

113TH CONGRESS
2D SESSION

S. 2907

To require the Secretary of Energy to establish and carry out a comprehensive program to improve education and training for energy-related jobs.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 18, 2014

Ms. LANDRIEU (for herself and Mr. HEINRICH) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

A BILL

To require the Secretary of Energy to establish and carry out a comprehensive program to improve education and training for energy-related jobs.

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

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “21st Century Energy
5 Workforce Development Jobs Initiative Act of 2014”.

6 **SEC. 2. FINDINGS.**

7 Congress finds that—

8 (1) there are, as of the date of enactment of
9 this Act and for well into the future, significant op-

1 opportunities for African-Americans and Hispanic-
2 Americans throughout the energy industry at each
3 level of education and training, but raising the edu-
4 cational achievement for large segments of the up-
5 coming generation is resource-intensive and will take
6 decades to achieve, although the payoff of an in-
7 creased skilled labor pool would be enormous to soci-
8 ety in general and United States industry in par-
9 ticular;

10 (2) African-Americans and Hispanic-Americans
11 represent an important talent pool to help meet the
12 demands of the projected growth in the energy in-
13 dustry, and workforce training and education in
14 business, finance, science, technology, engineering,
15 and mathematics will prove vital in achieving that
16 growth, as noted by the American Petroleum Insti-
17 tute;

18 (3) improving minority preparation in science-,
19 technology-, engineering-, and mathematics-related
20 disciplines at the primary and secondary school lev-
21 els is crucial to increasing the share of minority
22 science-based degree attainment in 4-year and 2-
23 year programs of higher education, as well as for in-
24 creasing attainment of vocational certificates;

1 (4) the rates at which African-Americans and
2 Hispanic-Americans attain employment in the en-
3 ergy industry is in part related to the choice of the
4 field of study for college degrees (4-year or 2-year)
5 and vocational certificates;

6 (5) data from the National Center for Edu-
7 cation Statistics suggest that, over the 2001 through
8 2010 period, African-American and Hispanic-Amer-
9 ican students chose and completed 4-year college de-
10 grees applicable to employment in the oil and nat-
11 ural gas industry at rates $\frac{1}{5}$ and $\frac{1}{2}$, respectively,
12 the rates of the total student population;

13 (6) with respect to 2-year associate degrees and
14 certificates, data from the National Center for Edu-
15 cation Statistics suggest that over the same time pe-
16 riod, African-American and Hispanic-American stu-
17 dents chose and completed programs of study or
18 training applicable to employment in the oil and nat-
19 ural gas industry at rates roughly $\frac{1}{10}$ above and $\frac{1}{3}$
20 below, respectively, the rates of the total student
21 population;

22 (7) the American Petroleum Institute projects
23 525,000 new job opportunities in the oil and natural
24 gas industry by 2020, with 166,000, or 31 percent
25 of the jobs, expected to be held by African-American

1 and Hispanic-American workers, and, with forward-
2 looking policies, that number could increase to a
3 projected 811,000 new job opportunities, with more
4 than 285,000, or 35 percent, of the jobs being filled
5 by minorities, by 2030;

6 (8) the American Petroleum Institute projects
7 that more than 50 percent of all jobs created in the
8 oil and natural gas industry by 2020 would be high-
9 paying skilled and semiskilled blue collar jobs, with
10 a significant range of opportunities at the scientific
11 or managerial level requiring a college degree;

12 (9) the American Petroleum Institute projects
13 that over 1/2 of the future potential job growth in the
14 oil and natural gas industry, approximately 417,000
15 jobs, is expected in the Gulf region, with the East
16 region expected to contribute nearly 140,000 job op-
17 portunities, the Rockies region nearly 116,000 job
18 opportunities, and the West, Alaska, and Central re-
19 gions expected to contribute approximately 138,000
20 job opportunities combined;

21 (10) the National Mining Association reports
22 that the coal mining industry supported a total of
23 805,680 jobs in 2011, including 204,580 direct jobs,
24 including mine workers (143,520), support activities
25 (7,280), and transportation (53,780);

1 (11) broad occupational categories of potential
2 job creation in the upstream oil and gas industry in-
3 clude—

4 (A) management, business, and financial
5 jobs;

6 (B) professional and related jobs;

7 (C) service jobs;

8 (D) sales and related jobs;

9 (E) office and administrative support jobs;

10 (F) skilled blue collar jobs;

11 (G) semiskilled blue collar jobs; and

12 (H) unskilled blue collar jobs;

13 (12) potential job creation in the upstream oil
14 and gas industry by selected detailed occupational
15 category include—

16 (A) derrick, rotary drill, and service unit
17 operators;

18 (B) oil and gas roustabouts;

19 (C) operating engineers and other con-
20 struction workers;

21 (D) equipment operators;

22 (E) construction laborers;

23 (F) first-line supervisors or managers of
24 construction and extraction workers;

25 (G) heavy and tractor-trailer truck drivers;

1 (H) pump operators and wellhead pump-
2 ers;

3 (I) helpers and other extraction workers;

4 (J) petroleum engineers; and

5 (K) secretaries;

6 (13) the National Petroleum Council estimates
7 that over the decade beginning on the date of enact-
8 ment of this Act 30,000 miles of new long-distance
9 natural gas pipelines will be needed to manage the
10 new sources of shale natural gas supply, while a
11 2007 Survey of Business Owners of the Census Bu-
12 reau estimated that a very small percentage of pipe-
13 lines were owned by minority-owned and woman-
14 owned firms compared to the total owned by non-
15 minority males;

16 (14) in 2013, the Energy Information Adminis-
17 tration estimated that relatively low natural gas
18 prices, maintained by growing shale natural gas pro-
19 duction, will spur increased use of natural gas in the
20 industrial and electric power sectors by 16 percent,
21 from 6,800,000,000 cubic feet per year in 2011 to
22 7,800,000,000,000 cubic feet per year in 2025, while
23 total consumption of natural gas in the United
24 States will continue to grow in the electric power
25 sector from 16 percent of generation in 2000 to 30

1 percent in 2040, which will lead to a significant
2 number of new jobs in the natural gas sector;

3 (15) the Energy Information Administration es-
4 timates natural gas production in the United States
5 will increase annually, outpacing domestic consump-
6 tion and making the United States a net exporter of
7 natural gas by 2019, while continued low levels of
8 liquefied natural gas imports, combined with in-
9 creased United States exports of domestically
10 sourced liquefied natural gas, position the United
11 States as a net exporter of liquefied natural gas by
12 2016, creating an abundance of new jobs and invest-
13 ment opportunities;

14 (16) the Energy Information Administration es-
15 timates that coal-fired electricity generation will re-
16 main a dominant resource in the total generation
17 portfolio of the United States, representing 34 per-
18 cent of United States baseload electricity in 2035;

19 (17) in 2013, a report by the Bloomberg New
20 Energy Finance research team estimated that clean
21 energy investment is most likely to grow by 230 per-
22 cent to a projected \$630,000,000,000 annually in
23 2030, driven by further improvements in the cost-
24 competitiveness of wind and solar technologies and
25 an increase in the roll-out of nonintermittent clean

1 energy sources (including hydropower, geothermal,
2 and biomass) requiring additional investment in
3 science, technology, engineering, and mathematics
4 education;

5 (18) a 2013 report by the Bloomberg New En-
6 ergy Finance research team estimated that renew-
7 able energy projects (including wind, solar, hydro-
8 power, and biomass) will account for 70 percent of
9 new power generation capacity between 2012 and
10 2030, and, by 2030, renewable energy will account
11 for $\frac{1}{2}$ of the generation capacity worldwide, up from
12 28 percent in 2012, requiring additional investment
13 in supporting infrastructure, including long distance
14 transmission systems, smart grids, storage, and de-
15 mand response; and

16 (19) the Energy Information Administration
17 found that since 2005 renewable energy has gar-
18 nered more than \$1,300,000,000,000 worth of in-
19 vestment and the Energy Information Administra-
20 tion estimates that global energy consumption will
21 increase by 47 percent between 2010 and 2035, with
22 clean energy providing more than $\frac{1}{2}$ of that new ca-
23 pacity and attracting up to \$5,900,000,000,000
24 worth of investment, leading to new employment and
25 investment opportunities.

1 **SEC. 3. DEFINITIONS.**

2 In this Act:

3 (1) INSTITUTION OF HIGHER EDUCATION.—The
4 term “institution of higher education” has the
5 meaning given the term in section 101 of the Higher
6 Education Act of 1965 (20 U.S.C. 1001).

7 (2) PROGRAM.—The term “program” means
8 the comprehensive program to improve education
9 and training for energy-related jobs established
10 under section 4.

11 (3) SECRETARY.—The term “Secretary” means
12 the Secretary of Energy.

13 (4) STEM.—The term “STEM” means science,
14 technology, engineering, and mathematics.

15 **SEC. 4. COMPREHENSIVE PROGRAM FOR ENERGY-RELATED**
16 **JOBS FOR THE 21ST CENTURY.**

17 (a) IN GENERAL.—The Secretary shall establish and
18 carry out a comprehensive program to improve education
19 and training for energy-related jobs to increase the num-
20 ber of skilled minorities and women trained to work in
21 energy-related jobs, including by—

22 (1) encouraging minority and women students
23 to enter into the energy STEM fields;

24 (2) ensuring that the educational system of the
25 United States is equipping students with the skills,
26 training, and technical expertise necessary to fill the

1 employment opportunities vital to managing and op-
2 erating the energy industry of the United States;
3 and

4 (3) providing students and other candidates
5 with the necessary skills and certifications for
6 skilled, semiskilled, and highly skilled energy-related
7 jobs.

8 (b) PRIORITY.—The Secretary shall make educating
9 and training minorities and other workers for energy-re-
10 lated jobs a national priority under the program.

11 (c) DIRECT ASSISTANCE.—In carrying out the pro-
12 gram, the Secretary shall provide direct assistance (includ-
13 ing grants, technical expertise, mentorships, and partner-
14 ships) to community colleges, workforce development orga-
15 nizations, and minority-serving institutions.

16 (d) CLEARINGHOUSE.—In carrying out the program,
17 the Secretary shall establish a clearinghouse—

18 (1) to maintain and update information and re-
19 sources on training and workforce development pro-
20 grams for energy-related jobs; and

21 (2) to act as a resource, and provide guidance,
22 for schools, institutions of higher education, work-
23 force development programs, and labor organizations
24 that would like to develop and implement energy-re-
25 lated training programs.

1 (e) COLLABORATION.—In carrying out the program,
2 the Secretary shall—

3 (1) collaborate with schools, institutions of
4 higher education, workforce training organizations,
5 labor organizations, National Laboratories, State en-
6 ergy offices, and the energy industry;

7 (2) encourage and foster collaboration, mentor-
8 ships, and partnerships among organizations (includ-
9 ing schools, institutions of higher education, work-
10 force development organizations, labor organizations,
11 and industry) that provide effective job training pro-
12 grams in the energy field and institutions (including
13 schools, institutions of higher education, and work-
14 force development programs) that seek to establish
15 those types of programs to share best practices and
16 approaches that best suit local, State, and national
17 needs; and

18 (3) collaborate with the Energy Information
19 Administration and the Bureau of the Census to de-
20 velop a comprehensive and detailed understanding of
21 the energy workforce needs and opportunities by
22 State and by region.

23 (f) GUIDELINES FOR EDUCATIONAL INSTITU-
24 TIONS.—

1 (1) IN GENERAL.—In carrying out the program,
2 the Secretary, in collaboration with the Secretary of
3 Education and the Secretary of Labor, shall develop
4 guidelines for educational institutions of all levels,
5 including for programs at elementary and secondary
6 schools and institutions of higher education, to help
7 provide graduates with the skills necessary to work
8 in energy-related jobs.

9 (2) INPUT.—The Secretary shall solicit input
10 from the oil, gas, coal, renewable, nuclear, utility,
11 and pipeline industries in developing guidelines
12 under paragraph (1).

13 (3) ENERGY EFFICIENCY AND CONSERVATION
14 INITIATIVES.—The guidelines developed under para-
15 graph (1) shall include grade-specific guidelines for
16 teaching energy efficiency and conservation initia-
17 tives to educate students and families.

18 (4) STEM EDUCATION.—The guidelines devel-
19 oped under paragraph (1) shall promote STEM edu-
20 cation as STEM education relates to job opportuni-
21 ties in energy-related fields of study in schools and
22 institutions of higher education nationally.

23 (g) OUTREACH TO MSIS.—In carrying out the pro-
24 gram, the Secretary shall—

1 (1) give special consideration to increasing out-
2 reach to minority serving institutions (including his-
3 torically black colleges and universities, predomi-
4 nantly black institutions, Hispanic-serving institu-
5 tions, and tribal institutions);

6 (2) make resources available to minority-serving
7 institutions with the objective of increasing the num-
8 ber of skilled minorities and women trained to go
9 into the energy sector; and

10 (3) encourage industry to improve the opportu-
11 nities for students of minority-serving institutions to
12 participate in industry internships and cooperative
13 work and study programs.

14 (h) GUIDELINES TO DEVELOP SKILLS FOR AN EN-
15 ERGY INDUSTRY WORKFORCE.—In carrying out the pro-
16 gram, the Secretary shall collaborate with representatives
17 from the energy industry (including the oil, gas, coal, nu-
18 clear, utility, pipeline, renewable, and nuclear sectors) to
19 identify the areas of highest need in each sector and to
20 develop guidelines for the skills necessary to develop a
21 workforce trained to enter—

22 (1) the energy efficiency industry, including
23 work in energy efficiency, conservation, weatheriza-
24 tion, or retrofitting, or as inspectors or auditors;

1 (2) the pipeline industry, including work in
2 pipeline construction and maintenance or work as
3 engineers or technical advisors;

4 (3) the utility industry, including as utility
5 workers, linemen, electricians, pole workers, or re-
6 pairmen;

7 (4) alternative fuels, including work in biofuel
8 development and production;

9 (5) the nuclear industry, including work as sci-
10 entists, engineers, technicians, mathematicians, or
11 security personnel;

12 (6) the oil and gas industry, including work as
13 scientists, engineers, technicians, mathematicians,
14 petrochemical engineers, or geologists;

15 (7) the renewable industry, including work in
16 the development and production of renewable energy
17 sources (such as solar, hydropower, wind, or geo-
18 thermal energy); and

19 (8) the coal industry, including work as coal
20 miners, engineers, developers, and manufacturers of
21 state-of-the-art coal facilities, technology vendors,
22 coal transportation workers and operators, and min-
23 ing equipment vendors.

24 (i) ENROLLMENT IN TRAINING AND APPRENTICE-
25 SHIP PROGRAMS.—In carrying out the program, the Sec-

1 retary shall work with labor and community-based work-
2 force organizations to help identify students and other
3 candidates, including from historically underserved com-
4 munities such as minorities, women, and veterans, to en-
5 roll into training and apprenticeship programs for energy-
6 related jobs.

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