

Calendar No. 241114TH CONGRESS
1ST SESSION**S. 2089**

To provide for investment in clean energy, to empower and protect consumers, to modernize energy infrastructure, to cut pollution and waste, to invest in research and development, and for other purposes.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 28, 2015

Ms. CANTWELL (for herself, Mr. REID, Mr. WYDEN, Mr. DURBIN, Mr. SCHUMER, Ms. STABENOW, Mr. HEINRICH, Mr. FRANKEN, Ms. HIRONO, Ms. WARREN, Mrs. SHAHEEN, Ms. MIKULSKI, Mr. COONS, Mr. BENNET, Mr. MURPHY, Mr. MARKEY, Mrs. FEINSTEIN, Mr. BLUMENTHAL, Mr. PETERS, Mr. SCHATZ, Mr. REED, Mrs. MURRAY, Mr. CARDIN, Mr. CARPER, Mr. KING, Mr. MERKLEY, Mr. BOOKER, Mrs. BOXER, Ms. KLOBUCHAR, and Mrs. GILLIBRAND) introduced the following bill; which was read the first time

SEPTEMBER 29, 2015

Read the second time and placed on the calendar

A BILL

To provide for investment in clean energy, to empower and protect consumers, to modernize energy infrastructure, to cut pollution and waste, to invest in research and development, and for other purposes.

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

1 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

2 (a) SHORT TITLE.—This Act may be cited as the
3 “American Energy Innovation Act”.

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

Sec. 1. Short title; table of contents.

Sec. 2. Definitions.

TITLE I—EMPOWERING AND PROTECTING CONSUMERS

Subtitle A—Access to Consumer Energy Information

Sec. 1001. Consumer access to electric energy information.

Subtitle B—Unfair Trade Practices Prohibition in Distributed Generation

Sec. 1011. Investigation of distributed generation.

Subtitle C—Enhanced Grid Security

Sec. 1021. Cybersecurity threats.

Sec. 1022. Enhanced grid security.

Subtitle D—Capacity Markets Study

Sec. 1031. GAO capacity market impact study.

Subtitle E—Severe Coal Supply Emergency Response

Sec. 1041. Severe coal supply emergency response.

Subtitle F—Energy Markets

Sec. 1051. Enhanced information on critical energy supplies.

Sec. 1052. Working Group on Energy Markets.

Sec. 1053. Study of regulatory framework for energy markets.

Subtitle G—Transmission

Sec. 1061. Report by transmission organizations on distributed energy re-
sources and microgrid systems.

Sec. 1062. Net metering study guidance.

TITLE II—MODERNIZING INFRASTRUCTURE

Subtitle A—QER Recommendations

Sec. 2001. Natural gas distribution system improvement program.

Sec. 2002. Strategy for managing the risks associated with the loss or disrup-
tion of power from large power transformers.

Sec. 2003. Consolidation of release authorities.

Sec. 2004. Modernization of Strategic Petroleum Reserve release authorities.

Sec. 2005. Optimization of emergency response capability of Strategic Petro-
leum Reserve.

Subtitle B—Grid Modernization and Storage

- Sec. 2011. Definition of Secretary.
- Sec. 2012. Grid storage program.
- Sec. 2013. Technology demonstration and the distribution system.
- Sec. 2014. Microgrid systems for isolated and resilient communities.
- Sec. 2015. Electric system grid architecture, scenario development, and modeling.
- Sec. 2016. Voluntary model pathways.
- Sec. 2017. Performance metrics for electricity infrastructure providers.
- Sec. 2018. State and regional distribution planning.
- Sec. 2019. Authorization of appropriations.
- Sec. 2020. State consideration of resilience.

Subtitle C—Advanced Manufacturing

- Sec. 2021. Advanced Manufacturing Office.
- Sec. 2022. National Advanced Manufacturing Plan.
- Sec. 2023. Advanced manufacturing supply chain report.
- Sec. 2024. Leveraging existing agency programs to assist small and medium manufacturers.
- Sec. 2025. Advanced Manufacturing Innovation Hubs.
- Sec. 2026. Advanced Materials Prize Competition Pilot Program.
- Sec. 2027. Pilot program with original equipment manufacturers and public utilities.

Subtitle D—Building Better Trucks

- Sec. 2031. Advanced technology vehicles manufacturing incentive program.

Subtitle E—Vehicle Innovation

- Sec. 2041. Findings.
- Sec. 2042. Objectives.
- Sec. 2043. Vehicle research and development program.
- Sec. 2044. Medium- and heavy-duty commercial and transit vehicles program.
- Sec. 2045. Authorization of appropriations.

Subtitle F—Carbon Fiber Recycling

- Sec. 2051. Recycled carbon fiber study.
- Sec. 2052. Carbon fiber recycling demonstration project.
- Sec. 2053. Authorization of appropriations.

Subtitle G—Job Creation Through Energy Efficient Manufacturing

- Sec. 2061. Purpose.
- Sec. 2062. Definitions.
- Sec. 2063. Financing Energy Efficient Manufacturing Program.
- Sec. 2064. Authorization of appropriations.

Subtitle H—21st Century Energy Workforce

- Sec. 2101. Findings.
- Sec. 2102. Definitions.
- Sec. 2103. National Center of Excellence for the 21st Century Workforce.
- Sec. 2104. Energy workforce pilot grant program.

Subtitle I—Solar Installations

Sec. 2111. Loan and grant program for solar installations in low-income and underserved areas.

Subtitle J—Local Energy Supply and Resiliency Act

Sec. 2121. Definitions.
 Sec. 2122. Distributed energy loan program.
 Sec. 2123. Technical assistance and grant program.

Subtitle K—Geothermal Energy Opportunities

Sec. 2131. National goals for production and site identification.
 Sec. 2132. Priority areas for development on Federal land.
 Sec. 2133. Facilitation of coproduction of geothermal energy on oil and gas leases.
 Sec. 2134. Cost-shared exploration.
 Sec. 2135. Use of geothermal lease revenues.
 Sec. 2136. Noncompetitive leasing of adjoining areas for development of geothermal resources.
 Sec. 2137. Large-scale geothermal energy.
 Sec. 2138. Report to Congress.
 Sec. 2139. Authorization of appropriations.

Subtitle L—Clean Coal Technology Research

Sec. 2141. Fossil energy.

Subtitle M—Long-term Contracts

Sec. 2151. Contracts for Federal purchases of energy.

Subtitle N—Promoting Renewable Energy With Shared Solar

Sec. 2161. Provision of interconnection service and net billing service for community solar facilities.

Subtitle O—Report on Low- and No-Carbon Energy Technologies

Sec. 2171. Report.

Subtitle P—Loan Programs

Sec. 2181. Terms and conditions for incentives for innovative technologies.
 Sec. 2182. State loan eligibility.

TITLE III—CUTTING POLLUTION AND WASTE

Subtitle A—Carbon Savings Goal

Sec. 3001. Policy of United States on addressing climate change.

Subtitle B—American Energy Efficiency

Sec. 3011. Energy efficiency resource standard for retail electricity and natural gas suppliers.

Subtitle C—Energy Efficiency Retrofit Program

Sec. 3021. Energy efficiency retrofit pilot program.

Subtitle D—Weatherization Enhancement and Local Energy Efficiency
Investment and Accountability

Sec. 3031. Findings.

Sec. 3032. Reauthorization of Weatherization Assistance Program.

Sec. 3033. Grants for new, self-sustaining low-income, single-family, and multi-family housing energy retrofit model programs to eligible multi-State housing and energy nonprofit organizations.

Sec. 3034. Standards program.

Sec. 3035. Reauthorization of State energy program.

Subtitle E—Utility Energy Service Contracts Improvement

Sec. 3041. Findings.

Sec. 3042. Utility energy service contracts.

Subtitle F—State Residential Building Energy Efficiency Loan Pilot Program

Sec. 3051. State residential building energy efficiency upgrades loan pilot program.

Subtitle G—Smart Energy and Water Efficiency

Sec. 3061. Smart energy and water efficiency pilot program.

Subtitle H—Regional Energy Partnerships

Sec. 3071. Definitions.

Sec. 3072. Regional energy partnerships.

Sec. 3073. Authorization of appropriations.

Subtitle I—Energy Productivity Innovation Challenge

Sec. 3081. Definitions.

Sec. 3082. Phase 1: Initial allocation of grants to States.

Sec. 3083. Phase 2: Subsequent allocation of grants to States.

Sec. 3084. Allocation of grants to Indian tribes.

Sec. 3085. Administration.

Sec. 3086. Authorization of appropriations.

Subtitle J—Smart Buildings

Sec. 3091. Definitions.

Subtitle K—Energy Study

Sec. 3101. Energy information study.

Sec. 3102. Grants to utilities.

Sec. 3103. Grants to States and units of local government.

Sec. 3104. Input From Stakeholders.

Sec. 3105. Report.

Subtitle L—Alternative Fueled Vehicles

Sec. 3111. Alternative fueled vehicle fleets and infrastructure.

Subtitle M—Outer Continental Shelf

- Sec. 3121. Repeal of outer Continental Shelf deep water and deep gas royalty relief.
- Sec. 3122. Disposition of qualified outer Continental Shelf revenues from 181 Area, 181 South Area, and 2002–2007 planning areas of Gulf of Mexico.

Subtitle N—Venting and Flaring of Gas

- Sec. 3131. Regulations to prevent or minimize venting and flaring of gas.
- Sec. 3132. Assessment of venting and flaring of gas in production operations in United States.
- Sec. 3133. Regulations.

Subtitle O—Production Incentive Fee

- Sec. 3141. Production incentive fee.

Subtitle P—Reauthorization of Desalination Act

- Sec. 3151. Reauthorization of Desalination Act.
- Sec. 3152. Promoting water efficiency with WaterSense.
- Sec. 3153. Increasing opportunities for agricultural conservation.
- Sec. 3154. Support for innovative water supply and conservation technologies.

TITLE IV—INVESTING IN RESEARCH AND DEVELOPMENT

- Sec. 4001. Basic research.
- Sec. 4002. Advanced Research Projects Agency-Energy.

TITLE V—INVESTING IN CLEAN ENERGY

- Sec. 5001. Amendment of 1986 Code.

Subtitle A—Clean Energy Tax Credits

- Sec. 5011. Clean energy production credit.
- Sec. 5012. Clean energy investment credit.
- Sec. 5013. Extensions and modifications of various energy provisions.

Subtitle B—Clean Fuel Tax Credits

- Sec. 5021. Clean fuel production credit.
- Sec. 5022. Temporary extension of existing fuel incentives.

Subtitle C—Energy Efficiency Incentives

- Sec. 5031. Credit for new energy efficient residential buildings.
- Sec. 5032. Energy efficiency credit for existing residential buildings.
- Sec. 5033. Deduction for new energy efficient commercial buildings.
- Sec. 5034. Energy efficiency deduction for existing commercial buildings.

Subtitle D—Clean Electricity and Fuel Bonds

- Sec. 5041. Clean Energy Bonds.

Subtitle E—Treatment of Tar Sands Under Excise Taxes

- Sec. 5051. Clarification of tar sands as crude oil for excise tax purposes.

Subtitle F—Closing Big Oil Tax Loopholes

- Sec. 5061. Modifications of foreign tax credit rules applicable to major integrated oil companies which are dual capacity taxpayers.
- Sec. 5062. Limitation on section 199 deduction attributable to oil, natural gas, or primary products thereof.
- Sec. 5063. Limitation on deduction for intangible drilling and development costs; amortization of disallowed amounts.
- Sec. 5064. Limitation on percentage depletion allowance for oil and gas wells.
- Sec. 5065. Limitation on deduction for tertiary injectants.

TITLE VI—CONSERVATION REAUTHORIZATION

- Sec. 6001. National Park Service Centennial Fund.
- Sec. 6002. Land and Water Conservation Fund.
- Sec. 6003. Historic preservation fund.

1 **SEC. 2. DEFINITIONS.**

2 In this Act:

3 (1) DEPARTMENT.—The term “Department”
4 means the Department of Energy.

5 (2) SECRETARY.—Except as otherwise provided
6 in this Act, the term “Secretary” means the Sec-
7 retary of Energy.

8 **TITLE I—EMPOWERING AND** 9 **PROTECTING CONSUMERS**

10 **Subtitle A—Access to Consumer** 11 **Energy Information**

12 **SEC. 1001. CONSUMER ACCESS TO ELECTRIC ENERGY IN-** 13 **FORMATION.**

14 (a) IN GENERAL.—The Secretary shall encourage
15 and support the adoption of policies that allow electricity
16 consumers access to their own electricity data.

17 (b) ELIGIBILITY FOR STATE ENERGY PLANS.—Sec-
18 tion 362(d) of the Energy Policy and Conservation Act
19 (42 U.S.C. 6322(d)) is amended—

1 (1) in paragraph (16), by striking “and” after
2 the semicolon at the end;

3 (2) by redesignating paragraph (17) as para-
4 graph (18); and

5 (3) by inserting after paragraph (16) the fol-
6 lowing:

7 “(17) programs—

8 “(A) to enhance consumer access to and
9 understanding of energy usage and price infor-
10 mation, including consumers’ own residential
11 and commercial electricity information; and

12 “(B) to allow for the development and
13 adoption of innovative products and services to
14 assist consumers in managing energy consump-
15 tion and expenditures; and”.

16 (c) VOLUNTARY GUIDELINES FOR ELECTRIC CON-
17 SUMER ACCESS.—

18 (1) DEFINITIONS.—In this subsection:

19 (A) RETAIL ELECTRIC ENERGY INFORMA-
20 TION.—The term “retail electric energy infor-
21 mation” means—

22 (i) the electric energy consumption of
23 an electric consumer over a defined time
24 period;

1 (ii) the retail electric energy prices or
2 rates applied to the electricity usage for
3 the defined time period described in clause
4 (i) for the electric consumer;

5 (iii) the estimated cost of service by
6 the consumer, including (if smart meter
7 usage information is available) the esti-
8 mated cost of service since the last billing
9 cycle of the consumer; and

10 (iv) in the case of nonresidential elec-
11 tric meters, any other electrical informa-
12 tion that the meter is programmed to
13 record (such as demand measured in kilo-
14 watts, voltage, frequency, current, and
15 power factor).

16 (B) SMART METER.—The term “smart
17 meter” means the device used by an electric
18 utility that—

19 (i)(I) measures electric energy con-
20 sumption by an electric consumer at the
21 home or facility of the electric consumer in
22 intervals of 1 hour or less; and

23 (II) is capable of sending electric en-
24 ergy usage information through a commu-
25 nications network to the electric utility; or

1 (ii) meets the guidelines issued under
2 paragraph (2).

3 (2) VOLUNTARY GUIDELINES FOR ELECTRIC
4 CONSUMER ACCESS.—

5 (A) IN GENERAL.—Not later than 180
6 days after the date of enactment of this Act,
7 subject to subparagraph (B), the Secretary
8 shall issue voluntary guidelines that establish
9 model standards for implementation of retail
10 electric energy information access in States.

11 (B) CONSULTATION.—Before issuing the
12 voluntary guidelines, the Secretary shall—

13 (i) consult with—

14 (I) State and local regulatory au-
15 thorities, including the National Asso-
16 ciation of Regulatory Utility Commis-
17 sioners;

18 (II) other appropriate Federal
19 agencies, including the National Insti-
20 tute of Standards and Technology;

21 (III) consumer and privacy advo-
22 cacy groups;

23 (IV) utilities;

24 (V) the National Association of
25 State Energy Officials; and

1 (VI) other appropriate entities,
2 including groups representing com-
3 mercial and residential building own-
4 ers and groups that represent demand
5 response and electricity data devices
6 and services; and

7 (ii) provide notice and opportunity for
8 comment.

9 (C) STATE AND LOCAL REGULATORY AC-
10 TION.—In issuing the voluntary guidelines, the
11 Secretary shall, to the maximum extent prac-
12 ticable, be guided by actions taken by State and
13 local regulatory authorities to ensure electric
14 consumer access to retail electric energy infor-
15 mation, including actions taken after consider-
16 ation of the standard established under section
17 111(d)(17) of the Public Utility Regulatory
18 Policies Act of 1978 (16 U.S.C. 2621(d)(17)).

19 (D) CONTENTS.—

20 (i) IN GENERAL.—The voluntary
21 guidelines shall provide guidance on issues
22 necessary to carry out this subsection, in-
23 cluding—

24 (I) the timeliness and specificity
25 of retail electric energy information;

1 (II) appropriate nationally recog-
2 nized open standards for data;

3 (III) the protection of data secu-
4 rity and electric consumer privacy, in-
5 cluding consumer consent require-
6 ments; and

7 (IV) issues relating to access of
8 electric energy information for owners
9 and managers of multitenant commer-
10 cial and residential buildings.

11 (ii) INCLUSIONS.—The voluntary
12 guidelines shall include guidance that—

13 (I) retail electric energy informa-
14 tion should be made available to elec-
15 tric consumers (and third-party des-
16 ignees of the electric consumers) in
17 the United States—

18 (aa) in an electronic ma-
19 chine readable form, without ad-
20 ditional charge, in conformity
21 with standards developed through
22 a voluntary, consensus-based,
23 multistakeholder process;

24 (bb) as timely as is reason-
25 ably practicable;

1 (cc) at the level of specificity
2 that the data is transmitted by
3 the meter or as is reasonably
4 practicable; and

5 (dd) in a manner that pro-
6 vides adequate protections for the
7 security of the information and
8 the privacy of the electric con-
9 sumer;

10 (II) in the case of an electric con-
11 sumer that is served by a smart meter
12 that can also communicate energy
13 usage information to a device or net-
14 work of an electric consumer or a de-
15 vice or network of a third party au-
16 thorized by the consumer, considers
17 providing to the consumer or third-
18 party designee, at a minimum, access
19 to usage information (not including
20 price information) of the consumer di-
21 rectly from the smart meter;

22 (III) retail electric energy infor-
23 mation should be provided by the elec-
24 tric utility of the consumer or such
25 other entity as may be designated by

1 the applicable electric retail regulatory
2 authority;

3 (IV) retail electric energy infor-
4 mation of the consumer should be
5 made available to the consumer
6 through a website or other electronic
7 access authorized by the electric con-
8 sumer, for a period of at least 13
9 months after the date on which the
10 usage occurred;

11 (V) consumer access to data, in-
12 cluding data provided to owners and
13 managers of commercial and multi-
14 family buildings with multiple tenants,
15 should not interfere with or com-
16 promise the integrity, security, or pri-
17 vacy of the operations of a utility and
18 the electric consumer;

19 (VI) electric energy information
20 relating to usage information gen-
21 erated by devices in or on the prop-
22 erty of the consumer that is trans-
23 mitted to the electric utility should be
24 made available to the electric con-

1 consumer or the third-party agent des-
2 ignated by the electric consumer; and

3 (VII) the same privacy and secu-
4 rity requirements applicable to the
5 contracting utility under subclause
6 (I)(dd) should apply to third-party
7 agents contracting with a utility to
8 process the customer data of that util-
9 ity.

10 (E) REVISIONS.—The Secretary shall peri-
11 odically review and, as necessary, revise the vol-
12 untary guidelines to reflect changes in tech-
13 nology, privacy needs, and the market for elec-
14 tric energy and services.

15 (d) VERIFICATION AND IMPLEMENTATION.—

16 (1) IN GENERAL.—A State may submit to the
17 Secretary a description of the data sharing policies
18 of the State relating to consumer access to electric
19 energy information for certification by the Secretary
20 that the policies meet the voluntary guidelines issued
21 under subsection (c)(2).

22 (2) ASSISTANCE.—Subject to the availability of
23 funds under paragraph (3), the Secretary shall make
24 Federal amounts available to any State that has
25 data sharing policies described in paragraph (1) that

1 the Secretary certifies meets the voluntary guidelines
 2 issued under subsection (c)(2) to assist the State in
 3 implementing section 362(d)(17) of the Energy Pol-
 4 icy and Conservation Act (42 U.S.C. 6322(d)(17)).

5 (3) AUTHORIZATION OF APPROPRIATIONS.—

6 There is authorized to be appropriated to carry out
 7 this subsection \$10,000,000 for fiscal year 2016, to
 8 remain available until expended.

9 **Subtitle B—Unfair Trade Practices**
 10 **Prohibition in Distributed Gen-**
 11 **eration**

12 **SEC. 1011. INVESTIGATION OF DISTRIBUTED GENERATION.**

13 (a) DEFINITIONS.—In this section:

14 (1) DISTRIBUTED GENERATION.—The term
 15 “distributed generation” means the generation of
 16 electric energy for use at or near the point of gen-
 17 eration.

18 (2) ELECTRIC CONSUMER.—The term “electric
 19 consumer” means any person to whom electric en-
 20 ergy is sold for purposes other than resale.

21 (3) ELECTRIC UTILITY.—The term “electric
 22 utility” means any person that sells electric energy.

23 (4) INTERCONNECTION PRACTICE.—The term
 24 “interconnection practice” means any rate, charge,

1 fee, requirement, or contractual term required by an
2 electric utility—

3 (A) to connect a distributed energy facility
4 owned or operated by an electric consumer to
5 facilities of the electric utility;

6 (B) to purchase from an electric consumer
7 electric energy generated by a distributed gen-
8 eration facility; or

9 (C) to sell electric energy to an electric
10 consumer that owns or operates a distributed
11 generation facility.

12 (b) INVESTIGATION.—The Federal Trade Commis-
13 sion shall conduct an investigation to determine the extent
14 to which interconnection practices impede the use of dis-
15 tributed generation.

16 (c) REPORT.—On completion of the investigation
17 under subsection (b), the Federal Trade Commission
18 shall—

19 (1) identify any interconnection practice that
20 substantially injures electric consumers and violates
21 public policies promoting the development of distrib-
22 uted generation;

23 (2) determine whether any interconnection
24 practice identified under paragraph (1) is an unfair
25 act or practice in or affecting commerce in violation

1 of section 5 of the Federal Trade Commission Act
2 (15 U.S.C. 45); and

3 (3) report to Congress the findings and conclu-
4 sions of the investigation (including the determina-
5 tions under paragraphs (1) and (2)) and any rec-
6 ommendations for additional legislation that the
7 Commission determines is needed to remove unfair
8 impediments to the development of distributed gen-
9 eration.

10 **Subtitle C—Enhanced Grid** 11 **Security**

12 **SEC. 1021. CYBERSECURITY THREATS.**

13 Part II of the Federal Power Act (16 U.S.C. 824 et
14 seq.) is amended by adding at the end the following:

15 **“SEC. 224. CYBERSECURITY THREATS.**

16 “(a) DEFINITIONS.—In this section:

17 “(1) BULK-POWER SYSTEM.—The term ‘bulk-
18 power system’ has the meaning given the term in
19 section 215.

20 “(2) CYBERSECURITY THREAT.—The term ‘cy-
21 bersecurity threat’ means the imminent danger of an
22 act that severely disrupts, attempts to severely dis-
23 rupt, or poses a significant risk of severely dis-
24 rupting the operation of programmable electronic de-
25 vices or communications networks (including hard-

1 ware, software, and data) essential to the reliable
2 operation of the bulk-power system.

3 “(3) ELECTRIC RELIABILITY ORGANIZATION.—
4 The term ‘Electric Reliability Organization’ has the
5 meaning given the term in section 215.

6 “(4) SECRETARY.—The term ‘Secretary’ means
7 the Secretary of Energy.

8 “(b) EMERGENCY AUTHORITY OF SECRETARY.—

9 “(1) IN GENERAL.—If the President notifies
10 the Secretary that the President has made a deter-
11 mination that immediate action is necessary to pro-
12 tect the bulk-power system from a cybersecurity
13 threat, the Secretary may require, by order and with
14 or without notice, any entity that is registered with
15 the Electric Reliability Organization as an owner,
16 operator, or user of the bulk-power system to take
17 such actions as the Secretary determines will best
18 avert or mitigate the cybersecurity threat.

19 “(2) WRITTEN EXPLANATION.—As soon as
20 practicable after notifying the Secretary under para-
21 graph (1), the President shall—

22 “(A) provide to the Secretary, in writing,
23 a record of the determination and an expla-
24 nation of the reasons for the determination; and

1 “(B) promptly notify, in writing, congres-
2 sional committees of relevant jurisdiction, in-
3 cluding the Committee on Energy and Natural
4 Resources of the Senate and the Committee on
5 Energy and Commerce of the House of Rep-
6 resentatives, of the contents of, and justification
7 for, the directive or determination.

8 “(3) COORDINATION WITH CANADA AND MEX-
9 ICO.—In exercising the authority pursuant to this
10 subsection, the Secretary is encouraged to consult
11 and coordinate with the appropriate officials in Can-
12 ada and Mexico responsible for the protection of cy-
13 bersecurity of the interconnected North American
14 electricity grid.

15 “(4) CONSULTATION.—Before exercising au-
16 thority pursuant to this subsection, to the maximum
17 extent practicable, taking into consideration the na-
18 ture of an identified cybersecurity threat and the ur-
19 gency of need for action, the Secretary shall consult
20 regarding implementation of actions that will effec-
21 tively address the cybersecurity threat with—

22 “(A) any entities potentially subject to the
23 cybersecurity threat that own, control, or oper-
24 ate bulk-power system facilities;

25 “(B) the Electric Reliability Organization;

1 “(C) the Electricity Sub-sector Coordi-
2 nating Council (as established by the Electric
3 Reliability Organization); and

4 “(D) officials of other Federal departments
5 and agencies, as appropriate.

6 “(5) COST RECOVERY.—

7 “(A) IN GENERAL.—The Commission shall
8 adopt regulations that permit entities subject to
9 an order under paragraph (1) to seek recovery
10 of prudently incurred costs required to imple-
11 ment actions ordered by the Secretary under
12 this subsection.

13 “(B) REQUIREMENTS.—Any rate or charge
14 approved under regulations adopted pursuant to
15 this paragraph—

16 “(i) shall be just and reasonable; and

17 “(ii) shall not be unduly discrimina-
18 tory or preferential.

19 “(c) DURATION OF EMERGENCY ORDERS.—An order
20 issued by the Secretary pursuant to subsection (b) shall
21 remain in effect for not longer than the 30-day period be-
22 ginning on the effective date of the order, unless, during
23 that 30 day-period, the Secretary—

1 “(1) provides to interested persons an oppor-
2 tunity to submit written data, recommendations, and
3 arguments; and

4 “(2) affirms, amends, or repeals the order, sub-
5 ject to the condition that an amended order shall not
6 exceed a total duration of 90 days.”.

7 **SEC. 1022. ENHANCED GRID SECURITY.**

8 (a) DEFINITIONS.—In this section:

9 (1) ELECTRIC UTILITY.—The term “electric
10 utility” has the meaning given the term in section
11 3 of the Federal Power Act (16 U.S.C. 796).

12 (2) ES-ISAC.—The term “ES-ISAC” means
13 the Electricity Sector Information Sharing and
14 Analysis Center.

15 (3) NATIONAL LABORATORY.—The term “Na-
16 tional Laboratory” has the meaning given the term
17 in section 2 of the Energy Policy Act of 2005 (42
18 U.S.C. 15801).

19 (4) SECTOR-SPECIFIC AGENCY.—The term
20 “Sector-Specific Agency” has the meaning given the
21 term in the Presidential policy directive entitled
22 “Critical Infrastructure Security and Resilience”,
23 numbered 21, and dated February 12, 2013.

24 (b) SECTOR-SPECIFIC AGENCY FOR CYBERSECURITY
25 FOR THE ENERGY SECTOR.—

1 (1) IN GENERAL.—The Department shall be the
2 lead Sector-Specific Agency for cybersecurity for the
3 energy sector.

4 (2) DUTIES.—As the designated Sector-Specific
5 Agency for cybersecurity, the duties of the Depart-
6 ment shall include—

7 (A) coordinating with the Department of
8 Homeland Security and other relevant Federal
9 departments and agencies;

10 (B) collaborating with—

11 (i) critical infrastructure owners and
12 operators; and

13 (ii) as appropriate—

14 (I) independent regulatory agen-
15 cies; and

16 (II) State, local, tribal and terri-
17 torial entities;

18 (C) serving as a day-to-day Federal inter-
19 face for the dynamic prioritization and coordi-
20 nation of sector-specific activities;

21 (D) carrying out incident management re-
22 sponsibilities consistent with applicable law (in-
23 cluding regulations) and other appropriate poli-
24 cies or directives;

1 (E) providing, supporting, or facilitating
2 technical assistance and consultations for the
3 energy sector to identify vulnerabilities and help
4 mitigate incidents, as appropriate; and

5 (F) supporting the reporting requirements
6 of the Department of Homeland Security under
7 applicable law by providing, on an annual basis,
8 sector-specific critical infrastructure informa-
9 tion.

10 (c) CYBERSECURITY FOR THE ENERGY SECTOR RE-
11 SEARCH, DEVELOPMENT, AND DEMONSTRATION PRO-
12 GRAM.—

13 (1) IN GENERAL.—The Secretary, in consulta-
14 tion with appropriate Federal agencies, the energy
15 sector, the States, and other stakeholders, shall
16 carry out a program—

17 (A) to develop advanced cybersecurity ap-
18 plications and technologies for the energy sec-
19 tor—

20 (i) to identify and mitigate
21 vulnerabilities, including—

22 (I) dependencies on other critical
23 infrastructure; and

24 (II) impacts from weather and
25 fuel supply; and

- 1 (ii) to advance the security of field de-
2 vices, third-party control systems, and ap-
3 plications, including—
- 4 (I) systems for generation, trans-
5 mission, distribution, end use, and
6 market functions;
- 7 (II) specific electric grid elements
8 including advanced metering, demand
9 response, distributed generation, and
10 electricity storage;
- 11 (III) forensic analysis of infected
12 systems; and
- 13 (IV) secure communications;
- 14 (B) to leverage electric grid architecture as
15 a means to assess risks to the energy sector, in-
16 cluding by implementing an all-hazards ap-
17 proach to communications infrastructure, con-
18 trol systems architecture, and power systems
19 architecture;
- 20 (C) to perform pilot demonstration projects
21 with the energy sector to gain experience with
22 new technologies; and
- 23 (D) to develop workforce development cur-
24 ricula for energy sector-related cybersecurity.

1 (2) AUTHORIZATION OF APPROPRIATIONS.—

2 There is authorized to be appropriated to carry out
3 this subsection \$65,000,000 for each of fiscal years
4 2017 through 2025.

5 (d) ENERGY SECTOR COMPONENT TESTING FOR
6 CYBERRESILIENCE PROGRAM.—

7 (1) IN GENERAL.—The Secretary shall carry
8 out a program—

9 (A) to establish a cybertesting and mitiga-
10 tion program to identify vulnerabilities of en-
11 ergy sector supply chain products to known
12 threats;

13 (B) to oversee third-party cybertesting;
14 and

15 (C) to develop procurement guidelines for
16 energy sector supply chain components.

17 (2) AUTHORIZATION OF APPROPRIATIONS.—

18 There is authorized to be appropriated to carry out
19 this subsection \$15,000,000 for each of fiscal years
20 2017 through 2025.

21 (e) ENERGY SECTOR OPERATIONAL SUPPORT FOR
22 CYBERRESILIENCE PROGRAM.—

23 (1) IN GENERAL.—The Secretary may carry out
24 a program—

25 (A) to enhance and periodically test—

1 (i) the emergency response capabilities
2 of the Department; and

3 (ii) the coordination of the Depart-
4 ment with other agencies, the National
5 Laboratories, and private industry;

6 (B) to expand cooperation of the Depart-
7 ment with the public sector and intelligence
8 communities for energy sector-related threat
9 collection and analysis;

10 (C) to enhance the tools of the Department
11 and ES-ISAC for monitoring the status of the
12 energy sector;

13 (D) to expand industry participation in
14 ES-ISAC; and

15 (E) to provide technical assistance to small
16 electric utilities for purposes of assessing
17 cybermaturity level.

18 (2) AUTHORIZATION OF APPROPRIATIONS.—

19 There is authorized to be appropriated to carry out
20 this subsection \$10,000,000 for each of fiscal years
21 2017 through 2025.

22 (f) MODELING AND ASSESSING ENERGY INFRA-
23 STRUCTURE RISK.—

24 (1) IN GENERAL.—The Secretary shall develop
25 an advanced energy security program to secure en-

1 ergy networks and applications, including electric,
2 natural gas, and oil exploration, transmission, and
3 delivery.

4 (2) SECURITY AND RESILIENCY OBJECTIVE.—

5 The objective of the program developed under para-
6 graph (1) is to increase the functional preservation
7 of the electric grid operations or natural gas and oil
8 operations in the face of natural and human-made
9 threats and hazards, including electric magnetic
10 pulse and geomagnetic disturbances.

11 (3) ELIGIBLE ACTIVITIES.—In carrying out the
12 program developed under paragraph (1), the Sec-
13 retary may—

14 (A) develop capabilities to identify
15 vulnerabilities and critical components that pose
16 major risks to grid security if destroyed or im-
17 paired;

18 (B) provide modeling at the national level
19 to predict impacts from natural or human-made
20 events;

21 (C) develop a maturity model for physical
22 security and cybersecurity;

23 (D) conduct exercises and assessments to
24 identify and mitigate vulnerabilities to the elec-

1 tric grid, including providing mitigation rec-
2 ommendations;

3 (E) conduct research hardening solutions
4 for critical components of the electric grid;

5 (F) conduct research mitigation and recov-
6 ery solutions for critical components of the elec-
7 tric grid; and

8 (G) provide technical assistance to States
9 and other entities for standards and risk anal-
10 ysis.

11 (4) AUTHORIZATION OF APPROPRIATIONS.—

12 There is authorized to be appropriated to carry out
13 this subsection \$10,000,000 for each of fiscal years
14 2017 through 2025.

15 (g) LEVERAGING EXISTING PROGRAMS.—The pro-
16 grams established under this section shall be carried out
17 consistent with—

18 (1) the report of the Department entitled
19 “Roadmap to Achieve Energy Delivery Systems Cy-
20 bersecurity” and dated 2011;

21 (2) existing programs of the Department; and

22 (3) any associated strategic framework that
23 links together academic and National Laboratory re-
24 searchers, electric utilities, manufacturers, and any

1 other relevant private industry organizations, includ-
 2 ing the Electricity Sub-sector Coordinating Council.

3 (h) STUDY.—

4 (1) IN GENERAL.—Not later than 180 days
 5 after the date of enactment of this Act, the Sec-
 6 retary, in consultation with the Federal Energy Reg-
 7 ulatory Commission and the North American Elec-
 8 tric Reliability Corporation, shall conduct a study to
 9 explore alternative management structures and fund-
 10 ing mechanisms to expand industry membership and
 11 participation in ES-ISAC.

12 (2) REPORT.—The Secretary shall submit to
 13 the appropriate committees of Congress a report de-
 14 scribing the results of the study conducted under
 15 paragraph (1).

16 **Subtitle D—Capacity Markets**
 17 **Study**

18 **SEC. 1031. GAO CAPACITY MARKET IMPACT STUDY.**

19 Not later than 180 days after the date of enactment
 20 of this Act, the Comptroller General of the United States
 21 shall—

22 (1) conduct a study of the effects of forward ca-
 23 pacity auctions or other capacity mechanisms that
 24 have been established by Independent System Opera-
 25 tors or Regional Transmission Organizations on—

- 1 (A) consumer prices for electricity;
- 2 (B) the installation of new electrical gen-
3 eration systems;
- 4 (C) the preservation of existing electrical
5 generation systems; and
- 6 (D) competition in energy markets, includ-
7 ing the potential for the use of undue market
8 power or manipulation in the auctions; and
- 9 (2) submit to the appropriate committees of
10 Congress a report describing the results of the study
11 conducted under paragraph (1), including an assess-
12 ment of whether the auctions or capacity mecha-
13 nisms are producing rates that are just and reason-
14 able.

15 **Subtitle E—Severe Coal Supply**
16 **Emergency Response**

17 **SEC. 1041. SEVERE COAL SUPPLY EMERGENCY RESPONSE.**

18 (a) DEFINITIONS.—In this section:

19 (1) BOARD.—The term “Board” means the
20 Surface Transportation Board.

21 (2) ELECTRIC RELIABILITY ORGANIZATION.—
22 The term “Electric Reliability Organization” has the
23 meaning given the term in section 215 of the Fed-
24 eral Power Act (16 U.S.C. 824o).

1 (3) FORM OE-417.—The term “Form OE-417”
2 means the form entitled “Electric Emergency Inci-
3 dent and Disturbance Report” (or a successor form)
4 and filed in accordance with the Federal Energy Ad-
5 ministration Act of 1974 (15 U.S.C. 761 et seq.).

6 (4) SEVERE COAL SUPPLY EMERGENCY.—The
7 term “severe coal supply emergency” means a coal
8 supply deficiency reported to the Department on
9 Form OE-417.

10 (b) COORDINATION AND REPORT.—

11 (1) REPORTING DUTY.—On the filing of a
12 Form OE-417 that reports a severe coal supply
13 emergency, the Secretary shall notify the Board and
14 the Federal Energy Regulatory Commission.

15 (2) CONSULTATION AND COORDINATION.—The
16 Secretary, the Board, the Federal Energy Regu-
17 latory Commission, and, as appropriate, the Electric
18 Reliability Organization, shall, to the maximum ex-
19 tent practicable, consult and coordinate with each
20 other to alleviate and prevent recurrences of a severe
21 coal supply emergency.

22 (3) REPORT.—Not later than 1 year after the
23 date of enactment of this Act, the Secretary, in con-
24 sultation with the Board, the Commission, and, as
25 appropriate, the Electric Reliability Organization,

1 shall submit a report to Congress that analyzes and
2 includes recommendations with respect to—

3 (A) the effects of rail congestion on the
4 flow of energy commodities such as coal;

5 (B) the effects of rail congestion on the re-
6 liability of the bulk-power system (as that term
7 is defined in section 215 of the Federal Power
8 Act (16 U.S.C. 824o));

9 (C) the advisability of creating a minimum
10 coal stockpile requirement; and

11 (D) other appropriate measures that could
12 prevent the development or recurrence of severe
13 coal supply emergencies.

14 **Subtitle F—Energy Markets**

15 **SEC. 1051. ENHANCED INFORMATION ON CRITICAL ENERGY** 16 **SUPPLIES.**

17 (a) IN GENERAL.—Section 205 of the Department of
18 Energy Organization Act (42 U.S.C. 7135) is amended
19 by adding at the end the following:

20 “(n) COLLECTION OF INFORMATION ON CRITICAL
21 ENERGY SUPPLIES.—

22 “(1) IN GENERAL.—To ensure transparency of
23 information relating to energy infrastructure and
24 product ownership in the United States and improve
25 the ability to evaluate the energy security of the

1 United States, the Administrator, in consultation
2 with other Federal agencies (as necessary), shall—

3 “(A) not later than 120 days after the date
4 of enactment of this subsection, develop and
5 provide notice of a plan to collect, in coopera-
6 tion with the Commodity Futures Trade Com-
7 mission, information identifying all oil inven-
8 tories, and other physical oil assets (including
9 all petroleum-based products and the storage of
10 such products in off-shore tankers), that are
11 owned by the 50 largest traders of oil contracts
12 (including derivative contracts), as determined
13 by the Commodity Futures Trade Commission;
14 and

15 “(B) not later than 90 days after the date
16 on which notice is provided under subparagraph
17 (A), implement the plan described in that sub-
18 paragraph.

19 “(2) INFORMATION.—The plan required under
20 paragraph (1) shall include a description of the plan
21 of the Administrator for collecting company-specific
22 data, including—

23 “(A) volumes of product under ownership;
24 and

1 “(B) storage and transportation capacity
2 (including owned and leased capacity).

3 “(3) PROTECTION OF PROPRIETARY INFORMA-
4 TION.—Section 12(f) of the Federal Energy Admin-
5 istration Act of 1974 (15 U.S.C. 771(f)) shall apply
6 to information collected under this subsection.

7 “(o) COLLECTION OF INFORMATION ON STORAGE
8 CAPACITY FOR OIL AND NATURAL GAS.—

9 “(1) IN GENERAL.—Not later than 90 days
10 after the date of enactment of this subsection, the
11 Administrator of the Energy Information Adminis-
12 tration shall collect information quantifying the com-
13 mercial storage capacity for oil and natural gas in
14 the United States.

15 “(2) UPDATES.—The Administrator shall up-
16 date annually the information required under para-
17 graph (1).

18 “(3) PROTECTION OF PROPRIETARY INFORMA-
19 TION.—Section 12(f) of the Federal Energy Admin-
20 istration Act of 1974 (15 U.S.C. 771(f)) shall apply
21 to information collected under this subsection.

22 “(p) FINANCIAL MARKET ANALYSIS OFFICE.—

23 “(1) ESTABLISHMENT.—There shall be within
24 the Energy Information Administration a Financial
25 Market Analysis Office, headed by a director, who

1 shall report directly to the Administrator of the En-
2 ergy Information Administration.

3 “(2) DUTIES.—The Office shall—

4 “(A) be responsible for analysis of the fi-
5 nancial aspects of energy markets;

6 “(B) review the reports required by section
7 1053(c) of the American Energy Innovation
8 Act, in advance of the submission of the reports
9 to Congress; and

10 “(C) not later than 1 year after the date
11 of enactment of this subsection—

12 “(i) make recommendations to the
13 Administrator of the Energy Information
14 Administration that identify and quantify
15 any additional resources that are required
16 to improve the ability of the Energy Infor-
17 mation Administration to more fully inte-
18 grate financial market information into the
19 analyses and forecasts of the Energy Infor-
20 mation Administration, including the role
21 of energy futures contracts, energy com-
22 modity swaps, and derivatives in price for-
23 mation for oil;

24 “(ii) conduct a review of implications
25 of policy changes and changes in how

1 crude oil and refined petroleum products
2 are transported with respect to price for-
3 mation of crude oil and refined petroleum
4 products; and

5 “(iii) notify the Committee on Energy
6 and Natural Resources, and the Committee
7 on Appropriations, of the Senate and the
8 Committee on Energy and Commerce, and
9 the Committee on Appropriations, of the
10 House of Representatives of the rec-
11 ommendations described in clause (i).

12 “(3) ANALYSES.—The Administrator of the En-
13 ergy Information Administration shall take analyses
14 by the Office into account in conducting analyses
15 and forecasting of energy prices.”.

16 (b) CONFORMING AMENDMENT.—Section 645 of the
17 Department of Energy Organization Act (42 U.S.C. 7255)
18 is amended by inserting “(15 U.S.C. 3301 et seq.) and
19 the Natural Gas Act (15 U.S.C. 717 et seq.)” after “Nat-
20 ural Gas Policy Act of 1978”.

21 **SEC. 1052. WORKING GROUP ON ENERGY MARKETS.**

22 (a) ESTABLISHMENT.—There is established a Work-
23 ing Group on Energy Markets (referred to in this subtitle
24 as the “Working Group”).

1 (b) COMPOSITION.—The Working Group shall be
2 composed of—

3 (1) the Secretary;

4 (2) the Secretary of the Treasury;

5 (3) the Chairman of the Federal Energy Regu-
6 latory Commission;

7 (4) the Chairman of Federal Trade Commis-
8 sion;

9 (5) the Chairman of the Securities and Ex-
10 change Commission;

11 (6) the Chairman of the Commodity Futures
12 Trading Commission; and

13 (7) the Administrator of the Energy Informa-
14 tion Administration.

15 (c) CHAIRPERSON.—The Secretary shall serve as the
16 Chairperson of the Working Group.

17 (d) COMPENSATION.—A member of the Working
18 Group shall serve without additional compensation for the
19 work of the member of the Working Group.

20 (e) PURPOSE AND FUNCTION.—The Working Group
21 shall—

22 (1) investigate the effect of increased financial
23 investment in energy commodities on energy prices
24 and the energy security of the United States;

1 (2) recommend to the President and Congress
2 laws (including regulations) that may be needed to
3 prevent excessive speculation in energy commodity
4 markets in order to prevent or minimize the adverse
5 impact of excessive speculation on energy prices on
6 consumers and the economy of the United States;
7 and

8 (3) review energy security implications of devel-
9 opments in international energy markets.

10 (f) ADMINISTRATION.—The Secretary shall provide
11 the Working Group with such administrative and support
12 services as may be necessary for the performance of the
13 functions of the Working Group.

14 (g) COOPERATION OF OTHER AGENCIES.—The heads
15 of Executive departments, agencies, and independent in-
16 strumentalities shall, to the extent permitted by law, pro-
17 vide the Working Group with such information as the
18 Working Group requires to carry out this section.

19 (h) CONSULTATION.—The Working Group shall con-
20 sult, as appropriate, with representatives of the various
21 exchanges, clearinghouses, self-regulatory bodies, other
22 major market participants, consumers, and the general
23 public.

1 **SEC. 1053. STUDY OF REGULATORY FRAMEWORK FOR EN-**
2 **ERGY MARKETS.**

3 (a) STUDY.—The Working Group shall conduct a
4 study—

5 (1) to identify the factors that affect the pricing
6 of crude oil and refined petroleum products, includ-
7 ing an examination of the effects of market specula-
8 tion on prices; and

9 (2) to review and assess—

10 (A) existing statutory authorities relating
11 to the oversight and regulation of markets crit-
12 ical to the energy security of the United States;
13 and

14 (B) the need for additional statutory au-
15 thority for the Federal Government to effec-
16 tively oversee and regulate markets critical to
17 the energy security of the United States.

18 (b) ELEMENTS OF STUDY.—The study shall in-
19 clude—

20 (1) an examination of price formation of crude
21 oil and refined petroleum products;

22 (2) an examination of relevant international
23 regulatory regimes; and

24 (3) an examination of the degree to which
25 changes in energy market transparency, liquidity,
26 and structure have influenced or driven abuse, ma-

1 manipulation, excessive speculation, or inefficient price
2 formation.

3 (c) REPORT AND RECOMMENDATIONS.—The Sec-
4 retary shall submit to the Committee on Energy and Nat-
5 ural Resources of the Senate and the Committee on En-
6 ergy and Commerce of the House of Representatives quar-
7 terly progress reports during the conduct of the study
8 under this section, and a final report not later than 1 year
9 after the date of enactment of this Act, that—

10 (1) describes the results of the study; and

11 (2) provides options and the recommendations
12 of the Working Group for appropriate Federal co-
13 ordination of oversight and regulatory actions to en-
14 sure transparency of crude oil and refined petroleum
15 product pricing and the elimination of excessive
16 speculation, including recommendations on data col-
17 lection and analysis to be carried out by the Finan-
18 cial Market Analysis Office established by section
19 205(p) of the Department of Energy Organization
20 Act (42 U.S.C. 7135(p)).

21 (d) AUTHORIZATION OF APPROPRIATIONS.—There
22 are authorized to be appropriated such sums as are nec-
23 essary to carry out this section.

1 **Subtitle G—Transmission**

2 **SEC. 1061. REPORT BY TRANSMISSION ORGANIZATIONS ON** 3 **DISTRIBUTED ENERGY RESOURCES AND** 4 **MICROGRID SYSTEMS.**

5 (a) DEFINITIONS.—In this section:

6 (1) DISTRIBUTED ENERGY RESOURCE.—The
7 term “distributed energy resource” means an elec-
8 tricity supply resource that, as permitted by State
9 law—

10 (A)(i) is interconnected to the electric sys-
11 tem operated by a transmission organization at
12 or below 69kV; and

13 (ii) is subject to dispatch by the trans-
14 mission organization; and

15 (B)(i) generates electricity using any pri-
16 mary energy source, including solar energy and
17 other renewable resources; or

18 (ii) stores energy and is capable of sup-
19 plying electricity to the electric system operated
20 by the transmission organization from the stor-
21 age reservoir.

22 (2) ELECTRIC GENERATING CAPACITY RE-
23 SOURCE.—The term “electric generating capacity re-
24 source” means an electric generating resource, as
25 measured by the maximum load-carrying ability of

1 the resource, exclusive of station use and planned,
2 unplanned, or other outage or derating, that is sub-
3 ject to dispatch by a transmission organization to
4 meet the resource adequacy needs of the systems op-
5 erated by the transmission organization.

6 (3) MICROGRID SYSTEM.—The term “microgrid
7 system” means an electrically distinct system under
8 common control that—

9 (A) serves an electric load at or below
10 69kV from a distributed energy resource or
11 electric generating capacity resource; and

12 (B) is subject to dispatch by a trans-
13 mission organization.

14 (4) TRANSMISSION ORGANIZATION.—The term
15 “transmission organization” has the meaning given
16 the term in section 3 of the Federal Power Act (16
17 U.S.C. 796).

18 (b) REPORT.—

19 (1) NOTICE.—Not later than 14 days after the
20 date of enactment of this section, the Commission
21 shall submit to each transmission organization no-
22 tice that the transmission organization is required to
23 file with the Commission a report in accordance with
24 paragraph (2).

1 (2) REPORT.—Not later than 180 days after
2 the date on which a transmission organization re-
3 ceives a notice under paragraph (1), the trans-
4 mission organization shall submit to the Commission
5 a report that—

6 (A)(i) identifies distributed energy re-
7 sources and micro-grid systems that are subject
8 to dispatch by the transmission organization as
9 of the date of the report; and

10 (ii) describes the fuel sources and oper-
11 ational characteristics of such distributed en-
12 ergy resources and micro-grid systems, includ-
13 ing, to the maximum extent practicable, a dis-
14 cussion of the benefits and costs associated with
15 the distributed energy resources and microgrid
16 systems identified under clause (i);

17 (B) evaluates, with due regard for oper-
18 ational and economic benefits and costs, the po-
19 tential for distributed energy resources and
20 microgrid systems to be deployed to the trans-
21 mission organization over the short- and long-
22 term periods in the planning cycle of the trans-
23 mission organization; and

24 (C) identifies—

1 (i) over the short- and long-term peri-
2 ods in the planning cycle of the trans-
3 mission organization, barriers to the de-
4 ployment to the transmission organization
5 of distributed energy resources and
6 microgrid systems; and

7 (ii) potential changes to the oper-
8 ational requirements for, or charges associ-
9 ated with, the interconnection of distrib-
10 uted energy resources and microgrid sys-
11 tems to the transmission organization that
12 would reduce the barriers identified under
13 clause (i).

14 **SEC. 1062. NET METERING STUDY GUIDANCE.**

15 Title XVIII of Energy Policy Act of 2005 (Public
16 Law 109–58; 119 Stat. 1122) is amended by adding at
17 the end the following:

18 **“SEC. 1841. NET ENERGY METERING STUDY.**

19 “(a) IN GENERAL.—Not later than 180 days after
20 the date of enactment of this section, the Secretary shall—

21 “(1) issue guidance on criteria required to be
22 included in studies of net metering conducted by the
23 Department; and

24 “(2) undertake a study of net energy metering.

1 “(b) REQUIREMENTS AND CONTENTS.—The model
2 guidance issued under subsection (a) shall clarify without
3 prejudice to other study criteria that any study of net en-
4 ergy metering, including the study conducted by the De-
5 partment under subsection (a) shall—

6 “(1) be publicly available; and

7 “(2) assess benefits and costs of net energy me-
8 tering, including—

9 “(A) load data, including hourly profiles;

10 “(B) distributed generation production
11 data;

12 “(C) best available technology, including
13 inverter capability; and

14 “(D) benefits and costs of distributed en-
15 ergy deployment, including—

16 “(i) environmental benefits;

17 “(ii) changes in electric system reli-
18 ability;

19 “(iii) changes in peak power require-
20 ments;

21 “(iv) provision of ancillary services,
22 including reactive power;

23 “(v) changes in power quality;

24 “(vi) changes in land-use effects;

1 “(vii) changes in right-of-way acquisi-
2 tion costs;

3 “(viii) changes in vulnerability to ter-
4 rorism; and

5 “(ix) changes in infrastructure resil-
6 ience.”.

7 **TITLE II—MODERNIZING**
8 **INFRASTRUCTURE**
9 **Subtitle A—QER Recommendations**

10 **SEC. 2001. NATURAL GAS DISTRIBUTION SYSTEM IMPROVE-**
11 **MENT PROGRAM.**

12 Part 4 of title II of the National Energy Conservation
13 Policy Act (42 U.S.C. 8231 et seq.) is amended by adding
14 at the end the following:

15 **“SEC. 256. ESTABLISHMENT OF A NATURAL GAS DISTRIBU-**
16 **TION SYSTEM IMPROVEMENT PROGRAM.**

17 “(a) DEFINITIONS.—In this section:

18 “(1) LEAK-PRONE DISTRIBUTION PIPELINE.—
19 The term ‘leak-prone distribution pipeline’ means a
20 natural gas distribution system pipeline constructed
21 of leak prone materials, such as cast iron or bare
22 steel.

23 “(2) LOW-INCOME HOUSEHOLD.—The term
24 ‘low-income household’ means a household—

1 “(A) the combined income of which is
2 equal to or less than 200 percent of the poverty
3 level; or

4 “(B) determined to be eligible by the State
5 in which the household is located under the low-
6 income home energy assistance program estab-
7 lished under the Low-Income Home Energy As-
8 sistance Act of 1981 (42 U.S.C. 8621 et seq.)
9 using an eligibility standard based on—

10 “(i) 150 percent of the poverty level;

11 or

12 “(ii) 60 percent of the median income
13 in the State.

14 “(b) ESTABLISHMENT.—The Secretary shall make
15 grants to eligible entities on a competitive basis to accel-
16 erate or expand utility programs that improve the safety
17 and environmental performance of natural gas distribution
18 systems.

19 “(c) ELIGIBILITY.—

20 “(1) IN GENERAL.—Except as provided in para-
21 graph (2), to be eligible to receive a grant under
22 subsection (b), an entity shall be—

23 “(A) a State;

24 “(B) the District of Columbia;

25 “(C) the Commonwealth of Puerto Rico;

1 “(D) any other territory or possession of
2 the United States; or

3 “(E) a tribal organization (as defined in
4 section 4 of the Indian Self-Determination and
5 Education Assistance Act (25 U.S.C. 450b)).

6 “(2) OTHER ENTITIES.—If an entity described
7 in subparagraphs (A) through (D) of paragraph (1)
8 does not apply for a grant under subsection (b),
9 units of general purpose local government, commu-
10 nity action agencies, and other nonprofit agencies lo-
11 cated in that entity shall be eligible to apply for a
12 grant.

13 “(d) USE OF FUNDS.—An eligible entity receiving a
14 grant under subsection (b)—

15 “(1) shall only use grant amounts for new or
16 expanded programs that are approved by a public
17 utility commission (or an equivalent entity) after
18 April 21, 2015; and

19 “(2) may use grant amounts—

20 “(A) to accelerate the rate of replacement
21 and repair of leak-prone distribution pipelines;
22 and

23 “(B) for directed inspection and mainte-
24 nance programs.

1 “(e) LOW-INCOME ASSISTANCE.—As a condition of
2 receiving a grant under subsection (b), an eligible entity
3 shall ensure that the grant amounts are used to offset the
4 cost to low-income households of incremental increases in
5 household bills associated with system upgrades using
6 grant amounts.

7 “(f) APPLICATION PROCESS.—An eligible entity de-
8 siring a grant under subsection (b) shall submit to the
9 Secretary an application at such time, in such manner,
10 and containing such information as the Secretary may re-
11 quire.

12 “(g) SELECTION.—In selecting grant recipients, the
13 Secretary shall—

14 “(1) prioritize eligible entities that emphasize
15 safety over other program benefits; and

16 “(2) with respect to the application proposal of
17 an eligible entity, consider and estimate the net ben-
18 efits of the proposed—

19 “(A) magnitude of methane emission re-
20 ductions;

21 “(B) use of innovative technology and pol-
22 icy approaches;

23 “(C) number of low-income households es-
24 timated to benefit from the proposed program;
25 and

1 “(D) demonstrated coordination with a
2 broad range of stakeholders, including the pub-
3 lic utility commission (or equivalent entity),
4 consumer advocates, and utilities.

5 “(h) AUTHORIZATION OF APPROPRIATIONS.—There
6 is authorized to be appropriated to carry out this section
7 \$3,500,000,000 for the period of fiscal years 2016
8 through 2019.”.

9 **SEC. 2002. STRATEGY FOR MANAGING THE RISKS ASSOCI-**
10 **ATED WITH THE LOSS OR DISRUPTION OF**
11 **POWER FROM LARGE POWER TRANS-**
12 **FORMERS.**

13 Part II of the Federal Power Act (16 U.S.C. 824 et
14 seq.) is amended by adding at the end the following:

15 **“SEC. 224. STRATEGY FOR MANAGING THE RISKS ASSOCI-**
16 **ATED WITH THE LOSS OR DISRUPTION OF**
17 **POWER FROM LARGE POWER TRANS-**
18 **FORMERS.**

19 “(a) ESTABLISHMENT.—The Secretary of Energy
20 (referred to in this section as the ‘Secretary’), in coordina-
21 tion with the Secretary of Homeland Security and the
22 heads of other Federal agencies, States, and representa-
23 tives of the electric industry, shall develop a strategy for
24 identifying and managing the risks associated with the
25 loss of power from large power transformers.

1 “(b) RESERVE.—In developing the strategy under
2 subsection (a), the Secretary shall evaluate the establish-
3 ment of 1 or more transformer reserves as an approach
4 to mitigating the risks described in subsection (a).

5 “(c) REPORT.—Not later than 1 year after the date
6 of enactment of this section, the Secretary shall submit
7 to the appropriate committees of Congress a report that—

8 “(1) describes the findings, conclusions, and
9 recommendations of the Secretary with respect to
10 the strategy required to be developed under sub-
11 section (a); and

12 “(2) includes an implementation plan for that
13 strategy.

14 “(d) STRATEGIC TRANSFORMER RESERVE.—On sub-
15 mission of the report under subsection (c), the Secretary
16 may establish a Strategic Transformer Reserve.”.

17 **SEC. 2003. CONSOLIDATION OF RELEASE AUTHORITIES.**

18 (a) NORTHEAST HOME HEATING OIL RESERVE.—
19 The Energy Policy and Conservation Act is amended by
20 striking section 183 (42 U.S.C. 6250b) and inserting the
21 following:

22 **“SEC. 183. CONDITIONS FOR RELEASE.**

23 “The Secretary may sell products from the Reserve
24 only after the President makes a finding of a severe energy
25 supply interruption in accordance with section 161(d), ex-

1 cept that references to ‘petroleum products’ and the ‘Stra-
 2 tegic Petroleum Reserve’ in that section shall be deemed
 3 to be references to ‘petroleum distillate’ and the ‘North-
 4 east Home Heating Oil Reserve’, respectively.”.

5 (b) NORTHEAST GASOLINE SUPPLY RESERVE.—The
 6 Secretary may sell products from the Northeast Gasoline
 7 Supply Reserve only after making a finding of a severe
 8 energy supply interruption in accordance with section
 9 161(d) of the Energy Policy and Conservation Act (42
 10 U.S.C. 6241(d)), except that references to “petroleum
 11 products” and the “Strategic Petroleum Reserve” in that
 12 section shall be deemed to be references to “gasoline” and
 13 the “Northeast Gasoline Supply Reserve”, respectively.

14 **SEC. 2004. MODERNIZATION OF STRATEGIC PETROLEUM**
 15 **RESERVE RELEASE AUTHORITIES.**

16 Section 161(d)(2) of the Energy Policy and Con-
 17 servation Act (42 U.S.C. 6241(d)(2)) is amended—

18 (1) in subparagraph (A), by striking “(A) an
 19 emergency” and inserting the following:

20 “(A)(i) an emergency”;

21 (2) by redesignating subparagraphs (B) and
 22 (C) as clauses (ii) and (iii), respectively;

23 (3) in clause (ii) (as so redesignated), by strik-
 24 ing “has resulted” and inserting “will likely result”;

1 (4) in clause (iii) (as so redesignated), by strik-
2 ing the period at the end and inserting “; or”; and
3 (5) by adding at the end the following:

4 “(B) an interruption in the global oil sup-
5 ply exists that is likely to cause a severe in-
6 crease in the price of domestic petroleum prod-
7 ucts, regardless of whether the interruption re-
8 sults in a loss of oil imports to the United
9 States.”.

10 **SEC. 2005. OPTIMIZATION OF EMERGENCY RESPONSE CA-**
11 **PABILITY OF STRATEGIC PETROLEUM RE-**
12 **SERVE.**

13 (a) IN GENERAL.—Part B of title I of the Energy
14 Policy and Conservation Act (42 U.S.C. 6231 et seq.) is
15 amended by adding at the end the following:

16 **“SEC. 170. OPTIMIZATION OF EMERGENCY RESPONSE CA-**
17 **PABILITY OF STRATEGIC PETROLEUM RE-**
18 **SERVE.**

19 “(a) ANALYSIS.—The Secretary shall carry out an
20 analysis, including detailed engineering studies, of the ap-
21 propriate size and configuration of the Strategic Petro-
22 leum Reserve.

23 “(b) FUNDING FOR SPR INFRASTRUCTURE AND DIS-
24 TRIBUTION SYSTEMS.—After performing the analysis
25 under subsection (a) and subject to the availability of

1 funds, the Secretary may provide funds for Strategic Pe-
 2 troleum Reserve infrastructure and distribution systems
 3 in order to optimize the ability of the Strategic Petroleum
 4 Reserve to protect the economy of the United States in
 5 an emergency supply situation.

6 “(c) AUTHORIZATION OF APPROPRIATIONS.—There
 7 is authorized to be appropriated to carry out this section
 8 \$2,000,000,000 for the period of fiscal years 2016
 9 through 2019.”.

10 (b) CONFORMING AMENDMENT.—The table of con-
 11 tents for the Energy Policy and Conservation Act is
 12 amended by inserting after the item relating to section
 13 169 the following:

“Sec. 170. Optimization of emergency response capability of Strategic Petro-
 leum Reserve.”.

14 **Subtitle B—Grid Modernization** 15 **and Storage**

16 **SEC. 2011. DEFINITION OF SECRETARY.**

17 In this subtitle (other than section 2012), the term
 18 “Secretary” means the Secretary, acting through the As-
 19 sistant Secretary of the Office of Electricity Delivery and
 20 Energy Reliability.

21 **SEC. 2012. GRID STORAGE PROGRAM.**

22 (a) IN GENERAL.—The Secretary shall conduct a
 23 program of research, development, and demonstration of
 24 electric grid energy storage that addresses the principal

1 challenges identified in the 2013 Department of Energy
2 Strategic Plan for Grid Energy Storage.

3 (b) AREAS OF FOCUS.—The program under this sec-
4 tion shall focus on—

5 (1) materials and electrochemical systems re-
6 search;

7 (2) power conversion technologies research;

8 (3) developing—

9 (A) empirical and science-based industry
10 standards to compare the storage capacity,
11 cycle length and capabilities, and reliability of
12 different types of electricity storage; and

13 (B) validation and testing techniques;

14 (4) other fundamental and applied research
15 critical to widespread deployment of electricity stor-
16 age;

17 (5) device development that builds on results
18 from research described in paragraphs (1), (2), and
19 (4), including combinations of power electronics, ad-
20 vanced optimizing controls, and energy storage as a
21 general purpose element of the electric grid;

22 (6) grid-scale testing and analysis of storage
23 devices, including test-beds and field trials;

1 (7) cost-benefit analyses that inform capital ex-
2 penditure planning for regulators and owners and
3 operators of components of the electric grid;

4 (8) electricity storage device safety and reli-
5 ability, including potential failure modes, mitigation
6 measures, and operational guidelines;

7 (9) standards for storage device performance,
8 control interface, grid interconnection, and inter-
9 operability; and

10 (10) maintaining a public database of energy
11 storage projects, policies, codes, standards, and reg-
12 ulations.

13 (c) ASSISTANCE TO STATES.—The Secretary may
14 provide technical and financial assistance to States, Indian
15 tribes, or units of local government to participate in or
16 use research, development, or deployment of technology
17 developed under this section.

18 (d) AUTHORIZATION OF APPROPRIATIONS.—There is
19 authorized to be appropriated to the Secretary to carry
20 out this section \$50,000,000 for each of fiscal years 2017
21 through 2026.

22 **SEC. 2013. TECHNOLOGY DEMONSTRATION AND THE DIS-**
23 **TRIBUTION SYSTEM.**

24 (a) IN GENERAL.—The Secretary shall establish a
25 grant program to carry out eligible projects relating to the

1 modernization of the electric grid, including the applica-
2 tion of technologies to improve observability, advanced
3 controls, and prediction of system performance on the dis-
4 tribution system.

5 (b) ELIGIBLE PROJECTS.—To be eligible for a grant
6 under subsection (a), a project shall—

7 (1) be designed to improve the performance and
8 efficiency of the future electric grid, while ensuring
9 the continued provision of safe, secure, reliable, and
10 affordable power; and

11 (2) demonstrate—

12 (A) secure integration and management of
13 2 or more energy resources, including distrib-
14 uted energy generation, combined heat and
15 power, microgrids, energy storage, electric vehi-
16 cles, energy efficiency, demand response, and
17 intelligent loads; and

18 (B) secure integration and interoperability
19 of communications and information tech-
20 nologies.

21 (c) PARTICIPATION.—Projects conducted under sub-
22 section (a) shall include the participation of a partnership
23 consisting of 2 or more entities that—

24 (1) may include—

25 (A) any institution of higher education;

1 (B) a National Laboratory;

2 (C) a representative of a State or local
3 government;

4 (D) a representative of an Indian tribe; or

5 (E) a Federal power marketing adminis-
6 tration; and

7 (2) shall include not fewer than 1 of any of—

8 (A) an investor-owned electric utility;

9 (B) a publicly owned utility;

10 (C) a technology provider;

11 (D) a rural electric cooperative;

12 (E) a regional transmission organization;

13 or

14 (F) an independent system operator.

15 (d) SELECT AREAS OF FOCUS.—

16 (1) IN GENERAL.—The Secretary shall ensure
17 that not fewer than 1 project conducted under sub-
18 section (a) is—

19 (A) a transactive energy project that im-
20 plements a system of economic or control mech-
21 anisms that optimizes the dynamic balance of
22 supply and demand across the electrical infra-
23 structure, using economic value as a key oper-
24 ational parameter; and

1 (B) a valuation innovation project that
2 evaluates or implements markets, rates, and
3 other ways of appropriately valuing the grid
4 services provided by demand response, energy
5 efficiency, electric vehicles, storage, distributed
6 generation, and other generation technologies to
7 ensure—

8 (i) appropriate cost-recovery;
9 (ii) reliability of the distribution grid;
10 and
11 (iii) increased penetration of demand
12 response, energy efficiency, electric vehi-
13 cles, storage, distributed generation, and
14 other generation technologies.

15 (e) CYBERSECURITY PLAN.—Each project conducted
16 under subsection (a) shall include the development of a
17 cybersecurity plan approved by the Secretary.

18 (f) PRIVACY BEST PRACTICES.—In carrying out this
19 section, the Secretary shall identify best practices for the
20 implementation of the 5 core concepts of the Department
21 relating to the collection, use, disclosure, and retention of
22 information, as described in the Voluntary Code of Con-
23 duct of the Department.

24 (g) WORKING GROUPS.—

1 (1) IN GENERAL.—The Secretary shall establish
2 1 or more working groups, to be composed of rep-
3 resentatives of projects conducted under subsection
4 (a), that shall—

5 (A) meet periodically to discuss implemen-
6 tation of the projects, including challenges and
7 potential solutions held in common by the
8 projects; and

9 (B) submit to the Secretary such informa-
10 tion resulting from the meetings as the Sec-
11 retary may require.

12 (2) REPORTS.—The Secretary shall periodically
13 publish reports and other appropriate materials
14 based on the information provided by the working
15 groups under paragraph (1)(B).

16 **SEC. 2014. MICROGRID SYSTEMS FOR ISOLATED AND RESIL-**
17 **IENT COMMUNITIES.**

18 (a) DEFINITIONS.—In this section:

19 (1) HYBRID MICROGRID SYSTEM.—The term
20 “hybrid microgrid system” means a stand-alone elec-
21 trical system that—

22 (A) is comprised of conventional generation
23 and at least 1 alternative energy resource; and

24 (B) may use grid-scale energy storage.

1 (2) ISOLATED COMMUNITY.—The term “iso-
2 lated community” means a community that is pow-
3 ered by a stand-alone electric generation and dis-
4 tribution system without the economic and reliability
5 benefits of connection to a regional electric grid.

6 (3) MICROGRID SYSTEM.—The term “microgrid
7 system” means a standalone electrical system that
8 uses grid-scale energy storage.

9 (4) STRATEGY.—The term “strategy” means
10 the strategy developed under subsection (b)(2)(B).

11 (b) PROGRAM.—

12 (1) ESTABLISHMENT.—The Secretary shall es-
13 tablish a program to promote the development of—

14 (A) hybrid microgrid systems for isolated
15 communities; and

16 (B) microgrid systems to increase the resil-
17 ience of critical infrastructure.

18 (2) PHASES.—The program established under
19 paragraph (1) shall be carried out in phases, includ-
20 ing—

21 (A) phase I, which shall consist of the de-
22 velopment of a feasibility assessment for—

23 (i) hybrid microgrid systems in iso-
24 lated communities; and

1 (ii) microgrid systems to enhance the
2 resilience of critical infrastructure;

3 (B) phase II, which shall consist of the de-
4 velopment of an implementation strategy in ac-
5 cordance with paragraph (3) to promote the de-
6 velopment of hybrid microgrid systems for iso-
7 lated communities, particularly for those com-
8 munities exposed to extreme weather conditions
9 and high energy costs, including electricity,
10 space heating and cooling, and transportation;

11 (C) phase III, which shall—

12 (i) be carried out simultaneously with
13 phase II; and

14 (ii) consist of the development of an
15 implementation strategy to promote the de-
16 velopment of microgrid systems that in-
17 crease the resilience of critical infrastruc-
18 ture;

19 (D) phase IV, which shall consist of cost-
20 shared demonstration projects that—

21 (i) are based on the strategies devel-
22 oped under subparagraph (B); and

23 (ii) include the development of phys-
24 ical and cybersecurity plans to take appro-

1 appropriate measures to protect and secure the
2 electric grid; and

3 (E) phase V, which shall establish a bene-
4 fits analysis plan to help inform regulators, pol-
5 icymakers, and industry stakeholders about the
6 affordability, environmental, and resilience ben-
7 efits associated with phases II, III, and IV.

8 (3) REQUIREMENTS FOR STRATEGY.—In devel-
9 oping the strategy under paragraph (2)(B), the Sec-
10 retary shall consider—

11 (A) establishing future targets for the eco-
12 nomic displacement of conventional generation
13 using hybrid microgrid systems, including dis-
14 placement of conventional generation used for
15 electric power generation, heating and cooling,
16 and transportation;

17 (B) the potential for renewable resources,
18 including wind, solar, and hydropower, to be in-
19 tegrated into a hybrid microgrid system;

20 (C) opportunities for improving the effi-
21 ciency of existing hybrid microgrid systems;

22 (D) the capacity of the local workforce to
23 operate, maintain, and repair a hybrid
24 microgrid system;

1 (E) opportunities to develop the capacity of
2 the local workforce to operate, maintain, and
3 repair a hybrid microgrid system;

4 (F) leveraging existing capacity within
5 local or regional research organizations, such as
6 organizations based at institutions of higher
7 education, to support development of hybrid
8 microgrid systems, including by testing novel
9 components and systems prior to field deploy-
10 ment;

11 (G) the need for basic infrastructure to de-
12 velop, deploy, and sustain a hybrid microgrid
13 system;

14 (H) input of traditional knowledge from
15 local leaders of isolated communities in the de-
16 velopment of a hybrid microgrid system;

17 (I) the impact of hybrid microgrid systems
18 on defense, homeland security, economic devel-
19 opment, and environmental interests;

20 (J) opportunities to leverage existing inter-
21 agency coordination efforts and recommenda-
22 tions for new interagency coordination efforts to
23 minimize unnecessary overhead, mobilization,
24 and other project costs; and

1 (K) any other criteria the Secretary deter-
2 mines appropriate.

3 (c) COLLABORATION.—The program established
4 under subsection (b)(1) shall be carried out in collabora-
5 tion with relevant stakeholders, including, as appro-
6 priate—

7 (1) States;

8 (2) Indian tribes;

9 (3) regional entities and regulators;

10 (4) units of local government;

11 (5) institutions of higher education; and

12 (6) private sector entities.

13 (d) REPORT.—Not later than 180 days after the date
14 of enactment of this Act, and annually thereafter, the Sec-
15 retary shall submit to the Committee on Energy and Nat-
16 ural Resources of the Senate and the Committee on En-
17 ergy and Commerce of the House of Representatives a re-
18 port on—

19 (1) the efforts to implement the program estab-
20 lished under subsection (b)(1); and

21 (2) the status of the strategy developed under
22 subsection (b)(2)(B).

1 **SEC. 2015. ELECTRIC SYSTEM GRID ARCHITECTURE, SCE-**
2 **NARIO DEVELOPMENT, AND MODELING.**

3 (a) **GRID ARCHITECTURE AND SCENARIO DEVELOP-**
4 **MENT.—**

5 (1) **IN GENERAL.—**Subject to paragraph (2),
6 the Secretary shall establish and facilitate a collabo-
7 rative process to develop model grid architecture and
8 a set of future scenarios for the electric system to
9 examine the impacts of different combinations of re-
10 sources (including different quantities of distributed
11 energy resources and large-scale, central generation)
12 on the electric grid.

13 (2) **MARKET STRUCTURE.—**The grid architec-
14 ture and scenarios developed under paragraph (1)
15 shall account for differences in market structure, in-
16 cluding an examination of the potential for stranded
17 costs in each type of market structure.

18 (3) **FINDINGS.—**Based on the findings of grid
19 architecture developed under paragraph (1), the Sec-
20 retary shall—

21 (A) determine whether any additional
22 standards are necessary to ensure the interoper-
23 ability of grid systems and associated commu-
24 nications networks; and

25 (B) if the Secretary makes a determination
26 that additional standards are necessary under

1 subparagraph (A), make recommendations for
2 additional standards.

3 (b) MODELING.—Subject to subsection (c), the Sec-
4 retary shall—

5 (1) conduct modeling based on the scenarios de-
6 veloped under subsection (a); and

7 (2) analyze and evaluate the technical and fi-
8 nancial impacts of the models to assist States, utili-
9 ties, and other stakeholders in—

10 (A) enhancing strategic planning efforts;

11 (B) avoiding stranded costs; and

12 (C) maximizing the cost-effectiveness of fu-
13 ture grid-related investments.

14 (c) INPUT.—The Secretary shall develop the sce-
15 narios and conduct the modeling and analysis under sub-
16 sections (a) and (b) with participation or input, as appro-
17 priate, from—

18 (1) the National Laboratories;

19 (2) States;

20 (3) State regulatory authorities;

21 (4) transmission organizations;

22 (5) representatives of the electric industry;

23 (6) academic institutions;

24 (7) independent research institutes; and

25 (8) other entities.

1 **SEC. 2016. VOLUNTARY MODEL PATHWAYS.**

2 (a) ESTABLISHMENT OF VOLUNTARY MODEL PATH-
3 WAYS.—

4 (1) ESTABLISHMENT.—Not later than 90 days
5 after the date of enactment of this Act, the Sec-
6 retary shall initiate the development of voluntary
7 model pathways for modernizing the electric grid
8 through a collaborative, public-private effort that—

9 (A) produces illustrative policy pathways
10 that can be adapted for State and regional ap-
11 plications by regulators and policymakers;

12 (B) facilitates the modernization of the
13 electric grid to achieve the objectives described
14 in paragraph (2);

15 (C) ensures a reliable, resilient, affordable,
16 safe, and secure electric system; and

17 (D) acknowledges and provides for dif-
18 ferent priorities, electric systems, and rate
19 structures across States and regions.

20 (2) OBJECTIVES.—The pathways established
21 under paragraph (1) shall facilitate achievement of
22 the following objectives:

23 (A) Near real-time situational awareness of
24 the electric system.

25 (B) Data visualization.

1 (C) Advanced monitoring and control of
2 the advanced electric grid.

3 (D) Enhanced certainty for private invest-
4 ment in the electric system.

5 (E) Increased innovation.

6 (F) Greater consumer empowerment.

7 (G) Enhanced grid resilience, reliability,
8 and robustness.

9 (H) Improved—

10 (i) integration of distributed energy
11 resources;

12 (ii) interoperability of the electric sys-
13 tem; and

14 (iii) predictive modeling and capacity
15 forecasting.

16 (3) STEERING COMMITTEE.—Not later than 90
17 days after the date of enactment of this Act, the
18 Secretary shall establish a steering committee to fa-
19 cilitate the development of the pathways under para-
20 graph (1), to be composed of members appointed by
21 the Secretary, consisting of persons with appropriate
22 expertise representing a diverse range of interests in
23 the public, private, and academic sectors, including
24 representatives of—

25 (A) the Smart Grid Task Force; and

1 (B) the Smart Grid Advisory Committee.

2 (b) TECHNICAL ASSISTANCE.—The Secretary may
3 provide technical assistance to States, Indian tribes, or
4 units of local government to adopt 1 or more elements of
5 the pathways developed under subsection (a)(1).

6 **SEC. 2017. PERFORMANCE METRICS FOR ELECTRICITY IN-**
7 **FRASTRUCTURE PROVIDERS.**

8 (a) IN GENERAL.—Not later than 2 years after the
9 date of enactment of this Act, the Secretary shall submit
10 to the appropriate committees of Congress a report that
11 includes—

12 (1) an evaluation of the performance of the
13 electric grid as of the date of the report; and

14 (2) a description of the quantified costs and
15 benefits associated with the changes evaluated under
16 the scenarios developed under section 2015.

17 (b) CONSIDERATIONS FOR DEVELOPMENT OF
18 METRICS.—In developing metrics for evaluating and
19 quantifying the electric grid under subsection (a), the Sec-
20 retary shall consider—

21 (1) standard methodologies for calculating im-
22 provements or deteriorations in the performance
23 metrics, such as reliability, grid efficiency, power
24 quality, consumer satisfaction, sustainability, and fi-
25 nancial incentives;

1 (2) standard methodologies for calculating value
2 to ratepayers, including broad economic and related
3 impacts from improvements to the performance
4 metrics;

5 (3) appropriate ownership and operating roles
6 for electric utilities that would enable improved per-
7 formance through the adoption of emerging, com-
8 mercially available or advanced grid technologies or
9 solutions, including—

10 (A) multicustomer microgrids;

11 (B) distributed energy resources;

12 (C) energy storage;

13 (D) electric vehicles;

14 (E) electric vehicle charging infrastructure;

15 (F) integrated information and commu-
16 nications systems;

17 (G) transactive energy systems; and

18 (H) advanced demand management sys-
19 tems; and

20 (4) with respect to States, the role of the grid
21 operator in enabling a robust future electric system
22 to ensure that—

23 (A) electric utilities remain financially via-
24 ble;

1 (B) electric utilities make the needed in-
2 vestments that ensure a reliable, secure, and re-
3 siliant grid; and

4 (C) costs incurred to transform to an inte-
5 grated grid are allocated and recovered respon-
6 sibly, efficiently, and equitably.

7 **SEC. 2018. STATE AND REGIONAL DISTRIBUTION PLAN-**
8 **NING.**

9 (a) IN GENERAL.—On the request of a State or re-
10 gional organization, the Secretary shall partner with
11 States and regional organizations to facilitate the develop-
12 ment of State and regional electricity distribution plans
13 by—

14 (1) conducting a resource assessment and anal-
15 ysis of future demand and distribution requirements;
16 and

17 (2) developing open source tools for State and
18 regional planning and operations.

19 (b) RISK AND SECURITY ANALYSIS.—The assessment
20 under subsection (a)(1) shall include—

21 (1) the evaluation of the physical and cyberse-
22 curity needs of an advanced distribution manage-
23 ment system and the integration of distributed en-
24 ergy resources; and

1 (2) advanced use of grid architecture to analyze
2 risks in an all-hazards approach that includes com-
3 munications infrastructure, control systems architec-
4 ture, and power systems architecture.

5 (c) TECHNICAL ASSISTANCE.—For the purpose of de-
6 veloping State and regional electricity distribution plans,
7 the Secretary shall provide technical assistance to—

8 (1) States;

9 (2) regional reliability entities; and

10 (3) other distribution asset owners and opera-
11 tors.

12 **SEC. 2019. AUTHORIZATION OF APPROPRIATIONS.**

13 There is authorized to be appropriated to the Sec-
14 retary to carry out sections 2013 through 2018
15 \$200,000,000 for each of fiscal years 2017 through 2026.

16 **SEC. 2020. STATE CONSIDERATION OF RESILIENCE.**

17 (a) ADOPTION OF STANDARDS.—Section 111(d) of
18 the Public Utility Regulatory Policies Act of 1978 (16
19 U.S.C. 2621(d)) is amended by adding at the end the fol-
20 lowing:

21 “(20) RESILIENCE.—

22 “(A) DEFINITION OF ELECTRIC GRID RE-
23 SILIENCE.—The term ‘electric grid resilience’
24 means the ability of the electric grid to adapt

1 to changing conditions and withstand and rap-
2 idly recover from disruptions.

3 “(B) REQUIRED CONSIDERATION.—Each
4 electric utility shall incorporate into the regular
5 planning process of the electric utility consider-
6 ation of investments in electric grid resilience.

7 “(C) FACTORS.—Consideration under sub-
8 paragraph (B) shall include an evaluation of po-
9 tential benefits of enhancing electric grid resil-
10 ience, including—

11 “(i) system stability under severe and
12 nontraditional hazards;

13 “(ii) adaptation to region-specific nat-
14 ural threats and vulnerabilities;

15 “(iii) adaptation to climate change-re-
16 lated extreme weather disruptions;

17 “(iv) support provided to inter-
18 dependent critical infrastructures reliant
19 on energy services to operate;

20 “(v) reduced costs under normal oper-
21 ating conditions;

22 “(vi) enhanced distributed generation
23 and microgrid functionality to operate as
24 an integrated energy system in intentional
25 islanding mode;

1 “(vii) localized energy generation that
2 avoids incurrence of transmission and dis-
3 tribution losses;

4 “(viii) system operational flexibility;
5 and

6 “(ix) ancillary environmental benefits,
7 including greenhouse gas reductions.”.

8 (b) COMPLIANCE.—

9 (1) TIME LIMITATIONS.—Section 112(b) of the
10 Public Utility Regulatory Policies Act of 1978 (16
11 U.S.C. 2622(b)) is amended by adding at the end
12 the following:

13 “(7)(A) Not later than 1 year after the date of
14 enactment of this paragraph, each State regulatory
15 authority (with respect to each electric utility for
16 which it has ratemaking authority), and each non-
17 regulated electric utility, shall—

18 “(i) commence the consideration referred
19 to in section 111; or

20 “(ii) set a hearing date for such consider-
21 ation, with respect to the standard established
22 by paragraph (20) of section 111(d).

23 “(B) Not later than 2 years after the date of
24 enactment of this paragraph, each State regulatory
25 authority (with respect to each electric utility for

1 which it has ratemaking authority), and each non-
 2 regulated electric utility, shall—

3 “(i) complete the consideration required
 4 under subparagraph (A); and

5 “(ii) make the determination referred to in
 6 section 111 with respect to the standard estab-
 7 lished by paragraph (20) of section 111(d).”.

8 (2) FAILURE TO COMPLY.—Section 112(c) of
 9 the Public Utility Regulatory Policies Act of 1978
 10 (16 U.S.C. 2622(c)) is amended by adding at the
 11 end the following: “In the case of the standard es-
 12 tablished by paragraph (20) of section 111(d), the
 13 reference contained in this subsection to the date of
 14 enactment of this Act shall be deemed to be a ref-
 15 erence to the date of enactment of that paragraph.”.

16 **Subtitle C—Advanced** 17 **Manufacturing**

18 **SEC. 2021. ADVANCED MANUFACTURING OFFICE.**

19 (a) ESTABLISHMENT.—The Secretary shall establish,
 20 within the Department, the Advanced Manufacturing Of-
 21 fice (referred to in this subtitle as the “Office”)—

22 (1) to carry out basic and applied research, de-
 23 velopment, and demonstration of new, energy-effi-
 24 cient processes and materials—

1 (A) at a scale adequate to prove the value
2 of the processes and materials to manufacturers
3 in multiple industries; and

4 (B) that facilitate investments and com-
5 mercial scale-up;

6 (2) to focus on the conduct of activities that—

7 (A) use new technology and processes to
8 reuse existing products or update existing pro-
9 cesses to achieve energy efficiency and promote
10 energy savings; and

11 (B) make use of new and emerging proc-
12 esses and materials;

13 (3) to improve workforce development in ad-
14 vanced manufacturing; and

15 (4) to enable the competitiveness of manufac-
16 turers and energy efficiency of manufacturing in the
17 United States by developing broadly applicable tech-
18 nologies for energy-intensive and energy-dependent
19 manufacturing by supporting research and develop-
20 ment directed towards—

21 (A) advanced and critical materials that
22 provide energy savings and efficiency;

23 (B) emerging topics, technology, and proc-
24 esses in advanced manufacturing that promote
25 energy savings;

1 (C) manufacturing platforms for advanced
2 energy technologies; and

3 (D) strategies to address current and fu-
4 ture workforce needs within the manufacturing
5 sector.

6 (b) INDUSTRY PARTICIPATION.—To the maximum
7 extent practicable, the Office shall carry out activities in
8 partnership or collaboration with relevant industry stake-
9 holders.

10 (c) INTERAGENCY AND INTRA-AGENCY COORDINA-
11 TION.—The Secretary shall coordinate research, develop-
12 ment, demonstration, and commercial application activi-
13 ties of the Office among—

14 (1) relevant programs within the Department,
15 including—

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

18 (B) the Office of Fossil Energy;

19 (C) the Office of Nuclear Energy;

20 (D) ARPA-E;

21 (E) the Office of Energy Policy and Sys-
22 tems Analysis; and

23 (F) other offices of the Department, as de-
24 termined to be appropriate by the Secretary;

25 and

1 (2) relevant technology research and develop-
2 ment programs and workforce training programs in
3 other Federal agencies.

4 **SEC. 2022. NATIONAL ADVANCED MANUFACTURING PLAN.**

5 (a) IN GENERAL.—Not later than 18 months after
6 the date of enactment of this Act, the Secretary, in con-
7 sultation with the Secretary of Commerce, shall enter into
8 an agreement with the National Academies to develop a
9 national plan for smart and advanced manufacturing tech-
10 nology development and deployment to improve the pro-
11 ductivity, competitiveness, and energy efficiency of the
12 manufacturing sector of the United States.

13 (b) CONTENTS.—

14 (1) IN GENERAL.—The plan developed under
15 subsection (a) shall identify areas in which actions
16 by the Secretary and the heads of other relevant
17 Federal agencies would—

18 (A) accelerate the development, deploy-
19 ment, and adoption of smart and advanced
20 manufacturing technologies and processes;

21 (B) result in greater energy efficiency of,
22 and lower environmental impacts for, all United
23 States manufacturers;

1 (C) enhance competitiveness and strength-
2 en the manufacturing sectors of the United
3 States; and

4 (D) improve workforce training, career and
5 technical education, and incumbent worker
6 training between manufacturing industry and
7 training providers.

8 (2) INCLUSIONS.—In identifying agency actions
9 under paragraph (1), the Secretary shall include—

10 (A) an assessment of actions of the De-
11 partment relating to smart and advanced manu-
12 facturing that were carried out before or after
13 the date of enactment of this Act;

14 (B) the establishment of voluntary inter-
15 connection protocols and performance stand-
16 ards;

17 (C) the commercialization of existing re-
18 search results;

19 (D) an assessment of existing high-per-
20 formance and cloud computing infrastructure
21 and opportunities for those technologies to play
22 a role in the design and production of advanced
23 manufacturing technology;

24 (E) an assessment of the research and de-
25 velopment opportunities for supply chains re-

1 lated to the manufacture of carbon fiber com-
2 posite, critical materials, advanced materials,
3 and semiconductors;

4 (F) identification and assessment of finan-
5 cial incentives or demonstration projects that
6 could accelerate the commercialization of ad-
7 vanced technology;

8 (G) an assessment and prioritization of
9 emerging technologies and processes with the
10 potential to increase manufacturing competi-
11 tiveness;

12 (H) an analysis of the regions and indus-
13 tries that would benefit the most from imple-
14 menting smart manufacturing technologies;

15 (I) an assessment of—

16 (i) the lessons learned through the
17 decades long partnership of the Depart-
18 ment with the automotive industry; and

19 (ii) how lessons learned could be ap-
20 plied to interactions with other industries
21 (including the aerospace industry) and in-
22 cluding—

23 (I) an analysis of the resources
24 needed to expand partnerships with

1 the Advanced Manufacturing Office to
2 other industries; and

3 (II) an assessment of which in-
4 dustries and technologies would ben-
5 efit most from partnering with the
6 Department, based on—

7 (aa) cost savings;

8 (bb) energy savings;

9 (cc) job creation; and

10 (dd) environmental impacts;

11 and

12 (J) an assessment of current and future
13 workforce needs within the advanced manufac-
14 turing industry that identifies any significant
15 skill gaps and provides suggestions on ways to
16 address the gaps.

17 (c) BIENNIAL REVISIONS AND REPORT.—

18 (1) BIENNIAL REVISIONS.—Not later than 2
19 years after the date on which the Secretary com-
20 pletes the plan under subsection (a), and not less
21 frequently than once every 2 years thereafter, the
22 Secretary shall revise the plan to account for ad-
23 vancements in information and communication tech-
24 nology and manufacturing needs after the comple-
25 tion of the initial plan.

1 (2) REPORT.—The Secretary shall submit to
2 Congress after each revision under paragraph (1) a
3 report on the status of implementation of the plan
4 established under subsection (a).

5 (d) AUTHORIZATION OF APPROPRIATIONS.—There is
6 authorized to be appropriated to carry out the study under
7 this section \$25,000,000.

8 **SEC. 2023. ADVANCED MANUFACTURING SUPPLY CHAIN RE-**
9 **PORT.**

10 (a) IN GENERAL.—The Secretary shall enter into an
11 arrangement with the National Academy of Sciences
12 under which the National Academy of Sciences shall de-
13 velop a report that evaluates the manufacturing supply
14 chains for various advanced manufacturing technologies,
15 including—

16 (1) an assessment of the strength, weaknesses,
17 opportunities, and obstacles in the supply chains of
18 advanced manufacturing technologies, including car-
19 bon fiber composite manufacturing, critical mate-
20 rials, advanced materials, and semiconductors;

21 (2) analyses of—

22 (A) the ways in which the supply chains
23 have changed during the 25-year period pre-
24 ceding the date of enactment of this Act;

1 (B) whether the supply chains have been
2 disrupted by unfair foreign competition;

3 (C) the impact of global trade on the sup-
4 ply chains; and

5 (D) current trends relating to the supply
6 chains;

7 (3) for each technology and process assessed,
8 an analysis of which sections of the supply chain are
9 critical for the United States to remain or become
10 competitive in the manufacturing of the technology;
11 and

12 (4) recommendations on which emerging tech-
13 nologies and processes the United States should
14 focus on in order to advance innovation in manufac-
15 turing capabilities to increase the competitiveness of
16 United States manufacturing.

17 (b) REPORT.—Not later than 2 years after the date
18 on which the Secretary enters into the arrangement with
19 the National Academy of Sciences under subsection (a),
20 the National Academy of Sciences shall submit to the Sec-
21 retary, the Committee on Energy and Natural Resources
22 of the Senate, and the Committee on Energy and Com-
23 merce of the House of Representatives a report that de-
24 scribes the findings and recommendations of the National

1 Academy of Sciences with respect to the assessment and
2 analyses conducted under subsection (a).

3 **SEC. 2024. LEVERAGING EXISTING AGENCY PROGRAMS TO**
4 **ASSIST SMALL AND MEDIUM MANUFACTUR-**
5 **ERS.**

6 (a) COLLABORATION WITH NATIONAL LABORA-
7 TORIES AND INSTITUTIONS OF HIGHER EDUCATION.—
8 The Office shall work in collaboration with National Lab-
9 oratories and institutions of higher education to provide
10 assistance to small and medium manufacturers with re-
11 spect to smart manufacturing technologies and practices.

12 (b) EXPANSION OF TECHNICAL ASSISTANCE PRO-
13 GRAMS.—The Secretary shall expand the scope of tech-
14 nologies covered by the Industrial Assessment Centers—

15 (1) to include smart manufacturing technologies
16 and practices; and

17 (2) to provide the directors of the Industrial
18 Assessment Centers with the training and tools nec-
19 essary to provide to manufacturers technical assist-
20 ance in smart manufacturing technologies and prac-
21 tices, including energy management systems.

22 **SEC. 2025. ADVANCED MANUFACTURING INNOVATION**
23 **HUBS.**

24 (a) DEFINITIONS.—In this section:

1 (1) **ADVANCED MANUFACTURING.**—The term
2 “advanced manufacturing” means—

3 (A) a technology, or process that—

4 (i) depends on the use and coordina-
5 tion of information, automation, computa-
6 tion, software, sensing, and networking;

7 (ii) makes use of new materials or
8 reuses existing materials; or

9 (iii) enhances the manufacturing com-
10 petitiveness of the United States;

11 (B) research, development, demonstration,
12 and commercial application activities necessary
13 to ensure the long-term, secure, and sustainable
14 supply of advanced materials; or

15 (C) any other innovative energy technology
16 area identified by the Secretary.

17 (2) **HUB.**—The term “Hub” means an Ad-
18 vanced Manufacturing Innovation Hub established
19 under subsection (b).

20 (3) **QUALIFYING ENTITY.**—The term “quali-
21 fying entity” means—

22 (A) an institution of higher education in
23 partnership with industry;

1 (B) an appropriate Federal or State entity,
2 including Federally Funded Research and De-
3 velopment Centers of the Department;

4 (C) a nongovernmental organization with
5 expertise in advanced manufacturing research,
6 development, demonstration, or commercial ap-
7 plication activities; or

8 (D) any other relevant entity that the Sec-
9 retary considers appropriate.

10 (b) AUTHORIZATION OF PROGRAM.—

11 (1) IN GENERAL.—The Secretary shall carry
12 out a program to enhance the manufacturing com-
13 petitiveness of the United States by making awards
14 to consortia for establishing and operating Advanced
15 Manufacturing Innovation Hubs to conduct and sup-
16 port multidisciplinary, collaborative research, devel-
17 opment, demonstration, and commercial application
18 of advance manufacturing technologies.

19 (2) CENTRALIZED LOCATION.—To the max-
20 imum extent practicable, each Hub provided an
21 award under this section shall be located at 1 cen-
22 tralized location.

23 (3) TECHNOLOGY DEVELOPMENT FOCUS.—The
24 Secretary shall designate for each Hub a unique ad-

1 vanced manufacturing technology focus, process, or
2 technology.

3 (4) COORDINATION.—The Secretary shall en-
4 sure the coordination of, and avoid unnecessary du-
5 plication of, the activities of Hubs with the activities
6 of other research entities of the Department (includ-
7 ing the National Laboratories and the Advanced Re-
8 search Projects Agency—Energy) and industry.

9 (c) CONSORTIA.—

10 (1) ELIGIBILITY.—To be eligible to receive an
11 award under this section for the establishment and
12 operation of a Hub, a consortium shall—

13 (A) be composed of not fewer than 2 quali-
14 fying entities; and

15 (B) operate subject to an agreement en-
16 tered into by the members of the consortium
17 that documents—

18 (i) the proposed partnership agree-
19 ment, including the governance and man-
20 agement structure of the Hub;

21 (ii) measures to enable the cost-effec-
22 tive implementation of the program under
23 this section;

1 (iii) a proposed budget for the Hub,
2 including a description of financial con-
3 tributions from non-Federal sources;

4 (iv) an accounting structure for the
5 Hub that enables the Secretary to ensure
6 that the consortium has complied with the
7 requirements of this section; and

8 (v) a plan to coordinate workforce
9 training within Hub locations.

10 (2) APPLICATION.—

11 (A) IN GENERAL.—A consortium seeking
12 to establish and operate a Hub under this sec-
13 tion, acting through a prime applicant, shall
14 submit to the Secretary an application that ad-
15 dresses the elements of the consortium agree-
16 ment required under paragraph (1)(B).

17 (B) MULTIPLE LOCATIONS.—If the Consor-
18 tium members are not located at 1 centralized
19 location, an application submitted under sub-
20 paragraph (A) shall include a communications
21 plan that ensures close coordination and inte-
22 gration of the activities of the Hub.

23 (d) SELECTION AND SCHEDULE.—

24 (1) IN GENERAL.—The Secretary shall select
25 consortia for awards for the establishment and oper-

1 ation of Hubs through a competitive selection pro-
2 ess.

3 (2) CONSIDERATIONS.—In selecting consortia
4 under this section, the Secretary shall consider—

5 (A) the information a consortium is re-
6 quired to document under subsection (c)(1)(B);

7 (B) regional diversity; and

8 (C) any existing facilities that a consor-
9 tium would provide for Hub activities.

10 (3) TERM.—

11 (A) IN GENERAL.—Awards made to a Hub
12 under this section shall be for a period of not
13 more than 5 years.

14 (B) RENEWAL.—At the end of the 5-year
15 period of an award under this section, the Sec-
16 retary may renew the award, subject to a rig-
17 orous merit review.

18 (e) HUB OPERATIONS.—

19 (1) IN GENERAL.—Each Hub shall conduct or
20 provide for multidisciplinary, collaborative research,
21 development, demonstration, and, as appropriate,
22 commercial application of advanced manufacturing
23 technologies within the technology development focus
24 for the Hub designated under subsection (b)(3).

25 (2) REQUIREMENTS.—Each Hub shall—

1 (A) encourage collaboration and commu-
2 nication among the member qualifying entities
3 of the consortium and awardees by conducting
4 activities, to the maximum extent practicable,
5 at 1 centralized location;

6 (B) develop and publish on the website of
7 the Department proposed plans and programs;

8 (C) submit an annual report to the Sec-
9 retary that summarizes, during the period cov-
10 ered by the report, the activities of the Hub, in-
11 cluding—

12 (i) a detailed description of organiza-
13 tional expenditures by the Hub; and

14 (ii) a description of each project un-
15 dertaken by the Hub; and

16 (D) monitor project implementation and
17 coordination.

18 (3) CONFLICTS OF INTEREST.—

19 (A) PROCEDURES.—A Hub shall maintain
20 conflict of interest procedures, consistent with
21 the procedures of the Department, to ensure
22 that employees and consortia designees for Hub
23 activities that are in decisionmaking capac-
24 ities—

1 (i) disclose all material conflicts of in-
2 terest; and

3 (ii) avoid conflicts of interest.

4 (B) DISQUALIFICATION AND REVOCA-
5 TION.—The Secretary may disqualify an appli-
6 cation or revoke funds distributed to a Hub if
7 the Secretary discovers a failure to comply with
8 conflict of interest procedures established under
9 subparagraph (A).

10 (4) PROHIBITION OF CONSTRUCTION.—

11 (A) IN GENERAL.—No funds provided
12 under this section may be used for the con-
13 struction of new buildings or facilities for a
14 Hub.

15 (B) COST-SHARING AGREEMENT.—Con-
16 struction of new buildings or facilities for a
17 Hub shall not be considered as part of the non-
18 Federal share of a cost-sharing agreement of
19 the Hub.

20 (C) TEST BED AND RENOVATION EXCEP-
21 TION.—Nothing in this paragraph prohibits the
22 use of funds provided under this section, or
23 non-Federal cost share funds, for research or
24 for the construction of a test bed or renovations
25 to existing buildings or facilities for the pur-

1 poses of research, if the Secretary determines
2 that the test bed or renovations are limited to
3 a scope and scale necessary for the research to
4 be conducted.

5 (f) TERMINATION.—The Secretary may terminate an
6 underperforming Hub for cause during the award period.

7 (g) LOAN PROGRAM.—The consortium from each
8 Hub, in consultation with the Secretary, may identify best
9 in class technologies that would be eligible for technical
10 assistance, including assistance from loan programs of the
11 Department, the Community Development Financial In-
12 stitution Program, Small Business Administration loan
13 programs, Small Business Innovation Research and Small
14 Business Technology Transfer programs, and rural energy
15 loan programs of the Department of Agriculture.

16 (h) AUTHORIZATION OF APPROPRIATIONS.—There is
17 authorized to be appropriated to carry out this section
18 \$300,000,000.

19 **SEC. 2026. ADVANCED MATERIALS PRIZE COMPETITION**
20 **PILOT PROGRAM.**

21 (a) IN GENERAL.—The Secretary shall establish a
22 prize competition under which eligible entities compete to
23 develop and verifiably demonstrate advanced materials
24 technology that reduces energy costs or reduces carbon di-
25 oxide emissions by at least 20 percent.

1 (b) COMPETITION BOARD.—The Secretary shall es-
2 tablish a Competition Board to administer the prize com-
3 petition, to be composed of members from the Department
4 and industry.

5 (c) ELIGIBLE ENTITIES.—To be eligible for the com-
6 petition, an entity shall be—

7 (1) a non-public entity; or

8 (2) a public-private partnership in which the
9 private entity is greater than 50 percent of the part-
10 nership.

11 (d) AWARDS.—As part of the prize competition estab-
12 lished under this section, the Competition Board shall
13 award to eligible entities not more than 5 prizes of not
14 more than \$2,000,000 each.

15 (e) DURATION.—The duration for the prize competi-
16 tion established under this section shall be not less than
17 2 years or more than 5 years.

18 (f) SELECTION.—In selecting a winner for a prize
19 awarded under the prize competition, the Competition
20 Board shall evaluate the technology developed by the eligi-
21 ble entity based on the following criteria:

22 (1) The amount by which the technology would
23 increase energy savings or decrease carbon dioxide
24 emissions.

1 (2) The ability of the technology to be deployed
 2 in commercial application in a variety of industries
 3 or supply chains.

4 (3) The potential for private sector investment
 5 in the technology.

6 (4) The potential of the technology to trans-
 7 form an existing industry or establish a new indus-
 8 try.

9 (g) AUTHORIZATION OF APPROPRIATIONS.—There is
 10 authorized to be appropriated to carry out this section
 11 \$10,000,000.

12 **SEC. 2027. PILOT PROGRAM WITH ORIGINAL EQUIPMENT**
 13 **MANUFACTURERS AND PUBLIC UTILITIES.**

14 The Office, in collaboration with the Industrial As-
 15 sessment Centers at the Department, the National Insti-
 16 tute of Standards and Technology, the Manufacturing Ex-
 17 tension Partnership, original equipment manufacturers,
 18 and public utilities, shall develop a pilot program to work
 19 with small- and medium-manufacturers in supply chains
 20 of original equipment manufacturers to provide—

21 (1) an assessment of manufacturing efficiency;

22 and

23 (2) best practices and technical assistance for
 24 implementing energy savings and efficiency in the
 25 manufacturing process.

1 **Subtitle D—Building Better Trucks**

2 **SEC. 2031. ADVANCED TECHNOLOGY VEHICLES MANUFACTURING INCENTIVE PROGRAM.**

3
4 Section 136 of the Energy Independence and Security
5 Act of 2007 (42 U.S.C. 17013) is amended—

6 (1) in subsection (a)—

7 (A) in paragraph (1)—

8 (i) by redesignating subparagraphs
9 (A) through (C) as clauses (i) through
10 (iii), respectively, and indenting appro-
11 priately;

12 (ii) by striking “(1) ADVANCED TECH-
13 NOLOGY VEHICLE.—” and all that follows
14 through “meets—” and inserting the fol-
15 lowing:

16 “(1) ADVANCED TECHNOLOGY VEHICLE.—The
17 term ‘advanced technology vehicle’ means—

18 “(A) an ultra efficient vehicle;

19 “(B) a light duty vehicle that meets—”;

20 (iii) in subparagraph (B)(iii) (as so
21 redesignated), by striking the period at the
22 end and inserting “; or”; and

23 (iv) by adding at the end the fol-
24 lowing:

1 “(C) a medium-duty or heavy-duty vehicle
2 that—

3 “(i)(I) is subject to regulations estab-
4 lished by the Secretary of Transportation
5 under parts 523, 534, and 535 of title 49,
6 Code of Federal Regulations (or successor
7 regulations); or

8 “(II) is included in a vehicle type or
9 class that offers opportunities to substan-
10 tially reduce consumption of conventional
11 motor fuel, as determined by the Secretary
12 by rule; and

13 “(ii) reduces consumption of conven-
14 tional motor fuel by 10 percent or greater
15 as compared to model year 2010 medium-
16 and heavy-duty vehicles of a similar vehicle
17 type or class, unless the Secretary deter-
18 mines by rule that—

19 “(I) the percentage is not achiev-
20 able for a specific vehicle type or
21 class; and

22 “(II) an alternative percentage
23 for that vehicle type or class will re-
24 sult in substantial reductions in motor

1 fuel consumption within the United
2 States.”; and

3 (B) by striking paragraph (4) and insert-
4 ing the following:

5 “(4) QUALIFYING COMPONENTS.—The term
6 ‘qualifying components’ means components, systems,
7 or groups of subsystems that the Secretary deter-
8 mines—

9 “(A) to be designed to improve fuel econ-
10 omy or otherwise substantially reduce consump-
11 tion of conventional motor fuel; or

12 “(B) to contribute measurably to the over-
13 all improved fuel use of an advanced technology
14 vehicle.”;

15 (2) in subsection (b), in the matter preceding
16 paragraph (1), by inserting “or other vehicle” after
17 “ultra efficient vehicle”;

18 (3) by striking subsection (f) and inserting the
19 following:

20 “(f) FEES.—

21 “(1) IN GENERAL.—The Secretary shall charge
22 a closing fee of 50 basis points of the loan to cover
23 applicable administrative expenses.

24 “(2) USE OF FEES.—Fees collected under para-
25 graph (1) shall—

1 “(A) be deposited by the Secretary into the
2 general fund of the Treasury; and

3 “(B) remain available until expended, sub-
4 ject to such other conditions as are contained in
5 annual appropriations Acts.”; and

6 (4) in subsection (h)(1)(B), by striking “auto-
7 mobiles, or components of automobiles” and insert-
8 ing “automobiles or other vehicles, or components of
9 automobiles or other vehicles”.

10 **Subtitle E—Vehicle Innovation**

11 **SEC. 2041. FINDINGS.**

12 Congress finds the following:

13 (1) According to the Energy Information Ad-
14 ministration, the transportation sector accounts for
15 approximately 28 percent of the United States pri-
16 mary energy demand and greenhouse gas emissions,
17 and 21 percent of global oil demand.

18 (2) The United States transportation sector is
19 over 90-percent dependent on petroleum.

20 (3) United States heavy truck fuel consumption
21 will increase 27 percent by 2030.

22 (4) The domestic automotive and commercial
23 vehicle manufacturing sectors have increasingly lim-
24 ited resources for research, development, and engi-
25 neering of advanced technologies.

1 (5) Vehicle, engine, and component manufactur-
2 ers are playing a more important role in vehicle
3 technology development, and should be better inte-
4 grated into Federal research efforts.

5 (6) Priorities for the vehicle technologies re-
6 search of the Department have shifted drastically in
7 recent years among diesel hybrids, hydrogen fuel cell
8 vehicles, and plug-in electric hybrids, with little con-
9 tinuity among them.

10 (7) The integration of vehicle, communication,
11 and infrastructure technologies has great potential
12 for efficiency gains through better management of
13 the total transportation system.

14 (8) The Federal Government should balance its
15 role in researching longer-term exploratory concepts
16 and developing nearer-term transformational tech-
17 nologies for vehicles.

18 **SEC. 2042. OBJECTIVES.**

19 The objectives of this subtitle are—

20 (1) to develop United States technologies and
21 practices that—

22 (A) improve the fuel efficiency and emis-
23 sions of all vehicles produced in the United
24 States; and

1 (B) reduce vehicle reliance on petroleum-
2 based fuels;

3 (2) to support domestic research, development,
4 engineering, demonstration, and commercial applica-
5 tion and manufacturing of advanced vehicles, en-
6 gines, and components;

7 (3) to enable vehicles to move larger volumes of
8 goods and more passengers with less energy and
9 emissions;

10 (4) to develop cost-effective advanced tech-
11 nologies for wide-scale utilization throughout the
12 passenger, commercial, government, and transit ve-
13 hicle sectors;

14 (5) to allow for greater consumer choice of vehi-
15 cle technologies and fuels;

16 (6) shorten technology development and inte-
17 gration cycles in the vehicle industry;

18 (7) to ensure a proper balance and diversity of
19 Federal investment in vehicle technologies; and

20 (8) to strengthen partnerships between Federal
21 and State governmental agencies and the private
22 and academic sectors.

23 **SEC. 2043. VEHICLE RESEARCH AND DEVELOPMENT PRO-**
24 **GRAM.**

25 (a) PROGRAM.—

1 (1) ACTIVITIES.—The Secretary shall conduct a
2 program of basic and applied research, development,
3 engineering, demonstration, and commercial applica-
4 tion activities on materials, technologies, and proc-
5 esses with the potential to substantially reduce or
6 eliminate petroleum use and the emissions of pas-
7 senger and commercial vehicles in the United States,
8 including activities in the areas of—

9 (A) hybridization or full electrification of
10 vehicle systems;

11 (B) batteries and other energy storage de-
12 vices;

13 (C) power electronics;

14 (D) vehicle, component, and subsystem
15 manufacturing technologies and processes;

16 (E) engine efficiency and combustion opti-
17 mization;

18 (F) waste heat recovery;

19 (G) transmission and drivetrains;

20 (H) hydrogen vehicle technologies, includ-
21 ing fuel cells and internal combustion engines,
22 and hydrogen infrastructure, including hydro-
23 gen energy storage to enable renewables and
24 provide hydrogen for fuel and power;

25 (I) natural gas vehicle technologies;

1 (J) aerodynamics, rolling resistance (in-
2 cluding tires and wheel assemblies), and acces-
3 sory power loads of vehicles and associated
4 equipment;

5 (K) vehicle weight reduction, including
6 lightweighting materials and the development of
7 manufacturing processes to fabricate, assemble,
8 and use dissimilar materials;

9 (L) friction and wear reduction;

10 (M) engine and component durability;

11 (N) innovative propulsion systems;

12 (O) advanced boosting systems;

13 (P) hydraulic hybrid technologies;

14 (Q) engine compatibility with and optimi-
15 zation for a variety of transportation fuels in-
16 cluding natural gas and other liquid and gas-
17 eous fuels;

18 (R) predictive engineering, modeling, and
19 simulation of vehicle and transportation sys-
20 tems;

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

1 (T) gaseous fuels storage systems and sys-
2 tem integration and optimization;

3 (U) sensing, communications, and actu-
4 ation technologies for vehicle, electrical grid,
5 and infrastructure;

6 (V) efficient use, substitution, and recy-
7 cling of potentially critical materials in vehicles,
8 including rare earth elements and precious met-
9 als, at risk of supply disruption;

10 (W) aftertreatment technologies;

11 (X) thermal management of battery sys-
12 tems;

13 (Y) retrofitting advanced vehicle tech-
14 nologies to existing vehicles;

15 (Z) development of common standards,
16 specifications, and architectures for both trans-
17 portation and stationary battery applications;

18 (AA) advanced internal combustion en-
19 gines;

20 (BB) mild hybrid;

21 (CC) engine down speeding; and

22 (DD) other research areas as determined
23 by the Secretary.

24 (2) TRANSFORMATIONAL TECHNOLOGY.—The
25 Secretary shall ensure that the Department con-

1 continues to support research, development, engineer-
2 ing, demonstration, and commercial application ac-
3 tivities and maintains competency in mid- to long-
4 term transformational vehicle technologies with po-
5 tential to achieve deep reductions in petroleum use
6 and emissions, including activities in the areas of—

7 (A) hydrogen vehicle technologies, includ-
8 ing fuel cells, hydrogen storage, infrastructure,
9 and activities in hydrogen technology validation
10 and safety codes and standards;

11 (B) multiple battery chemistries and novel
12 energy storage devices, including nonchemical
13 batteries and electromechanical storage tech-
14 nologies such as hydraulics, flywheels, and com-
15 pressed air storage;

16 (C) communication and connectivity among
17 vehicles, infrastructure, and the electrical grid;
18 and

19 (D) other innovative technologies research
20 and development, as determined by the Sec-
21 retary.

22 (3) INDUSTRY PARTICIPATION.—

23 (A) IN GENERAL.—To the maximum ex-
24 tent practicable, activities under this section
25 shall be carried out in partnership or collabora-

1 tion with automotive manufacturers, heavy com-
2 mercial, vocational, and transit vehicle manu-
3 facturers, qualified plug-in electric vehicle man-
4 ufacturers, compressed natural gas vehicle man-
5 ufacturers, vehicle and engine equipment and
6 component manufacturers, manufacturing
7 equipment manufacturers, advanced vehicle
8 service providers, fuel producers and energy
9 suppliers, electric utilities, institutions of higher
10 education, the National Laboratories (as that
11 term is defined in section 2 of the Energy Pol-
12 icy Act of 2005 (42 U.S.C. 15801)), and inde-
13 pendent research laboratories.

14 (B) REQUIREMENTS.—In carrying out this
15 section, the Secretary shall—

16 (i)(I) determine whether a wide range
17 of companies that manufacture or assem-
18 ble vehicles or components in the United
19 States are represented in ongoing public
20 private partnership activities, including
21 firms that have not traditionally partici-
22 pated in federally sponsored research and
23 development activities; and

24 (II) if possible, partner with firms de-
25 scribed in subclause (II) that conduct sig-

1 nificant and relevant research and develop-
2 ment activities in the United States;

3 (ii) leverage the capabilities and re-
4 sources of, and formalize partnerships
5 with, industry-led stakeholder organiza-
6 tions, nonprofit organizations, industry
7 consortia, and trade associations with ex-
8 pertise in the research and development of,
9 and education and outreach activities in,
10 advanced automotive and commercial vehi-
11 cle technologies;

12 (iii) develop more effective processes
13 for transferring research findings and tech-
14 nologies to industry;

15 (iv) give consideration to conversion of
16 existing or former vehicle technology devel-
17 opment or manufacturing facilities for the
18 purposes of this section;

19 (v) support public-private partnerships
20 dedicated to overcoming barriers in com-
21 mercial application of transformational ve-
22 hicle technologies that use the industry-led
23 technology development facilities of entities
24 with demonstrated expertise in successfully
25 designing and engineering pre-commercial

1 generations of transformational vehicle
2 technology; and

3 (vi) promote efforts to ensure that
4 technology research, development, engi-
5 neering, and commercial application activi-
6 ties funded under this section are carried
7 out in the United States.

8 (4) INTERAGENCY AND INTRAAGENCY COORDI-
9 NATION.—To the maximum extent practicable, the
10 Secretary shall coordinate research, development,
11 demonstration, and commercial application activities
12 among—

13 (A) relevant programs within the Depart-
14 ment, including—

15 (i) the Office of Energy Efficiency
16 and Renewable Energy;

17 (ii) the Office of Science;

18 (iii) the Office of Electricity Delivery
19 and Energy Reliability;

20 (iv) the Office of Fossil Energy;

21 (v) the Advanced Research Projects
22 Agency—Energy; and

23 (vi) other offices as determined by the
24 Secretary; and

1 (B) relevant technology research and devel-
2 opment programs within other Federal agen-
3 cies, as determined by the Secretary.

4 (5) COORDINATION AND NONDUPLICATION.—In
5 coordinating activities carried out under this section,
6 the Secretary shall ensure, to the maximum extent
7 practicable, that the activities do not duplicate those
8 of other programs within the Department or other
9 relevant research agencies.

10 (6) FEDERAL DEMONSTRATION OF TECH-
11 NOLOGIES.—The Secretary shall make information
12 available to procurement programs of Federal agen-
13 cies regarding the potential to demonstrate tech-
14 nologies resulting from activities funded through
15 programs under this section.

16 (7) INTERGOVERNMENTAL COORDINATION.—
17 The Secretary shall seek opportunities to leverage
18 resources and support initiatives of State and local
19 governments in developing and promoting advanced
20 vehicle technologies, manufacturing, and infrastruc-
21 ture.

22 (8) CRITERIA.—In awarding grants under this
23 program, the Secretary shall give priority to those
24 technologies (either individually or as part of a sys-
25 tem) that—

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

4 (B) provide the greatest increase in em-
5 ployment in the United States.

6 (b) SENSING AND COMMUNICATIONS TECH-
7 NOLOGIES.—The Secretary, in coordination with the rel-
8 evant research programs of other Federal agencies, shall
9 conduct research, development, engineering, demonstra-
10 tion, and deployment activities on connectivity of vehicle
11 roadway, vulnerable road users, traffic control systems,
12 and transportation data systems, including on sensing,
13 data, computation, communication, cybersecurity, and ac-
14 tuation technologies that allow for improved safety, re-
15 duced energy and fuel use, optimized traffic flow, and ve-
16 hicle electrification, including technologies for—

17 (1) onboard vehicle, engine, transmission and
18 component sensing, actuation, and calibration;

19 (2) vehicle-to-vehicle sensing and communica-
20 tion;

21 (3) vehicle-to-infrastructure sensing and com-
22 munication;

23 (4) vehicle-to-pedestrian and vehicle-to-bicyclist
24 sensing and communication; and

25 (5) vehicle integration with the electrical grid.

1 (c) MANUFACTURING.—The Secretary shall carry out
2 a research, development, engineering, demonstration, and
3 commercial application program of advanced vehicle man-
4 ufacturing technologies and practices, including innovative
5 processes—

6 (1) to increase the production rate and decrease
7 the cost of advanced battery and fuel cell manufac-
8 turing;

9 (2) to vary the capability of individual manufac-
10 turing facilities to accommodate different battery
11 chemistries and configurations;

12 (3) to reduce waste streams, emissions, and en-
13 ergy intensity of vehicle, engine, advanced battery
14 and component manufacturing processes;

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

18 (5) to develop manufacturing processes to effec-
19 tively fabricate, assemble, and produce cost-effective
20 lightweight materials such as advanced aluminum
21 and other metal alloys, polymeric composites, and
22 carbon fiber for use in vehicles;

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

1 (7) to design and manufacture purpose-built hy-
2 drogen fuel cell vehicles and components;

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

5 (9) to produce permanent magnets for advanced
6 vehicles.

7 (d) USER TESTING FACILITIES.—Activities under
8 this section may include construction, expansion, or modi-
9 fication of new and existing vehicle, engine, and compo-
10 nent research and testing facilities for—

11 (1) testing or simulating interoperability of a
12 variety of vehicle components and systems, including
13 the technologies described in subsection (b);

14 (2) subjecting whole or partial vehicle platforms
15 to fully representative duty cycles and operating con-
16 ditions;

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

20 (4) developing and demonstrating test cycles for
21 new and alternative fuels, and other advanced vehi-
22 cle technologies;

23 (5) developing and demonstrating methods to
24 charge electric vehicles and connect them to the elec-
25 tric grid; and

1 (6) developing, testing, and demonstrating hy-
2 drogen and natural gas refueling station tech-
3 nologies.

4 (e) REPORTING.—

5 (1) TECHNOLOGIES DEVELOPED.—Not later
6 than 18 months after the date of enactment of this
7 Act and annually thereafter through 2020, the Sec-
8 retary shall submit to Congress a report regarding
9 the technologies developed as a result of the activi-
10 ties authorized by this section, with a particular em-
11 phasis on whether the technologies were successfully
12 adopted for commercial applications, and if so,
13 whether products relying on those technologies are
14 manufactured in the United States.

15 (2) ADDITIONAL MATTERS.—At the end of each
16 fiscal year through 2020 the Secretary shall submit
17 to the relevant Congressional committees of jurisdic-
18 tion an annual report describing activities under-
19 taken in the previous year under this section, active
20 industry participants, efforts to recruit new partici-
21 pants committed to design, engineering, and manu-
22 facturing of advanced vehicle technologies in the
23 United States, progress of the program in meeting
24 goals and timelines, and a strategic plan for funding
25 of activities across agencies.

1 **SEC. 2044. MEDIUM- AND HEAVY-DUTY COMMERCIAL AND**
2 **TRANSIT VEHICLES PROGRAM.**

3 (a) PROGRAM.—

4 (1) IN GENERAL.—The Secretary, in partner-
5 ship with relevant research and development pro-
6 grams in other Federal agencies, and a range of ap-
7 propriate industry stakeholders, shall carry out a
8 program of cooperative research, development, dem-
9 onstration, and commercial application activities on
10 advanced technologies for medium- to heavy-duty
11 commercial, vocational, recreational, and transit ve-
12 hicles, including activities in the areas of—

13 (A) engine efficiency and combustion re-
14 search;

15 (B) onboard storage technologies for com-
16 pressed and liquefied natural gas;

17 (C) development and integration of engine
18 technologies designed for natural gas operation
19 of a variety of vehicle platforms;

20 (D) waste heat recovery and conversion;

21 (E) improved aerodynamics and tire rolling
22 resistance;

23 (F) energy and space-efficient emissions
24 control systems;

- 1 (G) mild hybrid, heavy hybrid, hybrid hydraulic, plug-in hybrid, and electric platforms,
2 and energy storage technologies;
3
4 (H) drivetrain optimization;
5 (I) friction and wear reduction;
6 (J) engine idle and parasitic energy loss
7 reduction;
8 (K) electrification of accessory loads;
9 (L) onboard sensing and communications
10 technologies;
11 (M) advanced lightweighting materials and
12 vehicle designs;
13 (N) increasing load capacity per vehicle;
14 (O) thermal management of battery systems;
15
16 (P) recharging infrastructure;
17 (Q) compressed natural gas infrastructure;
18 (R) advanced internal combustion engines;
19 (S) complete vehicle and power pack modeling, simulation, and testing;
20
21 (T) hydrogen vehicle technologies, including
22 fuel cells and internal combustion engines,
23 and hydrogen infrastructure, including hydrogen
24 energy storage to enable renewables and
25 provide hydrogen for fuel and power;

1 (U) retrofitting advanced technologies onto
2 existing truck fleets;
3 (V) advanced boosting systems;
4 (W) engine down speeding; and
5 (X) integration of these and other ad-
6 vanced systems onto a single truck and trailer
7 platform.

8 (2) REPORTING.—At the end of each fiscal year
9 through fiscal year 2020, the Secretary shall submit
10 to Congress an annual report describing activities
11 undertaken in the previous year under this section,
12 active industry participants, efforts to recruit new
13 participants, progress of the program in meeting
14 goals and timelines, and a strategic plan for funding
15 of activities across agencies.

16 (b) CLASS 8 TRUCK AND TRAILER SYSTEMS DEM-
17 ONSTRATION.—

18 (1) IN GENERAL.—The Secretary shall conduct
19 a competitive grant program to demonstrate the in-
20 tegration of multiple advanced technologies on Class
21 8 truck and trailer platforms, including a combina-
22 tion of technologies listed in subsection (a)(1).

23 (2) APPLICANT TEAMS.—Applicant teams may
24 be comprised of truck and trailer manufacturers, en-
25 gine and component manufacturers, fleet customers,

1 university researchers, and other applicants as ap-
2 propriate for the development and demonstration of
3 integrated Class 8 truck and trailer systems.

4 (c) TECHNOLOGY TESTING AND METRICS.—The Sec-
5 retary, in coordination with the partners of the inter-
6 agency research program described in subsection (a)(1)—

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

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

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

20 (d) NONROAD SYSTEMS PILOT PROGRAM.—The Sec-
21 retary shall undertake a pilot program of research, devel-
22 opment, demonstration, and commercial applications of
23 technologies to improve total machine or system efficiency
24 for nonroad mobile equipment including agricultural, con-
25 struction, air, and sea port equipment, and shall seek op-

1 portunities to transfer relevant research findings and tech-
2 nologies between the nonroad and on-highway equipment
3 and vehicle sectors.

4 **SEC. 2045. AUTHORIZATION OF APPROPRIATIONS.**

5 There are authorized to be appropriated to the Sec-
6 retary for research, development, engineering, demonstra-
7 tion, and commercial application of vehicles and related
8 technologies in the United States, including activities au-
9 thorized under this subtitle—

- 10 (1) for fiscal year 2016, \$313,567,000;
11 (2) for fiscal year 2017, \$326,109,000;
12 (3) for fiscal year 2018, \$339,154,000;
13 (4) for fiscal year 2019, \$352,720,000; and
14 (5) for fiscal year 2020, \$366,829,000.

15 **Subtitle F—Carbon Fiber**
16 **Recycling**

17 **SEC. 2051. RECYCLED CARBON FIBER STUDY.**

18 (a) STUDY.—The Secretary shall conduct a study
19 on—

- 20 (1) the technology of recycled carbon fiber and
21 production waste carbon fiber; and
22 (2) the potential lifecycle energy savings and
23 economic impact of recycled carbon fiber.

1 (b) FACTORS FOR CONSIDERATION.—In conducting
2 the study under subsection (a), the Secretary shall take
3 into consideration—

4 (1) the quantity of recycled carbon fiber or pro-
5 duction waste carbon fiber that would make the use
6 of recycled carbon fiber or production waste carbon
7 fiber economically viable;

8 (2) any existing or potential barriers to recy-
9 cling carbon fiber or using recycled carbon fiber;

10 (3) any financial incentives that may be nec-
11 essary for the development of recycled carbon fiber
12 or production waste carbon fiber;

13 (4) the potential lifecycle savings in energy
14 from producing recycled carbon fiber, as compared
15 to producing new carbon fiber;

16 (5) the best and highest use for recycled carbon
17 fiber;

18 (6) the potential reduction in carbon dioxide
19 emissions from producing recycled carbon fiber, as
20 compared to producing new carbon fiber;

21 (7) any economic benefits gained from using re-
22 cycled carbon fiber or production waste carbon fiber;

23 (8) workforce training and skills needed to ad-
24 dress labor demands in the development of recycled
25 carbon fiber or production waste carbon fiber; and

1 (9) how the Department can leverage existing
2 efforts in the industry on the use of production
3 waste carbon fiber.

4 (c) REPORT.—Not later than 1 year after the date
5 of enactment of this Act, the Secretary shall submit to
6 Congress a report describing the results of the study con-
7 ducted under subsection (a).

8 **SEC. 2052. CARBON FIBER RECYCLING DEMONSTRATION**
9 **PROJECT.**

10 The Secretary shall consult with the aviation and
11 automotive industries and existing programs of the Ad-
12 vanced Manufacturing Office of the Department to de-
13 velop a carbon fiber recycling demonstration project.

14 **SEC. 2053. AUTHORIZATION OF APPROPRIATIONS.**

15 There is authorized to be appropriated to carry out
16 this subtitle \$10,000,000, to remain available until ex-
17 pend.

18 **Subtitle G—Job Creation Through**
19 **Energy Efficient Manufacturing**

20 **SEC. 2061. PURPOSE.**

21 The purpose of this subtitle is to encourage wide-
22 spread deployment of energy efficiency and onsite renew-
23 able energy technologies in manufacturing and industrial
24 facilities throughout the United States through the estab-

1 lishment of a Financing Energy Efficient Manufacturing
2 Program that would—

3 (1) encourage the widespread availability of fi-
4 nancial products and programs with attractive rates
5 and terms that significantly reduce or eliminate up-
6 front expenses to allow manufacturing and industrial
7 businesses to invest in energy efficiency measures,
8 onsite clean and renewable energy systems, smart
9 grid systems, and alternative vehicle fleets by pro-
10 viding credit support, credit enhancement, secondary
11 markets, and other support to originators of the fi-
12 nancial products and sponsors of the financing pro-
13 grams; and

14 (2) help building owners to invest in measures
15 and systems that reduce energy costs, in many cases
16 creating a net cost savings that can be realized in
17 the short-term, and may also allow manufacturing
18 and industrial business owners to defer capital ex-
19 penditures, save money to hire new workers, and in-
20 crease the value, comfort, and sustainability of the
21 property of the owners.

22 **SEC. 2062. DEFINITIONS.**

23 In this subtitle:

24 (1) COVERED PROGRAM.—The term “covered
25 program” means a program to finance energy effi-

1 ciency retrofit, onsite clean and renewable energy,
2 smart grid, and alternative vehicle fleet projects for
3 industrial businesses.

4 (2) STATE.—The term “State” means—

5 (A) a State;

6 (B) the District of Columbia;

7 (C) the Commonwealth of Puerto Rico;

8 and

9 (D) any other territory or possession of the

10 United States.

11 **SEC. 2063. FINANCING ENERGY EFFICIENT MANUFAC-**
12 **TURING PROGRAM.**

13 (a) ESTABLISHMENT.—The Secretary shall establish
14 a program, to be known as the “Financing Energy Effi-
15 cient Manufacturing Program”, under which the Secretary
16 shall provide grants to States to establish or expand cov-
17 ered programs.

18 (b) APPLICATIONS.—

19 (1) IN GENERAL.—A State may apply to the
20 Secretary for a grant under subsection (a) to estab-
21 lish or expand covered programs.

22 (2) EVALUATION.—The Secretary shall evaluate
23 applications submitted by States under paragraph

24 (1) on the basis of—

1 (A) the likelihood that the covered pro-
2 gram would—

3 (i) be established or expanded; and

4 (ii) increase the total investment and
5 energy savings of retrofit projects to be
6 supported;

7 (B) in the case of industrial business effi-
8 ciency financing initiatives conducted under
9 subsection (c), evidence of multi-State coopera-
10 tion and coordination with lenders, financiers,
11 and owners; and

12 (C) other factors that would advance the
13 purposes of this subtitle, as determined by the
14 Secretary.

15 (c) MULTI-STATE FACILITATION.—The Secretary
16 shall consult with States and relevant stakeholders with
17 applicable expertise to establish a process to identify fi-
18 nancing opportunities for manufacturing and industrial
19 business with asset portfolios across multiple States.

20 (d) ADMINISTRATION.—A State receiving a grant
21 under subsection (a) shall give a higher priority to covered
22 programs that—

23 (1) leverage private and non-Federal sources of
24 funding; and

1 (2) aim explicitly to expand the use of energy
2 efficiency project financing using private sources of
3 funding.

4 (e) DAVIS-BACON COMPLIANCE.—

5 (1) IN GENERAL.—All laborers and mechanics
6 employed on projects funded directly by or assisted
7 in whole or in part by this subtitle shall be paid
8 wages at rates not less than those prevailing on
9 projects of a character similar in the locality as de-
10 termined by the Secretary of Labor in accordance
11 with subchapter IV of chapter 31 of part A of sub-
12 title II of title 40, United States Code (commonly
13 referred to as the “Davis-Bacon Act”).

14 (2) AUTHORITY.—With respect to the labor
15 standards specified in this subsection, the Secretary
16 of Labor shall have the authority and functions set
17 forth in Reorganization Plan Numbered 14 of 1950
18 (64 Stat. 1267; 5 U.S.C. App.) and section 3145 of
19 title 40, United States Code.

20 (f) REPORTS.—

21 (1) IN GENERAL.—Not later than 2 years after
22 the date of receipt of a grant under this subtitle, a
23 State shall submit to the Secretary, the Committee
24 on Energy and Natural Resources of the Senate,
25 and the Committee on Energy and Commerce of the

1 House of Representatives a report that describes the
2 performance of covered programs carried out using
3 the grant funds.

4 (2) DATA.—

5 (A) IN GENERAL.—A State receiving a
6 grant under this subtitle, in cooperation with
7 the Secretary, shall—

8 (i) collect and share data resulting
9 from covered programs carried out under
10 this subtitle; and

11 (ii) include in the report submitted
12 under paragraph (1) any data collected
13 under clause (i).

14 (B) DEPARTMENT DATABASES.—The Sec-
15 retary shall incorporate data described in sub-
16 paragraph (A) into appropriate databases of the
17 Department, with provisions for the protection
18 of confidential business data.

19 **SEC. 2064. AUTHORIZATION OF APPROPRIATIONS.**

20 (a) IN GENERAL.—There is authorized to be appro-
21 priated to carry out this subtitle \$250,000,000, to remain
22 available until expended.

23 (b) STATE ENERGY OFFICES.—Funds provided to a
24 State under this subtitle shall be provided to the office
25 within the State that is responsible for developing the

1 State energy plan for the State under part D of title III
2 of the Energy Policy and Conservation Act (42 U.S.C.
3 6321 et seq).

4 **Subtitle H—21st Century Energy** 5 **Workforce**

6 **SEC. 2101. FINDINGS.**

7 Congress finds that—

8 (1) the energy sector is the third-largest indus-
9 try in the United States;

10 (2) 1,500,000 new skilled workers will be need-
11 ed in the energy sector over the next 15 years; and

12 (3) a skilled workforce is a critical component
13 of ensuring the growth of the energy sector in the
14 United States.

15 **SEC. 2102. DEFINITIONS.**

16 In this subtitle:

17 (1) BOARD.—The term “Board” means the Na-
18 tional Center of Excellence for the 21st Century
19 Workforce Advisory Board established under section
20 2103(a).

21 (2) COMMUNITY COLLEGE.—The term “commu-
22 nity college” means a junior or community college
23 (as defined in section 312(f) of the Higher Edu-
24 cation Act of 1965 (20 U.S.C. 1058(f))).

1 (3) PROGRAM.—The term “program” means
2 the pilot program established under section 2104(a).

3 (4) VETERANS SERVICE ORGANIZATION.—The
4 term “veterans service organization” means an orga-
5 nization recognized by the Secretary of Veterans Af-
6 fairs for the representation of veterans under section
7 5902 of title 38, United States Code.

8 **SEC. 2103. NATIONAL CENTER OF EXCELLENCE FOR THE**
9 **21st CENTURY WORKFORCE.**

10 (a) IN GENERAL.—The Secretary shall establish a
11 nationwide advisory board, to be known as the “National
12 Center of Excellence for the 21st Century Workforce Advi-
13 sory Board”, to foster strategic vision, guidance, and net-
14 works for the energy industry.

15 (b) REPRESENTATIVES.—The members of the Board
16 shall consist of energy sector stakeholders, including—

17 (1) representatives of relevant industries;

18 (2) experts in labor, economics, and workforce
19 development;

20 (3) representatives of States and units of local
21 government;

22 (4) representatives of elementary and secondary
23 education and postsecondary education; and

24 (5) representatives of labor organizations.

25 (c) PURPOSES.—The purposes of the Board are—

1 (1) to support and develop training and science
2 education programs that—

3 (A) meet the industry and labor needs of
4 the energy and advanced manufacturing sec-
5 tors; and

6 (B) provide opportunities for students to
7 become qualified for placement in traditional
8 and clean energy sector jobs;

9 (2) to align apprenticeship programs and indus-
10 try certifications to further develop succession plan-
11 ning in the energy sector;

12 (3) to integrate educational standards to de-
13 velop foundational skills for elementary and sec-
14 ondary education and postsecondary education to
15 create a pipeline between education and career; and

16 (4) to support the replication of existing model
17 energy curricula, particularly in new and emerging
18 technologies, that lead to industry-wide credentials.

19 **SEC. 2104. ENERGY WORKFORCE PILOT GRANT PROGRAM.**

20 (a) IN GENERAL.—Not later than 1 year after the
21 date of enactment of this Act, the Secretary, in consulta-
22 tion with the Secretary of Labor and the Secretary of
23 Education, shall establish a pilot program to award grants
24 on a competitive basis to eligible entities for job training
25 programs that lead to an industry-recognized credential.

1 (b) ELIGIBILITY.—To be eligible to receive a grant
2 under this section, an entity shall be a public or nonprofit
3 organization, or a consortium of such organizations,
4 that—

5 (1) includes an advisory board of proportional
6 participation, as determined by the Secretary, of rel-
7 evant organizations, including—

8 (A) relevant energy industry organizations,
9 including public and private employers;

10 (B) labor organizations; and

11 (C) elementary and secondary education
12 and postsecondary education organizations;

13 (2) demonstrates experience in implementing
14 and operating job training and education programs;

15 (3) demonstrates the ability to recruit and sup-
16 port individuals who plan to work in the energy in-
17 dustry in the successful completion of relevant job
18 training and education programs; and

19 (4) provides students who complete the job
20 training and education program with an industry-
21 recognized credential.

22 (c) APPLICATIONS.—Eligible entities desiring a grant
23 under this section shall submit to the Secretary an appli-
24 cation at such time, in such manner, and containing such
25 information as the Secretary may require.

1 (d) PRIORITY.—In selecting eligible entities to receive
2 grants under this section, the Secretary shall prioritize ap-
3 plicants that—

4 (1) house the job training and education pro-
5 grams in—

6 (A) a community college or institution of
7 higher education that includes basic science and
8 math education in the curriculum of the com-
9 munity college, institution of higher education;
10 or

11 (B) an apprenticeship program registered
12 with the Department of Labor;

13 (2) work with the Secretary of Defense or vet-
14 erans service organizations to transition members of
15 the Armed Forces and veterans to careers in the en-
16 ergy sector;

17 (3) apply as a State or regional consortia to le-
18 verage best practices already available in the State
19 or region in which the community college or institu-
20 tion of higher education is located;

21 (4) have a State-supported entity included in
22 the application;

23 (5) include an apprenticeship program reg-
24 istered with the Department of Labor as part of the
25 job training and education program;

1 (6) develop a mentorship program for energy
2 professionals and elementary and secondary edu-
3 cation students;

4 (7) provide support services and career coach-
5 ing;

6 (8) provide introductory energy workforce devel-
7 opment and advanced manufacturing training; or

8 (9) work with an Indian tribe (as defined in
9 section 4 of the Indian Self-Determination and Edu-
10 cation Assistance Act (25 U.S.C. 450b)).

11 (e) ADDITIONAL CONSIDERATION.—In making
12 grants under this section, the Secretary shall consider re-
13 gional diversity.

14 (f) LIMITATION ON APPLICATIONS.—An eligible enti-
15 ty may not submit, either individually or as part of a joint
16 application, more than 1 application for a grant under this
17 section during any 1 fiscal year.

18 (g) LIMITATIONS ON AMOUNT OF GRANT.—The
19 amount of a grant for any 1 year shall not exceed
20 \$1,000,000.

21 (h) COST SHARING.—

22 (1) FEDERAL SHARE.—The Federal share of
23 the cost of a job training and education program
24 carried out using a grant under this section shall be
25 not greater than 65 percent.

1 (2) NON-FEDERAL SHARE.—

2 (A) IN GENERAL.—The non-Federal share
3 of the cost of a job training and education pro-
4 gram carried out using a grant under this sec-
5 tion shall consist of not less than 50 percent
6 cash.

7 (B) LIMITATION.—Not greater than 50
8 percent of the non-Federal contribution of the
9 total cost of a job training and education pro-
10 gram carried out using a grant under this sec-
11 tion shall be in the form of in-kind contribu-
12 tions of goods or services fairly valued.

13 (i) REDUCTION OF DUPLICATION.—Prior to submit-
14 ting an application for a grant under this section, each
15 applicant shall consult with the applicable agencies of the
16 Federal Government and coordinate the proposed activi-
17 ties of the applicant with existing State and local pro-
18 grams.

19 (j) TECHNICAL ASSISTANCE.—The Secretary shall
20 provide technical assistance and capacity building to na-
21 tional and State energy partnerships, including the enti-
22 ties described in subsection (b)(1), to leverage the existing
23 job training and education programs of the Department.

24 (k) REPORT.—The Secretary shall submit to Con-
25 gress and make publicly available on the website of the

1 Department an annual report on the program established
 2 under this section, including a description of—

3 (1) the entities receiving grants;

4 (2) the activities carried out using the grants;

5 (3) best practices used to leverage the invest-
 6 ment of the Federal Government;

7 (4) the rate of employment for participants
 8 after completing a job training and education pro-
 9 gram carried out using a grant; and

10 (5) an assessment of the results achieved by the
 11 program.

12 (l) AUTHORIZATION OF APPROPRIATIONS.—There is
 13 authorized to be appropriated to carry out this section
 14 \$20,000,000 for each of fiscal years 2016 through 2019.

15 **Subtitle I—Solar Installations**

16 **SEC. 2111. LOAN AND GRANT PROGRAM FOR SOLAR IN-** 17 **STALLATIONS IN LOW-INCOME AND UNDER-** 18 **SERVED AREAS.**

19 (a) DEFINITIONS.—In this section:

20 (1) ADMINISTRATIVE EXPENSES.—The term
 21 “administrative expenses” has such meaning as may
 22 be established by the Secretary.

23 (2) COMMUNITY SOLAR FACILITY.—The term
 24 “community solar facility” means a community-

1 based distributed photovoltaic solar electricity gener-
2 ating facility that, as determined by the Secretary—

3 (A) is owned by a subscriber organization;

4 (B) has a nameplate rating of 2 megawatts
5 or less;

6 (C) is located in or near a community of
7 subscribers to whom the beneficial use of the
8 electricity generated by the facility belongs; and

9 (D) reserves not less than 25 percent of
10 the quantity of electricity generated by the fa-
11 cility for low-income households that are sub-
12 scribers to the facility.

13 (3) GRANT-ELIGIBLE HOUSEHOLD.—The term
14 “grant-eligible household” means a household the
15 members of which—

16 (A) earn an income equal to 80 percent or
17 less of the applicable area median income, as
18 defined for the applicable year by the Secretary
19 of Housing and Urban Development; and

20 (B) reside in an owner-occupied home.

21 (4) INDIAN TRIBE.—The term “Indian tribe”
22 means any Indian tribe, band, nation, or other orga-
23 nized group or community, including any Alaskan
24 Native village or regional or village corporation (as
25 defined in, or established pursuant to, the Alaska

1 Native Claims Settlement Act (43 U.S.C. 1601 et
2 seq.)), that is recognized as eligible for the special
3 programs and services provided by the United States
4 to Indians because of their status as Indians.

5 (5) LOAN-ELIGIBLE ENTITY.—The term “loan-
6 eligible entity” means—

7 (A) a nonprofit entity;

8 (B) a unit of State, territorial, or local
9 government;

10 (C) an Indian tribe;

11 (D) a rural community (as defined in sec-
12 tion 343(a) of the Consolidated Farm and
13 Rural Development Act (7 U.S.C. 1991(a));
14 and

15 (E) any other national or regional entity
16 that—

17 (i) deploys a safe, high-quality photo-
18 voltaic solar electricity generating facility
19 for consumers under a model that maxi-
20 mizes energy savings to those consumers;
21 and

22 (ii) has experience, as determined by
23 the Secretary, installing solar systems
24 using a job training or community volun-
25 teer-based installation model.

1 (6) LOW-INCOME HOUSEHOLD.—The term
2 “low-income household” means a household with an
3 income equal to 80 percent or less of the applicable
4 area median income, as defined for the applicable
5 year by the Secretary of Housing and Urban Devel-
6 opment.

7 (7) MULTI-FAMILY AFFORDABLE HOUSING.—
8 The term “multi-family affordable housing” means
9 any federally subsidized affordable housing complex
10 in which at least 50 percent of the units are reserved
11 for low-income households.

12 (8) PHOTOVOLTAIC SOLAR ELECTRICITY GEN-
13 ERATING FACILITY.—The term “photovoltaic solar
14 electricity generating facility” means—

15 (A) a generator that creates electricity
16 from light photons; and

17 (B) the accompanying hardware enabling
18 that electricity to flow—

19 (i) onto the electric grid; or

20 (ii) into an energy storage device.

21 (9) SUBSCRIBER.—The term “subscriber”
22 means an electricity consumer who—

23 (A) owns a subscription, or an equivalent
24 unit or share of the capacity or generation, of
25 a community solar facility;

1 (B) has identified 1 or more physical loca-
2 tions—

3 (i) to which the subscription will be
4 attributed;

5 (ii) within the same electric utility
6 service territory, or within the same geo-
7 graphical area, as the community solar fa-
8 cility, in accordance with applicable State
9 and local law; and

10 (iii) that may change from time to
11 time, subject to the condition that the
12 physical location shall be within the geo-
13 graphical limits allowed for a subscriber of
14 the applicable community solar facility;
15 and

16 (C) confirms the status of the consumer as
17 a grant-eligible household for each applicable
18 fiscal year.

19 (10) SUBSCRIPTION.—The term “subscription”
20 means a share in the capacity, or a proportional in-
21 terest in the solar electricity generation, of a com-
22 munity solar facility.

23 (11) UNDERSERVED AREA.—The term “under-
24 served area” means a geographical area with low or

1 no photovoltaic solar deployment, as determined by
2 the Secretary.

3 (b) ESTABLISHMENT OF LOAN AND GRANT PRO-
4 GRAM.—

5 (1) IN GENERAL.—The Secretary shall establish
6 a program under which the Secretary shall provide
7 loans and grants to grant-eligible households and
8 loan-eligible entities for use in accordance with this
9 section.

10 (2) FUNDING.—

11 (A) IN GENERAL.—Subject to the avail-
12 ability of appropriations, the Secretary shall
13 make grants and issue loans in accordance with
14 this subsection.

15 (B) LOANS.—Subject to subparagraph
16 (D), not more than 50 percent of funds made
17 available under subparagraph (A) for a fiscal
18 year shall be used to provide loans to loan-eli-
19 gible entities for—

20 (i) community solar facilities; or

21 (ii) multi-family affordable housing
22 solar installations.

23 (C) GRANTS.—After allocating amounts to
24 carry out subparagraph (B), the Secretary shall
25 use the remaining funds made available under

1 subparagraph (A) for a fiscal year to provide
2 grants to grant-eligible households—

3 (i) to pay the upfront costs of photo-
4 voltaic solar electricity generating facilities;

5 or

6 (ii) for any other eligible use described
7 in subsection (e).

8 (D) INCREASE IN GRANT AMOUNT.—Not-
9 withstanding subparagraph (A), if the Secretary
10 determines that more than 50 percent of the
11 amounts described in that subparagraph are
12 necessary during any of fiscal years 2016
13 through 2030 to provide grants to encourage
14 innovative financing and installation models to
15 reach underserved markets, the Secretary may
16 use more than 50 percent of those amounts to
17 provide those grants.

18 (3) GOALS AND ACCOUNTABILITY.—

19 (A) IN GENERAL.—In providing loans and
20 grants under this subsection, the Secretary
21 shall take such actions as may be necessary to
22 ensure that—

23 (i) the assistance provided under this
24 subsection is used to facilitate and encour-
25 age innovative solar installation and fi-

1 financing models, under which the recipients
2 develop and install photovoltaic solar elec-
3 tricity generating facilities that provide sig-
4 nificant savings to low-income households
5 while providing job training or community
6 engagement opportunities with respect to
7 each solar system installed;

8 (ii) loan and grant recipients shall—

9 (I) have installed not less than
10 600 kilowatts of photovoltaic solar en-
11 ergy during the 2-year period pre-
12 ceding the date on which the loan or
13 grant is provided to ensure consumer
14 protection; or

15 (II) until the goal described in
16 subclause (I) is achieved, enter into
17 partnership with an entity that—

18 (aa) has not less than 2
19 years of experience deploying
20 solar photovoltaic systems for
21 low-income households in a man-
22 ner that maximizes the savings
23 benefits of solar access; and

24 (bb) was primarily respon-
25 sible for the installation of at

1 least 2 megawatts of solar energy
2 during the 2-year period pre-
3 ceeding the date on which the loan
4 or grant is provided;

5 (iii) the photovoltaic solar electricity
6 generating facilities installed using assist-
7 ance provided under this subsection are
8 safe, high-quality systems that comply with
9 local building and safety codes and stand-
10 ards;

11 (iv) the provision of assistance under
12 this subsection establishes and fosters a
13 partnership between the Federal Govern-
14 ment and grant-eligible households and
15 loan-eligible entities, resulting in efficient
16 development of solar installations with—

17 (I) minimal governmental inter-
18 vention;

19 (II) limited governmental regula-
20 tion; and

21 (III) significant involvement by
22 nonprofit and private entities;

23 (v) solar projects installed using as-
24 sistance provided under this subsection—

25 (I) shall include job training; and

- 1 (II) may include community par-
2 ticipation in which job trainees and
3 volunteers assist in the development of
4 solar projects;
- 5 (vi) assistance provided under this
6 subsection prioritizes development in—
- 7 (I) areas with low photovoltaic
8 penetration;
- 9 (II) rural areas;
- 10 (III) Indian tribal areas; and
- 11 (IV) other underserved areas, in-
12 cluding Alaskan Native and Appa-
13 lachian communities;
- 14 (vii) solar systems are developed using
15 assistance provided under this subsection
16 on a geographically diverse basis among
17 the grant-eligible households and loan-eli-
18 gible entities; and
- 19 (viii) to the maximum extent prac-
20 ticable, solar installation activities for
21 which assistance is provided under this
22 section leverage, or connect grant-eligible
23 households to, federally or locally sub-
24 sidized weatherization and energy effi-

1 ciency efforts that meet or exceed local en-
2 ergy efficiency standards.

3 (B) DETERMINATION.—If, at any time, the
4 Secretary determines that the goals described in
5 this paragraph cannot be met by providing as-
6 sistance in accordance with this subsection, the
7 Secretary shall immediately submit to the ap-
8 propriate committees of Congress a written no-
9 tice of that determination, including any pro-
10 posed changes necessary to achieve the goals
11 under this paragraph.

12 (4) COMMUNITY SOLAR FACILITIES.—

13 (A) IN GENERAL.—A community solar fa-
14 cility may use a loan provided under this sub-
15 section only to offset the costs of generation
16 and provision of solar energy to low-income
17 households that are subscribers of the commu-
18 nity solar facility.

19 (B) TRANSFER AND ASSIGNMENT OF SUB-
20 SCRIPTIONS.—A subscription to a community
21 solar facility that receives assistance under this
22 subsection may be transferred or assigned by
23 the subscriber to—

24 (i) any subscriber organization; or

1 (ii) any individual or entity who quali-
2 fies to be a subscriber to that community
3 solar facility.

4 (C) TREATMENT.—

5 (i) IN GENERAL.—No owner, oper-
6 ator, or subscriber of a community solar
7 facility that receives assistance under this
8 subsection shall be subject to regulation by
9 the Federal Energy Regulatory Commis-
10 sion solely as a result of an interest in the
11 community solar facility.

12 (ii) PRICE OF SUBSCRIPTION.—The
13 price paid for any subscription to a com-
14 munity solar facility shall not be subject to
15 the regulation of any Federal department,
16 agency, or commission.

17 (c) NATIONAL COMPETITION.—

18 (1) IN GENERAL.—The Secretary shall select
19 grant-eligible households and loan-eligible entities to
20 receive loans or grants under this section through a
21 nationwide competitive process, to be established by
22 the Secretary.

23 (2) APPLICATIONS.—To be eligible to receive a
24 loan or grant under this section, a grant-eligible
25 household or loan-eligible entity shall submit to the

1 Secretary an application at such time, in such man-
2 ner, and containing such information as the Sec-
3 retary may require.

4 (3) REQUIREMENTS.—In selecting grant-eligible
5 households and loan-eligible entities to receive loans
6 or grants under this section, the Secretary shall, at
7 a minimum—

8 (A) require that the grant-eligible house-
9 hold or loan-eligible entity—

10 (i) enter into a grant or loan agree-
11 ment, as applicable, under subsection (d);
12 and

13 (ii) has obtained financial commit-
14 ments (or has demonstrated the capacity
15 to obtain financial commitments) necessary
16 to comply with that agreement;

17 (B) ensure that loans and grants are pro-
18 vided, and amounts are used, in a manner that
19 results in geographical diversity throughout the
20 United States and within States, territories,
21 and Indian tribal land among photovoltaic solar
22 electricity generating facilities installed using
23 the assistance provided under this section;

24 (C) to the maximum extent practicable, ex-
25 pand photovoltaic solar energy availability to—

- 1 (i) geographical areas, throughout the
2 United States and within States, terri-
3 tories, and Indian tribal land, with—
- 4 (I) low photovoltaic solar pene-
5 tration; or
- 6 (II) areas with a higher cost bur-
7 den with respect to the deployment or
8 installation of photovoltaic solar elec-
9 tricity generating facilities;
- 10 (ii) rural communities;
- 11 (iii) Indian tribes; and
- 12 (iv) other underserved areas, including
13 Appalachian and Alaska Native commu-
14 nities;
- 15 (D) take into account the warranty period
16 and quality of the applicable photovoltaic solar
17 electricity generating facility equipment and any
18 necessary interconnecting equipment; and
- 19 (E) ensure all calculations for estimated
20 household energy savings are based solely on
21 electricity offsets from the photovoltaic solar
22 electricity generating facilities.
- 23 (d) LOAN AND GRANT AGREEMENTS.—
- 24 (1) IN GENERAL.—As a condition of receiving a
25 loan or grant under this section, a grant-eligible

1 household or loan-eligible entity shall enter into a
2 loan or grant agreement, as applicable, with the Sec-
3 retary.

4 (2) REQUIREMENTS.—A loan or grant agree-
5 ment under this subsection shall—

6 (A) require the grant-eligible household or
7 loan-eligible entity—

8 (i) to use the assistance provided
9 under this section only in accordance with
10 this section;

11 (ii) to install such number of solar
12 systems with such defined capacity target
13 (expressed in megawatts) as may be estab-
14 lished by the Secretary , taking into con-
15 sideration the costs associated with car-
16 rying out loan or grant obligations in the
17 areas in which the solar systems will be de-
18 veloped;

19 (iii) to use the assistance in a manner
20 that leverages other sources of funding
21 (other than loans or grants under this sec-
22 tion), including private or public funds, in
23 developing the solar projects; and

24 (iv) to establish loan terms, if applica-
25 ble, that maximize the benefit to the low-

1 income households receiving solar energy
2 from the loan-eligible entity;

3 (B) require the Secretary to rescind any
4 amounts provided to the grant-eligible house-
5 hold or loan-eligible entity that are not used
6 during the 2-year period beginning on the date
7 on which the amounts are initially distributed
8 to the grant-eligible household or loan-eligible
9 entity, except in any case in which the grant-
10 eligible household or loan-eligible entity has
11 demonstrated to the satisfaction of the Sec-
12 retary that a longer period, not to exceed 3
13 years after the date of initial distribution, is
14 necessary to deliver proposed services;

15 (C) for a loan provided under this section,
16 establish—

17 (i) an interest rate equal to the then-
18 current cost of funds to the Department of
19 the Treasury for obligations of comparable
20 maturity to the loan; and

21 (ii) a payout time that maximizes the
22 savings to customers during the effective
23 period of the agreement; and

1 (D) contain such other terms as the Sec-
2 retary may require to ensure compliance with
3 the requirements of this section.

4 (e) USE.—A grant-eligible household or loan-eligible
5 entity shall use a loan or grant provided under this section
6 only for the following activities, for the purpose of devel-
7 oping new photovoltaic solar projects in the United States
8 for low-income households and individuals who otherwise
9 would likely be unable to afford or purchase photovoltaic
10 solar systems:

11 (1) PHOTOVOLTAIC SOLAR EQUIPMENT AND IN-
12 STALLATION.—To pay the costs of—

13 (A) solar equipment, including only photo-
14 voltaic solar equipment and storage and all
15 hardware or software components relating to
16 safely producing, monitoring, and connecting
17 the system to the electric grid or onsite storage;
18 and

19 (B) installation, including all direct labor
20 associated with installing the photovoltaic solar
21 equipment.

22 (2) JOB TRAINING.—To fund onsite job train-
23 ing and community or volunteer engagement, includ-
24 ing—

1 (A) only job training costs directly associ-
2 ated with the solar projects funded under this
3 section; and

4 (B) job training opportunities that may
5 cover the full range of the solar value chain,
6 such as marketing and outreach, customer ac-
7 quisition, system design, and installation posi-
8 tions.

9 (3) DEPLOYMENT SUPPORT.—To fund entities
10 that have a demonstrated ability, as determined by
11 the Secretary—

12 (A) to advise State and local entities re-
13 garding low-income solar policy, regulatory, and
14 program design to continue and expand the
15 work of the entities;

16 (B) to foster community outreach and edu-
17 cation regarding the benefits of photovoltaic
18 solar energy for low-income and disadvantaged
19 communities; or

20 (C) to provide apprenticeship program op-
21 portunities registered and approved by—

22 (i) the Office of Apprenticeship of the
23 Department of Labor pursuant to part 29
24 of title 29, Code of Federal Regulations (or
25 successor regulations); or

1 (ii) a State Apprenticeship Agency
2 recognized by that Office.

3 (4) ADMINISTRATION.—To pay the administra-
4 tive expenses of the grant-eligible household or loan-
5 eligible entity, including preproject feasibility efforts,
6 in carrying out the duties of the Secretary associ-
7 ated with delivering proposed services, subject to the
8 requirement that not more than 15 percent of the
9 total amount of the assistance provided to the grant-
10 eligible household or loan-eligible entity under this
11 section may be used for administrative expenses.

12 (f) COMPLIANCE.—

13 (1) RECORDS AND AUDITS.—During the period
14 beginning on the date of initial distribution to a
15 grant-eligible household or loan-eligible entity of a
16 loan or grant under this section and ending on the
17 termination date of the loan or grant under sub-
18 section (g), the grant-eligible household or loan-eli-
19 gible entity shall maintain such records and adopt
20 such administrative practices as the Secretary may
21 require to ensure compliance with the requirements
22 of this section and the applicable loan or grant
23 agreement.

24 (2) DETERMINATION BY SECRETARY.—If the
25 Secretary determines that a grant-eligible household

1 or loan-eligible entity that receives a grant or loan
2 under this section has not, during the 2-year period
3 beginning on the date of initial distribution to the
4 grant-eligible household or loan-eligible entity of the
5 assistance (or such longer period as is established
6 under subsection (d)(2)(B)), substantially fulfilled
7 the obligations of the grant-eligible household or
8 loan-eligible entity under the applicable loan or
9 grant agreement, the Secretary shall—

10 (A) rescind the balance of any funds dis-
11 tributed to, but not used by, the grant-eligible
12 household or loan-eligible entity under this sec-
13 tion; and

14 (B) use those amounts to provide other
15 loans or grants in accordance with this section.

16 (g) TERMINATION.—The Secretary shall terminate a
17 loan or grant provided under this section on a determina-
18 tion that the total amount of the loan or grant (excluding
19 any interest, fees, and other earnings of the loan or grant)
20 has been—

21 (1) fully expended by the grant-eligible house-
22 hold or loan-eligible entity; or

23 (2) returned to the Secretary.

24 (h) REGULATIONS.—Not later than 90 days after the
25 date of enactment of this Act, the Secretary shall promul-

1 gate such regulations as the Secretary determines to be
2 necessary to carry out this section, to take effect on the
3 date of promulgation.

4 (i) FUNDING.—There is authorized to be appro-
5 priated to the Secretary to carry out this section
6 \$200,000,000 for each of fiscal years 2016 through 2030,
7 to remain available until expended.

8 **Subtitle J—Local Energy Supply** 9 **and Resiliency Act**

10 **SEC. 2121. DEFINITIONS.**

11 In this subtitle:

12 (1) COMBINED HEAT AND POWER SYSTEM.—

13 The term “combined heat and power system” means
14 generation of electric energy and heat in a single, in-
15 tegrated system that meets the efficiency criteria in
16 clauses (ii) and (iii) of section 48(c)(3)(A) of the In-
17 ternal Revenue Code of 1986, under which heat that
18 is conventionally rejected is recovered and used to
19 meet thermal energy requirements.

20 (2) DEMAND RESPONSE.—The term “demand
21 response” means changes in electric usage by elec-
22 tric utility customers from the normal consumption
23 patterns of the customers in response to—

24 (A) changes in the price of electricity over
25 time; or

1 (B) incentive payments designed to induce
2 lower electricity use at times of high wholesale
3 market prices or when system reliability is jeop-
4 ardized.

5 (3) DISTRIBUTED ENERGY.—The term “distrib-
6 uted energy” means energy sources and systems
7 that—

8 (A) produce electric or thermal energy
9 close to the point of use using renewable energy
10 resources or waste thermal energy;

11 (B) generate electricity using a combined
12 heat and power system;

13 (C) distribute electricity in microgrids;

14 (D) store electric or thermal energy; or

15 (E) distribute thermal energy or transfer
16 thermal energy to building heating and cooling
17 systems through a district energy system.

18 (4) DISTRICT ENERGY SYSTEM.—The term
19 “district energy system” means a system that pro-
20 vides thermal energy to buildings and other energy
21 consumers from 1 or more plants to individual build-
22 ings to provide space heating, air conditioning, do-
23 mestic hot water, industrial process energy, and
24 other end uses.

1 (5) ISLANDING.—The term “islanding” means
2 a distributed generator or energy storage device con-
3 tinuing to power a location in the absence of electric
4 power from the primary source.

5 (6) LOAN.—The term “loan” has the meaning
6 given the term “direct loan” in section 502 of the
7 Federal Credit Reform Act of 1990 (2 U.S.C. 661a).

8 (7) MICROGRID.—The term “microgrid” means
9 an integrated energy system consisting of inter-
10 connected loads and distributed energy resources, in-
11 cluding generators and energy storage devices, with-
12 in clearly defined electrical boundaries that—

13 (A) acts as a single controllable entity with
14 respect to the grid; and

15 (B) can connect and disconnect from the
16 grid to operate in both grid-connected mode
17 and island mode.

18 (8) RENEWABLE ENERGY SOURCE.—The term
19 “renewable energy source” includes—

20 (A) biomass;

21 (B) geothermal energy;

22 (C) hydropower;

23 (D) landfill gas;

24 (E) municipal solid waste;

- 1 (F) ocean (including tidal, wave, current,
2 and thermal) energy;
3 (G) organic waste;
4 (H) photosynthetic processes;
5 (I) photovoltaic energy;
6 (J) solar energy; and
7 (K) wind.

8 (9) RENEWABLE THERMAL ENERGY.—The term
9 “renewable thermal energy” means heating or cool-
10 ing energy derived from a renewable energy re-
11 source.

12 (10) THERMAL ENERGY.—The term “thermal
13 energy” means—

14 (A) heating energy in the form of hot
15 water or steam that is used to provide space
16 heating, domestic hot water, or process heat; or

17 (B) cooling energy in the form of chilled
18 water, ice, or other media that is used to pro-
19 vide air conditioning, or process cooling.

20 (11) WASTE THERMAL ENERGY.—The term
21 “waste thermal energy” means energy that—

22 (A) is contained in—

23 (i) exhaust gases, exhaust steam, con-
24 denser water, jacket cooling heat, or lubri-
25 cating oil in power generation systems;

1 (ii) exhaust heat, hot liquids, or flared
2 gas from any industrial process;

3 (iii) waste gas or industrial tail gas
4 that would otherwise be flared, incinerated,
5 or vented;

6 (iv) a pressure drop in any gas, ex-
7 cluding any pressure drop to a condenser
8 that subsequently vents the resulting heat;

9 (v) condenser water from chilled water
10 or refrigeration plants; or

11 (vi) any other form of waste energy,
12 as determined by the Secretary; and

13 (B)(i) in the case of an existing facility, is
14 not being used; or

15 (ii) in the case of a new facility, is not con-
16 ventionally used in comparable systems.

17 **SEC. 2122. DISTRIBUTED ENERGY LOAN PROGRAM.**

18 (a) LOAN PROGRAM.—

19 (1) IN GENERAL.—Subject to the provisions of
20 this subsection and subsections (b) and (c), the Sec-
21 retary shall establish a program to provide to eligible
22 entities—

23 (A) loans for the deployment of distributed
24 energy systems in a specific project; and

1 (B) loans to provide funding for programs
2 to finance the deployment of multiple distrib-
3 uted energy systems through a revolving loan
4 fund, credit enhancement program, or other fi-
5 nancial assistance program.

6 (2) ELIGIBILITY.—Entities eligible to receive a
7 loan under paragraph (1) include—

8 (A) a State, territory, or possession of the
9 United States;

10 (B) a State energy office;

11 (C) a tribal organization (as defined in sec-
12 tion 4 of the Indian Self-Determination and
13 Education Assistance Act (25 U.S.C. 450b));

14 (D) an institution of higher education (as
15 defined in section 101 of the Higher Education
16 Act of 1965 (20 U.S.C. 1001)); and

17 (E) an electric utility, including—

18 (i) a rural electric cooperative;

19 (ii) a municipally owned electric util-
20 ity; and

21 (iii) an investor-owned utility.

22 (3) SELECTION REQUIREMENTS.—In selecting
23 eligible entities to receive loans under this section,
24 the Secretary shall, to the maximum extent prac-
25 ticable, ensure—

1 (A) regional diversity among eligible enti-
2 ties to receive loans under this section, includ-
3 ing participation by rural States and small
4 States; and

5 (B) that specific projects selected for
6 loans—

7 (i) expand on the existing technology
8 deployment program of the Department of
9 Energy; and

10 (ii) are designed to achieve 1 or more
11 of the objectives described in paragraph
12 (4).

13 (4) OBJECTIVES.—Each deployment selected
14 for a loan under paragraph (1) shall include 1 or
15 more of the following objectives:

16 (A) Improved security and resiliency of en-
17 ergy supply in the event of disruptions caused
18 by extreme weather events, grid equipment or
19 software failure, or terrorist acts.

20 (B) Implementation of distributed energy
21 in order to increase use of local renewable en-
22 ergy resources and waste thermal energy
23 sources.

24 (C) Enhanced feasibility of microgrids, de-
25 mand response, or islanding;

1 (D) Enhanced management of peak loads
2 for consumers and the grid.

3 (E) Enhanced reliability in rural areas, in-
4 cluding high energy cost rural areas.

5 (5) RESTRICTION ON USE OF FUNDS.—Any eli-
6 gible entity that receives a loan under paragraph (1)
7 may only use the loan to fund programs relating to
8 the deployment of distributed energy systems.

9 (b) LOAN TERMS AND CONDITIONS.—

10 (1) TERMS AND CONDITIONS.—Notwithstanding
11 any other provision of law, in providing a loan under
12 this section, the Secretary shall provide the loan on
13 such terms and conditions as the Secretary deter-
14 mines, after consultation with the Secretary of the
15 Treasury, in accordance with this section.

16 (2) SPECIFIC APPROPRIATION.—No loan shall
17 be made unless an appropriation for the full amount
18 of the loan has been specifically provided for that
19 purpose.

20 (3) REPAYMENT.—No loan shall be made un-
21 less the Secretary determines that there is reason-
22 able prospect of repayment of the principal and in-
23 terest by the borrower of the loan.

24 (4) INTEREST RATE.—A loan provided under
25 this section shall bear interest at a fixed rate that

1 is equal or approximately equal, in the determination
2 of the Secretary, to the interest rate for Treasury
3 securities of comparable maturity.

4 (5) TERM.—The term of the loan shall require
5 full repayment over a period not to exceed the lesser
6 of—

7 (A) 20 years; or

8 (B) 90 percent of the projected useful life
9 of the physical asset to be financed by the loan
10 (as determined by the Secretary).

11 (6) USE OF PAYMENTS.—Payments of principal
12 and interest on the loan shall—

13 (A) be retained by the Secretary to support
14 energy research and development activities; and

15 (B) remain available until expended, sub-
16 ject to such conditions as are contained in an-
17 nual appropriations Acts.

18 (7) NO PENALTY ON EARLY REPAYMENT.—The
19 Secretary may not assess any penalty for early re-
20 payment of a loan provided under this section.

21 (8) RETURN OF UNUSED PORTION.—In order to
22 receive a loan under this section, an eligible entity
23 shall agree to return to the general fund of the
24 Treasury any portion of the loan amount that is un-
25 used by the eligible entity within a reasonable period

1 of time after the date of the disbursement of the
2 loan, as determined by the Secretary.

3 (9) COMPARABLE WAGE RATES.—Each laborer
4 and mechanic employed by a contractor or subcon-
5 tractor in performance of construction work fi-
6 nanced, in whole or in part, by the loan shall be paid
7 wages at rates not less than the rates prevailing on
8 similar construction in the locality as determined by
9 the Secretary of Labor in accordance with sub-
10 chapter IV of chapter 31 of title 40, United States
11 Code.

12 (c) RULES AND PROCEDURES; DISBURSEMENT OF
13 LOANS.—

14 (1) RULES AND PROCEDURES.—Not later than
15 180 days after the date of enactment of this Act, the
16 Secretary shall adopt rules and procedures for car-
17 rying out the loan program under subsection (a).

18 (2) DISBURSEMENT OF LOANS.—Not later than
19 1 year after the date on which the rules and proce-
20 dures under paragraph (1) are established, the Sec-
21 retary shall disburse the initial loans provided under
22 this section.

23 (d) REPORTS.—Not later than 2 years after the date
24 of receipt of the loan, and annually thereafter for the term
25 of the loan, an eligible entity that receives a loan under

1 this section shall submit to the Secretary a report describ-
2 ing the performance of each program and activity carried
3 out using the loan, including itemized loan performance
4 data.

5 (e) AUTHORIZATION OF APPROPRIATIONS.—There
6 are authorized to be appropriated to carry out this section
7 such sums as are necessary.

8 **SEC. 2123. TECHNICAL ASSISTANCE AND GRANT PROGRAM.**

9 (a) ESTABLISHMENT.—

10 (1) IN GENERAL.—The Secretary shall establish
11 a technical assistance and grant program (referred
12 to in this section as the “program”)—

13 (A) to disseminate information and provide
14 technical assistance directly to eligible entities
15 so the eligible entities can identify, evaluate,
16 plan, and design distributed energy systems;
17 and

18 (B) to make grants to eligible entities so
19 that the eligible entities may contract to obtain
20 technical assistance to identify, evaluate, plan,
21 and design distributed energy systems.

22 (2) TECHNICAL ASSISTANCE.—The technical
23 assistance described in paragraph (1) shall include
24 assistance with 1 or more of the following activities
25 relating to distributed energy systems:

1 (A) Identification of opportunities to use
2 distributed energy systems.

3 (B) Assessment of technical and economic
4 characteristics.

5 (C) Utility interconnection.

6 (D) Permitting and siting issues.

7 (E) Business planning and financial anal-
8 ysis.

9 (F) Engineering design.

10 (3) INFORMATION DISSEMINATION.—The infor-
11 mation disseminated under paragraph (1)(A) shall
12 include—

13 (A) information relating to the topics de-
14 scribed in paragraph (2), including case studies
15 of successful examples;

16 (B) computer software and databases for
17 assessment, design, and operation and mainte-
18 nance of distributed energy systems; and

19 (C) public databases that track the oper-
20 ation and deployment of existing and planned
21 distributed energy systems.

22 (b) ELIGIBILITY.—Any nonprofit or for-profit entity
23 shall be eligible to receive technical assistance and grants
24 under the program.

25 (c) APPLICATIONS.—

1 (1) IN GENERAL.—An eligible entity desiring
2 technical assistance or grants under the program
3 shall submit to the Secretary an application at such
4 time, in such manner, and containing such informa-
5 tion as the Secretary may require.

6 (2) APPLICATION PROCESS.—The Secretary
7 shall seek applications for technical assistance and
8 grants under the program—

9 (A) on a competitive basis; and

10 (B) on a periodic basis, but not less fre-
11 quently than once every 12 months.

12 (3) PRIORITIES.—In selecting eligible entities
13 for technical assistance and grants under the pro-
14 gram, the Secretary shall give priority to eligible en-
15 tities with projects that have the greatest potential
16 for—

17 (A) facilitating the use of renewable energy
18 resources;

19 (B) strengthening the reliability and resil-
20 iency of energy infrastructure to the impact of
21 extreme weather events, power grid failures,
22 and interruptions in supply of fossil fuels;

23 (C) improving the feasibility of microgrids
24 or islanding, particularly in rural areas, includ-
25 ing high energy cost rural areas;

1 (D) minimizing environmental impact, in-
2 cluding regulated air pollutants and greenhouse
3 gas emissions; and

4 (E) maximizing local job creation.

5 (d) GRANTS.—On application by an eligible entity,
6 the Secretary may award grants to the eligible entity to
7 provide funds to cover not more than—

8 (1) 100 percent of the costs of the initial as-
9 sessment to identify opportunities;

10 (2) 75 percent of the cost of feasibility studies
11 to assess the potential for the implementation;

12 (3) 60 percent of the cost of guidance on over-
13 coming barriers to implementation, including finan-
14 cial, contracting, siting, and permitting issues; and

15 (4) 45 percent of the cost of detailed engineer-
16 ing.

17 (e) RULES AND PROCEDURES.—

18 (1) RULES.—Not later than 180 days after the
19 date of enactment of this Act, the Secretary shall
20 adopt rules and procedures for carrying out the pro-
21 gram.

22 (2) GRANTS.—Not later than 120 days after
23 the date of issuance of the rules and procedures for
24 the program, the Secretary shall issue grants under
25 this subtitle.

1 (f) REPORTS.—The Secretary shall submit to Con-
2 gress and make available to the public—

3 (1) not less frequently than once every 2 years,
4 a report describing the performance of the program
5 under this section, including a synthesis and analysis
6 of the information provided in the reports submitted
7 to the Secretary under section 2122(d); and

8 (2) on termination of the program under this
9 section, an assessment of the success of, and edu-
10 cation provided by, the measures carried out by eli-
11 gible entities during the term of the program.

12 (g) AUTHORIZATION OF APPROPRIATIONS.—There is
13 authorized to be appropriated to carry out this section
14 \$250,000,000 for the period of fiscal years 2016 through
15 2020, to remain available until expended.

16 **Subtitle K—Geothermal Energy** 17 **Opportunities**

18 **SEC. 2131. NATIONAL GOALS FOR PRODUCTION AND SITE** 19 **IDENTIFICATION.**

20 It is the sense of Congress that, not later than 10
21 years after the date of enactment of this Act—

22 (1) the Secretary of the Interior should seek to
23 have approved more than 15,000 megawatts of new
24 geothermal energy capacity on public land across a

1 geographically diverse set of States using the full
2 range of available technologies; and

3 (2) the Director of the Geological Survey and
4 the Secretary of Energy should identify sites capable
5 of producing a total of 50,000 megawatts of geo-
6 thermal power, using the full range of available tech-
7 nologies.

8 **SEC. 2132. PRIORITY AREAS FOR DEVELOPMENT ON FED-**
9 **ERAL LAND.**

10 The Director of the Bureau of Land Management,
11 in consultation with other appropriate Federal officials,
12 shall—

13 (1) identify high-priority areas for new geo-
14 thermal development; and

15 (2) take any actions the Director determines
16 necessary to facilitate that development, consistent
17 with applicable laws.

18 **SEC. 2133. FACILITATION OF COPRODUCTION OF GEO-**
19 **THERMAL ENERGY ON OIL AND GAS LEASES.**

20 Section 4(b) of the Geothermal Steam Act of 1970
21 (30 U.S.C. 1003(b)) is amended by adding at the end the
22 following:

23 “(4) LAND SUBJECT TO OIL AND GAS LEASE.—
24 Land under an oil and gas lease issued pursuant to
25 the Mineral Leasing Act (30 U.S.C. 181 et seq.) or

1 the Mineral Leasing Act for Acquired Lands (30
2 U.S.C. 351 et seq.) that is subject to an approved
3 application for permit to drill and from which oil
4 and gas production is occurring may be available for
5 noncompetitive leasing under this section to the
6 holder of the oil and gas lease—

7 “(A) on a determination that—

8 “(i) geothermal energy will be pro-
9 duced from a well producing or capable of
10 producing oil and gas; and

11 “(ii) national energy security will be
12 improved by the issuance of such a lease;
13 and

14 “(B) to provide for the coproduction of
15 geothermal energy with oil and gas.”.

16 **SEC. 2134. COST-SHARED EXPLORATION.**

17 (a) IN GENERAL.—To promote the goals described
18 in section 2131, the Secretary may conduct a federally
19 funded program of cost-shared drilling with industry part-
20 ners—

21 (1) to explore and document new geothermal re-
22 sources in the United States; and

23 (2) to develop improved tools and methods for
24 geothermal resource identification and extraction,
25 with the goal of achieving material reductions in the

1 cost of exploration with a corresponding increase in
2 the likelihood of drilling success.

3 (b) GRANTS.—

4 (1) IN GENERAL.—To carry out the program
5 described in subsection (a), the Secretary may award
6 cost-share grants on a competitive and merit basis
7 to eligible applicants to support exploration drilling
8 and related activities.

9 (2) PROJECT CRITERIA.—In selecting appli-
10 cants to receive grants under paragraph (1), the
11 Secretary shall—

12 (A) give preference to applicants proposing
13 projects located in a variety of geological and
14 geographical settings with previously unex-
15 plored, underexplored, or unproven geothermal
16 resources; and

17 (B) consider—

18 (i) the potential that the unproven
19 geothermal resources would be explored
20 and developed under the proposed project;

21 (ii) the expertise and experience of an
22 applicant in developing geothermal re-
23 sources; and

1 (iii) the contribution the proposed
2 project would make toward meeting the
3 goals described in section 2131.

4 (c) DATA SHARING.—

5 (1) IN GENERAL.—Data from all exploratory
6 wells that are carried out under the program de-
7 scribed in subsection (a) shall be provided to the
8 Secretary and the Secretary of the Interior for—

9 (A) use in mapping national geothermal
10 resources; and

11 (B) other purposes, including—

12 (i) subsurface geological data;

13 (ii) metadata;

14 (iii) borehole temperature data; and

15 (iv) inclusion in the National Geo-
16 thermal Data System of the Department.

17 (2) SHARING OF CONFIDENTIAL DATA.—Not
18 later than 2 years after the date of enactment of
19 this Act, confidential data from all exploratory wells
20 that are carried out under the program described in
21 subsection (a) shall be provided to the Secretary and
22 the Secretary of the Interior for the purposes de-
23 scribed in subparagraphs (A) and (B) of paragraph
24 (1), to be available for a period of time to be deter-

1 mined by the Secretary and the Secretary of the In-
2 terior.

3 **SEC. 2135. USE OF GEOTHERMAL LEASE REVENUES.**

4 (a) AMOUNTS DEPOSITED.—Notwithstanding any
5 other provision of law, beginning in the first full fiscal year
6 after the date of enactment of this Act, any amounts re-
7 ceived by the United States as rentals, royalties, and other
8 payments required under leases pursuant to the Geo-
9 thermal Steam Act of 1970 (30 U.S.C. 1001 et seq.) (ex-
10 cluding funds required to be paid to State and county gov-
11 ernments) and from new geothermal leases issued after
12 the date of enactment of this Act shall be deposited into
13 a separate account in the Treasury.

14 (b) USE OF DEPOSITS.—Amounts deposited under
15 subsection (a) shall be available to the Secretary for ex-
16 penditure, without further appropriation or fiscal year lim-
17 itation, to carry out section 2134.

18 (c) TRANSFER OF FUNDS.—To promote the goals de-
19 scribed in section 2131, the Secretary may authorize the
20 expenditure or transfer of any funds that are necessary
21 to other cooperating Federal agencies.

1 **SEC. 2136. NONCOMPETITIVE LEASING OF ADJOINING**
2 **AREAS FOR DEVELOPMENT OF GEOTHERMAL**
3 **RESOURCES.**

4 Section 4(b) of the Geothermal Steam Act of 1970
5 (30 U.S.C. 1003(b)) (as amended by section 2133) is
6 amended by adding at the end the following:

7 “(5) ADJOINING LAND.—

8 “(A) DEFINITIONS.—In this paragraph:

9 “(i) FAIR MARKET VALUE PER
10 ACRE.—The term ‘fair market value per
11 acre’ means a dollar amount per acre
12 that—

13 “(I) except as provided in this
14 clause, shall be equal to the market
15 value per acre (taking into account
16 the determination under subparagraph
17 (B)(iii) regarding a valid discovery on
18 the adjoining land), as determined by
19 the Secretary under regulations issued
20 under this paragraph;

21 “(II) shall be determined by the
22 Secretary with respect to a lease
23 under this paragraph, by not later
24 than the end of the 180-day period
25 beginning on the date the Secretary

1 receives an application for the lease;

2 and

3 “(III) shall be not less than the
4 greater of—

5 “(aa) 4 times the median
6 amount paid per acre for all land
7 leased under this Act during the
8 preceding year; and

9 “(bb) \$50.

10 “(ii) INDUSTRY STANDARDS.—The
11 term ‘industry standards’ means the stand-
12 ards by which a qualified geothermal pro-
13 fessional assesses whether downhole or
14 flowing temperature measurements with
15 indications of permeability are sufficient to
16 produce energy from geothermal resources,
17 as determined through flow or injection
18 testing or measurement of lost circulation
19 while drilling.

20 “(iii) QUALIFIED FEDERAL LAND.—
21 The term ‘qualified Federal land’ means
22 land that is otherwise available for leasing
23 under this Act.

24 “(iv) QUALIFIED GEOTHERMAL PRO-
25 FESSIONAL.—The term ‘qualified geo-

1 thermal professional’ means an individual
2 who is an engineer or geoscientist in good
3 professional standing with at least 5 years
4 of experience in geothermal exploration,
5 development, or project assessment.

6 “(v) QUALIFIED LESSEE.—The term
7 ‘qualified lessee’ means a person that is el-
8 igible to hold a geothermal lease under this
9 Act (including applicable regulations).

10 “(vi) VALID DISCOVERY.—The term
11 ‘valid discovery’ means a discovery of a
12 geothermal resource by a new or existing
13 slim hole or production well, that exhibits
14 downhole or flowing temperature measure-
15 ments with indications of permeability that
16 are sufficient to meet industry standards.

17 “(B) AUTHORITY.—An area of qualified
18 Federal land that adjoins other land for which
19 a qualified lessee holds a legal right to develop
20 geothermal resources may be available for a
21 noncompetitive lease under this section to the
22 qualified lessee at the fair market value per
23 acre, if—

24 “(i) the area of qualified Federal
25 land—

1 “(I) consists of not less than 1
2 acre and not more than 640 acres;
3 and

4 “(II) is not already leased under
5 this Act or nominated to be leased
6 under subsection (a);

7 “(ii) the qualified lessee has not pre-
8 viously received a noncompetitive lease
9 under this paragraph in connection with
10 the valid discovery for which data has been
11 submitted under clause (iii)(I); and

12 “(iii) sufficient geological and other
13 technical data prepared by a qualified geo-
14 thermal professional has been submitted by
15 the qualified lessee to the applicable Fed-
16 eral land management agency that would
17 lead individuals who are experienced in the
18 subject matter to believe that—

19 “(I) there is a valid discovery of
20 geothermal resources on the land for
21 which the qualified lessee holds the
22 legal right to develop geothermal re-
23 sources; and

24 “(II) that thermal feature ex-
25 tends into the adjoining areas.

1 “(C) DETERMINATION OF FAIR MARKET
2 VALUE.—

3 “(i) IN GENERAL.—The Secretary
4 shall—

5 “(I) publish a notice of any re-
6 quest to lease land under this para-
7 graph;

8 “(II) determine fair market value
9 for purposes of this paragraph in ac-
10 cordance with procedures for making
11 those determinations that are estab-
12 lished by regulations issued by the
13 Secretary;

14 “(III) provide to a qualified les-
15 see and publish, with an opportunity
16 for public comment for a period of 30
17 days, any proposed determination
18 under this subparagraph of the fair
19 market value of an area that the
20 qualified lessee seeks to lease under
21 this paragraph; and

22 “(IV) provide to the qualified les-
23 see and any adversely affected party
24 the opportunity to appeal the final de-
25 termination of fair market value in an

1 administrative proceeding before the
2 applicable Federal land management
3 agency, in accordance with applicable
4 law (including regulations).

5 “(ii) LIMITATION ON NOMINATION.—
6 After publication of a notice of request to
7 lease land under this paragraph, the Sec-
8 retary may not accept under subsection (a)
9 any nomination of the land for leasing un-
10 less the request has been denied or with-
11 drawn.

12 “(iii) ANNUAL RENTAL.—For pur-
13 poses of section 5(a)(3), a lease awarded
14 under this paragraph shall be considered a
15 lease awarded in a competitive lease sale.

16 “(D) REGULATIONS.—Not later than 270
17 days after the date of enactment of this para-
18 graph, the Secretary shall issue regulations to
19 carry out this paragraph.”.

20 **SEC. 2137. LARGE-SCALE GEOTHERMAL ENERGY.**

21 Title VI of the Energy Independence and Security
22 Act of 2007 is amended by inserting after section 616 (42
23 U.S.C. 17195) the following:

24 **“SEC. 616A. LARGE-SCALE GEOTHERMAL ENERGY.**

25 “(a) FINDINGS.—Congress finds that—

1 “(1) the Geothermal Technologies Program of
2 the Office of Energy Efficiency and Renewable En-
3 ergy of the Department has included a focus on di-
4 rect use of geothermal energy in the low-temperature
5 geothermal energy subprogram (including in the de-
6 velopment of a research and development plan for
7 the program);

8 “(2) the Building Technologies Program of the
9 Office of Energy Efficiency and Renewable Energy
10 of the Department—

11 “(A) is focused on the energy demand and
12 energy efficiency of buildings; and

13 “(B) includes geothermal heat pumps as a
14 component technology in the residential and
15 commercial deployment activities of the pro-
16 gram; and

17 “(3) geothermal heat pumps and direct use of
18 geothermal energy, especially in large-scale applica-
19 tions, can make a significant contribution to the use
20 of renewable energy but are underrepresented in re-
21 search, development, demonstration, and commer-
22 cialization.

23 “(b) PURPOSES.—The purposes of this section are—

1 “(1) to improve the components, processes, and
2 systems used for geothermal heat pumps and the di-
3 rect use of geothermal energy; and

4 “(2) to increase the energy efficiency, lower the
5 cost, increase the use, and improve and demonstrate
6 the applicability of geothermal heat pumps to, and
7 the direct use of geothermal energy in, large build-
8 ings, commercial districts, residential communities,
9 and large municipal, agricultural, or industrial
10 projects.

11 “(c) DEFINITIONS.—In this section:

12 “(1) DIRECT USE OF GEOTHERMAL ENERGY.—
13 The term ‘direct use of geothermal energy’ means
14 systems that use water that is at a temperature be-
15 tween approximately 38 degrees Celsius and 149 de-
16 grees Celsius directly or through a heat exchanger to
17 provide—

18 “(A) heating to buildings; or

19 “(B) heat required for industrial processes,
20 agriculture, aquaculture, and other facilities.

21 “(2) GEOTHERMAL HEAT PUMP.—The term
22 ‘geothermal heat pump’ means a system that pro-
23 vides heating and cooling by exchanging heat from
24 shallow ground or surface water using—

1 “(A) a closed loop system, which transfers
2 heat by way of buried or immersed pipes that
3 contain a mix of water and working fluid; or

4 “(B) an open loop system, which circulates
5 ground or surface water directly into the build-
6 ing and returns the water to the same aquifer
7 or surface water source.

8 “(3) LARGE-SCALE APPLICATION.—The term
9 ‘large-scale application’ means an application for
10 space or process heating or cooling for large entities
11 with a name-plate capacity, expected resource, or
12 rating of 10 or more megawatts, such as a large
13 building, commercial district, residential community,
14 or a large municipal, agricultural, or industrial
15 project.

16 “(4) SECRETARY.—The term ‘Secretary’ means
17 the Secretary of Energy, acting through the Assist-
18 ant Secretary for Energy Efficiency and Renewable
19 Energy.

20 “(d) PROGRAM.—

21 “(1) IN GENERAL.—The Secretary shall estab-
22 lish a program of research, development, and dem-
23 onstration for geothermal heat pumps and the direct
24 use of geothermal energy.

1 “(2) AREAS.—The program may include re-
2 search, development, demonstration, and commercial
3 application of—

4 “(A) geothermal ground loop efficiency im-
5 provements through more efficient heat transfer
6 fluids;

7 “(B) geothermal ground loop efficiency im-
8 provements through more efficient thermal
9 grouts for wells and trenches;

10 “(C) geothermal ground loop installation
11 cost reduction through—

12 “(i) improved drilling methods;

13 “(ii) improvements in drilling equip-
14 ment;

15 “(iii) improvements in design method-
16 ology and energy analysis procedures; and

17 “(iv) improved methods for deter-
18 mination of ground thermal properties and
19 ground temperatures;

20 “(D) installing geothermal ground loops
21 near the foundation walls of new construction
22 to take advantage of existing structures;

23 “(E) using gray or black wastewater as a
24 method of heat exchange;

1 “(F) improving geothermal heat pump sys-
2 tem economics through integration of geo-
3 thermal systems with other building systems,
4 including providing hot and cold water and re-
5 jecting or circulating industrial process heat
6 through refrigeration heat rejection and waste
7 heat recovery;

8 “(G) advanced geothermal systems using
9 variable pumping rates to increase efficiency;

10 “(H) geothermal heat pump efficiency im-
11 provements;

12 “(I) use of hot water found in mines and
13 mine shafts and other surface waters as the
14 heat exchange medium;

15 “(J) heating of districts, neighborhoods,
16 communities, large commercial or public build-
17 ings (including office, retail, educational, gov-
18 ernment, and institutional buildings and multi-
19 family residential buildings and campuses), and
20 industrial and manufacturing facilities;

21 “(K) geothermal system integration with
22 solar thermal water heating or cool roofs and
23 solar-regenerated desiccants to balance loads
24 and use building hot water to store geothermal
25 energy;

1 “(L) use of hot water coproduced from oil
2 and gas recovery;

3 “(M) use of water sources at a tempera-
4 ture of less than 150 degrees Celsius for direct
5 use;

6 “(N) system integration of direct use with
7 geothermal electricity production; and

8 “(O) coproduction of heat and power, in-
9 cluding on-site use.

10 “(3) ENVIRONMENTAL IMPACTS.—In carrying
11 out the program, the Secretary shall identify and
12 mitigate potential environmental impacts in accord-
13 ance with section 614(c).

14 “(e) GRANTS.—

15 “(1) IN GENERAL.—The Secretary shall make
16 grants available to State and local governments, in-
17 stitutions of higher education, nonprofit entities,
18 utilities, and for-profit companies (including manu-
19 facturers of heat-pump and direct-use components
20 and systems) to promote the development of geo-
21 thermal heat pumps and the direct use of geo-
22 thermal energy.

23 “(2) PRIORITY.—In making grants under this
24 subsection, the Secretary shall give priority to pro-
25 posals that apply to large buildings (including office,

1 retail, educational, government, institutional, and
2 multifamily residential buildings and campuses and
3 industrial and manufacturing facilities), commercial
4 districts, and residential communities.

5 “(3) NATIONAL SOLICITATION.—Not later than
6 180 days after the date of enactment of this section,
7 the Secretary shall conduct a national solicitation for
8 applications for grants under this section.

9 “(f) REPORTS.—

10 “(1) IN GENERAL.—Not later than 2 years
11 after the date of enactment of this section and annu-
12 ally thereafter, the Secretary shall submit to the
13 Committee on Energy and Natural Resources of the
14 Senate and the Committee on Science, Space, and
15 Technology of the House of Representatives a report
16 on progress made and results obtained under this
17 section to develop geothermal heat pumps and direct
18 use of geothermal energy.

19 “(2) AREAS.—Each of the reports required
20 under this subsection shall include—

21 “(A) an analysis of progress made in each
22 of the areas described in subsection (d)(2); and

23 “(B)(i) a description of any relevant rec-
24 ommendations made during a review of the pro-
25 gram; and

1 “(ii) any plans to address the rec-
2 ommendations under clause (i).”.

3 **SEC. 2138. REPORT TO CONGRESS.**

4 Not later than 3 years after the date of enactment
5 of this Act and not less frequently than once every 5 years
6 thereafter, the Secretary and the Secretary of the Interior
7 shall submit to the appropriate committees of Congress
8 a report describing the progress made towards achieving
9 the goals described in section 2131.

10 **SEC. 2139. AUTHORIZATION OF APPROPRIATIONS.**

11 There are authorized to be appropriated to carry out
12 this subtitle such sums as are necessary.

13 **Subtitle L—Clean Coal Technology**
14 **Research**

15 **SEC. 2141. FOSSIL ENERGY.**

16 Section 961(a) of the Energy Policy Act of 2005 (42
17 U.S.C. 16291(a)) is amended by adding at the end the
18 following:

19 “(8) Improving the conversion, use, and storage
20 of carbon dioxide produced from fossil fuels.”.

1 **Subtitle M—Long-term Contracts**

2 **SEC. 2151. CONTRACTS FOR FEDERAL PURCHASES OF EN-**
3 **ERGY.**

4 Part 3 of title V of the National Energy Conservation
5 Policy Act is amended by adding after section 553 (42
6 U.S.C. 8259b) the following:

7 **“SEC. 554. LONG-TERM CONTRACTS FOR ENERGY.**

8 “(a) IN GENERAL.—Notwithstanding section
9 501(b)(1)(B) of title 40, United States Code, a contract
10 for the acquisition of renewable energy or energy from co-
11 generation facilities for the Federal Government may be
12 made for a period not to exceed 30 years.

13 “(b) STANDARDIZED ENERGY PURCHASE AGREE-
14 MENT.—Not later than 90 days after the date of enact-
15 ment of this section, the Secretary, acting through the
16 Federal Energy Management Program, shall publish a
17 standardized energy purchase agreement setting forth
18 commercial terms and conditions that agencies may use
19 to acquire renewable energy or energy from cogeneration
20 facilities.

21 “(c) TECHNICAL ASSISTANCE.—The Secretary shall
22 provide technical assistance to assist agencies in imple-
23 menting this section.”.

1 **Subtitle N—Promoting Renewable**
 2 **Energy With Shared Solar**

3 **SEC. 2161. PROVISION OF INTERCONNECTION SERVICE AND**
 4 **NET BILLING SERVICE FOR COMMUNITY**
 5 **SOLAR FACILITIES.**

6 (a) IN GENERAL.—Section 111(d) of the Public Util-
 7 ity Regulatory Policies Act of 1978 (16 U.S.C. 2621(d))
 8 (as amended by section 2020(a)) is amended by adding
 9 at the end the following:

10 “(21) COMMUNITY SOLAR FACILITIES.—

11 “(A) DEFINITIONS.—In this paragraph:

12 “(i) COMMUNITY SOLAR FACILITY.—

13 The term ‘community solar facility’ means
 14 a solar photovoltaic system that—

15 “(I) allocates electricity to mul-
 16 tiple individual electric consumers of
 17 an electric utility;

18 “(II) has a nameplate rating of 2
 19 megawatts or less; and

20 “(III) is—

21 “(aa) owned by the electric
 22 utility, jointly owned, or third-
 23 party-owned;

1 “(bb) connected to a local
2 distribution facility of the electric
3 utility; and

4 “(cc) located on or off the
5 property of a consumer of the
6 electricity.

7 “(ii) INTERCONNECTION SERVICE.—
8 The term ‘interconnection service’ means a
9 service provided by an electric utility to an
10 electric consumer, in accordance with the
11 standards described in paragraph (15),
12 through which a community solar facility is
13 connected to an applicable local distribu-
14 tion facility.

15 “(iii) NET BILLING SERVICE.—The
16 term ‘net billing service’ means a service
17 provided by an electric utility to an electric
18 consumer through which electric energy
19 generated for that electric consumer from
20 a community solar facility may be used to
21 offset electric energy provided by the elec-
22 tric utility to the electric consumer during
23 the applicable billing period.

24 “(B) REQUIREMENT.—On receipt of a re-
25 quest of an electric consumer served by the

1 electric utility, each electric utility shall make
2 available to the electric consumer interconnec-
3 tion service and net billing service for a commu-
4 nity solar facility.”.

5 (b) COMPLIANCE.—

6 (1) TIME LIMITATIONS.—Section 112(b) of the
7 Public Utility Regulatory Policies Act of 1978 (16
8 U.S.C. 2622(b)) (as amended by section 2020(b)(1))
9 is amended by adding at the end the following:

10 “(8)(A) Not later than 1 year after the date of
11 enactment of this paragraph, each State regulatory
12 authority (with respect to each electric utility for
13 which the State has ratemaking authority) and each
14 nonregulated utility shall commence consideration
15 under section 111, or set a hearing date for consid-
16 eration, with respect to the standard established by
17 paragraph (21) of section 111(d).

18 “(B) Not later than 2 years after the date of
19 enactment of this paragraph, each State regulatory
20 authority (with respect to each electric utility for
21 which the State has ratemaking authority), and each
22 nonregulated electric utility shall complete the con-
23 sideration and make the determination under section
24 111 with respect to the standard established by
25 paragraph (21) of section 111(d).”.

1 (2) FAILURE TO COMPLY.—

2 (A) IN GENERAL.—Section 112(c) of the
3 Public Utility Regulatory Policies Act of 1978
4 (16 U.S.C. 2622(c)) (as amended by section
5 2020(b)(2)) is amended—

6 (i) by striking “such paragraph (14)”
7 and all that follows through “paragraphs
8 (16)” and inserting “such paragraph (14).
9 In the case of the standard established by
10 paragraph (15) of section 111(d), the ref-
11 erence contained in this subsection to the
12 date of enactment of this Act shall be
13 deemed to be a reference to the date of en-
14 actment of that paragraph (15). In the
15 case of the standards established by para-
16 graphs (16)”; and

17 (ii) by adding at the end the fol-
18 lowing: “In the case of the standard estab-
19 lished by paragraph (21) of section 111(d),
20 the reference contained in this subsection
21 to the date of enactment of this Act shall
22 be deemed to be a reference to the date of
23 enactment of that paragraph (21).”.

24 (B) TECHNICAL CORRECTION.—

1 (i) IN GENERAL.—Section 1254(b) of
2 the Energy Policy Act of 2005 (Public
3 Law 109–58; 119 Stat. 971) is amended
4 by striking paragraph (2).

5 (ii) TREATMENT.—The amendment
6 made by paragraph (2) of section 1254(b)
7 of the Energy Policy Act of 2005 (Public
8 Law 109–58; 119 Stat. 971) (as in effect
9 on the day before the date of enactment of
10 this Act) is void, and section 112(d) of the
11 Public Utility Regulatory Policies Act of
12 1978 (16 U.S.C. 2622(d)) shall be in ef-
13 fect as if those amendments had not been
14 enacted.

15 (3) PRIOR STATE ACTIONS.—

16 (A) IN GENERAL.—Section 112 of the
17 Public Utility Regulatory Policies Act of 1978
18 (16 U.S.C. 2622) is amended by adding at the
19 end the following:

20 “(g) PRIOR STATE ACTIONS.—Subsections (b) and
21 (c) shall not apply to the standard established by para-
22 graph (21) of section 111(d) in the case of any electric
23 utility in a State if, before the date of enactment of this
24 subsection—

1 “(1) the State has implemented for the electric
2 utility the standard (or a comparable standard);

3 “(2) the State regulatory authority for the
4 State or the relevant nonregulated electric utility has
5 conducted a proceeding to consider implementation
6 of the standard (or a comparable standard) for the
7 electric utility; or

8 “(3) the State legislature has voted on the im-
9 plementation of the standard (or a comparable
10 standard) for the electric utility.”.

11 (B) CROSS-REFERENCE.—Section 124 of
12 the Public Utility Regulatory Policies Act of
13 1978 (16 U.S.C. 2634) is amended by adding
14 at the end the following: “In the case of the
15 standard established by paragraph (21) of sec-
16 tion 111(d), the reference contained in this sub-
17 section to the date of enactment of this Act
18 shall be deemed to be a reference to the date
19 of enactment of that paragraph (21).”.

20 **Subtitle O—Report on Low- and**
21 **No-Carbon Energy Technologies**

22 **SEC. 2171. REPORT.**

23 (a) IN GENERAL.—Not later than 1 year before the
24 date on which the credits under sections 45L, 45S, 45T,
25 48E, 179D, and 179F of the Internal Revenue Code of

1 1986 expire, the Secretary, in consultation with the Sec-
 2 retary of Treasury, shall submit to the Committees on Fi-
 3 nance and Energy of the Senate and the Committees on
 4 Natural Resources, Ways and Means, and Energy and
 5 Commerce of the House of Representative a report on
 6 whether continuation of the credits under sections 45L,
 7 45S, 45T, 48E, 179D, and 179F of the Internal Revenue
 8 Code of 1986 remains necessary to achieve the carbon sav-
 9 ings goal described in section 3001(1).

10 (b) REQUIREMENTS.—In preparing the report re-
 11 quired under subsection (a), the Secretary shall con-
 12 sider—

- 13 (1) regional differences in energy prices;
- 14 (2) the innovation and diffusion of new tech-
 15 nologies; and
- 16 (3) the interaction between the credits and
 17 other Federal and State incentives for renewable and
 18 conventional energy sources.

19 **Subtitle P—Loan Programs**

20 **SEC. 2181. TERMS AND CONDITIONS FOR INCENTIVES FOR** 21 **INNOVATIVE TECHNOLOGIES.**

22 (a) BORROWER PAYMENT OF SUBSIDY COST.—

- 23 (1) IN GENERAL.—Section 1702 of the Energy
 24 Policy Act of 2005 (42 U.S.C. 16512) is amended
 25 by adding at the end the following:

1 “(1) BORROWER PAYMENT OF SUBSIDY COST.—

2 “(1) IN GENERAL.—In addition to the require-
3 ment in subsection (b)(1), no guarantee shall be
4 made unless the Secretary has received from the
5 borrower not less than 25 percent of the cost of the
6 guarantee.

7 “(2) ESTIMATE.—The Secretary shall provide
8 to the borrower, as soon as practicable, an estimate
9 or range of the cost of the guarantee under para-
10 graph (1).”.

11 (2) CONFORMING AMENDMENT.—Section
12 1702(b) of the Energy Policy Act of 2005 (42
13 U.S.C. 16512(b)) is amended—

14 (A) by striking “(1) IN GENERAL.—No
15 guarantee” and inserting the following: “Sub-
16 ject to subsection (1), no guarantee”;

17 (B) by redesignating subparagraphs (A),
18 (B), and (C) as paragraphs (1), (2), and (3),
19 respectively, and indenting appropriately; and

20 (C) in paragraph (3) (as so redesign-
21 nated)—

22 (i) by striking “subparagraph (A)”
23 and inserting “paragraph (1)”; and

24 (ii) by striking “subparagraph (B)”
25 and inserting “paragraph (2)”.

1 (b) PROHIBITION ON SUBORDINATION OF DEBT.—
2 Section 1702(d)(3) of the Energy Policy Act of 2005 (42
3 U.S.C. 16512(d)(3)) is amended by striking “is not subor-
4 dinate” and inserting “(including any reorganization, re-
5 structuring, or termination of the obligation) shall not at
6 any time be subordinate”.

7 (c) LOAN PROGRAM TRANSPARENCY.—Section 1703
8 of the Energy Policy Act of 2005 (42 U.S.C. 16513) is
9 amended by adding at the end the following:

10 “(f) LOAN STATUS.—

11 “(1) REQUEST.—If the Secretary does not
12 make a final decision on an application for a loan
13 guarantee under this section by the date that is 270
14 days after receipt of the application by the Sec-
15 retary, on that date and every 90 days thereafter
16 until the final decision is made, the applicant may
17 request that the Secretary provide to the applicant
18 a description of the status of the application.

19 “(2) RESPONSE.—Not later than 10 days after
20 receiving a request from an applicant under para-
21 graph (1), the Secretary shall provide to the appli-
22 cant a response that includes—

23 “(A) a summary of any factors that are
24 delaying a final decision on the application; and

1 “(B) an estimate of when review of the ap-
2 plication will be completed.”.

3 (d) TEMPORARY PROGRAM FOR RAPID DEPLOYMENT
4 OF RENEWABLE ENERGY AND ELECTRIC POWER TRANS-
5 MISSION PROJECTS.—

6 (1) REPEAL.—Section 1705 of the Energy Pol-
7 icy Act of 2005 (42 U.S.C. 16516) is repealed.

8 (2) RESCISSION.—There is rescinded the unob-
9 ligated balance of amounts made available to carry
10 out the loan guarantee program established under
11 section 1705 of the Energy Policy Act of 2005 (42
12 U.S.C. 16516) (before the amendment made by
13 paragraph (1)).

14 (3) MANAGEMENT.—The Secretary shall ensure
15 rigorous continued management and oversight of all
16 outstanding loans guaranteed under the program de-
17 scribed in subsection (b) until those loans have been
18 repaid in full.

19 **SEC. 2182. STATE LOAN ELIGIBILITY.**

20 (a) DEFINITIONS.—Section 1701 of the Energy Pol-
21 icy Act of 2005 (42 U.S.C. 16511) is amended by adding
22 at the end the following:

23 “(6) STATE.—The term ‘State’ has the mean-
24 ing given the term in section 202 of the Energy
25 Conservation and Production Act (42 U.S.C. 6802).

1 “(7) STATE ENERGY FINANCING INSTITU-
2 TION.—

3 “(A) IN GENERAL.—The term ‘State en-
4 ergy financing institution’ means a quasi-inde-
5 pendent entity or an entity within a State agen-
6 cy or financing authority established by a
7 State—

8 “(i) to provide financing support or
9 credit enhancements, including loan guar-
10 antees and loan loss reserves, for eligible
11 projects; and

12 “(ii) to create liquid markets for eligi-
13 ble projects, including warehousing and
14 securitization, or take other steps to reduce
15 financial barriers to the deployment of ex-
16 isting and new eligible projects.

17 “(B) INCLUSION.—The term ‘State energy
18 financing institution’ includes an entity or orga-
19 nization established to achieve the purposes de-
20 scribed in clauses (i) and (ii) of subparagraph
21 (A) by an Indian tribal entity or an Alaska Na-
22 tive Corporation.”.

23 (b) TERMS AND CONDITIONS.—Section 1702 of the
24 Energy Policy Act of 2005 (42 U.S.C. 16512) (as amend-
25 ed by section 4001(a)(1)) is amended—

1 (1) in subsection (a), by inserting “or to a
2 State energy financing institution” after “for
3 projects”; and

4 (2) by adding at the end the following:

5 “(m) STATE ENERGY FINANCING INSTITUTIONS.—

6 “(1) ELIGIBILITY.—To be eligible for a guar-
7 antee under this title, a State energy financing insti-
8 tution—

9 “(A) shall meet the requirements of section
10 1703(a)(1); and

11 “(B) shall not be required to meet the re-
12 quirements of section 1703(a)(2).

13 “(2) PARTNERSHIPS AUTHORIZED.—In car-
14 rying out a project receiving a loan guarantee under
15 this title, State energy financing institutions may
16 enter into partnerships with private entities, tribal
17 entities, and Alaska Native corporations.”.

18 **TITLE III—CUTTING POLLUTION**

19 **AND WASTE**

20 **Subtitle A—Carbon Savings Goal**

21 **SEC. 3001. POLICY OF UNITED STATES ON ADDRESSING** 22 **CLIMATE CHANGE.**

23 It is the policy of the United States—

24 (1) to use appropriate authorities and available
25 technologies to reduce the greenhouse gas emissions

1 of the United States by not less than 2 percent per
2 year on average through 2025;

3 (2) to make the investments necessary to im-
4 prove the resilience of vulnerable communities and
5 infrastructure in the United States to the impacts of
6 climate change that can no longer be prevented; and

7 (3) to exercise the international leadership posi-
8 tion of the United States to address climate change
9 by securing commitments from other major carbon-
10 emitting countries to meet their own carbon pollu-
11 tion reduction targets in a transparent and verifiable
12 manner.

13 **Subtitle B—American Energy** 14 **Efficiency**

15 **SEC. 3011. ENERGY EFFICIENCY RESOURCE STANDARD FOR** 16 **RETAIL ELECTRICITY AND NATURAL GAS** 17 **SUPPLIERS.**

18 (a) IN GENERAL.—Title VI of the Public Utility Reg-
19 ulatory Policies Act of 1978 (16 U.S.C. 2601 et seq.) is
20 amended by adding at the end the following:

21 **“SEC. 610. FEDERAL ENERGY EFFICIENCY RESOURCE** 22 **STANDARD FOR RETAIL ELECTRICITY AND** 23 **NATURAL GAS SUPPLIERS.**

24 “(a) DEFINITIONS.—In this section:

25 “(1) BASE QUANTITY.—

1 “(A) IN GENERAL.—The term ‘base quan-
2 tity’, with respect to a retail electricity supplier
3 or retail natural gas supplier, means, for each
4 calendar year for which a performance standard
5 is established under subsection (c), the average
6 annual quantity of electricity or natural gas de-
7 livered by the retail electricity supplier or retail
8 natural gas supplier to retail customers during
9 the 3 calendar years immediately preceding the
10 first year that compliance is required under
11 subsection (c)(1).

12 “(B) EXCLUSION.—The term ‘base quan-
13 tity’, with respect to a retail natural gas sup-
14 plier, does not include natural gas delivered for
15 purposes of electricity generation.

16 “(2) CUSTOMER FACILITY SAVINGS.—The term
17 ‘customer facility savings’ means a reduction in end-
18 use electricity or natural gas consumption (including
19 waste heat energy savings) at a facility of an end-
20 use consumer of electricity or natural gas served by
21 a retail electricity supplier or natural gas supplier,
22 as compared to—

23 “(A) in the case of a new facility, con-
24 sumption at a reference facility of average effi-
25 ciency;

1 “(B) in the case of an existing facility,
2 consumption at the facility during a base period
3 of not less than 1 year;

4 “(C) in the case of new equipment that re-
5 places existing equipment at the end of the use-
6 ful life of the existing equipment, consumption
7 by new equipment of average efficiency of the
8 same equipment type, except that customer sav-
9 ings under this subparagraph shall not be
10 counted towards customer savings under sub-
11 paragraph (A) or (B); and

12 “(D) in the case of new equipment that re-
13 places existing equipment with remaining useful
14 life—

15 “(i) consumption of the existing
16 equipment for the remaining useful life of
17 the equipment; and

18 “(ii) thereafter, consumption of new
19 equipment of average efficiency.

20 “(3) ELECTRICITY SAVINGS.—The term ‘elec-
21 tricity savings’ means reductions in electricity con-
22 sumption achieved through measures implemented
23 after the date of enactment of this section, as deter-
24 mined in accordance with regulations promulgated
25 by the Secretary, that are limited to—

1 “(A) customer facility savings of elec-
2 tricity, adjusted to reflect any associated in-
3 crease in fuel consumption at the facility;

4 “(B) reductions in distribution system
5 losses of electricity achieved by a retail elec-
6 tricity supplier, as compared to losses attrib-
7 utable to new or replacement distribution sys-
8 tem equipment of average efficiency, as defined
9 in regulations promulgated by the Secretary;

10 “(C) CHP savings;

11 “(D) codes and standards savings of elec-
12 tricity; and

13 “(E) fuel switching energy savings that re-
14 sults in net savings of electricity.

15 “(4) NATURAL GAS SAVINGS.—The term ‘nat-
16 ural gas savings’ means reductions in natural gas
17 consumption from measures implemented after the
18 date of enactment of this section, as determined in
19 accordance with regulations promulgated by the Sec-
20 retary, that are limited to—

21 “(A) customer facility savings of natural
22 gas, adjusted to reflect any associated increase
23 in electricity consumption or consumption of
24 other fuels at the facility;

1 “(B) reductions in leakage, operational
2 losses, and consumption of natural gas fuel to
3 operate a gas distribution system, achieved by
4 a retail natural gas supplier, as compared to
5 similar leakage, losses, and consumption during
6 a base period of not less than 1 year;

7 “(C) codes and standards savings of nat-
8 ural gas; and

9 “(D) fuel switching energy savings that re-
10 sults in net savings of natural gas.

11 “(5) RETAIL ELECTRICITY SUPPLIER.—

12 “(A) IN GENERAL.—The term ‘retail elec-
13 tricity supplier’ means, for any given calendar
14 year, an electric utility that sells not less than
15 1,000,000 megawatt hours of electric energy to
16 electric consumers for purposes other than re-
17 sale during the preceding calendar year.

18 “(B) INCLUSIONS AND LIMITATIONS.—For
19 purposes of determining whether an electric
20 utility qualifies as a retail electricity supplier
21 under subparagraph (A)—

22 “(i) deliveries by any affiliate of an
23 electric utility to electric consumers for
24 purposes other than resale shall be consid-

1 ered to be deliveries by the electric utility;

2 and

3 “(ii) deliveries by any electric utility
4 to a lessee, tenant, or affiliate of the elec-
5 tric utility shall not be considered to be de-
6 liveries to electric consumers.

7 “(6) RETAIL NATURAL GAS SUPPLIER.—

8 “(A) IN GENERAL.—The term ‘retail nat-
9 ural gas supplier’ means, for any given calendar
10 year, a local distribution company (as defined
11 in section 2 of the Natural Gas Policy Act of
12 1978 (15 U.S.C. 3301)), that delivered to nat-
13 ural gas consumers more than 5,000,000,000
14 cubic feet of natural gas for purposes other
15 than resale during the preceding calendar year.

16 “(B) INCLUSIONS AND LIMITATIONS.—For
17 purposes of determining whether a person
18 qualifies as a retail natural gas supplier under
19 subparagraph (A)—

20 “(i) deliveries of natural gas by any
21 affiliate of a local distribution company to
22 consumers for purposes other than resale
23 shall be considered to be deliveries by the
24 local distribution company; and

1 “(ii) deliveries of natural gas to a les-
2 see, tenant, or affiliate of a local distribu-
3 tion company shall not be considered to be
4 deliveries to natural gas consumers.

5 “(b) ESTABLISHMENT OF PROGRAM.—

6 “(1) REGULATIONS.—Not later than 1 year
7 after the date of enactment of this section, the Sec-
8 retary shall, by regulation, establish a program to
9 implement and enforce the requirements of this sec-
10 tion, including by—

11 “(A) defining the terms ‘CHP savings’,
12 ‘code and standards savings’, ‘combined heat
13 and power system’, ‘cost-effective’, ‘fuel switch-
14 ing energy savings’, ‘reporting period’, ‘third-
15 party efficiency provider’, and ‘waste heat en-
16 ergy savings’;

17 “(B) establishing measurement and
18 verification procedures and standards that
19 count only measures and savings that are addi-
20 tional to business-as-usual customer purchase
21 practices;

22 “(C) establishing requirements under
23 which retail electricity suppliers and retail nat-
24 ural gas suppliers shall—

1 “(i) demonstrate, document, and re-
2 port the compliance of the retail electricity
3 suppliers and retail natural gas suppliers
4 with the performance standards under sub-
5 section (c); and

6 “(ii) estimate the impact of the stand-
7 ards on current and future electricity and
8 natural gas use in the service territories of
9 the suppliers;

10 “(D) establishing requirements governing
11 applications for, and implementation of, dele-
12 gated State administration under subsection
13 (e); and

14 “(E) establishing rules to govern transfers
15 of electricity or natural gas savings between
16 suppliers and third-party efficiency providers
17 serving the same State and between suppliers
18 and third-party efficiency providers serving dif-
19 ferent States.

20 “(2) COORDINATION WITH STATE PROGRAMS.—
21 In establishing and implementing this section, the
22 Secretary shall, to the maximum extent practicable,
23 preserve the integrity and incorporate best practices
24 of existing State energy efficiency programs.

25 “(c) PERFORMANCE STANDARDS.—

1 “(1) COMPLIANCE OBLIGATION.—Not later
2 than May 1 of the calendar year immediately fol-
3 lowing each reporting period—

4 “(A) each retail electricity supplier shall
5 submit to the Secretary a report, in accordance
6 with regulations promulgated by the Secretary,
7 demonstrating that the retail electricity supplier
8 has achieved cumulative electricity savings (ad-
9 justed to account for any attrition of savings
10 measures implemented in prior years) in each
11 calendar year that are equal to the applicable
12 percentage of the base quantity of the retail
13 electricity supplier; and

14 “(B) each retail natural gas supplier shall
15 submit to the Secretary a report, in accordance
16 with regulations promulgated by the Secretary,
17 demonstrating that it has achieved cumulative
18 natural gas savings (adjusted to account for
19 any attrition of savings measures implemented
20 in prior years) in each calendar year that are
21 equal to the applicable percentage of the base
22 quantity of such retail natural gas supplier.

23 “(2) STANDARDS FOR 2017 THROUGH 2030.—
24 For each of calendar years 2017 through 2030, the
25 applicable percentages are as follows:

“Calendar Year	Cumulative Electricity Savings Percentage	Cumulative Natural Gas Savings Percentage
2017	1.00	0.50
2018	2.00	1.25
2019	3.00	2.00
2020	4.25	3.00
2021	5.50	4.00
2022	7.00	5.00
2023	8.50	6.00
2024	10.00	7.00
2025	11.50	8.00
2026	13.00	9.00
2027	14.75	10.00
2028	16.50	11.00
2029	18.25	12.00
2030	20.00	13.00.

1 “(3) SUBSEQUENT YEARS.—

2 “(A) CALENDAR YEARS 2031 THROUGH
3 2040.—Not later than December 31, 2028, the
4 Secretary shall promulgate regulations estab-
5 lishing performance standards (expressed as ap-
6 plicable percentages of base quantity for both
7 cumulative electricity savings and cumulative
8 natural gas savings) for each of calendar years
9 2031 through 2040.

10 “(B) REQUIREMENTS.—The Secretary
11 shall establish standards under this paragraph
12 at levels reflecting the maximum achievable

1 level of cost-effective energy efficiency potential,
2 taking into account—

3 “(i) cost-effective energy savings
4 achieved by leading retail electricity sup-
5 pliers and retail natural gas suppliers;

6 “(ii) opportunities for new codes and
7 standard savings;

8 “(iii) technology improvements; and

9 “(iv) other indicators of cost-effective
10 energy efficiency potential including dif-
11 ferences between States.

12 “(C) MINIMUM PERCENTAGE.—In no case
13 shall the applicable percentages for any cal-
14 endar year be less than the applicable percent-
15 ages for calendar year 2030.

16 “(4) DELAY OF SUBMISSION FOR FIRST RE-
17 PORTING PERIOD.—

18 “(A) IN GENERAL.—Notwithstanding
19 paragraphs (1) and (2), for the 2017 reporting
20 period, the Secretary may accept a request from
21 a retail electricity supplier or a retail natural
22 gas supplier to delay the required submission of
23 documentation of all or part of the required
24 savings for up to 2 years.

1 “(B) PLAN FOR COMPLIANCE.—The re-
2 quest for delay under subparagraph (A) shall
3 include a plan for coming into full compliance
4 by the end of the 2018–2019 reporting period.

5 “(5) APPLYING UNUSED SAVINGS TO FUTURE
6 YEARS.—If savings achieved in a year exceed the
7 performance standards specified in this subsection,
8 any savings in excess of the performance standards
9 may be applied toward performance standards speci-
10 fied for future years.

11 “(d) ENFORCEMENT AND JUDICIAL REVIEW.—

12 “(1) REVIEW OF RETAIL SUPPLIER REPORTS.—

13 “(A) IN GENERAL.—The Secretary shall
14 review each report submitted to the Secretary
15 by a retail electricity supplier or retail natural
16 gas supplier under subsection (c) to verify that
17 the applicable performance standards under
18 subsection (c) have been met.

19 “(B) EXCLUSION.—In determining compli-
20 ance with the applicable performance standards
21 under subsection (c), the Secretary shall ex-
22 clude reported electricity savings or natural gas
23 savings that are not adequately demonstrated
24 and documented, in accordance with the regula-

1 tions promulgated under subsections (b) and
2 (c).

3 “(2) PENALTY FOR FAILURE TO DOCUMENT
4 ADEQUATE SAVINGS.—If a retail electricity supplier
5 or a retail natural gas supplier fails to demonstrate
6 compliance with an applicable performance standard
7 under subsection (c), or to pay to the State an appli-
8 cable alternative compliance payment under sub-
9 section (e)(3), the Secretary shall assess against the
10 retail electricity supplier or retail natural gas sup-
11 plier a civil penalty for each failure in an amount
12 equal to, as adjusted for inflation in accordance with
13 such regulations as the Secretary may promulgate—

14 “(A) \$100 per megawatt hour of electricity
15 savings or alternative compliance payment that
16 the retail electricity supplier failed to achieve or
17 make, respectively; or

18 “(B) \$10 per million Btu of natural gas
19 savings or alternative compliance payment that
20 the retail natural gas supplier failed to achieve
21 or make, respectively.

22 “(3) OFFSETTING STATE PENALTIES.—The
23 Secretary shall reduce the amount of any penalty
24 under paragraph (2) by the amount paid by the rel-
25 evant retail electricity supplier or retail natural gas

1 supplier to a State for failure to comply with the re-
2 quirements of a State energy efficiency resource
3 standard during the same compliance period.

4 “(4) ENFORCEMENT PROCEDURES.—The Sec-
5 retary shall assess a civil penalty, as provided under
6 paragraph (2), in accordance with the procedures
7 described in section 333(d) of the Energy Policy and
8 Conservation Act of 1954 (42 U.S.C. 6303).

9 “(e) STATE ADMINISTRATION.—

10 “(1) IN GENERAL.—On receipt of an applica-
11 tion from the Governor of a State (including the
12 Mayor of the District of Columbia), the Secretary
13 may delegate to the State responsibility for admin-
14 istering this section within the territory of the State
15 if the Secretary determines that the State will imple-
16 ment an energy efficiency program that meets or ex-
17 ceeds the requirements of this section.

18 “(2) SECRETARIAL DETERMINATION.—Not
19 later than 180 days after the date on which a com-
20 plete application is received by the Secretary, the
21 Secretary shall make a substantive determination
22 approving or disapproving a State application, after
23 public notice and comment.

24 “(3) ALTERNATIVE COMPLIANCE PAYMENTS.—

1 “(A) IN GENERAL.—As part of an applica-
2 tion submitted under paragraph (1), a State
3 may permit retail electricity suppliers or retail
4 natural gas suppliers to pay to the State, by
5 not later than May 1 of the calendar year im-
6 mediately following the applicable reporting pe-
7 riod, an alternative compliance payment in an
8 amount equal to, as adjusted for inflation in ac-
9 cordance with such regulations as the Secretary
10 may promulgate, not less than—

11 “(i) \$50 per megawatt hour of elec-
12 tricity savings needed to make up any def-
13 icit with regard to a compliance obligation
14 under the applicable performance stand-
15 ard; or

16 “(ii) \$5 per million Btu of natural gas
17 savings needed to make up any deficit with
18 regard to a compliance obligation under
19 the applicable performance standard.

20 “(B) USE OF PAYMENTS.—Alternative
21 compliance payments collected by a State under
22 subparagraph (A) shall be used by the State to
23 administer the delegated authority of the State
24 under this section and to implement cost-effec-
25 tive energy efficiency programs that—

1 “(i) to the maximum extent prac-
2 ticable, achieve electricity savings and nat-
3 ural gas savings in the State sufficient to
4 make up the deficit associated with the al-
5 ternative compliance payments; and

6 “(ii) can be measured and verified in
7 accordance with the applicable procedures
8 and standards under subsection (b)(1)(B).

9 “(4) REVIEW OF STATE IMPLEMENTATION.—

10 “(A) PERIODIC REVIEW.—Every 2 years,
11 the Secretary shall review State implementation
12 of this section for conformance with the re-
13 quirements of this section in approximately $\frac{1}{2}$
14 of the States that have received approval under
15 this subsection to administer the program, so
16 that each State shall be reviewed at least every
17 4 years.

18 “(B) REPORT.—To facilitate the review
19 under subparagraph (A), the Secretary may re-
20 quire the State to submit a report dem-
21 onstrating the conformance of the State with
22 the requirements of this section.

23 “(C) DEFICIENCIES.—

24 “(i) IN GENERAL.—In completing a
25 review under this paragraph, if the Sec-

1 retary finds deficiencies, the Secretary
2 shall—

3 “(I) notify the State of the defi-
4 ciencies;

5 “(II) direct the State to correct
6 the deficiencies; and

7 “(III) require the State to report
8 to the Secretary on progress made by
9 not later than 180 days after the date
10 on which the State receives notice
11 under subclause (I).

12 “(ii) SUBSTANTIAL DEFICIENCIES.—If
13 the deficiencies are substantial, the Sec-
14 retary shall—

15 “(I) disallow the reported elec-
16 tricity savings or natural gas savings
17 that the Secretary determines are not
18 credible due to deficiencies;

19 “(II) re-review the State not
20 later than 2 years after the date on
21 which the original review was com-
22 pleted; and

23 “(III) if substantial deficiencies
24 remain uncorrected after the review
25 provided for under subclause (II), re-

1 voke the authority of the State to ad-
 2 minister the program established
 3 under this section.

4 “(f) INFORMATION AND REPORTS.—In accordance
 5 with section 13 of the Federal Energy Administration Act
 6 of 1974 (15 U.S.C. 772), the Secretary may require any
 7 retail electricity supplier, retail natural gas supplier, third-
 8 party efficiency provider, or any other entity that the Sec-
 9 retary determines appropriate, to provide any information
 10 the Secretary determines appropriate to carry out this sec-
 11 tion.

12 “(g) STATE LAW.—Nothing in this section dimin-
 13 ishes or qualifies any authority of a State or political sub-
 14 division of a State to adopt or enforce any law or regula-
 15 tion respecting electricity savings or natural gas savings,
 16 including any law or regulation establishing energy effi-
 17 ciency requirements that are more stringent than those
 18 under this section, except that no State law or regulation
 19 shall relieve any person of any requirement otherwise ap-
 20 plicable under this section.”.

21 (b) CONFORMING AMENDMENT.—The table of con-
 22 tents of the Public Utility Regulatory Policies Act of 1978
 23 (16 U.S.C. prec. 2601) is amended by adding at the end
 24 of the items relating to title VI the following:

“Sec. 609. Rural and remote communities electrification grants.

“Sec. 610. Federal energy efficiency resource standard for retail electricity and
 natural gas suppliers.”.

1 **Subtitle C—Energy Efficiency**
2 **Retrofit Program**

3 **SEC. 3021. ENERGY EFFICIENCY RETROFIT PILOT PRO-**
4 **GRAM.**

5 (a) DEFINITIONS.—In this section:

6 (1) APPLICANT.—The term “applicant” means
7 a nonprofit organization that applies for a grant
8 under this section.

9 (2) ENERGY-EFFICIENCY IMPROVEMENT.—

10 (A) IN GENERAL.—The term “energy-effi-
11 ciency improvement” means an installed meas-
12 ure (including a product, equipment, system,
13 service, or practice) that results in a reduction
14 in use by a nonprofit organization for energy or
15 fuel supplied from outside the nonprofit build-
16 ing.

17 (B) INCLUSIONS.—The term “energy-effi-
18 ciency improvement” includes an installed
19 measure described in subparagraph (A) involv-
20 ing—

21 (i) repairing, replacing, or installing—

22 (I) a roof or lighting system, or
23 component of a roof or lighting sys-
24 tem;

25 (II) a window;

1 (III) a door, including a security
2 door; or

3 (IV) a heating, ventilation, or air
4 conditioning system or component of
5 the system (including insulation and
6 wiring and plumbing improvements
7 needed to serve a more efficient sys-
8 tem);

9 (ii) a renewable energy generation or
10 heating system, including a solar, photo-
11 voltaic, wind, geothermal, or biomass (in-
12 cluding wood pellet) system or component
13 of the system; and

14 (iii) any other measure taken to mod-
15 ernize, renovate, or repair a nonprofit
16 building to make the nonprofit building
17 more energy efficient.

18 (3) NONPROFIT BUILDING.—

19 (A) IN GENERAL.—The term “nonprofit
20 building” means a building operated and owned
21 by a nonprofit organization.

22 (B) INCLUSIONS.—The term “nonprofit
23 building” includes a building described in sub-
24 paragraph (A) that is—

25 (i) a hospital;

- 1 (ii) a youth center;
- 2 (iii) a school;
- 3 (iv) a social-welfare program facility;
- 4 (v) a faith-based organization; and
- 5 (vi) any other nonresidential and non-
- 6 commercial structure.

7 (b) ESTABLISHMENT.—Not later than 1 year after
8 the date of enactment of this Act, the Secretary shall es-
9 tablish a pilot program to award grants for the purpose
10 of retrofitting nonprofit buildings with energy-efficiency
11 improvements.

12 (c) GRANTS.—

13 (1) IN GENERAL.—The Secretary may award
14 grants under the program established under sub-
15 section (b).

16 (2) APPLICATION.—The Secretary may award a
17 grant under this section if an applicant submits to
18 the Secretary an application at such time, in such
19 form, and containing such information as the Sec-
20 retary may prescribe.

21 (3) CRITERIA FOR GRANT.—In determining
22 whether to award a grant under this section, the
23 Secretary shall apply performance-based criteria,
24 which shall give priority to applications based on—

25 (A) the energy savings achieved;

1 (B) the cost-effectiveness of the energy-ef-
2 ficiency improvement;

3 (C) an effective plan for evaluation, meas-
4 urement, and verification of energy savings;

5 (D) the financial need of the applicant;
6 and

7 (E) the percentage of the matching con-
8 tribution by the applicant.

9 (4) LIMITATION ON INDIVIDUAL GRANT
10 AMOUNT.—Each grant awarded under this section
11 shall not exceed—

12 (A) an amount equal to 50 percent of the
13 energy-efficiency improvement; and

14 (B) \$200,000.

15 (5) COST SHARING.—

16 (A) IN GENERAL.—A grant awarded under
17 this section shall be subject to a minimum non-
18 Federal cost-sharing requirement of 50 percent.

19 (B) IN-KIND CONTRIBUTIONS.—The non-
20 Federal share may be provided in the form of
21 in-kind contributions of materials or services.

22 (d) AUTHORIZATION OF APPROPRIATIONS.—There is
23 authorized to be appropriated to carry out this section
24 \$10,000,000 for each of fiscal years 2016 through 2020,
25 to remain available until expended.

1 **Subtitle D—Weatherization En-**
2 **hancement and Local Energy**
3 **Efficiency Investment and Ac-**
4 **countability**

5 **SEC. 3031. FINDINGS.**

6 Congress finds that—

7 (1) the State energy program established under
8 part D of title III of the Energy Policy and Con-
9 servation Act (42 U.S.C. 6321 et seq.) (referred to
10 in this section as “SEP”) and the Weatherization
11 Assistance Program for Low-Income Persons estab-
12 lished under part A of title IV of the Energy Con-
13 servation and Production Act (42 U.S.C. 6861 et
14 seq.) (referred to in this section as “WAP”) have
15 proven to be beneficial, long-term partnerships
16 among Federal, State, and local partners;

17 (2) the SEP and the WAP have been reauthor-
18 ized on a bipartisan basis over many years to ad-
19 dress changing national, regional, and State cir-
20 cumstances and needs, especially through—

21 (A) the Energy Policy and Conservation
22 Act (42 U.S.C. 6201 et seq.);

23 (B) the Energy Conservation and Produc-
24 tion Act (42 U.S.C. 6801 et seq.);

1 (C) the State Energy Efficiency Programs
2 Improvement Act of 1990 (Public Law 101–
3 440; 104 Stat. 1006);

4 (D) the Energy Policy Act of 1992 (42
5 U.S.C. 13201 et seq.);

6 (E) the Energy Policy Act of 2005 (42
7 U.S.C. 15801 et seq.); and

8 (F) the Energy Independence and Security
9 Act of 2007 (42 U.S.C. 17001 et seq.);

10 (3) the SEP, also known as the “State energy
11 conservation program”—

12 (A) was first created in 1975 to implement
13 a State-based, national program in support of
14 energy efficiency, renewable energy, economic
15 development, energy emergency preparedness,
16 and energy policy; and

17 (B) has come to operate in every sector of
18 the economy in support of the private sector to
19 improve productivity and has dramatically re-
20 duced the cost of government through energy
21 savings at the State and local levels;

22 (4) Federal laboratory studies have concluded
23 that, for every Federal dollar invested through the
24 SEP, more than \$7 is saved in energy costs and al-
25 most \$11 in non-Federal funds is leveraged;

1 (5) the WAP—

2 (A) was first created in 1976 to assist low-
3 income families in response to the first oil em-
4 bargo;

5 (B) has become the largest residential en-
6 ergy conservation program in the United
7 States, with more than 7,100,000 homes weath-
8 erized since the WAP was created;

9 (C) saves an estimated 35 percent of con-
10 sumption in the typical weatherized home, yield-
11 ing average annual savings of \$437 per year in
12 home energy costs;

13 (D) has created thousands of jobs in both
14 the construction sector and in the supply chain
15 of materials suppliers, vendors, and manufac-
16 turers who supply the WAP;

17 (E) returns \$2.51 in energy savings for
18 every Federal dollar spent in energy and non-
19 energy benefits over the life of weatherized
20 homes;

21 (F) serves as a foundation for residential
22 energy efficiency retrofit standards, technical
23 skills, and workforce training for the emerging
24 broader market and reduces residential and

1 power plant emissions of carbon dioxide by 2.65
2 metric tons each year per home; and

3 (G) has decreased national energy con-
4 sumption by the equivalent of 24,100,000 bar-
5 rels of oil annually;

6 (6) the WAP can be enhanced with the addition
7 of a targeted portion of the Federal funds through
8 an innovative program that supports projects per-
9 formed by qualified nonprofit organizations that
10 have a demonstrated capacity to build, renovate, re-
11 pair, or improve the energy efficiency of a significant
12 number of low-income homes, building on the suc-
13 cess of the existing program without replacing the
14 existing WAP network or creating a separate deliv-
15 ery mechanism for basic WAP services;

16 (7) the WAP has increased energy efficiency
17 opportunities by promoting new, competitive public-
18 private sector models of retrofitting low-income
19 homes through new Federal partnerships;

20 (8) improved monitoring and reporting of the
21 work product of the WAP has yielded benefits, and
22 expanding independent verification of efficiency work
23 will support the long-term goals of the WAP;

24 (9) reports of the Government Accountability
25 Office in 2011, the Inspector General of the Depart-

1 ment, and State auditors have identified State-level
2 deficiencies in monitoring efforts that can be ad-
3 dressed in a manner that will ensure that WAP
4 funds are used more effectively;

5 (10) through the history of the WAP, the WAP
6 has evolved with improvements in efficiency tech-
7 nology, including, in the 1990s, many States adopt-
8 ing advanced home energy audits, which has led to
9 great returns on investment; and

10 (11) as the home energy efficiency industry has
11 become more performance-based, the WAP should
12 continue to use those advances in technology and the
13 professional workforce.

14 **SEC. 3032. REAUTHORIZATION OF WEATHERIZATION AS-**
15 **SISTANCE PROGRAM.**

16 Section 422 of the Energy Conservation and Produc-
17 tion Act (42 U.S.C. 6872) is amended by striking “appro-
18 priated—” and all that follows through the period at the
19 end and inserting “appropriated \$450,000,000 for each
20 of fiscal years 2016 through 2020.”.

1 **SEC. 3033. GRANTS FOR NEW, SELF-SUSTAINING LOW-IN-**
2 **COME, SINGLE-FAMILY, AND MULTIFAMILY**
3 **HOUSING ENERGY RETROFIT MODEL PRO-**
4 **GRAMS TO ELIGIBLE MULTI-STATE HOUSING**
5 **AND ENERGY NONPROFIT ORGANIZATIONS.**

6 The Energy Conservation and Production Act is
7 amended by inserting after section 414B (42 U.S.C.
8 6864b) the following:

9 **“SEC. 414C. GRANTS FOR NEW, SELF-SUSTAINING LOW-IN-**
10 **COME, SINGLE-FAMILY, AND MULTIFAMILY**
11 **HOUSING ENERGY RETROFIT MODEL PRO-**
12 **GRAMS TO ELIGIBLE MULTI-STATE HOUSING**
13 **AND ENERGY NONPROFIT ORGANIZATIONS.**

14 “(a) PURPOSES.—The purposes of this section are—

15 “(1) to expand the number of low-income, sin-
16 gle-family and multifamily homes that receive energy
17 efficiency retrofits;

18 “(2) to promote innovation and new models of
19 retrofitting low-income homes through new Federal
20 partnerships with covered organizations that lever-
21 age substantial donations, donated materials, volun-
22 teer labor, homeowner labor equity, and other pri-
23 vate sector resources;

24 “(3) to assist the covered organizations in dem-
25 onstrating, evaluating, improving, and replicating

1 widely the model low-income energy retrofit pro-
2 grams of the covered organizations; and

3 “(4) to ensure that the covered organizations
4 make the energy retrofit programs of the covered or-
5 ganizations self-sustaining by the time grant funds
6 have been expended.

7 “(b) DEFINITIONS.—In this section:

8 “(1) COVERED ORGANIZATION.—The term ‘cov-
9 ered organization’ means an organization that—

10 “(A) is described in section 501(c)(3) of
11 the Internal Revenue Code of 1986 and exempt
12 from taxation under 501(a) of that Code; and

13 “(B) has an established record of con-
14 structing, renovating, repairing, or making en-
15 ergy efficient a total of not less than 250
16 owner-occupied, single-family or multifamily
17 homes per year for low-income households, ei-
18 ther directly or through affiliates, chapters, or
19 other direct partners (using the most recent
20 year for which data are available).

21 “(2) LOW-INCOME.—The term ‘low-income’
22 means an income level that is not more than 200
23 percent of the poverty level (as determined in ac-
24 cordance with criteria established by the Director of
25 the Office of Management and Budget) applicable to

1 a family of the size involved, except that the Sec-
2 retary may establish a higher or lower level if the
3 Secretary determines that a higher or lower level is
4 necessary to carry out this section.

5 “(3) WEATHERIZATION ASSISTANCE PROGRAM
6 FOR LOW-INCOME PERSONS.—The term ‘Weatheriza-
7 tion Assistance Program for Low-Income Persons’
8 means the program established under this part (in-
9 cluding part 440 of title 10, Code of Federal Regu-
10 lations, or successor regulations).

11 “(c) COMPETITIVE GRANT PROGRAM.—The Sec-
12 retary shall make grants to covered organizations through
13 a national competitive process for use in accordance with
14 this section.

15 “(d) AWARD FACTORS.—In making grants under this
16 section, the Secretary shall consider—

17 “(1) the number of low-income homes the appli-
18 cant—

19 “(A) has built, renovated, repaired, or
20 made more energy efficient as of the date of the
21 application; and

22 “(B) can reasonably be projected to build,
23 renovate, repair, or make energy efficient dur-
24 ing the 10-year period beginning on the date of
25 the application;

1 “(2) the qualifications, experience, and past
2 performance of the applicant, including experience
3 successfully managing and administering Federal
4 funds;

5 “(3) the number and diversity of States and cli-
6 mates in which the applicant works as of the date
7 of the application;

8 “(4) the amount of non-Federal funds, donated
9 or discounted materials, discounted or volunteer
10 skilled labor, volunteer unskilled labor, homeowner
11 labor equity, and other resources the applicant will
12 provide;

13 “(5) the extent to which the applicant could
14 successfully replicate the energy retrofit program of
15 the applicant and sustain the program after the
16 grant funds have been expended;

17 “(6) regional diversity;

18 “(7) urban, suburban, and rural localities; and

19 “(8) such other factors as the Secretary deter-
20 mines to be appropriate.

21 “(e) APPLICATIONS.—

22 “(1) IN GENERAL.—Not later than 180 days
23 after the date of enactment of this section, the Sec-
24 retary shall request proposals from covered organiza-
25 tions.

1 “(2) ADMINISTRATION.—To be eligible to re-
2 ceive a grant under this section, an applicant shall
3 submit to the Secretary an application at such time,
4 in such manner, and containing such information as
5 the Secretary may require.

6 “(3) AWARDS.—Not later than 90 days after
7 the date of issuance of a request for proposals, the
8 Secretary shall award grants under this section.

9 “(f) ELIGIBLE USES OF GRANT FUNDS.—A grant
10 under this section may be used for—

11 “(1) energy efficiency audits, cost-effective ret-
12 rofit, and related activities in different climatic re-
13 gions of the United States;

14 “(2) energy efficiency materials and supplies;

15 “(3) organizational capacity—

16 “(A) to significantly increase the number
17 of energy retrofits;

18 “(B) to replicate an energy retrofit pro-
19 gram in other States; and

20 “(C) to ensure that the program is self-
21 sustaining after the Federal grant funds are ex-
22 pended;

23 “(4) energy efficiency, audit and retrofit train-
24 ing, and ongoing technical assistance;

1 “(5) information to homeowners on proper
2 maintenance and energy savings behaviors;

3 “(6) quality control and improvement;

4 “(7) data collection, measurement, and
5 verification;

6 “(8) program monitoring, oversight, evaluation,
7 and reporting;

8 “(9) management and administration (up to a
9 maximum of 10 percent of the total grant);

10 “(10) labor and training activities; and

11 “(11) such other activities as the Secretary de-
12 termines to be appropriate.

13 “(g) MAXIMUM AMOUNT.—

14 “(1) IN GENERAL.—The amount of a grant
15 provided under this section shall not exceed—

16 “(A) if the amount made available to carry
17 out this section for a fiscal year is
18 \$225,000,000 or more, \$5,000,000; and

19 “(B) if the amount made available to carry
20 out this section for a fiscal year is less than
21 \$225,000,000, \$1,500,000.

22 “(2) TECHNICAL AND TRAINING ASSISTANCE.—

23 The total amount of a grant provided under this sec-
24 tion shall be reduced by the cost of any technical

1 and training assistance provided by the Secretary
2 that relates to the grant.

3 “(h) GUIDELINES.—

4 “(1) IN GENERAL.—Not later than 90 days
5 after the date of enactment of this section, the Sec-
6 retary shall issue guidelines to implement the grant
7 program established under this section.

8 “(2) ADMINISTRATION.—The guidelines—

9 “(A) shall not apply to the Weatherization
10 Assistance Program for Low-Income Persons,
11 in whole or major part; but

12 “(B) may rely on applicable provisions of
13 law governing the Weatherization Assistance
14 Program for Low-Income Persons to estab-
15 lish—

16 “(i) standards for allowable expendi-
17 tures;

18 “(ii) a minimum savings-to-investment
19 ratio;

20 “(iii) standards—

21 “(I) to carry out training pro-
22 grams;

23 “(II) to conduct energy audits
24 and program activities;

1 “(III) to provide technical assist-
2 ance;

3 “(IV) to monitor program activi-
4 ties; and

5 “(V) to verify energy and cost
6 savings;

7 “(iv) liability insurance requirements;
8 and

9 “(v) recordkeeping requirements,
10 which shall include reporting to the Office
11 of Weatherization and Intergovernmental
12 Programs of the Department of Energy
13 applicable data on each home retrofitted.

14 “(i) REVIEW AND EVALUATION.—The Secretary shall
15 review and evaluate the performance of any covered orga-
16 nization that receives a grant under this section (which
17 may include an audit), as determined by the Secretary.

18 “(j) COMPLIANCE WITH STATE AND LOCAL LAW.—
19 Nothing in this section or any program carried out using
20 a grant provided under this section supersedes or other-
21 wise affects any State or local law, to the extent that the
22 State or local law contains a requirement that is more
23 stringent than the applicable requirement of this section.

24 “(k) ANNUAL REPORTS.—The Secretary shall submit
25 to Congress annual reports that provide—

1 “(1) findings;

2 “(2) a description of energy and cost savings
3 achieved and actions taken under this section; and

4 “(3) any recommendations for further action.

5 “(1) FUNDING.—Of the amount of funds that are
6 made available to carry out the Weatherization Assistance
7 Program for each of fiscal years 2016 through 2020 under
8 section 422, the Secretary shall use to carry out this sec-
9 tion for each of fiscal years 2016 through 2020—

10 “(1) 2 percent of the amount if the amount is
11 less than \$225,000,000;

12 “(2) 5 percent of the amount if the amount is
13 \$225,000,000 or more but less than \$260,000,000;

14 “(3) 10 percent of the amount if the amount is
15 \$260,000,000 or more but less than \$400,000,000;

16 and

17 “(4) 20 percent of the amount if the amount is
18 \$400,000,000 or more.”.

19 **SEC. 3034. STANDARDS PROGRAM.**

20 Section 415 of the Energy Conservation and Produc-
21 tion Act (42 U.S.C. 6865) is amended by adding at the
22 end the following:

23 “(f) STANDARDS PROGRAM.—

24 “(1) CONTRACTOR QUALIFICATION.—Effective
25 beginning January 1, 2016, to be eligible to carry

1 out weatherization using funds made available under
 2 this part, a contractor shall be selected through a
 3 competitive bidding process and be—

4 “(A) accredited by the Building Perform-
 5 ance Institute;

6 “(B) an Energy Smart Home Performance
 7 Team accredited under the Residential Energy
 8 Services Network; or

9 “(C) accredited by an equivalent accredita-
 10 tion or program accreditation-based State cer-
 11 tification program approved by the Secretary.

12 “(2) GRANTS FOR ENERGY RETROFIT MODEL
 13 PROGRAMS.—

14 “(A) IN GENERAL.—To be eligible to re-
 15 ceive a grant under section 414C, a covered or-
 16 ganization (as defined in section 414C(b)) shall
 17 use a crew chief who—

18 “(i) is certified or accredited in ac-
 19 cordance with paragraph (1); and

20 “(ii) supervises the work performed
 21 with grant funds.

22 “(B) VOLUNTEER LABOR.—A volunteer
 23 who performs work for a covered organization
 24 that receives a grant under section 414C shall
 25 not be required to be certified under this sub-

1 section if the volunteer is not directly installing
2 or repairing mechanical equipment or other
3 items that require skilled labor.

4 “(C) TRAINING.—The Secretary shall use
5 training and technical assistance funds available
6 to the Secretary to assist covered organizations
7 under section 414C in providing training to ob-
8 tain certification required under this subsection,
9 including provisional or temporary certification.

10 “(3) MINIMUM EFFICIENCY STANDARDS.—Ef-
11 fective beginning October 1, 2016, the Secretary
12 shall ensure that—

13 “(A) each retrofit for which weatherization
14 assistance is provided under this part meets
15 minimum efficiency and quality of work stand-
16 ards established by the Secretary after weather-
17 ization of a dwelling unit;

18 “(B) at least 10 percent of the dwelling
19 units are randomly inspected by a third party
20 accredited under this subsection to ensure com-
21 pliance with the minimum efficiency and quality
22 of work standards established under subpara-
23 graph (A); and

24 “(C) the standards established under this
25 subsection meet or exceed the industry stand-

1 ards for home performance work that are in ef-
2 fect on the date of enactment of this subsection,
3 as determined by the Secretary.”.

4 **SEC. 3035. REAUTHORIZATION OF STATE ENERGY PRO-**
5 **GRAM.**

6 Section 365(f) of the Energy Policy and Conservation
7 Act (42 U.S.C. 6325(f)) is amended by striking
8 “\$125,000,000 for each of fiscal years 2007 through
9 2012” and inserting “\$75,000,000 for each of fiscal years
10 2016 through 2020”.

11 **Subtitle E—Utility Energy Service**
12 **Contracts Improvement**

13 **SEC. 3041. FINDINGS.**

14 Congress finds that—

15 (1) the Federal Government is the largest con-
16 sumer of energy in the United States;

17 (2) Federal agencies are expected to meet, by
18 law, Executive order, and mandate, stringent energy
19 efficiency and conservation targets;

20 (3) the utility energy service contract (referred
21 to in this section as “UESC”) was developed to pro-
22 vide Federal agencies an effective means to imple-
23 ment energy efficiency, renewable energy and water
24 efficiency projects, and has been used successfully to

1 invest nearly \$2,700,000,000 in property at Federal
2 facilities;

3 (4) the General Services Administration, which
4 manages more than 9,600 Federal properties and is
5 the lead agency for procuring utility services for the
6 Federal Government, has determined that UESCs
7 may extend beyond a 10-year period under the law;

8 (5) the Federal Energy Management Program,
9 which oversees the UESC program and is a principal
10 office guiding agencies to use funding more effec-
11 tively in meeting Federal and agency-specific energy
12 and resource management objectives, has determined
13 that UESCs may extend beyond a 10-year period
14 under the law;

15 (6) extensive precedent exists for Federal agen-
16 cies to contract for energy saving services using con-
17 tracts with term limits of more than 10 years but
18 not to exceed 25 years;

19 (7) a number of Federal agencies, contrary to
20 congressional intent, have sought to limit UESC
21 term limits to periods of less than 10 years; and

22 (8) greater flexibility with UESCs will help re-
23 duce the operational cost of Federal agencies, ulti-
24 mately saving money for taxpayers.

1 **SEC. 3042. UTILITY ENERGY SERVICE CONTRACTS.**

2 Part 3 of title V of the National Energy Conservation
3 Policy Act (as amended by section 2151) is amended by
4 adding after section 554 the following:

5 **“SEC. 555. UTILITY ENERGY SERVICE CONTRACTS.**

6 “(a) IN GENERAL.—Each Federal agency may use,
7 to the maximum extent practicable, measures provided by
8 law to meet energy efficiency and conservation mandates
9 and laws, including through utility energy service con-
10 tracts.

11 “(b) CONTRACT PERIOD.—The term of a utility en-
12 ergy service contract entered into by a Federal agency may
13 have a contract period that extends beyond 10 years, but
14 not to exceed 25 years.

15 “(c) REQUIREMENTS.—The conditions of a utility en-
16 ergy service contract entered into by a Federal agency
17 shall include requirements for measurement, verification,
18 and performance assurances or guarantees of the sav-
19 ings.”.

20 **Subtitle F—State Residential**
21 **Building Energy Efficiency**
22 **Loan Pilot Program**

23 **SEC. 3051. STATE RESIDENTIAL BUILDING ENERGY EFFI-**
24 **CIENCY UPGRADES LOAN PILOT PROGRAM.**

25 (a) LOANS FOR RESIDENTIAL BUILDING ENERGY
26 EFFICIENCY UPGRADES.—Part D of title III of the En-

1 energy Policy and Conservation Act (42 U.S.C. 6321 et seq.)
2 is amended by adding at the end the following:

3 **“SEC. 367. LOANS FOR RESIDENTIAL BUILDING ENERGY EF-**
4 **FICIENCY UPGRADES.**

5 “(a) DEFINITIONS.—In this section:

6 “(1) CONSUMER-FRIENDLY.—The term ‘con-
7 sumer-friendly’, with respect to a loan repayment
8 approach, means a loan repayment approach that—

9 “(A) emphasizes convenience for cus-
10 tomers;

11 “(B) is of low cost to consumers; and

12 “(C) emphasizes simplicity and ease of use
13 for consumers in the billing process.

14 “(2) ELIGIBLE ENTITY.—The term ‘eligible en-
15 tity’ means—

16 “(A) a State or territory of the United
17 States; and

18 “(B) a tribal organization (as defined in
19 section 4 of the Indian Self-Determination and
20 Education Assistance Act (25 U.S.C. 450b)).

21 “(3) ENERGY ADVISOR PROGRAM.—

22 “(A) IN GENERAL.—The term ‘energy ad-
23 visor program’ means any program to provide
24 to owners or residents of residential buildings
25 advice, information, and support in the identi-

1 fication, prioritization, and implementation of
2 energy efficiency and energy savings measures.

3 “(B) INCLUSIONS.—The term ‘energy ad-
4 visor program’ includes a program that pro-
5 vides—

6 “(i) interpretation of energy audit re-
7 ports;

8 “(ii) assistance in the prioritization of
9 improvements;

10 “(iii) assistance in finding qualified
11 contractors;

12 “(iv) assistance in contractor bid re-
13 views;

14 “(v) education on energy conservation
15 and energy efficiency;

16 “(vi) explanations of available incen-
17 tives and tax credits;

18 “(vii) assistance in completion of re-
19 bate and incentive paperwork; and

20 “(viii) any other similar type of sup-
21 port.

22 “(4) ENERGY EFFICIENCY.—The term ‘energy
23 efficiency’ means a decrease in homeowner or resi-
24 dential tenant consumption of energy (including elec-

1 tricity and thermal energy) that is achieved without
2 reducing the quality of energy services through—

3 “(A) a measure or program that targets
4 customer behavior;

5 “(B) equipment or energy systems;

6 “(C) a device; or

7 “(D) other material.

8 “(5) ENERGY EFFICIENCY UPGRADE.—

9 “(A) IN GENERAL.—The term ‘energy effi-
10 ciency upgrade’ means any project or activity—

11 “(i) the primary purpose of which is
12 increasing energy efficiency; and

13 “(ii) that is carried out on a residen-
14 tial building.

15 “(B) INCLUSIONS.—The term ‘energy effi-
16 ciency upgrade’ includes the installation or im-
17 provement of a renewable energy facility for
18 heating or electricity generation serving a resi-
19 dential building carried out in conjunction with
20 an energy efficiency project or activity.

21 “(6) PROGRAM ENTITY.—The term ‘program
22 entity’ means a local government, utility, or other
23 entity that carries out a financing program under
24 subsection (e)(2)(A) pursuant to a contract or other
25 agreement with an eligible entity.

1 “(7) RECIPIENT HOUSEHOLD.—The term ‘re-
2 recipient household’ means the owner or tenant of a
3 residential building who receives financing under
4 this section for an energy efficiency upgrade of the
5 residential building.

6 “(8) RESIDENTIAL BUILDING.—

7 “(A) IN GENERAL.—The term ‘residential
8 building’ means a building used for residential
9 purposes.

10 “(B) INCLUSIONS.—The term ‘residential
11 building’ includes—

12 “(i) a single-family residence;

13 “(ii) a multifamily residence composed
14 not more than 4 units; and

15 “(iii) a mixed-use building that in-
16 cludes not more than 4 residential units.

17 “(b) ESTABLISHMENT OF PROGRAM.—

18 “(1) IN GENERAL.—The Secretary shall estab-
19 lish a program under this part under which the Sec-
20 retary shall make available to eligible entities loans
21 for the purpose of establishing or expanding pro-
22 grams that provide to recipient households financing
23 for energy efficiency upgrades of residential build-
24 ings.

1 “(2) CONSULTATION.—In establishing the pro-
2 gram under paragraph (1), the Secretary shall con-
3 sult, as the Secretary determines to be appropriate,
4 with stakeholders and the public.

5 “(3) NO REQUIREMENT TO PARTICIPATE.—No
6 eligible entity shall be required to participate in any
7 manner in the program established under paragraph
8 (1).

9 “(4) DEADLINES.—The Secretary shall—

10 “(A) not later than 1 year after the date
11 of enactment of this section, implement the pro-
12 gram established under paragraph (1) (includ-
13 ing soliciting applications from eligible entities
14 in accordance with subsection (c)); and

15 “(B) not later than 2 years after the date
16 of enactment of this section, disburse the initial
17 loans provided under this section.

18 “(c) APPLICATIONS.—

19 “(1) IN GENERAL.—To be eligible to receive a
20 loan under this section, an eligible entity shall sub-
21 mit to the Secretary an application at such time, in
22 such manner, and containing such information as
23 the Secretary may require.

24 “(2) SELECTION DATE.—Not later than 21
25 months after the date of enactment of this section,

1 the Secretary shall select eligible entities to receive
2 the initial loans provided under this section, in ac-
3 cordance with the requirements described in para-
4 graph (3).

5 “(3) REQUIREMENTS.—In selecting eligible en-
6 tities to receive loans under this section, the Sec-
7 retary shall—

8 “(A) to the maximum extent practicable,
9 ensure—

10 “(i) that both innovative and estab-
11 lished approaches to the challenges of fi-
12 nancing energy efficiency upgrades are
13 supported;

14 “(ii) that energy efficiency upgrades
15 are conducted and validated to comply with
16 best practices for work quality, as deter-
17 mined by the Secretary;

18 “(iii) regional diversity among eligible
19 entities that receive the loans, including
20 participation by rural States and small
21 States;

22 “(iv) significant participation by fami-
23 lies with income levels at or below the me-
24 dian income level for the applicable geo-

1 graphical region, as determined by the Sec-
2 retary; and

3 “(v) the incorporation of an energy
4 advisor program by, as applicable—

5 “(I) eligible entities; or

6 “(II) program entities;

7 “(B) evaluate applications based primarily

8 on—

9 “(i) the projected reduction in energy
10 use, as determined in accordance with such
11 specific and commonly available method-
12 ology as the Secretary shall establish, by
13 regulation;

14 “(ii) the creditworthiness of the eligi-
15 ble entity; and

16 “(iii) the incorporation of measures
17 for making the loan repayment system for
18 recipient households as consumer-friendly
19 as practicable;

20 “(C) evaluate applications based second-

21 arily on—

22 “(i) the extent to which the proposed
23 financing program of the eligible entity in-
24 corporates best practices for such a pro-
25 gram, as determined by the Secretary;

1 “(ii)(I) whether the eligible entity has
2 created a plan for evaluating the effective-
3 ness of the proposed financing program;
4 and

5 “(II) whether that plan includes—

6 “(aa) a robust strategy for col-
7 lecting, managing, and analyzing
8 data, as well as making the data
9 available to the public; and

10 “(bb) experimental studies, which
11 may include investigations of how
12 human behavior impacts the effective-
13 ness of efficiency improvements;

14 “(iii) the extent to which Federal
15 funds are matched by funding from State,
16 local, philanthropic, private sector, and
17 other sources;

18 “(iv) the extent to which the proposed
19 financing program will be coordinated and
20 marketed with other existing or planned
21 energy efficiency or energy conservation
22 programs administered by—

23 “(I) utilities and rural coopera-
24 tives;

1 “(II) State, tribal, territorial, or
2 local governments; or

3 “(III) community development fi-
4 nancial institutions; and

5 “(v) such other factors as the Sec-
6 retary determines to be appropriate; and

7 “(D) not provide an advantage or dis-
8 advantage to applications that include renew-
9 able energy in the program.

10 “(d) ADMINISTRATIVE PROVISIONS.—

11 “(1) TERM.—The Secretary shall establish
12 terms for loans provided to eligible entities under
13 this section—

14 “(A) in a manner that—

15 “(i) provides for a high degree of cost
16 recovery; and

17 “(ii) ensures that, with respect to all
18 loans provided to or by eligible entities
19 under this section, the loans are competi-
20 tive with, or superior to, other forms of fi-
21 nancing for similar purposes; and

22 “(B) subject to the condition that the term
23 of a loan provided to an eligible entity under
24 this section shall not exceed 35 years.

25 “(2) INTEREST RATES.—

1 “(A) IN GENERAL.—Subject to subpara-
2 graph (B), the Secretary, at the discretion of
3 the Secretary, shall charge interest on a loan
4 provided to an eligible entity under this section
5 at a fixed rate equal, or approximately equal, to
6 the interest rate charged on Treasury securities
7 of comparable maturity.

8 “(B) LEVERAGED LOANS.—The interest
9 rate and other terms of the loans provided to
10 eligible entities under this section shall be es-
11 tablished in a manner that ensures that the
12 total amount of the loans is equal to not less
13 than 20 times, and not more than 50 times, an
14 amount equivalent to 80 percent of the amount
15 appropriated for administrative and general fi-
16 nancial support costs pursuant to subsection
17 (g)(2).

18 “(3) NO PENALTY ON EARLY REPAYMENT.—
19 The Secretary shall not assess any penalty for early
20 repayment by an eligible entity of a loan provided
21 under this section.

22 “(4) RETURN OF UNUSED PORTION.—As a con-
23 dition of receipt of a loan under this section, an eli-
24 gible entity shall agree to return to the general fund
25 of the Treasury any portion of the loan amount that

1 is unused by the eligible entity within a reasonable
2 period after the date of receipt of the loan, as deter-
3 mined by the Secretary.

4 “(e) USE OF FUNDS.—

5 “(1) IN GENERAL.—An eligible entity shall use
6 a loan provided under this section to establish or ex-
7 pand 1 or more financing programs—

8 “(A) the purpose of which is to enable re-
9 cipient households to undertake energy effi-
10 ciency upgrades of residential buildings;

11 “(B) that may, at the sole discretion of the
12 eligible entity, require an outlay of capital by
13 recipient households in accordance with the
14 goals of the program under this section; and

15 “(C) that incorporate a consumer-friendly
16 loan repayment approach.

17 “(2) STRUCTURE OF FINANCING PROGRAM.—A
18 financing program of an eligible entity may—

19 “(A) consist—

20 “(i) primarily or entirely of a financ-
21 ing program administered by—

22 “(I) the applicable State; or

23 “(II) a program entity; or

24 “(ii) of a combination of programs de-
25 scribed in clause (i);

1 “(B) rely on financing provided by—

2 “(i) the eligible entity; or

3 “(ii) a third party, acting through the
4 eligible entity; and

5 “(C) include a provision pursuant to which
6 a recipient household shall agree to return to
7 the eligible entity any portion of the assistance
8 that is unused by the recipient household within
9 a reasonable period after the date of receipt of
10 the assistance, as determined by the eligible en-
11 tity.

12 “(3) FORM OF ASSISTANCE.—Assistance from
13 an eligible entity under this subsection may be pro-
14 vided in any form, or in accordance with any pro-
15 gram, authorized by Federal law (including regula-
16 tions), including in the form of—

17 “(A) a revolving loan fund;

18 “(B) a credit enhancement structure de-
19 signed to mitigate the effects of default; or

20 “(C) a program that—

21 “(i) adopts any other approach for
22 providing financing for energy efficiency
23 upgrades producing significant energy effi-
24 ciency gains; and

1 “(ii) incorporates measures for mak-
2 ing the loan repayment system for recipi-
3 ent households as consumer-friendly as
4 practicable.

5 “(4) SCOPE OF ASSISTANCE.—Assistance pro-
6 vided by an eligible entity under this subsection may
7 be used to pay for costs associated with carrying out
8 an energy efficiency upgrade, including materials
9 and labor.

10 “(5) ADDITIONAL ASSISTANCE.—In addition to
11 the amount of the loan provided to an eligible entity
12 by the Secretary under subsection (b), the eligible
13 entity or program entity, as applicable, may provide
14 to recipient households such assistance under this
15 subsection as the eligible entity or program entity
16 considers to be appropriate from any other funds of
17 the eligible entity or program entity, including funds
18 provided to the eligible entity by the Secretary for
19 administrative costs pursuant to this section.

20 “(6) LIMITATIONS.—

21 “(A) INTEREST RATES.—

22 “(i) INTEREST CHARGED BY ELIGIBLE
23 ENTITIES.—The interest rate charged by
24 an eligible entity on assistance provided
25 under this subsection—

1 “(I) shall be fixed; and

2 “(II) shall not exceed the interest
3 rate paid by the eligible entity to the
4 Secretary under subsection (d)(2).

5 “(ii) INTEREST CHARGED BY PRO-
6 GRAM ENTITIES.—A program entity that
7 receives funding from an eligible entity
8 under this subsection for the purpose of
9 capitalizing a residential energy efficiency
10 financing program may charge interest on
11 any loan provided by the program entity at
12 a fixed rate that is as low as practicable,
13 but not more than 5 percent more than the
14 applicable interest rate paid by the eligible
15 entity to the Secretary under subsection
16 (d)(2).

17 “(B) NO PENALTY ON EARLY REPAY-
18 MENT.—An eligible entity or program entity, as
19 applicable, shall not assess any penalty for early
20 repayment by any recipient household to the eli-
21 gible entity or program entity, as applicable.

22 “(f) REPORTS.—

23 “(1) ELIGIBLE ENTITIES.—

24 “(A) IN GENERAL.—Not later than 2 years
25 after the date of receipt of the loan, and annu-

1 ally thereafter for the term of the loan, an eligi-
2 ble entity that receives a loan under this section
3 shall submit to the Secretary a report describ-
4 ing the performance of each program and activ-
5 ity carried out using the loan, including
6 anonymized loan performance data.

7 “(B) REQUIREMENTS.—The Secretary, in
8 consultation with eligible entities and other
9 stakeholders (such as lending institutions and
10 the real estate industry), shall establish such re-
11 quirements for the reports under this para-
12 graph as the Secretary determines to be appro-
13 priate—

14 “(i) to ensure that the reports are
15 clear, consistent, and straightforward; and

16 “(ii) taking into account the reporting
17 requirements for similar programs in
18 which the eligible entities are participating,
19 if any.

20 “(2) SECRETARY.—The Secretary shall submit
21 to Congress and make available to the public—

22 “(A) not less frequently than once each
23 year, a report describing the performance of the
24 program under this section, including a syn-
25 thesis and analysis of the information provided

1 in the reports submitted to the Secretary under
2 paragraph (1)(A); and

3 “(B) on termination of the program under
4 this section, an assessment of the success of,
5 and education provided by, the measures car-
6 ried out by eligible entities during the term of
7 the program.

8 “(g) AUTHORIZATION OF APPROPRIATIONS.—There
9 are authorized to be appropriated to the Secretary to carry
10 out this section—

11 “(1) \$37,500,000 for energy advisor programs;

12 “(2) \$25,000,000 for administrative and gen-
13 eral financial support costs to the Secretary of car-
14 rying out this section; and

15 “(3) \$37,500,000 for administrative costs to
16 States in carrying out this section.”.

17 (b) REORGANIZATION.—

18 (1) IN GENERAL.—Part D of title III of the
19 Energy Policy and Conservation Act (42 U.S.C.
20 6321 et seq.) is amended—

21 (A) by redesignating sections 362, 363,
22 364, 365, and 366 as sections 364, 365, 366,
23 363, and 362, respectively, and moving the sec-
24 tions so as to appear in numerical order;

25 (B) in section 362 (as so redesignated)—

1 (i) in paragraph (3)(B)(i), by striking
2 “section 367, and” and inserting “section
3 367 (as in effect on the day before the
4 date of enactment of the State Energy Ef-
5 ficiency Programs Improvement Act of
6 1990 (42 U.S.C. 6201 note; Public Law
7 101–440)); and”;

8 (ii) in each of paragraphs (4) and (6),
9 by striking “section 365(e)(1)” each place
10 it appears and inserting “section
11 363(e)(1)”;

12 (C) in section 363 (as so redesignated)—

13 (i) in subsection (b), by striking “the
14 provisions of sections 362 and 364 and
15 subsection (a) of section 363” and insert-
16 ing “sections 364, 365(a), and 366”; and

17 (ii) in subsection (g)(1)(A), in the sec-
18 ond sentence, by striking “section 362”
19 and inserting “section 364”; and

20 (D) in section 365 (as so redesignated)—

21 (i) in subsection (a)—

22 (I) in paragraph (1), by striking
23 “section 362,” and inserting “section
24 364;”;

1 (II) in paragraph (2), by striking
 2 “section 362(b) or (e)” and inserting
 3 “subsection (b) or (e) of section 364”;
 4 and

5 (ii) in subsection (b)(2), in the matter
 6 preceding subparagraph (A), by striking
 7 “section 362(b) or (e)” and inserting “sub-
 8 section (b) or (e) of section 364”.

9 (2) CONFORMING AMENDMENTS.—Section 391
 10 of the Energy Policy and Conservation Act (42
 11 U.S.C. 6371) is amended—

12 (A) in paragraph (2)(M), by striking “sec-
 13 tion 365(e)(2)” and inserting “section
 14 363(e)(2)”; and

15 (B) in paragraph (10), by striking “section
 16 362 of this Act” and inserting “section 364”.

17 (3) CLERICAL AMENDMENT.—The table of con-
 18 tents of the Energy Policy and Conservation Act (42
 19 U.S.C. 6201 note; Public Law 94–163) is amended
 20 by striking the items relating to part D of title III
 21 and inserting the following:

“PART D—STATE ENERGY CONSERVATION PROGRAMS

“Sec. 361. Findings and purpose.

“Sec. 362. Definitions.

“Sec. 363. General provisions.

“Sec. 364. State energy conservation plans.

“Sec. 365. Federal assistance to States.

“Sec. 366. State energy efficiency goals.

“Sec. 367. Loans for residential building energy efficiency upgrades.”.

1 **Subtitle G—Smart Energy and**
2 **Water Efficiency**

3 **SEC. 3061. SMART ENERGY AND WATER EFFICIENCY PILOT**
4 **PROGRAM.**

5 Subtitle A of title IX of the Energy Policy Act of
6 2005 (42 U.S.C. 16191 et seq.) is amended by adding at
7 the end the following:

8 **“SEC. 918. SMART ENERGY AND WATER EFFICIENCY PILOT**
9 **PROGRAM.**

10 “(a) DEFINITIONS.—In this section:

11 “(1) ELIGIBLE ENTITY.—The term ‘eligible en-
12 tity’ means—

13 “(A) a utility;

14 “(B) a municipality;

15 “(C) a water district;

16 “(D) an Indian tribe or Alaska Native vil-
17 lage; and

18 “(E) any other authority that provides
19 water, wastewater, or water reuse services.

20 “(2) SMART ENERGY AND WATER EFFICIENCY
21 PILOT PROGRAM.—The term ‘smart energy and
22 water efficiency pilot program’ or ‘pilot program’
23 means the pilot program established under sub-
24 section (b).

1 “(b) SMART ENERGY AND WATER EFFICIENCY
2 PILOT PROGRAM.—

3 “(1) IN GENERAL.—The Secretary shall estab-
4 lish and carry out a smart energy and water effi-
5 ciency pilot program in accordance with this section.

6 “(2) PURPOSE.—The purpose of the smart en-
7 ergy and water efficiency pilot program is to award
8 grants to eligible entities to demonstrate unique, ad-
9 vanced, or innovative technology-based solutions that
10 will—

11 “(A) increase the energy efficiency of
12 water, wastewater, and water reuse systems;

13 “(B) improve energy efficiency of water,
14 wastewater, and water reuse systems to help
15 communities across the United States make
16 measurable progress in conserving water, saving
17 energy, and reducing costs;

18 “(C) support the implementation of inno-
19 vative and unique processes and the installation
20 of established advanced automated systems that
21 provide real-time data on energy and water; and

22 “(D) improve energy-water conservation
23 and quality and predictive maintenance through
24 technologies that utilize internet connected

1 technologies, including sensors, intelligent gate-
2 ways, and security embedded in hardware.

3 “(3) PROJECT SELECTION.—

4 “(A) IN GENERAL.—The Secretary shall
5 make competitive, merit-reviewed grants under
6 the pilot program to not less than 3, but not
7 more than 5, eligible entities.

8 “(B) SELECTION CRITERIA.—In selecting
9 an eligible entity to receive a grant under the
10 pilot program, the Secretary shall consider—

11 “(i) energy and cost savings;

12 “(ii) the uniqueness, commercial via-
13 bility, and reliability of the technology to
14 be used;

15 “(iii) the degree to which the project
16 integrates next-generation sensors soft-
17 ware, analytics, and management tools;

18 “(iv) the anticipated cost-effectiveness
19 of the pilot project through measurable en-
20 ergy efficiency savings, water savings or
21 reuse, and infrastructure costs averted;

22 “(v) whether the technology can be
23 deployed in a variety of geographic regions
24 and the degree to which the technology can
25 be implemented in a wide range of applica-

1 tions ranging in scale from small towns to
2 large cities, including tribal communities;

3 “(vi) whether the technology has been
4 successfully deployed elsewhere;

5 “(vii) whether the technology was
6 sourced from a manufacturer based in the
7 United States; and

8 “(viii) whether the project will be
9 completed in 5 years or less.

10 “(C) APPLICATIONS.—

11 “(i) IN GENERAL.—Subject to clause
12 (ii), an eligible entity seeking a grant
13 under the pilot program shall submit to
14 the Secretary an application at such time,
15 in such manner, and containing such infor-
16 mation as the Secretary determines to be
17 necessary.

18 “(ii) CONTENTS.—An application
19 under clause (i) shall, at a minimum, in-
20 clude—

21 “(I) a description of the project;

22 “(II) a description of the tech-
23 nology to be used in the project;

1 “(III) the anticipated results, in-
2 cluding energy and water savings, of
3 the project;

4 “(IV) a comprehensive budget for
5 the project;

6 “(V) the names of the project
7 lead organization and any partners;

8 “(VI) the number of users to be
9 served by the project;

10 “(VII) a description of the ways
11 in which the proposal would meet per-
12 formance measures established by the
13 Secretary; and

14 “(VIII) any other information
15 that the Secretary determines to be
16 necessary to complete the review and
17 selection of a grant recipient.

18 “(4) ADMINISTRATION.—

19 “(A) IN GENERAL.—Not later than 300
20 days after the date of enactment of this section,
21 the Secretary shall select grant recipients under
22 this section.

23 “(B) EVALUATIONS.—

24 “(i) ANNUAL EVALUATIONS.—The
25 Secretary shall annually carry out an eval-

1 uation of each project for which a grant is
2 provided under this section that meets per-
3 formance measures and benchmarks devel-
4 oped by the Secretary, consistent with the
5 purposes of this section.

6 “(ii) REQUIREMENTS.—Consistent
7 with the performance measures and bench-
8 marks developed under clause (i), in car-
9 rying out an evaluation under that clause,
10 the Secretary shall—

11 “(I) evaluate the progress and
12 impact of the project; and

13 “(II) assesses the degree to
14 which the project is meeting the goals
15 of the pilot program.

16 “(C) TECHNICAL AND POLICY ASSIST-
17 ANCE.—On the request of a grant recipient, the
18 Secretary shall provide technical and policy as-
19 sistance.

20 “(D) BEST PRACTICES.—The Secretary
21 shall make available to the public through the
22 Internet and other means the Secretary con-
23 siders to be appropriate—

24 “(i) a copy of each evaluation carried
25 out under subparagraph (B); and

1 “(ii) a description of any best prac-
2 tices identified by the Secretary as a result
3 of those evaluations.

4 “(E) REPORT TO CONGRESS.—The Sec-
5 retary shall submit to Congress a report con-
6 taining the results of each evaluation carried
7 out under subparagraph (B).

8 “(c) AUTHORIZATION OF APPROPRIATIONS.—There
9 is authorized to be appropriated to carry out this section
10 \$15,000,000, to remain available until expended.”.

11 **Subtitle H—Regional Energy** 12 **Partnerships**

13 **SEC. 3071. DEFINITIONS.**

14 In this subtitle:

15 (1) COOPERATIVE AGREEMENT.—The term “co-
16 operative agreement” has the meaning given the
17 term in sections 6302 and 6305 of title 31, United
18 States Code.

19 (2) SECRETARIES.—The term “Secretaries”
20 means—

21 (A) the Secretary, acting through the As-
22 sistant Secretary of the Office of Electricity De-
23 livery and Energy Reliability in consultation
24 with the Assistant Secretary of Energy Effi-
25 ciency and Renewable Energy, the Assistant

1 Secretary of Fossil Energy, and the Director of
2 the Office of Nuclear Energy, Science, and
3 Technology Programs; and

4 (B) the Secretary of the Interior, acting
5 through the Assistant Secretary for Land and
6 Minerals Management in consultation with the
7 Director of the Bureau of Land Management,
8 the Director of the Bureau of Ocean Energy
9 Management, the Assistant Secretary for In-
10 dian Affairs, and the Assistant Secretary for
11 Fish and Wildlife and Parks.

12 (3) STATE.—The term “State” means—

13 (A) a State;

14 (B) the District of Columbia;

15 (C) the Commonwealth of Puerto Rico;

16 and

17 (D) any other territory or possession of the
18 United States.

19 **SEC. 3072. REGIONAL ENERGY PARTNERSHIPS.**

20 (a) IN GENERAL.—The Secretaries shall provide as-
21 sistance in accordance with this section for the purpose
22 of developing energy strategies and plans that help har-
23 monize and promote national, regional, and State energy
24 goals, including goals for advancing resilient energy sys-

1 tems to mitigate risks and prepare for emerging energy
2 challenges.

3 (b) TECHNICAL ASSISTANCE.—The Secretaries may
4 provide such technical assistance to States, political sub-
5 divisions of States, substate regional organizations (in-
6 cluding organizations that cross State boundaries),
7 multistate regional organizations, Indian tribes, and non-
8 profit organizations as the Secretaries determine appro-
9 priate to promote—

10 (1) the development and improvement of re-
11 gional energy strategies, where appropriate, and
12 plans that sustain and promote energy system mod-
13 ernization across the United States;

14 (2) investment in energy infrastructure, techno-
15 logical capacity, innovation, and workforce develop-
16 ment to keep pace with the changing energy eco-
17 system;

18 (3) structural transformation of the financial,
19 regulatory, legal, and institutional systems that gov-
20 ern energy planning, production, and delivery within
21 States and regions; and

22 (4) public-private partnerships for the imple-
23 mentation of regional energy strategies and plans.

24 (c) COOPERATIVE AGREEMENTS.—

1 (1) IN GENERAL.—The Secretaries may enter
2 into cooperative agreements with one or more States
3 and Indian tribes, on a regional basis, to develop
4 and implement strategies and plans to address the
5 energy challenges of States, Indian tribes, and re-
6 gions.

7 (2) REQUIREMENTS.—A cooperative agreement
8 entered into under this subsection shall include pro-
9 visions covering or providing—

10 (A) the purpose and goals of the coopera-
11 tive agreement, such as advancing energy effi-
12 ciency, clean energy, fuel and supply diversity,
13 energy system resiliency, economic development,
14 or other goals to make measurable, significant
15 progress toward specified metrics and objectives
16 that are agreed to by the States or Indian
17 tribes and the Secretaries;

18 (B) the roles and responsibilities of the
19 States or Indian tribes and the Secretaries for
20 various functions of the cooperative agreement,
21 including outreach, communication, resources,
22 and capabilities;

23 (C) a comprehensive framework for the de-
24 velopment of energy strategies and plans for
25 States, Indian tribes, or regions;

1 (D) timeframes with associated metrics
2 and objectives;

3 (E) a governance structure to resolve con-
4 flicts and facilitate decisionmaking consistent
5 with underlying authorities; and

6 (F) other provisions determined necessary
7 by the Secretaries, in consultation with the
8 States or Indian tribes, to achieve the purposes
9 described in paragraph (1).

10 (d) STAFF.—

11 (1) IN GENERAL.—Not later than 30 days after
12 the date of the entering into a cooperative agree-
13 ment under subsection (c), the Secretaries shall, as
14 appropriate, assign or employ individuals who have
15 expertise in the technical and regulatory issues relat-
16 ing to the cooperative agreement, including par-
17 ticular expertise in (as applicable)—

18 (A) energy systems integration;

19 (B) renewable energy and energy effi-
20 ciency;

21 (C) innovative financing mechanisms;

22 (D) utility regulatory policy;

23 (E) modeling and analysis;

24 (F) facilitation and arbitration;

1 (G) energy assurance and emergency pre-
2 paredness; and

3 (H) cyber and physical security of energy
4 systems.

5 (2) DUTIES.—Each individual assigned to carry
6 out a cooperative agreement under paragraph (1)
7 shall—

8 (A) report to a location in the applicable
9 State, Indian tribe, or region not later than 90
10 days after the date of assignment;

11 (B) be responsible for issues and technical
12 assistance relating to the cooperative agree-
13 ment;

14 (C) participate as part of the team of per-
15 sonnel working on developing and implementing
16 the applicable regional energy strategy and
17 plan; and

18 (D) build capacity within the State, Indian
19 tribe, or region to continue to implement the
20 goals of this subtitle after the expiration of the
21 cooperative agreement.

22 (e) COMPREHENSIVE FRAMEWORK.—Under a coop-
23 erative agreement, a comprehensive framework shall be
24 developed that identifies opportunities and actions across

1 various energy sectors and cross-cutting issue areas, in-
2 cluding—

3 (1) end-use efficiency;

4 (2) energy supply, including electric generation
5 and fuels;

6 (3) energy storage and delivery;

7 (4) transportation;

8 (5) technical integration, including standards
9 and interdependencies;

10 (6) institutional structures;

11 (7) regulatory policies;

12 (8) financial incentives; and

13 (9) market mechanisms.

14 (f) AWARDS.—

15 (1) DEFINITIONS.—In this subsection:

16 (A) APPLICATION GROUP.—The term “ap-
17 plication group” means a group of States or In-
18 dian tribes that have—

19 (i) entered into a cooperative agree-
20 ment, on a regional basis, with the Secre-
21 taries under subsection (c); and

22 (ii) submitted an application for an
23 award under paragraph (2)(A).

1 (B) PARTNER STATE.—The term “partner
2 State” means a State or Indian tribe that is
3 part of an application group.

4 (2) APPLICATIONS.—

5 (A) IN GENERAL.—Subject to subpara-
6 graph (B), an application group may apply to
7 the Secretaries for awards under this sub-
8 section.

9 (B) INDIVIDUAL STATES.—An individual
10 State or Indian tribe that has entered into a co-
11 operative agreement with the Secretaries under
12 subsection (c) may apply to the Secretaries for
13 an award under this subsection if the State or
14 Indian tribe demonstrates to the Secretaries the
15 uniqueness of the energy challenges facing the
16 State or Indian tribe.

17 (3) BASE AMOUNT.—Subject to paragraph (4),
18 the Secretaries shall provide 6 awards under this
19 subsection, with a base amount of \$20,000,000 for
20 each award.

21 (4) BONUS AMOUNT FOR APPLICATION
22 GROUPS.—

23 (A) IN GENERAL.—Subject to subpara-
24 graph (B), the Secretaries shall increase the
25 amount of an award provided under this sub-

1 section to an application group for a successful
2 application under paragraph (2)(A) by the
3 quotient obtained by dividing—

4 (i) the product obtained by multi-
5 plying—

6 (I) the number of partner States
7 in the application group; and

8 (II) \$100,000,000; by

9 (ii) the total number of partner States
10 of all successful applications under this
11 subsection.

12 (B) MAXIMUM AMOUNT.—The amount of a
13 bonus determined under subparagraph (A) shall
14 not exceed an amount that represents
15 \$5,000,000 for each partner State that is a
16 member of the relevant application group.

17 (5) LIMITATION.—A State or Indian tribe shall
18 not be part of more than 1 award under this sub-
19 section.

20 (6) SELECTION CRITERIA.—In selecting appli-
21 cations for awards under this subsection, the Secre-
22 taries shall consider—

23 (A) existing commitments from States or
24 Indian tribes, such as memoranda of under-
25 standing;

1 (B) for States that are part of the contig-
2 uous 48 States, the number of contiguous
3 States involved that cover a region;

4 (C) the diversity of the regions represented
5 by all applications;

6 (D) the amount of cost-share or in-kind
7 contributions from States or Indian tribes;

8 (E) the scope and focus of regional and
9 State programs and strategies, with an empha-
10 sis on energy system resiliency and grid mod-
11 ernization, efficiency, and clean energy;

12 (F) a management and oversight plan to
13 ensure that objectives are met;

14 (G) an outreach plan for the inclusion of
15 stakeholders in the process for developing and
16 implementing State or regional energy strate-
17 gies and plans;

18 (H) the inclusion of tribal entities;

19 (I) plans to fund and sustain activities
20 identified in regional energy strategies and
21 plans; and

22 (J) the clarity of roles and responsibilities
23 of each State and the Secretaries.

24 (7) USE OF AWARDS.—

1 (A) IN GENERAL.—Awards provided under
2 this subsection shall be used to achieve the pur-
3 pose of this section, including by—

4 (i) conducting technical analyses, re-
5 source studies, and energy system base-
6 lines;

7 (ii) convening and providing education
8 to stakeholders on emerging energy issues;

9 (iii) building decision support and
10 planning tools; and

11 (iv) improving communication between
12 and participation of stakeholders.

13 (B) LIMITATION.—Awards provided under
14 this subsection shall not be used for—

15 (i) capitalization of green banks or
16 loan guarantees; or

17 (ii) building facilities or funding cap-
18 ital projects.

19 **SEC. 3073. AUTHORIZATION OF APPROPRIATIONS.**

20 (a) IN GENERAL.—There is authorized to be appro-
21 priated to carry out this subtitle \$250,000,000, to remain
22 available until expended.

23 (b) ALLOCATION.—Of the amount authorized to be
24 appropriated under subsection (a)—

1 (1) \$120,000,000 shall be used for the base
2 amount of awards under section 3072(f)(3);

3 (2) \$100,000,000 shall be used for the bonus
4 amount of awards under section 3072(f)(4); and

5 (3) \$30,000,000 shall be for the administration
6 of this subtitle, including—

7 (A) the assignment of staff under section
8 3072(d); and

9 (B) if the Secretaries determine appro-
10 priate, the sharing of best practices from re-
11 gional partnerships by parties to cooperative
12 agreements entered into under this subtitle.

13 (c) STATE ENERGY OFFICES.—Funds provided to a
14 State under this subtitle shall be provided to the office
15 within the State that is responsible for developing the
16 State energy plan for the State under part D of title III
17 of the Energy Policy and Conservation Act (42 U.S.C.
18 6321 et seq.).

19 (d) MAINTENANCE OF FUNDING.—The funding pro-
20 vided to States under this subtitle shall supplement (and
21 not supplant) funding provided under part D of title III
22 of the Energy Policy and Conservation Act (42 U.S.C.
23 6321 et seq.).

1 **Subtitle I—Energy Productivity**
2 **Innovation Challenge**

3 **SEC. 3081. DEFINITIONS.**

4 In this subtitle:

5 (1) ENERGY PRODUCTIVITY.—The term “en-
6 energy productivity” means, in the case of a State or
7 Indian tribe, the gross State or tribal product per
8 British thermal unit of energy consumed in the
9 State or tribal land of the Indian tribe, respectively.

10 (2) INDIAN TRIBE.—The term “Indian tribe”
11 has the meaning given the term in section 4 of the
12 Indian Self-Determination and Education Assistance
13 Act (25 U.S.C. 450b).

14 (3) STATE.—The term “State” has the mean-
15 ing given the term in section 3 of the Energy Policy
16 and Conservation Act (42 U.S.C. 6202).

17 **SEC. 3082. PHASE 1: INITIAL ALLOCATION OF GRANTS TO**
18 **STATES.**

19 (a) IN GENERAL.—Not later than 30 days after the
20 date of enactment of this Act, the Secretary shall issue
21 an invitation to States to submit plans to participate in
22 an electric and thermal energy productivity challenge in
23 accordance with this section.

24 (b) GRANTS.—

1 (1) IN GENERAL.—Subject to section 3085, the
2 Secretary shall use funds made available under sec-
3 tion 3086(b)(1) to provide an initial allocation of
4 grants to not more than 25 States.

5 (2) AMOUNT.—The amount of a grant provided
6 to a State under this section shall be not less than
7 \$500,000 nor more than \$1,750,000.

8 (c) SUBMISSION OF PLANS.—To receive a grant
9 under this section, not later than 90 days after the date
10 of issuance of the invitation under subsection (a), a State
11 (in consultation with energy utilities, regulatory bodies,
12 and others) shall submit to the Secretary an application
13 to receive the grant by submitting a revised State energy
14 conservation plan under section 362 of the Energy Policy
15 and Conservation Act (42 U.S.C. 6322).

16 (d) DECISION BY SECRETARY.—

17 (1) BASIS.—The Secretary shall base the deci-
18 sion of the Secretary on an application submitted
19 under this section on—

20 (A) plans for improvement in electric and
21 thermal energy productivity consistent with this
22 subtitle; and

23 (B) other factors determined appropriate
24 by the Secretary, including geographic diversity.

25 (2) RANKING.—The Secretary shall—

1 (A) rank revised plans submitted under
2 this section in order of the greatest to least
3 likely contribution to improving energy produc-
4 tivity in the State; and

5 (B) provide grants under this section in
6 accordance with the ranking and the scale and
7 scope of a plan.

8 (e) PLAN REQUIREMENTS.—A plan submitted under
9 subsection (c) shall provide—

10 (1) a description of the manner in which—

11 (A) energy savings will be monitored and
12 verified and energy productivity improvements
13 will be calculated using inflation-adjusted dol-
14 lars;

15 (B) a statewide baseline of energy use and
16 potential resources for calendar year 2010 will
17 be established to measure improvements;

18 (C) the plan will promote achievement of
19 energy savings and demand reduction goals;

20 (D) public and private sector investments
21 in energy efficiency will be leveraged with avail-
22 able Federal funding; and

23 (E) the plan will not cause cost-shifting
24 among utility customer classes or negatively im-
25 pact low-income populations; and

1 (2) an assurance that—

2 (A) the State energy office required to sub-
3 mit the plan, the energy utilities in the State
4 participating in the plan, and the State public
5 service commission are cooperating and coordi-
6 nating programs and activities under this sub-
7 title;

8 (B) the State is cooperating with local
9 units of government, Indian tribes, and energy
10 utilities to expand programs as appropriate;
11 and

12 (C) grants provided under this subtitle will
13 be used to supplement and not supplant Fed-
14 eral, State, or ratepayer-funded programs or ac-
15 tivities in existence on the date of enactment of
16 this Act.

17 (f) USES.—A State may use grants provided under
18 this section to promote—

19 (1) the expansion of policies and programs that
20 will advance industrial energy efficiency, waste heat
21 recovery, combined heat and power, and waste heat-
22 to-power utilization;

23 (2) the expansion of policies and programs that
24 will advance energy efficiency construction and ret-
25 rofits for public and private commercial buildings

1 (including schools, hospitals, and residential build-
2 ings, including multifamily buildings) such as
3 through expanded energy service performance con-
4 tracts, equivalent utility energy service contracts,
5 zero net-energy buildings, and improved building en-
6 ergy efficiency codes;

7 (3) the expansion of residential policies and
8 programs designed to implement best practice poli-
9 cies and tools for residential retrofit programs
10 that—

11 (A) reduce administrative and delivery
12 costs for energy efficiency projects;

13 (B) encourage streamlining and automa-
14 tion to support contractor engagement; and

15 (C) implement systems that encourage pri-
16 vate investment and market innovation;

17 (4) the establishment or expansion of incentives
18 in the electric utility sector to enhance demand re-
19 sponse and energy efficiency, including consideration
20 of additional incentives to promote the purposes of
21 section 111(d) of the Public Utility Regulatory Poli-
22 cies Act of 1978 (16 U.S.C. 2621(d)), such as ap-
23 propriate, cost-effective policies regarding rate struc-
24 tures, grid improvements, behavior change, combined
25 heat and power and waste heat-to-power incentives,

1 financing of energy efficiency programs, data use in-
2 centives, district heating, and regular energy audits;
3 and

4 (5) leadership by example, in which State ac-
5 tivities involving both facilities and vehicle fleets can
6 be a model for other action to promote energy effi-
7 ciency and can be expanded with Federal grants pro-
8 vided under this subtitle.

9 **SEC. 3083. PHASE 2: SUBSEQUENT ALLOCATION OF GRANTS**
10 **TO STATES.**

11 (a) **REPORTS.**—Not later than 18 months after the
12 receipt of grants under section 3082, each State (in con-
13 sultation with other parties described in subsection
14 (b)(3)(F)) that received grants under section 3082 may
15 submit to the Secretary a report that describes—

16 (1) the performance of the programs and activi-
17 ties carried out with the grants; and

18 (2) in consultation with other parties described
19 in subsection (b)(3)(F), the manner in which addi-
20 tional funds would be used to carry out programs
21 and activities to promote the purposes of this sub-
22 title.

23 (b) **GRANTS.**—

24 (1) **IN GENERAL.**—Not later than 180 days
25 after the date of the receipt of the reports required

1 under subsection (a), subject to section 3085, the
2 Secretary shall use amounts made available under
3 section 3086(b)(2) to provide grants to not more
4 than 6 States to carry out the programs and activi-
5 ties described in subsection (a)(2).

6 (2) AMOUNT.—The amount of a grant provided
7 to a State under this section shall be not more than
8 \$15,000,000.

9 (3) BASIS.—The Secretary shall base the deci-
10 sion of the Secretary to provide grants under this
11 section on—

12 (A) the performance of the State in the
13 programs and activities carried out with grants
14 provided under section 3082;

15 (B) the potential of the programs and ac-
16 tivities described in subsection (a)(2) to achieve
17 the purposes of this subtitle;

18 (C) the desirability of maintaining a total
19 project portfolio that is geographically and
20 functionally diverse;

21 (D) the amount of non-Federal funds that
22 are leveraged as a result of the grants to ensure
23 that Federal dollars are leveraged effectively;

1 (E) plans for continuation of the improve-
2 ments after the receipt of grants under this
3 subtitle; and

4 (F) demonstrated effort by the State to in-
5 volve diverse groups, including—

6 (i) investor-owned, cooperative, and
7 public power utilities;

8 (ii) local governments; and

9 (iii) nonprofit organizations.

10 **SEC. 3084. ALLOCATION OF GRANTS TO INDIAN TRIBES.**

11 (a) **IN GENERAL.**—Not later than 30 days after the
12 date of enactment of this Act, the Secretary shall invite
13 Indian tribes to submit plans to participate in an electric
14 and thermal energy productivity challenge in accordance
15 with this section.

16 (b) **SUBMISSION OF PLANS.**—To receive a grant
17 under this section, not later than 90 days after the date
18 of issuance of the invitation under subsection (a), an In-
19 dian tribe shall submit to the Secretary a plan to increase
20 electric and thermal energy productivity by the Indian
21 tribe.

22 (c) **DECISION BY SECRETARY.**—

23 (1) **IN GENERAL.**—Not later than 90 days after
24 the submission of plans under subsection (b), the

1 Secretary shall make a final decision on the alloca-
2 tion of grants under this section.

3 (2) BASIS.—The Secretary shall base the deci-
4 sion of the Secretary under paragraph (1) on—

5 (A) plans for improvement in electric and
6 thermal energy productivity consistent with this
7 subtitle;

8 (B) plans for continuation of the improve-
9 ments after the receipt of grants under this
10 subtitle; and

11 (C) other factors determined appropriate
12 by the Secretary, including—

13 (i) geographic diversity; and

14 (ii) size differences among Indian
15 tribes.

16 (3) LIMITATION.—An individual Indian tribe
17 shall not receive more than 20 percent of the total
18 amount available to carry out this section.

19 **SEC. 3085. ADMINISTRATION.**

20 (a) INDEPENDENT EVALUATION.—To evaluate pro-
21 gram performance and effectiveness under this subtitle,
22 the Secretary shall consult with the National Research
23 Council regarding requirements for data and evaluation
24 for recipients of grants under this subtitle.

1 (b) COORDINATION WITH STATE ENERGY CON-
2 SERVATION PROGRAMS.—

3 (1) IN GENERAL.—Grants to States under this
4 subtitle shall be provided through additional funding
5 to carry out State energy conservation programs
6 under part D of title III of the Energy Policy and
7 Conservation Act (42 U.S.C. 6321 et seq.).

8 (2) RELATIONSHIP TO STATE ENERGY CON-
9 SERVATION PROGRAMS.—

10 (A) IN GENERAL.—A grant provided to a
11 State under this subtitle shall be used to sup-
12 plement (and not supplant) funds provided to
13 the State under part D of title III of the En-
14 ergy Policy and Conservation Act (42 U.S.C.
15 6321 et seq.).

16 (B) MINIMUM FUNDING.—A grant shall
17 not be provided to a State for a fiscal year
18 under this subtitle if the amount of funding
19 provided to all State grantees under the base
20 formula for the fiscal year under part D of title
21 III of the Energy Policy and Conservation Act
22 (42 U.S.C. 6321 et seq.) is less than
23 \$50,000,000.

1 (c) VOLUNTARY PARTICIPATION.—The participation
2 of a State in a challenge established under this subtitle
3 shall be voluntary.

4 **SEC. 3086. AUTHORIZATION OF APPROPRIATIONS.**

5 (a) IN GENERAL.—There is authorized to be appro-
6 priated to carry out this subtitle \$100,000,000 for the pe-
7 riod of fiscal years 2016 and 2017.

8 (b) ALLOCATION.—Of the total amount of funds
9 made available under subsection (a)—

10 (1) 30 percent shall be used to provide an ini-
11 tial allocation of grants to States under section
12 3082;

13 (2) 61 percent shall be used to provide a subse-
14 quent allocation of grants to States under section
15 3083;

16 (3) 4 percent shall be used to make grants to
17 Indian tribes under section 3084; and

18 (4) 5 percent shall be available to the Secretary
19 for the cost of administration and technical support
20 to carry out this subtitle.

21 **Subtitle J—Smart Buildings**

22 **SEC. 3091. DEFINITIONS.**

23 (a) DEFINITIONS.—In this section:

1 (1) PROGRAM.—The term “program” means
2 the Federal Smart Building Program established
3 under subsection (b)(1).

4 (2) SMART BUILDING.—The term “smart build-
5 ing” means a building, or collection of buildings,
6 with an energy system that—

7 (A) is flexible and automated;

8 (B) has extensive operational monitoring
9 and communication connectivity, allowing re-
10 mote monitoring and analysis of all building
11 functions;

12 (C) takes a systems-based approach in in-
13 tegrating the overall building operations for
14 control of energy generation, consumption, and
15 storage;

16 (D) communicates with utilities and other
17 third-party commercial entities, if appropriate;
18 and

19 (E) is cybersecure.

20 (3) SMART BUILDING ACCELERATOR.—The
21 term “smart building accelerator” means an initia-
22 tive that is designed to demonstrate specific innova-
23 tive policies and approaches—

24 (A) with clear goals and a clear timeline;

25 and

1 (B) that, on successful demonstration,
2 would accelerate investment in energy effi-
3 ciency.

4 (b) FEDERAL SMART BUILDING PROGRAM.—

5 (1) ESTABLISHMENT.—Not later than 1 year
6 after the date of enactment of this Act, the Sec-
7 retary shall establish a program to be known as the
8 “Federal Smart Building Program”—

9 (A) to implement smart building tech-
10 nology; and

11 (B) to demonstrate the costs and benefits
12 of smart buildings.

13 (2) SELECTION.—

14 (A) IN GENERAL.—The Secretary shall co-
15 ordinate the selection of not fewer than 1 build-
16 ing from among each of several key Federal
17 agencies, as described in paragraph (4), to com-
18 pose an appropriately diverse set of smart
19 buildings based on size, type, and geographic lo-
20 cation.

21 (B) INCLUSION OF COMMERCIALY OPER-
22 ATED BUILDINGS.—In making selections under
23 subparagraph (A), the Secretary may include
24 buildings that are owned by the Federal Gov-
25 ernment but are commercially operated.

1 (3) TARGETS.—Not later than 18 months after
2 the date of enactment of this Act, the Secretary
3 shall establish targets for the number of smart
4 buildings to be commissioned and evaluated by key
5 Federal agencies by 3 years and 6 years after the
6 date of enactment of this Act.

7 (4) FEDERAL AGENCY DESCRIBED.—The key
8 Federal agencies referred to in this subsection shall
9 include buildings operated by—

- 10 (A) the Department of the Army;
- 11 (B) the Department of the Navy;
- 12 (C) the Department of the Air Force;
- 13 (D) the Department;
- 14 (E) the Department of the Interior;
- 15 (F) the Department of Veterans Affairs;
- 16 and
- 17 (G) the General Services Administration.

18 (5) REQUIREMENT.—In implementing the pro-
19 gram, the Secretary shall leverage existing financing
20 mechanisms including energy savings performance
21 contracts, utility energy service contracts, and an-
22 nual appropriations.

23 (6) EVALUATION.—Using the guidelines of the
24 Federal Energy Management Program relating to
25 whole-building evaluation, measurement, and

1 verification, the Secretary shall evaluate the costs
2 and benefits of the buildings selected under para-
3 graph (2), including an identification of—

4 (A) which advanced building tech-
5 nologies—

6 (i) are most cost-effective; and

7 (ii) show the most promise for—

8 (I) increasing building energy
9 savings;

10 (II) increasing service perform-
11 ance to building occupants;

12 (III) reducing environmental im-
13 pacts; and

14 (IV) establishing cybersecurity;
15 and

16 (B) any other information the Secretary
17 determines to be appropriate.

18 (7) AWARDS.—The Secretary may expand
19 awards made under the Federal Energy Manage-
20 ment Program and the Better Building Challenge to
21 recognize specific agency achievements in accel-
22 erating the adoption of smart building technologies.

23 (c) SURVEY OF PRIVATE SECTOR SMART BUILD-
24 INGS.—

1 (1) SURVEY.—The Secretary shall conduct a
2 survey of privately owned smart buildings through-
3 out the United States, including commercial build-
4 ings, laboratory facilities, hospitals, multifamily resi-
5 dential buildings, and buildings owned by nonprofit
6 organizations and institutions of higher education.

7 (2) SELECTION.—From among the smart build-
8 ings surveyed under paragraph (1), the Secretary
9 shall select not fewer than 1 building each from an
10 appropriate range of building sizes, types, and geo-
11 graphic locations.

12 (3) EVALUATION.—Using the guidelines of the
13 Federal Energy Management Program relating to
14 whole-building evaluation, measurement, and
15 verification, the Secretary shall evaluate the costs
16 and benefits of the buildings selected under para-
17 graph (2), including an identification of—

18 (A) which advanced building technologies
19 and systems—

20 (i) are most cost-effective; and

21 (ii) show the most promise for—

22 (I) increasing building energy
23 savings;

24 (II) increasing service perform-
25 ance to building occupants;

1 (III) reducing environmental im-
2 pacts; and

3 (IV) establishing cybersecurity;
4 and

5 (B) any other information the Secretary
6 determines to be appropriate.

7 (d) LEVERAGING EXISTING PROGRAMS.—

8 (1) BETTER BUILDING CHALLENGE.—As part
9 of the Better Building Challenge of the Department,
10 the Secretary, in consultation with major private
11 sector property owners, shall develop smart building
12 accelerators to demonstrate innovative policies and
13 approaches that will accelerate the transition to
14 smart buildings in the public, institutional, and com-
15 mercial buildings sectors.

16 (2) RESEARCH AND DEVELOPMENT.—

17 (A) IN GENERAL.—The Secretary shall
18 conduct research and development to address
19 key barriers to the integration of advanced
20 building technologies and to accelerate the tran-
21 sition to smart buildings.

22 (B) INCLUSION.—The research and devel-
23 opment conducted under subparagraph (A)
24 shall include research and development on—

- 1 (i) achieving whole-building, systems-
2 level efficiency through smart system and
3 component integration;
- 4 (ii) improving physical components,
5 such as sensors and controls, to be adapt-
6 ive, anticipatory, and networked;
- 7 (iii) reducing the cost of key compo-
8 nents to accelerate the adoption of smart
9 building technologies;
- 10 (iv) data management, including the
11 capture and analysis of data and the inter-
12 operability of the energy systems;
- 13 (v) protecting against cybersecurity
14 threats and addressing security
15 vulnerabilities of building systems or
16 equipment;
- 17 (vi) business models, including how
18 business models may limit the adoption of
19 smart building technologies and how to
20 support transactive energy;
- 21 (vii) integration and application of
22 combined heat and power systems and en-
23 ergy storage for resiliency;
- 24 (viii) characterization of buildings and
25 components;

- 1 (ix) consumer and utility protections;
2 (x) continuous management, including
3 the challenges of managing multiple energy
4 systems and optimizing systems for dis-
5 parate stakeholders; and
6 (xi) other areas of research and devel-
7 opment, as determined appropriate by the
8 Secretary.

9 (e) REPORT.—Not later than 2 years after the date
10 of enactment of this Act, and every 2 years thereafter until
11 a total of 3 reports have been made, the Secretary shall
12 submit to the Committee on Energy and Natural Re-
13 sources of the Senate and the Committee on Energy and
14 Commerce of the House of Representatives a report on—

15 (1) the establishment of the Federal Smart
16 Building Program and the evaluation of Federal
17 smart buildings under subsection (b);

18 (2) the survey and evaluation of private sector
19 smart buildings under subsection (c); and

20 (3) any recommendations of the Secretary to
21 further accelerate the transition to smart buildings.

1 **Subtitle K—Energy Study**

2 **SEC. 3101. ENERGY INFORMATION STUDY.**

3 (a) IN GENERAL.—Not later than 2 years after the
4 date of enactment of this Act, the Secretary shall complete
5 a study, with opportunity for public comment—

6 (1) on the impact of—

7 (A) State and local performance
8 benchmarking and disclosure policies, and any
9 associated building efficiency policies, for com-
10 mercial and multifamily buildings; and

11 (B) programs and systems in which utili-
12 ties provide aggregated information regarding
13 whole building energy consumption and usage
14 information to owners of multitenant commer-
15 cial, residential, and mixed-use buildings;

16 (2) that identifies best practice policy ap-
17 proaches studied under paragraph (1) that have re-
18 sulted in the greatest improvements in building en-
19 ergy efficiency; and

20 (3) that considers—

21 (A) compliance rates and the benefits and
22 costs of the policies and programs on building
23 owners, utilities, tenants, and other parties;

24 (B) utility practices, programs, and sys-
25 tems that provide aggregated energy consump-

1 tion information to multitenant building own-
2 ers, and the impact of public utility commis-
3 sions and State privacy laws on those practices,
4 programs, and systems;

5 (C) exceptions to compliance in existing
6 laws where building owners are not able to
7 gather or access whole building energy informa-
8 tion from tenants or utilities;

9 (D) the treatment of buildings with—

10 (i) multiple uses;

11 (ii) uses for which baseline informa-
12 tion is not available; and

13 (iii) uses that require high levels of
14 energy intensities, such as data centers,
15 trading floors, and television studios;

16 (E) implementation practices, including
17 disclosure methods and phase-in of compliance;

18 (F) the safety and security of
19 benchmarking tools offered by government
20 agencies, and the resiliency of those tools
21 against cyber attacks; and

22 (G) international experiences with regard
23 to building benchmarking and disclosure laws
24 and data aggregation for multitenant buildings.

1 (b) SUBMISSION TO CONGRESS.—At the conclusion
2 of the study, the Secretary shall submit to Congress a re-
3 port on the results of the study.

4 **SEC. 3102. GRANTS TO UTILITIES.**

5 (a) GRANTS TO UTILITIES.—Based on the results of
6 the research for the portion of the study described in sec-
7 tion 3101(a)(1)(B), and with criteria developed following
8 public notice and comment, the Secretary may make com-
9 petitive awards to utilities, utility regulators, and utility
10 partners to develop and implement effective and promising
11 programs to provide aggregated whole building energy
12 consumption information to multitenant building owners.

13 (b) AUTHORIZATION OF APPROPRIATIONS.—There is
14 authorized to be appropriated to carry out this section
15 \$5,000,000 for each of fiscal years 2016 through 2020,
16 to remain available until expended.

17 **SEC. 3103. GRANTS TO STATES AND UNITS OF LOCAL GOV-**
18 **ERNMENT.**

19 (a) GRANTS TO UTILITIES.—Based on the results of
20 the research for the portion of the study described in sec-
21 tion 3101(a)(1)(B), and with criteria developed following
22 public notice and comment, the Secretary may make com-
23 petitive awards to States and units of local government
24 to develop and implement effective and promising
25 benchmarking and disclosure policies, and any associated

1 building efficiency policies, for commercial and multi-
2 family buildings.

3 (b) AUTHORIZATION OF APPROPRIATIONS.—There is
4 authorized to be appropriated to carry out this section
5 \$5,000,000 for each of fiscal years 2016 through 2020,
6 to remain available until expended.

7 **SEC. 3104. INPUT FROM STAKEHOLDERS.**

8 The Secretary shall seek input from stakeholders to
9 maximize the effectiveness of the actions taken under this
10 subtitle.

11 **SEC. 3105. REPORT.**

12 Not later than 2 years after the date of enactment
13 of this Act, and every 2 years thereafter, the Secretary
14 shall submit to Congress a report on the progress made
15 in complying with this subtitle.

16 **Subtitle L—Alternative Fueled**
17 **Vehicles**

18 **SEC. 3111. ALTERNATIVE FUELED VEHICLE FLEETS AND IN-**
19 **FRASTRUCTURE.**

20 (a) UTILITY INCENTIVE PROGRAMS.—Section
21 546(c)(1) of the National Energy Conservation Policy Act
22 (42 U.S.C. 8256(c)(1)) is amended by inserting “(includ-
23 ing measures to support the use of alternative fueled vehi-
24 cles (as defined in section 400AA(g) of the Energy Policy
25 and Conservation Act (42 U.S.C. 6374(g))) or the fueling

1 or charging infrastructure necessary for those vehicles)”
2 after “demand”.

3 (b) ENERGY SAVINGS PERFORMANCE CONTRACTS.—

4 (1) AUTHORITY TO ENTER CONTRACTS.—Sec-
5 tion 801(a)(2)(B) of the National Energy Conserva-
6 tion Policy Act (42 U.S.C. 8287(a)(2)(B)) is amend-
7 ed in the first sentence by inserting “or petroleum”
8 after “utilities”.

9 (2) PAYMENT OF COSTS.—Section 802 of the
10 National Energy Conservation Policy Act (42 U.S.C.
11 8287a) is amended by inserting “petroleum,” after
12 “water,”.

13 (3) DEFINITIONS.—Section 804 of the National
14 Energy Conservation Policy Act (42 U.S.C. 8287e)
15 is amended—

16 (A) in paragraph (2)—

17 (i) in subparagraph (C), by striking
18 “and” after the semicolon;

19 (ii) in subparagraph (D), by striking
20 the period at the end and inserting “; or”;
21 and

22 (iii) by adding at the end the fol-
23 lowing:

24 “(E) a reduction in the use of petroleum
25 through the use of alternative fueled vehicles or

1 the fueling or charging infrastructure necessary
2 for alternative fueled vehicles, including the use
3 of contracts to support alternative fueled vehi-
4 cles or infrastructure.”;

5 (B) in paragraph (4)—

6 (i) in subparagraph (A), by striking
7 “or” after the semicolon;

8 (ii) in subparagraph (B), by striking
9 the period at the end and inserting “; or”;

10 and

11 (iii) by adding at the end the fol-
12 lowing:

13 “(C) a measure to support the use of alter-
14 native fueled vehicles or the fueling or charging
15 infrastructure necessary for alternative fueled
16 vehicles, including the use of contracts to sup-
17 port alternative fueled vehicles or infrastruc-
18 ture.”;

19 (C) by redesignating paragraphs (1), (2),
20 (3), and (4), as paragraphs (5), (3), (4), and
21 (2), respectively, and moving so as to appear in
22 numerical order; and

23 (D) by inserting before paragraph (2) (as
24 so redesignated) the following:

1 “(1) ALTERNATIVE FUELED VEHICLE.—The
2 term ‘alternative fueled vehicle’ has the meaning
3 given the term in section 400AA(g) of the Energy
4 Policy and Conservation Act (42 U.S.C. 6374(g)).”.

5 **Subtitle M—Outer Continental** 6 **Shelf**

7 **SEC. 3121. REPEAL OF OUTER CONTINENTAL SHELF DEEP**
8 **WATER AND DEEP GAS ROYALTY RELIEF.**

9 (a) IN GENERAL.—Sections 344 and 345 of the En-
10 ergy Policy Act of 2005 (42 U.S.C. 15904, 15905) are
11 repealed.

12 (b) ADMINISTRATION.—The Secretary of the Interior
13 shall not be required to provide for royalty relief in the
14 lease sale terms beginning with the first lease sale held
15 on or after the date of enactment of this Act for which
16 a final notice of sale has not been published.

17 **SEC. 3122. DISPOSITION OF QUALIFIED OUTER CONTI-**
18 **NENTAL SHELF REVENUES FROM 181 AREA,**
19 **181 SOUTH AREA, AND 2002–2007 PLANNING**
20 **AREAS OF GULF OF MEXICO.**

21 Section 105 of the Gulf of Mexico Energy Security
22 Act of 2006 (43 U.S.C. 1331 note) is amended to read
23 as follows:

1 **“SEC. 105. DISPOSITION OF QUALIFIED OUTER CONTI-**
2 **NENTAL SHELF REVENUES FROM 181 AREA,**
3 **181 SOUTH AREA, AND 2002–2007 PLANNING**
4 **AREAS OF GULF OF MEXICO.**

5 “Notwithstanding section 9 of the Outer Continental
6 Shelf Lands Act (43 U.S.C. 1338) and subject to the other
7 provisions of this section, for each applicable fiscal year,
8 the Secretary of the Treasury shall deposit—

9 “(1) 87.5 percent of qualified outer Continental
10 Shelf revenues in the general fund of the Treasury;
11 and

12 “(2) 12.5 percent of qualified outer Continental
13 Shelf revenues in a special account in the Land and
14 Water Conservation Fund established under section
15 200302 of title 54, United States Code, from which
16 the Secretary shall disburse, without further appro-
17 priation, 100 percent to provide financial assistance
18 to States in accordance with section 200305 of that
19 title, which shall be considered income to the Land
20 and Water Conservation Fund for purposes of sec-
21 tion 200302 of that title.”.

1 **Subtitle N—Venting and Flaring of**
2 **Gas**

3 **SEC. 3131. REGULATIONS TO PREVENT OR MINIMIZE VENT-**
4 **ING AND FLARING OF GAS.**

5 (a) IN GENERAL.—Not later than 180 days after the
6 date of enactment of this Act, the Secretary of the Interior
7 shall issue regulations under this subtitle—

8 (1) to prevent or minimize the venting and flar-
9 ing of gas in oil and gas production operations on
10 Federal land onshore and offshore in the United
11 States; and

12 (2) to promote the capture and beneficial use or
13 reinjection of gas in the operations referred to in
14 paragraph (1).

15 (b) ROYALTIES.—A regulation issued under this sec-
16 tion shall include provisions that treat gas that is flared
17 or vented in operations under a lease under this subtitle
18 as production for which royalty is required to be paid to
19 the United States.

20 (c) LIMITATION ON APPLICATION TO EXISTING
21 LEASES.—Regulations issued under subsection (a) shall
22 not apply with respect to production under a lease in effect
23 on the date of enactment of this Act to the extent such
24 application would constitute a breach of the terms of the
25 lease by the United States.

1 **SEC. 3132. ASSESSMENT OF VENTING AND FLARING OF GAS**
2 **IN PRODUCTION OPERATIONS IN UNITED**
3 **STATES.**

4 Not later than 18 months after the date of enactment
5 of this Act, the Comptroller General of the United States
6 shall—

7 (1) assess the venting and flaring of gas in oil
8 and gas production operations on Federal land on-
9 shore and offshore in the United States; and

10 (2) submit to Congress a report on the venting
11 and flaring of gas in oil and gas production oper-
12 ations on Federal land onshore and offshore in the
13 United States, including an estimate of the volume
14 of gas that is vented or flared in such operations
15 each year.

16 **SEC. 3133. REGULATIONS.**

17 The Secretary of the Interior shall issue regulations
18 that define the terms “vent”, “venting”, “flare”, and
19 “flaring” for purposes of this subtitle.

20 **Subtitle O—Production Incentive**
21 **Fee**

22 **SEC. 3141. PRODUCTION INCENTIVE FEE.**

23 (a) ESTABLISHMENT.—

24 (1) IN GENERAL.—Not later than 180 days
25 after the date of enactment of this Act, the Sec-
26 retary of the Interior (referred to in this section as

1 the “Secretary”) shall issue regulations to establish
2 an annual production incentive fee with respect to
3 Federal onshore and offshore land that is subject to
4 a lease for production of oil or natural gas under
5 which production is not occurring.

6 (2) APPLICATION.—The annual production in-
7 centive fee described in paragraph (1) shall apply
8 with respect to land that is subject to a lease de-
9 scribed in paragraph (1) that is—

10 (A) in effect on the date on which final
11 regulations are issued pursuant to this sub-
12 section; or

13 (B) executed after that date.

14 (b) AMOUNT.—For each acre of land from which oil
15 or natural gas is produced for less than 90 days in a cal-
16 endar year, the amount of the fee shall be—

17 (1) in the case of onshore land—

18 (A) for each of the first 3 years of the
19 lease, \$4 per acre (in 2015 dollars);

20 (B) for the fourth year of the lease, \$6 per
21 acre (in 2015 dollars); and

22 (C) for the fifth year of the lease and each
23 year thereafter for which the lease is otherwise
24 in effect, \$8 per acre (in 2015 dollars); and

25 (2) in the case of offshore land—

1 (A) for each of the third, fourth, and fifth
2 years of the lease, \$4 per acre (in 2015 dol-
3 lars);

4 (B) for the sixth year of the lease, \$6 per
5 acre (in 2015 dollars); and

6 (C) for the seventh year of the lease and
7 each year thereafter for which the lease is oth-
8 erwise in effect, \$8 per acre (in 2015 dollars).

9 (c) ASSESSMENT AND COLLECTION.—The Secretary
10 shall assess and collect the fee established under this sec-
11 tion.

12 (d) DEPOSIT.—Amounts received by the Secretary
13 for the fee under this section shall be reserved for the Sec-
14 retary for expenditures on inspection, enforcement, and
15 permitting relating to oil and gas.

16 (e) REGULATIONS.—The Secretary may issue regula-
17 tions to prevent evasion of the fee under this section.

18 **Subtitle P—Reauthorization of** 19 **Desalination Act**

20 **SEC. 3151. REAUTHORIZATION OF DESALINATION ACT.**

21 (a) DEFINITIONS.—Section 2 of the Water Desalina-
22 tion Act of 1996 (42 U.S.C. 10301 note; Public Law 104–
23 298) is amended—

24 (1) by redesignating paragraphs (1), (2), (3),
25 (4), and (5) as paragraphs (2), (3), (5), (6), and

1 (4), respectively, and moving the paragraphs so as
2 to appear in numerical order; and

3 (2) by inserting before paragraph (2) (as so re-
4 designated) the following:

5 “(1) ADMINISTRATOR.—The term ‘Adminis-
6 trator’ means the Administrator of the Environ-
7 mental Protection Agency.”.

8 (b) AUTHORIZATION OF RESEARCH AND STUDIES.—
9 Section 3 of the Water Desalination Act of 1996 (42
10 U.S.C. 10301 note; Public Law 104–298) is amended by
11 adding at the end the following:

12 “(e) PRIORITIZATION.—In carrying out this section,
13 the Secretary of the Interior shall prioritize funding for
14 research—

15 “(1) to reduce energy consumption and lower
16 the cost of seawater and brackish water desalination;

17 “(2) to reduce the environmental impacts of
18 seawater desalination and develop technology and
19 strategies to minimize those impacts;

20 “(3) to improve existing reverse osmosis and
21 membrane technology;

22 “(4) to carry out basic and applied research on
23 next generation desalination technologies, including
24 graphene membranes, forward osmosis, hybrid mem-
25 brane-thermal desalination, improved energy recov-

1 ery systems, and renewable energy-powered desalina-
2 tion systems that could significantly reduce desalina-
3 tion costs; and

4 “(5) to develop portable or modular desalina-
5 tion units capable of providing temporary emergency
6 water supplies for domestic or military deployment
7 purposes.”.

8 (c) DESALINATION DEMONSTRATION AND DEVELOP-
9 MENT.—Section 4 of the Water Desalination Act of 1996
10 (42 U.S.C. 10301 note; Public Law 104–298) is amended
11 by adding at the end the following:

12 “(c) PRIORITIZATION.—In carrying out demonstra-
13 tion and development activities under this section, the Sec-
14 retary shall prioritize projects—

15 “(1) in drought-stricken States and commu-
16 nities;

17 “(2) in States that have authorized funding for
18 research and development of desalination tech-
19 nologies and projects; and

20 “(3) that can reduce reliance on imported water
21 supplies that have an impact on species listed under
22 the Endangered Species Act of 1973 (16 U.S.C.
23 1531 et seq.).”.

1 (d) AUTHORIZATION OF APPROPRIATIONS.—Section
2 8 of the Water Desalination Act of 1996 (42 U.S.C. 10301
3 note; Public Law 104–298) is amended—

4 (1) in subsection (a), in the first sentence—

5 (A) by striking “\$5,000,000” and inserting
6 “\$10,000,000”; and

7 (B) by striking “2013” and inserting
8 “2020”; and

9 (2) in subsection (b), by striking “for each of
10 fiscal years 2012 through 2013” and inserting “for
11 each of fiscal years 2016 through 2020”.

12 (e) CONSULTATION.—Section 9 of the Water Desali-
13 nation Act of 1996 (42 U.S.C. 10301 note; Public Law
14 104–298) is amended—

15 (1) by striking the section designation and
16 heading and all that follows through “In carrying
17 out” in the first sentence and inserting the fol-
18 lowing:

19 **“SEC. 9. CONSULTATION AND COORDINATION.**

20 “(a) CONSULTATION.—In carrying out”;

21 (2) in the second sentence, by striking “The au-
22 thorization” and inserting the following:

23 “(c) OTHER DESALINATION PROGRAMS.—The au-
24 thorization”; and

1 (3) by inserting after subsection (a) (as des-
2 ignated by paragraph (1)) the following:

3 “(b) COORDINATION OF FEDERAL DESALINATION
4 RESEARCH AND DEVELOPMENT.—

5 “(1) IN GENERAL.—The White House Office of
6 Science and Technology Policy shall develop a co-
7 ordinated strategic plan that—

8 “(A) establishes priorities for future Fed-
9 eral investments in desalination; and

10 “(B) coordinates the activities of Federal
11 agencies involved in desalination, including the
12 Bureau of Reclamation, the National Science
13 Foundation, the Office of Naval Research of the
14 Department of Defense, the National Labora-
15 tories of the Department of Energy, the United
16 States Geological Survey, the Environmental
17 Protection Agency, and the National Oceanic
18 and Atmospheric Administration.”.

19 (f) DESALINATION PROJECT ASSISTANCE.—The
20 Water Desalination Act of 1996 (42 U.S.C. 10301 note;
21 Public Law 104–298) is amended by adding at the end
22 the following:

23 **“SEC. 10. FEASIBILITY STUDY AND DESIGN ASSISTANCE.**

24 “(a) IN GENERAL.—In order to facilitate the develop-
25 ment of water desalination projects, the Administrator

1 shall develop and implement a program to provide finan-
2 cial assistance to study the feasibility and support the de-
3 sign of desalination facilities (including associated water
4 distribution infrastructure) that provide usable water.

5 “(b) FEASIBILITY STUDIES.—

6 “(1) IN GENERAL.—The Administrator may
7 provide grant assistance to a non-Federal project
8 sponsor to evaluate and determine the feasibility of
9 a public or public-private desalination project.

10 “(2) FEDERAL SHARE.—The Federal share for
11 a feasibility study under paragraph (1) shall not ex-
12 ceed 50 percent of the cost of the study.

13 “(3) CRITERIA FOR ELIGIBILITY.—In carrying
14 out this subsection, the Administrator shall establish
15 criteria to determine projects eligible for grant fund-
16 ing based on the ability of the projects to provide re-
17 gional water supply benefits, including—

18 “(A) improving water supply reliability in
19 regions subject to frequent and severe drought;

20 “(B) enhancement of public health, safety,
21 ecosystems, and watershed sustainability;

22 “(C) preservation of groundwater through
23 reduction of withdrawals from aquifers;

1 “(D) offsetting demand for water conveyed
2 from environmentally sensitive areas outside
3 service area of the project; and

4 “(E) mitigation of saltwater intrusion to
5 aquifers.

6 “(c) PROJECT DESIGN.—

7 “(1) IN GENERAL.—The Administrator may
8 provide grant assistance to a non-Federal project
9 sponsor for the design of a public or public-private
10 desalination project.

11 “(2) FEDERAL SHARE.—The Federal share for
12 project design under paragraph (1) shall not exceed
13 25 percent of the cost of project design of the
14 project.

15 “(3) CRITERIA FOR ELIGIBILITY.—In carrying
16 out this subsection, the Administrator shall establish
17 criteria to determine projects eligible for grant fund-
18 ing, including—

19 “(A) completion of a feasibility study de-
20 scribed in subsection (b);

21 “(B) demonstration of technical feasibility
22 and cost effectiveness;

23 “(C) completion of all required State and
24 Federal environmental impact analyses;

1 “(D) receipt of all necessary local, State,
2 and Federal permits;

3 “(E) demonstration of financial capability
4 of non-Federal project sponsors;

5 “(F) quantification and net cost of water
6 produced by the project; and

7 “(G) identification of users of produced
8 water supply, including water purchase agree-
9 ments and other contractually binding mecha-
10 nisms.

11 “(d) GUIDANCE.—Not later than 180 days after the
12 date of enactment of this section, the Administrator shall
13 publish appropriate guidance to implement this section.

14 “(e) AUTHORIZATION OF APPROPRIATIONS.—There
15 is authorized to be appropriated to carry out this section
16 \$10,000,000 for each of fiscal years 2016 through 2020,
17 to remain available until expended.

18 “(f) REPORT ON DESALINATION TECHNOLOGY.—Not
19 later than 90 days after the date of enactment of this sec-
20 tion, the Secretary of the Navy shall submit to Congress
21 a report on the application of desalinization technology for
22 defense and national security purposes to provide drought
23 relief to areas impacted by sharp declines in water sup-
24 ply.”.

1 **SEC. 3152. PROMOTING WATER EFFICIENCY WITH**
2 **WATERSENSE.**

3 (a) IN GENERAL.—There is established within the
4 Environmental Protection Agency a program, to be known
5 as the “WaterSense Program”, to identify and promote
6 water efficient products, buildings, landscapes, facilities,
7 processes, and services—

8 (1) to reduce water use;

9 (2) to reduce the strain on water, wastewater,
10 and stormwater infrastructure;

11 (3) to conserve energy used to pump, heat,
12 transport, and treat water; and

13 (4) to preserve water resources for future gen-
14 erations through voluntary labeling of, or other
15 forms of communications regarding, products, build-
16 ings, landscapes, facilities, processes, and services
17 that meet the highest water efficiency and perform-
18 ance criteria.

19 (b) DUTIES.—The Administrator of the Environ-
20 mental Protection Agency (referred to in this section as
21 the “Administrator”) shall—

22 (1) establish—

23 (A) a WaterSense label to be used for cer-
24 tain items; and

25 (B) the procedure by which an item may
26 be certified to display the WaterSense label;

1 (2) promote WaterSense-labeled products,
2 buildings, landscapes, facilities, processes, and serv-
3 ices in the marketplace as the preferred technologies
4 and services for—

5 (A) reducing water use; and

6 (B) ensuring product and service perform-
7 ance;

8 (3) work to enhance public awareness of the
9 WaterSense label through public outreach, edu-
10 cation, and other means;

11 (4) preserve the integrity of the WaterSense
12 label by—

13 (A) establishing and maintaining perform-
14 ance criteria so that products, buildings, land-
15 scapes, facilities, processes, and services labeled
16 with the WaterSense label perform as well as,
17 or better than, less water-efficient counterparts;

18 (B) overseeing WaterSense certifications
19 made by third parties;

20 (C) conducting reviews of the use of the
21 WaterSense label in the marketplace and taking
22 corrective action in any case in which misuse of
23 the label is identified; and

24 (D) carrying out such other measures as
25 the Administrator determines to be appropriate;

1 (5) at least once every 6 years, review and, if
2 appropriate, update WaterSense criteria for cat-
3 egories of products, buildings, landscapes, facilities,
4 processes, and services;

5 (6) to the maximum extent practicable, at least
6 annually estimate and make available to the public
7 the production and relative market shares of, and
8 the savings of water, energy, and capital costs of
9 water, wastewater, and stormwater infrastructure
10 attributable to the use of WaterSense-labeled prod-
11 ucts, buildings, landscapes, facilities, processes, and
12 services;

13 (7) solicit comments from interested parties and
14 the public prior to establishing or revising a
15 WaterSense category, specification, installation cri-
16 terion, or other criterion;

17 (8) provide reasonable notice to interested par-
18 ties and the public of any changes (including effec-
19 tive dates), on the adoption of a new or revised cat-
20 egory, specification, installation criterion, or other
21 criterion, along with—

22 (A) an explanation of the changes; and

23 (B) as appropriate, responses to comments
24 submitted by interested parties and the public;

1 (9) provide appropriate lead time (as deter-
2 mined by the Administrator) prior to the applicable
3 effective date for a new or significant revision to a
4 category, specification, installation criterion, or other
5 criterion, taking into account the timing require-
6 ments of the manufacturing, marketing, training,
7 and distribution process for the specific product,
8 building and landscape, or service category ad-
9 dressed;

10 (10) identify and, if appropriate, implement
11 other voluntary approaches in commercial, institu-
12 tional, residential, industrial, and municipal sectors
13 to encourage recycling and reuse technologies to im-
14 prove water efficiency or lower water use; and

15 (11) if appropriate, authorize the WaterSense
16 label for use on products that are labeled by the En-
17 ergy Star program implemented by the Adminis-
18 trator and the Secretary of Energy.

19 (c) AUTHORIZATION OF APPROPRIATIONS.—There
20 are authorized to be appropriated to carry out this sec-
21 tion—

22 (1) \$5,000,000 for fiscal year 2016;

23 (2) \$5,000,000 for fiscal year 2017;

24 (3) \$5,000,000 for fiscal year 2018;

25 (4) \$5,000,000 for fiscal year 2019; and

1 (5) for each fiscal year thereafter, the applica-
 2 ble amount for the preceding fiscal year, as adjusted
 3 to reflect changes for the 12-month period ending
 4 the preceding November 30 in the Consumer Price
 5 Index for All Urban Consumers published by the
 6 Bureau of Labor Statistics of the Department of
 7 Labor.

8 **SEC. 3153. INCREASING OPPORTUNITIES FOR AGRICUL-**
 9 **TURAL CONSERVATION.**

10 (a) IN GENERAL.—The Secretary of the Interior (re-
 11 ferred to in this section as the “Secretary”) shall offer
 12 to enter into voluntary agreements with public water agen-
 13 cies or other entities that receive water from any project
 14 operated by the Bureau of Reclamation to implement
 15 water conservation programs.

16 (b) USES OF CONSERVED WATER.—

17 (1) IN GENERAL.—Except as provided in para-
 18 graph (2), of the quantity of water conserved as a
 19 result of an agreement entered into pursuant to sub-
 20 section (a)—

21 (A) 25 percent shall be retained by the
 22 public water agency or entity with which the
 23 Secretary has entered into the agreement; and

24 (B) 75 percent shall be retained by the
 25 Secretary, of which—

1 (i) 33 percent shall be used or mar-
2 keted on an annual basis for purposes that
3 will promote groundwater recharge and
4 conservation; and

5 (ii) 67 percent shall be used on an an-
6 nual basis for refuge water supply or other
7 authorized project purposes.

8 (2) EXCEPTIONS.—For good reason in a par-
9 ticular instance, the Secretary and the public water
10 agency or entity with which the Secretary has en-
11 tered into an agreement may agree to modify the
12 percentages referred to in paragraph (1).

13 (c) CONTRIBUTED FUNDS.—

14 (1) IN GENERAL.—Any existing water service or
15 repayment contractor within the project service area
16 of a water conservation agreement under this section
17 may contribute funds for the implementation of the
18 agreement.

19 (2) ACTION BY SECRETARY.—The Secretary
20 shall provide to each contractor that contributes
21 funds under paragraph (1) such portion of the water
22 described in subsection (b)(1)(B)(ii) as the Secretary
23 determines to be appropriate, but not to exceed the
24 proportion of funds contributed by the contractor.

1 (3) **ADDITIONAL WATER.**—If a contractor con-
2 tributes more than 50 percent of the cost of a
3 project carried out under an agreement under this
4 section, the Secretary may enter into an agreement
5 with the contractor to provide to the contractor such
6 portion of the water described in subsection
7 (b)(1)(B)(i) for groundwater recharge and conserva-
8 tion as the Secretary determines to be appropriate,
9 subject to the condition that the contractor shall not
10 receive a higher proportion of the water conserved
11 than the proportion of funds contributed by the con-
12 tractor.

13 **SEC. 3154. SUPPORT FOR INNOVATIVE WATER SUPPLY AND**
14 **CONSERVATION TECHNOLOGIES.**

15 (a) **IN GENERAL.**—To promote the development of
16 innovative water supply and conservation technologies, the
17 Administrator of the Environmental Protection Agency
18 (referred to in this section as the “Administrator”) may
19 award, on a competitive basis, grants and enter into con-
20 tracts to assist in the financing of research and dem-
21 onstration projects for those innovative technologies.

22 (b) **ELIGIBLE ENTITIES.**—To be eligible to receive an
23 award under this section, an entity shall be—

24 (1) a local entity;

1 (2) a public nonprofit institution or organiza-
2 tion;

3 (3) a commercial entity;

4 (4) a federally recognized Indian tribe; or

5 (5) a nonprofit institution or organization.

6 (c) ELIGIBILITY CRITERIA.—The Administrator shall
7 establish criteria for an entity described in subsection (b)
8 to be eligible to receive a grant from, or enter into a con-
9 tract with, the Administrator under this section, includ-
10 ing—

11 (1) demonstration of the technical feasibility of
12 the proposal and the qualifications of the entity to
13 carry out the proposal;

14 (2) demonstration of the financial capability
15 and creditworthiness of non-Federal project spon-
16 sors;

17 (3) compliance with all applicable laws and re-
18 ceipt of all necessary local, State, and Federal per-
19 mits; and

20 (4) quantification of the estimated water to be
21 produced or saved by the project and the net cost of
22 the project.

23 (d) EVALUATION CRITERIA.—The Administrator
24 shall establish criteria for evaluating on a competitive

1 basis eligible applicants under this section, including the
2 degree to which the proposed technology—

3 (1) proposes an innovation that has broad, fun-
4 damental implications for water savings or water
5 supply;

6 (2) is economically feasible;

7 (3) could reduce the costs of water supply, in-
8 cluding reductions in associated energy costs;

9 (4) would solve environmental concerns or pro-
10 vide environmental benefits;

11 (5) has a proof of concept, and a likely path to
12 success within a reasonable timeframe; and

13 (6) is aimed at the development of a specific
14 water saving or water supply application, as opposed
15 to basic research aimed at discovery and funda-
16 mental knowledge generation.

17 (e) AUTHORITY TO ENGAGE OTHERS.—

18 (1) IN GENERAL.—In carrying out research
19 under this section, the Administrator may engage
20 such personnel, industrial or engineering entities,
21 Federal laboratories, water resources research and
22 technology institutions, other facilities, and edu-
23 cational institutions as the Administrator determines
24 to be necessary.

1 (2) TECHNICAL AND ADMINISTRATIVE ASSIST-
2 ANCE.—The Administrator may—

3 (A) accept technical and administrative as-
4 sistance from States and public or private agen-
5 cies in connection with studies, surveys, loca-
6 tion, construction, operation, and other work re-
7 lating to the desalting of water; and

8 (B) enter into contracts or agreements
9 that—

10 (i) establish the purposes for which
11 the assistance is contributed; and

12 (ii) provide for the sharing of costs
13 between the Administrator and any such
14 agency.

15 (f) COST SHARING.—

16 (1) FEDERAL COST SHARE.—Subject to para-
17 graph (2), the Federal share of the cost of a project
18 under this section shall not exceed 25 percent, un-
19 less the Administrator determines that the project is
20 not feasible without an increased Federal contribu-
21 tion.

22 (2) MAXIMUM FEDERAL COST SHARE.—Not-
23 withstanding paragraph (1), the Federal share of
24 the cost of a project under this section shall not ex-
25 ceed 50 percent of the total project cost.

1 (3) PROCEDURES FOR ALLOCATING COSTS.—

2 (A) IN GENERAL.—The Administrator
3 shall prescribe appropriate procedures to imple-
4 ment this section.

5 (B) NON-FEDERAL COSTS.—The costs of
6 operation, maintenance, repair, and rehabilita-
7 tion of any facility funded under this section
8 shall be a non-Federal responsibility.

9 (g) AUTHORIZATION OF APPROPRIATIONS.—There is
10 authorized to be appropriated to carry out this section
11 \$35,000,000 for the period of fiscal years 2016 through
12 2020.

13 **TITLE IV—INVESTING IN**
14 **RESEARCH AND DEVELOPMENT**

15 **SEC. 4001. BASIC RESEARCH.**

16 Section 971(b) of the Energy Policy Act of 2005 (42
17 U.S.C. 16311(b)) is amended—

18 (1) in paragraph (6), by striking “and” at the
19 end;

20 (2) in paragraph (7), by striking the period at
21 the end and inserting “; and”; and

22 (3) by adding at the end the following:

23 “(8) \$15,000,000,000 for each of fiscal years
24 2016 through 2020.”.

1 **SEC. 4002. ADVANCED RESEARCH PROJECTS AGENCY-EN-**
2 **ERGY.**

3 Section 5012 of the America COMPETES Act (42
4 U.S.C. 16538) is amended—

5 (1) in subsection (a)(3), by striking “subsection
6 (n)(1)” and inserting “subsection (o)(1)”;

7 (2) in subsection (i), by striking paragraph (1)
8 and inserting the following:

9 “(1) IN GENERAL.—To the maximum extent
10 practicable, the Director shall ensure that—

11 “(A) the activities of ARPA–E are coordi-
12 nated with, and do not duplicate the efforts of,
13 programs and laboratories within the Depart-
14 ment and other relevant research agencies; and

15 “(B) ARPA–E does not provide funding
16 for a project unless the prospective grantee
17 demonstrates sufficient attempts to secure pri-
18 vate financing or indicates that the project is
19 not independently commercially viable.”;

20 (3) by redesignating subsection (n) as sub-
21 section (o);

22 (4) by inserting after subsection (m) the fol-
23 lowing:

24 “(n) PROTECTION OF INFORMATION.—The following
25 types of information collected by the ARPA–E from recipi-
26 ents of financial assistance awards shall be considered

1 privileged and confidential and not subject to disclosure
2 under section 552 of title 5, United States Code:

3 “(1) Plans for commercialization of technologies
4 developed under the award, including business plans,
5 technology-to-market plans, market studies, and cost
6 and performance models.

7 “(2) Investments provided to an awardee from
8 third parties (such as venture capital firms, hedge
9 funds, and private equity firms), including amounts
10 and the percentage of ownership of the awardee pro-
11 vided in return for the investments.

12 “(3) Additional financial support that the
13 awardee—

14 “(A) plans to or has invested into the tech-
15 nology developed under the award; or

16 “(B) is seeking from third parties.

17 “(4) Revenue from the licensing or sale of new
18 products or services resulting from research con-
19 ducted under the award.”; and

20 (5) in subsection (o) (as redesignated by para-
21 graph (3))—

22 (A) in paragraph (2)—

23 (i) in the matter preceding subpara-
24 graph (A), by striking “paragraphs (4)
25 and (5)” and inserting “paragraph (4)”;

1 (ii) in subparagraph (D), by striking
2 “and” at the end;

3 (iii) in subparagraph (E), by striking
4 the period at the end and inserting “;
5 and”; and

6 (iv) by adding at the end the fol-
7 lowing:

8 “(F) \$1,000,000, 000 for each of fiscal
9 years 2016 through 2020.”; and

10 (B) in paragraph (4)(B), by striking
11 “(e)(2)(D)” and inserting “(e)(2)(C)”.

12 **TITLE V—INVESTING IN CLEAN** 13 **ENERGY**

14 **SEC. 5001. AMENDMENT OF 1986 CODE.**

15 Except as otherwise expressly provided, whenever in
16 this title an amendment or repeal is expressed in terms
17 of an amendment to, or repeal of, a section or other provi-
18 sion, the reference shall be considered to be made to a
19 section or other provision of the Internal Revenue Code
20 of 1986.

1 **Subtitle A—Clean Energy Tax**
 2 **Credits**

3 **SEC. 5011. CLEAN ENERGY PRODUCTION CREDIT.**

4 (a) IN GENERAL.—Subpart D of part IV of sub-
 5 chapter A of chapter 1 is amended by adding at the end
 6 the following new section:

7 **“SEC. 45S. CLEAN ENERGY PRODUCTION CREDIT.**

8 “(a) AMOUNT OF CREDIT.—

9 “(1) IN GENERAL.—For purposes of section 38,
 10 the clean energy production credit for any taxable
 11 year is an amount equal to the product of—

12 “(A) the applicable credit rate (as deter-
 13 mined under paragraph (2)), multiplied by

14 “(B) the kilowatt hours of electricity—

15 “(i) produced by the taxpayer at a
 16 qualified facility, and

17 “(ii)(I) sold by the taxpayer to an un-
 18 related person during the taxable year, or

19 “(II) in the case of a qualified facility
 20 which is equipped with a metering device
 21 which is owned and operated by an unre-
 22 lated person, sold, consumed, or stored by
 23 the taxpayer during the taxable year.

24 “(2) APPLICABLE CREDIT RATE.—

25 “(A) IN GENERAL.—

1 “(i) MAXIMUM CREDIT RATE.—Except
2 as provided in clause (ii), the applicable
3 credit rate is 1.5 cents.

4 “(ii) REDUCTION OF CREDIT BASED
5 ON GREENHOUSE GAS EMISSION RATE.—
6 The applicable credit rate shall be reduced
7 (but not below zero) by an amount which
8 bears the same ratio to the amount in ef-
9 fect under clause (i) as the greenhouse gas
10 emissions rate for the qualified facility
11 bears to 372 grams of CO₂e per KWh.

12 “(B) ROUNDING.—If any amount deter-
13 mined under subparagraph (A)(ii) is not a mul-
14 tiple of 0.1 cent, such amount shall be rounded
15 to the nearest multiple of 0.1 cent.

16 “(b) GREENHOUSE GAS EMISSIONS RATE.—

17 “(1) IN GENERAL.—For purposes of this sec-
18 tion, the term ‘greenhouse gas emissions rate’ means
19 the amount of greenhouse gases emitted into the at-
20 mosphere by a qualified facility in the production of
21 electricity, expressed as grams of CO₂e per KWh.

22 “(2) NON-FOSSIL FUEL COMBUSTION AND GAS-
23 IFICATION.—In the case of a qualified facility which
24 produces electricity through combustion or gasifi-
25 cation of a non-fossil fuel, the greenhouse gas emis-

1 sions rate for such facility shall be equal to the net
2 rate of greenhouse gases emitted into the atmos-
3 phere by such facility in the production of electricity,
4 expressed as grams of CO₂e per KWh.

5 “(3) ESTABLISHMENT OF SAFE HARBOR FOR
6 QUALIFIED FACILITIES.—

7 “(A) IN GENERAL.—The Secretary, in con-
8 sultation with the Administrator of the Envi-
9 ronmental Protection Agency, shall, by regula-
10 tion, establish safe-harbor greenhouse gas emis-
11 sions rates for types or categories of qualified
12 facilities, which a taxpayer may elect to use for
13 purposes of this section.

14 “(B) ROUNDING.—In establishing the safe-
15 harbor greenhouse gas emissions rates for
16 qualified facilities, the Secretary may round
17 such rates to the nearest multiple of 37.2
18 grams of CO₂e per KWh (or, in the case of a
19 greenhouse gas emissions rate which is less
20 than 18.6 grams of CO₂e per KWh, by round-
21 ing such rate to zero).

22 “(4) CARBON CAPTURE AND SEQUESTRATION
23 EQUIPMENT.—For purposes of this subsection, the
24 amount of greenhouse gases emitted into the atmos-
25 phere by a qualified facility in the production of

1 electricity shall not include any qualified carbon di-
2 oxide (as defined in section 48E(c)(3)(A)) that is
3 captured and disposed of by the taxpayer.

4 “(c) INFLATION ADJUSTMENT.—

5 “(1) IN GENERAL.—In the case of a calendar
6 year beginning after 2018, the 1.5 cent amount in
7 clause (i) of subsection (a)(2)(A) shall be adjusted
8 by multiplying such amount by the inflation adjust-
9 ment factor for the calendar year in which the sale
10 or use of the electricity occurs. If any amount as in-
11 creased under the preceding sentence is not a mul-
12 tiple of 0.1 cent, such amount shall be rounded to
13 the nearest multiple of 0.1 cent.

14 “(2) ANNUAL COMPUTATION.—The Secretary
15 shall, not later than April 1 of each calendar year,
16 determine and publish in the Federal Register the
17 inflation adjustment factor for such calendar year in
18 accordance with this subsection.

19 “(3) INFLATION ADJUSTMENT FACTOR.—The
20 term ‘inflation adjustment factor’ means, with re-
21 spect to a calendar year, a fraction the numerator
22 of which is the GDP implicit price deflator for the
23 preceding calendar year and the denominator of
24 which is the GDP implicit price deflator for the cal-
25 endar year 1992. The term ‘GDP implicit price

1 deflator’ means the most recent revision of the im-
2 plicit price deflator for the gross domestic product
3 as computed and published by the Department of
4 Commerce before March 15 of the calendar year.

5 “(d) CREDIT PHASE-OUT.—

6 “(1) IN GENERAL.—Subject to paragraph (3),
7 if the Secretary, in consultation with the Secretary
8 of Energy and the Administrator of the Environ-
9 mental Protection Agency, determines that the an-
10 nual greenhouse gas emissions from electrical pro-
11 duction in the United States are equal to or less
12 than 72 percent of the annual greenhouse gas emis-
13 sions from electrical production in the United States
14 for calendar year 2005, the amount of the clean en-
15 ergy production credit under subsection (a) for any
16 qualified facility placed in service during a calendar
17 year described in paragraph (2) shall be equal to the
18 product of—

19 “(A) the amount of the credit determined
20 under subsection (a) without regard to this sub-
21 section, multiplied by

22 “(B) the phase-out percentage under para-
23 graph (2).

24 “(2) PHASE-OUT PERCENTAGE.—The phase-out
25 percentage under this paragraph is equal to—

1 “(A) for a facility placed in service during
2 the first calendar year following the calendar
3 year in which the determination described in
4 paragraph (1) is made, 75 percent,

5 “(B) for a facility placed in service during
6 the second calendar year following such deter-
7 mination year, 50 percent,

8 “(C) for a facility placed in service during
9 the third calendar year following such deter-
10 mination year, 25 percent, and

11 “(D) for a facility placed in service during
12 any calendar year subsequent to the year de-
13 scribed in subparagraph (C), 0 percent.

14 “(3) DEADLINE TO BEGIN PHASE-OUT.—If the
15 Secretary, in consultation with the Secretary of En-
16 ergy and the Administrator of the Environmental
17 Protection Agency, determines that the annual
18 greenhouse gas emissions from electrical production
19 in the United States for each year before calendar
20 year 2026 are greater than the percentage specified
21 in paragraph (1), then the determination described
22 in such paragraph shall be deemed to have been
23 made for calendar year 2025.

24 “(e) DEFINITIONS.—In this section:

1 “(1) CO₂e PER KWh.—The term ‘CO₂e per
2 KWh’ means, with respect to any greenhouse gas,
3 the equivalent carbon dioxide per kilowatt hour of
4 electricity produced.

5 “(2) GREENHOUSE GAS.—The term ‘greenhouse
6 gas’ has the same meaning given such term under
7 section 211(o)(1)(G) of the Clean Air Act (42
8 U.S.C. 7545(o)(1)(G)), as in effect on the date of
9 the enactment of this section.

10 “(3) QUALIFIED FACILITY.—

11 “(A) IN GENERAL.—Subject to subpara-
12 graphs (B) and (C), the term ‘qualified facility’
13 means a facility which is—

14 “(i) used for the generation of elec-
15 tricity, and

16 “(ii) originally placed in service after
17 December 31, 2017.

18 “(B) 10-YEAR PRODUCTION CREDIT.—For
19 purposes of this section, a facility shall only be
20 treated as a qualified facility during the 10-year
21 period beginning on the date the facility was
22 originally placed in service.

23 “(C) EXPANSION OF FACILITY; INCRE-
24 MENTAL PRODUCTION.—A qualified facility
25 shall include either of the following in connec-

1 tion with a facility described in subparagraph
2 (A)(i) that was previously placed in service, but
3 only to the extent of the increased amount of
4 electricity produced at the facility by reason of
5 the following:

6 “(i) A new unit placed in service after
7 December 31, 2017.

8 “(ii) Any efficiency improvements or
9 additions of capacity placed in service after
10 December 31, 2017.

11 “(D) COORDINATION WITH OTHER CRED-
12 ITS.—The term ‘qualified facility’ shall not in-
13 clude any facility for which—

14 “(i) a renewable electricity production
15 credit determined under section 45 is al-
16 lowed under section 38 for the taxable year
17 or any prior taxable year,

18 “(ii) an energy credit determined
19 under section 48 is allowed under section
20 38 for the taxable year or any prior tax-
21 able year, or

22 “(iii) a clean energy investment credit
23 determined under section 48E is allowed
24 under section 38 for the taxable year or
25 any prior taxable year.

1 “(f) FINAL GUIDANCE.—Not later than January 1,
2 2017, the Secretary, in consultation with the Adminis-
3 trator of the Environmental Protection Agency, shall issue
4 final guidance regarding implementation of this section,
5 including calculation of greenhouse gas emission rates for
6 qualified facilities and determination of clean energy pro-
7 duction credits under this section.

8 “(g) SPECIAL RULES.—

9 “(1) ONLY PRODUCTION IN THE UNITED
10 STATES TAKEN INTO ACCOUNT.—Consumption or
11 sales shall be taken into account under this section
12 only with respect to electricity the production of
13 which is within—

14 “(A) the United States (within the mean-
15 ing of section 638(1)), or

16 “(B) a possession of the United States
17 (within the meaning of section 638(2)).

18 “(2) COMBINED HEAT AND POWER SYSTEM
19 PROPERTY.—

20 “(A) IN GENERAL.—For purposes of sub-
21 section (a)(1)(B), the kilowatt hours of elec-
22 tricity produced by a taxpayer at a qualified fa-
23 cility shall include any production in the form
24 of useful thermal energy by any combined heat
25 and power system property within such facility.

1 “(B) COMBINED HEAT AND POWER SYS-
2 TEM PROPERTY.—For purposes of this para-
3 graph, the term ‘combined heat and power sys-
4 tem property’ has the same meaning given such
5 term by section 48(c)(3) (without regard to
6 subparagraphs (A)(iv), (B), and (D) thereof).

7 “(C) CONVERSION FROM BTU TO KWH.—

8 “(i) IN GENERAL.—For purposes of
9 subparagraph (A), the amount of kilowatt
10 hours of electricity produced in the form of
11 useful thermal energy shall be equal to the
12 quotient of—

13 “(I) the total useful thermal en-
14 ergy produced by the combined heat
15 and power system property within the
16 qualified facility, divided by

17 “(II) the heat rate for such facil-
18 ity.

19 “(ii) HEAT RATE.—For purposes of
20 this subparagraph, the term ‘heat rate’
21 means the amount of energy used by the
22 qualified facility to generate 1 kilowatt
23 hour of electricity, expressed as British
24 thermal units per net kilowatt hour gen-
25 erated.

1 “(3) PRODUCTION ATTRIBUTABLE TO THE TAX-
2 PAYER.—In the case of a qualified facility in which
3 more than 1 person has an ownership interest, ex-
4 cept to the extent provided in regulations prescribed
5 by the Secretary, production from the facility shall
6 be allocated among such persons in proportion to
7 their respective ownership interests in the gross
8 sales from such facility.

9 “(4) RELATED PERSONS.—Persons shall be
10 treated as related to each other if such persons
11 would be treated as a single employer under the reg-
12 ulations prescribed under section 52(b). In the case
13 of a corporation which is a member of an affiliated
14 group of corporations filing a consolidated return,
15 such corporation shall be treated as selling electricity
16 to an unrelated person if such electricity is sold to
17 such a person by another member of such group.

18 “(5) PASS-THRU IN THE CASE OF ESTATES AND
19 TRUSTS.—Under regulations prescribed by the Sec-
20 retary, rules similar to the rules of subsection (d) of
21 section 52 shall apply.

22 “(6) ALLOCATION OF CREDIT TO PATRONS OF
23 AGRICULTURAL COOPERATIVE.—

24 “(A) ELECTION TO ALLOCATE.—

1 “(i) IN GENERAL.—In the case of an
2 eligible cooperative organization, any por-
3 tion of the credit determined under sub-
4 section (a) for the taxable year may, at the
5 election of the organization, be apportioned
6 among patrons of the organization on the
7 basis of the amount of business done by
8 the patrons during the taxable year.

9 “(ii) FORM AND EFFECT OF ELEC-
10 TION.—An election under clause (i) for any
11 taxable year shall be made on a timely
12 filed return for such year. Such election,
13 once made, shall be irrevocable for such
14 taxable year. Such election shall not take
15 effect unless the organization designates
16 the apportionment as such in a written no-
17 tice mailed to its patrons during the pay-
18 ment period described in section 1382(d).

19 “(B) TREATMENT OF ORGANIZATIONS AND
20 PATRONS.—The amount of the credit appor-
21 tioned to any patrons under subparagraph
22 (A)—

23 “(i) shall not be included in the
24 amount determined under subsection (a)

1 with respect to the organization for the
2 taxable year, and

3 “(ii) shall be included in the amount
4 determined under subsection (a) for the
5 first taxable year of each patron ending on
6 or after the last day of the payment period
7 (as defined in section 1382(d)) for the tax-
8 able year of the organization or, if earlier,
9 for the taxable year of each patron ending
10 on or after the date on which the patron
11 receives notice from the cooperative of the
12 apportionment.

13 “(C) SPECIAL RULES FOR DECREASE IN
14 CREDITS FOR TAXABLE YEAR.—If the amount
15 of the credit of a cooperative organization de-
16 termined under subsection (a) for a taxable
17 year is less than the amount of such credit
18 shown on the return of the cooperative organi-
19 zation for such year, an amount equal to the
20 excess of—

21 “(i) such reduction, over

22 “(ii) the amount not apportioned to
23 such patrons under subparagraph (A) for
24 the taxable year,

1 shall be treated as an increase in tax imposed
2 by this chapter on the organization. Such in-
3 crease shall not be treated as tax imposed by
4 this chapter for purposes of determining the
5 amount of any credit under this chapter.

6 “(D) ELIGIBLE COOPERATIVE DEFINED.—
7 For purposes of this section, the term ‘eligible
8 cooperative’ means a cooperative organization
9 described in section 1381(a) which is owned
10 more than 50 percent by agricultural producers
11 or by entities owned by agricultural producers.
12 For this purpose an entity owned by an agricul-
13 tural producer is one that is more than 50 per-
14 cent owned by agricultural producers.”.

15 (b) CONFORMING AMENDMENTS.—

16 (1) Section 38(b) is amended—

17 (A) in paragraph (35), by striking “plus”
18 at the end,

19 (B) in paragraph (36), by striking the pe-
20 riod at the end and inserting “, plus”, and

21 (C) by adding at the end the following new
22 paragraph:

23 “(37) the clean energy production credit deter-
24 mined under section 45S(a).”.

1 (2) The table of sections for subpart D of part
2 IV of subchapter A of chapter 1 is amended by add-
3 ing at the end the following new item:

“Sec. 45S. Clean energy production credit.”.

4 (c) EFFECTIVE DATE.—The amendments made by
5 this section shall apply to facilities placed in service after
6 December 31, 2017.

7 **SEC. 5012. CLEAN ENERGY INVESTMENT CREDIT.**

8 (a) BUSINESS CREDIT.—

9 (1) IN GENERAL.—Subpart E of part IV of
10 subchapter A of chapter 1 is amended by inserting
11 after section 48D the following new section:

12 **“SEC. 48E. CLEAN ENERGY INVESTMENT CREDIT.**

13 “(a) INVESTMENT CREDIT FOR QUALIFIED PROP-
14 ERTY.—

15 “(1) IN GENERAL.—For purposes of section 46,
16 the clean energy investment credit for any taxable
17 year is an amount equal to the sum of—

18 “(A) the clean energy percentage of the
19 qualified investment for such taxable year with
20 respect to any qualified facility, plus

21 “(B) 30 percent of the qualified invest-
22 ment for such taxable year with respect to
23 qualified carbon capture and sequestration
24 equipment, plus

1 “(C) 30 percent of the qualified investment
2 for such taxable year with respect to energy
3 storage property.

4 “(2) CLEAN ENERGY PERCENTAGE.—

5 “(A) IN GENERAL.—

6 “(i) MAXIMUM PERCENTAGE.—Except
7 as provided in clause (ii), the clean energy
8 percentage is 30 percent.

9 “(ii) REDUCTION OF PERCENTAGE
10 BASED ON GREENHOUSE GAS EMISSIONS
11 RATE.—The clean energy percentage shall
12 be reduced (but not below zero) by an
13 amount which bears the same ratio to 30
14 percent as the anticipated greenhouse gas
15 emissions rate for the qualified facility
16 bears to 372 grams of CO₂e per KWh.

17 “(B) ROUNDING.—If any amount deter-
18 mined under subparagraph (A)(ii) is not a mul-
19 tiple of 1 percent, such amount shall be round-
20 ed to the nearest multiple of 1 percent.

21 “(3) COORDINATION WITH REHABILITATION
22 CREDIT.—The clean energy percentage shall not
23 apply to that portion of the basis of any property
24 which is attributable to qualified rehabilitation ex-
25 penditures (as defined in section 47(c)(2)).

1 “(b) QUALIFIED INVESTMENT WITH RESPECT TO
2 ANY QUALIFIED FACILITY.—

3 “(1) IN GENERAL.—For purposes of subsection
4 (a)(1)(A), the qualified investment with respect to
5 any qualified facility for any taxable year is the
6 basis of any qualified property placed in service by
7 the taxpayer during such taxable year which is part
8 of a qualified facility.

9 “(2) QUALIFIED PROPERTY.—The term ‘quali-
10 fied property’ means property—

11 “(A) which is—

12 “(i) tangible personal property, or

13 “(ii) other tangible property (not in-
14 cluding a building or its structural compo-
15 nents), but only if such property is used as
16 an integral part of the qualified facility,

17 “(B) with respect to which depreciation (or
18 amortization in lieu of depreciation) is allow-
19 able,

20 “(C) which is constructed, reconstructed,
21 erected, or acquired by the taxpayer, and

22 “(D) the original use of which commences
23 with the taxpayer.

24 “(3) QUALIFIED FACILITY.—The term ‘quali-
25 fied facility’ has the same meaning given such term

1 by section 45S(e)(3) (without regard to subpara-
2 graphs (B) and (D) thereof). Such term shall not in-
3 clude any facility for which a renewable electricity
4 production credit under section 45 or an energy
5 credit determined under section 48 is allowed under
6 section 38 for the taxable year or any prior taxable
7 year.

8 “(c) QUALIFIED INVESTMENT WITH RESPECT TO
9 QUALIFIED CARBON CAPTURE AND SEQUESTRATION
10 EQUIPMENT.—

11 “(1) IN GENERAL.—For purposes of subsection
12 (a)(1)(B), the qualified investment with respect to
13 qualified carbon capture and sequestration equip-
14 ment for any taxable year is the basis of any quali-
15 fied carbon capture and sequestration equipment
16 placed in service by the taxpayer during such taxable
17 year.

18 “(2) QUALIFIED CARBON CAPTURE AND SE-
19 QUESTRATION EQUIPMENT.—The term ‘qualified
20 carbon capture and sequestration equipment’ means
21 property—

22 “(A) installed in a facility placed in service
23 before January 1, 2018, which produces elec-
24 tricity,

1 “(B) which results in at least a 50 percent
2 reduction in the carbon dioxide emissions rate
3 at the facility, as compared to such rate before
4 installation of such equipment, through the cap-
5 ture and disposal of qualified carbon dioxide (as
6 defined in paragraph (3)(A)),

7 “(C) with respect to which depreciation is
8 allowable,

9 “(D) which is constructed, reconstructed,
10 erected, or acquired by the taxpayer, and

11 “(E) the original use of which commences
12 with the taxpayer.

13 “(3) QUALIFIED CARBON DIOXIDE.—

14 “(A) IN GENERAL.—The term ‘qualified
15 carbon dioxide’ means carbon dioxide captured
16 from an industrial source which—

17 “(i) would otherwise be released into
18 the atmosphere as industrial emission of
19 greenhouse gas,

20 “(ii) is measured at the source of cap-
21 ture and verified at the point of disposal or
22 injection,

23 “(iii) is disposed of by the taxpayer in
24 secure geological storage, and

1 “(iv) is captured and disposed of with-
2 in the United States (within the meaning
3 of section 638(1)) or a possession of the
4 United States (within the meaning of sec-
5 tion 638(2)).

6 “(B) SECURE GEOLOGICAL STORAGE.—
7 The term ‘secure geological storage’ has the
8 same meaning given to such term under section
9 45Q(d)(2).

10 “(d) QUALIFIED INVESTMENT WITH RESPECT TO
11 ENERGY STORAGE PROPERTY.—

12 “(1) IN GENERAL.—For purposes of subsection
13 (a)(1)(C), the qualified investment with respect to
14 energy storage property for any taxable year is the
15 basis of any energy storage property placed in serv-
16 ice by the taxpayer during such taxable year.

17 “(2) ENERGY STORAGE PROPERTY.—The term
18 ‘energy storage property’ means property—

19 “(A) installed at or near a facility which
20 produces electricity,

21 “(B) which receives, stores, and delivers
22 electricity or energy for conversion to electricity
23 which is sold by the taxpayer to an unrelated
24 person (or, in the case of a facility which is
25 equipped with a metering device which is owned

1 and operated by an unrelated person, sold or
2 consumed by the taxpayer), which may in-
3 clude—

4 “(i) hydroelectric pumped storage,

5 “(ii) compressed air energy storage,

6 “(iii) regenerative fuel cells,

7 “(iv) batteries,

8 “(v) superconducting magnetic energy
9 storage,

10 “(vi) thermal energy storage systems,

11 “(vii) fuel cells (as defined in section
12 48(c)(1)),

13 “(viii) any other relevant technology
14 identified by the Secretary (in consultation
15 with the Secretary of Energy), and

16 “(ix) any combination of the prop-
17 erties described in clauses (i) through
18 (viii),

19 “(C) with respect to which depreciation is
20 allowable,

21 “(D) which is constructed, reconstructed,
22 erected, or acquired by the taxpayer,

23 “(E) the original use of which commences
24 with the taxpayer, and

1 “(F) which is placed in service after De-
2 cember 31, 2017.

3 “(e) GREENHOUSE GAS EMISSIONS RATE.—

4 “(1) IN GENERAL.—For purposes of this sec-
5 tion, the term ‘greenhouse gas emissions rate’ has
6 the same meaning given such term under subsection
7 (b) of section 45S.

8 “(2) ESTABLISHMENT OF SAFE HARBOR FOR
9 QUALIFIED PROPERTY.—

10 “(A) IN GENERAL.—The Secretary, in con-
11 sultation with the Administrator of the Envi-
12 ronmental Protection Agency, shall, by regula-
13 tion, establish safe-harbor greenhouse gas emis-
14 sions rates for types or categories of qualified
15 property which are part of a qualified facility,
16 which a taxpayer may elect to use for purposes
17 of this section.

18 “(B) ROUNDING.—In establishing the safe-
19 harbor greenhouse gas emissions rates for
20 qualified property, the Secretary may round
21 such rates to the nearest multiple of 37.2
22 grams of CO₂e per KWh (or, in the case of a
23 greenhouse gas emissions rate which is less
24 than 18.6 grams of CO₂e per KWh, by round-
25 ing such rate to zero).

1 “(f) CERTAIN PROGRESS EXPENDITURE RULES
2 MADE APPLICABLE.—Rules similar to the rules of sub-
3 section (c)(4) and (d) of section 46 (as in effect on the
4 day before the date of the enactment of the Revenue Rec-
5 onciliation Act of 1990) shall apply for purposes of sub-
6 section (a).

7 “(g) CREDIT PHASE-OUT.—

8 “(1) IN GENERAL.—Subject to paragraph (3),
9 if the Secretary, in consultation with the Secretary
10 of Energy and the Administrator of the Environ-
11 mental Protection Agency, determines that the an-
12 nual greenhouse gas emissions from electrical pro-
13 duction in the United States are equal to or less
14 than 72 percent of the annual greenhouse gas emis-
15 sions from electrical production in the United States
16 for calendar year 2005, the amount of the clean en-
17 ergy investment credit under subsection (a) for any
18 qualified facility, qualified carbon capture and se-
19 questration equipment, or energy storage property
20 placed in service during a calendar year described in
21 paragraph (2) shall be equal to the product of—

22 “(A) the amount of the credit determined
23 under subsection (a) without regard to this sub-
24 section, multiplied by

1 “(B) the phase-out percentage under para-
2 graph (2).

3 “(2) PHASE-OUT PERCENTAGE.—The phase-out
4 percentage under this paragraph is equal to—

5 “(A) for a facility or property placed in
6 service during the first calendar year following
7 the calendar year in which the determination
8 described in paragraph (1) is made, 75 percent,

9 “(B) for a facility or property placed in
10 service during the second calendar year fol-
11 lowing such determination year, 50 percent,

12 “(C) for a facility or property placed in
13 service during the third calendar year following
14 such determination year, 25 percent, and

15 “(D) for a facility or property placed in
16 service during any calendar year subsequent to
17 the year described in subparagraph (C), 0 per-
18 cent.

19 “(3) DEADLINE TO BEGIN PHASE-OUT.—If the
20 Secretary, in consultation with the Secretary of En-
21 ergy and the Administrator of the Environmental
22 Protection Agency, determines that the annual
23 greenhouse gas emissions from electrical production
24 in the United States for each year before calendar
25 year 2026 are greater than the percentage specified

1 in paragraph (1), then the determination described
2 in such paragraph shall be deemed to have been
3 made for calendar year 2025.

4 “(h) DEFINITIONS.—In this section:

5 “(1) CO₂e PER KWh.—The term ‘CO₂e per
6 KWh’ has the same meaning given such term under
7 section 45S(e)(1).

8 “(2) GREENHOUSE GAS.—The term ‘greenhouse
9 gas’ has the same meaning given such term under
10 section 45S(e)(2).

11 “(i) RECAPTURE OF CREDIT.—For purposes of sec-
12 tion 50, if the Administrator of the Environmental Protec-
13 tion Agency determines that—

14 “(1) the greenhouse gas emissions rate for a
15 qualified facility is significantly higher than the an-
16 ticipated greenhouse gas emissions rate claimed by
17 the taxpayer for purposes of the clean energy invest-
18 ment credit under this section, or

19 “(2) with respect to any qualified carbon cap-
20 ture and sequestration equipment installed in a facil-
21 ity, the carbon dioxide emissions from such facility
22 cease to be captured or disposed of in a manner con-
23 sistent with the requirements of subsection (c),

1 the facility or equipment shall cease to be investment cred-
2 it property in the taxable year in which the determination
3 is made.

4 “(j) FINAL GUIDANCE.—Not later than January 1,
5 2017, the Secretary, in consultation with the Adminis-
6 trator of the Environmental Protection Agency, shall issue
7 final guidance regarding implementation of this section,
8 including calculation of greenhouse gas emission rates for
9 qualified facilities and determination of clean energy in-
10 vestment credits under this section.”.

11 (2) CONFORMING AMENDMENTS.—

12 (A) Section 46 is amended by inserting a
13 comma at the end of paragraph (4), by striking
14 “and” at the end of paragraph (5), by striking
15 the period at the end of paragraph (6) and in-
16 serting “, and”, and by adding at the end the
17 following new paragraph:

18 “(7) the clean energy investment credit.”.

19 (B) Section 49(a)(1)(C) is amended by
20 striking “and” at the end of clause (v), by
21 striking the period at the end of clause (vi) and
22 inserting a comma, and by adding at the end
23 the following new clauses:

1 “(vii) the basis of any qualified prop-
2 erty which is part of a qualified facility
3 under section 48E,

4 “(viii) the basis of any qualified car-
5 bon capture and sequestration equipment
6 under section 48E, and

7 “(ix) the basis of any energy storage
8 property under section 48E.”.

9 (C) Section 50(a)(2)(E) is amended by in-
10 serting “or 48E(e)” after “section 48(b)”.

11 (D) The table of sections for subpart E of
12 part IV of subchapter A of chapter 1 is amend-
13 ed by inserting after the item relating to section
14 48D the following new item:

“48E. Clean energy investment credit.”.

15 (3) EFFECTIVE DATE.—The amendments made
16 by this subsection shall apply to property placed in
17 service after December 31, 2017, under rules similar
18 to the rules of section 48(m) of the Internal Revenue
19 Code of 1986 (as in effect on the day before the
20 date of the enactment of the Revenue Reconciliation
21 Act of 1990).

22 (b) INDIVIDUAL CREDIT.—

23 (1) IN GENERAL.—Section 25D is amended to
24 read as follows:

1 **“SEC. 25D. CLEAN RESIDENTIAL ENERGY CREDIT.**

2 “(a) ALLOWANCE OF CREDIT.—

3 “(1) IN GENERAL.—In the case of an indi-
4 vidual, there shall be allowed as a credit against the
5 tax imposed by this chapter for the taxable year an
6 amount equal to the sum of—

7 “(A) the clean energy percentage of the ex-
8 penditures made by the taxpayer for qualified
9 property which is—

10 “(i) installed in a dwelling unit which
11 is located in the United States and used as
12 a residence by the taxpayer, and

13 “(ii) placed in service during such tax-
14 able year, plus

15 “(B) 30 percent of the expenditures made
16 by the taxpayer for energy storage property
17 which is—

18 “(i) installed in a dwelling unit which
19 is located in the United States and used as
20 a residence by the taxpayer, and

21 “(ii) placed in service during such tax-
22 able year.

23 “(2) CLEAN ENERGY PERCENTAGE.—

24 “(A) IN GENERAL.—

1 “(i) MAXIMUM PERCENTAGE.—Except
2 as provided in clause (ii), the clean energy
3 percentage is 30 percent.

4 “(ii) REDUCTION OF PERCENTAGE
5 BASED ON GREENHOUSE GAS EMISSIONS
6 RATE.—The clean energy percentage shall
7 be reduced (but not below zero) by an
8 amount which bears the same ratio to 30
9 percent as the anticipated greenhouse gas
10 emissions rate for the qualified property
11 bears to 372 grams of CO₂e per KWh.

12 “(B) ROUNDING.—If any amount deter-
13 mined under subparagraph (A)(ii) is not a mul-
14 tiple of 1 percent, such amount shall be round-
15 ed to the nearest multiple of 1 percent.

16 “(C) DEFINITIONS.—For purposes of this
17 section, the terms ‘greenhouse gas emissions
18 rate’ and ‘CO₂e per KWh’ have the same mean-
19 ings given such terms under subsections (b) and
20 (e)(1) of section 45S, respectively.

21 “(3) ESTABLISHMENT OF SAFE HARBOR FOR
22 QUALIFIED PROPERTY.—

23 “(A) IN GENERAL.—The Secretary, in con-
24 sultation with the Administrator of the Envi-
25 ronmental Protection Agency, shall, by regula-

1 tion, establish safe-harbor greenhouse gas emis-
2 sions rates for types or categories of qualified
3 property which are installed in a dwelling unit,
4 which a taxpayer may elect to use for purposes
5 of this section.

6 “(B) ROUNDING.—In establishing the safe-
7 harbor greenhouse gas emissions rates for
8 qualified property, the Secretary may round
9 such rates to the nearest multiple of 37.2
10 grams of CO₂e per KWh (or, in the case of a
11 greenhouse gas emissions rate which is less
12 than 18.6 grams of CO₂e per KWh, by round-
13 ing such rate to zero).

14 “(b) QUALIFIED PROPERTY.—The term ‘qualified
15 property’ means property—

16 “(1) which is tangible personal property,

17 “(2) which is used for the generation of elec-
18 tricity,

19 “(3) which is constructed, reconstructed, erect-
20 ed, or acquired by the taxpayer,

21 “(4) the original use of which commences with
22 the taxpayer, and

23 “(5) which is originally placed in service after
24 December 31, 2017.

1 “(c) ENERGY STORAGE PROPERTY.—The term ‘en-
2 ergy storage property’ means property which receives,
3 stores, and delivers electricity or energy for conversion to
4 electricity which is consumed by the taxpayer, which may
5 include—

6 “(1) batteries,

7 “(2) thermal energy storage systems,

8 “(3) fuel cells,

9 “(4) any other relevant technology identified by
10 the Secretary (in consultation with the Secretary of
11 Energy), and

12 “(5) any combination of the properties de-
13 scribed in paragraphs (1) through (4).

14 “(d) CARRYFORWARD OF UNUSED CREDIT.—If the
15 credit allowable under subsection (a) exceeds the limita-
16 tion imposed by section 26(a) for such taxable year re-
17 duced by the sum of the credits allowable under this sub-
18 part (other than this section), such excess shall be carried
19 to the succeeding taxable year and added to the credit al-
20 lowable under subsection (a) for such succeeding taxable
21 year.

22 “(e) CREDIT PHASE-OUT.—

23 “(1) IN GENERAL.—Subject to paragraph (3),
24 if the Secretary determines that the annual green-
25 house gas emissions from electrical production in the

1 United States are equal to or less than the percent-
2 age specified in section 48E(g), the amount of the
3 credit allowable under subsection (a) for any quali-
4 fied property or energy storage property placed in
5 service during a calendar year described in para-
6 graph (2) shall be equal to the product of—

7 “(A) the amount of the credit determined
8 under subsection (a) without regard to this sub-
9 section, multiplied by

10 “(B) the phase-out percentage under para-
11 graph (2).

12 “(2) PHASE-OUT PERCENTAGE.—The phase-out
13 percentage under this paragraph is equal to—

14 “(A) for property placed in service during
15 the first calendar year following the calendar
16 year in which the determination described in
17 paragraph (1) is made, 75 percent,

18 “(B) for property placed in service during
19 the second calendar year following such deter-
20 mination year, 50 percent,

21 “(C) for property placed in service during
22 the third calendar year following such deter-
23 mination year, 25 percent, and

1 “(D) for property placed in service during
2 any calendar year subsequent to the year de-
3 scribed in subparagraph (C), 0 percent.

4 “(3) DEADLINE TO BEGIN PHASE-OUT.—If the
5 Secretary, in consultation with the Secretary of En-
6 ergy and the Administrator of the Environmental
7 Protection Agency, determines that the annual
8 greenhouse gas emissions from electrical production
9 in the United States for each year before calendar
10 year 2026 are greater than the percentage specified
11 in section 48E(g), then the determination described
12 in paragraph (1) shall be deemed to have been made
13 for calendar year 2025.

14 “(f) SPECIAL RULES.—For purposes of this section:

15 “(1) LABOR COSTS.—Expenditures for labor
16 costs properly allocable to the onsite preparation, as-
17 sembly, or original installation of the qualified prop-
18 erty or energy storage property and for piping or
19 wiring to interconnect such property to the dwelling
20 unit shall be taken into account for purposes of this
21 section.

22 “(2) TENANT-STOCKHOLDER IN COOPERATIVE
23 HOUSING CORPORATION.—In the case of an indi-
24 vidual who is a tenant-stockholder (as defined in sec-
25 tion 216) in a cooperative housing corporation (as

1 defined in such section), such individual shall be
2 treated as having made his tenant-stockholder's pro-
3 portionate share (as defined in section 216(b)(3)) of
4 any expenditures of such corporation.

5 “(3) CONDOMINIUMS.—

6 “(A) IN GENERAL.—In the case of an indi-
7 vidual who is a member of a condominium man-
8 agement association with respect to a condo-
9 minium which the individual owns, such indi-
10 vidual shall be treated as having made the indi-
11 vidual's proportionate share of any expenditures
12 of such association.

13 “(B) CONDOMINIUM MANAGEMENT ASSO-
14 CIATION.—For purposes of this paragraph, the
15 term ‘condominium management association’
16 means an organization which meets the require-
17 ments of paragraph (1) of section 528(c) (other
18 than subparagraph (E) thereof) with respect to
19 a condominium project substantially all of the
20 units of which are used as residences.

21 “(4) ALLOCATION IN CERTAIN CASES.—If less
22 than 80 percent of the use of a property is for non-
23 business purposes, only that portion of the expendi-
24 tures for such property which is properly allocable to

1 use for nonbusiness purposes shall be taken into ac-
2 count.

3 “(g) BASIS ADJUSTMENT.—For purposes of this sub-
4 title, if a credit is allowed under this section for any ex-
5 penditures with respect to any property, the increase in
6 the basis of such property which would (but for this sub-
7 section) result from such expenditures shall be reduced by
8 the amount of the credit so allowed.

9 “(h) FINAL GUIDANCE.—Not later than January 1,
10 2017, the Secretary, in consultation with the Adminis-
11 trator of the Environmental Protection Agency, shall issue
12 final guidance regarding implementation of this section,
13 including calculation of greenhouse gas emission rates for
14 qualified property and determination of residential clean
15 energy property credits under this section.”.

16 (2) CONFORMING AMENDMENTS.—

17 (A) Paragraph (1) of section 45(d) is
18 amended by striking “Such term” and all that
19 follows through the period and inserting the fol-
20 lowing: “Such term shall not include any facil-
21 ity with respect to which any expenditures for
22 qualified property (as defined in subsection (b)
23 of section 25D) which uses wind to produce
24 electricity is taken into account in determining
25 the credit under such section.”.

1 (B) Paragraph (34) of section 1016(a) is
 2 amended by striking “section 25D(f)” and in-
 3 serting “section 25D(h)”.

4 (C) The item relating to section 25D in
 5 the table of contents for subpart A of part IV
 6 of subchapter A of chapter 1 is amended to
 7 read as follows:

“Sec. 25D. Clean residential energy credit.”.

8 (3) EFFECTIVE DATE.—The amendments made
 9 by this section shall apply to property placed in serv-
 10 ice after December 31, 2017.

11 **SEC. 5013. EXTENSIONS AND MODIFICATIONS OF VARIOUS**
 12 **ENERGY PROVISIONS.**

13 (a) NONBUSINESS ENERGY PROPERTY.—

14 (1) IN GENERAL.—Paragraph (2) of section
 15 25C(g) is amended by striking “December 31,
 16 2014” and inserting “December 31, 2017”.

17 (2) EFFECTIVE DATE.—The amendments made
 18 by this subsection shall apply to property placed in
 19 service after December 31, 2014.

20 (b) RESIDENTIAL ENERGY EFFICIENT PROPERTY.—
 21 Subsection (g) of section 25D is amended by striking “De-
 22 cember 31, 2016” and inserting “December 31, 2017”.

23 (c) ALTERNATIVE FUEL VEHICLE REFUELING PROP-
 24 erty Credit.—

1 (1) IN GENERAL.—Paragraph (1) of section
2 30C(g) is amended by striking “December 31,
3 2014” and inserting “December 31, 2017”.

4 (2) EFFECTIVE DATE.—The amendments made
5 by this subsection shall apply to property placed in
6 service after December 31, 2014.

7 (d) 2- AND 3-WHEELED PLUG-IN ELECTRIC VEHI-
8 CLES.—

9 (1) IN GENERAL.—Subparagraph (E) of section
10 30D(g) is amended to read as follows:

11 “(E) is acquired—

12 “(i) after December 31, 2011, and be-
13 fore January 1, 2014, or

14 “(ii) after December 31, 2014, and
15 before January 1, 2018.”.

16 (2) EFFECTIVE DATE.—The amendments made
17 by this subsection shall apply to vehicles acquired
18 after December 31, 2014.

19 (e) ELECTRICITY PRODUCED FROM CERTAIN RE-
20 NEWABLE RESOURCES.—

21 (1) IN GENERAL.—The following provisions of
22 section 45(d) are each amended by striking “Janu-
23 ary 1, 2015” each place it appears and inserting
24 “January 1, 2018”:

25 (A) Paragraph (1).

1 (B) Paragraph (2)(A).

2 (C) Paragraph (3)(A).

3 (D) Paragraph (4)(B).

4 (E) Paragraph (6).

5 (F) Paragraph (7).

6 (G) Paragraph (9).

7 (H) Paragraph (11)(B).

8 (2) EFFECTIVE DATE.—The amendments made
9 by this subsection shall take effect on January 1,
10 2015.

11 (f) CREDIT FOR PRODUCTION FROM ADVANCED NU-
12 CLEAR POWER FACILITIES.—Section 45J(d)(1)(B) is
13 amended by striking “2021” and inserting “2018”.

14 (g) NEW ENERGY EFFICIENT HOME CREDIT.—

15 (1) IN GENERAL.—Subsection (g) of section
16 45L is amended by striking “December 31, 2014”
17 and inserting “December 31, 2017”.

18 (2) EFFECTIVE DATE.—The amendments made
19 by this subsection shall apply to any qualified new
20 energy efficient home acquired after December 31,
21 2014.

22 (h) REPEAL OF ENERGY EFFICIENT APPLIANCE
23 CREDIT.—

1 (1) IN GENERAL.—Subpart D of part IV of
2 subchapter A of chapter 1 of subtitle A is amended
3 by striking section 45M.

4 (2) CONFORMING AMENDMENTS.—

5 (A) Section 38(b) is amended by striking
6 paragraph (24).

7 (B) The table of sections for subpart D of
8 part IV of subchapter A of chapter 1 of subtitle
9 A is amended by striking the item relating to
10 section 45M.

11 (3) EFFECTIVE DATE.—The amendments made
12 by this subsection shall take effect on the date of the
13 enactment of this Act.

14 (i) CREDIT FOR CARBON DIOXIDE SEQUESTRA-
15 TION.—Section 45Q(c) is amended—

16 (1) in paragraph (2), by striking “and” at the
17 end,

18 (2) in paragraph (3), by striking the period at
19 the end and inserting “, and”, and

20 (3) by adding at the end the following new
21 paragraph:

22 “(4) which is placed in service before January
23 1, 2018.”.

24 (j) ENERGY CREDIT.—

1 (1) QUALIFIED INVESTMENT CREDIT FACIL-
2 ITY.—

3 (A) IN GENERAL.—Section 48(a)(5)(C)(ii)
4 is amended by striking “January 1, 2015” and
5 inserting “January 1, 2018”.

6 (B) EFFECTIVE DATE.—The amendments
7 made by this paragraph shall take effect on
8 January 1, 2015.

9 (2) SOLAR ENERGY PROPERTY.—Section 48(a)
10 is amended—

11 (A) in paragraphs (2)(A)(i)(II) and
12 (3)(A)(ii), by striking “January 1, 2017” each
13 place it appears and inserting “January 1,
14 2018”, and

15 (B) in paragraph (3)(A)(i), by inserting
16 “but only with respect to periods ending before
17 January 1, 2018” after “swimming pool,”.

18 (3) GEOTHERMAL ENERGY PROPERTY.—Section
19 48(a)(3)(A)(iii) is amended by inserting “with re-
20 spect to periods ending before January 1, 2018,
21 and” after “but only”.

22 (4) THERMAL ENERGY PROPERTY.—Section
23 48(a)(3)(A)(vii) is amended by striking “January 1,
24 2017” and inserting “January 1, 2018”.

1 (5) QUALIFIED FUEL CELL PROPERTY.—Sec-
2 tion 48(c)(1)(D) is amended by striking “December
3 31, 2016” and inserting “December 31, 2017”.

4 (6) QUALIFIED MICROTURBINE PROPERTY.—
5 Section 48(c)(2)(D) is amended by striking “Decem-
6 ber 31, 2016” and inserting “December 31, 2017”.

7 (7) COMBINED HEAT AND POWER SYSTEM
8 PROPERTY.—Section 48(c)(3)(A)(iv) is amended by
9 striking “January 1, 2017” and inserting “January
10 1, 2018”.

11 (8) QUALIFIED SMALL WIND ENERGY PROP-
12 ERTY.—Section 48(c)(4)(C) is amended by striking
13 “December 31, 2016” and inserting “December 31,
14 2017”.

15 (k) QUALIFYING ADVANCED ENERGY PROJECT
16 CREDIT.—

17 (1) IN GENERAL.—Section 48C is amended—

18 (A) by redesignating subsection (e) as sub-
19 section (f), and

20 (B) by inserting after subsection (d) the
21 following new subsection:

22 “(e) ADDITIONAL QUALIFYING ADVANCED ENERGY
23 PROGRAM.—

24 “(1) ESTABLISHMENT.—

1 “(A) IN GENERAL.—Not later than 180
2 days after the date of enactment of this sub-
3 section, the Secretary, in consultation with the
4 Secretary of Energy, shall establish an addi-
5 tional qualifying advanced energy project pro-
6 gram to consider and award certifications for
7 qualified investments eligible for credits under
8 this section to qualifying advanced energy
9 project sponsors.

10 “(B) LIMITATION.—The total amount of
11 credits that may be allocated under the pro-
12 gram described in subparagraph (A) shall not
13 exceed \$5,000,000,000.

14 “(2) CERTIFICATION.—

15 “(A) APPLICATION PERIOD.—Each appli-
16 cant for certification under this paragraph shall
17 submit an application containing such informa-
18 tion as the Secretary may require during the 2-
19 year period beginning on the date the Secretary
20 establishes the program under paragraph (1).

21 “(B) TIME TO MEET CRITERIA FOR CER-
22 TIFICATION.—Each applicant for certification
23 shall have 1 year from the date of acceptance
24 by the Secretary of the application during
25 which to provide to the Secretary evidence that

1 the requirements of the certification have been
2 met.

3 “(C) PERIOD OF ISSUANCE.—An applicant
4 which receives a certification shall have 3 years
5 from the date of issuance of the certification in
6 order to place the project in service and if such
7 project is not placed in service by that time pe-
8 riod, then the certification shall no longer be
9 valid.

10 “(3) SELECTION CRITERIA.—In determining
11 which qualifying advanced energy projects to certify
12 under this section, the Secretary shall consider the
13 same criteria described in subsection (d)(3).

14 “(4) REVIEW AND REDISTRIBUTION.—

15 “(A) REVIEW.—Not later than 4 years
16 after the date of enactment of this subsection,
17 the Secretary shall review the credits allocated
18 pursuant to this subsection as of such date.

19 “(B) REDISTRIBUTION.—The Secretary
20 may reallocate credits awarded under this sec-
21 tion if the Secretary determines that—

22 “(i) there is an insufficient quantity
23 of qualifying applications for certification
24 pending at the time of the review, or

1 “(ii) any certification made pursuant
2 to paragraph (2) has been revoked pursu-
3 ant to paragraph (2)(B) because the
4 project subject to the certification has been
5 delayed as a result of third party opposi-
6 tion or litigation to the proposed project.

7 “(C) REALLOCATION.—If the Secretary de-
8 termines that credits under this section are
9 available for reallocation pursuant to the re-
10 quirements set forth in paragraph (2), the Sec-
11 retary is authorized to conduct an additional
12 program for applications for certification.

13 “(5) DISCLOSURE OF ALLOCATIONS.—The Sec-
14 retary shall, upon making a certification under this
15 subsection, publicly disclose the identity of the appli-
16 cant and the amount of the credit with respect to
17 such applicant.”.

18 “(2) EFFECTIVE DATE.—The amendments made
19 by this subsection shall apply to periods after the
20 date of the enactment of this Act, under rules simi-
21 lar to the rules of section 48(m) of the Internal Rev-
22 enue Code of 1986 (as in effect on the day before
23 the date of the enactment of the Revenue Reconcili-
24 ation Act of 1990).

1 (l) ENERGY EFFICIENT COMMERCIAL BUILDINGS
2 DEDUCTION.—

3 (1) IN GENERAL.—Subsection (h) of section
4 179D is amended by striking “December 31, 2014”
5 and inserting “December 31, 2017”.

6 (2) EFFECTIVE DATE.—The amendments made
7 by this section shall apply to property placed in serv-
8 ice after December 31, 2014.

9 **Subtitle B—Clean Fuel Tax Credits**

10 **SEC. 5021. CLEAN FUEL PRODUCTION CREDIT.**

11 (a) IN GENERAL.—Subpart D of part IV of sub-
12 chapter A of chapter 1, as amended by section __01, is
13 amended by adding at the end the following new section:

14 **“SEC. 45T. CLEAN FUEL PRODUCTION CREDIT.**

15 “(a) AMOUNT OF CREDIT.—

16 “(1) IN GENERAL.—For purposes of section 38,
17 the clean fuel production credit for any taxable year
18 is an amount equal to the product of—

19 “(A) \$1.00 per energy equivalent of a gal-
20 lon of gasoline with respect to any transpor-
21 tation fuel which is—

22 “(i) produced by the taxpayer at a
23 qualified facility, and

24 “(ii) sold or used by the taxpayer in
25 a manner described in paragraph (2), and

1 “(B) the emissions factor for such fuel (as
2 determined under subsection (b)(2)).

3 “(2) SALE OR USE.—For purposes of para-
4 graph (1)(A)(ii), the transportation fuel is sold or
5 used in a manner described in this paragraph if such
6 fuel is—

7 “(A) sold by the taxpayer to an unrelated
8 person—

9 “(i) for use by such person in the pro-
10 duction of a fuel mixture that will be used
11 as a transportation fuel,

12 “(ii) for use by such person as a
13 transportation fuel in a trade or business,
14 or

15 “(iii) who sells such fuel at retail to
16 another person and places such fuel in the
17 fuel tank of such other person, or

18 “(B) used or sold by the taxpayer for any
19 purpose described in subparagraph (A).

20 “(3) ROUNDING.—If any amount determined
21 under paragraph (1) is not a multiple of 0.1 cent,
22 such amount shall be rounded to the nearest mul-
23 tiple of 0.1 cent.

24 “(b) EMISSIONS FACTORS.—

25 “(1) EMISSIONS FACTOR.—

1 “(A) IN GENERAL.—The emissions factor
2 of a transportation fuel shall be an amount
3 equal to the quotient of—

4 “(i) an amount (not less than zero)
5 equal to —

6 “(I) 77.23, minus

7 “(II) the emissions rate for such
8 fuel, divided by

9 “(ii) 77.23.

10 “(B) ESTABLISHMENT OF SAFE HARBOR
11 EMISSIONS RATE.—The Secretary, in consulta-
12 tion with the Administrator of the Environ-
13 mental Protection Agency, shall establish the
14 safe harbor emissions rate for similar types and
15 categories of transportation fuels based on the
16 amount of lifecycle greenhouse gas emissions
17 (as described in section 211(o)(1)(H) of the
18 Clean Air Act (42 U.S.C. 7545(o)(1)(H)), as in
19 effect on the date of the enactment of this sec-
20 tion) for such fuels, expressed as kilograms of
21 CO₂e per mmBTU, which a taxpayer may elect
22 to use for purposes of this section.

23 “(C) ROUNDING OF SAFE HARBOR EMIS-
24 SIONS RATE.—The Secretary may round the
25 safe harbor emissions rates under subparagraph

1 (B) to the nearest multiple of 7.723 kilograms
2 of CO₂e per mmBTU, except that, in the case
3 of an emissions rate that is less than 3.862
4 kilograms of CO₂e per mmBTU, the Secretary
5 may round such rate to zero.

6 “(D) PROVISIONAL SAFE HARBOR EMIS-
7 SIONS RATE.—

8 “(i) IN GENERAL.—In the case of any
9 transportation fuel for which a safe harbor
10 emissions rate has not been established by
11 the Secretary, a taxpayer producing such
12 fuel may file a petition with the Secretary
13 for determination of the safe harbor emis-
14 sions rate with respect to such fuel.

15 “(ii) ESTABLISHMENT OF PROVI-
16 SIONAL AND FINAL SAFE HARBOR EMIS-
17 SIONS RATE.—In the case of a transpor-
18 tation fuel for which a petition described in
19 clause (i) has been filed, the Secretary, in
20 consultation with the Administrator of the
21 Environmental Protection Agency, shall—

22 “(I) not later than 12 months
23 after the date on which the petition
24 was filed, provide a provisional safe
25 harbor emissions rate for such fuel

1 which a taxpayer may use for pur-
2 poses of this section, and

3 “(II) not later than 24 months
4 after the date on which the petition
5 was filed, establish the safe harbor
6 emissions rate for such fuel.

7 “(E) ROUNDING.—If any amount deter-
8 mined under subparagraph (A) is not a multiple
9 of 0.1, such amount shall be rounded to the
10 nearest multiple of 0.1.

11 “(2) PUBLISHING SAFE HARBOR EMISSIONS
12 RATE.—The Secretary, in consultation with the Ad-
13 ministrators of the Environmental Protection Agency,
14 shall publish a table that sets forth the safe harbor
15 emissions rate (as established pursuant to paragraph
16 (1)) for similar types and categories of transpor-
17 tation fuels.

18 “(c) INFLATION ADJUSTMENT.—

19 “(1) IN GENERAL.—In the case of calendar
20 years beginning after 2018, the \$1.00 amount in
21 subsection (a)(1)(A) shall be adjusted by multiplying
22 such amount by the inflation adjustment factor for
23 the calendar year in which the sale or use of the
24 transportation fuel occurs. If any amount as in-
25 creased under the preceding sentence is not a mul-

1 tiple of 1 cent, such amount shall be rounded to the
2 nearest multiple of 1 cent.

3 “(2) INFLATION ADJUSTMENT FACTOR.—For
4 purposes of paragraph (1), the inflation adjustment
5 factor shall be the inflation adjustment factor deter-
6 mined and published by the Secretary pursuant to
7 section 45S(c), determined by substituting ‘calendar
8 year 2017’ for ‘calendar year 1992’ in paragraph (3)
9 thereof.

10 “(d) CREDIT PHASE-OUT.—

11 “(1) IN GENERAL.—Subject to paragraph (3),
12 if the Secretary, in consultation with the Secretary
13 of Energy and the Administrator of the Environ-
14 mental Protection Agency, determines that the
15 greenhouse gas emissions from transportation fuel
16 produced and sold at retail annually in the United
17 States are equal to or less than 72 percent of the
18 greenhouse gas emissions from transportation fuel
19 produced and sold at retail in the United States dur-
20 ing calendar year 2005, the amount of the clean fuel
21 production credit under this section for any qualified
22 facility placed in service during a calendar year de-
23 scribed in paragraph (2) shall be equal to the prod-
24 uct of—

1 “(A) the amount of the credit determined
2 under subsection (a) without regard to this sub-
3 section, multiplied by

4 “(B) the phase-out percentage under para-
5 graph (2).

6 “(2) PHASE-OUT PERCENTAGE.—The phase-out
7 percentage under this paragraph is equal to—

8 “(A) for a facility placed in service during
9 the first calendar year following the calendar
10 year in which the determination described in
11 paragraph (1) is made, 75 percent,

12 “(B) for a facility placed in service during
13 the second calendar year following such deter-
14 mination year, 50 percent,

15 “(C) for a facility placed in service during
16 the third calendar year following such deter-
17 mination year, 25 percent, and

18 “(D) for a facility placed in service during
19 any calendar year subsequent to the year de-
20 scribed in subparagraph (C), 0 percent.

21 “(3) DEADLINE TO BEGIN PHASE-OUT.—If the
22 Secretary, in consultation with the Secretary of En-
23 ergy and the Administrator of the Environmental
24 Protection Agency, determines that the greenhouse
25 gas emissions from transportation fuel produced and

1 sold at retail annually in the United States are, for
2 each year before calendar year 2026, greater than
3 the percentage specified in paragraph (1), then the
4 determination described in such paragraph shall be
5 deemed to have been made for calendar year 2025.

6 “(e) DEFINITIONS.—In this section:

7 “(1) mmBTU.—The term ‘mmBTU’ means
8 1,000,000 British thermal units.

9 “(2) CO₂e.—The term ‘CO₂e’ means, with re-
10 spect to any greenhouse gas, the equivalent carbon
11 dioxide.

12 “(3) GREENHOUSE GAS.—The term ‘greenhouse
13 gas’ has the same meaning given that term under
14 section 211(o)(1)(G) of the Clean Air Act (42
15 U.S.C. 7545(o)(1)(G)), as in effect on the date of
16 the enactment of this section.

17 “(4) QUALIFIED FACILITY.—

18 “(A) IN GENERAL.—Subject to subpara-
19 graphs (B) and (C), the term ‘qualified facility’
20 means a facility used for the production of
21 transportation fuels.

22 “(B) 10-YEAR PRODUCTION CREDIT.—For
23 purposes of this section, a facility shall only
24 qualify as a qualified facility—

1 “(i) in the case of a facility that is
2 originally placed in service after December
3 31, 2017, for the 10-year period beginning
4 on the date such facility is placed in serv-
5 ice, or

6 “(ii) in the case of a facility that is
7 originally placed in service before January
8 1, 2018, for the 10-year period beginning
9 on January 1, 2018.

10 “(5) TRANSPORTATION FUEL.—The term
11 ‘transportation fuel’ means a fuel which is suitable
12 for use as a fuel in a highway vehicle or aircraft.

13 “(f) FINAL GUIDANCE.—Not later than January 1,
14 2017, the Secretary, in consultation with the Adminis-
15 trator of the Environmental Protection Agency, shall issue
16 final guidance regarding implementation of this section,
17 including calculation of emissions factors for transpor-
18 tation fuel, the table described in subsection (b)(2), and
19 the determination of clean fuel production credits under
20 this section.

21 “(g) SPECIAL RULES.—

22 “(1) ONLY REGISTERED PRODUCTION IN THE
23 UNITED STATES TAKEN INTO ACCOUNT.—

24 “(A) IN GENERAL.—No clean fuel produc-
25 tion credit shall be determined under subsection

1 (a) with respect to any transportation fuel un-
2 less—

3 “(i) the taxpayer is registered as a
4 producer of clean fuel under section 4101
5 at the time of production, and

6 “(ii) such fuel is produced in the
7 United States.

8 “(B) UNITED STATES.—For purposes of
9 this paragraph, the term ‘United States’ in-
10 cludes any possession of the United States.

11 “(2) PRODUCTION ATTRIBUTABLE TO THE TAX-
12 PAYER.—In the case of a facility in which more than
13 1 person has an ownership interest, except to the ex-
14 tent provided in regulations prescribed by the Sec-
15 retary, production from the facility shall be allocated
16 among such persons in proportion to their respective
17 ownership interests in the gross sales from such fa-
18 cility.

19 “(3) RELATED PERSONS.—Persons shall be
20 treated as related to each other if such persons
21 would be treated as a single employer under the reg-
22 ulations prescribed under section 52(b). In the case
23 of a corporation which is a member of an affiliated
24 group of corporations filing a consolidated return,
25 such corporation shall be treated as selling fuel to

1 an unrelated person if such fuel is sold to such a
2 person by another member of such group.

3 “(4) PASS-THRU IN THE CASE OF ESTATES AND
4 TRUSTS.—Under regulations prescribed by the Sec-
5 retary, rules similar to the rules of subsection (d) of
6 section 52 shall apply.

7 “(5) ALLOCATION OF CREDIT TO PATRONS OF
8 AGRICULTURAL COOPERATIVE.—

9 “(A) ELECTION TO ALLOCATE.—

10 “(i) IN GENERAL.—In the case of an
11 eligible cooperative organization, any por-
12 tion of the credit determined under sub-
13 section (a) for the taxable year may, at the
14 election of the organization, be apportioned
15 among patrons of the organization on the
16 basis of the amount of business done by
17 the patrons during the taxable year.

18 “(ii) FORM AND EFFECT OF ELEC-
19 TION.—An election under clause (i) for any
20 taxable year shall be made on a timely
21 filed return for such year. Such election,
22 once made, shall be irrevocable for such
23 taxable year. Such election shall not take
24 effect unless the organization designates
25 the apportionment as such in a written no-

1 tice mailed to its patrons during the pay-
2 ment period described in section 1382(d).

3 “(B) TREATMENT OF ORGANIZATIONS AND
4 PATRONS.—The amount of the credit appor-
5 tioned to any patrons under subparagraph
6 (A)—

7 “(i) shall not be included in the
8 amount determined under subsection (a)
9 with respect to the organization for the
10 taxable year, and

11 “(ii) shall be included in the amount
12 determined under subsection (a) for the
13 first taxable year of each patron ending on
14 or after the last day of the payment period
15 (as defined in section 1382(d)) for the tax-
16 able year of the organization or, if earlier,
17 for the taxable year of each patron ending
18 on or after the date on which the patron
19 receives notice from the cooperative of the
20 apportionment.

21 “(C) SPECIAL RULES FOR DECREASE IN
22 CREDITS FOR TAXABLE YEAR.—If the amount
23 of the credit of a cooperative organization de-
24 termined under subsection (a) for a taxable
25 year is less than the amount of such credit

1 shown on the return of the cooperative organi-
2 zation for such year, an amount equal to the
3 excess of—

4 “(i) such reduction, over

5 “(ii) the amount not apportioned to
6 such patrons under subparagraph (A) for
7 the taxable year,

8 shall be treated as an increase in tax imposed
9 by this chapter on the organization. Such in-
10 crease shall not be treated as tax imposed by
11 this chapter for purposes of determining the
12 amount of any credit under this chapter.

13 “(D) ELIGIBLE COOPERATIVE DEFINED.—

14 For purposes of this section the term ‘eligible
15 cooperative’ means a cooperative organization
16 described in section 1381(a) which is owned
17 more than 50 percent by agricultural producers
18 or by entities owned by agricultural producers.
19 For this purpose an entity owned by an agricul-
20 tural producer is one that is more than 50 per-
21 cent owned by agricultural producers.”.

22 (b) CONFORMING AMENDMENTS.—

23 (1) Section 38(b), as amended by section __01,
24 is amended—

1 (A) in paragraph (36), by striking “plus”
2 at the end,

3 (B) in paragraph (37), by striking the pe-
4 riod at the end and inserting “, plus”, and

5 (C) by adding at the end the following new
6 paragraph:

7 “(38) the clean fuel production credit deter-
8 mined under section 45T(a).”.

9 (2) The table of sections for subpart D of part
10 IV of subchapter A of chapter 1, as amended by sec-
11 tion __01, is amended by adding at the end the fol-
12 lowing new item:

“Sec. 45T. Clean fuel production credit.”.

13 (3) Section 4101(a)(1) is amended by inserting
14 “every person producing a fuel eligible for the clean
15 fuel production credit (pursuant to section 45T),”
16 after “section 6426(b)(4)(A)),”.

17 (c) EFFECTIVE DATE.—The amendments made by
18 this section shall apply to transportation fuel produced
19 after December 31, 2017.

20 **SEC. 5022. TEMPORARY EXTENSION OF EXISTING FUEL IN-**
21 **CENTIVES.**

22 (a) SECOND GENERATION BIOFUEL PRODUCER
23 CREDIT.—

24 (1) IN GENERAL.—Section 40(b)(6) is amend-
25 ed—

1 (A) in subparagraph (E)(i)—

2 (i) in subclause (I), by striking “and”
3 at the end,

4 (ii) in subclause (II), by striking the
5 period at the end and inserting “, and”,
6 and

7 (iii) by inserting at the end the fol-
8 lowing new subclause:

9 “(III) qualifies as a transpor-
10 tation fuel (as defined in section
11 45T(e)(5)).”, and

12 (B) in subparagraph (J)(i), by striking
13 “2015” and inserting “2018”.

14 (2) EFFECTIVE DATE.—The amendments made
15 by this subsection shall apply to qualified second
16 generation biofuel production after December 31,
17 2014.

18 (b) BIODIESEL AND RENEWABLE DIESEL USED AS
19 FUEL.—

20 (1) IN GENERAL.—Section 40A is amended—

21 (A) in subsection (f)(3)(B), by striking “or
22 D396”, and

23 (B) in subsection (g), by striking “2014”
24 and inserting “2017”.

1 (2) EFFECTIVE DATE.—The amendments made
2 by this subsection shall apply to fuel sold or used
3 after December 31, 2014.

4 (c) CREDIT FOR BIODIESEL AND ALTERNATIVE
5 FUEL MIXTURES.—

6 (1) IN GENERAL.—Section 6426 is amended—

7 (A) in subsection (c)(6), by striking
8 “2014” and inserting “2017”,

9 (B) in subsection (d)—

10 (i) in paragraph (1), by striking
11 “motor vehicle” and inserting “highway ve-
12 hicle”,

13 (ii) in paragraph (2)(D), by striking
14 “liquefied”, and

15 (iii) in paragraph (5), by striking
16 “2014” and inserting “2017”, and

17 (C) in subsection (e), by amending para-
18 graph (3) to read as follows:

19 “(3) TERMINATION.—This subsection shall not
20 apply to any sale or use for any period after—

21 “(A) in the case of any alternative fuel
22 mixture sold or used by the taxpayer for the
23 purposes described in subsection (d)(1), Decem-
24 ber 31, 2017,

1 “(B) in the case of any sale or use involv-
2 ing hydrogen that is not for the purposes de-
3 scribed in subsection (d)(1), December 31,
4 2017, and

5 “(C) in the case of any sale or use not de-
6 scribed in subparagraph (A) or (B), December
7 31, 2014.”.

8 (2) EFFECTIVE DATE.—The amendments made
9 by this subsection shall apply to fuel sold or used
10 after December 31, 2014.

11 (d) BIODIESEL, BIODIESEL MIXTURES, AND ALTER-
12 NATIVE FUELS.—

13 (1) IN GENERAL.—Section 6427(e)(6) is
14 amended—

15 (A) in subparagraph (B), by striking
16 “2014” and inserting “2017”, and

17 (B) in subparagraph (C), by striking
18 “2014” and inserting “2017”.

19 (2) EFFECTIVE DATE.—The amendments made
20 by this subsection shall apply to fuel sold or used
21 after December 31, 2014.

22 (e) SPECIAL RULE FOR CERTAIN PERIODS DURING
23 2015.—Notwithstanding any other provision of law, in the
24 case of—

1 (1) any biodiesel mixture credit properly deter-
2 mined under section 6426(c) of the Internal Revenue
3 Code of 1986 for periods after December 31, 2014,
4 and on or before the last day of the first calendar
5 quarter ending after the date of the enactment of
6 this Act, and

7 (2) any alternative fuel credit properly deter-
8 mined under section 6426(d) of such Code for such
9 periods,

10 such credit shall be allowed, and any refund or payment
11 attributable to such credit (including any payment under
12 section 6427(e) of such Code) shall be made, only in such
13 manner as the Secretary of the Treasury (or the Sec-
14 retary's delegate) shall provide. Such Secretary shall issue
15 guidance within 30 days after the date of the enactment
16 of this Act providing for a one-time submission of claims
17 covering periods described in the preceding sentence. Such
18 guidance shall provide for a 180-day period for the sub-
19 mission of such claims (in such manner as prescribed by
20 such Secretary) to begin not later than 30 days after such
21 guidance is issued. Such claims shall be paid by such Sec-
22 retary not later than 60 days after receipt. If such Sec-
23 retary has not paid pursuant to a claim filed under this
24 subsection within 60 days after the date of the filing of
25 such claim, the claim shall be paid with interest from such

1 date determined by using the overpayment rate and meth-
 2 od under section 6621 of such Code.

3 **Subtitle C—Energy Efficiency**
 4 **Incentives**

5 **SEC. 5031. CREDIT FOR NEW ENERGY EFFICIENT RESIDEN-**
 6 **TIAL BUILDINGS.**

7 (a) IN GENERAL.—Section 45L is amended to read
 8 as follows:

9 **“SEC. 45L. NEW ENERGY EFFICIENT HOME CREDIT.**

10 “(a) ALLOWANCE OF CREDIT.—For purposes of sec-
 11 tion 38, in the case of an eligible contractor, the new en-
 12 ergy efficient home credit for the taxable year is the appli-
 13 cable amount for each qualified residence which is—

14 “(1) constructed by the eligible contractor, and

15 “(2) acquired by a person from such eligible
 16 contractor for use as a residence during the taxable
 17 year.

18 “(b) APPLICABLE AMOUNT.—

19 “(1) IN GENERAL.—For purposes of subsection
 20 (a), the applicable amount shall be an amount equal
 21 to \$1,500 increased (but not above \$3,000) by \$100
 22 for every 5 percentage points by which the efficiency
 23 ratio for the qualified residence is certified to be
 24 greater than 25 percent.

1 “(2) EFFICIENCY RATIO.—For purposes of this
2 section, the efficiency ratio of a qualified residence
3 shall be equal to the quotient, expressed as a per-
4 centage, obtained by dividing—

5 “(A) an amount equal to the difference be-
6 tween—

7 “(i) the annual level of energy con-
8 sumption of the qualified residence, and

9 “(ii) the annual level of energy con-
10 sumption of the baseline residence, by

11 “(B) the annual level of energy consump-
12 tion of the baseline residence.

13 “(3) BASELINE RESIDENCE.—For purposes of
14 this section, the baseline residence shall be a resi-
15 dence which is—

16 “(A) comparable to the qualified residence,
17 and

18 “(B) constructed in accordance with the
19 standards of the 2015 International Energy
20 Conservation Code, as such Code (including
21 supplements) is in effect on the date of the en-
22 actment of the American Energy Innovation
23 Act.

24 “(c) DEFINITIONS.—For purposes of this section:

1 “(1) ELIGIBLE CONTRACTOR.—The term ‘eligi-
2 ble contractor’ means—

3 “(A) the person who constructed the quali-
4 fied residence, or

5 “(B) in the case of a qualified residence
6 which is a manufactured home, the manufac-
7 tured home producer of such residence.

8 “(2) QUALIFIED RESIDENCE.—The term ‘quali-
9 fied residence’ means a dwelling unit—

10 “(A) located in the United States,

11 “(B) the construction of which is substan-
12 tially completed after the date of the enactment
13 of this section, and

14 “(C) which is certified to have an annual
15 level of energy consumption that is less than
16 the baseline residence and an efficiency ratio of
17 not less than 25 percent.

18 “(3) CONSTRUCTION.—The term ‘construction’
19 does not include substantial reconstruction or reha-
20 bilitation.

21 “(d) CERTIFICATION.—

22 “(1) IN GENERAL.—A certification described in
23 this section shall be made—

24 “(A) in accordance with guidance pre-
25 scribed by, and

1 “(B) by a third-party that is accredited by
2 a certification program approved by,
3 the Secretary, in consultation with the Secretary of
4 Energy. Such guidance shall specify procedures and
5 methods for calculating annual energy consumption
6 levels, and shall include requirements to ensure the
7 safe operation of energy efficiency improvements and
8 that all improvements are installed according to the
9 applicable standards of such certification program.

10 “(2) COMPUTER SOFTWARE.—

11 “(A) IN GENERAL.—Any calculation under
12 paragraph (1) shall be prepared by qualified
13 computer software.

14 “(B) QUALIFIED COMPUTER SOFTWARE.—
15 For purposes of this paragraph, the term
16 ‘qualified computer software’ means software—

17 “(i) for which the software designer
18 has certified that the software meets all
19 procedures and detailed methods for calcu-
20 lating energy consumption levels as re-
21 quired by the Secretary, and

22 “(ii) which provides such forms as re-
23 quired to be filed by the Secretary in con-
24 nection with energy consumption levels and
25 the credit allowed under this section.

1 “(e) BASIS ADJUSTMENT.—For purposes of this sub-
 2 title, if a credit is allowed under this section in connection
 3 with any expenditure for any property (other than a quali-
 4 fied low-income building, as described in section 42(c)(2)),
 5 the increase in the basis of such property which would (but
 6 for this subsection) result from such expenditure shall be
 7 reduced by the amount of the credit so determined.

8 “(f) COORDINATION WITH INVESTMENT CREDITS.—
 9 For purposes of this section, expenditures taken into ac-
 10 count under section 25D or 47 shall not be taken into
 11 account under this section.”.

12 (b) EFFECTIVE DATE.—The amendment made by
 13 this section shall apply to any qualified residence acquired
 14 after December 31, 2017.

15 **SEC. 5032. ENERGY EFFICIENCY CREDIT FOR EXISTING**
 16 **RESIDENTIAL BUILDINGS.**

17 (a) IN GENERAL.—Section 25C is amended to read
 18 as follows:

19 **“SEC. 25C. CREDIT FOR ENERGY EFFICIENCY IMPROVE-**
 20 **MENTS TO RESIDENTIAL BUILDINGS.**

21 “(a) ALLOWANCE OF CREDIT.—In the case of an in-
 22 dividual, there shall be allowed as a credit against the tax
 23 imposed by this chapter for the taxable year an amount
 24 equal to the lesser of—

1 “(1) the applicable amount for the qualified res-
2 idence based on energy efficiency improvements
3 made by the taxpayer and placed in service during
4 such taxable year, or

5 “(2) 30 percent of the amount paid or incurred
6 by the taxpayer for energy efficiency improvements
7 made to the qualified residence that were placed in
8 service during such taxable year.

9 “(b) APPLICABLE AMOUNT.—

10 “(1) IN GENERAL.—For purposes of subsection
11 (a)(1), the applicable amount shall be an amount
12 equal to \$1,750 increased (but not above \$6,500) by
13 \$300 for every 5 percentage points by which the effi-
14 ciency ratio for the qualified residence is certified to
15 be greater than 20 percent.

16 “(2) EFFICIENCY RATIO.—For purposes of this
17 section, the efficiency ratio of a qualified residence
18 shall be equal to the quotient, expressed as a per-
19 centage, obtained by dividing—

20 “(A) an amount equal to the difference be-
21 tween—

22 “(i) the projected annual level of en-
23 ergy consumption of the qualified residence
24 after the energy efficiency improvements
25 have been placed in service, and

1 “(ii) the annual level of energy con-
2 sumption of such qualified residence prior
3 to the energy efficiency improvements
4 being placed in service, by

5 “(B) the annual level of energy consump-
6 tion described in subparagraph (A)(ii).

7 “(3) COORDINATION WITH CREDIT FOR RESI-
8 DENTIAL ENERGY EFFICIENT PROPERTY.—For pur-
9 poses of paragraph (2)(A), the determination of the
10 difference in annual levels of energy consumption of
11 the qualified residence shall not include any reduc-
12 tion in net energy consumption related to qualified
13 property or energy storage property for which a
14 credit was allowed under section 25D.

15 “(c) DEFINITIONS.—For purposes of this section:

16 “(1) QUALIFIED RESIDENCE.—The term ‘quali-
17 fied residence’ means a dwelling unit—

18 “(A) located in the United States,

19 “(B) owned and used by the taxpayer as
20 the taxpayer’s principal residence (within the
21 meaning of section 121), and

22 “(C) which is certified to have—

23 “(i) a projected annual level of energy
24 consumption after the energy efficiency im-
25 provements have been placed in service

1 that is less than the annual level of energy
2 consumption prior to the energy efficiency
3 improvements being placed in service, and

4 “(ii) an efficiency ratio of not less
5 than 20 percent.

6 “(2) ENERGY EFFICIENCY IMPROVEMENTS.—

7 “(A) IN GENERAL.—The term ‘energy effi-
8 ciency improvements’ means any property in-
9 stalled on or in a dwelling unit which has been
10 certified to reduce the level of energy consump-
11 tion for such unit or to provide for onsite gen-
12 eration of electricity or useful thermal energy,
13 provided that—

14 “(i) the original use of such property
15 commences with the taxpayer, and

16 “(ii) such property reasonably can be
17 expected to remain in use for at least 5
18 years.

19 “(B) AMOUNTS PAID OR INCURRED FOR
20 ENERGY EFFICIENCY IMPROVEMENTS.—For
21 purposes of subsection (a)(2), the amount paid
22 or incurred by the taxpayer—

23 “(i) shall include expenditures for de-
24 sign and for labor costs properly allocable

1 to the onsite preparation, assembly, or
2 original installation of the property, and

3 “(ii) shall not include any expendi-
4 tures related to expansion of the building
5 envelope.

6 “(d) SPECIAL RULES.—For purposes of this section:

7 “(1) TENANT-STOCKHOLDER IN COOPERATIVE
8 HOUSING CORPORATION.—In the case of an indi-
9 vidual who is a tenant-stockholder (as defined in sec-
10 tion 216) in a cooperative housing corporation (as
11 defined in such section), such individual shall be
12 treated as having made his tenant-stockholder’s pro-
13 portionate share (as defined in section 216(b)(3)) of
14 any expenditures for energy efficiency improvements
15 of such corporation.

16 “(2) CONDOMINIUMS.—

17 “(A) IN GENERAL.—In the case of an indi-
18 vidual who is a member of a condominium man-
19 agement association with respect to a condo-
20 minium which the individual owns, such indi-
21 vidual shall be treated as having made the indi-
22 vidual’s proportionate share of any expenditures
23 for energy efficiency improvements of such as-
24 sociation.

1 “(B) CONDOMINIUM MANAGEMENT ASSO-
2 CIATION.—For purposes of this paragraph, the
3 term ‘condominium management association’
4 means an organization which meets the require-
5 ments of paragraph (1) of section 528(c) (other
6 than subparagraph (E) thereof) with respect to
7 a condominium project substantially all of the
8 units of which are used as residences.

9 “(3) ALLOCATION IN CERTAIN CASES.—If less
10 than 80 percent of the use of a property is for non-
11 business purposes, only that portion of the expendi-
12 tures for energy efficiency improvements for such
13 property which is properly allocable to use for non-
14 business purposes shall be taken into account.

15 “(e) CERTIFICATION.—

16 “(1) IN GENERAL.—A certification described in
17 this section shall be made—

18 “(A) in accordance with guidance pre-
19 scribed by, and

20 “(B) by a third-party that is accredited by
21 a certification program approved by,

22 the Secretary, in consultation with the Secretary of
23 Energy. Such guidance shall specify procedures and
24 methods for calculating annual energy consumption
25 levels, with such calculations to take into account

1 onsite generation of electricity or useful thermal en-
2 ergy, and shall include requirements to ensure the
3 safe operation of energy efficiency improvements and
4 that all improvements are installed according to the
5 applicable standards of such certification program.

6 “(2) COMPUTER SOFTWARE.—

7 “(A) IN GENERAL.—Any calculation under
8 paragraph (1) shall be prepared by qualified
9 computer software.

10 “(B) QUALIFIED COMPUTER SOFTWARE.—

11 For purposes of this paragraph, the term
12 ‘qualified computer software’ has the same
13 meaning given such term under section
14 45L(d)(2).

15 “(f) BASIS ADJUSTMENT.—For purposes of this sub-
16 title, if a credit is allowed under this section for any ex-
17 penditures with respect to any energy efficiency improve-
18 ments, the increase in the basis of such property which
19 would (but for this subsection) result from such expendi-
20 tures shall be reduced by the amount of the credit so al-
21 lowed.

22 “(g) COORDINATION WITH INVESTMENT CREDITS.—

23 For purposes of this section, expenditures taken into ac-
24 count under section 25D or 47 shall not be taken into
25 account under this section.”.

1 (b) CONFORMING AMENDMENT.—The table of sec-
 2 tions for subpart A of part IV of subchapter A of chapter
 3 1 is amended by striking the item relating to section 25C
 4 and inserting after the item relating to section 25B the
 5 following item:

“Sec. 25C. Credit for energy efficiency improvements to residential buildings.”.

6 (c) EFFECTIVE DATE.—The amendments made by
 7 this section shall apply to any energy efficiency improve-
 8 ments placed in service after December 31, 2017.

9 **SEC. 5033. DEDUCTION FOR NEW ENERGY EFFICIENT COM-**
 10 **MERCIAL BUILDINGS.**

11 (a) IN GENERAL.—Section 179D is amended to read
 12 as follows:

13 **“SEC. 179D. ENERGY EFFICIENT COMMERCIAL BUILDING**
 14 **DEDUCTION.**

15 “(a) IN GENERAL.—There shall be allowed as a de-
 16 duction an amount equal to the applicable amount for each
 17 qualified building placed in service by the taxpayer during
 18 the taxable year.

19 “(b) APPLICABLE AMOUNT.—

20 “(1) IN GENERAL.—For purposes of subsection
 21 (a), the applicable amount shall be an amount equal
 22 to the product of—

23 “(A) the applicable dollar value, and

24 “(B) the square footage of the qualified
 25 building.

1 “(2) APPLICABLE DOLLAR VALUE.—For pur-
2 poses of paragraph (1)(A), the applicable dollar
3 value shall be an amount equal to \$1.00 increased
4 (but not above \$4.75) by \$0.25 for every 5 percent-
5 age points by which the efficiency ratio for the quali-
6 fied building is certified to be greater than 25 per-
7 cent.

8 “(3) EFFICIENCY RATIO.—For purposes of this
9 section, the efficiency ratio of a qualified building
10 shall be equal to the quotient, expressed as a per-
11 centage, obtained by dividing—

12 “(A) an amount equal to the difference be-
13 tween—

14 “(i) the annual level of energy con-
15 sumption of the qualified building, and

16 “(ii) the annual level of energy con-
17 sumption of the baseline building, by

18 “(B) the annual level of energy consump-
19 tion of the baseline building.

20 “(4) BASELINE BUILDING.—For purposes of
21 this section, the baseline building shall be a building
22 which—

23 “(A) is comparable to the qualified build-
24 ing, and

1 “(B) meets the minimum requirements of
2 Standard 90.1-2013 of the American Society of
3 Heating, Refrigerating, and Air Conditioning
4 Engineers and the Illuminating Engineering So-
5 ciety of North America (as in effect on Decem-
6 ber 31, 2014).

7 “(c) QUALIFIED BUILDING.—The term ‘qualified
8 building’ means a building—

9 “(1) located in the United States,

10 “(2) which is owned by the taxpayer, and

11 “(3) which is certified to have an annual level
12 of energy consumption that is less than the baseline
13 building and an efficiency ratio of not less than 25
14 percent.

15 “(d) ALLOCATION OF DEDUCTION.—

16 “(1) IN GENERAL.—In the case of a qualified
17 building owned by an eligible entity, the Secretary
18 shall promulgate regulations to allow the allocation
19 of the deduction to the person primarily responsible
20 for designing the property in lieu of the owner of
21 such property, with such person to be treated as the
22 taxpayer for purposes of this section.

23 “(2) ELIGIBLE ENTITY.—For purposes of this
24 subsection, the term ‘eligible entity’ means—

1 “(A) a Federal, State, or local government
2 or a political subdivision thereof,

3 “(B) an Indian tribe (as defined in section
4 45A(c)(6)), or

5 “(C) an organization described in section
6 501(c) and exempt from tax under section
7 501(a).

8 “(e) BASIS ADJUSTMENT.—For purposes of this sub-
9 title, if a deduction is allowed under this section with re-
10 spect to any qualified building, the basis of such property
11 shall be reduced by the amount of the deduction so al-
12 lowed.

13 “(f) CERTIFICATION.—

14 “(1) IN GENERAL.—A certification described in
15 this section shall be made—

16 “(A) in accordance with guidance pre-
17 scribed by, and

18 “(B) by a third-party that is accredited by
19 a certification program approved by,

20 the Secretary, in consultation with the Secretary of
21 Energy. Such guidance shall specify procedures and
22 methods for calculating annual energy consumption
23 levels, and shall include requirements to ensure the
24 safe operation of energy efficiency improvements and

1 that all improvements are installed according to the
2 applicable standards of such certification program.

3 “(2) COMPUTER SOFTWARE.—

4 “(A) IN GENERAL.—Any calculation under
5 paragraph (1) shall be prepared by qualified
6 computer software.

7 “(B) QUALIFIED COMPUTER SOFTWARE.—
8 For purposes of this paragraph, the term
9 ‘qualified computer software’ means software—

10 “(i) for which the software designer
11 has certified that the software meets all
12 procedures and detailed methods for calcu-
13 lating energy consumption levels as re-
14 quired by the Secretary, and

15 “(ii) which provides such forms as re-
16 quired to be filed by the Secretary in con-
17 nection with energy consumption levels and
18 the deduction allowed under this section.”.

19 (b) CONFORMING AMENDMENT.—The table of sec-
20 tions for part VI of subchapter B of chapter 1 is amended
21 by striking the item relating to section 179D and inserting
22 after the item relating to section 179C the following item:

“Sec. 179D. Energy efficient commercial building deduction.”.

23 (c) EFFECTIVE DATE.—The amendments made by
24 this section shall apply to any qualified building placed
25 in service after December 31, 2017.

1 **SEC. 5034. ENERGY EFFICIENCY DEDUCTION FOR EXISTING**
2 **COMMERCIAL BUILDINGS.**

3 (a) IN GENERAL.—Part VI of subchapter B of chap-
4 ter 1 is amended by inserting after section 179E the fol-
5 lowing new section:

6 **“SEC. 179F. DEDUCTION FOR ENERGY EFFICIENCY IM-**
7 **PROVEMENTS TO COMMERCIAL BUILDINGS.**

8 “(a) IN GENERAL.—There shall be allowed as a de-
9 duction an amount equal to the lesser of—

10 “(1) the applicable amount for the qualified
11 building based on energy efficiency improvements
12 made by the taxpayer and placed in service during
13 the taxable year, or

14 “(2) 30 percent of the amount paid or incurred
15 by the taxpayer for energy efficiency improvements
16 made to the qualified building which were placed in
17 service during the taxable year.

18 “(b) APPLICABLE AMOUNT.—

19 “(1) IN GENERAL.—For purposes of subsection
20 (a), the applicable amount shall be an amount equal
21 to the product of—

22 “(A) the applicable dollar value, and

23 “(B) the square footage of the qualified
24 building.

25 “(2) APPLICABLE DOLLAR VALUE.—For pur-
26 poses of paragraph (1), the applicable dollar value

1 shall be an amount equal to \$1.25 increased (but
2 not above \$9.25) by \$0.50 for every 5 percentage
3 points by which the efficiency ratio for the qualified
4 building is certified to be greater than 20 percent.

5 “(3) EFFICIENCY RATIO.—For purposes of this
6 section, the efficiency ratio of a qualified building
7 shall be equal to the quotient, expressed as a per-
8 centage, obtained by dividing—

9 “(A) an amount equal to the difference be-
10 tween—

11 “(i) the projected annual level of en-
12 ergy consumption of the qualified building
13 after the energy efficiency improvements
14 have been placed in service, and

15 “(ii) the annual level of energy con-
16 sumption of such qualified building prior
17 to the energy efficiency improvements
18 being placed in service, by

19 “(B) the annual level of energy consump-
20 tion described in subparagraph (A)(ii).

21 “(4) COORDINATION WITH CLEAN ENERGY IN-
22 VESTMENT CREDIT.—For purposes of paragraph
23 (3)(A), the determination of the difference in annual
24 levels of energy consumption of the qualified build-
25 ing shall not include any reduction in net energy

1 consumption related to qualified property or energy
2 storage property for which a credit was allowed
3 under section 48E.

4 “(c) DEFINITIONS.—

5 “(1) QUALIFIED BUILDING.—The term ‘quali-
6 fied building’ means a building—

7 “(A) located in the United States,

8 “(B) which is owned by the taxpayer, and

9 “(C) which is certified to have—

10 “(i) a projected annual level of energy
11 consumption after the energy efficiency im-
12 provements have been placed in service
13 that is less than the annual level of energy
14 consumption prior to the energy efficiency
15 improvements being placed in service, and

16 “(ii) an efficiency ratio of not less
17 than 20 percent.

18 “(2) ENERGY EFFICIENCY IMPROVEMENTS.—

19 “(A) IN GENERAL.—The term ‘energy effi-
20 ciency improvements’ means any property in-
21 stalled on or in a qualified building which has
22 been certified to reduce the level of energy con-
23 sumption for such building or to increase onsite
24 generation of electricity, provided that deprecia-

1 tion (or amortization in lieu of depreciation) is
2 allowable with respect to such property.

3 “(B) AMOUNTS PAID OR INCURRED FOR
4 ENERGY EFFICIENCY IMPROVEMENTS.—For
5 purposes of subsection (a)(2), the amount paid
6 or incurred by the taxpayer—

7 “(i) shall include expenditures for de-
8 sign and for labor costs properly allocable
9 to the onsite preparation, assembly, or
10 original installation of the property, and

11 “(ii) shall not include any expendi-
12 tures related to expansion of the building
13 envelope.

14 “(d) CERTIFICATION.—

15 “(1) IN GENERAL.—A certification described in
16 this section shall be made—

17 “(A) in accordance with guidance pre-
18 scribed by, and

19 “(B) by a third-party that is accredited by
20 a certification program approved by,

21 the Secretary, in consultation with the Secretary of
22 Energy. Such guidance shall specify procedures and
23 methods for calculating annual energy consumption
24 levels, with such calculations to take into account
25 onsite generation of electricity or useful thermal en-

1 ergy, and shall include requirements to ensure the
2 safe operation of energy efficiency improvements and
3 that all improvements are installed according to the
4 applicable standards of such certification program.

5 “(2) COMPUTER SOFTWARE.—

6 “(A) IN GENERAL.—Any calculation under
7 paragraph (1) shall be prepared by qualified
8 computer software.

9 “(B) QUALIFIED COMPUTER SOFTWARE.—

10 For purposes of this paragraph, the term
11 ‘qualified computer software’ has the same
12 meaning given such term under section
13 179D(f)(2).

14 “(e) ALLOCATION OF DEDUCTION.—

15 “(1) IN GENERAL.—In the case of a qualified
16 building owned by an eligible entity, the Secretary
17 shall promulgate regulations to allow the allocation
18 of the deduction to the person primarily responsible
19 for designing the energy efficiency improvements in
20 lieu of the owner of such property, with such person
21 to be treated as the taxpayer for purposes of this
22 section.

23 “(2) ELIGIBLE ENTITY.—For purposes of this
24 subsection, the term ‘eligible entity’ has the same
25 meaning given such term under section 179D(d)(2).

1 “(f) BASIS REDUCTION.—For purposes of this sub-
2 title, if a deduction is allowed under this section with re-
3 spect to any energy efficiency improvements, the basis of
4 such property shall be reduced by the amount of the de-
5 duction so allowed.

6 “(g) COORDINATION WITH OTHER CREDITS.—For
7 purposes of this section, expenditures taken into account
8 under section 47 or 48E shall not be taken into account
9 under this section.”.

10 (b) CONFORMING AMENDMENT.—

11 (1) Section 263(a) is amended—

12 (A) in subparagraph (K), by striking “or”
13 at the end,

14 (B) in subparagraph (L), by striking the
15 period and inserting “, or”, and

16 (C) by inserting at the end the following
17 new subparagraph:

18 “(M) expenditures for which a deduction is
19 allowed under section 179F.”.

20 (2) Section 312(k)(3)(B) is amended—

21 (A) in the heading, by striking “OR 179E”
22 and inserting “179E, OR 179F”, and

23 (B) by striking “or 179E” and inserting
24 “179E, or 179F”.

25 (3) Section 1016(a) is amended—

1 (A) in paragraph (36), by striking “and”
2 at the end,

3 (B) in paragraph (37), by striking the pe-
4 riod at the end and inserting “, and”, and

5 (C) by inserting at the end the following
6 new paragraph:

7 “(38) to the extent provided in section
8 179D(f).”.

9 (4) Section 1245(a) is amended—

10 (A) in paragraph (2)(C), by inserting
11 “179F,” after “179E,” and

12 (B) in paragraph (3)(C), by inserting
13 “179F,” after “179E,”.

14 (5) The table of sections for part VI of sub-
15 chapter B of chapter 1 is amended by inserting after
16 the item relating to section 179E the following new
17 item:

“Sec. 179F. Deduction for energy efficiency improvements to commercial build-
ings.”.

18 (c) EFFECTIVE DATE.—The amendments made by
19 this section shall apply to any energy efficiency improve-
20 ments placed in service after December 31, 2017.

1 **Subtitle D—Clean Electricity and**
2 **Fuel Bonds**

3 **SEC. 5041. CLEAN ENERGY BONDS.**

4 (a) IN GENERAL.—Subpart J of part IV of sub-
5 chapter A of chapter 1 is amended by adding at the end
6 the following new section:

7 **“SEC. 54BB. CLEAN ENERGY BONDS.**

8 “(a) IN GENERAL.—If a taxpayer holds a clean en-
9 ergy bond on one or more interest payment dates of the
10 bond during any taxable year, there shall be allowed as
11 a credit against the tax imposed by this chapter for the
12 taxable year an amount equal to the sum of the credits
13 determined under subsection (b) with respect to such
14 dates.

15 “(b) AMOUNT OF CREDIT.—The amount of the credit
16 determined under this subsection with respect to any in-
17 terest payment date for a clean energy bond is 28 percent
18 of the amount of interest payable by the issuer with re-
19 spect to such date.

20 “(c) LIMITATION BASED ON AMOUNT OF TAX.—

21 “(1) IN GENERAL.—The credit allowed under
22 subsection (a) for any taxable year shall not exceed
23 the excess of—

1 “(A) the sum of the regular tax liability
2 (as defined in section 26(b)) plus the tax im-
3 posed by section 55, over

4 “(B) the sum of the credits allowable
5 under this part (other than subpart C and this
6 subpart).

7 “(2) CARRYOVER OF UNUSED CREDIT.—If the
8 credit allowable under subsection (a) exceeds the
9 limitation imposed by paragraph (1) for such taxable
10 year, such excess shall be carried to the succeeding
11 taxable year and added to the credit allowable under
12 subsection (a) for such taxable year (determined be-
13 fore the application of paragraph (1) for such suc-
14 ceeding taxable year).

15 “(d) CLEAN ENERGY BOND.—

16 “(1) IN GENERAL.—For purposes of this sec-
17 tion, the term ‘clean energy bond’ means any bond
18 issued as part of an issue if—

19 “(A) 100 percent of the excess of the avail-
20 able project proceeds (as defined in section
21 54A(e)(4)) of such issue over the amounts in a
22 reasonably required reserve (within the meaning
23 of section 150(a)(3)) with respect to such issue
24 are to be used for capital expenditures incurred

1 by an entity described in subparagraph (B) for
2 1 or more qualified facilities,

3 “(B) the bond is issued by—

4 “(i) a governmental body (as defined
5 in paragraph (3) of section 54C(d)),

6 “(ii) a public power provider (as de-
7 fined in paragraph (2) of such section), or

8 “(iii) a cooperative electric company
9 (as defined in paragraph (4) of such sec-
10 tion), and

11 “(C) the issuer makes an irrevocable elec-
12 tion to have this section apply.

13 “(2) APPLICABLE RULES.—For purposes of ap-
14 plying paragraph (1)—

15 “(A) for purposes of section 149(b), a
16 clean energy bond shall not be treated as feder-
17 ally guaranteed by reason of the credit allowed
18 under subsection (a) or section 6433,

19 “(B) for purposes of section 148, the yield
20 on a clean energy bond shall be determined
21 without regard to the credit allowed under sub-
22 section (a), and

23 “(C) a bond shall not be treated as a clean
24 energy bond if the issue price has more than a
25 de minimis amount (determined under rules

1 similar to the rules of section 1273(a)(3)) of
2 premium over the stated principal amount of
3 the bond.

4 “(3) QUALIFIED FACILITY.—The term ‘quali-
5 fied facility’ means a facility—

6 “(A) which is described in subsection
7 (e)(3) of section 45S and has a greenhouse gas
8 emissions rate of less than 186 grams of CO_{2e}
9 per KWh (as such terms are defined in sub-
10 sections (b)(1) and (e)(1) of such section), or

11 “(B) which is described in subsection
12 (e)(4) of section 45T and only produces trans-
13 portation fuel which has an emissions rate of
14 less than 38.62 kilograms of CO_{2e} per mmBTU
15 (as such terms are defined in subsections (b)
16 and (e) of such section).

17 “(e) INTEREST PAYMENT DATE.—For purposes of
18 this section, the term ‘interest payment date’ means any
19 date on which the holder of record of the clean energy
20 bond is entitled to a payment of interest under such bond.

21 “(f) CREDIT PHASE OUT.—

22 “(1) ELECTRICAL PRODUCTION.—

23 “(A) IN GENERAL.—Subject to subpara-
24 graph (B), in the case of a clean energy bond
25 for which the proceeds are used for capital ex-

1 penditures incurred by an entity for a qualified
2 facility described in subsection (d)(3)(A), if the
3 Secretary, in consultation with the Secretary of
4 Energy and the Administrator of the Environ-
5 mental Protection Agency, determines that the
6 annual greenhouse gas emissions from electrical
7 production in the United States are equal to or
8 less than the percentage specified in section
9 45S(d)(1), the amount of the credit determined
10 under subsection (b) with respect to any clean
11 energy bond issued during a calendar year de-
12 scribed in paragraph (3) shall be equal to the
13 product of—

14 “(i) the amount determined under
15 subsection (b) without regard to this sub-
16 section, multiplied by

17 “(ii) the phase-out percentage under
18 paragraph (3).

19 “(B) DEADLINE TO BEGIN PHASE-OUT.—

20 If the Secretary, in consultation with the Sec-
21 retary of Energy and the Administrator of the
22 Environmental Protection Agency, determines
23 that the annual greenhouse gas emissions from
24 electrical production in the United States for
25 each year before calendar year 2026 are greater

1 than the percentage specified in section
2 45S(d)(1), then the determination described in
3 subparagraph (A) shall be deemed to have been
4 made for calendar year 2025.

5 “(2) FUEL PRODUCTION.—

6 “(A) IN GENERAL.—Subject to subpara-
7 graph (B), in the case of a clean energy bond
8 for which the proceeds are used for capital ex-
9 penditures incurred by an entity for a qualified
10 facility described in subsection (d)(3)(B), if the
11 Secretary, in consultation with the Secretary of
12 Energy and the Administrator of the Environ-
13 mental Protection Agency, determines that the
14 annual greenhouse gas emissions from transpor-
15 tation fuel produced and sold at retail annually
16 in the United States are equal to or less than
17 the percentage specified in section 45T(d)(1),
18 the amount of the credit determined under sub-
19 section (b) with respect to any clean energy
20 bond issued during a calendar year described in
21 paragraph (3) shall be equal to the product
22 of—

23 “(i) the amount determined under
24 subsection (b) without regard to this sub-
25 section, multiplied by

1 “(ii) the phase-out percentage under
2 paragraph (3).

3 “(B) DEADLINE TO BEGIN PHASE-OUT.—
4 If the Secretary, in consultation with the Sec-
5 retary of Energy and the Administrator of the
6 Environmental Protection Agency, determines
7 that the annual greenhouse gas emissions from
8 transportation fuel produced and sold at retail
9 annually in the United States for each year be-
10 fore calendar year 2026 are greater than the
11 percentage specified in section 45T(d)(1), then
12 the determination described in subparagraph
13 (A) shall be deemed to have been made for cal-
14 endar year 2025.

15 “(3) PHASE-OUT PERCENTAGE.—The phase-out
16 percentage under this paragraph is equal to—

17 “(A) for any bond issued during the first
18 calendar year following the calendar year in
19 which the determination described in paragraph
20 (1)(A) or (2)(A) is made, 75 percent,

21 “(B) for any bond issued during the sec-
22 ond calendar year following such determination
23 year, 50 percent,

1 “(C) for any bond issued during the third
2 calendar year following such determination
3 year, 25 percent, and

4 “(D) for any bond issued during any cal-
5 endar year subsequent to the year described in
6 subparagraph (C), 0 percent.

7 “(g) SPECIAL RULES.—

8 “(1) INTEREST ON CLEAN ENERGY BONDS IN-
9 CLUDIBLE IN GROSS INCOME FOR FEDERAL INCOME
10 TAX PURPOSES.—For purposes of this title, interest
11 on any clean energy bond shall be includible in gross
12 income.

13 “(2) APPLICATION OF CERTAIN RULES.—Rules
14 similar to the rules of subsections (f), (g), (h), and
15 (i) of section 54A shall apply for purposes of the
16 credit allowed under subsection (a).

17 “(h) REGULATIONS.—The Secretary may prescribe
18 such regulations and other guidance as may be necessary
19 or appropriate to carry out this section and section
20 6433.”.

21 (b) CREDIT FOR QUALIFIED CLEAN ENERGY BONDS
22 ALLOWED TO ISSUER.—Subchapter B of chapter 65 of
23 subtitle F is amended by adding at the end the following
24 new section:

1 **“SEC. 6433. CREDIT FOR QUALIFIED CLEAN ENERGY BONDS**
2 **ALLOWED TO ISSUER.**

3 “(a) IN GENERAL.—The issuer of a qualified clean
4 energy bond shall be allowed a credit with respect to each
5 interest payment under such bond which shall be payable
6 by the Secretary as provided in subsection (b).

7 “(b) PAYMENT OF CREDIT.—

8 “(1) IN GENERAL.—The Secretary shall pay
9 (contemporaneously with each interest payment date
10 under such bond) to the issuer of such bond (or to
11 any person who makes such interest payments on
12 behalf of the issuer) 28 percent of the interest pay-
13 able under such bond on such date.

14 “(2) INTEREST PAYMENT DATE.—For purposes
15 of this subsection, the term ‘interest payment date’
16 means each date on which interest is payable by the
17 issuer under the terms of the bond.

18 “(c) APPLICATION OF ARBITRAGE RULES.—For pur-
19 poses of section 148, the yield on a qualified clean energy
20 bond shall be reduced by the credit allowed under this sec-
21 tion.

22 “(d) QUALIFIED CLEAN ENERGY BOND.—For pur-
23 poses of this section, the term ‘qualified clean energy
24 bond’ means a clean energy bond (as defined in section
25 54BB(d)) issued as part of an issue if the issuer, in lieu
26 of any credit allowed under section 54BB(a) with respect

1 to such bond, makes an irrevocable election to have this
2 section apply.”.

3 (c) CONFORMING AMENDMENTS.—

4 (1) The table of sections for subpart J of part
5 IV of subchapter A of chapter 1 is amended by add-
6 ing at the end the following new item:

“Sec. 54BB. Clean energy bonds.”.

7 (2) The heading of such subpart (and the item
8 relating to such subpart in the table of subparts for
9 part IV of subchapter A of chapter 1) are each
10 amended by striking “**Build America**
11 **Bonds**”and inserting “**Build America Bonds**
12 **and Clean Energy Bonds**”.

13 (3) The table of sections for subchapter B of
14 chapter 65 of subtitle F is amended by adding at
15 the end the following new item:

“Sec. 6433. Credit for qualified clean energy bonds allowed to issuer.”.

16 (4) Subparagraph (A) of section 6211(b)(4) is
17 amended by striking “and 6431” and inserting
18 “6431, and 6433”.

19 (d) EFFECTIVE DATE.—The amendments made by
20 this section shall apply to obligations issued after the date
21 of the enactment of this Act.

1 **Subtitle E—Treatment of Tar**
2 **Sands Under Excise Taxes**

3 **SEC. 5051. CLARIFICATION OF TAR SANDS AS CRUDE OIL**
4 **FOR EXCISE TAX PURPOSES.**

5 (a) **IN GENERAL.**—Paragraph (1) of section 4612(a)
6 is amended to read as follows:

7 “(1) **CRUDE OIL.**—The term ‘crude oil’ includes
8 crude oil condensates, natural gasoline, synthetic pe-
9 troleum, any bitumen or bituminous mixture, any oil
10 derived from a bitumen or bituminous mixture, and
11 any oil derived from kerogen-bearing sources.”.

12 (b) **TECHNICAL AMENDMENT.**—Paragraph (2) of
13 section 4612(a) is amended by striking “from a well lo-
14 cated”.

15 (c) **EFFECTIVE DATE.**—The amendments made by
16 this section shall apply to oil and petroleum products re-
17 ceived, entered, used, or exported during calendar quarters
18 beginning more than 60 days after the date of the enact-
19 ment of this Act.

1 **Subtitle F—Closing Big Oil Tax**
2 **Loopholes**

3 **SEC. 5061. MODIFICATIONS OF FOREIGN TAX CREDIT**
4 **RULES APPLICABLE TO MAJOR INTEGRATED**
5 **OIL COMPANIES WHICH ARE DUAL CAPACITY**
6 **TAXPAYERS.**

7 (a) IN GENERAL.—Section 901 is amended by redess-
8 ignating subsection (n) as subsection (o) and by inserting
9 after subsection (m) the following new subsection:

10 “(n) SPECIAL RULES RELATING TO MAJOR INTE-
11 GRATED OIL COMPANIES WHICH ARE DUAL CAPACITY
12 TAXPAYERS.—

13 “(1) GENERAL RULE.—Notwithstanding any
14 other provision of this chapter, any amount paid or
15 accrued by a dual capacity taxpayer which is a
16 major integrated oil company (within the meaning of
17 section 167(h)(5)) to a foreign country or possession
18 of the United States for any period shall not be con-
19 sidered a tax—

20 “(A) if, for such period, the foreign coun-
21 try or possession does not impose a generally
22 applicable income tax, or

23 “(B) to the extent such amount exceeds
24 the amount (determined in accordance with reg-
25 ulations) which—

1 “(i) is paid by such dual capacity tax-
2 payer pursuant to the generally applicable
3 income tax imposed by the country or pos-
4 session, or

5 “(ii) would be paid if the generally ap-
6 plicable income tax imposed by the country
7 or possession were applicable to such dual
8 capacity taxpayer.

9 Nothing in this paragraph shall be construed to
10 imply the proper treatment of any such amount not
11 in excess of the amount determined under subpara-
12 graph (B).

13 “(2) DUAL CAPACITY TAXPAYER.—For pur-
14 poses of this subsection, the term ‘dual capacity tax-
15 payer’ means, with respect to any foreign country or
16 possession of the United States, a person who—

17 “(A) is subject to a levy of such country or
18 possession, and

19 “(B) receives (or will receive) directly or
20 indirectly a specific economic benefit (as deter-
21 mined in accordance with regulations) from
22 such country or possession.

23 “(3) GENERALLY APPLICABLE INCOME TAX.—
24 For purposes of this subsection—

1 “(A) IN GENERAL.—The term ‘generally
2 applicable income tax’ means an income tax (or
3 a series of income taxes) which is generally im-
4 posed under the laws of a foreign country or
5 possession on income derived from the conduct
6 of a trade or business within such country or
7 possession.

8 “(B) EXCEPTIONS.—Such term shall not
9 include a tax unless it has substantial applica-
10 tion, by its terms and in practice, to—

11 “(i) persons who are not dual capacity
12 taxpayers, and

13 “(ii) persons who are citizens or resi-
14 dents of the foreign country or posses-
15 sion.”.

16 (b) EFFECTIVE DATE.—

17 (1) IN GENERAL.—The amendments made by
18 this section shall apply to taxes paid or accrued in
19 taxable years beginning after the date of the enact-
20 ment of this Act.

21 (2) CONTRARY TREATY OBLIGATIONS
22 UPHELD.—The amendments made by this section
23 shall not apply to the extent contrary to any treaty
24 obligation of the United States.

1 **SEC. 5062. LIMITATION ON SECTION 199 DEDUCTION AT-**
2 **TRIBUTABLE TO OIL, NATURAL GAS, OR PRI-**
3 **MARY PRODUCTS THEREOF.**

4 (a) DENIAL OF DEDUCTION.—Paragraph (4) of sec-
5 tion 199(c) is amended by adding at the end the following
6 new subparagraph:

7 “(E) SPECIAL RULE FOR CERTAIN OIL
8 AND GAS INCOME.—In the case of any taxpayer
9 who is a major integrated oil company (within
10 the meaning of section 167(h)(5)) for the tax-
11 able year, the term ‘domestic production gross
12 receipts’ shall not include gross receipts from
13 the production, refining, processing, transpor-
14 tation, or distribution of oil, gas, or any pri-
15 mary product (within the meaning of subsection
16 (d)(9)) thereof.”.

17 (b) EFFECTIVE DATE.—The amendment made by
18 this section shall apply to taxable years beginning after
19 December 31, 2015.

20 **SEC. 5063. LIMITATION ON DEDUCTION FOR INTANGIBLE**
21 **DRILLING AND DEVELOPMENT COSTS; AMOR-**
22 **TIZATION OF DISALLOWED AMOUNTS.**

23 (a) IN GENERAL.—Section 263(c) is amended to read
24 as follows:

1 “(c) INTANGIBLE DRILLING AND DEVELOPMENT
2 COSTS IN THE CASE OF OIL AND GAS WELLS AND GEO-
3 THERMAL WELLS.—

4 “(1) IN GENERAL.—Notwithstanding subsection
5 (a), and except as provided in subsection (i), regula-
6 tions shall be prescribed by the Secretary under this
7 subtitle corresponding to the regulations which
8 granted the option to deduct as expenses intangible
9 drilling and development costs in the case of oil and
10 gas wells and which were recognized and approved
11 by the Congress in House Concurrent Resolution 50,
12 Seventy-ninth Congress. Such regulations shall also
13 grant the option to deduct as expenses intangible
14 drilling and development costs in the case of wells
15 drilled for any geothermal deposit (as defined in sec-
16 tion 613(e)(2)) to the same extent and in the same
17 manner as such expenses are deductible in the case
18 of oil and gas wells. This subsection shall not apply
19 with respect to any costs to which any deduction is
20 allowed under section 59(e) or 291.

21 “(2) EXCLUSION.—

22 “(A) IN GENERAL.—This subsection shall
23 not apply to amounts paid or incurred by a tax-
24 payer in any taxable year in which such tax-

1 payer is a major integrated oil company (within
2 the meaning of section 167(h)(5)).

3 “(B) AMORTIZATION OF AMOUNTS NOT AL-
4 LOWABLE AS DEDUCTIONS UNDER SUBPARA-
5 GRAPH (A).—The amount not allowable as a de-
6 duction for any taxable year by reason of sub-
7 paragraph (A) shall be allowable as a deduction
8 ratably over the 60-month period beginning
9 with the month in which the costs are paid or
10 incurred. For purposes of section 1254, any de-
11 duction under this subparagraph shall be treat-
12 ed as a deduction under this subsection.”.

13 (b) EFFECTIVE DATE.—The amendment made by
14 this section shall apply to amounts paid or incurred in tax-
15 able years beginning after December 31, 2015.

16 **SEC. 5064. LIMITATION ON PERCENTAGE DEPLETION AL-**
17 **LOWANCE FOR OIL AND GAS WELLS.**

18 (a) IN GENERAL.—Section 613A is amended by add-
19 ing at the end the following new subsection:

20 “(f) APPLICATION WITH RESPECT TO MAJOR INTE-
21 GRATED OIL COMPANIES.—In the case of any taxable year
22 in which the taxpayer is a major integrated oil company
23 (within the meaning of section 167(h)(5)), the allowance
24 for percentage depletion shall be zero.”.

1 (b) EFFECTIVE DATE.—The amendment made by
2 this section shall apply to taxable years beginning after
3 December 31, 2015.

4 **SEC. 5065. LIMITATION ON DEDUCTION FOR TERTIARY**
5 **INJECTANTS.**

6 (a) IN GENERAL.—Section 193 is amended by adding
7 at the end the following new subsection:

8 “(d) APPLICATION WITH RESPECT TO MAJOR INTE-
9 GRATED OIL COMPANIES.—

10 “(1) IN GENERAL.—This section shall not apply
11 to amounts paid or incurred by a taxpayer in any
12 taxable year in which such taxpayer is a major inte-
13 grated oil company (within the meaning of section
14 167(h)(5)).

15 “(2) AMORTIZATION OF AMOUNTS NOT ALLOW-
16 ABLE AS DEDUCTIONS UNDER PARAGRAPH (1).—The
17 amount not allowable as a deduction for any taxable
18 year by reason of paragraph (1) shall be allowable
19 as a deduction ratably over the 60-month period be-
20 ginning with the month in which the costs are paid
21 or incurred.”.

22 (b) EFFECTIVE DATE.—The amendment made by
23 this section shall apply to amounts paid or incurred in tax-
24 able years beginning after December 31, 2015.

1 **TITLE VI—CONSERVATION**
2 **REAUTHORIZATION**

3 **SEC. 6001. NATIONAL PARK SERVICE CENTENNIAL FUND.**

4 (a) IN GENERAL.—Chapter 1049 of title 54, United
5 States Code, is amended by adding at the end the fol-
6 lowing:

7 **“§ 104908. National Park Service Centennial Fund**

8 “(a) IN GENERAL.—There is established in the
9 Treasury a fund, to be known as the ‘National Park Serv-
10 ice Centennial Fund’ (referred to in this section as the
11 ‘Fund’).

12 “(b) DEPOSITS TO FUND.—Notwithstanding any
13 provision of law providing that the proceeds shall be cred-
14 ited to miscellaneous receipts of the Treasury, for each
15 fiscal year, there shall be deposited in the Fund, from rev-
16 enues due and payable to the United States under section
17 9 of the Outer Continental Shelf Lands Act (43 U.S.C.
18 1338), \$150,000,000.

19 “(c) AVAILABILITY.—Amounts deposited in the Fund
20 shall be made available for expenditure, without further
21 appropriation or fiscal year limitation, in accordance with
22 this section.

23 “(d) USE OF FUND.—The Secretary shall use
24 amounts in the Fund for critical National Park System
25 maintenance and infrastructure needs and other projects

1 and programs that will better enable the National Park
 2 Service to protect park resources and provide improved
 3 visitor services.

4 “(e) LAND ACQUISITION PROHIBITION.—Amounts in
 5 the Fund shall not be used for land acquisition.”.

6 (b) CLERICAL AMENDMENT.—The table of sections
 7 for chapter 1049 of title 54, United States Code, is
 8 amended by inserting after the item relating to section
 9 104907 the following:

“Sec. 104908. National Park Service Centennial Fund.”.

10 **SEC. 6002. LAND AND WATER CONSERVATION FUND.**

11 (a) PERMANENT AUTHORIZATION.—Section 200302
 12 of title 54, United States Code, is amended—

13 (1) in subsection (b), in the matter preceding
 14 paragraph (1), by striking “During the period end-
 15 ing September 30, 2015, there” and inserting
 16 “There”; and

17 (2) in subsection (c)—

18 (A) in paragraph (1), by striking “through
 19 September 30, 2015”; and

20 (3) by striking paragraph (3).

21 (b) FULL FUNDING.—Section 200303 of title 54,
 22 United States Code, is amended to read as follows:

23 **“§ 200303. Availability of funds**

24 “(a) IN GENERAL.—Amounts deposited in the Fund
 25 under section 200302 on or after the date of enactment

1 of the American Energy Innovation Act shall be made
2 available for expenditure, without further appropriation or
3 fiscal year limitation, to carry out the purposes of the
4 Fund (including accounts and programs made available
5 from the Fund under the Consolidated and Further Con-
6 tinuing Appropriations Act, 2015 (Public Law 113–235)).

7 “(b) ADDITIONAL AMOUNTS.—Amounts made avail-
8 able under subsection (a) shall be in addition to amounts
9 made available to the Fund under section 105 of the Gulf
10 of Mexico Energy Security Act of 2006 (43 U.S.C. 1331
11 note; Public Law 109–432) or otherwise appropriated
12 from the Fund.

13 “(c) ALLOCATION AUTHORITY.—

14 “(1) SUBMISSION OF COST ESTIMATES.—The
15 President shall submit to Congress detailed account,
16 program, and project allocations to be funded under
17 subsection (a) as part of the annual budget submis-
18 sion of the President.

19 “(2) ALTERNATE ALLOCATION.—

20 “(A) IN GENERAL.—Appropriations Acts
21 may provide for alternate allocation of amounts
22 made available under subsection (a), including
23 allocations by account and program.

24 “(B) ALLOCATION BY PRESIDENT.—

1 “(i) NO ALTERNATE ALLOCATIONS.—
2 If Congress has not enacted legislation es-
3 tablishing alternate allocations by the date
4 that is 120 days after the date on which
5 the applicable fiscal year begins, amounts
6 made available under subsection (a) shall
7 be allocated by the President.

8 “(ii) INSUFFICIENT ALTERNATE AL-
9 LOCATION.—If Congress enacts legislation
10 establishing alternate allocations for
11 amounts made available under subsection
12 (a) that are less than the full amount ap-
13 propriated under that subsection, the dif-
14 ference between the amount appropriated
15 and the alternate allocation shall be allo-
16 cated by the President.

17 “(3) ANNUAL REPORT.—The President shall
18 submit to Congress an annual report that describes
19 the final allocation by account, program, and project
20 of amounts made available under subsection (a), in-
21 cluding a description of the status of obligations and
22 expenditures.”.

23 (c) CLERICAL AMENDMENT.—The table of sections
24 for title 54 is amended by striking the item relating to
25 section 200303 and inserting the following:

“Sec. 200303. Availability of funds.”.

1 (d) PUBLIC ACCESS.—Section 200306 of title 54,
2 United States Code, is amended by adding at the end the
3 following:

4 “(c) PUBLIC ACCESS.—Not less than 1.5 percent of
5 the annual authorized funding amount shall be made
6 available each year for projects that secure recreational
7 public access to existing Federal public land for hunting,
8 fishing, or other recreational purposes.”.

9 **SEC. 6003. HISTORIC PRESERVATION FUND.**

10 (a) AUTHORIZATION.—Section 303102 of title 54,
11 United States Code, is amended by striking “of fiscal
12 years 2012 to 2015” and inserting “fiscal year”.

13 (b) USE AND AVAILABILITY.—Section 303103 of title
14 54, United States Code, is amended by striking the first
15 sentence and inserting the following: “Amounts deposited
16 in the Historic Preservation Fund on or after the date
17 of enactment of the American Energy Innovation Act shall
18 only be used to carry out this division and shall be avail-
19 able for expenditure without further appropriation.”.

Calendar No. 241

114TH CONGRESS
1ST Session
S. 2089

A BILL

To provide for investment in clean energy, to empower and protect consumers, to modernize energy infrastructure, to cut pollution and waste, to invest in research and development, and for other purposes.

SEPTEMBER 29, 2015

Read the second time and placed on the calendar