

112th CONGRESS

2d Session

H. R. 6603

To authorize research, development, and demonstration activities that increase energy security and affordability by enabling the safe and responsible production of the United States vast domestic unconventional oil and gas resources.

IN THE HOUSE OF REPRESENTATIVES

November 27, 2012

Mr. HALL introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To authorize research, development, and demonstration activities that increase energy security and affordability by enabling the safe and responsible production of the United States vast domestic unconventional oil and gas resources.

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

SECTION 1. SHORT TITLE.

This Act may be cited as the 'Tapping America's Energy Potential through Research and Development Act of 2012'.

SEC. 2. ACTIVITIES.

The Secretary, acting through the Assistant Secretary, shall carry out under this Act research, development, and demonstration activities of technologies that increase energy security and affordability by enabling the safe and responsible production of the vast domestic unconventional oil and gas resources of the United States. In carrying out the activities, the Secretary may conduct research and shall provide grants, cooperative agreements, contracts, or other assistance through a competitive selection process to eligible entities.

SEC. 3. OIL SHALE RESEARCH AND DEVELOPMENT ACTIVITIES.

(a) In General- The Secretary, acting through the Assistant Secretary, shall carry out research, development, and demonstration activities to facilitate commercial application of energy technologies related to the exploration, development, and production of oil shale resources.

(b) Objectives- The objectives of such activities shall be--

(1) to address scientific and technological barriers to enable economically feasible production of oil shale; and

(2) to minimize potential associated environmental impacts.

(c) Implementation Plan-

(1) IN GENERAL- Not later than 9 months after the date of enactment of this Act, the Secretary shall transmit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a program implementation plan that--

(A) details constraints and opportunities affecting oil shale development;

(B) identifies strategies to enable such development; and

(C) identifies and prioritizes research, development, and demonstration activities necessary to advance program objectives.

(2) CONSULTATION- The Assistant Secretary shall consult with a broad range of stakeholders in the development and implementation of the plan.

(d) Activities- The Assistant Secretary may conduct research and shall make awards to eligible entities for research, development, and demonstration activities in areas that include the following:

(1) Oil shale resource characterization.

(2) Modeling and simulation of oil shale exploration and production technologies, including--

(A) advanced diagnostics and imaging systems; and

(B) advanced computing applied to the physics and chemistry of oil shale production.

(3) Minimization and re-use of water, including--

(A) benchmarking of current water use rates for multiple production methods;

(B) potential reduction in water volume needed for operations; and

(C) recovery, utilization, reduction, and improved management of produced water from exploration and production activities.

(4) Efficient use of energy in exploration and production activities.

(5) Utilization of exploration and production methods and materials that reduce the potential impact of such activities on the environment, including improved production methods for in-situ mining and ex-situ mining.

(e) Activity Update- Not later than 3 years after the date of enactment of this Act, the Secretary shall transmit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a report on the progress of the activities under this section.

(f) Authorization of Appropriations- There are authorized to be appropriated to the Assistant Secretary to carry out the activities of this section \$10,000,000 for each of fiscal years 2013 through 2017.

SEC. 4. SHALE EXTRACTION RESEARCH AND DEVELOPMENT ACTIVITIES.

(a) In General- The Secretary, acting through the Assistant Secretary, shall carry out research, development, and demonstration activities to facilitate commercial application of energy technologies related to the exploration, development, and production of oil, natural gas, and other liquid resources from shale formations.

(b) Objectives- The objectives of such activities shall be--

(1) to maximize the benefits of the United States shale oil and natural gas resources by advancing safe and responsible exploration, development, and production of these resources;

(2) to minimize surface impacts from activities related to shale oil and natural gas production;

(3) to focus on areas that provide benefits to the public and to industry; and

(4) to advance the scientific and technological foundation available to producers, Federal and State Government agencies, and other stakeholders in identified research areas.

(c) Activities- The Assistant Secretary may conduct research and shall make awards to eligible entities for research, development, and demonstration activities in areas that include the following:

(1) Water use and demand, which may include--

(A) potential reduction in the volume of water utilized for shale oil and natural gas production; and

(B) alternative materials, substances, or ingredients for use in shale oil and natural gas operations that could mitigate the need for or volume of water used.

(2) Water sourcing, which may include--

(A) expanding options for sources of water used in shale oil and natural gas operations; and

(B) alternatives to groundwater or freshwater, such as water recovered from industrial or agricultural operations, brackish water, or surface water unsuitable for human or agricultural use, in areas with water supply concerns.

(3) Materials used in shale oil and natural gas operations, which may include--

- (A) increasing the efficiency of shale oil and natural gas operations by minimizing fluid use;
- (B) improving the understanding of the relationship between additives used in fracturing and the chemical and physical properties of different shale formations; and
- (C) enhancing permeability through improved proppants and other materials.

(4) Diagnostic imaging and monitoring, which may include--

- (A) increasing understanding of the propagation of fractures within target zones; and
- (B) advancing fundamental technologies that enable improved tracking and enhanced understanding of fracture movements.

(d) Authorization of Appropriations- There are authorized to be appropriated to the Assistant Secretary to carry out the activities of this section \$12,000,000 for each of fiscal years 2013 through 2015.

SEC. 5. PRODUCED WATER UTILIZATION RESEARCH AND DEVELOPMENT ACTIVITIES.

(a) In General- The Secretary, acting through the Assistant Secretary, shall carry out research, development, and demonstration activities to facilitate commercial application of energy technologies for environmentally sustainable utilization of produced water for agricultural, irrigational, recreational, power generation, municipal, and industrial uses, or other environmentally sustainable purposes.

(b) Activities- The Assistant Secretary may conduct research and shall make awards to eligible entities for research, development, and demonstration activities, including improving safety and minimizing environmental impacts of activities, in areas that include the following:

- (1) Produced water recovery, including research for desalination and demineralization to reduce total dissolved solids in the produced water.
- (2) Produced water utilization for agricultural, irrigational, recreational, power generation, municipal, and industrial uses, or other environmentally sustainable purposes.
- (3) Re-injection of produced water into subsurface geological formations to increase energy production.

(c) Authorization of Appropriations- There are authorized to be appropriated to the Assistant Secretary to carry out the activities of this section \$5,000,000 for each of fiscal years 2013 through 2017.

SEC. 6. ELIGIBLE ENTITIES.

To be eligible for a grant, cooperative agreement, contract, or other assistance under this Act, an applicant shall be--

- (1) an institution of higher education;
- (2) a National laboratory;
- (3) a private sector entity;
- (4) a nonprofit organization; or
- (5) a consortium of two or more entities described in paragraphs (1) through (4).

SEC. 7. ADMINISTRATION.

In carrying out the activities under this Act, the Secretary may enter into an agreement with a consortium whose members have collectively demonstrated capabilities and experience in planning and managing research, development, demonstration, and commercial application programs for unconventional natural gas and other petroleum production and produced water utilization.

SEC. 8. COORDINATION.

To the maximum extent practicable, the Secretary shall ensure that the activities under this Act are coordinated with, and do not duplicate the efforts of, programs at the Department of Energy and other Government agencies.

SEC. 9. COST SHARING.

All activities authorized by this Act shall adhere to the cost sharing guidelines established by section 988 of the Energy Policy Act of 2005 (42 U.S.C. 16352).

SEC. 10. LIMITATIONS.

- (a) In General- All research, development, demonstration, and commercial application activities authorized by this Act shall be limited to technology areas that industry by itself is not likely to undertake because of technical and financial uncertainty.
- (b) Effect on Regulation- Nothing in this Act creates any new authority for any Federal agency, or may be used by any Federal agency, to support the establishment of regulatory standards or regulatory requirements.

SEC. 11. DEFINITIONS.

In this Act:

- (1) ASSISTANT SECRETARY- The term `Assistant Secretary' means the Assistant Secretary of Energy for Fossil Energy.
- (2) INSTITUTION OF HIGHER EDUCATION- The term `institution of higher education' has the meaning given such term in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801).

(3) NATIONAL LABORATORY- The term `National laboratory' has the meaning given such term in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801).

(4) OIL SHALE- The term `oil shale' means the geologic deposits in which the petroleum component kerogen has not fully transformed into oil or gas.

(5) PRODUCED WATER- The term `produced water' means water from an underground source that is brought to the surface as a part of the process of exploration for or development of coalbed methane, oil, natural gas, or any other substance to be used as an energy source.

(6) SECRETARY- The term `Secretary' means the Secretary of Energy.

(7) SHALE OIL AND NATURAL GAS- The term `shale oil and natural gas' means oil, natural gas, and other liquid resources produced from shale formations.

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