Pew Center Summary of the American Clean Energy Leadership Act of 2009 (ACELA)

This document provides a section-by-section analysis of the American Clean Energy Leadership Act of 2009, S. 1462, as reported by the Senate Energy Natural Resources Committee on June 17, 2009 on a bipartisan vote of 15 to 8, and as amended by unanimous consent on May 6, 2010.

Contents

Sec. 1. Short title; table of contents.

This section offers the short title of American Clean Energy Leadership Act of 2009.

Sec. 2. Definition of Secretary.

This section defines the term “Secretary” as the Secretary of Energy in this Act, unless otherwise noted.

TITLE I—CLEAN ENERGY TECHNOLOGY DEPLOYMENT

Subtitle A—Clean Energy Financing

Sec. 101. Purpose.

This section defines the purpose of the subtitle as the promotion of domestic development and deployment of clean energy technologies.

Sec. 102. Definitions.

This section provides definitions for the subtitle. Clean energy technology is defined as a technology related to the production, use, transmission, storage, control, or conservation of energy that yields greater efficiency, diversification of energy sources in order to strengthen energy security with a favorable balance of environmental effects, or a contribution to the stabilization of greenhouse gas concentrations in the atmosphere. A breakthrough technology is defined as a clean energy technology that presents a significant opportunity to advance energy technology deployment goals as established under Sec. 104 but that has generally not been considered a commercially ready technology as a result of high perceived technology risk or other similar factors.

Sec. 103. Improvements to existing programs.

This section establishes a revolving fund, the Clean Energy Investment Fund, consisting of appropriations for the existing Energy Policy Act of 2005, Title XVII Loan Guarantee Program and other funds that may be appropriated. It also makes changes to the existing U.S. Department of Energy (DOE) loan guarantee program (e.g., requirements for terms of loan guarantees). The Clean Energy Investment Fund will support the administrative and other costs associated with the existing DOE loan guarantee program as well as the activities of the Clean Energy Deployment Administration created under Sec. 105.

Sec. 104. Energy technology deployment goals.

This section requires the Secretary, with consultation from the Advisory Council (see Sec. 105), to publish goals for the deployment of clean energy technologies through the credit support programs of this subtitle one year from enactment. The goals are to have numerical performance targets for the near, medium, and long term to promote use of clean energy technology for electric generation and transportation, domestic commercialization and manufacturing, deployment in all geographical regions, transformation of building stock to zero net energy consumption, use and prevention of waste energy, domestic manufacturing that leads to price parity with conventional sources, environmentally sustainable production of commodities and materials, improved and interactive electricity transmission grid functions, availability of financial products that allow improvements to be made to building stocks with reasonable payback periods, and other goals.

Sec. 105. Clean Energy Deployment Administration.

This section establishes the Clean Energy Deployment Administration (CEDA) within the DOE, under an Administrator and Board of Directors. It also delineates the qualification and responsibilities of the Administrator, Board of Directors, and staff. In addition, Sec. 105

establishes an Energy Technology Advisory Council (Advisory Council) to consist of members with relevant scientific and financial expertise.

Sec. 106. Administration functions.

This section authorizes CEDA to issue direct loans, letters of credit, loan guarantees, insurance products, or other credit enhancements appropriate to benefit or accelerate clean energy technology deployment. In awarding credit support to projects, CEDA is directed to account for projects' ratings based on the evaluation methodology established by the Advisory Council, how projects fit with Sec. 104 goals, and the projects' odds of successful completion. CEDA will maintain an expected loan loss reserve, use a portfolio investment approach to mitigate risk and support a range of technologies, weigh the portfolio of supported projects to advance Sec. 104 goals to promote breakthrough technologies, and annually review the loss rates of the portfolio to determine the adequacy of reserves.

This section also orders CEDA to develop financial products and arrangements to promote deployment of technology and mobilize private sector support by aggregating small projects and providing indirect credit support.

Sec. 107. Federal Credit Authority.

This section requires the transfer of functions and authority of the Secretary under Title XVII of the Energy Policy Act of 2005 to CEDA within 18 months of enactment, or that a written justification of delay be given to Congress. Upon transfer of functions, the Secretary of the Treasury will transfer $10 billion to the Clean Energy Investment Fund to remain available until expended, and additional appropriations as necessary are authorized. CEDA is authorized to levy fees which may be retained and placed in the Fund; although for breakthrough technologies the minimum amount of fees will be charged. Alternative fee arrangements are allowed, including profit participation and contingent fees. In order to maintain sufficient liquidity CEDA may also borrow up to $2 billion in total outstanding obligations.

Sec. 108. General provisions.

This section requires biannual reports from CEDA to Congress on the technologies supported by its activities and their performance and annual independent financial audits, among other provisions.

Subtitle B—Improved Transmission Siting

Sec. 121. Siting of interstate electric transmission facilities.

This section amends Sec. 216 of the Federal Power Act.

> **"Sec. 216. Siting of interstate electric transmission facilities.**

This section dictates that the policy of the United States is that the national interstate transmission system should be guided by the goal of maximizing the net benefits of the electricity system taking into consideration support for: development of new renewable generation capacity located far from load centers; opportunities for reduced emissions from regional power production; potential cost-saving actions; reliability benefits; diversification of risk relating to fuel supplies and generating resources; enhancement of electricity market competition; co-location of facilities on existing rights-of-way; competing land use priorities; service obligations; and contributions of demand side management, energy storage, distributed generation, and smart grid investments.

This section also requires the Federal Energy Regulatory Commission (FERC) to coordinate regional planning to integrate regional plans into Interconnection-wide transmission plans with respect to "high-priority national transmission projects." Within 180 days of enactment FERC will promulgate rules consistent with the policy established in this section. It will address how utilities should plan for high-priority national transmission projects; how utilities should coordinate with other utilities, states, and tribes; alternatives to high-priority national transmission projects; and mechanisms for soliciting input from stakeholders.

Plans for the development and improvement of high-priority national transmission projects and their integration into a national high-capacity transmission grid will take into consideration factors that include: location of load centers, generation, and potential generation; existing and potential demand side management, energy storage, distributed generation, and smart grid investments; plans of other relevant stakeholders, Regional Transmission Organizations, and Independent System Operators; the needs and long-term rights in the Federal Power Act service obligations; and the costs to consumers. Entities may develop plans together or separately, but Interconnection-wide plans must be encouraged by FERC, with plans submitted to FERC within two years of enactment.

FERC may designate an application for a high-priority national transmission project as eligible for a certificate of public convenience and necessity for construction. Developers of such projects must get state authorization before seeking federal certificates, but FERC may authorize construction if a state fails to approve construction and routing of a project within 1 year from application, rejects the application, or makes conditions that unreasonably interfere with the purposes of this section. The application for certificates will be made in writing and be subject to hearings. FERC has the power to attach issuance of such a certificate to reasonable terms and conditions. If one or more states fail to approve or reject a project, the Commission will give due weight to the state siting process environmental results and whether an applicant has adequate financial and technical capabilities to support construction and operation of the proposed project. The Commission may also consider the benefits of diversified ownership of projects. Right of eminent domain for projects can be obtained in courts, and State- and Indian tribe-recommended mitigation practices may be incorporated into conditions of the certificate.

The Secretary of the Interior, in consultation with other agencies, will coordinate federal permitting reviews for transmission sited on federal lands, coordinate environmental reviews into a single document, provide an expeditious pre-application mechanism, and ensure that all

permit decisions are completed within one year of the submission of an application. Applicants or selected states may appeal a denial of authorization to the President who must respond within 90 days based on several conditions.

FERC will periodically evaluate whether projects are being constructed in accordance with the plans for both the Eastern and Western Interconnections of the transmission system. Within two years of enactment, FERC will submit recommendations to Congress for further actions needed to ensure effective and timely development of high-priority national transmission projects, transmission projects to access regional and offshore renewable energy generation, demand response, energy storage, distributed generation, energy efficiency, and other areas.

Within 270 days of enactment, FERC will establish a methodology for project cost allocation by rulemaking. Within 180 days, the Secretary will make an initial resource assessment of areas with significant potential for location-constrained renewable resource development, and this assessment should be refined regularly. Within one year of enactment and every three years thereafter, the Secretary, in consultation with states and tribes will conduct a study of transmission congestion and submit the results to Congress.

Subtitle C—Federal Renewable Electricity Standard

Sec. 131. Sense of Congress on renewable energy and energy efficiency.

This section establishes that it is the sense of the Congress that the Federal government should continue to support the use and expansion of renewable energy and energy efficiency in the production and use of energy, the reduction of greenhouse gas emissions, and the reduction of dependence on foreign oil.

Sec. 132. Federal renewable electricity standard.

This section adds a new section at the end of Title IV of the Public Utility Regulatory Policies Act of 1978:

"Sec. 610. Federal Renewable Electricity Standard.

This section creates a federal renewable electricity standard through regulations promulgated within 1 year of enactment. Renewable energy includes energy from solar, wind, geothermal, ocean, biomass, landfill gas, qualified incremental hydropower, marine and hydrokinetic, incremental geothermal, coal-mined methane, or qualified waste-to-energy sources or other innovative sources as determined through rulemaking.

Each electric utility that sells to consumers for a purpose other than resale will be required to obtain a minimum percentage of the base quantity of electricity the utility sells to consumers in any calendar year from renewable energy or energy efficiency, as specified below:

2011 through 2013: 3%
2014 through 2016: 6%
2017 through 2018: 9%

2019 through 2020: 12%
2021 through 2039: 15%

For the purposes of this standard the base quantity of electricity does not include electricity from hydropower (excluding qualified hydro), incineration of municipal solid waste, fossil fuels using carbon capture and storage (CCS) technology, new nuclear facilities or additional generation from existing nuclear facilities due to efficiency upgrades or capacity additions.

To comply with the standard, utilities are required to submit renewable energy credits to the Secretary, submit energy efficiency credits for up to 26.67 percent of the requirements of any calendar year, or make an alternative compliance payment of 2.1 cents/kWh (inflation-adjusted), or some combination of those three to ensure compliance. Renewable energy and energy efficiency credits will be tradable and may be banked for up to 3 years. Renewable energy credits issued by the federal government will be issued regardless of whether the energy is transmitted over the grid, only for electricity generated from renewable sources, to entities covered by state renewable electricity standards, so that a kilowatt hour credit is used only once for purposes of this Act, so that double credits are issued for generation on Indian land, so that triple credits are issued for small renewable distributed generators and generation of energy from algae, so that purchasers in a purchase agreement are issued the credit associated with the generation of renewable energy under contract, and so that credits for renewable energy from biomass are scaled to the efficiency of energy generation.

The Secretary may delegate to an appropriate market-making entity the creation and administration of a transparent, national credit market. Regional entities may also be delegated the tracking of dispatch of renewable generation.

Civil penalties are issued for failure to meet the requirements of this section in the amount of the product of the number of kilowatt-hours sold to consumers in violation of requirements of the standard and 200 percent of the value of the alternative compliance payment. This amount may be waived if compliance failure is determined to be out of reasonable control of the utility, and any payments made in penalty to a state for failure to comply with a state renewable electricity standard may be deducted from the penalty.

The Secretary may waive the requirements of this section for up to 5 years due to natural disasters. A utility may also petition the Secretary for a waiver for the following compliance year in order to limit the rate impact of the incremental cost of compliance to consumers to 4 percent. A state public utility commission or utility may request a variance for one or more years on the basis of transmission constraints preventing delivery of service.

Alternative compliance payments are made directly to the state in which the utility is located and are expendable by the Governor for: increasing the quantity of renewable energy sources in the state; increasing nuclear and advanced coal technologies; promoting the development, deployment, and use of electric vehicles; and offsetting the costs of this section to consumers.

This section does not apply to utilities that sold less than 4 million megawatt-hours to consumers during the preceding calendar year (sales to affiliates, lessees, and tenants are not treated as sales to consumers) or in Hawaii.

Starting by January 15, 2017 and every five years thereafter, the Secretary will review and make recommendations in a report to Congress about the program established in this section. Specifically, the review will look at whether: the program has contributed to an economically harmful increase in electricity rates in geographical regions; the program has created economic benefits for the country; and new technologies and energy sources will advance the purposes of this section. Recommendations will be made on whether the percentage of credits for submission should be changed and whether the definition of "renewable energy" should be expanded.

Sec. 133. Federal purchase requirement amendments.

This section amends the federal purchase requirements of Sec. 203 of the Energy Policy Act of 2005. Certain definitions are added and the definition of biomass is expanded to include residues and byproducts from milled logs, wood and paper products that are not commonly recyclable, hazard trees removed to clear rights-of-way, brush cleared from the vicinity of buildings in wildfire-prone areas, controlled invasive species, animal waste and byproducts, food waste, algae, vegetation harvested from non-Federal or Indian land under certain conditions, crops from non-Federal land or Indian land under certain conditions, and nonhazardous materials sustainably harvested from Federal land in accordance with applicable law. The Secretaries of the Interior and Agriculture, with the Administrator of the EPA, will conduct a study with recommendation on the effects of harvesting biomass for energy.

Subtitle D—Energy and Water Integration

Sec. 141. Energy water nexus study.

This section directs the National Academy of Sciences (NAS) to conduct an analysis of the impact of energy development on the use and consumption of water resources in the United States. The scope of the analysis will include water-related impacts arising from the development of both liquid transportation fuels and electricity generation. The NAS will publish findings from its analysis no later than 18 months following enactment of the Act.

Sec. 142. Power plant water and energy efficiency.

This section requires the Secretary to conduct a study to identify technologies and strategies that optimize energy and water efficiency in the production of electricity by each type of generation facility, including: coal, oil, natural gas, hydropower, thermal solar, and nuclear. The Secretary shall submit the report to Congress no later than 18 months following enactment of the Act.

Sec. 143. Reclamation water conservation and energy savings study.

This section requires the Secretary to conduct a study on energy used in water storage and delivery operations of major reclamation projects (such as dams, reservoirs, and water distribution systems). In addition to identifying annual energy consumption associated with each major reclamation project, the study will also evaluate ways to reduce current energy consumption and costs associated with the projects. The Secretary is required to submit the report to Congress no later than 18 months following enactment of the Act.

Sec. 144. Brackish groundwater national desalination research facility.

This section requires the Department of Energy to operate the Brackish Groundwater National Desalination Research Facility in Otera County, NM as a state-of-the-art research center and seek to integrate renewable energy technologies with desalination technologies in order to reduce capital and operating costs at the facility, minimize environmental impacts, and help build public support for desalination.

Sec. 145. Enhanced information on water-related energy consumption.

This section amends Sec. 205 of the Department of Energy Organization Act to require the Department to produce a report every three years on energy use for water related purposes in relevant sectors of the economy, including in the agriculture, industry, municipal, and domestic sectors.

Sec. 146. Energy-Water Research and Development Roadmap.

This section requires the Secretary to develop an "Energy-Water Research and Development Roadmap" to define the future research, development, demonstration, and commercialization efforts needed to address emerging water related challenges to future energy generation. The Secretary is required to provide a report to Congress describing the roadmap no later than 120 days following enactment of the Act.

Sec. 147. Energy-water clean technology grant program.

This section authorizes $100 million in annual grants from the Department of Energy to fund water and energy conservation projects in commercial, residential, and mixed-use development projects. In awarding the grants, the Department is directed to give priority to projects that have the potential to result in energy use reductions of 50 percent or more in new developments.

Sec. 148. Rural water utilities energy and water efficiency program.

This section authorizes $7 million to the Department of Energy to provide technical assistance to rural drinking water and wastewater utilities and to improve energy efficiency, develop renewable energy supplies, and conserve water in the operation of rural drinking water and wastewater utilities.

Sec. 149. Comprehensive water use and energy savings study.

This section requires the Secretary to produce a report on the interrelated nature of water and energy use, including energy use in water-related processes and methods to reduce that use. In particular, the study will examine: methods to reduce energy consumption in industrial operations through water management and water conservation strategies; options to reduce energy use by water treatment and delivery systems during periods of peak electricity demand; potential uses for nonpotable water sources in industrial, commercial, and residential applications and the potential for energy conservation that may arise from use of those sources; and the quantity of energy consumed in the procurement, transport, and treatment of water supplies and wastewater serving industrial, commercial, and residential uses. The Secretary is required to submit the report to Congress no later than 18 months following enactment of the Act.

Subtitle E—Vehicle Technology Deployment

Sec. 151. Transportation roadmap study.

This section requires the National Academy of Sciences to complete a report identifying options to reduce petroleum consumption and greenhouse gas (GHG) emissions from light-duty vehicles. The analysis will identify technological options related to alternative fuels (electricity, natural gas, hydrogen) and advanced technologies (battery, hybrid, fuel cells, advanced internal combustion, and lean burn diesel technologies).

The study will consider commercialization, infrastructure needs, market adoption, federal R&D, regional disparities, and existing research in formulating recommendations that will reduce oil intensity by 80 percent by 2050. The study must be completed within 21 months after funding is made available and repeated every 5 years.

Sec. 152. Vehicle technology and recharging infrastructure.

This section amends Sec. 131 of the Energy Independence and Security Act of 2007 by requiring the Secretary, in consultation with the Administrator of the Department of Energy's new Clean Energy Deployment Administration and the Secretary of Transportation, to conduct a study to determine the requirements to build an infrastructure for plug-in electric vehicles (PEVs). The study will determine the number of and distribution of charging facilities, technical standards for public charging, the needs of electricity providers, the state of the PEV market, opportunities for improving electricity grid stability with PEVs, and PEVs' impact on renewable energy.

The study will determine the infrastructure needs for 10, 20, and 50 percent market penetration of PEVs at the city, regional, and national level. The study should also consider impacts on parking and model codes such as building codes. The study shall be completed within 1 year of enactment.

Within 18 months of enactment, the Secretary will establish a program to deploy an electric vehicle infrastructure in multiple regions. Considering the study, the Secretary shall pick regions and provide financial support for this work. The projects should reduce oil consumption, demonstrate the benefits of vehicle electrification, demonstrate protocols and standards, and identify best practices.

Appropriations as necessary are authorized, and funds can be used to assist in vehicle purchase, recharging infrastructure for PEVs, smart grid equipment, and advanced batteries. Grants to states and local governments for recharging infrastructure are available based on the results of the report unless the receiver of the grant demonstrates a method that would better support a PEV infrastructure; recipients also are not allowed to charge a premium for any parking space for a PEV other than for the electric energy used to charge the vehicle.

Sec. 153. Electric drive transportation standardization.

This section requires the Secretary to produce a report that defines standards for electric drive transportation within 180 days. The report should include consultation from all relevant stakeholders including the National Institute of Standards and Technology, utilities, vehicle manufacturers, battery manufacturers, industry trade associations, National Laboratories, and other entities.

The report shall cover existing standards or those that are under development such as electronic protocols to communicate with the electricity grid, safety interoperability standards for the plug and socket for plug-in electric drive vehicles, battery-to-vehicle high voltage power connectors, battery-to-vehicle communications signal interface hardware and operational protocols, safety interlock devices, battery safety, and others. The report should also recommend a collaborative process for public and private entities that will accelerate the development of standards.

Sec. 154. Pilot program for plug-in electric drive vehicles for Federal fleet.

This section amends Sec. 131 of the Energy Independence and Security Act of 2007 by adding at the end the end: the Secretary shall conduct a pilot-program to use plug-in electric vehicles (PEVs) in the federal vehicle fleet from 2010-2015. The program allows for funding of grants for $10,000 per vehicle purchased or $1,500 per year for leased vehicles as well as a recharging infrastructure at appropriate Federal facilities. There is an authorization of sums as necessary for this program for fiscal years 2010 to 2015.

Sec. 155. Study of end-of-useful life options for motor vehicle batteries.

This section orders the Secretary to conduct a study to determine the end-of-life options for motor vehicle batteries including batteries from electric drive vehicles. The report shall be completed within 1 year of enactment and should include recommendations on stationary storage and recycling options.

TITLE II—ENHANCED ENERGY EFFICIENCY

Subtitle A—Manufacturing Energy Efficiency

Sec. 201. State partnership industrial energy efficiency revolving loan program.

This section amends Sec. 339A the Energy Policy and Conservation Act to authorize the Department of Energy to establish a revolving loan program to help commercial and industrial manufacturers implement energy efficiency projects. This section authorizes $500 million in each fiscal years 2010 through 2012 to administer the loan program.

Sec. 202. Coordination of research and development of energy efficient technologies for industry.

This section directs the Secretary to establish a collaborative research and development partnership between the Department of Energy's Industrial Technologies Program (ITP) and other programs within the department's Office of Energy Efficiency and Renewable Energy (EERE). The goal of the partnership is to leverage the research and development expertise of the EERE programs to promote early stage energy efficiency technology development and apply ITP's knowledge and expertise to help the other programs reach their goals.

Sec. 203. Energy efficient technologies assessment.

This section directs the Secretary to begin an assessment of commercially available, cost-effective energy efficiency technologies that are not widely implemented within the United States for the most energy intensive industries (including steel, chemicals, aluminum, forest and paper products, and cement). The Secretary shall publish a report no later than one year following enactment of this Act on the cost, energy, and greenhouse gas emissions impacts for each industry, and provide a comparison of energy efficiency technology adoption rates in other countries.

Sec. 204. Future of Industry program.

This section amends Sec. 452(c)(2) of the Energy Independence and Security Act of 2007 to establish a "Future of Industry" program within the DOE. This program would establish a road-map process through which industry-specific studies would be developed to determine energy intensity, greenhouse gas emissions, waste, and operating costs of various industrial processes, and establish near-, mid-, and long-term targets for energy efficiency and other environmental improvements within these industries. In 2010, $216 million is authorized to be appropriated for carrying out this program, $232 million in 2011, and $248 million in 2012.

This section further amends Sec. 452(f) of the EISA to provide additional funding and support for DOE's Industrial Research and Assessment Centers (IACs). It directs the Secretary to establish Centers of Excellence at up to 10 of the department's highest performing IACs, which would each receive, subject to the availability of appropriations, up to $500,000 for fiscal year 2010 and each year thereafter. The Secretary is also directed to provide funding to establish

new IACs at additional higher education institutions. This section authorizes $20 million in 2010 to support the IACs, $30 million in 2011, and $40 million in 2012 and each fiscal year thereafter.

Sec. 205. Sustainable manufacturing initiative.

This section amends Part E of Title III of the Energy Policy and Conservation Act to establish the "Sustainable Manufacturing Initiative." Under this initiative, to be housed under the Department of Energy's Industrial Technologies Program, the department will conduct onsite technical assessments at manufacturing facilities to maximize energy efficiency, minimize pollution and waste, and reduce water use. The Department of Energy is additionally directed to carry out a joint industry-government research program on new sustainable manufacturing technologies and processes that maximize energy efficiency and minimize environmental impacts.

Sec. 206. Innovation in industry grants.

This section amends Sec. 1008 of the Energy Policy Act of 2005 to establish a program under which DOE will award matching grants to partnerships between industry and state or Tribes designed to develop and deploy new technologies that reduce energy use, pollution, GHG emissions, and industrial waste. DOE awards will be limited to $500,000 to each state-industry partnership selected to receive a grant.

Sec. 207. Study of advanced energy technology manufacturing capabilities in the United States.

This section requires the National Academy of Sciences (NAS) to conduct a study on the development of advanced manufacturing capabilities for various energy technologies, focusing especially on supply chain issues. The study would, among other things, assess the manufacturing supply chains of established and emerging industries, identify past and current trends in manufacturing supply chains, and analyze the energy intensity of each part of the supply chain and opportunities for improvement. The study will further identify, for each technology or manufacturing sector, the sections of the supply chain most critical for the United States to retain or develop to remain competitive in that technology or sector. The Secretary would be required to commission this study from the NAS no later than 60 days following enactment of the Act, and the study itself would be due to Congress two years following the date of its commissioning.

Sec. 208. Industrial Technologies steering committee.

This section directs the Secretary to establish a steering committee to advise DOE's Industrial Technologies Program.

Sec. 209. Authorization of appropriations.

This section authorizes to be appropriated funds necessary to carry out this subtitle.

Subtitle B—Improved Efficiency in Appliances and Equipment

Sec. 221. Test procedure petition process.

This section amends Sec. 323(b)(1) of the Energy Policy and Conservation Act to allow any person to petition the Secretary to conduct a rulemaking to prescribe or modify an energy efficiency test procedure for any consumer product except automobiles for the purposes of determining whether the product meets a specific energy efficiency standard. This section also allows any person to petition to change test procedures for certain pieces of industrial equipment. It further directs the Secretary to review test procedures for those pieces of industrial equipment at least once every seven years.

Sec. 222. Energy Star program.

This section amends Sec. 324A(b) of the Energy Policy and Conservation Act to require DOE and EPA to update their existing agreement delineating their agencies' respective roles and responsibilities in administering the ENERGY STAR program. DOE and EPA are further directed to agree to: a formal process for high-level decision making that allows each agency to make programmatic decisions based on their respective program approaches; a facilitated annual planning meeting to establish strategic priorities and goals for the coming year; a prescribed course of action to work through disagreements; and a biannual program review conducted by a third party. This section further amends the Act to require labeling standards for each product category under ENERGY STAR to be reviewed once every three years or when market share for an ENERGY STAR product category reaches 35 percent. $25 million is authorized to be appropriated to the DOE to carry out this section, and $100 million is authorized for the EPA.

Sec. 223. Petition for amended standards.

This section amends Sec. 325(n) of the Energy Policy and Conservation Act to require the Secretary to publish a Federal Register notice and explanation for a decision to grant or deny a petition to amend an energy efficiency standard for a covered product no later than 180 days after receiving the petition.

Sec. 224. Portable light fixtures.

This section amends Sec. 321 of the Energy Policy and Conservation Act to include new definitions of portable and stationary light fixtures, including art work light fixtures, light emitting diode (LED) light engines, and LED light fixtures. The section also mandates standards for Portable Light Fixtures: by 2012, a portable light fixture must be a fluorescent light that meets Energy STAR requirements, an LED fixture, equipped with line-voltage sockets that preclude the use of incandescent bulbs, or be prepackaged with a CFL or LED lamp. The Secretary may publish amended standards in 2014, to be effective in 2016.

Sec. 225. GU–24 base lamps.

This section amends Sec. 321 of the Energy Policy and Conservation Act to include definitions and energy efficiency standards for GU-24 base lamps.

Sec. 226. Standards for certain incandescent reflector lamps and reflector lamps.

This section amends Sec. 325(i) of the Energy Policy and Conservation Act to direct the Secretary to establish new energy efficiency standards for certain incandescent reflector lamps no later than July 1, 2011. The Secretary is further directed to establish new energy efficiency standards for other types of reflector lamps no later than January 1, 2015.

Sec. 227. Standards for commercial furnaces.

This section amends Sec. 342(a) of the Energy Policy and Conservation Act by establishing new efficiency standards for warm air furnaces. Following Jan. 1, 2011, each new gas-fired furnace will have a minimum combustion efficiency of 80 percent, while oil-fired units will be required to meet an 81 percent thermal efficiency rating.

Sec. 228. Motor efficiency rebate program.

This section amends Part C of Title III of the Energy Policy and Conservation Act by adding a motor efficiency rebate program as the following new section:

"Sec. 346. Motor Efficiency Rebate Program

This section details that the program would provide rebates for the replacement of an installed motor with new electric motor meeting specified efficiency requirements. The section specifies the eligibility requirements and the amount of the rebates, and authorizes appropriations to carry out this program for years 2011-2015.

Sec. 229. Study of compliance with energy standards for appliances.

This section directs the Secretary to conduct a study on the degree of compliance with appliance energy standards, including an investigation of compliance rates and options for improving compliance. The Secretary shall submit the report to Congress no later than 18 months following enactment of the Act.

Sec. 230. Study of direct current electricity supply in certain buildings.

This section directs the Secretary to conduct a study of the costs and benefits of requiring high-quality, direct current electricity supply in certain buildings, and the potential role of the federal government in carrying out that requirement. The Secretary shall report findings from the study to Congress no later than one year following enactment of the Act.

Sec. 231. Motor market assessment and commercial awareness program.

This section amends Sec. 324A of the Energy Policy and Conservation Act by requiring the Secretary to conduct an assessment of electric motors and the electric motor market in the United States. The assessment should, among other things, characterize and estimate the opportunities for improvement in energy efficiency of the motor systems by market segment. Based on this assessment, the Secretary shall develop an updated profile of motor system purchase and maintenance practices, methods to update the profile, and methods to estimate the energy savings and market penetration attributable to the Save Energy Now Program of the Department of Energy. The Secretary is further directed to establish a national program targeted at motor end-users to, among other things, increase awareness of the energy and cost-saving opportunities of using higher efficiency electric motors.

Sec. 232. Study regarding Energy Superstar concept.

This section amends the Energy Policy and Conservation Act to direct the DOE and EPA to jointly conduct a study to determine the feasibility and advisability of establishing an "Energy Superstar" tier to the existing ENERGY STAR program. The Superstar tier would recognize products and buildings in the 95th percentile of energy efficiency that are determined to be cost-effective to consumers. In carrying out the study, DOE and EPA will seek input from relevant industry stakeholders and examine whether establishment of a Superstar tier would cause an undesirable dilution of the ENERGY STAR brand. The Federal agencies are required to report their findings to Congress, including whether they recommend such a Superstar tier should be established, no later than one year following enactment of the Act.

Sec. 233. Energy conservation standards.

This section amends Sec. 321 of the Energy Policy and Conservation Act to establish new energy efficiency standards for residential central air conditioners, heat pumps, and furnaces.

Sec. 234. Energy conservation standards for heat pump pool heaters.

This section amends Sec. 321 of the Energy Policy and Conservation Act to establish new energy efficiency standards for heat pump pool heaters, a special type of pool heating system that is more energy efficient than the conventional gas-fired pool heaters.

Sec. 235. Efficiency standards for bottle-type water dispensers, commercial hot food holding cabinets, and portable electric spas.

This section amends Sec.321 of the Energy Policy and Conservation Act by establishing energy efficiency standards for bottle-type water dispensers, commercial hot food holding cabinets and portable electric spas.

Sec. 236. Uniform efficiency descriptor for covered water heaters.

This section amends the Sec.325(e) of the Energy Policy and Conservation Act by directing the Secretary to establish a uniform efficiency descriptor and accompanying test methods for covered water heaters. The uniform efficiency descriptor will replace the energy factor descriptor for water heaters and the thermal efficiency and standby loss descriptors for storage water heaters, instantaneous water heaters, and unfired water storage tanks established under the Act.

Sec. 237. Efficiency standards for Class A external power supplies.

This section amends Sec.325(u)(3) of the Energy Policy and Conservation Act stating that No-Load Mode energy efficiency standards established by the section being amended do not apply to an external power supply manufactured before July 1, 2017 that meets certain conditions.

Sec. 238. Prohibited acts.

This section amends Sec.332(a) of the Energy Policy and Conservation Act by prohibiting a representative of a manufacturer, a distributor or retailer (in addition to manufacturer or private labeler) from offering to sell (in addition to distributing) any new covered product 1) for which the Federal Trade Commission is directed to prescribe labeling rules under the Act, unless the product is labeled in accordance to the rules and 2) does not conform with applicable energy conservation standards established under the Act. The section is also amended to prohibit a manufacturer (or a representative of a manufacturer), distributor, retailer or private labeler from selling or distributing a new covered product knowing that it will not be in conformity with a regional energy conservation standard that is more stringent than the national standard. The section also extends the prohibition of selling (in addition to distributing) certain adapters to a representative of a manufacturer.

Sec. 239. Outdoor lighting.

This section amends Sec.340(1)(2) of the Energy Policy and Conservation Act by defining outdoor luminaires, high light output double-ended quartz, halogen lamps, and general purpose mercury vapor lamps as covered equipment as well as industrial equipment under the Act. It also establishes standards (amending Sec.342), test methods (amending Sec.343(a)), labeling (amending Sec.344) and preemptions (amending Sec.345) associated with these products.

Sec. 240. Energy efficiency provisions.

This section amends Sec.323(b)(1) of the Energy Policy and Conservation Act by adding rules for test procedures for any covered product under the section being amended. The section also amends the rule on determining the economic justification of an energy conservation standard by adding the following to the list of factors that should be assessed: 1) the estimated impact of average energy prices and 2) in covered products where smart grid technologies are applicable,

accounting for rate of use of the smart grid technologies or capabilities over the life of the product that are estimated to result from the standard. The section also amends the threshold of additional costs compared to energy savings gained at which it can be assumed that the energy conservation standard is economically justified. It also adds a special threshold calculation for products with an average expected useful life of less than four years. The section also adds procedures for rebutting an assumption that an energy conservation standard is economically justified. Additionally, it gives the Secretary authority to set standards for smart grid technologies or capabilities.

The section amends Sec. 326 of the Energy Policy and Conservation Act by expanding and changing the information requirements for obtaining appliance information from manufacturers.

The section amends Sec. 327(d)(1) of the Energy Policy and Conservation Act by prohibiting the Secretary from rejecting the petition of a State or river basin community to preempt a federal energy conservation standard with its own standard where the petitioning party has requested but not received confidential information from a manufacturer or distributor. It also allows the Secretary to approve a preemption petition from a state that does not have an energy plan and forecast under certain conditions.

"Sec. 334. Permitting states to seek injunctive enforcement.

The section adds further details to Sec. 334 of the Energy Policy and Conservation Act. Sec. 334 gives district courts original jurisdiction of a civil action seeking an injunction to restrain violation of Sec. 332 (prohibited acts) and any person from distributing in commerce any covered product that does not comply with Sec. 324(labeling) or Sec. 325 (energy conservation standards.

Sec. 240A. Technical corrections.

This section makes a series of technical amendment to the Energy Independence and Security Act of 2007 and the Energy Policy and Conservation Act.

Subtitle C—Building Efficiency

PART I—BUILDING CODES

Sec. 241. Greater energy efficiency in building codes.

This section amends Sec. 304 of the Energy Conservation and Production Act to read:

"Sec. 304. Updating Building Energy Efficiency Codes.

This section sets building code energy efficiency targets for residential and commercial buildings. After enactment, buildings built to a code released during or after 2010 will achieve

overall energy savings of at least 30 percent relative to the baseline code. Buildings built to a code released during or after 2016, will achieve overall energy savings of at least 50 percent relative to the baseline code. The baseline codes are the 2006 IECC (residential) and ASHRAE Standard 90.1-2004 (commercial) codes.

The Secretary will support updating the national model building energy codes and standards at least every three years to meet these targets. Targets will be set by the Secretary three years in advance of the target year at the maximum level of energy savings that are technologically feasible and cost-effective on a life-cycle basis and on a path to achieving net-zero-energy buildings. If the Secretary determines that revisions of IECC or ASHRAE Standard 90.1 do not meet set targets and amendments proposed by the Secretary to meet targets are not incorporated by the model code or standard developer, the Secretary may establish a modified code or standard that does meet set targets.

Within two years of enactment, each state must certify that its code meets or exceeds the 2009 IECC (residential buildings) and the ASHRAE Standard 90.1–2007 (commercial buildings); or achieves equivalent or greater energy savings. Within three years of certification, each state must achieve compliance with the certified state code or have shown significant progress. To attain compliance, the state must show that at least 90 percent of new and renovated buildings space covered by the code in the preceding year substantially meet all energy efficiency requirements or achieve equivalent energy savings level; or the estimated excess energy use of new and renovated buildings failing the code is not more than five percent of the estimated energy use of all new and renovated buildings covered by the code. The Secretary can reduce the percentage targets for renovated buildings if deemed unreasonable.

Significant progress constitutes implementing a plan to achieve compliance within eight years; demonstrating progress after one or more years of adequate funding; after five years of adequate funding 80 percent of space meeting energy efficiency provisions and estimated excess energy use not exceeding ten percent; and not having adequate funding for more than eight years. At least $50 million in fiscal year funding from the federal government is considered adequate funding. Non-compliance of a state does not preclude a local government in the state from achieving compliance.

The Secretary can provide incentive funding to states and Tribes for the purposes of meeting the outlined compliance requirements as well as improving and implementing building energy efficiency codes and promoting efficiency through codes. Additional funding will also be available for a state-wide plan that aims to achieve at least 90 percent rate of compliance with building energy efficiency codes meeting or exceeding 2009 IECC (residential) and ASHRAE Standard 90.1-2007 (commercial). (Local governments in a non-compliant state or state with no state-wide energy code for buildings are also eligible for additional funding.) The bill authorizes $100 million for each fiscal year 2009 to 2013 and necessary sums after that for the purposes of this section.

Sec. 242. Multifamily and Manufactured Housing Energy Efficiency Grant Program.

This section authorizes the Secretary to establish the Multifamily and Manufactured Housing Energy Efficiency Grant Program" to provide grants to eligible entities (state, local government agency, Tribe, or nonprofit organization) to carry out energy efficiency programs in multifamily buildings and manufactured housing. In the case of multifamily buildings, the program will issue grants for renovation of multifamily buildings and support for replacing low energy efficiency appliances, equipment and systems with those that meet Energy Star criteria. In the case of manufactured housing, the program will issue grants for offering rebates to owners to assist in replacement of manufactured housing constructed before 1976 with manufactured housing that meets Energy Star criteria; and for other approaches as determined by the Secretary. An entity receiving a grant must maintain records of compliance; provide technical services and assistance to encourage planning, financing and design of energy-efficient multifamily buildings or manufactured housing; and publicly report on the results of the project. The bill authorizes appropriation of necessary sums for the purposes of this section.

Sec. 243. Building training and assessment centers.

This section directs the Secretary to provide grants to institutions of higher education to establish building training and assessment centers to identify opportunities for optimizing energy efficiency and environmental performance in buildings; to promote emerging concepts and technologies in commercial and institutional buildings; to provide training in energy efficient design and operation; to promote research and development for the use of alternative energy sources to supply heat and power for buildings; and to coordinate with and assist state-accredited technical training centers, community colleges, and local offices of the National Institute of Food and Agriculture. The bill authorizes appropriation of necessary sums for the purposes of this section.

PART II—WEATHERIZATION ASSISTANCE FOR LOW-INCOME PERSONS

Sec. 251. Weatherization assistance for low-income persons.

This section amends Sec. 422 of the Energy Conservation and Production Act to authorize $1.7 billion each fiscal year 2011 to 2015 for the Weatherization Assistance Program.

PART III—STATE ENERGY PROGRAM

Sec. 255. State Energy Program.

This section amends Sec. 365 of the Energy Policy and Conservation Act to authorize $250 million each fiscal year from FY2011-2015 for the State Energy Program.

PART IV—STATE AND TRIBAL ENERGY EFFICIENCY GRANTS PROGRAM

Sec. 261. Definitions.

This section defines the terms and acronyms used in this part.

Sec. 262. State and tribal energy efficiency retrofit programs.

This section establishes a program through which the DOE would distribute grants to states and tribes to carry out energy efficiency building retrofit programs. Programs would be given priority and awarded funds based on a number of criteria, including the cost effectiveness of the program, the number of quality jobs it creates, the amount of energy and water saved and the ability to measure/verify energy savings, the inclusion of measures to reach underserved populations, and how the program leverages private sector funding and uses American Reinvestment and Recovery Act funds, among others. States and tribes may use funds to provide grants to homeowners to carry out energy efficiency retrofits that achieve energy savings through a list of prescriptive measures (to be determined by the DOE) that save at least 10 percent on whole home energy consumption, and a set of measures that saves at least 20 percent. For savings of at least 10 percent grants of $1000 will be provided, and for savings of at least 20 percent grants will be $2000. Grants can also be provided through a performance-based option. For a 20 percent reduction in whole home energy consumption, grants will be up to $3000, with an additional $150 for every 1 percent reduction beyond that (up to the lower of $12,000 or 50 percent of the retrofit cost). This section also establishes a commercial building efficiency retrofit grant program through which states and tribes can provide incentives to commercial building owners to implement efficiency improvements. Incentives can be provided if retrofits improve the energy performance of the building(s) by at least 20 percent; savings will be determined using an approved benchmarking tool.

States and tribes participating in these programs are required to report on the status of their programs and their associated energy savings.

Sec. 263. Administrative and technical support.

This section stipulates that the DOE may provide administrative and technical support to the states in order to carry out the efficiency programs described in section 262.

Sec. 264. Regulations.

This section requires that regulations needed to carry out the programs in section 262 are promulgated within 180 days of enactment.

Sec. 265. Funding.

This section authorizes the appropriations of funds needed to carry out this part for fiscal years 2010 through 2015. Forty-five percent of the funds will go to supporting the home efficiency programs in section 262, 45 percent will go towards the commercial building programs, and the remaining 10 percent will be used to provide technical and administrative support to states and tribes.

Sec. 266. Home Energy Retrofit Finance Program.

This section provides grants to states and tribes to establish or expand a revolving finance fund to support energy efficiency and renewable energy improvements to existing homes and residential buildings. Funds would be administered by qualified program delivery entities (local governments, utilities, or others). Home retrofit programs financed through these programs will comply with the same requirements listed for the home retrofit programs in section 262. This program would be funded from 2010 through 2015.

PART V—FEDERAL EFFICIENCY AND RENEWABLES

Sec. 271. Federal purchase requirement.

This section amends Sec. 203 of the Energy Policy Act of 2005 (as amended by Sec. 133) to require federal renewable energy purchase requirements to apply to all energy consumed by the federal government not just electric energy. Additionally, renewable energy produced on federal or Indian lands is to be calculated separately from energy used and can be used to comply with this section. This section also limits federal renewable energy purchase contracts to 30 years or less. The Secretary will provide technical assistance to federal agencies to enter into contracts under this section, and, within 90 days of enactment, the Secretary is to publish a standardized purchase agreement for federal agencies.

Sec. 272. Competition requirements for task or delivery orders under energy savings performance contracts.

This section amends Sec. 801(a) of the National Energy Conservation Policy Act by establishing a competitive process for choosing contractors for energy savings performance contracts for federal agencies. The amendment does not apply to tasks or delivery orders issued before enactment.

Sec. 273. Funding flexibility.

This section amends Sec. 801(a)(2) of the National Energy Conservation Policy Act to allow agencies to use either appropriated funds or private financing under energy savings performance contracts or other private financing (or a combination of these options) to carry out the contract.

Sec. 274. Definition of energy savings.

This section amends Sec. 804 (2)(B) of the National Energy Conservation Policy Act to include the installation of renewable energy systems under the energy savings definition.

Sec. 275. National energy efficiency improvement goals.

This section establishes energy efficiency goals for the United States of improving the overall national energy productivity (measured in GDP per unit of energy input) by at least 2.5% per year by 2012, and maintaining that annual rate of improvement through 2030.

The section further requires the Secretary, not later than 1 year after enactment and in cooperation with the Administrator and other appropriate federal agencies, to develop a strategic plan to achieve the energy efficiency goals, and to update the strategic plan biennially.

Sec. 276. Energy sustainability and efficiency grants and loans for institutions.

This section amends Sec. 339(a) of the Energy Policy and Conservation Act of 2007 (as amended by section 201(2)) to make technical assistance and funding for certain sustainable energy initiatives described in the Act available to not-for-profit hospitals and not-for-profit inpatient health care facilities. It increases the grant amount to up to $2.5 million and increases funding such that such sums as are necessary are allocated from 2010-2015.

Sec. 277. Federal implementation strategy for energy-efficient information and communications technologies.

This section amends Sec. 543 of the National Energy Conservation Policy Act by inserting a new paragraph requiring each federal agency, within one year, to create an implementation strategy for the maintenance, purchase, and use of energy efficient and energy-reducing information and communications technologies and practices with the assistance of the Office of Management and Budget. Within 180 days, the Director of OMB will establish performance goals for evaluating the efforts of the agencies, and agency reports are required.

Sec. 278. Incentives for Federal agencies to participate in energy efficiency programs.

This section amends Sec. 546(c) of the National Energy Conservation Policy Act by expanding utility incentive program eligibility to Independent System Operators, State agencies, tribes, and third party entities implementing those programs on behalf of utilities or state agencies.

PART VI—ENERGY EFFICIENCY INFORMATION ON HOMES AND BUILDINGS

Sec. 281. Building energy performance information program.

This section establishes a voluntary building energy performance information program administered by the Environmental Protection Agency (EPA) Administrator in consultation with the Secretary to provide information on comparative energy performance and increase public awareness on building energy efficiency and energy performance. Ninety days after enactment, the Secretary will provide Congress with building types for which statistically significant energy performance data exists or "covered building types" as well as building types for which such data does not exist. The Secretary will support improvements to the Commercial Buildings Energy Consumption Survey and other such databases as well as further development of achieved performance measurement formats for residential building energy.

Not later than two years after identifying covered building types the Administrator will establish methods to measure achieved performance and designed performance; procedures for information collection; means of displaying achieved performance and designed performance;

and publish final specifications on information such as certificates. The Administrator will review the program at least once every five years and make necessary modifications.

The Secretary will establish a business and consumer education program; the Administrator in consultation with the Secretary will conduct demonstration projects; and the Secretary will coordinate demonstration projects with Zero-Net Energy Commercial Buildings Initiatives of the Energy Independence and Security Act of 2007.

Upon request of state, local, or tribal governments the Secretary may provide assistance in development of building energy performance information programs. The Secretary must report to Congress on progress with use of the program by states and local governments no later than three years after enactment.

Within three years of enactment, each federal agency owning or operating covered building types should implement the building energy information program in a manner that 30 percent of the covered buildings built before the final rule establishing the program and was established and 90 percent built after the establishment of the program. Within three years of enactment, any newly constructed covered building owned by a state, county, local, or tribal government that receives federal financial assistance will be required to use the certificate provided under this section.

The Administrator may use energy performance information under this program to establish a voluntary Energy Star program that recognizes high efficiency retrofits of existing commercial and residential buildings. The bill authorizes appropriation of necessary sums for the purposes of this section.

Sec. 282. Evaluation, measurement, and verification of energy savings.

This section directs the Secretary, within two years of enactment, to promulgate uniform rules to document energy savings and avoided GHG emissions from energy efficiency programs that receive funding from federal, state or local governments or public utilities; require specific levels of energy reductions; or are eligible for allowances or allowance proceeds based on energy savings and GHG emissions reductions under climate change regulations.

PART VII—RESIDENTIAL HIGH PERFORMANCE ZERO-NET-ENERGY BUILDINGS INITIATIVE

Sec. 291. Residential High Performance Zero-Net-Energy Buildings Initiative.

This section directs the Secretary to establish and execute the Residential High-Performance Zero-Net-Energy Buildings Initiative and appoint a Director for the program. Within 180 days of enactment, the initiative requires the Director to enter into agreements with the competitively selected Building America Industry consortia or other competitively selected consortia to execute the initiative during a five-year period. The Director will competitively select and enter into such agreements with one or more consortia every five years. The initiative will aim to promote technologies and strategies that will enable the design and construction of zero-net-

energy buildings by 2015 as well as any new residential building constructed on or after 2020 to be a cost-effective zero-net-energy building. The bill authorizes $40 million for 2010; $60 million for 2011-2012; and $100 million for each fiscal year from 2013 through 2020 for the purposes of this section.

Subtitle D—Electric Grid

Sec. 295. National electric system efficiency and peak demand reduction goal.

This section establishes a goal for the United States to optimize and make more efficient the planning and operation of national and local electricity systems in a manner that the "system load factor" will be improved by 1.5 percent per year during each of the calendar years 2010 through 2030, with a particular focus on reducing the frequency and severity of peak demand periods through a variety of smart grid and demand response technologies, and practices and activities such as the adoption of energy-efficient technologies or conservation practices or load-shifting and reduction in time-based electricity consumption. A "system load factor" is calculated by dividing the total number of kilowatt hours provided by an electric power system in a given year by the highest level of demand that occurred during that year. The section also requires that within 180 days of the enactment of this Act, the Secretary in cooperation with FERC, Regional Transmission Organizations, the National Association of Regulatory Utility Commissioners, and heads of other appropriate Federal agencies, shall develop an action plan to achieve or exceed this goal. And the Secretary shall update the action plan every 3 years

Sec. 296. Uniform national standards for interconnection of certain small power production facilities.

This section amends Subtitle B of Title I of the Public Utility Regulatory Policies Act (PURPA) by adding:

"Sec. 118. Interconnection of Certain Small Power Production Facilities.

This section amends PURPA to allow electric consumers to receive upon request interconnection services for electric facilities that generate up to 15 kilowatts of electricity on the premises of the customer. The section requires FERC to submit to Congress a report, no later than 3 years after enactment of this Act, on whether the standard established should be amended to apply to facilities that generate up to 50 kilowatts of electric energy on the premises of the customer. And the section requires FERC to establish a model standard for the interconnection of small power production facilities with a capacity greater than 15 kilowatts, but not greater than 20 kilowatts.

TITLE III—IMPROVED ENERGY SECURITY

Subtitle A—Cyber Security of the Electric Transmission Grid

Sec. 301. Critical electric infrastructure.

This section amends Part II of the Federal Power Act by adding the following:

"Sec. 224. Critical Electric Infrastructure.

This section instructs Federal Energy Regulatory Commission (FERC) to issue such rules or orders as are necessary to protect critical electric infrastructure from cybersecurity vulnerabilities. Any rule or order issued by the Commission or Secretary without prior notice or hearing shall remain effective not more than 90 days, unless during this period, the Commission gives interested persons an opportunity to submit written data, views, or arguments, and affirms, amends, or repeals the rule or order. This section applies to any entity that owns, controls, or operates critical electric infrastructure, except those in Alaska and Hawaii. The section also requires the Secretary of Defense to prepare a comprehensive plan, one year after enactment of this Act that identifies the emergency measures or actions that will be taken to protect the reliability of the electric power supply of the national defense facilities in the event of an imminent cybersecurity threat.

Subtitle B—Nuclear Energy

Sec. 312. Sense of Congress regarding the strategic role of nuclear energy.

This section expresses the findings of Congress, including that nuclear energy is a strategic technology whose expansion and use is essential for the production of electricity and reduction of GHG emissions. Furthermore, this section establishes that it is the sense of Congress that the federal government should reaffirm that it is the policy of the United States to support the use and expansion of nuclear energy technology and to fulfill the obligation of the federal government with respect to spent nuclear fuel and high-level radioactive waste.

Sec. 313. Advanced fuel recycling process development.

This section amends Sec. 953 of the Energy Policy Act of 2005 instructing DOE to complete the development and testing of a complete and integrated process flowsheet for all steps involved in an advanced fuel recycling process (i.e., an integrated, proliferation-resistant, spent nuclear fuel recycling or transmutation process that, among other characteristics, does not separate pure plutonium); characterize the waste streams resulting from all steps in the advanced fuel recycling process; develop waste treatment processes and designs for disposal facilities; develop a generic environmental impact statement and conduct design and engineering cost studies with respect to the development of advanced fuel reprocessing technologies, and cooperate with the Nuclear Regulatory Commission (NRC) in making DOE facilities available for the NRC to carry out independent confirmatory research. In addition, this section establishes that the NRC will have licensing and regulatory authority of advanced fuel recycling facilities.

Finally, on completion of sufficient technical progress on the part of DOE in developing the advanced fuel recycling technology, the Secretary shall direct the Nuclear Energy Advisory

Committee and the Nuclear Waste Technical Review Board to evaluate and prepare reports for Congress concerning the readiness of the program for detailed design, engineering, licensing, and deployment of advanced fuel recycling processes.

Subtitle C—Improving United States Strategic Reserves

Sec. 321. Petroleum product reserve.

This section amends Sec. 154(a) of the Energy Policy and Conservation Act to include requirements for 30 million barrels of refined petroleum product in the Strategic Petroleum Reserve. This section also adds the following section:

"Sec. 155. Plan.

This section requires the Secretary to submit a plan to include refined petroleum products in the Strategic Petroleum Reserve. And this section amends Sec. 161 by restricting the drawdown and sale of the Strategic Petroleum Reserve as required by a severe energy market supply disruption, obligations of the U.S. under the international energy program, or in the case of sale of petroleum product component of the Reserve will mitigate the impacts of weather-related events or other acts of nature that have resulted in a severe energy market supply disruption. A severe energy market supply disruption shall be considered to exist if the Secretary determines: an emergency situation exists and there is a significant disruption in global oil market supplies, a severe increase in the price of petroleum products, and the price increase is likely to cause a major adverse impact on the national economy,

Sec. 322. Petroleum exchange authority.

This section amends Sec. 160(a) of the Energy Policy and Conservation Act to allow the Secretary to accept monetary compensation for differences in volume, quality, or time of delivery as a result of petroleum products. This section also amends Sec. 167(b) which affects the funds used for acquisition, transportation, and injection of petroleum products into the Strategic Petroleum Reserve.

Subtitle D—Federal Oil and Gas Development

PART I—OIL AND GAS LEASING

Sec. 331. Oil and Gas Permit Processing Improvement Fund.

This section amends Sec. 35(c) of the Mineral Leasing Act to authorize $20 million for each fiscal year 2016 to 2020 for the coordination and processing of oil and gas use authorizations and for oil and gas inspection and enforcement on onshore federal land.

Sec. 332. Facilitation of coproduction of geothermal energy on oil and gas leases.

This section amends Sec. 4(b) of the Geothermal Steam Act of 1970 to allow for coproduction of geothermal energy with oil and gas on land subject to an approved drilling permit under the Mineral Leasing Act.

PART II—OUTER CONTINENTAL SHELF

Sec. 341. Implementation of inventory of outer Continental Shelf resources.

This section amends Sec. 357 of the Energy Policy Act of 2005 to require the Secretary of the Interior to conduct a 2-D and 3-D seismic inventory of oil and gas for Outer Continental Shelf (OCS) waters in the Atlantic Region, the Eastern Gulf of Mexico and the Alaska Region based on existing inventories and maps. The inventory will be conducted in three phases completed over six years. There will be $100 million authorized annually for fiscal years 2010 to 2015 and $50 million annually for fiscal years 2016 to 2020 for these purposes.

Sec. 342. Alaska OCS permit processing coordination office.

This section establishes a regional joint OCS lease and permit processing office for the Alaska OCS region through a memorandum of understanding among the Departments of Interior and Commerce and the Environmental Protection Agency as well as other federal agencies with roles in the permitting process with an authorization for $2 million for each fiscal year 2009 to 2019 for these purposes.

Sec. 343. Moratorium of oil and gas leasing in certain areas of the Gulf of Mexico.

This section amends Sec. 104 of the Gulf of Mexico Energy Security Act (GOMESA) of 2006 by striking the section of GOMESA that bans through 2022 oil and gas leasing within 125 miles of the coast of Florida and replaces it with a prohibition on OCS oil and gas leasing within 45 miles of the Florida coast until June 30, 2022, except for the Destin Dome Area and the Pensacola area. This section requires that the Minerals Management Service offer for lease this newly opened OCS area within 180 days of the completion of required environmental reviews notwithstanding the area's exclusion from the Minerals Management Service's five-year OCS leasing plan.

Sec. 344. Repeal of outer Continental Shelf deep water and deep gas royalty relief.

This section repeals Sec. 344 and Sec. 345 of the Energy Policy Act of 2005, which offered royalty relief for natural gas production from deep wells in the shallow waters of the Gulf of Mexico and deep water production.

PART III—MISCELLANEOUS

Sec. 351. Minerals Management Service

This section amends Title III of the Federal Oil and Gas Royalty Management Act of 1982 by adding at the end the following:

"Sec. 310. Minerals Management Service.

This section makes the Director of the Minerals Management Service a Senate-confirmed position.

Sec. 352. Preservation of geological and geophysical data.

This section amends Sec. 351(k) of the Energy Policy Act of 2005 to extend authorization of appropriations of this section from 2010 to 2020.

Sec. 353. Alaska natural gas pipeline.

This section amends Sec. 116 of the Alaska Natural Gas Pipeline Act to extend the period of eligibility for a loan guarantee to 180 days after the resolution of any reopening, contest, or other proceeding relating to the certificate of public convenience for an Alaska natural gas pipeline, to extend loan guarantee eligibility to additional pipeline infrastructure, to increase the amount of loans that can be guaranteed from $18 billion to $30 billion, and to apply guarantees to not less than 80% of total capital costs.

Sec. 354. Denali National Park and Preserve natural gas pipeline.

This section allows the Secretary of the Interior to issue right-of-way permits for a natural gas pipeline in certain non-wilderness areas of Denali National Park.

Sec. 355. Exemption of trans-Alaska oil pipeline system from certain requirements.

This section amends the Trans-Alaska Pipeline Authorization Act by adding at the end the following section:

"Sec. 208. Exemption of Trans-Alaska Oil Pipeline System from Certain Requirements.

This section allows the Secretary of the Interior to identify up to three sections of the trans-Alaska pipeline for possible designation as historic sites.

Sec. 356. Procurement and acquisition of alternative fuels.

This section amends Sec. 526 of the Energy Independence and Security Act of 2007 by adding the following section:

"Sec. 526. Procurement and Acquisition of Alternative Fuels.

This section prohibits federal agencies from purchasing alternative or synthetic transportation fuels (for purposes other than research and testing) unless the contract specifies that the lifecycle GHG emissions will be less than from conventional sources. These provisions do not apply if the contract does not specifically require the purchase of alternative fuels, the purpose of the contract is not to obtain fuel from a nonconventional fuel source, or the contract does not provide incentives for a refinery upgrade or allow a refinery to use fuel from a nonconventional petroleum source.

Sec. 357. Geologic Materials Archiving Grant Program.

This section establishes a grant program in the Department of the Interior for states, state geologic surveys, and regional consortiums to build, maintain, and operate geologic sample storage. There is an authorization of up to $100 million in appropriations, with the maximum grant to a state being $15 million.

Subtitle E—Public Land Renewable Energy Deployment

Sec. 361. Renewable energy Federal permit coordination.

This section amends Sec. 365 of the Energy Policy Act of 2005 to create pilot project offices to improve federal permit coordination for renewable energy, defined as wind, solar, or geothermal energy. The Secretary of the Interior is to designate one Bureau of Land Management office in each of 12 Western states to serve as a Renewable Energy Permit Coordination Office, under a memorandum of understanding with the Governor of the state. Funding for these coordination offices and staff comes from the federal share of royalties, fees, rentals, bonus bids, and other payments for wind and solar development on federal lands that are to be deposited in a BLM Wind and Solar Energy Permit Processing Improvement Fund in the Treasury, with additional funding authorized for $10 million each fiscal year 2009 to 2019.

Sec. 362. Extension of funding for implementation of Geothermal Steam Act of 1970.

This section amends Sec. 234 of the Energy Policy Act of 2005 to extend the use of rentals, royalties, and other payments required under leases under the Geothermal Steam Act of 1970 for implementation of that Act through fiscal year 2020.

Sec. 363. Programmatic environmental impact statements and land use planning.

This section requires the Secretary of the Interior, within 1 year of enactment, to complete a programmatic environmental impact statement to analyze the potential impacts of a program to develop solar energy on BLM lands and necessary amendments to relevant land use plans. The section also requires the Secretary to amend any land use plans necessary to provide for the development of renewable energy in areas considered appropriate by the Secretary. The Secretary of Agriculture is required to take the same steps for national forest lands.

Sec. 364. Report.

This section requires the Secretary of the Interior, in consultation with the Secretary of Agriculture, to enter into an arrangement with the National Academy of Sciences within 180 days under which the Academy will conduct a study on the siting, development, and management of wind and solar energy on BLM and USFS lands. The study will look at the current legal framework, the advantages and disadvantages of various policy options, and make recommendations. It must be completed, delivered to the secretaries, and submitted to Congress within 18 months.

Sec. 365. Renewable energy development on brownfield sites.

This section requires the Secretary, in conjunction with the EPA Administrator, to identify opportunities for renewable energy development on brownfield sites in partnership with the National Renewable Energy Laboratory, to provide publicly available resources identifying potential brownfield sites for development to stakeholders, to provide technical assistance to stakeholders to expedite energy production, and to hold regional stakeholder forums. The Secretary and Administrator are also required to submit a report to Congress within 1 year that includes proposals for Federal policies or incentives to encourage renewable energy production on brownfield sites and data on existing and potential job creation from, environmental benefits of, and energy production from renewable energy on brownfield sites.

Sec. 366. Development of solar and wind energy on public land.

This section requires the Secretary of the Interior to establish a wind and solar leasing pilot program within 180 days. Within 90 days of establishment, the Secretary will select two sites appropriate for each solar energy and wind energy development on DOI or USFS lands that are likely to receive a high level of industry interest and are representative of other federal lands likely to be developed. Within 180 days of selection, the sites will be offered for competitive leasing to qualified bidders. Within 90 days of the final lease sale, the Secretary must submit a report to Congress on the level of competitive interest and the bids and revenues received in each lease sale.

Within 30 months of enactment the Secretary will determine whether to establish a leasing program for wind or solar energy, of the program is in the public interest and provides an effective means of developing wind or solar energy on DOI and USFS lands. This decision must be made with consultation from other federal agencies, states, tribes, industry, the environmental community, and the public and considering the results of the pilot program. Final regulations to implement a program must be promulgated within 180 days of determination to establish a leasing program, or a report to Congress on why a program should not be established must be submitted within 60 days not to establish a leasing program. Rights-of-way for the development of wind and solar energy will continue to be issued until transitioned into the new leasing program.

If a leasing program is established it must use competitive bidding except in rare circumstances, ensure a fair return on leases to the US, require that lease holders meet eligibility requirements for leasing under the Mineral Leasing Act, be consistent with applicable land use planning, environmental, and other laws, and meet other requirements.

Subtitle F—Carbon Capture

Sec. 371. Large-scale carbon storage program.

This section amends Subtitle F of Title IX of the Energy Policy Act of 2005 by adding the following section:

"Sec. 963A. Large-scale carbon storage program.

This section orders the Secretary to enter into cooperative agreements to provide technical and financial assistance to up to ten demonstration projects for the commercial application of integrated capture, injection, monitoring, and long-term geological storage of CO_2 from industrial (i.e., anthropogenic) sources. For the purposes of this section large-scale means more than 1 million tons of CO_2 per year. The Secretary will select recipients of cooperative agreements competitively from applicants that provide sufficient geological site information, possess the necessary land or interests in land, posses or expect to obtain all relevant permits and authorizations, and agree with terms and conditions. These include compliance with federal and state laws; injection only of CO_2; compliance with well operating and construction requirements; measurement, monitoring, and testing to verify whether CO_2 is escaping or endangering water sources; compliance with well-plugging and closure requirements; compliance with long-term care requirements; and maintenance of financial protection at a required level.

In relation to the above terms and conditions, the Secretary, in consultation with the EPA Administrator, will determine whether the recipient of financial assistance has demonstrated continuous compliance over at least 10 years after the stored CO_2 has stabilized in a number of areas. These compliance areas include that the estimated location and project footprint have not substantially changed, the injection zone formation pressure has ceased to increase, there is no leakage of CO_2 or formation fluid that is endangering public health or drinking water, the injected or displaced formation fluids are not expected to migrate in the future leading to potential leakage, and the injection zones have been plugged and abandoned in accordance with applicable laws.

The Secretary may agree to indemnify and hold harmless the recipient of a cooperative agreement from liability resulting from a demonstration project in excess of the amount of financial protection maintained. The Secretary will also collect a risk-based fee from persons with whom an agreement for indemnification is made. The total amount of indemnification will not exceed $10 billion (inflation-adjusted).

Sec. 372. Training program for State and Tribal agencies.

This section requires the Secretary, in consultation with the EPA Administrator and the Secretary of Transportation to establish a program to provide grants for state and tribal agency employee training for permitting, management, transportation, inspection, and oversight of carbon capture, transportation, and storage projects. There is an authorization of $10 million for each fiscal year 2010 to 2020 for these purposes.

Sec. 373. Carbon dioxide capture technology prize.

This section amends Sec. 1008 of the Energy Policy Act of 2005 to create a prize to encourage the development and implementation of technology to capture CO_2 from dilute sources on a significant scale using direct air capture technology. Within one year, the Secretary is required to establish and award competitive technology financial awards. It also establishes a Carbon Dioxide Capture Technology Board of nine appointed experts to advise the Secretary. An annual report to Congress is required on progress towards demonstration goals and the necessary level of funding. Appropriations as necessary are authorized, and the prize terminates in 2020.

Subtitle G—Island Energy

Sec. 381. Affiliated island energy independence team.

This section requires the Secretary of Energy, assisted by other agencies, to form a team of experts to work with the utilities and governments of each designated affiliated island (e.g., Puerto Rico, Guam, Micronesia, etc.) to develop an energy Action Plan. The plan should include actions related to improving energy efficiency and utilizing indigenous sources of clean energy.

TITLE IV—ENERGY INNOVATION AND WORKFORCE DEVELOPMENT

Subtitle A—Funding

Sec. 401. Authorization of appropriations for energy research, development, demonstration, and commercial application activities.

This section authorizes appropriations for energy research, development, demonstration, and commercial application activities. These include a number of energy efficiency and conservation measures, distributed energy and electric energy system activities, and renewable energy research and deployment. Appropriation amounts begin at $1,974,000,000 in 2010 and gradually increase to $3,258,000,000 in 2013. Sections of the Energy Policy Act of 2005 are also amended to include additional funding for nuclear energy ($998,000,000 in 2010, increasing each year up to $1,592,000,000 in 2013) and fossil energy programs ($1,074,000,000 in 2010, increasing each year up to $1,668,000,000 in 2013) as well as funding for the Office of Science ($5,800,000,000 in 2010, increasing each year up to $8,046,427,000 in 2013).

Subtitle B—Grand Energy Challenges Research Initiative

Sec. 411. Grand Energy Challenges Research Initiative.

This section establishes a Grand Energy Challenges Research Initiative for the purposes of accelerating the solutions to "grand energy challenges" through a multidisciplinary RD&D approach. DOE will award grants to or enter into cooperative agreements with research consortia meeting certain membership criteria and that can demonstrate a plan for meeting at least one of the grand energy challenges identified in the Act.

Subtitle C—Improvements to Existing Energy Research and Development Programs

Sec. 421. Advanced Research Projects Agency—Energy.

This section amends Sec. 5012 of the America COMPETES Act by allowing ARPA-E to initiate and execute grants, contracts, cooperative agreements, and other transactions separate from DOE.

Sec. 422. Domestic vehicle battery manufacturing research.

This section amends the United States Energy Storage Competitiveness Act of 2007 by requiring the Secretary to conduct a research program on manufacturing batteries and battery systems to support electric drive vehicles to enable higher quality and less expensive energy batteries for electric vehicles.

Sec. 423. Lightweight materials research and development.

This section amends Sec. 651 of the Energy Independence and Security Act of 2007 to authorize appropriations of $100,000,000 for fiscal years 2010 through 2013.

Sec. 424. Amendments to the Methane Hydrate Research and Development Act of 2000.

This section amends Sec. 2 of Methane Hydrate Research and Development Act of 2000 by recognizing methane as a GHG gas that may have significant environment effects, including global climate change. Sec. 4 of the Act is also amended to allow the Secretary to award grants or enter into contracts or cooperative agreements to develop methane hydrate as a commercially viable source of energy and authorize appropriations from 2011 to 2015. This section also adds the following section:

"Sec. 7. Authorization of Appropriations.

This section appropriates $60,000,000 starting for fiscal year 2011, increasing to $90,000,000 for fiscal year 2015, to carry out section 4(b)(1), and appropriates $10,000,000 for each of fiscal years 2010 through 2015 to carry out section 4(b)(2).

Sec. 425. Program to exploit low-Btu gas and conserve helium resources.

This section defines low-Btu gas as fuel gas with a heating value of less than 250 Btu per cubic foot measured. The Secretary shall support programs of research, development, commercial applications, and conservation to expand the domestic production of low-Btu gas and helium resources.

Sec. 426. Office of Arctic Energy.

This section amends Title II of the Department of Energy Organization Act by adding at the end the following:

"Sec. 218. Office of Arctic Energy.

This section establishes an Office of Arctic Energy to promote research, development, and deployment of electric power technology that is cost-effective and especially well-suited to the arctic regions. This section also authorizes appropriations of $15 million for fiscal year 2010, $20 million for fiscal year 2011, and $22.5 million for fiscal year 2012 and thereafter.

Sec. 427. Ultra-deepwater and unconventional natural gas and other petroleum resources program.

This section amends Sec. 999A(a) of the Energy Policy Act of 2005 by establishing the Unconventional Domestic Natural Gas and Other Petroleum resources Program to undertake R&D not likely otherwise to be undertaken in the absence of support from the program.

Sec. 428. Renewable energy deployment.

This section amends Sec. 803 of the Energy Independence and Security Act to establish a national renewable energy construction grants program with available funds and to add projects that improve the efficiency or generating capacity at existing hydroelectric power generating facilities to the list of eligible projects.

Subtitle D—Energy Workforce Development

Sec. 431. Best practices for energy career academies.

This section amends Sec. 3164 of the Department of Energy Science Education Enhancement Act by directing the Director of Science, Engineering, and Mathematics Education to disseminate best practices for career pathway programs at public secondary schools.

Sec. 432. Energy career academies.

This section amends the Department of Energy Science and Education Enhancement Act by inserting the following:

"Sec. 3168. Energy career academies.

This section establishes a program of grants to state education agencies to help local education agencies create or expand energy career academies. A Director shall ensure a wide, equitable distribution of grants among regions of the U.S.; states must submit applications for grant funding, including a plan for how the funds will be used to support proposed career academies; and a status report to Congress no later than 2 years after the enactment of this Act.

Sec. 433. Energy utility technician program for community colleges.

This section amends the Protecting America's Competitive Edge through Energy Act by adding the following:

"Sec. 5006. Energy Utility Technician Program For Community Colleges.

This section establishes a program to expand and enhance the educational capabilities of community colleges to prepare students for careers as technicians in fields relevant to the energy utility industry, including nuclear utilities. Community colleges that establish or expand academic degree programs in the energy utility trades are eligible for competitive grants based on a number of criteria. Grants can be made in amounts of up to $500,000 for each grant year, up to five years.

Sec. 434. Student awareness of energy career opportunities.

This section amends Sec. 1101 of the Energy Policy Act of 2005 to provide secondary and postsecondary school students with information on careers in energy technology industries.

Sec. 435. Coordination of energy workforce training programs.

This section requires that no later than 1 year after enactment of this Act, the Director of the Office of Science and Technology Policy to submit to Congress a report that surveys energy workforce training programs funded by the federal agencies. This plan shall plan a coordinated federal strategy for supporting the training of a domestic workforce to support the production, transmission, and use of energy in the United States.

Sec. 436. Direct hire authority.

This section allows the Secretary to make direct hires of scientists, engineers, and technical personnel critical positions needed to carry out the functions of DOE.

Sec. 437. Critical pay authority.

This section grants authority to the Secretary to establish, fix the pay of, and appoint individuals to critical positions in DOE meeting certain criteria. The term of an appointment may not

exceed 4 years, and an individual appointed may not have been a DOE employee within the 2 years prior to appointment.

Sec. 438. Reemployment of civilian retirees.

This section grants authority to the Secretary to reemploy civilian retirees, who are necessary to carry out a critical function at DOE for which suitable candidates do not exist, without reduction of annuity.

Sec. 439. Sustainable energy training program for community colleges.

This section directs the Secretary of Energy and Secretary of Labor to carry out a joint sustainable energy workforce training and education program that awards grants to community and tribal colleges to provide workforce training and education in alternative energy, energy efficiency, and sustainable energy technologies. The section would appropriate $100,000,000 for each of the fiscal years 2010 through 2015.

Sec. 440. Advisory committee on energy utility workforce development.

This section establishes an advisory committee on energy utility workforce development within 90 days of enactment made up of individuals representative and knowledgeable of relevant workforce fields that will make annual reports on the adequacy of and recommendations for relevant DOE programs.

Subtitle E—Strengthening Education and Training in the Subsurface Geosciences and Engineering for Energy Development

Sec. 451. Definitions.

This section defines terms for this subtitle.

Sec. 452. Policy.

The section states that it's the U.S. policy to maintain and expand the human capital needed to preserve and foster the security of economically viable clean energy, ground water, mineral resources of the U.S. through financial assistance for science and technology programs that educate, train, and retrain the needed personnel.

Sec. 453. Research personnel and programs.

The section directs the Secretary to provide research funds to institutions of higher education to assist recognized programs in subsurface geosciences and engineering, including programs in energy (including geological carbon storage), petroleum, ground water, economic geology, mining, and mineral and geological engineering education and research. Research conducted

using these funds shall include studies and research to: enhance basic science and engineering; provide data to test and improve scientific or engineering hypotheses; and determine scientific or engineering feasibility to enhance discovery, deployment, and production of energy, ground water, and mineral resources while minimizing environmental impacts. In some cases, the Secretary may provide funds to consortia to support broader national or regional projects in subsurface geosciences or engineering.

Sec. 454. Scholarships and fellowships.

This section directs the Secretary to provide funds to institutions of higher education with recognized programs for the purpose of providing merit-based scholarships for undergraduate geosciences or engineering education. Preference for awarding scholarships and fellowships shall be given to veterans of the Iraq or Afghanistan wars.

Sec. 455. Career technical and community college education.

This section directs the Secretary to support programs (through funding to qualifying institutions) in subsurface geosciences and engineering that: are focused on technology or skills development; prepare students for advanced or supervisory roles; grant degrees; prepare students for further higher education; and support other disciplines that provide essential support for these industries.

Sec. 456. Use of funds by institutions.

This section describes cost-sharing provisions for research activities that are of a basic or fundamental nature; support any scholarship or fellowship program; and require appropriate cost-sharing for R&D activities that are of an applied, demonstration, or commercial nature. No funds made available from this subtitle shall be applied to: the acquisition of land by purchase or lease; or the rental, purchase, construction, preservation, or repair of any building. Funds from this fund may be used to: maintain or upgrade (with the express approval of the Secretary) existing laboratories, lab equipment, or field equipment related to the funded research; and for maintaining and upgrading mines and oil and gas drilling rigs.

Sec. 457. Advisory Committee.

This section directs the Secretary to establish an Advisory Committee on Geosciences and Geoengineering Education to provide advice on carrying out this subtitle. The committee will be compromised of 19 voting members, including the Deputy Secretary of the Interior, and 18 appointees from a range of institutions including universities and other educational institutions, industry, and other relevant fields, who cannot be employees of the federal government. The term of appointment shall be 3 years. The Committee will formulate and recommend a national plan for using the fiscal resources provided under this subtitle.

Sec. 458. Office; regulations.

This section allows the Secretary of the Interior to establish an office dedicated to carrying out this subtitle.

Sec. 459. Authorization of appropriations.

This section authorizes appropriations of $200 million for each of fiscal years 2010 through 2020 to fund this subtitle.

Sec. 460. Study of availability of skilled workers.

This section amends Sec. 1830 of the Energy Policy Act of 2005 to read as follows:

> **"Sec. 1830. Study of Availability of Skilled Workers.**

This section require the Secretary of the Interior to work with the Secretary of Labor and the National Academies to conduct a study of the short-term and long-term availability of skilled workers to meet the energy and mineral security requirements (including in the oil, natural gas, coal, nonfuel mineral, ground water, nuclear, geothermal, solar, wind, and electric utility industries). $2,000,000 will be appropriated to carry out this study, which is due to Congress before the end of the 2012 calendar year.

Subtitle F-Wind Energy Research and Development

Sec. 461. Wind energy research and development program.

This section requires the Secretary to carry out a research and development program to consider technologies to advance wind energy generation.

Sec. 462. Wind energy demonstration program.

This section orders the Secretary to carry out a wind energy demonstration program for highly innovative land-based wind designs. The program must demonstrate performance under the full productive range of conditions of the U.S., in collaboration with industry and academic institutions, in various geographic areas, and collect data useful for the program in Sec. 461.

Sec. 463. Offshore wind energy research and development program.

This section orders the Secretary to establish an offshore wind energy research and development program to demonstrate highly innovative designs to improve efficiency, reliability, and capacity and to reduce associated costs. The program will support design, demonstration, and deployment of wind turbine foundations and components for shallow, transitional, and deep offshore waters; full-scale testing and regional demonstrations with a publically accessible database on environmental impacts and benefits, siting and permitting

issues, exclusion zones, and transition needs; design, demonstration, and deployment of integrated sensors, actuators, and advanced materials; advanced blade manufacturing activity; methods to assess and mitigate the effects on marine ecosystems and industries; and other areas.

Sec. 464. National offshore wind research, development, and demonstration centers.

This section requires the Secretary to establish one or more national offshore wind centers through grants to institutions of higher education. These centers will be designed to focus on deepwater floating offshore wind energy technologies and to facilitate the conduct of initiatives to advance the activities of the offshore wind energy research and development program in Sec. 463.

Sec. 465. Equal opportunity.

This section requires the Secretary to provide special consideration to applications from institutions, businesses, or entities containing individuals identified in the Science and Engineering Equal Opportunities Act and to coordinate with the relevant DOE equal opportunity office.

Sec. 466. Competitive awards.

This section requires that awards in this subtitle be made on a competitive basis with an emphasis on technical merit.

Sec. 467. Coordination and nonduplication.

This section requires that the Secretary coordinate activities under this subtitle with other Federal research programs.

Sec. 468. Small business allocation.

This section provides a sense of the Senate that the Secretary should make a certain percentage of awards under Sec. 461 and Sec. 462 available to small businesses.

Sec. 469. Funding.

This section orders funding of this subtitle through the authorizations contained in Sec. 401.

Subtitle F—Miscellaneous

Sec. 471. Other transactions authority.

This section amends Sec. 646 of the Department of Energy Organization Act by giving the Secretary of Energy additional authority to enter into transactions with public agencies, private organizations, or other persons to further functions vested in the Secretary, such as RD&D. The section is intended to facilitate the use of "nontraditional government contractors" by DOE.

Sec. 472. Future-years Department of Energy Program.

This section amends Part C of Title VI of the Department of Energy Organization Act by adding:

"Sec. 664. Future-years Department of Energy Program.

This section requires the President to submit a budget for the four succeeding fiscal years to Congress when submitting the annual budget.

Sec. 474. Solid-state lighting manufacturing.

This section amends Sec. 912(b) of the Energy Policy Act of 2005 to add manufacturing support to the mission of the Next Generation Lighting Initiative.

Sec. 475. Merit review of proposals.

This section amends Sec. 989(b) of the Energy Policy Act to open competitive grants in the Act to other federal agencies and consortia of other entities.

Sec. 476. Report on workforce trends.

This section amends Sec. 1101(b)(2) of the Energy Policy Act to extend the annual reporting on workforce trends and skill shortages though fiscal year 2020.

Sec. 473. Definition of National Laboratory.

This section amends Sec. 2(3) of the Energy Policy Act of 2005 by updating the name of the SLAC National Accelerator Laboratory.

Sec. 477. Protection of results.

This section authorizes the Secretary of Energy to protect information developed through a transaction entered into by DOE for up to 5 years.

Sec. 478. Marine and hydrokinetic renewable energy research and development.

This section amends Sec. 633(a) of the Energy Independence and Security Act of 2007 by providing assistance and incentives to develop open standards for marine hydrokinetic energy renewable energy. The section also established a marine-based energy device verification

program to fund, facilitate the development and installation of, and evaluate marine and hydrokinetic renewable energy projects, in partnership with Federally Funded Research and Development Centers, and in conjunction with universities and other institutions of higher education, private business entities, and other appropriate organizations. The section appropriates $250,000,000 for each of fiscal years 2010 through 2021.

TITLE V—ENERGY MARKETS

Sec. 501. Enhanced information on critical energy supplies.

This section amends Sec. 205 of the Department of Energy Organization Act by to require the development of a plan within 120 days after enactment to collect information identifying all oil inventories, and other physical oil assets (and petroleum-based products), that are owned by the 50 largest traders of oil contracts. Additionally, not later than 90 days after enactment, the EIA shall annually collect information quantifying U.S. storage capacity for commercial oil and gas. The section also establishes a Financial Market Analysis Office within the EIA. The office shall be responsible for the analysis of financial aspects of the energy market, review the reports required by Sec. 503 of this bill, and provide recommendations to improve the ability of EIA to more fully integrate financial market information into the analyses and forecasts of the EIA.

Sec. 502. Working Group on Energy Markets.

This section establishes a Working Group on Energy Markets who shall investigate the effects of increased financial investment in energy commodities on energy prices and the energy security of the U.S., recommend laws that may be needed to prevent excessive speculation on energy prices, and review energy security implications of developments in international energy markets.

Sec. 503. Study of regulatory framework for energy markets.

This section requires the Working Group to conduct a study and a final report 1 year after the date of enactment of this bill to identify the factors affecting crude oil and refined petroleum products, including an examination of the effects of market speculation on prices, and to review and assess existing statutory authorities and the need for additional statutory authorities to oversee and regulate markets critical to energy security.

Sec. 504. Metadata formats for energy prices.

This section requires most up-to-date electricity tariffs to be available in an online format that can be read and manipulated by retail rate utility customers. The section also expands the Tariff Analysis Project to allow individuals and institutions other than the Lawrence Berkeley National

Laboratory to enter tariff data. The Secretary and FERC will coordinate to develop metadata formats no later than 14 months after the date of enactment of this Act.

Sec. 505. Emergency orders under the Federal Power Act.

This section amends Sec. 202 of the Federal Power Act to allow the wholesale electric market Commission to order the temporary suspension or modification of any rate, term, or condition of service on file with the Commission to ensure reliability of service to electric consumers and to protect consumers from potential abuses of market power or market manipulation.

Sec. 506. Cease-and-desist authority under the Federal Power Act.

This section amends Sec. 222 of the Federal Power Act to allow the Commission to issue cease-and-desist orders if an entity has, is, or will manipulate any market for the sale of electric energy at wholesale in interstate commerce.

Sec. 507. Cease-and-desist authority under the Natural Gas Act.

This section amends Sec. 4A of the Natural Gas Act by inserting the following:

> **"Sec. 4A. Prohibtion on Market Manipulation.**

This section allows the Commission to issue cease-and-desist orders if an entity has, is, or will manipulate any market for the sale of natural gas at wholesale in interstate commerce.

Sec. 508. De novo review of civil penalties under the Natural Gas Act.

This section amends Sec. 22(b) of the Natural Gas Act by inserting ", in accordance with the same provisions as are applicable under Sec. 31(d) of the Federal Power Act in the case of civil penalties assessed under Sec. 31 of the Federal Power Act."

TITLE VI—POLICY STUDIES AND REPORTS

Sec. 601. Helium gas resource assessment.

This section authorizes appropriations of $10,000,000, for the period of fiscal years 2010 through 2012, to complete a comprehensive national helium gas assessment that identifies and quantifies the quantity of helium in each reserve.

Sec. 602. Potash mineral resource assessment.

This section requires USGS to complete a comprehensive survey that identifies and quantifies the quantities of potash using both public and private information and datasets no later than 2 years after the date of enactment of this Act.

Sec. 603. Better energy strategy for tomorrow.

This section amends Sec. 801 of the Department of Energy Organization Act to analyze the policies of the federal government that encourage, or have the potential to encourage, energy production and energy efficiency in the U.S, reduction or sequestration of greenhouse gases, and the reduction of air pollutants in the environment. The National Academies of Science shall prepare reports and analyses that may contribute to the development of the National Energy Policy Plan. This section adds at the end the following:

"Sec. 803. Authorization of Appropriations.

The section allows the President to appropriate such sums necessary to carry out this title.

Sec. 604. Addressing climate change in China and India.

This section requires that no later than 6 months after enactment of the Act, a report be prepared by an interagency task force to report on climate change and energy policy in the People's Republic of China and in the Republic of India. The report shall evaluate and include the national and subnational plans, policies, programs, laws, regulations, incentive mechanisms, and other measures that are expected to have resulted in a reduction of GHG emissions; estimates of energy used and GHG emissions; a description of methods and tools used for collecting and data; an assessment of the state of knowledge of international, Chinese, and Indian best and current technologies related to energy and GHG emissions; and recommendations.

Sec. 605. Carbon leakage mitigation study.

This section requires that no later than 120 days after enactment of this Act, the Secretary shall conduct a study to characterize the relative risk of carbon leakage and changes in output and investment in U.S. industrial sectors caused by a cap-and-trade program. No later than 180 days, but no earlier than the date of submission of the report, the Secretary must determine appropriate policy measures (emission allowance allocations, border tax adjustments, or other measures) to prevent carbon leakage.

Sec. 606. Study of foreign fuel subsidies.

This section requires a report no later than 18 months after enactment of this Act on foreign fuel subsidies, including impacts on global energy supplies, demand, and recommendations for action.

Sec. 607. Assessment of renewable energy resources.

This section amends Sec. 201(b) of the Energy Policy Act of 2005 to require an assessment of the market penetration of each renewable energy resource that could be accomplished by January 1, 2030.

Sec. 608. Efficiency review of electric generation facilities.

This section requires a report no later than 120 days after enactment of this Act to quantify the efficiencies of, and annual carbon dioxide and other emissions from, electric generation facilities in the U.S. The data must be used in an aggregate manner that does not allow the identity of who supplied the information to be discernible. The report shall indentify technologies, equipment, and processes that could increase efficiency; identify obstacles preventing/obstructing the adoption of energy efficiency; identify legislative policies that could reduce obstacles; and calculate emission reductions from the adoption of energy efficiency.

Sec. 609. Report on emissions of alternative transportation fuels.

This section requires the Secretary to carry out R&D programs to evaluate use of alternative transportation fuels and blends for heavy-duty and light-duty diesel engines and the aviation sector and the price for consumers; evaluate the effects of using such fuels; and produce a report, no later than 180 days after enactment of this Act on the effect on air quality and public health of using alternative fuels in the transportation sector.

Sec. 610. Oil savings.

This section finds that the U.S. remains the most oil-dependent industrialized nation of the world; imports more oil from the Middle East today than before 9/11; and must take transformative steps to wean itself from its addiction to foreign oil. Reducing our dependence alleviates our dependence on foreign oil-producing countries, reducing vulnerability of the U.S., and reduces GHG emissions associated with oil use. No later than 270 days after the enactment of this Act, and every 3 years thereafter; an interagency task report shall submit a Oil Savings Report that describes options for agency action that would reduce usage during calendar year 2016 (from a baseline average of 2.5 million barrels of oil per day); 7 million barrels of oil per day on average during average calendar year 2026; and 10 million barrels of oil per day on average during calendar year 2009. The report also requires analysis of the expected oil savings for all federal agencies. The section also requires an annual report on oil savings measures that estimates the quantity of oil actually saved by the oil savings measures implemented by the federal government in the prior year.