

**H.R. 4526, THE 21ST CENTURY ENERGY WORK-  
FORCE DEVELOPMENT JOBS INITIATIVE ACT  
OF 2014**

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**HEARING**  
BEFORE THE  
SUBCOMMITTEE ON ENERGY AND POWER  
OF THE  
COMMITTEE ON ENERGY AND  
COMMERCE  
HOUSE OF REPRESENTATIVES  
ONE HUNDRED THIRTEENTH CONGRESS  
SECOND SESSION

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<sup>1</sup>Mr. Barrett rather than Ms. Bell submitted a written statement on behalf of their organization.



**H.R. 4526, THE 21ST CENTURY ENERGY WORK-  
FORCE DEVELOPMENT JOBS INITIATIVE  
ACT OF 2014**

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**WEDNESDAY, SEPTEMBER 17, 2014**

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON ENERGY AND POWER,  
COMMITTEE ON ENERGY AND COMMERCE,  
*Washington, DC.*

The subcommittee met, pursuant to call, at 10:03 a.m., in room 2322, Rayburn House Office Building, Hon. Ed Whitfield (chairman of the subcommittee) presiding.

Members present: Representatives Whitfield, Shimkus, Pitts, Terry, Latta, Olson, McKinley, Griffith, Rush, Tonko, Yarmuth, Engel, Green, Barrow, and Waxman (ex officio).

Staff present: Nick Abraham, Legislative Clerk; Leighton Brown, Press Assistant; Allison Busbee, Policy Coordinator, Energy and Power; Tom Hassenboehler, Chief Counsel, Energy and Power; Jason Knox, Counsel, Energy and Power; Matt Connolly, Democratic Legislative Assistant; Hannah Green, Democratic Policy Analyst; and Alexandra Teitz, Democratic Chief Counsel, Energy and Environment.

Mr. WHITFIELD. I would like to call the hearing to order this morning, and I want to thank our panel of witnesses. We look forward to your testimony, and I will be introducing each one of you right before you give your statement, but we do thank you for attending this hearing this morning. This morning's hearing—and I am going to recognize myself for 5 minutes for an opening statement.

**OPENING STATEMENT OF HON. ED WHITFIELD, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF KENTUCKY**

This morning's hearing focuses on H.R. 4526, the 21st Century Energy Workforce Development Jobs Initiative Act of 2014. You all got a long title on this bill. I am particularly pleased to work with my friend Bobby Rush here, the ranking member of this subcommittee. He authored this legislation, and all of us think that it is vitally important to explore the opportunities that this legislation will provide.

The dramatic increases in domestic oil and natural gas production could not have come at a better time for the Nation's struggling economy. As a result of America's oil and gas boom, energy is one of the very few sectors of the economy where we have seen

substantial job growth in recent years, and these jobs pay very well. In fact, it has been reported that graduates of the South Dakota School of Mines and Technology are commanding higher salaries than graduates from some of the business programs at Harvard.

The Energy Information Administration and others predict continued increases in domestic oil and gas output in the years ahead, and that translates into growing demand for qualified employees to produce that energy. Many of the Nation's fastest-growing State economies are energy-producing States, and that is not likely to change any time soon. People with the right training will be needed in even greater numbers, from the geologists and engineers who use state-of-the-art technology to find the oil and natural gas, to those who drill and operate the wells, to those who design and build and maintain the specialized equipment that makes it all possible.

And beyond the oil and gas boom, there are still jobs related to coal, nuclear, and many other sectors relating to energy. There are over 800,000 jobs in the U.S. supported, for example, by the coal mining industry alone.

There is no doubt that the energy industry offers promising careers for young people, and we need to make certain that these opportunities exist for all Americans, including African Americans, Hispanic Americans, and women, and that is what H.R. 4526 does.

And just from my personal view, we certainly want to focus on those groups, but I think it is also important that we have programs available for anyone who needs help economically. Some of those are African American, but they may be Hispanic; they may be Caucasian, whatever they may be. We want opportunities for them, and that is what this bill is all about. And I really look forward to the testimony of those of you on the panel because you have the expertise to help us get a better understanding of this.

[The prepared statement of Mr. Whitfield follows:]

#### PREPARED STATEMENT OF HON. ED WHITFIELD

This morning's hearing focuses on H.R. 4526, the 21st Century Energy Workforce Development Jobs Initiative Act of 2014. I am particularly pleased to work with my friend Bobby Rush, who introduced this important bill to increase minority participation in the rapidly expanding energy jobs market.

The dramatic increase in domestic oil and natural gas production could not have come at a better time for this Nation's struggling economy. As a result of America's oil and gas boom, energy is one of the very few sectors of the economy where we have seen substantial job growth in recent years. And these jobs pay very well—in fact, it has been reported that graduates of the South Dakota School of Mines and Technology are commanding higher salaries than graduates of Harvard.

And these are careers for the long haul. The Energy Information Administration and others predict continued increases in domestic oil and gas output in the years ahead, and that translates into growing demand for qualified employees to produce that energy. Many of the Nation's fastest-growing State economies are energy-producing States, and that is not likely to change any time soon.

People with the right training will be needed in ever greater numbers—from the geologists and engineers who use state-of-the-art-technology to find the oil and natural gas, to those who drill and operate the wells, to those who design and build and maintain the specialized equipment that makes it all possible, and many others. And beyond the oil and gas boom, there are all the jobs related to coal, nuclear, and renewables. There are over 800,000 jobs in the U.S. supported by the coal mining industry. Many of these jobs provide excellent salaries and opportunities for upward-mobility for minorities living in some of the most impoverished corners of our

country, specifically for Native Americans. For example, the Chairman of the Crow Nation, the tribal Nation in Montana, has testified before congress that the importance of coal mining “to the economy of the Crow Reservation cannot be overstated.” We must remember this fact and encourage and develop energy jobs of all types.

There is no doubt that the energy industry offers many promising careers for young people, and we need to make certain that these opportunities exist for all Americans, including African Americans, Hispanic Americans, and women. And that is what H.R. 4526 does. It improves upon the Federal Government’s existing education and job training programs by ensuring that more women and minorities can acquire the skills needed to get energy industry jobs.

Of course, I might add that these job opportunities only exist to the extent that we are allowed to produce energy in this country. For that reason, we need to remain vigilant against restrictive policies such as those that limit fossil fuel production from Federal lands. And we absolutely must allow coal to remain a significant part of the energy mix to preserve and expand coal-related jobs. The same is true of nuclear power, which faces numerous Federal roadblocks. In addition, we should support legislation that expands global markets for American energy, such as H.R. 6, the “Domestic Prosperity and Global Freedom Act.” Simply put, more American energy production equals more American jobs. Tomorrow on the House floor, we will be debating an energy bill that reduces red tape, helps to extend our energy infrastructure for greater access to supplies, promotes production, and most of all will help to expand these jobs that we refer to in H.R. 4526.

While we pursue policies that expand the energy jobs pool, we also need to take steps to help minorities and women fill more of these positions. H.R. 4526 is a vital step forward in achieving this goal. I look forward to working with Mr. Rush to assure its passage.

[H.R. 4526 follows:]



113TH CONGRESS  
2D SESSION

# H. R. 4526

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

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## IN THE HOUSE OF REPRESENTATIVES

APRIL 30, 2014

Mr. RUSH (for himself, Mr. WHITFIELD, and Mr. JOHNSON of Ohio) introduced the following bill; which was referred to the Committee on Education and the Workforce

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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.

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 The Congress finds the following:

8 (1) There are, currently and for well into the  
9 future, significant opportunities for African-Ameri-

1       cans and Hispanic-Americans throughout the energy  
2       industry at each level of education and training, but  
3       raising the educational achievement for large seg-  
4       ments of the upcoming generation is resource inten-  
5       sive and will take decades to achieve, although the  
6       payoff of an increased skilled labor pool would be  
7       enormous to society in general and United States in-  
8       dustry in particular.

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

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

24              (4) The rates at which African-Americans and  
25       Hispanic-Americans attain employment in the en-

1     ergy industry is in part related to the choice of the  
2     field of study for college degrees (4-year or 2-year)  
3     and vocational certificates.

4           (5) Data from the National Center for Edu-  
5     cation Statistics suggest that, over the 2001 through  
6     2010 period, African-American and Hispanic-Amer-  
7     ican students chose and completed 4-year college de-  
8     grees applicable to employment in the oil and nat-  
9     ural gas industry at rates one-fifth and one-half, re-  
10    spectively, the rates of the total student population.

11          (6) With respect to 2-year associate degrees  
12    and certificates, data from the National Center for  
13    Education Statistics suggest that over the same time  
14    period, African-American and Hispanic-American  
15    students chose and completed programs of study/  
16    training applicable to employment in the oil and nat-  
17    ural gas industry at rates roughly one-tenth above  
18    and one-third below, respectively, the rates of the  
19    total student population.

20          (7) The American Petroleum Institute projects  
21    525,000 new job opportunities in the oil and natural  
22    gas industry by 2020, with 166,000, or 31 percent  
23    of such jobs, expected to be held by African-Amer-  
24    ican and Hispanic-American workers, and, with for-  
25    ward looking policies, that number could increase to

1 a projected 811,000 new job opportunities, with  
2 more than 285,000, or 35 percent, of such jobs  
3 being filled by minorities, by 2030.

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

10 (9) The American Petroleum Institute projects  
11 that over half of the future potential job growth in  
12 the oil and natural gas industry, approximately  
13 417,000 jobs, is expected in the Gulf region, with  
14 the East region expected to contribute nearly  
15 140,000 job opportunities, the Rockies region nearly  
16 116,000 job opportunities, and the West, Alaska,  
17 and Central regions expected to contribute approxi-  
18 mately 138,000 job opportunities combined.

19 (10) The National Mining Association reports  
20 that the coal mining industry supported a total of  
21 805,680 jobs in 2011. That includes 204,580 direct  
22 jobs, including mine workers (143,520), support ac-  
23 tivities (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/managers of con-  
24 struction 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 next decade 30,000 miles of new long-  
8 distance natural gas pipelines will be needed to man-  
9 age the new sources of shale natural gas supply,  
10 while a 2007 Census Bureau's Survey of Business  
11 Owners estimated that a very small percentage of  
12 pipelines were owned by minority-owned and woman-  
13 owned firms compared to the total owned by non-  
14 minority males.

15 (14) In 2013, the Energy Information Adminis-  
16 tration estimated that relatively low natural gas  
17 prices, maintained by growing shale natural gas pro-  
18 duction, will spur increased use of natural gas in the  
19 industrial and electric power sectors by 16 percent,  
20 from 6.8 trillion cubic feet per year in 2011 to 7.8  
21 trillion cubic feet per year in 2025, while total con-  
22 sumption of natural gas in the United States will  
23 continue to grow in the electric power sector from  
24 16 percent of generation in 2000 to 30 percent in

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

3 (15) The Energy Information Administration  
4 estimates natural gas production in the United  
5 States will increase annually, outpacing domestic  
6 consumption and making the United States a net ex-  
7 porter of natural gas by 2019, while continued low  
8 levels of liquefied natural gas imports, combined  
9 with increased 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  
15 estimates that coal-fired electricity generation will  
16 remain a dominant resource in the Nation's total  
17 generation portfolio, representing 34 percent of  
18 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 billion annually in 2030,  
23 driven by further improvements in the cost-competi-  
24 tiveness of wind and solar technologies and an in-  
25 crease in the roll-out of non-intermittent clean en-

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

4 (18) A 2013 report by the Bloomberg New En-  
5 ergy Finance research team estimated that renew-  
6 able energy projects including wind, solar, hydro-  
7 power, and biomass will account for 70 percent of  
8 new power generation capacity between 2012 and  
9 2030, and, by 2030, renewable energy will account  
10 for half of the generation capacity worldwide, up  
11 from 28 percent in 2012, requiring additional invest-  
12 ment in supporting infrastructure, including long  
13 distance transmission systems, smart grids, storage,  
14 and demand response.

15 (19) The Energy Information Administration  
16 states that since 2005 renewable energy has gar-  
17 nered more than \$1.3 trillion worth of investment  
18 and the Energy Information Administration esti-  
19 mates that global energy consumption will increase  
20 by 47 percent between 2010 and 2035, with clean  
21 energy providing more than half of that new capac-  
22 ity and attracting up to \$5.9 trillion worth of invest-  
23 ment, leading to new employment and investment  
24 opportunities.

1 **SEC. 3. COMPREHENSIVE PROGRAM FOR ENERGY-RELATED**  
2 **JOBS FOR THE 21ST CENTURY.**

3 (a) IN GENERAL.—The Secretary of Energy (in this  
4 Act referred to as the “Secretary”) shall establish and  
5 carry out a comprehensive program to improve education  
6 and training for energy-related jobs in order to increase  
7 the number of skilled minorities and women trained to  
8 work in energy-related jobs, including by—

9 (1) encouraging minority and women students  
10 to enter into the energy science, technology, engi-  
11 neering, and mathematics (in this Act referred to as  
12 “STEM”) fields;

13 (2) ensuring that the Nation’s education system  
14 is equipping students with the skills, training, and  
15 technical expertise necessary to fill the employment  
16 opportunities vital to managing and operating the  
17 Nation’s energy industry; and

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

22 (b) PRIORITY.—The Secretary shall make educating  
23 and training minorities and other workers for energy-re-  
24 lated jobs a national priority under the program estab-  
25 lished under subsection (a).

1 (c) DIRECT ASSISTANCE.—In carrying out the pro-  
2 gram established under subsection (a), the Secretary shall  
3 provide direct assistance (including grants, technical ex-  
4 pertise, mentorships, and partnerships) to community col-  
5 leges, workforce development organizations, and minority-  
6 serving institutions.

7 (d) CLEARINGHOUSE.—In carrying out the program  
8 established under subsection (a), the Secretary shall estab-  
9 lish a clearinghouse to—

10 (1) maintain and update information and re-  
11 sources on training and workforce development pro-  
12 grams for energy-related jobs; and

13 (2) act as a resource, and provide guidance, for  
14 schools, community colleges, universities, workforce  
15 development programs, and industry organizations  
16 that would like to develop and implement energy-re-  
17 lated training programs.

18 (e) COLLABORATION.—In carrying out the program  
19 established under subsection (a), the Secretary—

20 (1) shall collaborate with schools, community  
21 colleges, universities, workforce training organiza-  
22 tions, national laboratories, unions, State energy of-  
23 fices, and the energy industry;

24 (2) shall encourage and foster collaboration,  
25 mentorships, and partnerships among organizations

1 (including unions, industry, schools, community col-  
2 leges, workforce development organizations, and uni-  
3 versities) that currently provide effective job training  
4 programs in the energy field and institutions (in-  
5 cluding schools, community colleges, workforce devel-  
6 opment programs, and universities) that seek to es-  
7 tablish these types of programs in order to share  
8 best practices and approaches that best suit local,  
9 State, and national needs; and

10 (3) shall collaborate with the Energy Informa-  
11 tion Administration and the Bureau of the Census  
12 to develop a comprehensive and detailed under-  
13 standing of the energy workforce needs and opportu-  
14 nities by State and by region.

15 (f) GUIDELINES FOR EDUCATIONAL INSTITU-  
16 TIONS.—

17 (1) IN GENERAL.—In carrying out the program  
18 established under subsection (a), the Secretary, in  
19 collaboration with the Secretary of Education and  
20 the Secretary of Labor, shall develop guidelines for  
21 educational institutions of all levels, including for el-  
22 elementary and secondary schools and community col-  
23 leges and for undergraduate, graduate, and post-  
24 graduate university programs, to help provide grad-

1 uates with the skills necessary to work in energy-re-  
2 lated jobs.

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

7 (3) ENERGY EFFICIENCY AND CONSERVATION  
8 INITIATIVES.—The guidelines developed under para-  
9 graph (1) shall include grade-specific guidelines for  
10 teaching energy efficiency and conservation initia-  
11 tives to educate students and families.

12 (4) STEM EDUCATION.—The guidelines devel-  
13 oped under paragraph (1) shall promote STEM edu-  
14 cation as it relates to job opportunities in energy-re-  
15 lated fields of study in schools, community colleges,  
16 and universities nationally.

17 (g) OUTREACH TO MSIS.—In carrying out the pro-  
18 gram established under subsection (a), the Secretary  
19 shall—

20 (1) give special consideration to increasing out-  
21 reach to minority serving institutions (including his-  
22 torically black colleges and universities, predomi-  
23 nantly black institutions, Hispanic serving institu-  
24 tions, and tribal institutions);

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

5           (3) encourage industry to improve the opportu-  
6 nities for students of minority serving institutions to  
7 participate in industry internships and cooperative  
8 work/study programs.

9           (h) GUIDELINES TO DEVELOP SKILLS FOR AN EN-  
10 ERGY INDUSTRY WORKFORCE.—In carrying out the pro-  
11 gram established under subsection (a), the Secretary shall  
12 collaborate with representatives from the energy industry  
13 (including the oil, gas, coal, nuclear, utility, pipeline, re-  
14 newable, and nuclear sectors) to identify the areas of high-  
15 est need in each sector and to develop guidelines for the  
16 skills necessary to develop a workforce trained to go into  
17 the following sectors of the energy industry:

18           (1) Energy efficiency industry, including work  
19 in energy efficiency, conservation, weatherization, or  
20 retrofitting, or as inspectors or auditors.

21           (2) Pipeline industry, including work in pipeline  
22 construction and maintenance or work as engineers  
23 or technical advisors.

1           (3) Utility industry, including as utility work-  
2           ers, linemen, electricians, pole workers, or repair-  
3           men.

4           (4) Alternative fuels, including work in biofuel  
5           development and production.

6           (5) Nuclear industry, including work as sci-  
7           entists, engineers, technicians, mathematicians, or  
8           security personnel.

9           (6) Oil and gas industry, including work as sci-  
10          entists, engineers, technicians, mathematicians, pe-  
11          trochemical engineers, or geologists.

12          (7) Renewable industry, including work in the  
13          development and production of renewable energy  
14          sources (such as solar, hydropower, wind, or geo-  
15          thermal energy).

16          (8) Coal industry, including work as coal min-  
17          ers, engineers, developers and manufacturers of  
18          state-of-the-art coal facilities, technology vendors,  
19          coal transportation workers and operators, and min-  
20          ing equipment vendors.

21          (i) ENROLLMENT IN TRAINING AND APPRENTICE-  
22          SHIP PROGRAMS.—In carrying out the program estab-  
23          lished under subsection (a), the Secretary shall work with  
24          organized labor and community-based workforce organiza-  
25          tions to help identify students and other candidates, in-

- 1 cluding from historically underserved communities such as
- 2 minorities, women, and veterans, to enroll into training
- 3 and apprenticeship programs for energy-related jobs.

○

Mr. WHITFIELD. And with that, I would like at this time to introduce the author of the bill, Mr. Rush of Chicago, for his 5-minute opening statement.

**OPENING STATEMENT OF HON. BOBBY L. RUSH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS**

Mr. RUSH. I want to thank you, Mr. Chairman. I want to also commend you for not only cosponsoring H.R. 4526, but also for holding this important hearing today on an issue that is a high priority for me and for my constituents.

Mr. Chairman, you and your staff have been very, very gracious in working with my staff to make this hearing a reality, and I wanted to publicly express my sincere appreciation for your work and for your involvement, for your commitment. Mr. Chairman, I want to thank all the members who are present for taking the time out. I know there are other hearings going on, and their time is very precious to them, and their schedules are tight. I want to thank them, therefore, for taking the time out to be at this hearing. I want to thank all the participants, expert witnesses.

As you know, Mr. Chairman, since taking over as ranking member of this subcommittee, one of my top priorities has been to increase opportunities for minorities within all sectors of the energy industry. We have come a long way in this regard as evidenced by the distinct panel of stakeholders who have worked with my office from the beginning on drafting this bill. While there is still much work to do to turn potential into reality, I am very pleased to see that we have some of the top minds in the country testifying before us today representing the Federal Government, representing business, the energy sector, and nonprofits.

Mr. Chairman, the purpose of this bipartisan bill is to provide a pathway to employment for minorities and other historically underrepresented communities in the energy sector. This bill outlines a comprehensive strategy for initiating collaboration between the Departments of Energy, Education, and Labor, as well industry, schools, communities and colleges, universities, labor unions, workforce development organizations, and other stakeholders in order to engage, inform, train, and recruit minorities for energy jobs of the present and for the future.

The fact of the matter is, and this is in the best interests of our constituents of energy and our national economy to engage women and the minority community because as two recent API reports that Mr. Gerard references in his testimony tell us over half of the workforce was in the oil and gas industry, specifically will retire or leave within the next 5 or 10 years, and they will need these very same communities, this very same community workforce, to help replace those workers.

Mr. Chairman, I applaud Secretary Moniz for his outstanding leadership in developing the Minorities in Energy Initiative following both public and private conversations we have had discussion on this important topic. Under the leadership of Director Harris, who we will hear from today, I have every confidence that if all of us continue to work together, we will see positive, tangible results in moving this agenda forward.

Mr. Chairman, this is a very important matter. Again, I want to thank you for your participation. I think the American people owe you a sense of gratification and a sense of thanks because you are, indeed, in a bipartisan manner, moving a critical issue forward with this hearing.

Mr. Chairman, if I have any additional time, I want to yield to the gentleman from Texas for whatever time I have remaining.

**OPENING STATEMENT OF HON. GENE GREEN, A  
REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS**

Mr. GREEN. Thank you, Mr. Chairman. I will be brief and put my full statement in the record. I want to thank both the Chair and Ranking Member Rush for crafting this legislation. I am proud to be an original cosponsor. The industries I represent have complained for years about workforce shortages. In East Houston, Harris County, Texas, if we were able to recruit every journeyman electrician in the country, we would still have a shortage. Our economy is part of the country rapidly expanding because of the development of the Eagle Ford Shale in the Permian Basin, and our workforce in Texas, diversity is a reality. It is also a necessity. Recently, ExxonMobil and the Texas Gulf Coast Community College Consortium are addressing the workforce needs, and they provided funding for our community college, and San Jacinto College in our district is one of those colleges.

In fact, the diversity in San Jacinto College actually is—46 percent of their students that attend San Jacinto College are Hispanic, in those skills, computer training, electricity, machining, welding, pipe fitting, and other skills. Thank you, and I look forward to hopefully passing this bill.

[The prepared statement of Mr. Green follows:]

**PREPARED STATEMENT OF HON. GENE GREEN**

Good morning. I want to thank the chairman and the ranking member for holding this hearing today. I want to thank our witnesses for coming up and testifying today.

Today, we are here to discuss an issue that is very important to the district I represent. I am pleased that Representative Rush has crafted this legislation, and I am proud to be an original co-sponsor.

For years, many of the industries I represent have complained of workforce shortages. In East Houston/Harris County, if we were able to recruit every union electrician in the country, we would still have a shortage.

The economy in our part of the country is rapidly expanding thanks to the development of the Eagleford shale and the Permian Basin. We must ensure that this economic prosperity is shared across all of our community.

In Texas, workforce diversity is not only a reality, it's a necessity. But as I've stated before, Texas is once again leading the charge and producing results—this time in workforce development.

Thanks to efforts by ExxonMobil and the Texas Gulf Coast Community College Consortium, we are addressing the workforce needs of our industries. The Community College PetroChemical Initiative is a public-private partnership that is unique in the industry. The Consortium includes nine community colleges, including San Jacinto College in my district. The program expects to attract as many as 50,000 students and educators across the State over the next 5 years.

The program will provide certification and degree programs in a variety of technical fields, including computer and electrical technology; machining, welding, and pipefitting; and other skills and competencies needed by the chemical manufacturing and refining industries.

The composition of the student body at San Jacinto College overwhelming favors workforce diversity. Over 70 percent of the students are part-time, which means

they are most likely working professionals that are trying to obtain education for a better job. Over 46 percent of the students that attend the San Jacinto are of Hispanic or Latino origins. Over 56 percent of the students are women.

Through programs like CCPI, the industry job opportunities can become realities.

I look forward to working with my colleagues on this bill to ensure that success like we have in East Harris County is duplicated nationwide.

Mr. WHITFIELD. Thank you very much, and our chairman of the full committee, Mr. Upton, had a conflict and is not here. Is there anyone else on our side of the aisle that would like to be recognized for a comment? If not, at this time, I would like to recognize the gentleman from California, Mr. Waxman, for a 5-minute opening statement.

**OPENING STATEMENT OF HON. HENRY A. WAXMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA**

Mr. WAXMAN. Thank you, Mr. Chairman. I am very pleased for holding this hearing on this bill authored by the ranking member of this subcommittee, the 21st Century Energy Workforce Development Jobs Initiative. Mr. Rush's bill addresses a major challenge for our Nation to ensure that all Americans and especially minorities have the skills they need to carry out the jobs available today and in the future. Specifically, this bill aims to prepare minority workers for the wide-ranging job opportunities in the energy sector.

The U.S. energy industry is in a period of transformation and growth. Steady advances in critical energy technologies and the resulting cost reductions are generating new businesses and job opportunities across the country. These jobs are being filled by workers with a range of skills and educational levels from solar panel installers and wind turbine technicians, to engineers and line workers in electric vehicle factories. Mr. Rush's legislation aims to ensure that these opportunities emerging throughout the energy industry will also be available to minority workers and minority-owned businesses.

Mr. Rush has been a longstanding and tenacious champion for helping minority communities gain access to the full range of career opportunities in the energy field, particularly clean energy jobs. In 2009, in the Waxman-Markey Energy Bill, Mr. Rush successfully pushed to include funding for the proposed "low-income community energy efficiency program." This program would have provided financing for minority-owned businesses and community organizations to deliver energy efficiency and renewable energy improvements to low-income communities.

I strongly supported this effort. It would have created good, clean energy jobs for local residents while also helping low-income families save money on the energy bills through energy efficiency upgrades.

I am also proud to support Mr. Rush's most recent proposal. This bill would launch a comprehensive new program to create a pathway starting at the elementary school level for minorities to work in energy-related jobs. It would facilitate a coordinated effort among the energy industry, educational institutions, and Government, labor unions, to help bridge the gap that now exists between

the many minority workers and the job opportunities in the energy industry.

This is an area of tremendous opportunity if we can prepare workers with the skills they need. We are in the midst of an energy revolution, and some of the most exciting developments are occurring in clean energy. Since 2010, the solar industry has grown at a breakneck pace and added 50,000 new jobs across America. In 2013, there were over 142,000 workers throughout the solar industry supply chain in the United States. Nearly half of these were in solar installation jobs which earn over \$23 per hour on average. These are good living wage jobs that cannot be outsourced.

The wind industry has also grown rapidly in the United States over recent years. Texas ranks first in the country for wind power, installation, and wind industry jobs, while California ranks second. The wind industry has injected more than 11 billion into California's economy, and 23 billion into the Texas economy. These investments have created jobs and a stronger, more diverse tax base.

And as States move forward to implement the EPA's Clean Power Plan in coming years, job opportunities in the clean energy sector will expand even more rapidly, but creating jobs isn't enough. We also have to make sure that all Americans have the training and skills they need to compete for these jobs. Congressman Rush has put forward a well-developed bipartisan proposal to ensure that minorities, too, will benefit from these new jobs in energy. Today's hearing will provide valuable information on how this program can help translate opportunities into real jobs for minority workers.

Thank you, Mr. Chairman. I yield back my time.

Mr. WHITFIELD. Thank you, and that concludes our opening statements, so at this time, I will be calling on the members of the panel to give their opening statements.

And the first witness that we have this morning is Ms. LaDoris Harris, who is the Director of the Office of Economic Impact and Diversity at the Department of Energy, and, Ms. Harris, you will be recognized for 5 minutes for your opening statement, and thanks for being with us.

**STATEMENTS OF LADORIS HARRIS, DIRECTOR, OFFICE OF ECONOMIC IMPACT AND DIVERSITY, DEPARTMENT OF ENERGY; HARRY C. ALFORD, PRESIDENT AND CEO, NATIONAL BLACK CHAMBER OF COMMERCE; CASEY BELL, SENIOR ECONOMIST, AMERICAN COUNCIL FOR AN ENERGY-EFFICIENT ECONOMY; PAULA R. JACKSON, PRESIDENT AND CEO, AMERICAN ASSOCIATION OF BLACKS IN ENERGY; AND JACK N. GERARD, PRESIDENT AND CEO, AMERICAN PETROLEUM INSTITUTE**

**STATEMENT OF LADORIS HARRIS**

Ms. HARRIS. Thank you, Chairman Whitfield, Ranking Member Rush, and the distinguished members of the committee. I am pleased to be before you today to discuss the status of the Department of Energy's Minorities in Energy Initiative and the Workforce Development Initiatives.

I was nominated by the President as the Director of the Office of Economic Impact and Diversity at the United States Department of Energy and confirmed by the U.S. Senate on March 29 of 2012. As an electrical engineer by training, I bring 30 years of global private sector management and leadership experience in the energy sector. Before coming to the Department of Energy, I was co-founder, president and CEO of Jabo Industries, a minority, woman-owned management consulting firm concentrating in the energy, information technology, and healthcare industries. I also served as an executive at General Electric and held a number of leadership positions at GE Energy and industrial systems businesses.

Prior to GE, I was an officer and vice president of operations for production for ABB Services, Inc. I spent 12 years as a field service engineer and services manager for Westinghouse Electric Company.

The Office of Economic Impact and Diversity at the Department was established in 1979, and with a director appointed by the President and confirmed by the Senate to advise the Secretary on the impact of energy policies, regulations, and other actions of the Department on Minorities and Minority Business Enterprise to ensure minorities can participate fully in the Department's energy programs.

The policy includes insurance that DOE can provide minorities with information, technical assistance, support, loans, business analysis, and targeted outreach. In 2013, as I mentioned earlier, Secretary Moniz launched the Department of Energy's Minorities in Energy Initiative, and this initiative was to engage the minority communities in the energy sector. Because of my office's mandate and successful history working with minority communities, Secretary Moniz asked me to task this initiative. The initiative is a public-private collaboration aimed at increasing minority participation in the energy sector through engagement in science, technology, engineering and math, education, and workforce development, energy economic development, as well as climate change. Through outreach, industry partnerships, and industry data analysis, we seek to harness the richness of America's diversity to actually develop and sustain talent. One of the areas for timing for this initiative could not be better with the fact that energy is the third largest industry in the U.S.

MIE, as it is referred to, would empower and prepare businesses, communities, schools, and individuals to benefit from the technical, financial assistance, and workforce, and energy literacy as well.

Through the initiative we have sustained a platform which should include a number of ambassadors across the industry as well as those in the education and economic industries as well. Some of the leading members of this, or ambassadors include the Ranking Member Bobby Rush, Senators Mary Landrieu and Lisa Murkowski, Congresswoman Eddie Bernice Johnson, Congressman Joe Garcia. Also on the panel with us today, Jack Gerard is also one of our ambassadors. We have a few ambassadors as well that has been key, past former EPA administrator, New Jersey Governor Christine Todd Whitman is also one of our ambassadors.

If we look at the areas that we are focusing in for STEM education and workforce development, we are working very closely

with the Obama administration even in My Brother's Keeper Initiative that we want to focus on as well. One of the areas that we really are looking forward to with MIE is not only in working with some of the minorities serving institutions which support the educational outreach that we have.

One of the second areas that we focus on, clearly the economic impact development, because of the \$6 trillion industry that we have in energy, we are making sure we engage minority businesses as well. In this area we have a MOU, for example, with the Department of Commerce, with minority business development agency that we will establish in 2013, and collectively we are working very closely with the businesses to support this.

And finally in the climate change area, we have engaged with the—aligned our focus with President Obama's Clean Action Plan, and we support all the necessary investments for clean energy technology.

So in conclusion, we will be looking forward to working with the committee and all that you have done in support of the Department's Minorities in Energy Initiative, focusing on your bill for energy workforce development. Thank you very much.

[The prepared statement of Ms. Harris follows:]

**Statement of the Honorable LaDoris Harris**  
**Director of the Office of Economic Impact and Diversity**  
**U.S. Department of Energy**  
**before the**  
**Subcommittee on Energy and Power**  
**Committee on Energy and Commerce**  
**U.S. House of Representatives**  
*21st Century Energy Workforce Development Jobs Initiative Act of 2014*  
**September 17, 2014**

Thank you Chairman Whitfield, Ranking Member Rush, and distinguished members of the Committee. I am pleased to come before you today to discuss the status of the Department of Energy's (DOE) Minorities in Energy Initiative (MIE) and workforce development initiatives.

**Office of Economic Impact and Diversity**

The Office of Economic Impact and Diversity at the Department of Energy was established in 1979, with the Director appointed by the President and confirmed by the Senate, to advise the Secretary on the impact of energy policies, regulations, and other actions of the Department on minorities and minority business enterprises to ensure minorities can participate fully in the Department's energy programs. The policy includes assurance that DOE can provide minorities with information, technical assistance, support programs, loans, business analysis, and targeted outreach.

**Minorities in Energy Initiative**

In 2013, Energy Secretary Ernest Moniz launched the Department of Energy's Minorities in Energy Initiative (MIE) to increase the engagement of minority communities in the energy sector. Because of ED's congressional mandate and successful history working with minority communities, Secretary Moniz tasked it with leading the MIE. The initiative is a public-private collaboration aimed at increasing minority participation in the energy sector through engagement in science, technology, engineering and math (STEM) education and workforce development, energy economic development and climate change. Through outreach, industry partnerships, and energy industry data analysis, MIE seeks to harness the richness of America's diversity to develop and sustain talent, stimulate innovation, and support economic and national security.

The timing for such an initiative could not have been better - energy is the third largest industry in the U.S., and it is growing rapidly. Our country is undergoing an energy revolution spurred by new technology in fossil fuel recovery, renewable energy generation and changing use patterns. Our aging infrastructure must be modernized to allow for new fuel sources and technologies to come on-line. The government and private sector are poised to make large investments in energy efficiency and make our infrastructure more resilient to climate change and the other risks we face.

MIE will empower and prepare businesses, communities, schools, and individuals to benefit from the technical, financial assistance, workforce, and energy literacy resources of the Department and the overall energy sector.

Through this initiative, the Department now has a sustainable platform to convene minority and tribal communities to discuss energy challenges and seek solutions. We work to fully engage our communities on energy policies that affect them and expand opportunities for minority workers and businesses in the energy sector.

We have over 30 Minorities in Energy Ambassadors, national leaders chosen by DOE leadership for their work in STEM education, energy economic development, and climate change. The Ambassadors work with the Department to advance the goals of the program. They understand what the future of energy can mean for minority communities in terms of better jobs, better education, greater national security and a cleaner planet for future generations.

These leaders include Ranking Member Bobby Rush, Senators Mary Landrieu and Lisa Murkowski, Congresswoman Eddie Bernice Johnson, Congressman Joe Garcia, American Petroleum Institute President Jack Gerard, venture capitalist Carmichael Roberts, Haskell Indian Nations University Professor Dr. Daniel Wildcat, former EPA Administrator and New Jersey Governor Christine Todd Whitman, AREVA President and CEO Gary Mignogna, University of Maryland Baltimore County President Freeman Hrabowski, and former Secretaries of Energy Hazel O'Leary and Bill Richardson. With their support, we are moving the needle on the energy challenges and economic opportunities before us.

#### **STEM Education & Workforce Development**

Changing demographic trends require that a national effort to strengthen the STEM workforce must draw on the minds and talents of all Americans, including underrepresented minorities in STEM. The MIE STEM education and workforce development goal is to establish and implement a framework for achieving growth of minority participation in the energy sector through enhanced public awareness of energy-related careers and the promotion of both STEM education and workforce development paths to meet the full-range of energy sector employment across all skill areas.

The MIE Initiative strategically aligns with the Federal STEM Education 5-Year Plan and the Obama Administration's My Brother's Keeper Initiative by working to better serve groups historically underrepresented in STEM fields, closing opportunity gaps faced by young people of color and highlighting energy sector career opportunities for minority communities. DOE coordinates also its STEM education and workforce development activities with federal partners like the Office of Science and Technology Policy, Department of Commerce, USAID, Department of Education, and the Department of Housing and Urban Development.

Increasing the participation and success of minorities in STEM contributes to the health of the nation by expanding the STEM talent pool, enhancing innovation, and improving the nation's global economic leadership. The groups that are the most underrepresented in STEM fields are also the fastest growing in the general population. By 2043, no single group will make up a majority of Americans. In about five years, minority children will comprise more than half of the

children under 18 years old in the United States. Today, minority children under three years old are already the majority.

Fully engaging the diversity of our nation will allow us to build a STEM workforce that can create jobs and wealth, and address the energy challenges facing our nation. We need to take an all-hands-on-deck approach to STEM education—training educators in these subject areas to prepare students for higher paying and highly rewarding careers in STEM fields.

Minority Serving Institutions (MSIs) serve as important resources to educate and train a significant portion of America's future STEM workforce. In addition to four-year colleges and universities, two-year colleges can also provide resources for workforce development for energy sector careers.

An example of the synergy of STEM education and workforce development is our active involvement in the Energize America roundtable series. Energize America is a series of workforce development summits focused on job readiness and industry needs in cities across the country. The American Petroleum Institute, whose President Jack Gerard is one of our MIE Ambassadors, sponsors Energize America in collaboration with the American Association of Blacks in Energy and Hispanics in Energy. The Department participates in the Energize America series by sharing information opportunities in energy sector opportunities across the DOE complex, from jobs and training to internships and funding resources.

Congressman Rush spoke at the first summit, Energize Chicago, earlier this year, about energy sector opportunities for his community. Over the course of the year, we've participated in Energize events in Bakersfield, Philadelphia, Las Cruces, Denver, and Canton. Energize Detroit and Energize Charlotte will round out the series for this year. Participants have included former Interior Secretary Ken Salazar, senior representatives of national labs, representatives from energy companies, community organizations, local elected officials, citizens, utilities, universities, trade schools and our Minorities in Energy Ambassadors. All of these events are free and open to the public.

The Department of Energy is also collaborating with the Department of Housing and Urban Development (HUD) on the STEM Education, Economic Development or SEED Initiative. This innovative place-based program, together with additional input from the U.S. Department of Education and the U.S. Department of Labor, creates economic opportunity and energy-literate communities of public housing residents around the country. The first SEED planning session will be in Denver, Colorado in October with DOE, HUD, Denver Public Housing Authority, Denver Urban League and the Mayor's office.

#### **Energy Economic Development**

Globally, energy is a \$6 trillion industry that encompasses diverse energy sources and uses. Given the shifting energy supply and demand patterns, both domestically and abroad, and the rapid pace of innovation in energy technologies, the importance of increasing minority participation in the energy sector is paramount. The MIE energy economic development goal is to establish and implement an energy economic development framework for increased minority business growth, participation in innovation and commercialization, access to capital, and

investment in the energy sector, including energy production and distribution, manufacturing, and energy efficiency.

The spirit of entrepreneurship is spreading in this country, and some of the most significant opportunities are in the growing energy sector. The Department's initiatives are aligned with President Obama's all-of-the-above energy strategy.

The DOE ED entered into a Memorandum of Understanding with the Department of Commerce's Minority Business Development Agency in 2013 aimed at increasing the participation of minority business enterprises in energy – one of the largest growth industries in the U.S. This collaborative work supports the President's plan to develop and secure America's energy resources. In 2013, DOE also created the Office of Minority Business and Economic Development to increase awareness on market trends and opportunities and to expand technical assistance to minority businesses in the energy sector, including minority-women owned businesses.

DOE also provides funding, business and research opportunities that minority businesses will be able to access. These opportunities include the Small Business and Innovation Research and Small Business Technology Transfer (SBIR/ STTR) program to increase the diversity of our applicant pool, focusing on Women- Owned and Minority-Owned small business concerns. This program is designed to support small U.S. businesses doing innovative research to design, scale up, and commercialize their technology through grants and expert support.

The Advanced Research Project Agency-Energy (ARPA-E) advances high-potential, high-impact energy technologies that are too early for private-sector investment. ARPA-E awardees are unique because they are developing entirely new ways to generate, store, and use energy. ARPA-E projects have the potential to radically improve U.S. economic prosperity, national security, and environmental well-being. Minority businesses and researchers have the opportunity to apply for an ARPA-E grant to further develop their innovative technology.

DOE's Clean Energy Manufacturing Initiative offers federal resources to help innovators design, scale up, and commercialize their technology. The DOE Loan Program enables DOE to work with private companies and lenders to mitigate the financing risks associated with clean energy projects, and thereby encourage development on a broader and much-needed scale.

### **Climate Change**

Climate change presents a key challenge and opportunity for the energy sector. The MIE is focused on engaging minority and tribal communities in policy development and technological solutions to advance climate change mitigation and adaptation.

Aligned with President Obama's Climate Action Plan, the MIE supports efforts to invest in clean energy technologies to protect current and future generations of Americans, and to create new jobs and industries to keep America on the cutting edge and prepare communities for the impacts of climate change.

Innovation and utilization of clean energy provides an opportunity to engage minority businesses in our broader efforts to reduce carbon pollution and prepare the Nation for the impacts of climate change. And investments in homegrown clean energy will help create good paying jobs that cannot be shipped overseas.

**Conclusion**

MIE is a sustainable platform and nation-wide initiative to increase minority participation in the energy sector, STEM education, workforce development, energy economic development, and climate change mitigation and adaptation.

Looking to the future, DOE is committed to helping develop America's next generation of STEM leaders and innovators. America's ability to meet the challenges and achieve the opportunities of our time depends in large measure on a diverse and robust energy sector. Increasing the participation of minorities in the energy sector contributes to the health of our nation by: expanding the talent pool, enhancing innovation, and improving the nation's global economic leadership. The diversity of American higher education institutions is a competitive advantage in the global knowledge economy.

Thank you for providing me with the opportunity to testify before your Committee today. The Department appreciates the leadership of this Committee on engaging minorities in the energy sector, including the recent introduction of the "21st Energy Workforce Development Jobs Initiative Act of 2014." I look forward to continuing to work with the Committee on engaging more minorities in the energy sector.

Mr. WHITFIELD. Thank you, Ms. Harris.

And at this time, our next witness is Mr. Harry Alford, who is the President and CEO of the National Black Chamber of Commerce. Mr. Alford, thank you for being with us today. We look forward to your testimony. You are recognized for 5 minutes.

#### **STATEMENT OF HARRY C. ALFORD**

Mr. ALFORD. Chairman Whitfield, Minority Leader Rush, and distinguished members of the committee, thank you for inviting the National Black Chamber of Commerce to participate in this most important hearing. The NBCC proudly represents the fastest growing segment of the American economy, black-owned businesses. When we were incorporated in May of 1993, the U.S. Census Bureau stated that there were 300,000 black-owned businesses doing \$30 billion in sales annually. Today the U.S. Census Bureau states that there are 1.9 million black-owned businesses doing over \$137 billion annually. This fantastic growth has swelled our membership and has made us the largest black business association in the world. We have over 170 local chapters of which 70 percent are located throughout the United States. Our database of black-owned firms exceeds 60,000 within the United States.

Likewise, there has been an unprecedented growth in this country's energy industries in the last decade. The development and production of natural gas and oil has increased dramatically with the widespread use of hydraulic fracturing. The U.S. has moved from being a country that imports natural gas to one that has the capacity to export it. In fact, natural gas production in the U.S. is expected to grow increasing 56 percent between 2012 and 2040. This type of growth directly translates into jobs, often well-paid jobs with Fortune 500 companies. In fact, according to the U.S. Energy Information Administration, jobs in the oil and gas industries have outpaced all others in the private sector. Without a doubt, minorities should be competing for and landing these jobs.

According to a March 2014 IHS study, the U.S. oil and gas industry and the petrochemical industry together employed a total of 1.2 million people in 2010. Of those jobs, African American workers held 98,000 of them in 2010, accounting for 8.2 percent of the total employment. According to the same IHS study, there will be a total of 1.3 million direct job opportunities over the period of 2010 to 2030 in the oil and gas and petrochemical industries. Of those job opportunities, IHS projects that African American and Hispanic workers will account for nearly 408,000 jobs, or 32 percent in 2030. IHS also estimates that African American and Hispanic workers are projected to make up nearly 20 percent of the management, business, and financial opportunities through 2030.

One of the most significant ways that we as a minority community can take advantage of the employment boom and energy sectors is to support local development of energy-related projects and development within our local communities. A good example of such a partnership is the Mississippi Power Company's construction of a power plant in Kemper County, which began in 2010. The power plant will have carbon capture and sequestration technology, providing for lower emissions generation. The facility is projected to create more than 12,000 construction jobs and 1,000 permanent

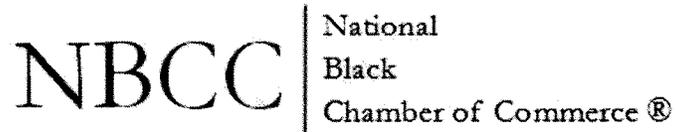
jobs, generating more than \$75 million in State and local tax revenue. The Kemper facility has contracted with 22 minority-owned businesses for \$96.7 million in business opportunities.

In summation, the purpose of this bill is to provide a pathway to employment for minorities and other historically underrepresented communities in the energy sector. This bill outlines a comprehensive strategy for initiating collaboration between the Department of Energy, Education, and Labor, as well as industries, schools, community colleges, universities, labor unions, workforce development organizations, and other stakeholders, in order to engage, inform, train and recruit minorities for the energy jobs of the present and future.

The Secretary of Energy shall: Make the objective of educating and training minorities and other workers for the 21st Century jobs a national priority; collaborate with the Secretary of Education or his designee and the Secretary of Labor or his designee to develop guidelines for educational institutions at all levels, including K through 12, community colleges, undergraduates, graduate, post-graduate universities, that would help the energy workforce in the 21st century; work with organized labor and community-based workforce organizations to help identify candidates, including from historically underserved communities such as minorities, women and veterans, and to enroll into training and apprenticeship programs, leading to full union membership. I commend Representatives Rush, Whitfield, and Johnson on their introduction of this important legislation. The bill provides for an overall strategy to connect representatives from industry, education, and Government and other stakeholders in an effort to engage, inform, train, and recruit minorities for the energy jobs of the present and the future.

With these types of efforts, we can educate, train, and employ African Americans and other minorities so that they too can enjoy the economic benefits of the American energy boom. Thank you.

[The prepared statement of Mr. Alford follows:]



4400 Jenifer St NW Suite 331 Washington, DC 20015  
202-466-6888 Fax 202-466-4918  
[www.nationalbcc.org](http://www.nationalbcc.org) [info@nationalbcc.org](mailto:info@nationalbcc.org)

**H.R. 4526**

**“21<sup>st</sup> Century Energy Workforce Development Jobs Initiative Act of 2014”**

**CONGRESSIONAL TESTIMONY**

**HOUSE COMMITTEE ON ENERGY AND COMMERCE**

**SUBCOMMITTEE ON ENERGY AND POWER**

**CHAIRMAN ED WHITFIELD**

**RANKING MEMBER BOBBY RUSH**

**SEPTEMBER 17, 2014**

**TESTIMONY BY**

**HARRY C. ALFORD, PRESIDENT/CEO**

Chairman Whitfield, Minority Leader Rush and distinguished members of this committee thank you for inviting the National Black Chamber of Commerce to participate in this most important hearing. The NBCC proudly represents the fastest growing segment of the American economy, Black Owned Businesses. When we were incorporated in May, 1993 the US Census Bureau stated that there were 300,000 Black owned businesses doing \$30 billion in sales annually. Today, the US Census Bureau states that there are 1.9 million Black owned businesses doing over \$137 billion annually. This fantastic growth has swelled our membership and has made us the largest Black business association in the world. We have over 170 local chapters of which 70% are located throughout the United States. Our database of Black owned firms exceeds 60,000 within the United States.

Likewise, there has been an unprecedented growth in this country's energy industries in the last decade. The development and production of natural gas and oil has increased dramatically with the widespread use of hydraulic fracturing. The U.S. has moved from being a country that imports natural gas to one that has the capacity to export it. In fact, natural gas production in the U.S. is expected to continue to grow, increasing 56% between 2012 and 2040. This type of growth directly translates into jobs, often well-paid jobs with Fortune 500 companies. In fact, according to the U.S. Energy Information Administration, jobs in the oil and gas industries have outpaced all others in the private sector. Without a doubt, minorities should be competing for and landing these jobs.

According to a March 2014 IHS study, the U.S. oil and gas industry and the petrochemical industry together employed a total of 1.2 million people in 2010. Of those jobs, African American workers held **98,000** of them in 2010, accounting for 8.2% of the total employment. According to that same IHS study, there will be a total of almost **1.3 million** direct job

opportunities over the 2010-2030 periods in the oil & gas and petrochemical industries. Of those job opportunities, IHS projects that African American and Hispanic workers will account for nearly **408,000** jobs, or **32%** in 2030. IHS also estimates that African American and Hispanic workers are projected to make up nearly **20 %** of the management, business, and financial job opportunities through 2030.

One of the most significant ways that we as a minority community can take advantage of the employment boom in energy sectors is to support local development of energy-related projects and development within our local communities. A good example of such a partnership is The Mississippi Power Company's construction of a power plant in Kemper County, which began in 2010. The power plant will have carbon capture and sequestration (CCS) technology, providing for lower-emissions generation. The facility is projected to create more than 12,000 construction jobs and 1,000 permanent jobs, generating more than \$75 million in state and local tax revenue. The Kemper facility has contracted with **22 minority-owned businesses** for **\$96.7 million** in business opportunities.

Another important topic in this discussion is the impact of energy-related jobs on the education and training of minorities. It is imperative that lawmakers support science, technology, engineering and mathematics (STEM) education at all levels of schools. According to a 2013 study by the National Science Foundation, 33% of recent African American STEM PhDs obtained their undergraduate degrees from Historically Black Colleges and Universities (HBCUs). Also, 8 of the top 10 colleges whose African American graduates went on to get PhDs in science fields were HBCUs. This is great news for HBCUs; nevertheless, African American students continue to be underrepresented in STEM and energy jobs. More needs to be done.

The energy industry can partner with local communities and schools to bring more resources to educating and training African American students for these types of jobs. For example, Mississippi Power has committed to awarding several scholarships to minority students in energy related fields like computer science, mechanical engineering and chemistry. Lawmakers can connect schools, colleges and universities with members of industry, government and other organizations to provide them with more opportunities to identify and understand the skills and training needed for energy related jobs.

#### **SUMMARY**

The purpose of this bill is to provide a pathway to employment for minorities and other historically underrepresented communities in the energy sector. This bill outlines a comprehensive strategy for initiating collaboration between the Department of Energy, Education, and Labor, as well as industry, schools, community colleges, universities, labor unions, workforce development organizations, and other stakeholders in order to engage, inform, train and recruit minorities for the energy jobs of the present and future.

The Secretary of Energy shall:

Make the objective of educating and training minorities and other workers for the 21<sup>st</sup> century energy jobs a national priority.

Collaborate with the Secretary of Education, or his designee, and the Secretary of Labor, or his designee, to develop guidelines for educational institutions of all levels, including K-12 schools,

community colleges, undergraduate, graduate, and post graduate university programs that would help develop the energy workforce for the 21<sup>st</sup> Century.

Work with organized labor and community based workforce organizations to help identify candidates, including from historically underserved communities such as minorities, women, and veterans, to enroll into training apprenticeship programs leading to full union membership.

Seek to encourage and foster collaboration, mentorships, and partnerships between organizations (unions, industry, schools, community colleges, workforce development organizations, universities) that currently provide effective job training programs in the energy field and institutions (schools, community colleges, workforce development programs, universities) that seek to establish these types of programs in order to share best practices and approaches that best suit local, state, and national needs.

I commend Representatives Rush, Whitfield and Johnson on their introduction of this important legislation. The bill provides for an overall strategy to connect representatives from industry, education, and government, and other stakeholders in an effort to engage, inform, train and recruit minorities for the energy jobs of the present and the future.

With these types of efforts, we can educate, train and employ African Americans and other minorities so that they, too, can enjoy the economic benefits of the American energy boom.

Mr. WHITFIELD. Thank you, Mr. Alford.

And our next witness is Ms. Casey Bell, who is a senior economist with the American Council for an Energy-Efficient Economy. Thank you for being with us, and you are recognized for 5 minutes.

#### STATEMENT OF CASEY BELL

Ms. BELL. Chairman Whitfield, Ranking Member Rush, members of the committee, thank you for the opportunity to speak to you today about the need for workforce development and training in energy and related industries. My name is Casey Bell. I am a senior economist with the American Council for an Energy-Efficient Economy, commonly known as ACEEE. I am testifying on behalf of Jim Barrett, our chief economist. ACEEE is a nonprofit research institute dedicated to advancing energy efficiency. For over 30 years, we have been a trusted source of information on end use efficiency technologies and policies. I am here to talk to you about the training and workforce development needs for the energy efficiency industry.

First, just to make sure we are all talking about the same thing, I will spend a moment defining energy efficiency. Though often conflated with energy conservation, efficiency is distinct. It is not about turning down the thermostat and putting on a sweater or otherwise doing without. Instead, efficiency is about doing more with less, going further on a gallon of gasoline, keeping your home warm while using less fuel, using precision timing to produce high quality products while cutting costs.

Unlike other energy sources, you can't touch, smell, or see energy efficiency. You can't burn it or put it on the electric grid. That makes efficiency a bit different than other energy sources. However, the important thing to keep in mind about energy is that is no one really consumes energy for its own sake. We don't necessarily buy gasoline because we like gasoline. We buy it because we need to go places, and our cars use gasoline to take us there. We don't eat electricity, but we need it to store and prepare food. We don't consume energy per se, rather we consume energy services, mobility and access, heating and cooling, the ability to use our computers for work, and television to relax.

So while efficiency doesn't deliver energy, it delivers energy services, and it is just as important to the economy as physical energy sources are, perhaps more so.

In 1970, the U.S. GDP, the value of all the goods and services we produce, was a little over \$5 trillion in today's terms. By 2012, that had more than tripled to over 16 trillion, adjusting for inflation. In 1970, our economy consumed about 68 quadrillion BTUs worth of physical energy. By 2012, that grew to just under 100, an increase not of 300 percentage like GDP, but of only 41 percent. If we consumed energy in 2012 the same way we consumed it in 1970, we would have consumed over 220 quadrillion BTUs. What this means is that over that time frame, the majority of the increase in demand for energy was not met by increasing the supply of energy, but rather by energy efficiency, as shown in the figure 1 in Jim's testimony.

Without energy efficiency, energy consumption would be more than twice as high as it is today. By that measure efficiency has

been the single most important fuel of the past 40 years. Not only is energy efficiency a critical resource for economic growth and productivity, it is an important source of employment. Unfortunately, just as efficiency itself can't be seen, the energy efficiency industry is also difficult to identify.

Unlike industries such as oil and gas extraction, electricity generation, or automobile manufacturing, there is no clearly delineated efficiency sector. Though difficult to identify and measure, energy efficiency production and energy efficiency jobs are spread throughout the economy. In the manufacturing sector, energy efficiency plays an important role in developing new, lower cost, and more efficient appliances, cars that get better gas mileage, and improving industrial processes that allow us to make more of these and other priorities with less energy than ever. Investing resources in making homes and offices more energy efficient creates jobs in construction and the industries that make the equipment and materials needed for the job.

As a simple measure, every \$1 million spent on energy as a whole supports about four full-time jobs directly and through the supply chain. Investing that same amount of money in the construction sector to make homes and offices more efficient would support about 12 jobs, not even taking into account the beneficial impacts of increased productivity, reduced pollution, and increased competitiveness. An analysis ACEEE performed of the Energy Savings and Industrial Competitiveness Act of 2013, found that the investment in efficiency that bill would drive would support a net increase of over 100,000 jobs per year, in addition to the jobs the energy efficiency investments also create.

We also have an analysis of EPA's Clean Power Plan that indicates by 2030, the rule could induce over \$625 billion of investment in various energy efficiency industries and behaviors and create an average of over 400,000 jobs per year, both directly and throughout the economy.

We expect increasing growth to necessitate a wide range of training and educational needs. Community colleges and union-based training programs in particular can play a central role in providing hands-on vocational and practical training in a number of skilled and semiskilled occupations directly related to the energy efficiency. I am not an expert on designing training programs, although my colleague has had the opportunity to tour skilled training programs in plumbing, pipe fitting, heating, air-conditioning, and related systems with an eye on increased energy efficiency. To the extent that people imagine these occupations to be simple or unskilled, we can say that they are wrong. In many cases to do this work right requires highly specialized skills and well-designed, targeted training programs, neither of which happen by accident.

I will leave it to those with more knowledge and expertise to discuss how to deliver that training to traditionally underserved communities, but I will state what seems obvious, that participation in these and other growing energy industries requires participation in appropriate training and education programs. To the extent that the existing workforce is not representative of our working age population as a whole, that disparity is likely to persist absent focused efforts such as those proposed in the 21st Century Energy Work-

force Development Jobs Initiative Act of 2014 we are discussing today.

Thank you again for the opportunity to speak, and I am more than happy to answer any questions you may have.

[The prepared statement of James P. Barrett follows.]

**Testimony before the House Energy and Commerce Committee, Subcommittee on Energy and Power**

“21<sup>st</sup> Century Energy Workforce Development Jobs Initiative Act of 2014”

James P. Barrett, Ph.D.  
Chief Economist, American Council for an Energy-Efficient Economy  
Sept 17, 2014

Chairman Whitfield, Ranking Member Rush, Members of the Committee,

Thank you for the opportunity to speak to you today about the need for workforce development and training in energy and related industries.

My name is Jim Barrett, I am the Chief Economist at the American Council for an Energy-Efficient Economy (commonly known as ACEEE). ACEEE is a non-profit research institute dedicated to advancing energy efficiency. For over 30 years, we have been a trusted source of information on end-use energy efficiency technologies and policies.

I am here to talk to you about the training and workforce development needs for the energy efficiency industry. First, just to make sure we are all talking about the same thing, I'll spend a moment defining energy efficiency. Though often conflated with energy conservation, efficiency is distinct. It's not about turning down the thermostat and putting on a sweater, or otherwise doing without. Instead, efficiency is about doing more with less: Going further on a gallon of gasoline, keeping your home warm while using less fuel, using precision timing to produce high quality products while cutting costs.

Unlike other energy sources, you can't touch, smell, or see energy efficiency. You can't burn it or put it on the electric grid. That makes efficiency a bit different than other energy sources. However, the important thing to keep in mind about energy is that no one really consumes energy for its own sake. We don't buy gasoline because we like gasoline. We buy it because we need to go places and our cars use gasoline to take us there. We don't eat electricity, but we need it to store and prepare food. We don't consume energy per se, rather we consume energy *services*: mobility and access, heating and cooling, the ability to use our computers for work and televisions to relax. So while efficiency doesn't deliver energy, it delivers energy services, and it's just as important to the economy as physical energy sources are, perhaps more so.

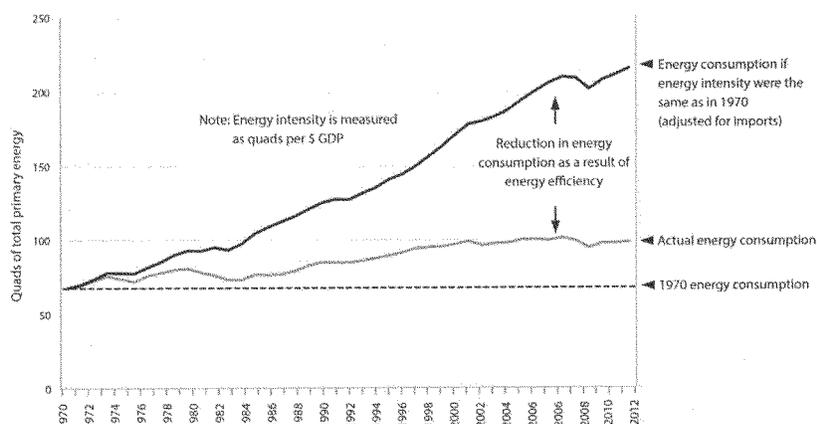
In 1970, US GDP, the value of all the goods and services we produce, was a little over \$5 trillion in today's terms. By 2012, that had more than tripled to over \$16 trillion, adjusting for inflation.<sup>1</sup> In 1970, our economy consumed about 68 Quadrillion BTU's worth of physical energy. By 2012 that grew to just under 100, an increase not of 300%, like GDP, but of only 41%. If we consumed energy in 2012 the same way that we consumed it in 1970, we would have consumed over 220 Quadrillion BTU's. What this means is that over that timeframe, the majority of the increase in demand for energy was not met by increasing the supply of energy, but rather by energy efficiency, as shown in Figure 1 below. Without energy efficiency, energy consumption

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<sup>1</sup>Inflation and GDP data from the Bureau of Economic Analysis at: <http://www.bea.gov/national/xls/gdplev.xls>

would be more than twice as high as it is today. By that measure, efficiency has been the single most important “fuel” of the past 40 years.

**Figure 1: Energy Consumption, GDP Growth, and Efficiency 1970-2012**



Not only is energy efficiency a critical resource for economic growth and productivity, it is an important source of employment. Unfortunately, just as efficiency itself can't be seen, the energy efficiency “industry” is also difficult to identify. Unlike industries such as oil and gas extraction, electricity generation, or automobile manufacturing, there is no clearly delineated efficiency sector. Though difficult to identify and measure, energy efficiency “production” and energy efficiency jobs are spread throughout the economy. In the manufacturing sector, energy efficiency plays an important role in developing new, lower cost and more efficient appliances, cars that get better gas mileage, and in improving industrial processes that allow us to make more of these and other products with less energy than ever. Investing resources in making homes and offices more energy-efficient creates jobs in construction and the industries that make the equipment and materials needed for the job.

As a simple measure, every \$1 million spent on energy as a whole supports about 4 full time jobs directly and through the supply chain. Investing that same amount of money in the construction sector to make homes and offices more efficient would support about 12 jobs, not even taking into account the beneficial impacts of increased productivity, reduced pollution, and increased competitiveness. An analysis ACEEE performed of the *Energy Savings & Industrial Competitiveness Act of 2013* found that the investments in efficiency that bill would drive would support a net increase of over 100,000 jobs per year in addition to the jobs that energy efficiency investments already create.<sup>2</sup>

<sup>2</sup> Rachel Young, et. al. (2013) “Economic Impacts of the Energy Efficiency Provisions in the Energy Savings & Industrial Competitiveness Act of 2013 and Select Amendments.” American Council for an Energy-Efficient Environment. ACEEE: Washington, DC.

In addition, the EPA's Clean Power Plan to reduce carbon emissions from existing power plants focuses heavily on using end-use energy efficiency as a way to achieve reductions in carbon emissions. ACEEE conducted an analysis in advance of the rule's announcement to estimate the impacts of efficiency policies we thought were likely to be included in the rule. Our analysis indicates that by 2030 the rule could induce over \$625 billion of investment in various energy efficiency industries and behaviors, and create an average of over 400,000 jobs per year both directly and throughout the economy.<sup>3</sup>

As we continue to draw on energy efficiency important part of the U.S. energy industry and the economic future, the education, skills, and training needed to take advantage of the investments to come are growing and changing. In order to continue to invent new technologies, improve existing ones, develop new materials and new processes, our workforce needs an understanding of a wide range of scientific and engineering concepts. Not only does this speak to an increasing need for technically trained students coming out of colleges, universities, and community colleges, but also for STEM education starting with a strong foundation as early as elementary and high school. On top of this foundation, workers will need education and training in applied sciences in higher education. Where there are opportunities to improve the way we use current technologies to get the most out of them, workers will need training on how to recognize and take advantage of such opportunities. A relatively new area of energy efficiency opportunities we call "intelligent efficiency" combines efficiency, computing, and information technologies in industrial settings, all of which require well-educated and trained workers. Finally, to design, build, and upgrade our homes and offices for increased efficiency, workers in construction trades will need be up to speed on the latest techniques, equipment, and products that go into more advanced buildings.

We expect increasing growth in all of these areas with a wide range of training and educational needs. Community colleges and union-based training programs in particular can play a central role in providing hands-on vocational and practical training in a number of skilled and semi-skilled occupations directly related to energy and energy efficiency.

I am not an expert on designing training programs, though I have had the opportunity to tour skilled training programs in plumbing, pipefitting, heating, air-conditioning, and related systems with an eye on increased energy efficiency. To the extent that people imagine these occupations to be simple or "un-skilled," I can say that they are wrong. In many cases, to do this work right requires highly specialized skills, and well-designed targeted training programs, neither of which happen by accident. I will leave it to those with more knowledge and expertise to discuss how to deliver that training to traditionally underserved communities, but I will state what seems obvious that participation in these and other growing energy industries requires participation in appropriate training and education programs. To the extent that the existing workforce is not representative of our working-age population as a whole, that disparity is likely to persist absent

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<sup>3</sup> Sara Hayes, et. al. (2014) "Change Is in the Air: How States Can Harness Energy Efficiency to Strengthen the Economy and Reduce Pollution." American Council for an Energy-Efficient Economy. ACEEE: Washington, DC.

focused efforts such as those proposed in the 21<sup>st</sup> Century Energy Workforce Development Jobs Initiative Act of 2014 we are discussing today.

Thank you again for the opportunity to speak today, and I am more than happy to answer any questions you may have.

Mr. WHITFIELD. Thank you very much. Our next witness is Paula Jackson, who is the president of the American Association of Blacks in Energy, and thanks for being with us, and you are recognized for 5 minutes, Ms. Jackson.

**STATEMENT OF PAULA R. JACKSON**

Ms. JACKSON. Good morning, Chairman Whitfield, Ranking Member Rush, and all the members of the committee. Thank you for giving me the opportunity to testify before you today. My name is Paula Jackson. I am the president and CEO of the American Association of Blacks in Energy. We are a national association of energy professionals founded and dedicated to ensure the input of African Americans and other minorities into the discussions and developments of energy policy, regulations, R&D technologies, and environmental. Our membership of 1,500 energy professionals who work in every sector of the industry are committed to building a cadre of young African American leaders for this industry.

The association fully supports H.R. 4526, and for more than 35 years, we have been working diligently to educate and inform our communities about the opportunities in the energy industry. While we have had some success, we recognize that there is a lot more to be done. This bill brings together all the key stakeholders to develop a curriculum and framework which will significantly move the needle at a time where our Nation's economy is growing, and with that growth, more opportunities become available.

Changes in the industry from grid modernization, higher demand for electricity, increased domestic oil and natural gas resources, an aging workforce, and adoption of new technology, along with the changing demographic in this country, has made the industry look very closely at its workforce pipeline. In response, the electric and natural gas industry formed the Center For Energy Workforce Development, which is an organization that works with utilities to develop solutions for the coming workforce shortage in the utility industry. And the oil and natural gas industry has made workforce pipeline, and more specifically, inclusion of women and minorities in the workforce a priority as well.

As you can imagine, for an organization like mine, this is great news. We aren't spending time trying to convince the industry to be more inclusive. Instead we are spending time looking for opportunities to collaborate and address this problem. Increasing the participation of minorities has been at the core of our work for 37 years, and as an organization, I want to share with you some of the things that we have been doing to move things forward. Our first is our scholarship program.

Through the AABE scholarship program that was established more than 30 years ago, we encourage young people to study in the STEM disciplines and pursue a career in energy. As a result of that work, more than a million dollars in scholarships has been granted to students around this country. And as the industries needs have changed, our program has changed. One change is that we have expanded this program to include students who are going to major in business. The other change is that some students will go to 2-year institutions as opposed to 4-year institutions, and so we are really

trying to find ways to take advantage of these opportunities and bring students where they are into this industry.

Our chapters offer specific programs and innovative collaborations to get students to think about STEM and this industry. For example, our New York chapter has partnered with NYU Poly, Con Ed, National Grid, and they offer a Summer Energy Academy every year for middle school students. That 6-week program introduces students to careers in the industry by having them do research and develop their own energy projects. And just this past weekend I had the opportunity to visit with a group of high school students who were working in Atlanta on developing an energy app for our association. It provided a wonderful opportunity to talk with students who were thinking about video game design as energy for an opportunity for those types of skills.

Every October we have Black Energy Awareness Month where all of our chapters offer interactive learning activities for local students to broaden their knowledge about the energy industry. And then we do community outreach. This year in partnership with Hispanics in Energy, the DOE's MIE initiative, and API, we have kicked off an Energize series: A Community Conversation About Energy, Opportunity, and Workforce Readiness in Diverse Communities. And this eight-city tour has brought together industry leaders, community stakeholders, policymakers, and others to discuss opportunities in industry and the challenges which make accessing these opportunities difficult.

To date, we have hosted conversations Bakersfield, Canton, Chicago, Denver, Las Cruces, and Philadelphia. Tomorrow we will be in Charlotte, and next month in Detroit.

And finally, as an association we are always looking for opportunities to collaborate with other organizations. Most recently we signed an MOU to belong to an organization called Changes, which is the coalition of Hispanic, African, and Native Americans for the next generation of engineers and scientists. And through that collaboration, we are not only able to better understand the challenges that minority students face in pursuing STEM disciplines, but we are able to educate those people, those academics and others, about the opportunities that the industry offers.

And so what I would like to say is that outreach, scholarship, and collaboration are key tenets to AABE's work in increasing the participation in this industry. We know the industry is a driver to our economy, and working in this industry can change lives and move families into the middle class. And this legislation is critically important to ensure that all Americans will have the opportunity to participate.

And finally, I would just like to say on a personal note thank you for your leadership and thoughtfulness around this. I started in this industry 25 years ago, and as a young African American woman who was a marketing major and fell into this industry, I applaud you for thinking about how we can direct students more so that they don't fall in like I did, but that it is a clear choice. I look forward to your questions.

[The prepared statement of Ms. Jackson follows:]

September 15, 2014

H.R. 4526 "21<sup>st</sup> Century Energy Workforce Development Jobs Initiative Act of 2014"

Testimony by: Paula R. Jackson, President and CEO, the American Association of Blacks in Energy

Subcommittee on Energy and Power

Hearing on September 17, 2014

My name is Paula R. Jackson and I am the president and CEO of the American Association of Blacks in Energy. The American Association of Blacks in Energy is a national association of energy professionals founded and dedicated to The American Association of Blacks in Energy (AABE®) is a national association of energy professionals founded and dedicated to ensure the input of African Americans and other minorities into the discussions and developments of energy policies, regulations, R&D technologies, and environmental issues. Our membership of energy professionals is committed to building a cadre of young African American leaders for the energy industry.

**The association fully supports H.R. 4526 "21<sup>st</sup> Century Energy Workforce Development Jobs Initiative Act of 2014"** For more than 35 years we have been working diligently to educate and inform our communities about the opportunities in the energy industry. While we have had some success in this work, we recognize that there is much work to be done. This bill brings together all the key stakeholders to develop and curriculum and framework which will significantly move the needle at a time where our nation's energy economy is growing and with that more opportunities become available.

Additionally, changes in the industry from grid modernization, higher demand for electricity, an aging workforce and adoption of new technology along with a changing demographic in this country has made the industry look closely at its workforce pipeline. In response the electric and natural gas utility industry formed the Center for Energy Workforce

Development (CEWD). CEWD is a non-profit consortium of electric natural gas and nuclear utilities and their associations - Edison Electric Institute, American Gas Association, Nuclear Energy Institute, and National Rural Electric Cooperative Association formed to help utilities work together to develop solutions to the coming workforce shortage in the utility industry. The organization partners with secondary and post-secondary educational institutions and the workforce system to create workable solutions to address the need for a qualified, diverse workforce. Additionally CEWD has established a partnership with the International Brotherhood of Electrical Workers because such a large part of the utility workforce that is represented by the union.

A 2013 workforce survey report issued by the CEWD entitled, "Gaps in the Energy Workforce Pipeline", estimates almost 55% of the workforce may need to be replaced in the next 6-10 years. In whole numbers, there would be 76,500 potential replacements from 2013 – 2017 and 27,900 potential replacements from 2018 – 2022. These replacements are in job categories such as lineworkers, technicians, plant operators and engineers. It is important to note that these are all non-nuclear replacements. (Gaps in the Energy Workforce Pipeline 2013 Survey Results Executive Summary, p. 3)

At the same time the oil and natural gas industry through its association, the American Petroleum Institute also recognizes that increased domestic resources and an aging workforce presents opportunities to increase the participation of minorities in the industry. API has issued two reports: Minority and Female Employment in the Oil & Gas and Petrochemical Industries and Employment Outlook for African Americans and Latinos in the Upstream Oil and Natural Gas Industry which highlight the projected job growth in the industry (955,000 direct jobs and 500,000 respectively) and the potential participation of African Americans, Hispanics and women.

While the opportunities in the industry continue to increase, the demographics of our country are changing making it important that minorities are increasingly a part of the pipeline. In the 2012 The U.S. Census Bureau estimated showing that 50.4 percent of our nation's population younger than age 1 were minorities as of July 1, 2011 which is up from 49.5 percent

from the 2010 Census taken April 1, 2010. In fact, the population younger than age 5 was 49.7 percent minority in 2011, up from 49.0 percent in 2010. ([Census Bureau news release, July 1, 2011](#)). This combination of an aging workforce and tremendous growth in the energy sector coupled with a changing demographic in this country presents tremendous opportunities for underrepresented minorities in this country.

The AABE currently has over 35 chapters across the country, including student chapters located at Georgia Tech, North Carolina A&T, NYU Poly and South Carolina State University. Our chapters utilize the training and expertise of their members and the positions they hold in the energy industry to serve their local communities in a variety of ways. Our professional chapters are also closely tied to our student chapters, ensuring that these students are exposed to mentors as well as job opportunities in the industry.

At the association, educating young people and their families about careers in the industry is one way we engage our communities. Through the AABE scholarship program which was established more than 30 years ago, we are able encourage more students to study in the STEM disciplines and pursue a career in energy. As a result, the AABE scholarship program has granted more than \$1,000,000 in scholarships to minority students around the country. And as the industry's needs have changed, our scholarship program has also changed. One such change is to expand the scholarship so that students who are interested in pursuing a degree in business and have an interest in this industry would be able to take advantage for the opportunity. Our chapters, who have individual scholarship programs, have also adjusted their program to attract more students and support their studies. For example our Atlanta chapter offers scholarships to students who are pursuing degrees at 2-year as well as 4-year institutions.

Additionally, any of the associations' chapters have created innovative collaborations with schools to help students at all levels to not only succeed in science, technology, engineering and math (STEM), but to seriously consider energy as a career choice. For example, the South Carolina Chapter of AABE (SCAABE) mentors students at several elementary, middle and high schools throughout the state. At Burton Park Elementary School chapter members

work with students on their social skills, act as math tutors and are lunch buddies. The New York Metropolitan Area Chapter, in partnership with Polytechnic Institute of New York University, Con Edison, and National Grid, offers the Summer Energy Academy for middle school students. The six-week program introduces students to careers in the energy industry by having them research and develop energy projects. And in Atlanta, the chapter is working with a local chapter of the Black Data Processors Association (BDPA) to build an app that for the association. The 8 week project has introduced high school students who are interested in computer science, to think creatively about how those skills could translate to jobs in the industry. These are just a few examples of what AABE chapters are doing around the country to work with students to encourage their interest the energy industry.

Each October, AABE chapters celebrate Black Energy Awareness Month by hosting interactive learning activities, where local students can broaden their knowledge about the energy industry, new technologies, and the many varied career opportunities available within the energy field. These BEAM programs touch thousands of students every year.

In addition to offering programming directed at the students, the association also works closely with communities to educate and inform them about opportunities in the industry. This year, in partnership with Hispanics in Energy, the Department of Energy's Minorities in Energy Initiative and the American Petroleum Institute we have kicked off our Energize series – A Community Conversation about Energy, Opportunity, and Workforce Readiness in Diverse Communities. This "eight city tour" has brought together industry leaders, community stakeholders, policy makers and others to discuss the opportunities in the energy industry and the challenges which made accessing these opportunities difficult. To date, we've hosted conversations in Bakersfield, Canton, Chicago, Denver, Las Cruces and Philadelphia, with future stops in Charlotte and Detroit.

One result of these community conversations is the creation of the OIC National Energy Council. OIC (Opportunities Industrialization Center) America is a national organization whose mission is to continue to be the nation's leader in providing quality education, training, employment, and housing services through a national network of local affiliated organizations

enabling economically disadvantaged people of all races and backgrounds to become productive fulfilled members of the American society. The OIC National Energy Council is a coalition of public and private energy-related organizations, corporations, businesses, agencies, utilities and private individuals who are committed to the goals of recruiting more women, African Americans, Hispanics and Native Americans for employment and business opportunities within the industry. This council is one example of how communities are beginning to discuss and develop programming to address the growing workforce needs of the energy industry.

As an association, collaborations are important to moving our mission forward. Another such collaboration is by joining CHANGES - Coalition of Hispanic, African and Native Americans for the next Generation of Engineers and Scientists. Formed in November 2013, CHANGES mission is to bring the collective influence of our coalition of Hispanic, African American, and American Indian STEM and architecture-focused professional organizations to bear in the effort to broaden participation in STEM and architecture; specifically by encouraging scientific and technical excellence, fostering workforce development and inclusion, and developing policies and programs that promote workforce diversity in science and engineering. Some members of the coalition include: American Indian Science and Engineering Society; American Association of Blacks In Energy (AABE); Black Data Processing Associates (BDPA); Latinos In Science And Engineering (MAES); National Action Council For Minorities In Engineering (NACME); National Organization For The Professional Advancement Of Black Chemists And Chemical Engineers (NoBCCHE); National Organization Of Minority Architects (NOMA); National Society Of Black Engineers (NSBE); National Society Of Black Physicists (NSBP); Society For Advancement Of Chicanos And Native Americans In Science (SACNAS) and the Society Of Hispanic Professional Engineers (SHPE).

Community outreach, scholarship, and collaboration are the key tenets to the AABE's work in increasing the participation of underrepresented communities in the energy industry. We know that the energy industry is a driver to our economy and working in this industry can change lives and move families into the middle class. This legislation is critically important to ensuring that all Americans will have the opportunity to participate in this industry.

Mr. WHITFIELD. Thank you very much, Ms. Jackson.

And our next witness is Mr. Jack Gerard, who is the CEO of the American Petroleum Institute. Thanks for being with us today, and you are recognized for 5 minutes.

#### **STATEMENT OF JACK N. GERARD**

Mr. GERARD. Thank you, Mr. Chairman, and Ranking Member Rush, and other members of the subcommittee. It is a real pleasure to be with you this morning. As mentioned, I am Jack Gerard, the president and CEO of the American Petroleum Institute. We represent all facets of the oil and natural gas industry in the country which supports about 9.8 million U.S. jobs and constitutes about 8 percent of our domestic economy. I am pleased today to be here with many of our partners, with Paula and Harry and Dot, and I might say our friends, as we look at these issues more closely and figure out a better way to serve the American people generally, particularly in light of the American energy renaissance that we are experiencing today.

API's 600 members make up all aspects of the oil and gas industry from the large integrated companies as well as exploration and production, refining, marketing, pipeline, marine businesses, all the way down to our service and supply firms. Our extensive network of over 30,000 vendors, suppliers, and contractors create and support jobs in every community in the country, by and large, and in most congressional districts.

The unprecedented opportunity created by America's 21st century energy renaissance, which is a direct result of technological advancements in the oil and gas industry, is a unique opportunity for all Americans. If we seize this moment in our history and work together on energy policies that promote the safe and responsible development of our Nation's enormous energy resources, our industry will not only create and support millions of well-paying jobs far into the future, but also make America a global energy superpower for many generations yet to come.

To better understand the scope and reach of this economic opportunity our industry could provide the Nation, API commissioned IHS Global to examine potential job opportunities through 2030. The study has been cited by other members of the panel here this morning. The report, which is entitled, *Minority and Female Employment in the Oil & Gas and Petrochemical Industries* estimates that over 950,000 jobs, job opportunities, could be created by 2020 and that nearly 1.3 million job opportunities through 2030 across the country in just our oil and natural gas and petrochemical industries. These are good-paying careers that pay well above the national averages.

The jobs the oil and gas industry creates will require people with a range of skill sets, training, and educational achievement levels, meaning that the opportunities we offer are not limited to a few highly skilled or specialized workers within a particular region of the country. What the report makes clear is that this Nation will not only be able to fulfill its potential as a global energy leader, but that we will not be able to fulfill our potential without more hands on deck, particularly minority and female workers.

The report estimates that there are nearly 408,000 job opportunities that could be filled by African American and Hispanic workers, with 185,000 of those being filled by women. African American and Hispanic workers are projected to make up nearly 20 percent of new hires in management, business and financial jobs through 2030. These estimates are based on current and projected trends and factors such as labor, workforce participation rates, educational attainment, and should be considered a floor, not a ceiling, for job opportunities.

In order to be competitive for all 1.3 million jobs, certain education and workforce training must occur. That is why we applaud the leadership, Mr. Rush, Chairman Whitfield, and others, in introducing H.R. 4526, the 21st Century Energy Workforce Development Jobs Initiative Act of 2014, and I want to thank other members of the subcommittee and other members of the House who have already cosponsored this important legislation.

H.R. 4526 will help achieve our shared goal of fuller participation by more Americans in the 21st Century American energy renaissance by streamlining the coordination between the various sectors within the energy industry and the Federal Government, creating guidelines for training, encouraging STEM education that will expand the pool of qualified workers at all levels, and by working with State energy offices to provide high school counselors and regional job opportunities. The bill will also enhance a productive working relationship between the North America building trade unions who have been an invaluable partner with us in the oil and gas industry.

We now have a labor management committee of 15 unions that we work with often to create job opportunities and specifically training opportunities to prepare this workforce of the future.

Put simply, the bill helps bring our Nation closer to the day when the tremendous job creation and economic growth brought about by America's vast energy resources are no longer projections, but are, indeed, reality. We strongly support the bill. We appreciate the bipartisan leadership, and we look forward to working with you on it. Thank you.

[The prepared statement of Mr. Gerard follows:]



U.S. House of Representatives  
Committee on Energy and Commerce  
Subcommittee on Energy and Power  
H.R. 4526, the 21st Century Energy Workforce Development Jobs Initiative Act of 2014  
Testimony of Jack N. Gerard  
President and CEO of the American Petroleum Institute  
September 17, 2014

Good morning Chairman Whitfield, Ranking Member Rush, and members of the Subcommittee.

My name is Jack Gerard, president and CEO of the American Petroleum Institute, the only national trade association representing all facets of the oil and natural gas industry, which supports 9.8 million U.S. jobs and 8 percent of the U.S. economy.

API's more than 600 members include large integrated companies, as well as exploration and production, refining, marketing, pipeline, and marine businesses, and service and supply firms. Our extensive network of 30,000 vendors, suppliers, and contractors create and support jobs and grow the economy in every state in the union and almost every Congressional district.

The unprecedented opportunity created by America's 21<sup>st</sup> century energy renaissance, which is a direct result of technical advances in the U.S. oil and natural gas industry. If we seize this moment in our history and work together on energy policies that promote the safe and responsible development of our nation's enormous energy resources, our industry will not only create and support millions of well-paying jobs far into the future, but also make America a global energy superpower for generations.

To better understand the scope and reach of the economic opportunity our industry could provide the nation, API commissioned IHS Global to examine potential job opportunities through 2030.

The report, "Minority and Female Employment in the Oil & Gas and Petrochemical Industries," estimates that over 950,000 job opportunities could be created by 2020 and nearly 1.3 million job opportunities through 2030 across the country in the oil and natural gas and petrochemicals industry. These are good paying careers that pay well above the national average.

The West South Central Region is projected to have the most growth, totaling more than 508,000 jobs, or 40% of total U.S. job opportunities through 2030. Four additional regions are projected to each have over 100,000 job opportunities, and they include the Middle Atlantic, South Atlantic, Mountain and Pacific. The New England, East South Central, East North Central, and West North Central regions will combine to contribute over 236,000 job opportunities.

The jobs the oil and natural gas industry creates will require people with a wide range of skill sets, training and educational achievement levels, meaning that the opportunities we offer are not limited to a few highly skilled or specialized workers within a particular region of the country.

What the report makes clear is that this nation will not be able to fulfill its potential as a global energy leader without more hands on deck, particularly minority and female workers. The report estimates that there are nearly 408,000 job opportunities that could be filled by African American and Hispanic workers, with 185,000 being filled by women. African American and Hispanic workers are projected to make up nearly 20% of new hires in management, business, and financial jobs through 2030. These estimates are based on current and projected trends in factors such as labor force participation rates and educational attainment, and should be considered a floor, not a ceiling for job opportunities. In order to be competitive for all 1.3 million jobs, certain education and workforce training must occur.

And that's where H.R. 4526, the 21st Century Energy Workforce Development Jobs Initiative Act of 2014, comes in; I want to thank Congressman Rush for introducing this bill and for his continued spirit of collaboration to advance economic opportunity for millions of Americans.

I also want to thank the other cosponsors of the bill, including Chairman Ed Whitfield, Congressman Bill Johnson, and Congressman Gene Green for their continued leadership on this issue.

H.R. 4526 will help achieve our shared goal of fuller participation by more Americans in the 21<sup>st</sup> century American energy renaissance by streamlining the coordination between the various sectors within the energy industry and the federal government, creating guidelines for training, encouraging STEM education that will expand the pool of qualified workers at all levels of educational achievement and by working with State Energy Offices to provide high school career counselors with regional job opportunities.

The bill will also enhance the productive working relationship with North America's Building Trades Unions who have been an invaluable partner with the oil and gas industry by working with labor to identify and train a workforce with the credentials needed to compete in all skill levels in the energy industry.

Put simply H.R. 4526 helps bring our nation closer to the day when the tremendous job creation and economic growth brought about by America's vast energy resources are no longer projections, but reality for millions more Americans.

That is why API strongly supports H.R. 4526 and encourages the committee to quickly consider and pass the legislation.

Thank you for your time.

Mr. WHITFIELD. Thank you very much, Mr. Gerard. We appreciate the testimony of all of you.

And at this time, I would recognize myself for 5 minutes of questions.

Ms. Harris, as the Director of Economic Impact and Diversity, you are already working in this area of trying to encourage opportunities for minorities in the fields of energy. Has your Department had the opportunity to review this legislation in very much detail at this point?

Ms. HARRIS. Yes, we have.

Mr. WHITFIELD. And do you all support it, or do you have a process in which you make a determination that you will formally support a piece of legislation?

Ms. HARRIS. The Department has not taken a position on the legislation, but I can say that is appreciation from the Department with the Ranking Member Rush's leadership and this incredible, important topic for all of us. The goal and objectives of the legislation are very much consistent with what the Department focuses on, particularly with a mission of minorities in energy. Having congressional engagement at the highest level such as what you have done is very important to the Department.

Mr. WHITFIELD. OK. And from your practical experience from where you are working now, you view that this would be quite helpful to you in encouraging more minorities in the energy sector?

Ms. HARRIS. This bill will, for sure, support minorities in the energy sector, as we talked about earlier with some of the other panelists, where we have them in this country, we have to have participation by all; and with the growth of minorities for the demographics of this country, we actually have to support all women, minorities, to participate in order to support the energy sector.

Mr. WHITFIELD. I was just curious. You have your degree in electrical engineering.

Ms. HARRIS. Yes.

Mr. WHITFIELD. And there are certainly a lot more men in engineering than women, but as a young girl growing up, how did you become interested in electrical engineering?

Ms. HARRIS. Actually it was a field trip I took in my tenth grade class. I was planning on being a English teacher like many of my siblings. When I took this field trip to Savannah River, which is actually one of our national labs, and it was told to me how important it was opening for women, minorities, the money, the travel, and all those things that a young high schooler would be interested in. So as a result, I actually switched over and became interested. Went to the University of South Carolina as an engineer, and was the first African American woman to graduate from the Electrical Engineering Department at the University of South Carolina. So I have loved it ever since.

Mr. WHITFIELD. And how old were you when you took that trip?

Ms. HARRIS. I was 10th grade, so what, that made me——

Mr. WHITFIELD. So up until the 10th grade, you were going to be an English teacher and made the switch.

Ms. HARRIS. Yes.

Mr. WHITFIELD. That is encouraging.

Ms. HARRIS. Actually it was my chemistry teacher, Ms. Crumm. I will never forget her.

Mr. WHITFIELD. She encouraged you.

Ms. JACKSON. Yes. That is why teachers are so important.

Mr. WHITFIELD. Absolutely. So, Ms. Jackson, you said that your organization had actually reviewed the legislation. You actually support it?

Ms. JACKSON. Yes.

Mr. WHITFIELD. How old is your organization?

Ms. JACKSON. Thirty-seven years.

Mr. WHITFIELD. Who started it?

Ms. JACKSON. It was started by a gentleman named Clark Watson out of Denver, Colorado, and incorporated in Colorado in 1977, and then in DC in, I think, 1980.

Mr. WHITFIELD. Mr. Gerard, you touched on this, and, in fact, all the witnesses touched on it, about the tremendous opportunities that we do have in energy because of the shale finds and the changes in efficiency and renewables and everything else. It is really a dynamic sector. Do you all have programs already in which you work with minorities to encourage participation in the sector?

Mr. GERARD. We do, Mr. Chairman. In fact, we are ramping those up in collaboration with Paula, with Dot, with Harry and others, as we go around the community, that was referenced earlier, what we call our Energize program. We have got an eight-city tour. We just agreed to add two more cities to that, where we are literally going into these areas, and Mr. Rush is well aware of this. We did one in Chicago, where we go in and we talk about these opportunities, hopefully the things that inspired Dot to go into electrical engineering, and we as an industry go in. We bring the community together. We educate around the industry and the job opportunities. We bring our member companies in where they can sit up and talk directly with individual students as well as others.

We have a few other things we are doing. For example, we have recently launched a portal that is a bilingual portal in Spanish and English. It now has over 1,000 companies, community colleges, institutions, et cetera, where individuals can go online and look at the area where they live and find opportunities within the oil and gas industry.

So we are taking this very seriously, and I hope you see by the report that we have put out now that we see this as key to the changing demographic in the country, not only the workforce turnover you mentioned earlier where we will see close to 50 percent of that workforce turn over in the next 10 years, but the new job creation as part of that 1.3 million number. Six, 700,000 of those are new jobs. So we have got to prepare that workforce.

The last thing I would just say is when you look at that 1.3 million, about 63 percent of those fall in what we would call the traditional blue collar areas. So one of the beauties of the oil and gas industry is we span the entire continuum from the highest trained, highest skilled Ph.D.s, across the front to skilled, semiskilled, et cetera. So we have opportunities across the entire country, across our regions, and we want to make a big push, particularly in the minority community now, to train that workforce for the future.

Mr. WHITFIELD. Well, thank you. And my time has expired, so at this time I will recognize Mr. Rush for 5 minutes.

Mr. RUSH. I want to thank you, Mr. Chairman. Mr. Alford, we have talked a lot about jobs and the relation to the energy sector, but we don't spend enough time talking about business opportunities, and your organization is comprised of millions of business in the Nation. What opportunities can you foresee if this bill were to pass for business expansion and business creation for minorities and women?

Mr. ALFORD. Great opportunities. The National Black Chamber of Commerce works pretty well with the oil and gas industry and coal. We have partnerships with Exxon, Chevron, Marathon, and others. We look at growth and that our strong suit is engineering and construction amongst our membership which applies to at the oil industry, the energy industry. So I think, and I am certain that the opportunities are there, the man is there, and what we have to do is match our talent with these opportunities.

I know one of the largest construction companies in the country, their CEO told me he would hire graduates from Prairie View and Tuskegee Institute without interviewing them. The demand for them was so great. We talked about STEM, Science, Technology, Engineering and Math. HBCUs were doing that before it was cool. All the A and M colleges and universities provide product out there, and I think that it would behoove us to beat the drum and let everybody know that the talent is there. Let's match it with opportunities.

Mr. RUSH. Director Harris, give us a graphic in terms of how you foresee—if this bill were to become law—how do you foresee the Department of Energy and your focus, how do you see that really operating? How would that impact your day-to-day operations at the Department of Energy?

Ms. HARRIS. My office in particular, which is focused on minorities in energy, we look at everything from community impact, business development, as well as educational support. So this bill would clearly be in parallel with a lot of things that we do in concert already. It would allow us to reach more of those communities, more of those students, and more of those businesses. We work in collaboration with other agencies, of course, and it will feed of course into the support we get from the Department of Commerce, for example, Department of Labor. It would simply augment and support and further develop what we are currently doing, which is important, because we all have to do so much over the next few years for all of us to catch up with the demand for the energy industry.

This industry, 6 trillion, as I mentioned earlier, is what is seen across the globe for energy development. If we try to hire every engineer from not only minority-serving institutions or even the majority schools, it is going to be a fight for this country just to be able to catch up, so it would be critically important to supporters.

Mr. RUSH. Mr. Gerard, you and I have had a number of conversations throughout the few years that we have known each other, and your report was very insightful, pivotal, and I enjoyed reading it, even when I am ready to go to bed. I like to read it and just imagine that—

Mr. GERARD. I will send you another copy if you need—I will produce another one and let you read it.

Mr. RUSH. All right. Can you discuss with this subcommittee the risk of the energy sector? And if we don't proactively train and prepare the 21st century energy workforce, I mean, what is at stake? What are we risking by not implementing the spirit and the tenets of this bill? What is at stake?

Mr. GERARD. First of all, Mr. Rush, I think it is a great question. We need to think about it in a broader context as well. Let me suggest there is probably at least two dimensions we ought to think about in terms of risk. The first one is where we position ourselves in the global economy and geopolitics of the world today. It is fascinating when you see the various unrest around the world, you can find underpinning a lot of that conversation to be tied to energy. We are in a very unique opportunity now as a Nation that we have never been in before. We have moved from scarcity to abundance literally overnight.

And by doing that we have got to catch up with that mind set and actually move this quicker, so I would suggest the first risk is a global risk as a Nation. We are now the world's number one natural gas producer. No one would have predicted that 5 years ago. Some have said we are already there. Others believe we are about to be the world's number one oil producer, surpassing Saudi Arabia.

So when you look at what is going in Russia; you look at what is going on the Middle East; you look at our European friends. I was at an event over the weekend with many ambassadors where they are all begging me, saying you have got to send us your energy. You send us your energy. It changes that geopolitical dynamic, so I think that's the first risk.

The second one I would suggest is just our opportunity as a Nation to put our people to work. If you look at the average compensation of the oil and gas industry today in the private sector, it is about 90-, \$96,000 a job. That compares to \$49,000 on average for the rest of the Nation. These are not just jobs. These are careers. These are what give the Dots of the world, if you will, a huge opportunity. So our risk is that if we don't engage this process, help bring our people the skill set and focus on the policies necessary to achieve this energy renaissance, as a Nation, we run the risk that we are going to frankly hurt our economy and hurt our people in addition to our world standing.

Mr. RUSH. Thank you, Mr. Chairman.

Mr. WHITFIELD. Thank you, Mr. Rush.

At this time, I would like to recognize the gentleman from Virginia, Mr. Griffith, for 5 minutes.

Mr. GRIFFITH. Thank you, Mr. Chairman. I appreciate that very much. I appreciate you all being here on this important issue. I am going to pick on Mr. Alford and Mr. Gerard for just a minute and throw you a little bit of a curve ball.

We are working on a resolution today on the floor related to supporting the Ukraine. And in paragraph 15 of that resolution, in the "Resolved" columns, the United States Congress, if it passes this resolution later today, will call on the Ukraine and other countries to support energy diversification initiatives to reduce the ability of

the Russian Federation to use its energy exports as a means of applying political or economic pressure, including by promoting increased natural gas exports from the United States and other countries.

So I would ask you, Mr. Alford, and you, Mr. Gerard: Do you believe that if we export our natural gas, we can have both a—more power in the world without using our military force and create jobs for all Americans, including the minorities listed in this particular bill that we are discussing today.

Mr. ALFORD. I think we need all of the above.

Energy is the lifeblood of enterprise. And I think we should be the most powerful Nation in the world, which we are, and I pray to God that we will continue. And though we may walk through the valley of death, we will fear no evil because we are the toughest, strongest, richest Nation walking in that valley.

I hope I answered that question.

Mr. GRIFFITH. I believe you did. Mr. Gerard.

And I agree with you.

Mr. Gerard, do you want to try to follow that?

Mr. GERARD. The power in the world, the answer is absolutely. In terms of creating jobs, absolutely.

Let me add a third dimension to you: Environment. There is a lot of talk out there. And this gets right back to the LNG export question. DOE has done an analysis that shows, by exporting our natural gas, not only do we wean some of our allies off other parts of the world where they would prefer to have more diversity of options; but it shows that for those that are focused on the carbon emissions, carbon emissions go down on a global scale.

So not only can we achieve this domestically—we are at a 20-year low in this country in carbon emissions. We are now 10 percent below where we were in 2005. Why? It wasn't because of policy. It is because the economy came back and we are producing abundant amounts of clean-burning natural gas.

So when you look at the same dynamic in the global economy—you look at Asia, you look at Europe, and elsewhere—you can get the same benefits. So this is a big deal that goes well beyond the traditional job creation geopolitical alliances.

Mr. GRIFFITH. Well, and, I would have to agree. I think this is a great bill. We have to figure out how we are going to pay for everything, but we should be encouraging minorities to get into the energy sector. I believe it is a growth second for the United States for a long time to come.

Does anybody disagree with that? I want to start with Ms. Harris. Does anybody disagree this is a growth sector for the United States economy, energy?

Ms. HARRIS. I absolutely agree with you, for sure, yes, sir.

Mr. GRIFFITH. Yes.

Mr. ALFORD. It is a game changer.

Mr. GRIFFITH. Ms. Bell.

Ms. BELL. Yes. And particularly in clean technologies.

Ms. JACKSON. I agree with you.

Mr. GERARD. It is one of the few bright spots we have in our current struggling economy.

Mr. GRIFFITH. Well, and, I would agree with that as well, and I believe in all of the above. Of course, I come from a district that produces natural gas and coal, so I don't ever want to pick on the folks in coal. And I am very appreciative in this resolution that coal is listed. It is not excluded as sometimes happens to be the case. And I hope that we can find new ways to use coal, even cleaner than we are using it today. It is cleaner now than it has ever been, but I think we can do better.

And I hope that we will have some bright, young, energetic minds, including our women, Hispanics, African Americans, et cetera, working on that problem as well. And I appreciate you all being here today on this important bill. Thank you so much.

And, Mr. Chairman, with that, I will yield back.

Mr. WHITFIELD. Thank you, Mr. Griffith.

At this time, I recognize the gentleman from Texas, Mr. Green, for 5 minutes.

Mr. GREEN. Thank you. Mr. Chairman. And the panel heard my opening statement.

I represent a very blue-color district in East Harris County. At any given time, our district has five refineries and lots of chemical plants, plus lots of service companies who hire my constituents to go out to the oil patch and work.

And being a native Houstonian, this is the best economy I have ever seen. We used to joke about in the '70s how great it was. But then we had the '80s; and Louisiana, Texas, Oklahoma was in a depression in the '80s. And the rest of the country was doing oK, I guess, but we were in terrible shape.

But our problem is—my goal in my district is I want to make sure—because I have a majority Hispanic district. Probably 85 percent of our student population is Hispanic, Mexican-American ancestry—is to make sure they know those jobs are there. And so we do job fares every year. In fact, I didn't get to go to my one this last Monday night because we had votes. But we had 500 people there with their parents, talking about job fare earlier and then career days where we help people fill out their paperwork for colleges.

And—but the industry supports us, and I have seen that. Our job fare we did just recently, we had 80 employers. And back in 2008 and 2009, we were lucky to get 25 or 30.

So—but my goal is to get those young people out of my high schools. If they don't want to go to college, we have community colleges that they can go to. And, frankly, industry is helping fund that, so they can get those skills.

And the Secretary of Labor was in Houston about 2 weeks ago and was at the San Jacinto Community College in my area. And you can come out of high school with a high school diploma, take certification in certain skills, and make \$80,000 a year. There was one young man who had taken certification so much that he was going to get his associates degree, 2 years, and he had a job offer for \$120,000 with high school, plus community college skills training. So it is a great problem to have.

Mr. Gerard, according to your testimony to the panel, accessed information pertaining to opportunities in the energy field is the number one obstacle that needs to be cleared. What steps has API

taken to create outreach or provide access to the different communities to provide information about energy jobs?

Mr. GERARD. I touched on that a little earlier, Mr. Green. But let me just add, we have created, in concert with many at this table and many others—Hispanics in Energy and some others that are key to your constituency—we are going around the country right now on city tours. We are having similar, I guess, you would call them job fares where we are coming out, talking about the issues. We have created a bilingual portal now that has over 1,000 companies, community colleges, and others to those who speak Spanish can go on.

But the last thing I would add that we found is very important in this industry we are learning, in addition to the quantitative work we have done as you see in this report, we are also doing qualitative group where we are holding focus groups and others and finding out what is most important to these different segments of our society.

For example, amongst the women, we are finding it is a workplace balance question where they want to be able to continue with family, but yet have opportunity. So we are nuancing our approach to make sure we are focused on what is important to these different segments.

So we have got a lot of things going, and we expect to have more over time. It won't happen overnight. But we are committed to this long-term, and we believe it is going to happen.

Mr. GREEN. OK. Director Harris, like I said, we have done job fares that focus on high school students coming out at the end of May. Has DOE conducted any research or outreach to local high schools, particularly in the area of the energy, whether it be in our areas, oil and gas, and downstream jobs at the refineries or chemical plants or maybe upstream? But I know coal is also interested. But has DOE looked at that workforce issue and done research and outreach of the high schools?

Ms. HARRIS. Oh, absolutely. As a matter of fact, we look at K through 12, in addition to, you know, collegiate students, and then looking at that whole from—I use the term from kindergarten all the way through employment. And the fact that you are from Houston, which is the most diverse city in the country—right?—so we have been working very closely a lot in Texas, but across the country having a lot of internships, even through the Department that we support through high school. We have a lot of energy literacy. One of our offices promote that we get into the schools. We have been working very closely with the superintendents in the schools.

And you mentioned another area, community colleges so we are working with a lot of models of students being—once they get their high school degree, they also get certification. When they receive their high school degree, they can actually go directly into the workforce. So, absolutely, we are working very closely with K through 12.

Mr. GREEN. Mr. Alford and Ms. Jackson, can you explain in any more detail what you have done with leaders in the Hispanic community, in addition to this legislation, and what—where can it be helpful?

Mr. ALFORD. Is this to me?

Mr. GREEN. Yes.

Mr. ALFORD. Well, we actually have a pretty big initiative with the Hispanic community because we have chapters in Columbia and Costa Rica. We work well with the U.S. Hispanic Chamber of Commerce and Latino coalition.

So you will find—and especially when we talk about New York and Miami and others, you would find a black population that their first language is Spanish.

Mr. GREEN. Yes.

Mr. ALFORD. So it is mixed. And we are brothers and sisters, and we are working together.

Let me also compliment Houston because it is consistently the number 1, 2, or 3 best market for black-owned businesses in the country.

Mr. GREEN. Yes.

Ms. JACKSON. You know, we, as an association, work very closely with Hispanics in energy. So that is our sister association. And while they are much younger, what we try to do in working on some of the projects that even Mr. Gerard has talked about, is talk about cultural adaptability.

And so providing some insight to industry and organizations about how we, as African-Americans or Latinos, think about the industry, who are the people who influence the kinds of jobs we want. Are we more apt to think about colleges versus blue collar? Do we listen to guidance counselors versus our parents?

I mean, so part of kind of the learning that we have had—and this collaboration is kind of providing that type of insight, so that you are not only offering the information, but you are offering it to the people who influence those who make those types of decisions.

The second piece, though, is also having an understanding of what are the challenges? Why do students not look at STEM as an opportunity? Why do they not look at energy as an opportunity? And more specifically, maybe even oil and natural gas or your traditional utilities.

People—students don't necessarily see it as glamorous. Sometimes we as industry talk about well-paying jobs, and that doesn't resonate with young people. We talk about jobs for life; that does not resonate with young people. When you talk about global, innovative, exciting, that resonates with them.

And so we try to bring all of that together in these kind of community forums to provide a better sense of understanding, not only to the community members, but also to industry as they try to recruit.

Mr. GREEN. Mr. Chairman, thank you. My goal is, minorities live next to those plants on the fence line; they ought to be able to go work there and enjoy the benefits of that, and so that is our goal.

Thank you, Mr. Chairman.

Mr. WHITFIELD. Gentleman's time has expired.

At this time, I recognize the gentleman from Pennsylvania, Mr. Pitts, for 5 minutes.

Mr. PITTS. Thank you, Mr. Chairman.

For all of the talk about growing income inequality, another great concern is a decrease in opportunities for Americans to have economic upward mobility, and this has been a key part of the American dream.

Can each of you please give a brief assessment on how the energy sector is providing opportunities to people that have technical training of some kind, not necessarily a college degree? We will start with you, Director Harris, and just go right down the line.

Ms. HARRIS. When you look at the employment—when people think of the energy sector, they think it is comprised of just 4-year-degree folks, engineers. But it is the supporting disciplines such as, you know, pipe fitters and all of the—what I call community college-level work. And that is very important.

Because when I—I was an engineer in Westinghouse, for example. When I would go onto a project, I will be a supervisor with maybe five engineers, but then I may have a crew of 15 technicians. So you need the technical supporting workforce.

So I would say, absolutely, when you look at not only the—just the 4-year and engineering types, but everything from the business side. We work a lot with community colleges, focusing, again, that energy requires all technical support. But you need business leaders. You need to go into the colleges and go into the business schools, the marketing schools to actually support this whole infrastructure.

So I use a term, there is probably very few people in this country in the workforce that cannot find a job in the energy industry. So it is very broad, and it is something that we need to educate our students and our communities more on.

Mr. PITTS. Thank you. Mr. Alford.

Mr. ALFORD. Yes. During the Katrina rebuild, we partnered with various oil companies and construction companies to have a training program in East Texas, Louisiana, Mississippi, and East Alabama—West Alabama. It was surprising to see how many of those kids graduated and entered into the labor market, from pipe fitters to oil riggers.

Right now, Exxon still has that program going on in Baton Rouge. And to see a young kid come out of West Baton Rouge, who probably was destined to be a gang banger and slinging drugs, come out with little education, but craft and an \$80,000 job. And that is someone who is going to have a productive life.

Mr. PITTS. Thank you.

Ms. BELL. I would have to say, a lot of the industries that have traditionally touched the energy efficiency industry have relied heavily on skilled workers, particularly in the construction industry.

I would also say, within the efficiency community, we are seeing a growing community of entrepreneurs, particularly in an area around information technology called intelligent efficiency. And this requires skills in computing, business, information technology, and in industrial settings. And this is an area that is going to require training and trained workers as well.

Mr. PITTS. Thank you. Ms. Jackson.

Ms. JACKSON. You know, I would say that part of what has gotten us in the situation that we are in today in terms of this work-

force pipeline is that this industry offers incredible stability. And so when we talk about these high percentages of people who are about to retire, it is because they have been in organizations with 30, 40 years. And so you can have a really fruitful career. It doesn't mean that you are in the same job for 40 years, but you have a long career doing a myriad of different things; but that if you like the organization that you are working for and they like you and you do a good job, you could literally start at 21 and retire at 65 and be in the same place. And I don't know that there are many other industries that can tell that kind of story across sectors like this one can.

Mr. PITTS. Thank you.

Mr. Gerard.

Mr. GERARD. Yes. The only other thing I would add to that—and I think Paula makes a great point—is we view these as careers as long-term careers. So upward mobility in the oil and gas industry, there is great upward mobility. And as I mentioned earlier, 50 percent of our workforce will turnover in the next decade.

But I think the other piece of it we shouldn't overlook is the compensation associated with that upward mobility, because the median average wage in the U.S. Today at \$49,700. Ours is \$96,000. And so these are great paying jobs. They are the type of jobs a lot of folks would love to have. And that is why this connection between these various segments in our industry is so important. We are putting a real focus on it.

But the technical skills—this report we have released, it shows 1.3 million job opportunities. 63 percent of those fall in the traditional blue collar area.

So you can get various skill levels that are required, all the way up to the Ph.D. We have young people leaving high school in North Dakota, making \$100,000 driving a truck. And so these are great opportunities.

So we view ourselves as one-stop shopping, if you will, from whatever skill level you have, all the way to the most advanced in our society.

Mr. PITTS. Thank you. My time has expired.

Mr. WHITFIELD. The gentleman's time has expired.

At this time, I recognize the distinguished gentleman from Louisville, Mr. Yarmuth, for 5 minutes.

Mr. YARMUTH. Thank you, Mr. Chairman, fellow Kentuckian. It is good to be here. And I want to thank you and Mr. Rush for your leadership on this issue. It is a rare instance of bipartisanship where we can actually discuss in harmony a policy that, I think, has great potential for the country.

I certainly agree with all of you that the energy field is going to be a source of continuing job growth and is one of the areas that we can look to to solving some of our employment challenges. And we have seen that in my district already.

We, because of a tax credit that Congress approved to reward the manufacturers of energy efficient appliances for manufacturing those appliances in the United States, General Electric brought a line of energy efficient hybrid water heaters back from China to Appliance Park in Louisville, creating—bringing back 420 jobs. So we know we can do that.

And I am reading a book now that is fascinating to me, and I recommend it to everybody. It is called *The Second Machine Age*, and it deals with the impact of the digital revolution on a lot of aspects of life, but particularly on employment. And one of the themes of the book, with regard to employment, is that, as we move forward, the kind of jobs that will survive are not necessarily jobs that require education, they are jobs that don't involve a repetitive process, that if you are in a job that involves a repetitive process, that that is probably going to be eliminated by digital technology. And you think of bank tellers and checkout clerks at supermarkets and so forth.

So I am interested—Ms. Bell, you, I think, alluded to this in your testimony that the—and I know that in your prepared testimony, that your analysis is or your organization's that EPA's clean power plan will generate over \$625 billion in investment in various energy-efficiency industries and create an average of more than 400,000 jobs a year.

Are these the types of jobs that I am talking about that don't involve repetitive processes and seem to be kind of insulated against obsolescence because of digital technologies? It is the long way to get to a question. I apologize for that.

Ms. BELL. Well, as I previously mentioned, so I think that—the short answer would be yes. When we perform these analyses, a lot of the job creation that we see is within the construction industry, which are jobs that don't necessarily involve those types of repetitive processes that you mentioned. They are also jobs that you can't really outsource. If you need somebody to work on your home, that is going to rely very heavily on local labor.

Mr. YARMUTH. All right. Thank you.

And, Director Harris, we know that besides the traditional energy jobs in oil, gas, coal, and nuclear, there will also be tremendous opportunities for minorities and women within the clean energy sector as well.

In your opinion—well, in addition, I mean, everybody seems to agree that there are going to be a lot of good jobs for wage earners and salaried workers in the industry.

Do you see an opportunity for underrepresented communities to become entrepreneurs and to start their own businesses as a result of the emphasis of this legislation?

Ms. HARRIS. Absolutely. As a matter of fact, entrepreneurship, which is one area we work very closely with minority entrepreneurs. I am a previous owner myself. I am an entrepreneur as well outside of this, when I return to my private life.

So, yes. Absolutely. Entrepreneurship is the—you know, of course, entrepreneurs employ, what, 90 percent of the jobs in this country. So, yes, absolutely. Particularly with the development that is happening in this country, we would have to rely on a lot of the entrepreneurs to promote the development here in energy.

Mr. YARMUTH. OK.

Ms. HARRIS. Yes.

Mr. YARMUTH. Well, I appreciate your testimony and all of your efforts in this regard. I think it is something that we can all get behind. And I, once again, thank the chairman and ranking member for their work. I yield back.

Mr. WHITFIELD. Gentleman yields back.

At this time, I recognize the gentleman from Illinois, Mr. Shimkus, for 5 minutes.

Mr. SHIMKUS. Thank you, Chairman. Appreciate it. Sorry I have been in and out. But I am not going to have a lot of questions.

Primarily the statement that, even in the great recession, in my district, we were building a coal-fired power plant and we are expanding a major refinery. So thousands of mostly building trade, union workers had jobs in the worst cycle of job creation, or lack thereof, in decades because of the fossil fuel sector.

That is the ConocoPhillips refinery that expanded to take oil sands, to take obviously the Keystone Pipeline and now hopefully Keystone XL eventually, to refine that, and to put it into the market.

And I also want to just take the note of—I am an American Legion member, life member, and an Army veteran, so I get the magazine. In their September magazine, they do an expose on the Bakken and how it is a great place for veterans to find jobs.

So I would—so this is right up the alley of what we should also be thankful for in the fossil fuel sector: Good jobs, high paid wages, health care benefits, and really valuable work for, not just our Nation, but national security.

As we become more energy independent here in our country, those who focus on the problems around the world—I like to focus on the Russian Federation that extorts allies on the fossil fuel sector. The more we are able to export crude oil and LNG and we have got to build those—we have got to retrofit the LNG terminals, the more we help our allies who are democratic countries around this world be free.

And so we are in a—we are in a very exciting period of time in our history, if we take advantage of it. So I want to applaud my friend, Bobby Rush, from the State of Illinois for helping us look at how we can get people more—more people back to work.

And then in that, our country is strong militarily. We all know that. In this world today, we also have to be strong economically, and that is when people work.

And so I appreciate your testimony and you being here, and we look forward to working with you.

Mr. Chairman, I just wanted to put that on the record. I yield back.

Mr. WHITFIELD. Gentleman yields back. At this time, I recognize the gentleman from New York, Mr. Engel, for 5 minutes.

Mr. ENGEL. Thank you very much, Mr. Chairman.

A number of the questions I have been asked, but I just want to make a statement and then perhaps ask a question at the end.

So thank you. Thank you to the panel for being here and for sharing your views. I want to thank you, Mr. Chairman, and Mr. Rush as well for holding the hearing.

As our economy continues to recover, I am grateful that my colleagues and I have an opportunity to discuss such a critical aspect of America's economic future, which, of course, is the energy sector.

I am excited about the energy sector, and I am glad this committee is not only taking the time to focus on the potential the energy industry holds for job creation, but also on how this potential

might positively impact women, Hispanic-Americans, and African-Americans.

The aim of the legislation is certainly commendable, providing the direct assistance to community colleges, schools with certain minorities, and workforce training institutions. I have many of those in my district. As the bill proposes would be a valuable tool in helping women and minorities succeed in the energy careers.

But I think we can and should look beyond higher education. Both *Forbes* and *The New York Times* recently reported that the STEM academic divide between white men, women, and minorities materializes years before college. This can happen for different reasons. Entrenched stereotypes about the professional and academic prospects for women in STEM fields have prevented teachers from devoting the same resources to young female students as their middle classmates.

And, additionally, according to the National Science Foundation, schools in primarily minority areas often hire teachers who are not as experienced in STEM disciplines as the teachers in primarily white areas.

Before I ever entered politics, I was a classroom teacher in my hometown of the Bronx, New York. I wanted to teach in minority areas at the time and did so for 7 or 8 years before politics caught my eye and went in a different direction.

But I felt then, as I feel now, that if younger people are exposed to these kinds of things—we used to have a period called “chop,” and we would teach young boys certain skills and—but unfortunately, those were stereotyped. Girls did cooking, and boys did something else. Those are, I guess, the bad old days, but the intentions were really good.

So I really think that there is no magic bullet to solve these obvious problems, but I feel that these issues need to be discussed. And as Mr. Alford said in his testimony, it is critical to engage students, not just at the college level, but also at a younger age. I taught in the middle school setting.

I was heartened to hear Ms. Jackson’s description of efforts of the American Association of Blacks in Energy has taken to encourage elementary, middle, and high school students to take an interest in energy careers.

Director Harris, let me ask you one question. I know it was sort of asked by Mr. Green, but perhaps if you could expand. Does the Department of Energy have any plans to help ensure that young female minority students’ interest in the sciences are not forgotten or dismissed before they reach college? Perhaps you could expand on what you mentioned when you answered Mr. Green.

Ms. HARRIS. I am the senior official for the Department for the White House Council for Women and Girls. Girls—as a matter of fact, all students, we want to catch them right where you were teaching, in middle school. If you capture a kid about the 6th grade, that is when you can get them interested in science, in STEM.

We work with a whole host of students—girls in particular—across the country. Everything from Girls Inc., Girls Scouts. My team know, when I travel, probably a good 30 percent of my travel has been focusing in STEM area, in visiting students and girls, in

particular, all across the country. So this is a very, very, not only important initiative for the Department, Secretary Moniz, but me personally. I am very committed to this one.

Mr. ENGEL. Thank you. Let me ask you or anyone else who would care to answer. We know things are moving in the right direction. At least, I believe they are. Obviously, we still have a long way to go because these things have been engrained in society for a number of years.

And perhaps some of you had answered this while I was gone, but do you finally feel that we are getting it right, that we are moving in the right direction, albeit slowly, probably not fast enough? Is there hope? Are you hopeful that we are finally getting in and that energy, in particular—because it obviously is something that is so important—is the right field to get younger people interested in?

I have been a strong supporter of the U.S. energy. We are now the number 1 energy producer in the world, and I think that I am also on the Foreign Affairs Committee, and I think that energy is important in geopolitical discussions as well. It can make the United States even more of a player.

So I just—if any of you would care to comment on direction. Yes. Mr. Alford.

Mr. ALFORD. Yes, sir. Well, here is another cliché. But you fish where the fish are biting. And energy is offering jobs by the thousands, and doesn't require serious education, I mean, multilevel education.

In fact, we are starting an ex-offender program where we are getting these kids coming out of prison and teaching them some skills or how to become an entrepreneur, how to make a widget and go sell it to people who buy widgets. And we are looking at the energy field as a marketplace for this, too, in addition to the other industries.

Mr. ENGEL. Yes.

Ms. JACKSON. I think we are getting it right. I think we are on the path to getting it right. I think our biggest challenge has really been, not a lack of interest by students, but a lack of information. And so the more that we talk about this field and this industry as an opportunity, it certainly piques their interest.

I will give you one example. A year ago I was speaking to a group, and I met a young woman who was studying petroleum engineering and was unsure as to whether or not she would be marketable. And I asked her to send me her resume, and I was amazed to find that this woman had already had a BS in biology. She spoke five languages, including Arabic, and had no idea that someone would want to hire her.

And so we have just got to do a better job of letting students know that, hey, you know, we are here and we want you, because it just doesn't cross their mind.

Mr. GERARD. Mr. Engel, I think the verdict is still out. But I think our real test as a Nation—it goes back to the question Mr. Rush asked earlier—what is the risk if we don't get this right. And from your vantage point, being on Foreign Affairs, you see those risks in a very intimate, direct way.

But I think 3 or 4 years from now, if we look back on this point, and based on all the collaboration we are seeing, the leadership of this legislation, others, this is really the turning point. And part of that is an understanding on the part of the American public that we truly have moved from scarcity to abundance, and we have now got to shift that mindset.

It shouldn't be based on the Arab oil embargo of the 1970s. And that comes to public policy questions, like oil exports and others that Mr. Shimkus mentioned earlier. If we take advantage of those opportunities, and you know the implications of that better than I do in terms of our allies, our partners around the world, then I think we can look back at this time and declare a job well-done, that we captured the vision, we seized the moment, and we really moved us in a new direction. And it benefits all Americans from whatever walk of life.

But the focus here now creates the opportunity 5, 6 years down the road, we can look back and see how well we did, but I don't think we know yet. We have got to stay after this. This can't be a fleeting moment. It has got to be a long-term commitment, and we have got to stay at it, and then I think we will begin to see the culture change.

Mr. ENGEL. I agree. Thank you.

Thank you Mr. Chairman.

Mr. WHITFIELD. Thank you. And that concludes the questions for today. Mr. Rush.

Mr. RUSH. Mr. Chairman, I ask for unanimous consent to enter into the record a letter in support of the bill from the National Urban League.

Mr. WHITFIELD. Without objection, so ordered.

[The information follows:]



**National  
Urban League**

***Empowering Communities.  
Changing Lives.***

September 17, 2014

*via electronic mail*

Honorable Ed Whitfield  
Chairman  
House Energy & Power Subcommittee  
U.S. House of Representatives  
Washington, DC 20515

Honorable Bobby L. Rush  
Ranking Member  
House Energy & Power Subcommittee  
U.S. House of Representatives  
Washington, DC 20515

Honorable Bill Johnson  
Member  
House Energy & Commerce Committee  
U.S. House of Representatives  
Washington, DC 20515

Dear Chairman Whitfield, Ranking Member Rush, and Congressman Johnson:

As President and CEO, and on behalf of the National Urban League, we are pleased to lend our strong support for the **21<sup>st</sup> Century Energy Workforce Development Jobs Initiative Act of 2014 (H.R. 4526)**. This bipartisan bill takes a creative and pragmatic approach to increasing the number of skilled minorities and women trained to work in energy-related jobs of the present and future. Most important, the measure makes this effort a *national priority*.

The National Urban League brings 100-plus years of expertise in public policy and direct services delivery in urban communities across the country, particularly in the areas of education and workforce training, development and employment placement. Through our signature youth and adult employment and training programs we are placing strategic emphasis on insuring that our urban communities have access to the jobs that provide at least a living wage and good benefits, and access to the education and skills training that prepare them for jobs in emerging, 21<sup>st</sup> century industries – such as the energy-related jobs targeted in H.R. 4526.

Our work is challenged by persistently high black unemployment rates in an economy that is still recovering, where in 2013, the fourth year of the nation's recovery from the Great Recession, the rate of job creation remained low compared with previous economic recoveries. The gap between the need for jobs and their availability remains much too high. This is further compounded by a skills gap to meet the needs of those jobs that are available but require a specialized skilled workforce.

In the area of STEM education, which is essential for access to energy-related jobs, great disparities exist in the rate of minority participation in the STEM workforce with nearly 72 percent of such jobs held by Whites, while Black and Hispanic workers hold less than 6 percent of STEM-related jobs. The likelihood of entering a STEM-related career is significantly linked to successful completion of a STEM-related degree in college. Over half of all African American students that enter a four-year university have an interest in STEM but are not proficient in math. At the same time, while 21 percent of African Americans declare a STEM major upon entering college, less than 16 percent actually receive a bachelor's degree in a STEM field. Through our signature *Project Ready: STEM* program, the National Urban League and its affiliates are engaging children and youth in STEM learning, including children and youth who may not otherwise be selected to, or choose to, participate in STEM programs.

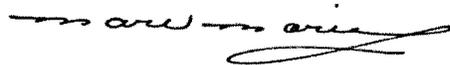
We therefore find that the **21<sup>st</sup> Century Energy Workforce Development Jobs Initiative Act of 2014** is effectively aligned with the education and workforce efforts of the National Urban League and its

affiliates by providing a pathway to employment for minorities and other historically underrepresented communities in the energy sector. Led by the Office of Economic Impact and Diversity, the bill calls for the Department of Energy to outline a comprehensive strategy for initiating collaboration between the DOE, Education, and Labor departments, as well as industry, schools, community colleges, universities, labor unions, workforce development organizations, and other stakeholders in order to engage, inform, train, and recruit minorities for the energy jobs of the present and future. In addition, the bill would:

- Encourage collaboration with representatives from within the energy industry (oil, gas, coal, nuclear, utility, pipeline, renewable, nuclear) to identify the areas of highest need in each sector and to develop guidelines for the skills necessary to develop a workforce trained to go into those sectors.
- Promote collaboration with schools, community colleges, universities, workforce training organizations, national laboratories, unions, and the energy industry in order to ensure that the nation's education system is equipping students with the skills, training, and technical expertise necessary to fill the employment opportunities vital to managing and operating America's energy industry.
- Promote and encourage STEM education as it relates to job opportunities in energy-related fields of study in schools, community colleges, and universities nationally.
- Provide information, guidance, and resources for schools, workforce development centers, and community colleges seeking to train or re-train candidates looking to go into the skilled, semi-skilled, and highly-skilled energy jobs in order to provide them with the skills and certifications necessary to fill these jobs.
- Encourage and foster collaboration, mentorships, and partnerships between organizations (unions, industry, schools, community colleges, workforce development organizations, universities) that currently provide effective job training programs in the energy field and institutions (schools, community colleges, workforce development programs, universities) that seek to establish these types of programs in order to share best practices and approaches that best suit local, state, and national needs.

The National Urban League applauds you for introducing this much needed bipartisan jobs bill and stands ready to work with you to advance it through Congress and ultimately to its swift enactment.

Sincerely,



Marc H. Morial  
President and CEO

Mr. RUSH. And, Mr. Chairman, if you don't mind, as we conclude this hearing, I must, again, applaud you, Mr. Chairman, and applaud all the members of the subcommittee on both sides of the aisle. This has been a rare occurrence here in the Congress over many years where you have bipartisan support, collaboration on an issue that is before the American people.

And I just can't—it just gladdens my heart to know that this subcommittee is formulated by individuals who really care about their constituents and about the American people and who are visionary enough to see the opportunities, geopolitical, nationally, locally; that by aggressively and proactively and creatively harnessing the energy and the imagination of our people, the consciousness of our people to really take advantage of all the opportunity that we are blessed with in regards to this whole energy sector.

I mean, to squander these blessings would be the most awful sin that we can commit to the future of this Nation. And I just want to salute you and the courage of the other members of the subcommittee that have participated, and those who would have except for the need of other obligations.

But this is the spirit that I think that we all aspire to, realizing to be a part of when we take the oath to serve this Nation and our constituents. So, again, Mr. Chairman, thank you for your leadership.

Mr. WHITFIELD. Well, Mr. Rush, thank you. And it is a very important subject.

And during the hearing, I actually whispered to Mr. Rush if he felt uncomfortable in this kind of bipartisan effort. But it is an important issue obviously, and I look forward to working with all of you and our staffs doing more on this 21st Century Workforce Development Act.

And thank you so much for your testimony. And all of you provided real insights for us, and it was quite helpful. And as I said, I look forward to working with all of you.

The record will remain open for 10 days for any additional materials. And that concludes today's hearing. Thank you very much.

[Whereupon, at 11:36 a.m., the subcommittee was adjourned.]