112TH CONGRESS
1ST SESSION

S. 1351

To promote the development, manufacturing, and use of advanced batteries, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JULY 12, 2011

Ms. STABENOW introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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A BILL

To promote the development, manufacturing, and use of advanced batteries, and for other purposes.

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

SECTION 1. SHORT TITLE.

(a) SHORT TITLE.—This Act may be cited as the ''Battery Innovation Act of 2011''.

(b) TABLE OF CONTENTS.—The table of contents of this Act is as follows:

SEC. 2. DEFINITIONS.

(a) IN GENERAL.—In this Act:

(1) ADVANCED RESEARCH PROJECTS AGENCY—ENERGY.—The term ''Advanced Research Projects Agency—Energy'' means the Advanced Research Projects Agency—Energy established by section 5012(b) of the America COMPETES Act (42 U.S.C. 16538(b)).

(2) DEPARTMENT.—The term ''Department'' means the Department of Energy.

(3) FEDERAL-AID SYSTEM OF HIGHWAYS.—The term ''Federal-aid system of highways'' means a highway system described in section 103 of title 23, United States Code.

(4) PLUG-IN ELECTRIC DRIVE VEHICLE.—The term ''plug-in electric drive vehicle'' has the meaning given the term in section 131(a)(5) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17011(a)(5)).

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

(b) DEFINITION OF PLUG-IN ELECTRIC DRIVE VEHICLE.—Section 131(a)(5) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17011(a)(5)) is amended—

(1) by redesignating subparagraphs (A), (B), and (C) as clauses (i), (ii), and (iii), respectively, and indenting appropriately;

(2) by striking ''means a vehicle that—'' and inserting ''means—

''(A) a vehicle that—'';

(3) in subparagraph (A)(iii) (as so redesignated), by striking the period at the end and inserting ''; and''; and

(4) by adding at the end the following:

''(B) any other motor vehicle—

''(i) for which the motive electric power can be recharged from an external source of power; and

''(ii) that has a maximum speed of greater than 25 miles per hour.''.

TITLE I—BATTERY SUPPLY

SEC. 101. GRANTS FOR LITHIUM PRODUCTION RESEARCH AND DEVELOPMENT.

Subtitle E of title VI of the Energy Independence and Security Act of 2007 (42 U.S.C. 17241 et seq.) is amended by adding at the end the following:

''SEC. 657. GRANTS FOR LITHIUM PRODUCTION RESEARCH AND DEVELOPMENT.

''(a) DEFINITION OF ELIGIBLE ENTITY.—In this section, the term 'eligible entity' means—

''(1) a private partnership or other entity that is—

''(A) organized in accordance with Federal law; and

''(B) engaged in lithium production for use in advanced battery technologies;

''(2) a public entity, such as a State, tribal, or local governmental entity; or

''(3) a consortium of entities described in paragraphs (1) and (2).

''(b) GRANTS.—The Secretary shall provide grants to eligible entities for research, development, demonstration, and commercial application of domestic industrial processes that are designed to enhance domestic lithium production for use in advanced battery technologies, as determined by the Secretary.

''(c) USE.—An eligible entity shall use a grant provided under this subsection to develop or enhance—

''(1) domestic industrial processes that increase lithium production, processing, or recycling for use in advanced lithium batteries; or

''(2) industrial process associated with new formulations of lithium feedstock for use in advanced lithium batteries.

''(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary to carry out this section $10,000,000 for each of fiscal years 2011 through 2014.''.

SEC. 102. STUDY ON THE SUPPLY OF RAW MATERIALS.

(a) IN GENERAL.—The Secretary of the Interior, in consultation with the Secretary, shall conduct a study that—

(1) identifies the raw materials needed for the manufacture of plug-in electric drive vehicles, batteries, and other components for plug-in electric drive vehicles, and for the infrastructure needed to support plug-in electric drive vehicles;

(2) describes the primary or original sources and known reserves and resources of those raw materials;

(3) assesses, in consultation with an independent analysis entity designated by the Secretary, the degree of risk to the manufacture, maintenance, deployment, and use of plug-in electric drive vehicles associated with the supply of those raw materials;

(4) identifies pathways to securing reliable and resilient supplies of those raw materials; and

(5) assesses, in coordination with relevant Federal agencies (as determined by the Secretary), the international trade opportunities and barriers, including tariffs, for the continued development of advanced batteries in the United States.

(b) REPORT.—Not later than 3 years after the date of enactment of this Act, the Secretary of the Interior

shall submit to Congress a report that describes the results of the study.

(c) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this subsection $1,500,000.

TITLE II—BATTERY RESEARCH AND DEVELOPMENT

Subtitle A—Battery Research and Development

SEC. 201. ARPA–E PLUG-IN ELECTRIC DRIVE VEHICLE RESEARCH AND DEVELOPMENT PROGRAMS.

(a) IN GENERAL.—The Advanced Research Projects Agency—Energy established by section 5012(b) of the America COMPETES Act (42 U.S.C. 16538(b)) (referred to in this section as ''ARPA–E'') shall use funds made available under this section to fund high-risk, high-reward research and development programs supporting the development and manufacture of plug-in electric drive vehicles and charging infrastructure, including advanced batteries, plug-in electric drive components, and plug-in electric drive infrastructure.

(b) SUPPLEMENTAL FUNDS.—Funds made available under this section shall used to supplement (and not supplant) funds made available for the Advanced Research Projects Agency—Energy.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section such sums as are necessary for each of fiscal years 2011 through 2014.

SEC. 202. ADVANCED BATTERY BREAKTHROUGH ACHIEVEMENT AWARDS.

(a) IN GENERAL.—The Secretary may make cash awards, in amounts determined by the Secretary, in recognition of breakthrough achievements in research, development, demonstration, and commercial application of batteries that—

(1) are able to power a plug-in electric drive vehicle authorized to travel on the Federal-aid system of highways for at least 500 miles before recharging;

(2) are of a size that would not be cost-prohibitive or create space constraints, if mass-produced;

(3) are cost-effective (measured in cost per kilowatt hour), if mass-produced; and

(4) demonstrate advances in battery durability, energy density, and power density;

(5) meet other goals established by the United States Advanced Battery Consortium; and

(6) meet such additional battery specifications as the Secretary determines to be necessary.

(b) BATTERY ACHIEVEMENT AWARD FUND.—

(1) ESTABLISHMENT.—There is established in the Treasury of the United States a fund to be known as the ''Battery Achievement Award Fund'' (referred to in this section as the ''Fund''), to be administered by the Secretary, to be available without fiscal year limitation and subject to appropriation, to award amounts under this section.

(2) TRANSFERS TO FUND.—The Fund shall consist of such amounts as are appropriated to the Fund under subsection (c).

(3) PROHIBITION.—Amounts in the Fund may not be made available for any purpose other than a purposes described in subsection (a).

(4) ANNUAL REPORTS.—

(A) IN GENERAL.—Not later than 60 days after the end of each fiscal year beginning with fiscal year 2012, the Secretary shall submit a report on the operation of the Fund during the fiscal year to—

(i) the Committees on Appropriations of the House of Representatives and of the Senate;

(ii) the Committee on Energy and Natural Resources of the Senate; and

(iii) the Committee on Energy and Commerce of the House of Representatives.

(B) CONTENTS.—Each report shall include, for the fiscal year covered by the report, the following:

(i) A statement of the amounts deposited into the Fund.

(ii) A description of the expenditures made from the Fund for the fiscal year, including the purpose of the expenditures.

(iii) Recommendations for additional authorities to fulfill the purpose of the Fund.

(iv) A statement of the balance remaining in the Fund at the end of the fiscal year.

(5) SEPARATE APPROPRIATIONS ACCOUNT.—Section 1105(a) of title 31, United States Code, is amended—

(A) by redesignating paragraphs (35) and (36) as paragraphs (36) and (37), respectively;

(B) by redesignating the second paragraph (33) (relating to obligational authority and out-

lays requested for homeland security) as paragraph (35); and

(C) by adding at the end the following:

''(38) a separate statement for the Battery Achievement Award Fund established under section 202(b) of the Battery Innovation Act of 2011, which shall include the estimated amount of deposits into the Fund, obligations, and outlays from the Fund.''.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Fund such sums as are necessary to carry out this section.

SEC. 203. ENERGY INNOVATION HUBS.

The Secretary may establish energy innovation hubs—

(1) to advance highly promising areas of science and engineering relating to batteries throughout all applicable stages, including research through providing promising technology and information to the private sector; and

(2) to foster unique, cross-disciplinary collaborations by bringing together leading scientists and engineers to focus on high priority technology relating to batteries.

Subtitle B—Vehicle Research and Development

SEC. 211. PROGRAM.

(a) ACTIVITIES.—The Secretary shall conduct a program of basic and applied research, development, engineering, demonstration, and commercial application activities on materials, technologies, and processes with the potential to substantially reduce or eliminate petroleum use and the emissions of the passenger and commercial vehicles of the United States, including activities in the areas of—

(1) hybridization or full electrification of vehicle systems;

(2) batteries and other energy storage devices;

(3) power electronics;

(4) vehicle, component, and subsystem manufacturing technologies and processes;

(5) engine efficiency and combustion optimization;

(6) waste heat recovery;

(7) transmission and drivetrains;

(8) hydrogen vehicle technologies, including fuel cells and internal combustion engines, and hydrogen infrastructure;

(9) compressed natural gas and liquefied petroleum gas vehicle technologies;

(10) aerodynamics, rolling resistance, and accessory power loads of vehicles and associated equipment;

(11) vehicle weight reduction, including lightweighting materials;

(12) friction and wear reduction;

(13) engine and component durability;

(14) innovative propulsion systems;

(15) advanced boosting systems;

(16) hydraulic hybrid technologies;

(17) engine compatibility with and optimization for a variety of transportation fuels including natural gas and other liquid and gaseous fuels;

(18) predictive engineering, modeling, and simulation of vehicle and transportation systems;

(19) refueling and charging infrastructure for alternative fueled and electric or plug-in electric hybrid vehicles, including the unique challenges facing rural areas;

(20) gaseous fuels storage systems and system integration and optimization;

(21) sensing, communications, and actuation technologies for vehicle, electrical grid, and infrastructure;

(22) efficient use, substitution, and recycling of potentially critical materials in vehicles, including rare earth elements and precious metals, at risk of supply disruption;

(23) aftertreatment technologies;

(24) thermal management of battery systems;

(25) retrofitting advanced vehicle technologies to existing vehicles;

(26) development of common standards, specifications, and architectures for both transportation and stationary battery applications;

(27) advanced internal combustion engines; and

(28) other research areas as determined by the Secretary.

(b) TRANSFORMATIONAL TECHNOLOGY.—The Secretary shall ensure that the Department continues to support research, development, engineering, demonstration, and commercial application activities and maintains competency in mid- to long-term transformational vehicle technologies with potential to achieve deep reductions in petroleum use and emissions, including activities in the areas of—

(1) hydrogen vehicle technologies, including fuel cells, internal combustion engines, hydrogen storage, infrastructure, and activities in hydrogen technology validation and safety codes and standards;

(2) multiple battery chemistries and novel energy storage devices, including nonchemical batteries and electromechanical storage technologies such as hydraulics, flywheels, and compressed air storage;

(3) communication, connectivity, and power flow among vehicles, infrastructure, and the electrical grid; and

(4) other innovative technologies research and development, as determined by the Secretary.

(c) INDUSTRY PARTICIPATION.—To the maximum extent practicable, activities under this Act shall be carried out in partnership or collaboration with automotive manufacturers, heavy commercial, vocational, and transit vehicle manufacturers, qualified plug-in electric vehicle manufacturers, compressed natural gas and liquefied petroleum gas vehicle manufacturers, vehicle and engine equipment and component manufacturers, manufacturing equipment manufacturers, advanced vehicle service providers, fuel producers and energy suppliers, electric utilities, universities, national laboratories, and independent research laboratories. In carrying out this Act the Secretary shall—

(1) determine whether a wide range of companies that manufacture or assemble vehicles or components in the United States are represented in ongoing public private partnership activities, including firms that have not traditionally participated in federally sponsored research and development activities, and where possible, partner with such firms that conduct significant and relevant research and development activities in the United States;

(2) leverage the capabilities and resources of, and formalize partnerships with, industry-led stakeholder organizations, nonprofit organizations, industry consortia, and trade associations with expertise in the research and development of, and education and outreach activities in, advanced automotive and commercial vehicle technologies;

(3) develop more efficient processes for transferring research findings and technologies to industry;

(4) give consideration to conversion of existing or former vehicle technology development or manufacturing facilities for the purposes of this Act;

(5) establish and support public-private partnerships, dedicated to overcoming barriers in commercial application of transformational vehicle tech-

nologies, that utilize such industry-led technology development facilities of entities with demonstrated expertise in successfully designing and engineering pre-commercial generations of such transformational technology; and

(6) promote efforts to ensure that technology research, development, engineering, and commercial application activities funded under this Act are carried out in the United States.

(d) INTERAGENCY AND INTRAAGENCY COORDINATION.—To the maximum extent practicable, the Secretary shall coordinate research, development, demonstration, and commercial application activities among—

(1) relevant programs within the Department, including—

(A) the Office of Energy Efficiency and Renewable Energy;

(B) the Office of Science;

(C) the Office of Electricity Delivery and Energy Reliability;

(D) the Office of Fossil Energy;

(E) the Advanced Research Projects Agency—Energy; and

(F) other offices as determined by the Secretary; and

(2) relevant technology research and development programs within the Department of Transportation and other Federal agencies, as determined by the Secretary.

(e) COORDINATION AND NONDUPLICATION.—In coordinating activities the Secretary shall ensure, to the maximum extent practicable, that activities do not duplicate those of other programs within the Department or other relevant research agencies.

(f) FEDERAL DEMONSTRATION OF TECHNOLOGIES.—The Secretary shall make information available to procurement programs of Federal agencies regarding the potential to demonstrate technologies resulting from activities funded through programs under this Act.

(g) INTERGOVERNMENTAL COORDINATION.—The Secretary shall seek opportunities to leverage resources and support initiatives of State and local governments in developing and promoting advanced vehicle technologies, manufacturing, and infrastructure.

(h) CRITERIA.—When awarding grants under this program, the Secretary shall give priority to those technologies (either individually or as part of a system) that—

(1) provide the greatest aggregate fuel savings based on the reasonable projected sales volumes of the technology; and

(2) provide the greatest increase in United States employment.

SEC. 212. SENSING AND COMMUNICATIONS TECHNOLOGIES.

(a) IN GENERAL.—The Secretary, in coordination with the Secretary of Transportation and the relevant research programs of other Federal agencies, shall conduct research, development, engineering, and demonstration activities on connectivity of vehicle and transportation systems, including on sensing, computation, communication, and actuation technologies that allow for reduced fuel use, optimized traffic flow, and vehicle electrification, including technologies for—

(1) onboard vehicle, engine, and component sensing and actuation;

(2) vehicle-to-vehicle sensing and communication;

(3) vehicle-to-infrastructure sensing and communication; and

(4) vehicle integration with the electrical grid and communications to provide grid services.

(b) COORDINATION.—The activities carried out under this section shall supplement (and not supplant) activities under the intelligent transportation system research program of the Department of Transportation.

SEC. 213. MANUFACTURING.

The Secretary shall carry out a research, development, engineering, demonstration, and commercial application program of advanced vehicle manufacturing technologies and practices, including innovative processes to—

(1) increase the production rate and decrease the cost of advanced battery manufacturing;

(2) vary the capability of individual manufacturing facilities to accommodate different battery chemistries and configurations;

(3) reduce waste streams, emissions, and energy-intensity of vehicle, engine, advanced battery and component manufacturing processes;

(4) recycle and remanufacture used batteries and other vehicle components for reuse in vehicles or stationary applications;

(5) produce cost-effective lightweight materials such as advanced metal alloys, polymeric composites, and carbon fiber;

(6) produce lightweight high pressure storage systems for gaseous fuels;

(7) design and manufacture purpose-built hydrogen and fuel cell vehicles and components;

(8) improve the calendar life and cycle life of advanced batteries; and

(9) produce permanent magnets for advanced vehicles.

SEC. 214. USER TESTING FACILITIES.

Activities under this subtitle may include construction, expansion, or modification of new and existing vehicle, engine, and component research and testing facilities for—

(1) testing or simulating interoperability of a variety of vehicle components and systems;

(2) subjecting whole or partial vehicle platforms to fully representative duty cycles and operating conditions;

(3) developing and demonstrating a range of chemistries and configurations for advanced vehicle battery manufacturing; and

(4) developing and demonstrating test cycles for new and alternative fuels, and other advanced vehicle technologies.

SEC. 215. REPORTING.

(a) TECHNOLOGIES DEVELOPED.—Not later than 18 months after the date of enactment of this Act and annually thereafter through 2017, the Secretary of Energy shall transmit to Congress a report regarding the technologies developed as a result of the activities authorized by this subtitle, with a particular emphasis on whether the

technologies were successfully adopted for commercial applications, and if so, whether products relying on those technologies are manufactured in the United States.

(b) ADDITIONAL MATTERS.—At the end of each fiscal year through 2017, the Secretary shall submit to the relevant Congressional committees of jurisdiction an annual report describing activities undertaken in the previous year under this subtitle, active industry participants, efforts to recruit new participants committed to design, engineering, and manufacturing of advanced vehicle technologies in the United States, progress of the program in meeting goals and timelines, and a strategic plan for funding of activities across agencies.

Subtitle C—Medium- and Heavy-Duty Commercial and Transit Vehicles

SEC. 221. PROGRAM.

(a) IN GENERAL.—The Secretary, in partnership with relevant research and development programs in other Federal agencies, and a range of appropriate industry stakeholders, shall carry out a program of cooperative research, development, demonstration, and commercial application activities on advanced technologies for medium- to heavy-duty commercial, vocational, recreational, and transit vehicles, including activities in the areas of—

(1) engine efficiency and combustion research;

(2) onboard storage technologies for compressed natural gas and liquefied petroleum gas;

(3) development and integration of engine technologies designed for compressed natural gas and liquefied petroleum gas operation of a variety of vehicle platforms;

(4) waste heat recovery and conversion;

(5) improved aerodynamics and tire rolling resistance;

(6) energy and space-efficient emissions control systems;

(7) heavy hybrid, hybrid hydraulic, plug-in hybrid, and electric platforms, and energy storage technologies;

(8) drivetrain optimization;

(9) friction and wear reduction;

(10) engine idle and parasitic energy loss reduction;

(11) electrification of accessory loads;

(12) onboard sensing and communications technologies;

(13) advanced lightweighting materials and vehicle designs;

(14) increasing load capacity per vehicle;

(15) thermal management of battery systems;

(16) recharging infrastructure;

(17) compressed natural gas and liquefied petroleum gas infrastructure;

(18) advanced internal combustion engines;

(19) complete vehicle modeling and simulation;

(20) hydrogen vehicle technologies, including fuel cells and internal combustion engines, and hydrogen infrastructure;

(21) retrofitting advanced technologies onto existing truck fleets; and

(22) integration of these and other advanced systems onto a single truck and trailer platform.

(b) LEADERSHIP.—The Secretary shall appoint a full-time Director to coordinate research, development, demonstration, and commercial application activities in medium- to heavy-duty commercial, recreational, and transit vehicle technologies. Responsibilities of the Director shall be to—

(1) improve coordination and develop consensus between government agency and industry partners, and propose new processes for program management and priority setting to better align activities and budgets among partners;

(2) regularly convene workshops, site visits, demonstrations, conferences, investor forums, and other events in which information and research findings are shared among program participants and interested stakeholders;

(3) develop a budget for the Department's activities with regard to the interagency program, and provide consultation and guidance on vehicle technology funding priorities across agencies;

(4) determine a process for reviewing program technical goals, targets, and timetables and, where applicable, aided by life-cycle impact and cost analysis, propose revisions or elimination based on program progress, available funding, and rate of technology adoption;

(5) evaluate ongoing activities of the program and recommend project modifications, including the termination of projects, where applicable;

(6) recruit new industry participants to the interagency program, including truck, trailer, and component manufacturers who have not traditionally participated in federally sponsored research and technology development activities; and

(7) other responsibilities as determined by the Secretary, in consultation with interagency and industry partners.

(c) REPORTING.—At the end of each fiscal year, the Secretary shall submit to the Congress an annual report describing activities undertaken in the previous year, active industry participants, efforts to recruit new participants, progress of the program in meeting goals and timelines, and a strategic plan for funding of activities across agencies.

SEC. 222. CLASS 8 TRUCK AND TRAILER SYSTEMS DEMONSTRATION.

(a) IN GENERAL.—The Secretary shall conduct a competitive grant program to demonstrate the integration of multiple advanced technologies on Class 8 truck and trailer platforms with a goal of improving overall freight efficiency, as measured in tons and volume of freight hauled or other work performance-based metrics, by 50 percent, including a combination of technologies listed in section 221(a).

(b) APPLICANT TEAMS.—Applicant teams may be comprised of truck and trailer manufacturers, engine and component manufacturers, fleet customers, university researchers, and other applicants as appropriate for the de-

velopment and demonstration of integrated Class 8 truck and trailer systems.

SEC. 223. TECHNOLOGY TESTING AND METRICS.

The Secretary, in coordination with the partners of the interagency research program described in section 221(a)—

(1) shall develop standard testing procedures and technologies for evaluating the performance of advanced heavy vehicle technologies under a range of representative duty cycles and operating conditions, including for heavy hybrid propulsion systems;

(2) shall evaluate heavy vehicle performance using work performance-based metrics other than those based on miles per gallon, including those based on units of volume and weight transported for freight applications, and appropriate metrics based on the work performed by nonroad systems; and

(3) may construct heavy-duty truck and bus testing facilities.

SEC. 224. NONROAD SYSTEMS PILOT PROGRAM.

The Secretary shall undertake a pilot program of research, development, demonstration, and commercial applications of technologies to improve total machine or system efficiency for nonroad mobile equipment including agricultural and construction equipment, and shall seek op-

portunities to transfer relevant research findings and technologies between the nonroad and on-highway equipment and vehicle sectors.

Subtitle D—Authorization of Appropriations

SEC. 231. AUTHORIZATION OF APPROPRIATIONS.

(a) IN GENERAL.—There are authorized to be appropriated to the Secretary for United States research, development, engineering, demonstration, and commercial application of vehicles and related technologies, including activities authorized under subtitles B and C, such sums as may be necessary for each of fiscal years 2012 through 2016.

(b) COST-SHARING REQUIREMENT.—The activities carried out under this title shall be subject to the cost-sharing requirements of section 988 of the Energy Policy Act of 2005 (42 U.S.C. 16352).

TITLE III—BATTERY MANUFACTURING

SEC. 301. ADVANCED BATTERY MANUFACTURING ASSISTANCE.

(a) IN GENERAL.—The Secretary shall make grants for the manufacturing of advanced batteries and components, and provide facility funding awards, to manufacturers of advanced battery systems and vehicle batteries that

are produced in the United States, including manufacturers of advanced lithium ion batteries and hybrid electrical systems, component manufacturers, software designers, and system design and vehicle integrators.

(b) APPOINTMENT OF HIGHLY QUALIFIED INDIVIDUALS.—

(1) IN GENERAL.—Subject to paragraphs (2) through (4), notwithstanding section 3304 of title 5, United States Code, and without regard to sections 3309 through 3318 of that title, the Secretary, on a determination that there is a severe shortage of candidates or a critical hiring need for particular positions, may from funds made available to carry out this section, recruit and directly appoint highly qualified individuals into the competitive service to carry out this section.

(2) EXCEPTIONS.—The authority provided under paragraph (1) shall not apply to positions in the excepted service or the Senior Executive Service.

(3) MERIT PRINCIPLES.—Any action authorized under paragraph (1) shall be consistent with the merit principles of section 2301 of title 5, United States Code.

(4) PUBLIC NOTICE.—In carrying out this subsection, the Secretary shall comply with the public

notice requirements of section 3327 of title 5, United States Code.

(c) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section $2,000,000,000.

TITLE IV—ALTERNATIVE AND SECONDARY USE OF BATTERIES

SEC. 401. ALTERNATIVE AND SECONDARY USE OF BATTERIES.

(a) ALTERNATIVE AND SECONDARY USE APPLICATIONS PROGRAM.—

(1) IN GENERAL.—The Secretary shall carry out a research, development, and demonstration program that builds upon any work carried out under section 915 of the Energy Policy Act of 2005 (42 U.S.C. 16195) and—

(A) identifies possible uses of a vehicle battery after the useful life of the battery in a vehicle has been exhausted;

(B) assesses the potential for markets for uses described in subparagraph (A) to develop, as well as any barriers to the development of the markets;

(C) identifies the infrastructure, technology, and equipment needed to manage the

charging activity of the batteries used in stationary sources; and

(D) identifies the potential uses of a vehicle battery—

(i) with the most promise for market development; and

(ii) for which market development would be aided by a demonstration project.

(2) REPORT.—Not later than 2 years after the date of enactment of this Act, the Secretary shall submit to the appropriate committees of Congress an initial report on the findings of the program described in paragraph (1), including recommendations for stationary energy storage and other potential applications for batteries used in plug-in electric drive vehicles.

(b) ALTERNATIVE AND SECONDARY USE DEMONSTRATION PROJECTS.—

(1) IN GENERAL.—The Secretary shall—

(A) develop guidelines for projects that demonstrate the alternative and secondary uses of vehicle batteries; and

(B) coordinate with the Secretary of Defense to demonstrate the use of batteries to

provide onsite power on United States military facilities.

(2) PUBLICATION OF GUIDELINES.—Not later than 30 months after the date of enactment of this Act, the Secretary shall—

(A) publish the guidelines described in paragraph (1); and

(B) solicit applications for funding for demonstration projects.

(3) GRANT PROGRAM.—Not later than 18 months after the date of enactment of this Act, the Secretary shall select proposals for grant funding under this section, based on an assessment of which proposals are mostly likely to contribute to the development of a secondary market for batteries.

SEC. 402. LOAN GUARANTEES FOR ADVANCED BATTERY PURCHASES FOR USE IN STATIONARY APPLICATIONS.

Subtitle B of title I of the Energy Independence and Security Act of 2007 (42 U.S.C. 17011 et seq.) is amended by adding at the end the following:

"SEC. 137. LOAN GUARANTEES FOR ADVANCED BATTERY PURCHASES.

''(a) DEFINITIONS.—In this section:

''(1) QUALIFIED AUTOMOTIVE BATTERY.—The term 'qualified automotive battery' means a battery that—

''(A) has at least 4 kilowatt hours of battery capacity; and

''(B) is designed for use in qualified plug-in electric drive motor vehicles but is purchased for nonautomotive applications.

''(2) ELIGIBLE ENTITY.—The term 'eligible entity' means—

''(A) an original equipment manufacturer;

''(B) an electric utility;

''(C) any provider of range extension infrastructure; or

''(D) any other qualified entity, as determined by the Secretary.

''(b) LOAN GUARANTEES.—

''(1) IN GENERAL.—The Secretary shall guarantee loans made to eligible entities for the aggregate purchase of not less than 200 qualified automotive batteries in a calendar year that have a total minimum power rating of 1 megawatt and use advanced battery technology.

''(2) RESTRICTION.—As a condition of receiving a loan guarantee under this section, an entity pur-

chasing qualified automotive batteries with loan funds guaranteed under this section shall comply with the provisions of the Buy American Act (41 U.S.C. 10a et seq.).

''(c) REGULATIONS.—The Secretary shall promulgate such regulations as are necessary to carry out this section.

''(d) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section $50,000,000.''.

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