

116TH CONGRESS  
1ST SESSION

# S. 2393

To promote a 21st century energy workforce, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

JULY 31, 2019

Mr. HEINRICH (for himself, Mr. MANCHIN, and Mr. BOOKER) 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 promote a 21st century energy workforce, and for other purposes.

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

3       **SECTION 1. SHORT TITLE.**

4       This Act may be cited as the “Clean Energy Jobs  
5       Act of 2019”.

6       **SEC. 2. DEFINITIONS.**

7       In this Act:

8               (1) APPRENTICESHIP.—The term “apprentice-  
9       ship” means an apprenticeship registered under the

1 Act of August 16, 1937 (29 U.S.C. 50 et seq.) (com-  
 2 monly known as the “National Apprenticeship Act”).

3 (2) EDUCATIONAL INSTITUTION.—The term  
 4 “educational institution” means—

5 (A) an elementary school;

6 (B) a secondary school; and

7 (C) an institution of higher education.

8 (3) ELEMENTARY SCHOOL.—The term “elemen-  
 9 tary school” has the meaning given the term in sec-  
 10 tion 8101 of the Elementary and Secondary Edu-  
 11 cation Act of 1965 (20 U.S.C. 7801).

12 (4) ENERGY-RELATED INDUSTRY.—The term  
 13 “energy-related industry” includes each of the fol-  
 14 lowing industries:

15 (A) The energy efficiency industry.

16 (B) The renewable energy industry.

17 (C) The chemical manufacturing industry.

18 (D) The utility industry.

19 (E) The alternative fuels industry.

20 (F) The pipeline industry.

21 (G) The nuclear energy industry.

22 (H) The oil and gas industry.

23 (I) The coal industry.

24 (5) INSTITUTION OF HIGHER EDUCATION.—The  
 25 term “institution of higher education” has the

1 meaning given the term in section 102 of the Higher  
2 Education Act of 1965 (20 U.S.C. 1002).

3 (6) LABOR ORGANIZATION.—The term “labor  
4 organization” has the meaning given the term in  
5 section 2 of the National Labor Relations Act (29  
6 U.S.C. 152).

7 (7) LOCAL WORKFORCE DEVELOPMENT  
8 BOARD.—The term “local workforce development  
9 board” has the meaning given the term “local  
10 board” in section 3 of the Workforce Innovation and  
11 Opportunity Act (29 U.S.C. 3102).

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

14 (A) a Hispanic-serving institution (as de-  
15 fined in section 502(a) of the Higher Education  
16 Act of 1965 (20 U.S.C. 1101a(a)));

17 (B) a Tribal College or University (as de-  
18 fined in section 316(b) of the Higher Education  
19 Act of 1965 (20 U.S.C. 1059c(b)));

20 (C) an Alaska Native-serving institution  
21 (as defined in section 317(b) of the Higher  
22 Education Act of 1965 (20 U.S.C. 1059d(b)));

23 (D) a Native Hawaiian-serving institution  
24 (as defined in section 317(b) of the Higher  
25 Education Act of 1965 (20 U.S.C. 1059d(b)));

1 (E) a Predominantly Black Institution (as  
 2 defined in section 318(b) of the Higher Edu-  
 3 cation Act of 1965 (20 U.S.C. 1059e(b)));

4 (F) a Native American-serving nontribal  
 5 institution (as defined in section 319(b) of the  
 6 Higher Education Act of 1965 (20 U.S.C.  
 7 1059f(b))); and

8 (G) an Asian American and Native Amer-  
 9 ican Pacific Islander-serving institution (as de-  
 10 fined in section 320(b) of the Higher Education  
 11 Act of 1965 (20 U.S.C. 1059g(b))).

12 (9) SECONDARY SCHOOL.—The term “sec-  
 13 ondary school” has the meaning given the term in  
 14 section 8101 of the Elementary and Secondary Edu-  
 15 cation Act of 1965 (20 U.S.C. 7801).

16 (10) SECRETARY.—The term “Secretary”  
 17 means the Secretary of Energy.

18 (11) STATE WORKFORCE DEVELOPMENT  
 19 BOARD.—The term “State workforce development  
 20 board” has the meaning given the term “State  
 21 board” in section 3 of the Workforce Innovation and  
 22 Opportunity Act (29 U.S.C. 3102).

23 (12) WORKFORCE DEVELOPMENT PROGRAM.—  
 24 The term “workforce development program” has the  
 25 meaning given the term in section 3 of the Work-

1 force Innovation and Opportunity Act (29 U.S.C.  
2 3102).

3 **SEC. 3. ENERGY WORKFORCE DEVELOPMENT PROGRAM.**

4 (a) ESTABLISHMENT.—The Secretary shall establish  
5 and carry out a comprehensive and nationwide program  
6 (referred to in this section as the “program”) in accord-  
7 ance with this section to improve education and training  
8 for jobs in energy-related industries (including manufac-  
9 turing, engineering, construction, and retrofitting jobs in  
10 energy-related industries) to increase the number of  
11 skilled workers trained to work in energy-related indus-  
12 tries.

13 (b) WORKFORCE DEVELOPMENT.—

14 (1) IN GENERAL.—In carrying out the program,  
15 the Secretary shall—

16 (A) encourage underrepresented groups,  
17 including religious and ethnic minorities,  
18 women, veterans, individuals with disabilities,  
19 unemployed energy workers, and socioeconomic-  
20 ally disadvantaged individuals, to enter into  
21 science, technology, engineering, and mathe-  
22 matics fields;

23 (B) encourage educational institutions to  
24 provide students with mentors and equip stu-  
25 dents with the skills, training, and technical ex-

1           pertise necessary to fill the employment oppor-  
2           tunities vital to managing and operating en-  
3           ergy-related industries;

4           (C) provide internships, fellowships,  
5           traineeships, apprenticeships, and employment  
6           at the Department of Energy, including at Na-  
7           tional Laboratories;

8           (D) provide research grants and technical  
9           assistance to institutions of higher education,  
10          with priority given to minority-serving institu-  
11          tions;

12          (E) provide students and other candidates  
13          for employment with the necessary skills and  
14          certifications for skilled, semiskilled, and highly  
15          skilled jobs in energy-related industries;

16          (F) ensure that the program is in align-  
17          ment with the Minorities in Energy Initiative of  
18          the Department of Energy;

19          (G) engage with other programs and lab-  
20          oratories in the Department of Energy that are  
21          carrying out the Minorities in Energy Initiative  
22          of the Department of Energy; and

23          (H) to the maximum extent practicable,  
24          collaborate with and support State workforce

1 development programs to maximize the effi-  
2 ciency of the program.

3 (2) PRIORITY.—In carrying out the program,  
4 the Secretary shall prioritize the education and  
5 training of underrepresented groups for jobs in en-  
6 ergy-related industries.

7 (c) DIRECT ASSISTANCE.—

8 (1) IN GENERAL.—To carry out the program,  
9 the Secretary shall provide direct assistance (includ-  
10 ing financial assistance awards, technical expertise,  
11 and guidance on internships) to educational institu-  
12 tions, local workforce development boards, State  
13 workforce development boards, nonprofit organiza-  
14 tions, labor organizations, and apprenticeship pro-  
15 grams.

16 (2) DISTRIBUTION.—The Secretary shall dis-  
17 tribute direct assistance under paragraph (1) in a  
18 manner that—

19 (A) is proportional to the needs of, and de-  
20 mand for jobs in, an energy-related industry;  
21 and

22 (B) is consistent with the information ob-  
23 tained under subsections (e)(3) and (j).

24 (d) RESOURCE CENTER.—The Secretary shall estab-  
25 lish an online resource center—

1           (1) to maintain and update information and re-  
2           sources on training programs for jobs in energy-re-  
3           lated industries (including manufacturing, engineer-  
4           ing, construction, and retrofitting jobs in energy-re-  
5           lated industries); and

6           (2) as a resource for educational institutions,  
7           local workforce development boards, State workforce  
8           development boards, nonprofit organizations, labor  
9           organizations, and apprenticeship programs that  
10          would like to develop and implement training pro-  
11          grams for the jobs described in paragraph (1).

12          (e) COLLABORATION AND REPORT.—In carrying out  
13 the program, the Secretary shall—

14           (1) collaborate with educational institutions,  
15           local workforce development boards, State workforce  
16           development boards, nonprofit organizations, labor  
17           organizations, apprenticeship programs, and energy-  
18           related industries;

19           (2) to facilitate the sharing of best practices  
20           and approaches that best suit local, State, and na-  
21           tional needs, encourage and foster collaboration,  
22           mentorship, and partnership between—

23                   (A) industry, local workforce development  
24                   boards, State workforce development boards,  
25                   nonprofit organizations, labor organizations,



1 and apprenticeship programs that provide effective  
2 training programs for jobs in energy-related  
3 industries; and

4 (B) educational institutions that seek to  
5 establish those programs; and

6 (3) collaborate with the Commissioner of the  
7 Bureau of Labor Statistics, the Secretary of Commerce,  
8 the Director of the Bureau of the Census,  
9 and energy-related industries—

10 (A) to develop a comprehensive and detailed  
11 understanding of the workforce needs of  
12 and job opportunities in energy-related industries,  
13 by State and by region; and

14 (B) to publish an annual report on job creation  
15 in the energy-related industries described  
16 in subparagraphs (A) through (L) of subsection  
17 (j)(2).

18 (f) GUIDELINES FOR EDUCATIONAL INSTITU-  
19 TIONS.—

20 (1) IN GENERAL.—The Secretary, in collaboration  
21 with the Secretary of Education, the Secretary  
22 of Commerce, the Secretary of Labor, and the Director  
23 of the National Science Foundation, shall develop  
24 and provide to educational institutions voluntary  
25 guidelines or best practices for providing

1 graduates with skills necessary for jobs in energy-re-  
2 lated industries (including manufacturing, engineer-  
3 ing, construction, and retrofitting jobs in energy-re-  
4 lated industries).

5 (2) INPUT FROM INDUSTRY.—In carrying out  
6 paragraph (1), the Secretary shall solicit input from  
7 energy-related industries.

8 (3) ENERGY EFFICIENCY AND CONSERVATION  
9 INITIATIVES.—The voluntary guidelines or best prac-  
10 tices developed under paragraph (1) shall include  
11 grade-specific guidelines for teaching students and  
12 families of students energy efficiency technology,  
13 manufacturing efficiency technology, community en-  
14 ergy resiliency, and conservation initiatives.

15 (4) STEM EDUCATION.—The guidelines or best  
16 practices developed under paragraph (1) shall pro-  
17 mote education in science, technology, engineering,  
18 and mathematics as it relates to job opportunities in  
19 the energy-related industries described in subsection  
20 (j)(2).

21 (g) OUTREACH TO MINORITY-SERVING INSTITU-  
22 TIONS.—The Secretary shall—

23 (1) give special consideration to increasing out-  
24 reach to minority-serving institutions;

1           (2) make resources available to minority-serving  
2       institutions to increase the number of skilled minori-  
3       ties and women qualified for jobs in energy-related  
4       industries (including manufacturing, engineering,  
5       construction, and retrofitting jobs in energy-related  
6       industries);

7           (3) encourage energy-related industries to im-  
8       prove opportunities for students of minority-serving  
9       institutions to participate in industry internships  
10      and cooperative work-study programs; and

11          (4) work with the laboratories of the Depart-  
12      ment of Energy to increase the participation of  
13      underrepresented groups in internships, fellowships,  
14      training programs, and employment at those labora-  
15      tories.

16      (h) OUTREACH TO DISPLACED AND UNEMPLOYED  
17      ENERGY WORKERS.—The Secretary shall—

18          (1) give special consideration to increasing out-  
19      reach to employers and job trainers preparing dis-  
20      placed and unemployed energy workers for emerging  
21      jobs in energy-related industries (including manufac-  
22      turing, engineering, construction, and retrofitting  
23      jobs in energy-related industries);

24          (2) make resources available to institutions that  
25      serve displaced and unemployed energy workers to

1       increase the number of individuals trained for jobs  
2       in energy-related industries (including manufac-  
3       turing, engineering, construction, and retrofitting  
4       jobs in energy-related industries); and

5           (3) encourage energy-related industries to im-  
6       prove opportunities for displaced and unemployed  
7       energy workers to participate in industry internships  
8       and cooperative work-study programs.

9       (i) ENROLLMENT IN TRAINING AND APPRENTICE-  
10   SHIP PROGRAMS.—The Secretary shall collaborate with  
11   industry, local workforce development boards, State work-  
12   force development boards, nonprofit organizations, labor  
13   organizations, and apprenticeship programs to help iden-  
14   tify students and other candidates, including from under-  
15   represented communities such as minorities, women, and  
16   veterans, to enroll in training and apprenticeship pro-  
17   grams for jobs in energy-related industries.

18       (j) GUIDELINES TO DEVELOP SKILLS FOR AN EN-  
19   ERGY INDUSTRY WORKFORCE.—The Secretary shall, in  
20   collaboration with energy-related industries—

21           (1) identify the areas within each energy-related  
22       industry that has the greatest demand for workers;  
23       and

1           (2) develop guidelines for the skills necessary to  
2 work in each of the following energy-related indus-  
3 tries:

4                   (A) The energy efficiency industry, includ-  
5 ing work in conservation, weatherization, retro-  
6 fitting, and inspection and auditing of the in-  
7 dustry.

8                   (B) The renewable energy industry, includ-  
9 ing work in the development, engineering, man-  
10 ufacturing, and production of renewable energy  
11 from renewable energy sources (such as solar,  
12 hydropower, wind, and geothermal energy).

13                  (C) The community energy resiliency in-  
14 dustry, including work in installation of rooftop  
15 solar, battery storage, and microgrid tech-  
16 nologies.

17                  (D) The fuel cell and hydrogen energy in-  
18 dustry.

19                  (E) The manufacturing industry, including  
20 work in operations technology, operations and  
21 design in additive manufacturing, 3-dimensional  
22 printing, advanced composites and advanced  
23 aluminum and other metal alloys, industrial en-  
24 ergy efficiency management systems (including

1 power electronics), and other innovative tech-  
2 nologies.

3 (F) The chemical manufacturing industry,  
4 including work in construction (such as welding,  
5 pipefitting, and tool and die making) and in the  
6 position of instrument and electrical technician,  
7 machinist, chemical process operator, engineer,  
8 quality and safety professional, or reliability en-  
9 gineer.

10 (G) The utility industry, including work in  
11 the generation, transmission, and distribution  
12 of electricity and natural gas, and in the posi-  
13 tion of electrician, dispatcher, utility technician,  
14 operator, lineworker, engineer, scientist, or in-  
15 formation technology specialist.

16 (H) The alternative fuels industry, includ-  
17 ing work in biofuel development and production.

18 (I) The pipeline industry, including work  
19 in pipeline construction and maintenance and in  
20 the position of engineer or technical advisor.

21 (J) The nuclear industry, including in the  
22 position of scientist, engineer, technician, math-  
23 ematician, or security personnel.

24 (K) The oil and gas industry, including in  
25 the position of scientist, engineer, technician,

1 mathematician, petrochemical engineer, or geol-  
 2 ogist.

3 (L) The coal industry, including in the po-  
 4 sition of coal miner, engineer, developer and  
 5 manufacturer of state-of-the-art coal facilities,  
 6 technology vendor, coal transportation worker  
 7 or operator, or mining equipment vendor.

8 **SEC. 4. ENERGY WORKFORCE GRANT PROGRAM.**

9 (a) DEFINITIONS.—In this section:

10 (1) ELIGIBLE ENTITY.—The term “eligible enti-  
 11 ty” means a business or labor management organi-  
 12 zation that—

13 (A)(i) is directly involved with energy effi-  
 14 ciency, renewable energy technology, or reduc-  
 15 tion in greenhouse gas emissions, as determined  
 16 by the Secretary; or

17 (ii) works on behalf of a business or labor  
 18 management organization that is directly in-  
 19 volved with energy efficiency, renewable energy  
 20 technology, or reduction in greenhouse gas  
 21 emissions, as determined by the Secretary; and

22 (B) provides services related to—

23 (i) renewable electric energy genera-  
 24 tion, including solar, wind, geothermal, hy-

dropower, and other renewable electric energy generation technologies;

(ii) energy efficiency, including energy efficient lighting, heating, ventilation, and air conditioning, air source heat pumps, advanced building materials, insulation and air sealing, and other high efficiency products and services, and auditing and inspection in energy efficiency;

(iii) grid modernization or energy storage, including smart grid, microgrid and other distributed energy solutions, demand response management, and home energy management technology;

(iv) advanced technologies that improve the conversion, use, and storage of carbon dioxide produced from fossil fuels, including carbon capture and storage and direct air capture;

(v) nuclear energy, including nuclear research, development, demonstration, and commercial application; or

(vi) fuel cell and hybrid fuel cell generation.



1           (2) LABOR MANAGEMENT ORGANIZATION.—The  
2       term “labor management organization” includes a  
3       nonprofit organization or qualified youth or con-  
4       servation corps that provides training to individuals  
5       to work for an eligible entity that is a business, or  
6       works on behalf of an eligible entity that is a busi-  
7       ness.

8       (b) ESTABLISHMENT.—

9           (1) IN GENERAL.—The Secretary shall establish  
10      a program to provide grants to eligible entities to  
11      pay the wages of a new or existing employee during  
12      the time period in which the employee receives train-  
13      ing to work in the renewable energy sector, energy  
14      efficiency sector, or grid modernization sector.

15          (2) GUIDELINES.—Not later than 60 days after  
16      the date of enactment of this Act, the Secretary, in  
17      consultation with stakeholders, contractors, and or-  
18      ganizations that work to advance existing residential  
19      energy efficiency, shall establish guidelines for the  
20      program under paragraph (1) to determine the cri-  
21      teria for—

22                  (A) the wages or stipends that shall be  
23                  paid using the grant funds; and

24                  (B) training received by an employee that  
25                  qualifies under the program.

1 (c) GRANTS.—

2 (1) IN GENERAL.—An eligible entity desiring a  
3 grant under subsection (b)(1) shall submit to the  
4 Secretary an application at such time, in such man-  
5 ner, and containing such information as the Sec-  
6 retary may require.

7 (2) PRIORITY FOR TARGETED COMMUNITIES.—  
8 In providing grants under subsection (b)(1), the Sec-  
9 retary shall give priority to an eligible entity that—

10 (A) recruits employees—

11 (i) from the one or more communities  
12 that are served by the eligible entity; and

13 (ii) that are minorities, women, vet-  
14 erans, individuals who are or were foster  
15 children, or individuals who are transition-  
16 ing from fossil energy sector jobs; and

17 (B) provides trainees with the opportunity  
18 to obtain real-world experience.

19 (3) USE OF GRANTS.—An eligible entity may  
20 use a grant received under subsection (b)(1)—

21 (A) in the case of an eligible entity with 20  
22 or fewer employees, to pay not more than—

23 (i) 45 percent of the wages of an em-  
24 ployee for the duration of the training, if

1 the training is provided by the eligible enti-  
2 ty; and

3 (ii) 90 percent of the wages of an em-  
4 ployee for the duration of the training, if  
5 the training is provided by an entity other  
6 than the eligible entity;

7 (B) in the case of an eligible entity with 21  
8 to 99 employees, to pay not more than—

9 (i) 37.5 percent of the wages of an  
10 employee for the duration of the training,  
11 if the training is provided by the eligible  
12 entity; and

13 (ii) 75 percent of the wages of an em-  
14 ployee for the duration of the training, if  
15 the training is provided by an entity other  
16 than the eligible entity; and

17 (C) in the case of an eligible entity with  
18 not less than 100 employees, to pay not more  
19 than—

20 (i) 25 percent of the wages of an em-  
21 ployee for the duration of the training, if  
22 the training is provided by the eligible enti-  
23 ty; and

24 (ii) 50 percent of the wages of an em-  
25 ployee for the duration of the training, if

1                   the training is provided by an entity other  
2                   than the eligible entity.

3           (4) GRANT AMOUNT.—An eligible entity may  
4   not receive more than \$100,000 per fiscal year  
5   under subsection (b)(1).

6   (d) AUTHORIZATION OF APPROPRIATIONS.—There is  
7   authorized to be appropriated to carry out this section  
8   \$100,000,000 for each of fiscal years 2020 through 2024.

○