Higher Education Act of 1965 (20 U.S.C. 1058(f))).

10 “(c) ESTABLISHMENT.—The Secretary shall estab-  
11 lish, in accordance with this section, a program to expand  
12 and enhance the educational capabilities of community col-  
13 leges to prepare students for careers in trades relevant to  
14 the energy utility industry.

15 “(d) GRANTS.—The Secretary shall award competi-  
16 tive grants to community colleges that establish or expand  
17 academic degree programs in the energy utility trades.

18 “(e) PRIORITY.—In evaluating grants under this sec-  
19 tion, the Secretary shall give priority to proposals that in-  
20 volve existing or new partnerships with private industry  
21 or other eligible energy utility entities or involve schools  
22 with underserved populations, as determined by the Sec-  
23 retary.

24 “(f) CRITERIA.—Criteria for a grant awarded under  
25 this section shall be based on—

1           “(1) the potential to attract students to pro-  
2           gram;

3           “(2) academic rigor, as determined by the Sec-  
4           retary;

5           “(3) the ability to offer hands-on learning op-  
6           portunities (including internships and apprentice-  
7           ship) in the energy utility sector;

8           “(4) a demonstrated commitment to partner  
9           with secondary schools to promote careers in the en-  
10          ergy utility industry; and

11          “(5) the long-term sustainability of the program  
12          without Federal funding.

13          “(g) DURATION AND AMOUNT.—

14                 “(1) DURATION.—A grant under this section  
15                 may be—

16                         “(A) up to 5 years in duration; and

17                         “(B) renewed subject to the criteria de-  
18                         scribed in subsection (f).

19                 “(2) AMOUNT.—A community college that re-  
20                 ceives a grant under this section shall be eligible for  
21                 up to \$500,000 for each year of the grant period.

22          “(h) USE OF FUNDS.—A community college that re-  
23          ceives a grant under this section may use the grant to—

24                 “(1) recruit and retain new faculty;

1           “(2) develop core and specialized course con-  
2           tent;

3           “(3) encourage collaboration between faculty  
4           and industry partners;

5           “(4) support outreach efforts to recruit stu-  
6           dents; and

7           “(5) provide scholarships to participating stu-  
8           dents.”.

9   **SEC. 45. STUDENT AWARENESS OF ENERGY CAREER OP-**  
10                           **PORTUNITIES.**

11           Section 1101 of the Energy Policy Act of 2005 (42  
12   U.S.C. 16411) is amended—

13           (1) in subsection (a)—

14                   (A) by redesignating paragraphs (1) and  
15                   (2) as paragraphs (2) and (3), respectively; and

16                   (B) by inserting before paragraph (2) (as  
17                   so redesignated) the following:

18                   “(1) **COMMUNITY COLLEGE.**—The term ‘com-  
19                   munity college’ means a junior or community college  
20                   (as defined in section 312(f) of the Higher Edu-  
21                   cation Act of 1965 (20 U.S.C. 1058(f)).”;

22                   (2) by redesignating subsection (d) as sub-  
23                   section (f); and

24                   (3) by inserting after subsection (e) the fol-  
25                   lowing:

1           “(d) CAREER COUNSELOR OUTREACH.—The Sec-  
2 retary, in consultation with the Secretary of Labor, shall  
3 establish a program to communicate information collected  
4 under subsection (b) on a nationwide basis to—

5           “(1) guidance counselors at secondary schools;  
6           and

7           “(2) career development offices at community  
8 colleges and institutions of higher education.

9           “(e) STUDENT AWARENESS OF ENERGY CAREER OP-  
10 PORTUNITIES.—The Secretary shall create and maintain  
11 a website, and interface with Federal Trio programs, to  
12 provide secondary and postsecondary school students with  
13 information on careers in energy technology industries, in-  
14 cluding—

15           “(1) career information and job descriptions for  
16 the energy technology industry;

17           “(2) projected workforce shortages in the en-  
18 ergy technology industry;

19           “(3) a comprehensive listing and description of  
20 institutions of higher education providing degrees  
21 with a specific focus on the energy technology indus-  
22 try;

23           “(4) a comprehensive listing and description of  
24 community colleges and vocational training pro-

1       grams with a particular focus on the energy tech-  
2       nology industry; and

3               “(5) sources of scholarships and other forms of  
4       financial aid with particular relevance to the energy  
5       technology industry.”.

6   **SEC. 46. COORDINATION OF ENERGY WORKFORCE TRAIN-**  
7               **ING PROGRAMS.**

8       (a) **IN GENERAL.**—Not later than 1 year after the  
9       date of enactment of this Act, the Director of the Office  
10      of Science and Technology Policy shall submit to Congress  
11      a report that surveys energy workforce training programs  
12      funded by Federal agencies, including—

13           (1) programs for training skilled technical per-  
14      sonnel (as defined in section 1101(a) of the Energy  
15      Policy Act of 2005 (42 U.S.C. 16411(a)));

16           (2) undergraduate and graduate degree pro-  
17      grams with course curricula related to the produc-  
18      tion, transmission, and use of energy; and

19           (3) secondary school programs with course cur-  
20      ricula relating to the production, transmission, and  
21      use of energy.

22      (b) **COORDINATION PLAN.**—The plan shall provide—

23           (1) a coordinated Federal strategy for sup-  
24      porting the training of a domestic workforce to sup-

1 port the production, transmission, and use of energy  
2 in the United States; and

3 (2) a 5-year budget profile to support the strat-  
4 egy.

5 **SEC. 47. DIRECT HIRE AUTHORITY.**

6 (a) **IN GENERAL.**—Notwithstanding sections 3304  
7 and 3309 through 3318 of title 5, United States Code,  
8 the Secretary may, upon a determination that there is a  
9 severe shortage of candidates or a critical hiring need for  
10 particular positions, recruit and directly appoint highly  
11 qualified scientists, engineers, or critical technical per-  
12 sonnel into the competitive service.

13 (b) **EXCEPTION.**—The authority granted under sub-  
14 section (a) shall not apply to positions in the excepted  
15 service or the Senior Executive Service.

16 (c) **REQUIREMENTS.**—In exercising the authority  
17 granted under subsection (a), the Secretary shall ensure  
18 that any action taken by the Secretary—

19 (1) is consistent with the merit principles of  
20 section 2301 of title 5, United States Code; and

21 (2) complies with the public notice requirements  
22 of section 3327 of title 5, United States Code.

23 (d) **TERMINATION OF EFFECTIVENESS.**—The au-  
24 thority provided by this section terminates effective on the

1 date that is 2 years after the date of enactment of this  
2 Act.

3 **SEC. 48. CRITICAL PAY AUTHORITY.**

4 (a) IN GENERAL.—Notwithstanding section 5377 of  
5 title 5, United States Code, and without regard to the pro-  
6 visions of that title governing appointments in the com-  
7 petitive service or the Senior Executive Service and chap-  
8 ters 51 and 53 of that title (relating to classification and  
9 pay rates), the Secretary may establish, fix the compensa-  
10 tion of, and appoint individuals to critical positions needed  
11 to carry out the functions of the Department of Energy,  
12 if the Secretary certifies that—

13 (1) the positions—

14 (A) require expertise of an extremely high  
15 level in a scientific or technical field; and

16 (B) the Department of Energy would not  
17 successfully accomplish an important mission  
18 without such an individual; and

19 (2) exercise of the authority is necessary to re-  
20 cruit an individual exceptionally well qualified for  
21 the position.

22 (b) LIMITATIONS.—The authority granted under sub-  
23 section (a) shall be subject to the following conditions:



1           (1) The number of critical positions authorized  
2           by subsection (a) may not exceed 40 at any 1 time  
3           in the Department of Energy.

4           (2) The term of an appointment under sub-  
5           section (a) may not exceed 4 years.

6           (3) An individual appointed under subsection  
7           (a) may not have been a Department of Energy em-  
8           ployee within the 2 years prior to the date of ap-  
9           pointment.

10          (4) Total annual compensation for any indi-  
11          vidual appointed under subsection (a) may not ex-  
12          ceed the highest total annual compensation payable  
13          at the rate determined under section 104 of title 3,  
14          United States Code.

15          (5) An individual appointed under subsection  
16          (a) may not be considered to be an employee for  
17          purposes of subchapter II of chapter 75 of title 5,  
18          United States Code.

19          (c) NOTIFICATION.—Each year, the Secretary shall  
20          submit to Congress a notification that lists each individual  
21          appointed under this section.

22          **SEC. 49. REEMPLOYMENT OF CIVILIAN RETIREES.**

23          (a) IN GENERAL.—Notwithstanding part 553 of title  
24          5, Code of Federal Regulations (relating to reemployment  
25          of civilian retirees to meet exceptional employment needs),

1 or successor regulations, the Secretary may approve the  
2 reemployment of an individual to a particular position  
3 without reduction or termination of annuity if the hiring  
4 of the individual is necessary to carry out a critical func-  
5 tion of the Department of Energy for which suitably quali-  
6 fied candidates do not exist.

7 (b) LIMITATIONS.—An annuitant hired with full sal-  
8 ary and annuities under the authority granted by sub-  
9 section (a)—

10 (1) shall not be considered an employee for pur-  
11 poses of subchapter III of chapter 83 and chapter  
12 84 of title 5, United States Code;

13 (2) may not elect to have retirement contribu-  
14 tions withheld from the pay of the annuitant;

15 (3) may not use any employment under this  
16 section as a basis for a supplemental or recomputed  
17 annuity; and

18 (4) may not participate in the Thrift Savings  
19 Plan under subchapter III of chapter 84 of title 5,  
20 United States Code.

21 (c) LIMITATION ON TERM.—The term of employment  
22 of any individual hired under subsection (a) may not ex-  
23 ceed an initial term of 2 years, with an additional 2-year  
24 appointment under exceptional circumstances.

1 **Subtitle E—Strengthening Edu-**  
2 **cation and Training in the Sub-**  
3 **surface Geosciences and Engi-**  
4 **neering for Energy Develop-**  
5 **ment**

6 **SEC. \_\_61. SHORT TITLE.**

7 This subtitle may be cited as the “Strengthening  
8 Subsurface Geosciences and Engineering for Energy De-  
9 velopment Act of 2009.”

10 **SEC. \_\_62. DEFINITIONS.**

11 In this subtitle:

12 (1) **ABET.**—The term “ABET” means ABET,  
13 Inc., a nationally recognized accreditation organiza-  
14 tion for college and university engineering programs.

15 (2) **ADVISORY COMMITTEE.**—The term “Advi-  
16 sory Committee” means the Advisory Committee es-  
17 tablished under section \_\_68.

18 (3) **CONSORTIUM.**—The term “consortium”  
19 means a research and educational partnership that  
20 may include—

21 (A) institutions of higher education;

22 (B) professional societies or foundations;

23 (C) industry associations;

24 (D) individual business entities;

25 (E) State agencies;

- 1 (F) federally recognized multistate com-  
2 missions and regional organizations;  
3 (G) Federal agencies;  
4 (H) national laboratories;  
5 (I) nongovernmental organizations; and  
6 (J) individuals.

7 (4) INSTITUTION OF HIGHER EDUCATION.—The  
8 term “institution of higher education” has the  
9 meaning given the term in section 101(a) of the  
10 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

11 (5) MINORITY-SERVING INSTITUTION.—The  
12 term “minority-serving institution” means—

13 (A) a part B institution (as defined in sec-  
14 tion 322 of the Higher Education Act of 1965  
15 (20 U.S.C. 1061));

16 (B) a Hispanic-serving institution (as de-  
17 fined in section 502(a) of that Act (20 U.S.C.  
18 1101a(a)));

19 (C) a Tribal College or University;

20 (D) an Alaska Native-serving institution  
21 (as defined in section 317(b) of that Act (20  
22 U.S.C. 1059d(b))); and

23 (E) a Native Hawaiian-serving institution  
24 (as defined in section 317(b) of that Act (20  
25 U.S.C. 1059d(b))).

1           (6) RECOGNIZED PROGRAM.—The term “recog-  
2           nized program” means a program at an institution  
3           of higher education that is—

4                   (A) an engineering program with sub-  
5                   surface applications that is—

6                           (i) accredited by the Engineering Ac-  
7                           creditation Committee or Technology Ac-  
8                           creditation Commission of ABET; and

9                           (ii) focused on petroleum or natural  
10                          gas production, ground water, geothermal  
11                          resources, the production of mineral re-  
12                          sources, the development of permanent un-  
13                          derground workings, and the long-term  
14                          storage of carbon dioxide in subsurface  
15                          areas, as demonstrated by the curriculum  
16                          and the expertise of its faculty; or

17                   (B) a program in geology or geophysics  
18           that—

19                           (i) includes undergraduate or grad-  
20                           uate programs of research and education  
21                           applicable to energy, ground water, and  
22                           mineral development;

23                           (ii) includes programs of research or  
24                           education in exploration for, and produc-  
25                           tion of, such deposits and resources; and

1 (iii) the Secretary, after review by the  
2 Advisory Committee of the program and  
3 its outcomes, determines to be appropriate  
4 for funding under this subtitle.

5 (7) SECRETARY.—The term “Secretary” means  
6 the Secretary of the Interior.

7 (8) TRIBAL COLLEGE OR UNIVERSITY.—The  
8 term “Tribal College or University” has the meaning  
9 given the term in section 316(b) of the Higher Edu-  
10 cation Act of 1965 (20 U.S.C. 1059c(b)).

11 **SEC. 63. POLICY.**

12 It is the policy of the United States to maintain and  
13 expand the human capital needed to preserve and foster  
14 the security of economically viable clean energy, ground  
15 water, and mineral resources of the United States,  
16 through financial assistance for science and technology  
17 programs that educate, train, and retrain the personnel  
18 needed for United States energy, ground water, and min-  
19 eral resources security.

20 **SEC. 64. RESEARCH PERSONNEL AND PROGRAMS.**

21 (a) IN GENERAL.—In support of the policy described  
22 in section 63, the Secretary shall provide research funds  
23 to institutions of higher education to assist recognized pro-  
24 grams in subsurface geosciences and engineering, includ-  
25 ing programs in energy (including geological carbon stor-

1 age), petroleum, ground water, economic geology, mining,  
2 and mineral and geological engineering education and re-  
3 search.

4 (b) CONDITIONS.—All funds provided under sub-  
5 section (a) shall be—

6 (1) directed only to programs recognized by the  
7 Secretary; and

8 (2) subject to this subtitle.

9 (c) TYPES OF RESEARCH.—Research conducted  
10 using funds provided under subsection (a) shall include  
11 studies and research—

12 (1) to enhance basic science and engineering;

13 (2) to provide data to test and improve sci-  
14 entific or engineering hypotheses; and

15 (3) to determine scientific or engineering feasi-  
16 bility to enhance discovery, development, and pro-  
17 duction of energy, ground water, and mineral re-  
18 sources while minimizing environmental impacts.

19 (d) DURATION OF PROGRAM; NUMBER OF STU-  
20 DENTS.—Each institution of higher education receiving  
21 funds under subsection (a) shall—

22 (1) maintain the program for which the funds  
23 are provided for a period of at least 10 years begin-  
24 ning on the date of the last receipt of those funds;  
25 and

1           (2) take steps described in the application for  
2           research funding submitted to the Secretary to in-  
3           crease the number of undergraduate students en-  
4           rolled in and completing the programs of study in  
5           recognized programs with subsurface applications.

6           (e) MINORITY-SERVING INSTITUTIONS.—The Sec-  
7           retary shall give particular consideration to minority-serv-  
8           ing institutions that have an established recognized pro-  
9           gram or that propose to establish a recognized program,  
10          including by—

11           (1) assigning appropriate employees to serve as  
12           mentors and adjunct faculty;

13           (2) transferring appropriate equipment to the  
14           programs; and

15           (3) allowing faculty or students at those institu-  
16           tions free access to appropriate Department train-  
17           ing.

18           (f) CONSORTIA.—Where appropriate, the Secretary  
19           may make funds available to consortia to conduct projects  
20           of broad application that could not otherwise be under-  
21           taken, including national and regional projects in sub-  
22           surface geosciences and engineering, on the condition that  
23           funds provided to any consortium shall be given only to  
24           a single eligible institution of higher education with a rec-  
25           ognized program which shall be responsible for distribu-



1 tion, monitoring, and reporting on the activities of the con-  
2 sortium, as required by the Secretary.

3 **SEC. 65. SCHOLARSHIPS AND FELLOWSHIPS.**

4 (a) IN GENERAL.—The Secretary shall provide funds  
5 to institutions of higher education with recognized pro-  
6 grams for the purpose of providing merit-based scholar-  
7 ships for undergraduate geoscience or engineering edu-  
8 cation with general subsurface applications, and graduate  
9 fellowships in the applied geosciences and subsurface engi-  
10 neering, including applications relating to—

11 (1) petroleum, chemical, mining, geological  
12 (such as geological carbon storage), geophysical,  
13 ground water, or mineral engineering;

14 (2) petroleum geology;

15 (3) geothermal geology;

16 (4) mining and economic geology;

17 (5) petroleum, ground water, and mining geo-  
18 physics;

19 (6) mineral economics;

20 (7) hydrogeology or ground water science; or

21 (8) water treatment and reuse.

22 (b) VETERANS AND SERVICE MEMBERS.—In award-  
23 ing scholarships and fellowships under this section, an in-  
24 stitution of higher education shall give preference to appli-  
25 cations from veterans and service members who have re-

1 ceived or will receive the Afghanistan Campaign Medal or  
2 the Iraq Campaign Medal as authorized by Public Law  
3 108–234 (10 U.S.C. 1121 note; 118 Stat. 655) and Exec-  
4 utive Order No. 13363.

5 (c) REQUIREMENTS FOR RECEIPT OF SCHOLARSHIP  
6 OR FELLOWSHIP.—To receive a scholarship or a graduate  
7 fellowship, an individual student shall—

8 (1) be a lawful permanent resident of the  
9 United States or a United States citizen or national;  
10 and

11 (2) agree in writing to complete a course of  
12 studies and receive a degree in a recognized program  
13 in an area specified in subsection (a).

14 (d) REQUIREMENTS FOR RETENTION OF SCHOLAR-  
15 SHIP OR FELLOWSHIP.—

16 (1) IN GENERAL.—To retain a scholarship or  
17 graduate fellowship awarded under this section, an  
18 individual shall, as determined by the applicable in-  
19 stitution of higher education—

20 (A) continue in 1 of the courses of studies  
21 authorized by this section; and

22 (B) remain in good academic standing.

23 (2) REINSTATEMENT.—An institution of higher  
24 education may allow for reinstatement of a scholar-  
25 ship or graduate fellowship in a case in which an in-

1       dividual failed to maintain good academic standing  
2       but subsequently regained such standing.

3       (e) APPLICATION OF INSTITUTION OF HIGHER EDU-  
4       CATION.—An institution of higher education seeking funds  
5       under this section shall describe, in the application of the  
6       institution of higher education submitted to the Secretary  
7       for the funding—

8               (1) the number of students that would be  
9               awarded scholarships or fellowships if the application  
10              were to be approved;

11              (2) the manner in which those students would  
12              be selected; and

13              (3) the ways in which the requirements of this  
14              section would be enforced.

15 **SEC. \_\_ 66. CAREER TECHNICAL AND COMMUNITY COLLEGE**  
16 **EDUCATION.**

17       (a) IN GENERAL.—The Secretary shall support pro-  
18       grams in subsurface geosciences and engineering that—

19              (1) are focused on technology or skill develop-  
20              ment and the use of that technology or skills in en-  
21              ergy, ground water science or hydrogeology, and  
22              mineral production, and related maintenance, oper-  
23              ational safety, or energy infrastructure protection  
24              and security;

1           (2) prepare students for advanced or super-  
2           visory roles in the geothermal, petroleum, mining,  
3           geological carbon storage, ground water, or mineral  
4           mining industries;

5           (3) grant an associate's degree, a certificate, or  
6           a baccalaureate degree; and

7           (4) prepare students for further higher edu-  
8           cation in the recognized programs.

9           (b) ELIGIBLE PROGRAMS.—

10           (1) IN GENERAL.—Programs that are eligible to  
11           receive support under this section are those that  
12           provide training for individuals seeking to enter the  
13           industries described in subsection (a)(2), such as—

14                   (A) joint apprenticeship programs;

15                   (B) internships in industry, Federal, State,  
16                   or tribal offices;

17                   (C) research experiences at national lab-  
18                   oratories authorized by Federal law; and

19                   (D) other programs at institutions of high-  
20                   er education (including community colleges).

21           (2) CONSIDERATION.—The Secretary shall give  
22           particular consideration to supporting programs that  
23           provide training for a progressive career path in the  
24           industries described in subsection (a)(2).

1           (3) ESSENTIAL SUPPORT.—The Secretary, after  
2           consultation with the Advisory Committee, may offer  
3           support to programs that grant degrees or certifi-  
4           cates in programs that provide training in disciplines  
5           that provide essential support for the industries de-  
6           scribed in subsection (a)(2), including the disciplines  
7           listed in paragraph (4), even if those programs are  
8           not purposely designed to provide personnel for the  
9           industries described in subsection (a)(2).

10           (4) DISCIPLINES.—The disciplines referred to  
11           in paragraph (3) are—

- 12                   (A) power transmission and operation;  
13                   (B) pipeline construction and operation;  
14                   (C) maintenance and maintenance logis-  
15           tics;  
16                   (D) construction;  
17                   (E) manufacturing;  
18                   (F) transportation and warehousing;  
19                   (G) technical support activities (including  
20           data collection, reduction, and analysis) and  
21           laboratory support; and  
22                   (H) water treatment or distribution.

23           (c) ADDITIONAL REQUIREMENTS.—An institution of  
24           higher education that receives funds under this section—

1           (1) shall demonstrate to the Secretary evi-  
2           dence—

3                   (A) of an institutional commitment for the  
4                   purposes of career technical education; and

5                   (B) that the institution of higher education  
6                   has received or will receive industry cooperation  
7                   in the form of equipment, employee time, or do-  
8                   nations of funds to support the activities car-  
9                   ried out under this section;

10           (2) shall agree to maintain the programs for  
11           which the funding is sought for a period of 10 years  
12           beginning on the date on which the institution of  
13           higher education receives the funds, unless the Sec-  
14           retary finds that a shorter period of time is appro-  
15           priate for the local labor market or is required by  
16           State authorities; and

17           (3) may combine the funds with State funds,  
18           and other Federal funds as allowed by applicable  
19           law, to carry out programs described in this section,  
20           on the condition that the use of funds received under  
21           this section is reported to the Secretary not less  
22           than annually.

23           (d) **ADVICE.**—The Secretary shall seek the advice of  
24           the Advisory Committee in determining the criteria used  
25           to carry out this section.

1 **SEC. 67. USE OF FUNDS BY INSTITUTIONS.**

2 (a) **COST-SHARING.**—The Secretary—

3 (1) shall not require cost-sharing by a non-Fed-  
4 eral source for—

5 (A) any research activity that is of a basic  
6 or fundamental nature, as determined by the  
7 appropriate officer of the Department of the In-  
8 terior; or

9 (B) any scholarship or fellowship program;  
10 and

11 (2) shall require appropriate cost-sharing for  
12 research and development activities that are of an  
13 applied, demonstration, or commercial nature, as so  
14 determined.

15 (b) **PROHIBITED USES OF FUNDS.**—No funds made  
16 available under this subtitle shall be applied to—

17 (1) the acquisition by purchase or lease of any  
18 land or interest in land; or

19 (2) the rental, purchase, construction, preserva-  
20 tion, or repair of any building.

21 (c) **MAINTENANCE AND UPGRADING.**—Funds made  
22 available under this subtitle may be used—

23 (1) with the express approval of the Secretary,  
24 for proposals to maintain or upgrade existing labora-  
25 tories, laboratory equipment, or field equipment re-  
26 lated to the funded research; and





1 (e) PUBLIC AVAILABILITY OF INFORMATION.—All  
2 uses, products, processes, and other developments result-  
3 ing from any research, demonstration, or experiment fund-  
4 ed in whole or in part under this subtitle shall be made  
5 available promptly to the general public, subject to—

6 (1) such exceptions or limitations as the Sec-  
7 retary may determine to be necessary in the interest  
8 of national security; and

9 (2) the applicable Federal law governing pat-  
10 ents.

11 **SEC. 68. ADVISORY COMMITTEE.**

12 (a) ESTABLISHMENT OF ADVISORY COMMITTEE.—

13 (1) IN GENERAL.—The Secretary shall establish  
14 an Advisory Committee to assist the Secretary in  
15 carrying out this subtitle.

16 (2) MEMBERSHIP.—

17 (A) VOTING MEMBERS.—The Advisory  
18 Committee shall be composed of 19 voting  
19 members, including—

20 (i) the Assistant Secretary of the Inte-  
21 rior responsible for water and science who  
22 shall serve as the Chairperson of the Advi-  
23 sory Committee; and

24 (ii) not more than 18 additional indi-  
25 viduals, appointed by the Secretary, in con-

1 sultation with interested parties, who are  
2 knowledgeable in the fields of energy, pe-  
3 troleum, geothermal, ground water, min-  
4 ing, and mineral resources research, in-  
5 cluding—

6 (I) 2 individuals who are univer-  
7 sity leaders from an institution of  
8 higher education with at least 1 recog-  
9 nized program;

10 (II) 1 individual who is a commu-  
11 nity or technical college administrator;

12 (III) 1 individual who is a Tribal  
13 College or University administrator;

14 (IV) 1 individual who is a career  
15 technical education educator;

16 (V) 6 individuals who are rep-  
17 resentatives equally distributed from  
18 the energy, mining, and aggregate or  
19 ground water industries;

20 (VI) 1 individual who is a work-  
21 ing miner;

22 (VII) 1 individual who is a work-  
23 ing oilfield worker;

1 (VIII) 1 individual who is a rep-  
2 resentative of the Interstate Oil and  
3 Gas Compact Commission;

4 (IX) 1 individual who is a rep-  
5 resentative of the Interstate Mining  
6 Compact Commission;

7 (X) 1 individual who is a rep-  
8 resentative of State geologists; and

9 (XI) 2 individuals who are rep-  
10 resentatives of the general public.

11 (B) NONVOTING ADVISORS.—The Chair-  
12 person of the Advisory Committee may have  
13 present during meetings individuals who shall  
14 serve as nonvoting, technical advisors to the  
15 Advisory Committee, such as representatives of  
16 Federal agencies with responsibility for—

17 (i) energy, ground water, and min-  
18 erals resources management;

19 (ii) energy, ground water, and mineral  
20 resource investigations;

21 (iii) energy, ground water, and min-  
22 eral commodity information;

23 (iv) international trade in energy,  
24 ground water, and mineral commodities;

1 (v) mining safety regulation and mine  
2 safety research; and

3 (vi) research into the development,  
4 production, and use of energy, ground  
5 water, and mineral commodities.

6 (C) PROHIBITION ON FEDERAL GOVERN-  
7 MENT EMPLOYMENT.—The member of the Ad-  
8 visory Committee appointed under subpara-  
9 graph (A)(ii) shall not be an employee of the  
10 Federal Government.

11 (3) TERM; VACANCIES.—

12 (A) TERM.—Subject to subparagraph (B),  
13 the term of a member the Advisory Committee  
14 shall be 3 years.

15 (B) REAPPOINTMENT.—A member of the  
16 Advisory Committee may be appointed for not  
17 more than 2 3-year terms.

18 (C) VACANCIES.—A vacancy on the Advi-  
19 sory Committee—

20 (i) shall not affect the powers of the  
21 Advisory Committee; and

22 (ii) shall be filled in the same manner  
23 as the original appointment was made.

24 (4) INITIAL MEETING.—Not later than 45 days  
25 after the date on which all members of the Advisory

1       Committee have been appointed, the Advisory Com-  
2       mittee shall hold the initial meeting of the Advisory  
3       Committee.

4           (5) MEETINGS.—The Advisory Committee shall  
5       meet at the call of the Chairperson but not less than  
6       once per year.

7           (6) QUORUM.—A majority of the members of  
8       the Advisory Committee shall constitute a quorum,  
9       but a lesser number of members may hold meetings  
10      and hearings.

11      (b) DUTIES.—The Advisory Committee—

12           (1) shall advise the Secretary on the develop-  
13      ment and implementation of programs under this  
14      subtitle;

15           (2) shall, following completion of the report re-  
16      quired by section 385(c) of the Energy Policy Act of  
17      2005 (Public Law 109–58; 119 Stat. 744)—

18           (A) consider the recommendations of the  
19      report;

20           (B) formulate and recommend a national  
21      plan for using the fiscal resources provided  
22      under this subtitle; and

23           (C) submit the plan to the Secretary for  
24      approval and use by the Secretary in carrying  
25      out this subtitle;

1           (3) shall make recommendations to the Sec-  
2           retary regarding the long-term and short-term viabil-  
3           ity of the faculty at schools with recognized pro-  
4           grams; and

5           (4) may recommend the awarding of graduate  
6           fellowships and postdoctoral fellowships to those stu-  
7           dents who declare their intent to seek roles as future  
8           faculty at the recognized programs.

9           (c) POWERS.—

10           (1) HEARINGS.—The Advisory Committee may  
11           hold such hearings, meet and act at such times and  
12           places, take such testimony, and receive such evi-  
13           dence as the Advisory Committee considers advisable  
14           to carry out this subtitle.

15           (2) INFORMATION FROM FEDERAL AGENCIES.—

16           (A) IN GENERAL.—The Advisory Com-  
17           mittee may secure directly from a Federal agen-  
18           cy such information as the Advisory Committee  
19           considers necessary to carry out this subtitle.

20           (B) PROVISION OF INFORMATION.—On re-  
21           quest of the Chairperson of the Advisory Com-  
22           mittee, the head of the agency shall provide the  
23           information to the Advisory Committee.

24           (3) POSTAL SERVICES.—The Advisory Com-  
25           mittee may use the United States mails in the same

1 manner and under the same conditions as other  
2 agencies of the Federal Government.

3 (4) GIFTS.—The Advisory Committee may ac-  
4 cept, use, and dispose of gifts or donations of serv-  
5 ices or property.

6 (d) ADVISORY COMMITTEE PERSONNEL MATTERS.—

7 (1) TRAVEL EXPENSES.—A member of the Ad-  
8 visory Committee shall be allowed travel expenses,  
9 including per diem in lieu of subsistence, at rates  
10 authorized for an employee of an agency under sub-  
11 chapter I of chapter 57 of title 5, United States  
12 Code, while away from the home or regular place of  
13 business of the member in the performance of the  
14 duties of the Advisory Committee.

15 (2) STAFF.—

16 (A) IN GENERAL.—The Chairperson of the  
17 Advisory Committee may, without regard to the  
18 civil service laws (including regulations), ap-  
19 point and terminate an executive director and  
20 such other additional personnel as are necessary  
21 to enable the Advisory Committee to perform  
22 the duties of the Advisory Committee.

23 (B) CONFIRMATION OF EXECUTIVE DIREC-  
24 TOR.—The employment of an executive director

1 shall be subject to confirmation by the Advisory  
2 Committee.

3 (C) COMPENSATION.—

4 (i) IN GENERAL.—Except as provided  
5 in clause (ii), the Chairperson of the Advi-  
6 sory Committee may fix the compensation  
7 of the executive director and other per-  
8 sonnel without regard to the provisions of  
9 chapter 51 and subchapter III of chapter  
10 53 of title 5, United States Code, relating  
11 to classification of positions and General  
12 Schedule pay rates.

13 (ii) MAXIMUM RATE OF PAY.—The  
14 rate of pay for the executive director and  
15 other personnel shall not exceed the rate  
16 payable for level V of the Executive Sched-  
17 ule under section 5316 of title 5, United  
18 States Code.

19 (3) DETAIL OF FEDERAL GOVERNMENT EM-  
20 PLOYEES.—

21 (A) IN GENERAL.—An employee of the  
22 Federal Government may be detailed to the Ad-  
23 visory Committee without reimbursement.



1 (B) CIVIL SERVICE STATUS.—The detail of  
2 the employee shall be without interruption or  
3 loss of civil service status or privilege.

4 (4) PROCUREMENT OF TEMPORARY AND INTER-  
5 MITTENT SERVICES.—The Chairperson of the Advi-  
6 sory Committee may procure temporary and inter-  
7 mittent services in accordance with section 3109(b)  
8 of title 5, United States Code, at rates for individ-  
9 uals that do not exceed the daily equivalent of the  
10 annual rate of basic pay prescribed for level V of the  
11 Executive Schedule under section 5316 of that title.

12 **SEC. 69. OFFICE; REGULATIONS.**

13 Not later than 1 year after the date of enactment  
14 of this Act, the Secretary shall establish a separate office  
15 to administer, and to promulgate such regulations as are  
16 necessary to carry out, this subtitle.

17 **SEC. 70. AUTHORIZATION OF APPROPRIATIONS.**

18 There is authorized to be appropriated to carry out  
19 this subtitle \$200,000,000 for each of fiscal years 2010  
20 through 2020, to remain available until expended

21 **SEC. 71. STUDY OF AVAILABILITY OF SKILLED WORKERS.**

22 Section 1830 of the Energy Policy Act of 2005 (Pub-  
23 lic Law 109–58; 119 Stat. 1137) is amended to read as  
24 follows:

1 **“SEC. 1830. STUDY OF AVAILABILITY OF SKILLED WORK-**  
2 **ERS.**

3 “(a) IN GENERAL.—The Secretary of the Interior, in  
4 cooperation with the Secretary of Labor, shall enter into  
5 an arrangement with the National Academies under which  
6 the National Academies shall conduct a study of the short-  
7 term and long-term availability of skilled workers to meet  
8 the energy and mineral security requirements of the  
9 United States.

10 “(b) INCLUSIONS.—The study shall include—

11 “(1) an analysis of the need for and availability  
12 of workers for the oil, natural gas, coal, nonfuel  
13 mineral, ground water, nuclear, geothermal, solar,  
14 wind, and electric utility industries;

15 “(2) an analysis of the availability of skilled  
16 labor at both entry level and more senior levels;

17 “(3) recommendations for actions needed to  
18 meet future labor requirements;

19 “(4) a description of current and projected edu-  
20 cation and training programs for those workers at  
21 community and technical colleges and universities or  
22 through other job-specific training initiatives;

23 “(5) an analysis of the potential for skilled for-  
24 eign labor to meet projected sectoral labor require-  
25 ments;

1           “(6) an assessment of potential job health and  
2           safety impacts, national security, and domestic eco-  
3           nomic impacts of a long-term workforce shortage or  
4           surplus; and

5           “(7) a description and evaluation of data  
6           sources available, Federal data collection and coordi-  
7           nation, and potential research initiatives for future  
8           decisionmaking relating to workforce issues.

9           “(c) REPORT.—Not later than December 31, 2012,  
10          the Secretary shall submit to Congress a report that de-  
11          scribes the results of the study.

12          “(d) AUTHORIZATION OF APPROPRIATIONS.—There  
13          is authorized to be appropriated to the Secretary to carry  
14          out this section \$2,000,000.”.

## 15                   **Subtitle F—Miscellaneous**

### 16          **SEC. 81. OTHER TRANSACTIONS AUTHORITY.**

17          (a) IN GENERAL.—Section 646 of the Department of  
18          Energy Organization Act (42 U.S.C. 7256) is amended  
19          by striking subsection (g) and inserting the following:

20          “(g) AUTHORITY TO ENTER INTO OTHER TRANS-  
21          ACTIONS.—

22                 “(1) IN GENERAL.—In addition to any other  
23                 authority granted to the Secretary to enter into pro-  
24                 curement contracts, leases, cooperative agreements,  
25                 grants, and certain arrangements, the Secretary may

1 enter into other transactions with public agencies,  
2 private organizations, or other persons on such  
3 terms as the Secretary considers appropriate to fur-  
4 ther functions vested in the Secretary, including re-  
5 search, development, or demonstration projects.

6 “(2) ADVANCE PROJECTS.—Notwithstanding  
7 any other provision of law, the Secretary may exer-  
8 cise authority provided under paragraph (1) without  
9 regard to section 3324 of title 31, United States  
10 Code.

11 “(3) RELATIONSHIP TO OTHER LAW.—The au-  
12 thority of the Secretary under paragraph (1) shall  
13 not be subject to—

14 “(A) section 9 of the Federal Nonnuclear  
15 Energy Research and Development Act of 1974  
16 (42 U.S.C. 5908); or

17 “(B) section 152 of the Atomic Energy Act  
18 of 1954 (42 U.S.C. 2182).

19 “(4) PROTECTION OF CERTAIN INFORMATION  
20 FROM DISCLOSURE.—

21 “(A) IN GENERAL.—Notwithstanding any  
22 other provision of law, disclosure of information  
23 described in subparagraph (B) is not required,  
24 and may not be compelled, under section 552 of  
25 title 5, United States Code, during the 5-year

1 period beginning on the date on which the in-  
2 formation is received by the Department.

3 “(B) AWARD INFORMATION.—The infor-  
4 mation described in this subparagraph is infor-  
5 mation in the records of the Department that—

6 “(i) was submitted—

7 “(I) to the Department as part  
8 of a competitive or noncompetitive  
9 process with the potential to result in  
10 an award to the person submitting the  
11 information; and

12 “(II) in conjunction with a trans-  
13 action entered into by the Secretary  
14 pursuant to paragraph (1); and

15 “(ii) is—

16 “(I) a proposal, proposal ab-  
17 stract, and supporting documents;

18 “(II) a business plan submitted  
19 on a confidential basis; or

20 “(III) technical information sub-  
21 mitted on a confidential basis.

22 “(5) REQUIREMENTS.—

23 “(A) SELECTION PROCEDURES.—In enter-  
24 ing into transactions under paragraph (1), the  
25 Secretary shall use such competitive, merit-

1 based selection procedures as the Secretary de-  
2 termines in writing to be practicable.

3 “(B) DETERMINATION.—Before entering  
4 into a transaction under paragraph (1), the  
5 Secretary shall determine in writing that the  
6 use of a standard contract, grant, or coopera-  
7 tive agreement for the project is not feasible or  
8 appropriate.

9 “(C) COST SHARING.—A transaction under  
10 paragraph (1) shall be subject to cost sharing  
11 in accordance with section 988 of the Energy  
12 Policy Act of 2005 (42 U.S.C. 16352).

13 “(D) LIMITATION ON DELEGATION.—The  
14 authority of the Secretary under this subsection  
15 may be delegated only to an officer of the De-  
16 partment who is appointed by the President by  
17 and with the advice and consent of the Senate  
18 and may not be redelegated to any other per-  
19 son.

20 “(6) ANNUAL REPORTS.—The Secretary shall  
21 submit to Congress an annual report on the use by  
22 the Department of authorities under this section.

23 “(7) REPORT.—

24 “(A) DEFINITION OF NONTRADITIONAL  
25 GOVERNMENT CONTRACTOR.—In this para-

1 graph, the term ‘nontraditional Government  
2 contractor’ has the meaning given the term  
3 ‘nontraditional defense contractor’ in section  
4 845(f) of the National Defense Authorization  
5 Act for Fiscal Year 1994 (Public Law 103–160;  
6 10 U.S.C. 2371 note).

7 “(B) REPORT.—Not later than 2 years  
8 after the date of enactment of this subpara-  
9 graph, and 2 years thereafter, the Comptroller  
10 General of the United States shall submit to  
11 Congress a report describing—

12 “(i) the use by the Department of au-  
13 thorities under this section, including the  
14 ability to attract nontraditional Govern-  
15 ment contractors; and

16 “(ii) whether additional safeguards  
17 are necessary to carry out the authori-  
18 ties.”.

19 (b) IMPLEMENTATION.—

20 (1) IN GENERAL.—The final rule of the Depart-  
21 ment of Energy entitled “Assistance Regulations”  
22 (71 Fed. Reg. 27158 (May 9, 2006)) shall be appli-  
23 cable to transactions under section 646 of the De-  
24 partment of Energy Organization Act (42 U.S.C.  
25 7256) (as amended by subsection (a)).

1           (2) REGULATIONS.—The Secretary may revise,  
2           supplement, or replace such regulations as the Sec-  
3           retary determines necessary to implement the  
4           amendment made by subsection (a).

5 **SEC. 82. DEFINITION OF NATIONAL LABORATORY.**

6           Section 2(3) of the Energy Policy Act of 2005 (42  
7 U.S.C. 15801(3)) is amended by striking subparagraph  
8 (P) and inserting the following:

9                   “(P) SLAC National Accelerator Labora-  
10                  tory.”.

11 **SEC. 83. PROTECTION OF RESULTS.**

12           (a) IN GENERAL.—Subject to subsection (b) and not-  
13           withstanding any other provision of law, during a period  
14           of not more than 5 years after the development of infor-  
15           mation in any transaction authorized to be entered into  
16           by the Department of Energy, the Secretary may provide  
17           appropriate protections against the dissemination of the  
18           information, including exemption from subchapter II of  
19           chapter 5 of title 5, United States Code.

20           (b) APPLICABLE INFORMATION.—This section ap-  
21           plies to information that—

22                   (1) results from a transaction entered into by  
23           the Secretary pursuant to this title or an amend-  
24           ment made by this title; and



1           (2) is of a character that would be protected  
2           from disclosure under section 552(b)(4) of title 5,  
3           United States Code, if the information had been ob-  
4           tained from a person other than an agent or em-  
5           ployee of the Federal Government.