II

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

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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.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''21st Century Energy Workforce Development Jobs Initiative Act of 2014''.

SEC. 2. FINDINGS.

Congress finds that—

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

portunities for African-Americans and Hispanic-Americans throughout the energy industry at each level of education and training, but raising the educational achievement for large segments of the upcoming generation is resource-intensive and will take decades to achieve, although the payoff of an increased skilled labor pool would be enormous to society in general and United States industry in particular;

(2) African-Americans and Hispanic-Americans represent an important talent pool to help meet the demands of the projected growth in the energy industry, and workforce training and education in business, finance, science, technology, engineering, and mathematics will prove vital in achieving that growth, as noted by the American Petroleum Institute;

(3) improving minority preparation in science-, technology-, engineering-, and mathematics-related disciplines at the primary and secondary school levels is crucial to increasing the share of minority science-based degree attainment in 4-year and 2-year programs of higher education, as well as for increasing attainment of vocational certificates;

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

(5) data from the National Center for Education Statistics suggest that, over the 2001 through 2010 period, African-American and Hispanic-American students chose and completed 4-year college degrees applicable to employment in the oil and natural gas industry at rates ⅕ and ½, respectively, the rates of the total student population;

(6) with respect to 2-year associate degrees and certificates, data from the National Center for Education Statistics suggest that over the same time period, African-American and Hispanic-American students chose and completed programs of study or training applicable to employment in the oil and natural gas industry at rates roughly 1/10 above and ⅓ below, respectively, the rates of the total student population;

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

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

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

(9) the American Petroleum Institute projects that over ½ of the future potential job growth in the oil and natural gas industry, approximately 417,000 jobs, is expected in the Gulf region, with the East region expected to contribute nearly 140,000 job opportunities, the Rockies region nearly 116,000 job opportunities, and the West, Alaska, and Central regions expected to contribute approximately 138,000 job opportunities combined;

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

(11) broad occupational categories of potential job creation in the upstream oil and gas industry include—

(A) management, business, and financial jobs;

(B) professional and related jobs;

(C) service jobs;

(D) sales and related jobs;

(E) office and administrative support jobs;

(F) skilled blue collar jobs;

(G) semiskilled blue collar jobs; and

(H) unskilled blue collar jobs;

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

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

(B) oil and gas roustabouts;

(C) operating engineers and other construction workers;

(D) equipment operators;

(E) construction laborers;

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

(G) heavy and tractor-trailer truck drivers;

(H) pump operators and wellhead pumpers;

(I) helpers and other extraction workers;

(J) petroleum engineers; and

(K) secretaries;

(13) the National Petroleum Council estimates that over the decade beginning on the date of enactment of this Act 30,000 miles of new long-distance natural gas pipelines will be needed to manage the new sources of shale natural gas supply, while a 2007 Survey of Business Owners of the Census Bureau estimated that a very small percentage of pipelines were owned by minority-owned and woman-owned firms compared to the total owned by non-minority males;

(14) in 2013, the Energy Information Administration estimated that relatively low natural gas prices, maintained by growing shale natural gas production, will spur increased use of natural gas in the industrial and electric power sectors by 16 percent, from 6,800,000,000 cubic feet per year in 2011 to 7,800,000,000,000 cubic feet per year in 2025, while total consumption of natural gas in the United States will continue to grow in the electric power sector from 16 percent of generation in 2000 to 30

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

(15) the Energy Information Administration estimates natural gas production in the United States will increase annually, outpacing domestic consumption and making the United States a net exporter of natural gas by 2019, while continued low levels of liquefied natural gas imports, combined with increased United States exports of domestically sourced liquefied natural gas, position the United States as a net exporter of liquefied natural gas by 2016, creating an abundance of new jobs and investment opportunities;

(16) the Energy Information Administration estimates that coal-fired electricity generation will remain a dominant resource in the total generation portfolio of the United States, representing 34 percent of United States baseload electricity in 2035;

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

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

(18) a 2013 report by the Bloomberg New Energy Finance research team estimated that renewable energy projects (including wind, solar, hydropower, and biomass) will account for 70 percent of new power generation capacity between 2012 and 2030, and, by 2030, renewable energy will account for ½ of the generation capacity worldwide, up from 28 percent in 2012, requiring additional investment in supporting infrastructure, including long distance transmission systems, smart grids, storage, and demand response; and

(19) the Energy Information Administration found that since 2005 renewable energy has garnered more than $1,300,000,000,000 worth of investment and the Energy Information Administration estimates that global energy consumption will increase by 47 percent between 2010 and 2035, with clean energy providing more than ½ of that new capacity and attracting up to $5,900,000,000,000 worth of investment, leading to new employment and investment opportunities.

SEC. 3. DEFINITIONS.

In this Act:

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

(2) PROGRAM.—The term ''program'' means the comprehensive program to improve education and training for energy-related jobs established under section 4.

(3) SECRETARY.—The term ''Secretary'' means the Secretary of Energy.

(4) STEM.—The term ''STEM'' means science, technology, engineering, and mathematics.

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

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

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

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

employment opportunities vital to managing and operating the energy industry of the United States; and

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

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

(c) DIRECT ASSISTANCE.—In carrying out the program, the Secretary shall provide direct assistance (including grants, technical expertise, mentorships, and partnerships) to community colleges, workforce development organizations, and minority-serving institutions.

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

(1) to maintain and update information and resources on training and workforce development programs for energy-related jobs; and

(2) to act as a resource, and provide guidance, for schools, institutions of higher education, workforce development programs, and labor organizations that would like to develop and implement energy-related training programs.

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

(1) collaborate with schools, institutions of higher education, workforce training organizations, labor organizations, National Laboratories, State energy offices, and the energy industry;

(2) encourage and foster collaboration, mentorships, and partnerships among organizations (including schools, institutions of higher education, workforce development organizations, labor organizations, and industry) that provide effective job training programs in the energy field and institutions (including schools, institutions of higher education, and workforce development programs) that seek to establish those types of programs to share best practices and approaches that best suit local, State, and national needs; and

(3) collaborate with the Energy Information Administration and the Bureau of the Census to develop a comprehensive and detailed understanding of the energy workforce needs and opportunities by State and by region.

(f) GUIDELINES FOR EDUCATIONAL INSTITUTIONS.—

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

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

(3) ENERGY EFFICIENCY AND CONSERVATION INITIATIVES.—The guidelines developed under paragraph (1) shall include grade-specific guidelines for teaching energy efficiency and conservation initiatives to educate students and families.

(4) STEM EDUCATION.—The guidelines developed under paragraph (1) shall promote STEM education as STEM education relates to job opportunities in energy-related fields of study in schools and institutions of higher education nationally.

(g) OUTREACH TO MSIS.—In carrying out the program, the Secretary shall—

(1) give special consideration to increasing outreach to minority serving institutions (including historically black colleges and universities, predominantly black institutions, Hispanic-serving institutions, and tribal institutions);

(2) make resources available to minority-serving institutions with the objective of increasing the number of skilled minorities and women trained to go into the energy sector; and

(3) encourage industry to improve the opportunities for students of minority-serving institutions to participate in industry internships and cooperative work and study programs.

(h) GUIDELINES TO DEVELOP SKILLS FOR AN ENERGY INDUSTRY WORKFORCE.—In carrying out the program, the Secretary shall collaborate with representatives from the energy industry (including the oil, gas, coal, nuclear, utility, pipeline, renewable, and nuclear sectors) to identify the areas of highest need in each sector and to develop guidelines for the skills necessary to develop a workforce trained to enter—

(1) the energy efficiency industry, including work in energy efficiency, conservation, weatherization, or retrofitting, or as inspectors or auditors;

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

(3) the utility industry, including as utility workers, linemen, electricians, pole workers, or repairmen;

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

(5) the nuclear industry, including work as scientists, engineers, technicians, mathematicians, or security personnel;

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

(7) the renewable industry, including work in the development and production of renewable energy sources (such as solar, hydropower, wind, or geothermal energy); and

(8) the coal industry, including work as coal miners, engineers, developers, and manufacturers of state-of-the-art coal facilities, technology vendors, coal transportation workers and operators, and mining equipment vendors.

(i) ENROLLMENT IN TRAINING AND APPRENTICESHIP PROGRAMS.—In carrying out the program, the Sec-

retary shall work with labor and community-based workforce organizations to help identify students and other candidates, including from historically underserved communities such as minorities, women, and veterans, to enroll into training and apprenticeship programs for energy-related jobs.

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