112TH CONGRESS
1ST SESSION

H. R. 301

To ensure the energy independence of the United States by promoting research, development, demonstration, and commercial application of technologies through a system of grants and prizes on the scale of the original Manhattan Project.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 18, 2011

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

A BILL

To ensure the energy independence of the United States by promoting research, development, demonstration, and commercial application of technologies through a system of grants and prizes on the scale of the original Manhattan Project.

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 “New Manhattan Project for Energy Independence”.

SEC. 2. DEFINITIONS.

In this Act—
(1) **COMMISSION.**—The term “Commission” means the Commission established under section 7.

(2) **RESEARCH.**—The term “research” includes research on the technologies, materials, and manufacturing processes required to achieve the goals described in section 3.

**SEC. 3. GOALS.**

(a) **IN GENERAL.**—The purpose of this Act is to enable the achievement of each of the following goals:

(1) **VEHICLE FUEL EFFICIENCIES AND ALTERNATIVE FUEL SOURCES.**—Development and manufacturing of a plug-in hybrid vehicle, alternative fuel vehicle, electric vehicle, hydrogen fuel cell vehicle, or other alternative technology vehicle—

(A) that is not more than 10 percent more expensive than a comparable model vehicle of the same model year;

(B) with—

(i) equal acceleration, horsepower, and top speed performance; and

(ii) not more than 20 percent reduction in cargo space,

as compared to a comparable model vehicle of the same model year;
(C) that meets or exceeds Federal safety standards;

(D) that can travel at least 750 miles between refueling; and

(E) in the case of a gasoline-powered vehicle, that can travel at least 70 miles per gallon of gasoline.

(2) **GREEN BUILDINGS.**—Develop and build an energy efficient residential or commercial building that—

(A) uses no more than 50 percent of the energy of the average new building of similar size and type;

(B) costs no more than 15 percent more to construct than the cost of a building of similar size and type; and

(C) can be effectively reproduced in a variety of climate environments found in the United States.

(3) **SOLAR POWER.**—Construction of a large scale solar thermal power plant or solar photovoltaic power plant capable of generating 300 megawatts or more at a cost of 10 cents or less per kilowatt-hour when all capital and operating expenses are calculated into the cost.
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(4) **Biofuels.**—Development and production of a biofuel that, when mass produced, does not exceed 105 percent of the cost for the energy equivalent of unleaded gasoline when all capital and operating expenses are calculated into the cost of the biofuel.

(5) **Carbon Sequestration.**—Development and implementation of a carbon capture and storage system for a large scale coal-burning power plant that does not increase operating costs more than 15 percent compared to a baseline design without carbon capture and storage while providing an estimated chance of carbon dioxide escape no greater than 1 percent over 5,000 years.

(6) **Nuclear Waste.**—Development of both—

(A) a validated process for remediation of the radioactive waste form so it is no longer harmful to the health or welfare of the environment or individuals for a period to be determined by the Commission, which shall be not less than 5,000 years; and

(B) a model that accounts for all the effects of nuclear waste in that process.

(7) **Nuclear Fusion.**—Development of a sustainable nuclear fusion reaction capable of providing
a large-scale (greater than 300 megawatts), sustainable source of electricity for residential, commercial, or government entities.

(b) AMENDMENT OF GOALS.—The Secretary of Energy may amend a goal described in subsection (a) pursuant to a recommendation from the Commission under section 7(b)(5), or on his own initiative, if such amendment serves the purpose of achieving the goal of United States energy independence through the development of technologies that lead to the widespread adoption of improvements that increase energy supply or energy efficiency.

SEC. 4. SUMMIT.

(a) IN GENERAL.—Not later than 60 days after the date of enactment of this Act, the President shall convene a summit that includes—

(1) the principal advisors and directors of all programs in the Federal Government related to the achievement of the goals described in section 3;

(2) the members of the Commission; and

(3) leading researchers at the Federal laboratories and representatives of private sector partners engaged in the production and manufacturing of technologies necessary to achieve the goals described in section 3.
(b) PURPOSE.—The summit shall be for the purpose of reviewing the progress and promise for each of these technologies, the interrelationship of these technologies to each other, and additional funding resources needed to accelerate the progress of these programs toward achieving the goals described in section 3.

SEC. 5. GRANT PROGRAM.

(a) IN GENERAL.—The Secretary of Energy, in consultation with the Secretary of Defense, the Secretary of Transportation, the Administrator of the Environmental Protection Agency, and other Federal agencies as appropriate, shall carry out a program consisting of a collaborative effort with industry, government, and academia to support research, development, demonstration, and commercial application activities related to achieving the goals described in section 3.

(b) GRANTS.—Such program shall consist of grants to researchers, large and small businesses, National Laboratories, institutions of higher education, or any other qualified applicant, including veterans.

(c) LIMITATION ON AMOUNT.—No grant shall be made under this section in an amount that exceeds 5 percent of the amount authorized under section 8(1) for prizes for the achievement of the same goal.
(d) Cost Sharing.—The Federal share of the costs of a project for which a grant is made under this section shall not exceed 15 percent.

SEC. 6. PRIZE PROGRAM.

(a) Prize Authority.—

(1) In general.—The Secretary of Energy shall carry out a program to competitively award cash prizes in conformity with this section to advance the research, development, demonstration, and commercial application necessary to achieve the goals described in section 3.

(2) Advertising and solicitation of competitors.—

(A) Advertising.—The Secretary shall widely advertise prize competitions under this section to encourage broad participation by researchers, large and small businesses, institutions of higher education, and any other qualified applicants, including veterans.

(B) Announcement through Federal Register notice.—The Secretary shall announce each prize competition under this section by publishing a notice in the Federal Register. This notice shall include essential elements of the competition such as the subject of
the competition, the duration of the competition, the eligibility requirements for participation in the competition, the process for participants to register for the competition, the amount of the prize, and the criteria for awarding the prize, which shall include, at a minimum, the achievement of one of the goals described in section 3.

(3) Announcement of Prizes.—The Secretary may not issue a notice required by paragraph (2)(B) until all the funds needed to pay out the announced amount of the prize have been appropriated.

(b) Prize Categories.—

(1) Categories.—The Secretary of Energy shall establish a single prize under this section for each of the goals described in paragraphs (1) through (7) of section 3.

(2) Criteria.—In establishing the criteria required by this section, the Secretary—

(A) shall consult with other Federal agencies, including the National Science Foundation; and

(B) may consult with other experts such as private organizations, including professional so-
cieties, industry associations, and the National
Academy of Sciences and the National Academy
of Engineering.

(c) ELIGIBILITY.—To be eligible to win a prize under
this section, an individual or entity—

(1) shall have complied with all the require-
ments in accordance with the Federal Register no-
tice required under subsection (a)(2)(B);

(2) in the case of a private entity, shall be in-
corporated in and maintain a primary place of busi-
ness in the United States, and in the case of an in-
dividual, whether participating singly or in a group,
shall be a citizen of, or an alien lawfully admitted
for permanent residence in, the United States; and

(3) shall not be a Federal entity, a Federal em-
ployee acting within the scope of his employment, or
an employee of a national laboratory acting within
the scope of his employment.

(d) AWARD SELECTION.—

(1) IN GENERAL.—The Secretary of Energy
shall award prizes under this section on the basis of
the criteria published in the notice required under
subsection (a)(2)(B), after receiving the rec-
ommendations of the Commission under section
7(b)(3).
(2) CONGRESSIONAL NOTIFICATION.—If the Secretary awards a prize under paragraph (1) in a manner that does not conform to the recommendations of the Commission, the Secretary shall transmit a report to the Congress explaining the reasons for such action.

(e) INTELLECTUAL PROPERTY.—The Federal Government shall not, by virtue of offering or awarding a prize under this section, be entitled to any intellectual property rights derived as a consequence of, or direct relation to, the participation by a registered participant in a competition authorized by this section. This subsection shall not be construed to prevent the Federal Government from negotiating a license for the use of intellectual property developed for a prize competition under this section.

(f) LIABILITY.—

(1) WAIVER OF LIABILITY.—The Secretary of Energy may require registered participants to waive claims against the Federal Government (except claims for willful misconduct) for any injury, death, damage, or loss of property, revenue, or profits arising from the registered participants’ participation in a competition under this section. The Secretary shall give notice of any waiver required under this paragraph in the notice required by subsection (a)(2)(B).
(2) Liability insurance.—

(A) Requirements.—Registered participants in a prize competition under this section shall be required to obtain liability insurance or demonstrate financial responsibility, in amounts determined by the Secretary, for claims by—

(i) a third party for death, bodily injury, or property damage or loss resulting from an activity carried out in connection with participation in a competition under this section; and

(ii) the Federal Government for damage or loss to Government property resulting from such an activity.

(B) Federal government insured.—

The Federal Government shall be named as an additional insured under a registered participant’s insurance policy required under subparagraph (A) with respect to claims described in clause (i) of that subparagraph, and registered participants shall be required to agree to indemnify the Federal Government against third-party claims for damages arising from or related to competition activities under this section.
(g) NONSUBSTITUTION.—The programs created under this section shall not be considered a substitute for Federal research and development programs.

SEC. 7. COMMISSION.

(a) ESTABLISHMENT.—There shall be established the New Manhattan Project Commission on Energy Independence.

(b) FUNCTIONS.—The Commission shall—

(1) not later than 1 year after the date of enactment of this Act, submit to Congress and the President a report containing—

(A) recommendations on steps that must be taken in order for the United States to achieve 50 percent energy independence within 10 years and 100 percent energy independence within 20 years; and

(B) an assessment of the impact of foreign energy dependence on United States national security;

(2) advise the Secretary of Energy on the design and operation of the grant program established under section 5;

(3) make recommendations to the Secretary of Energy on the design and operation, including selec-
tion criteria, of the prize program carried out under section 6;

(4) make recommendations to the Secretary of Energy selecting participants who have achieved a goal for which a prize will be awarded under section 6; and

(5) submit recommendations to Congress for any amendments to make the goals described in section 3 more stringent, as appropriate because of changing circumstances, if such amendments serve the purpose of achieving the goal of United States energy independence through the development of technologies that lead to the widespread adoption of improvements that increase energy supply or energy efficiency.

(e) Membership.—The Commission shall be composed of 13 members as follows:

(1) The Under Secretary for Science of the Department of Energy.

(2) The Administrator of the Research and Innovative Technology Administration.

(3) The Director of the National Science Foundation.

(4) The Chairman of the Federal Laboratory Consortium for Technology Transfer.
(5) The President of the National Academy of Sciences.

(6) Two members appointed by the Speaker of the House of Representatives.

(7) Two members appointed by the minority leader of the House of Representatives.

(8) Two members appointed by the majority leader of the Senate.

(9) Two members appointed by the minority leader of the Senate.

(d) TERMS OF MEMBERSHIP.—Each member of the Commission appointed under subsection (c) (6) through (9) shall be appointed for a term of two years, except that of the members first appointed, one under each of those paragraphs shall be appointed for a term of one year. A member of the Commission may serve after the expiration of the member’s term until a successor has taken office.

(e) VACANCIES.—A vacancy in the Commission shall not affect its powers but, in the case of a member appointed under subsection (c) (6) through (9), shall be filled in the same manner as the original appointment was made. Any member appointed to fill a vacancy for an unexpired term shall be appointed for the remainder of such term.
(f) QUORUM.—Seven members of the Commission shall constitute a quorum.

(g) MEETINGS.—The Commission shall meet at the call of the Chairman or a majority of its members.

(h) COMPENSATION.—(1) Each member of the Commission shall serve without compensation.

(2) While away from their homes or regular places of business in the performance of duties for the Commission, members of the Commission shall be allowed travel expenses, including per diem in lieu of subsistence, at rates authorized for employees of agencies under sections 5702 and 5703 of title 5, United States Code.

(i) STAFF.—Subject to rules prescribed by the Commission, the Commission may appoint personnel as it considers appropriate.

(j) APPLICABILITY OF CERTAIN CIVIL SERVICE LAWS.—The staff of the Commission shall be appointed subject to the provisions of title 5, United States Code, governing appointments in the competitive service, and shall be paid in accordance with the provisions of chapter 51 and subchapter III of chapter 53 of that title relating to classification and General Schedule pay rates.

(k) EXPERTS AND CONSULTANTS.—The Commission may procure temporary and intermittent services under section 3109(b) of title 5, United States Code.
(l) **HEARINGS AND SESSIONS.**—The Commission may, for the purpose of carrying out this Act, hold hearings, sit and act at times and places, take testimony, and receive evidence as the Commission considers appropriate.

(m) **POWERS OF MEMBERS AND AGENTS.**—Any member or agent of the Commission may, if authorized by the Commission, take any action which the Commission is authorized to take by this section.

(n) **OBTAINING OFFICIAL DATA.**—The Commission may secure directly from any department or agency of the United States information necessary to enable it to carry out this Act. Upon request of the Commission, the head of that department or agency shall furnish that information to the Commission.

(o) **SUBPOENA POWER.**—

1. **IN GENERAL.**—The Commission may issue subpoenas requiring the attendance and testimony of witnesses and the production of any evidence relating to any matter under investigation by the Commission. The attendance of witnesses and the production of evidence may be required from any place within the United States at any designated place of hearing within the United States.

2. **FAILURE TO OBEY A SUBPOENA.**—If a person refuses to obey a subpoena issued under para-
graph (1), the Commission may apply to a United States district court for an order requiring that person to appear before the Commission to give testimony, produce evidence, or both, relating to the matter under investigation. The application may be made within the judicial district where the hearing is conducted or where that person is found, resides, or transacts business. Any failure to obey the order of the court may be punished by the court as civil contempt.

(3) SERVICE OF SUBPOENAS.—The subpoenas of the Commission shall be served in the manner provided for subpoenas issued by a United States district court under the Federal Rules of Civil Procedure for the United States district courts.

(4) SERVICE OF PROCESS.—All process of any court to which application is made under paragraph (2) may be served in the judicial district in which the person required to be served resides or may be found.

(p) FEDERAL ADVISORY COMMITTEE ACT.—Section 14 of the Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the Commission.
SEC. 8. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary of Energy—

(1) for the period encompassing fiscal years 2012 through 2021—

(A) $500,000,000 for awarding the prize under section 6 for meeting the goal described in section 3(1);

(B) $250,000,000 for awarding the prize under section 6 for meeting the goal described in section 3(2);

(C) $250,000,000 for awarding the prize under section 6 for meeting the goal described in section 3(3);

(D) $1,000,000,000 for awarding the prize under section 6 for meeting the goal described in section 3(4);

(E) $1,000,000,000 for awarding the prize under section 6 for meeting the goal described in section 3(5);

(F) $1,000,000,000 for awarding the prize under section 6 for meeting the goal described in section 3(6);

(G) $10,000,000,000 for awarding the prize under section 6 for meeting the goal described in section 3(7); and
(H) $10,000,000,000 for carrying out the grant program under section 5; and
(2) such sums as may be necessary for carrying out this Act for subsequent fiscal years.