

**SUMMARY OF ELECTRICITY-RELATED PROVISIONS
IN H.R. 6
“ENERGY INDEPENDENCE AND SECURITY ACT OF 2007”
P.L. 110-140
DECEMBER 19, 2007**

Title I – Energy Security Through Improved Vehicle Fuel Economy

Subtitle A – Increased Corporate Average Fuel Economy Standards

Sec. 109. Extension of Flexible Fuel Vehicle Credit Program. Electric automobiles are excluded from the program by specific reference.

Subtitle B – Improved Vehicle Technology

Sec. 131. Transportation Electrification. Authorizes a Department of Energy (DOE) Plug-In Electric Drive Vehicle Program of competitive grants to state, local and municipal governments, businesses and others for projects to encourage the use plug-in electric drive vehicles and other emerging electric vehicle technologies.

Directs DOE to establish, within one year, and in consultation with the Environmental Protection Agency (EPA) and Department of Transportation (DOT), a Near Term Transportation Electrification Program of grants for “qualified electric transportation projects” (i.e., non-road electric drive projects). Priority is given to large scale projects and aggregators.

Establishes a DOE national electric drive transportation technology education program that includes development of secondary school teaching materials and higher education program assistance relating to electric drive systems and component engineering; financial assistance to support engineering degree programs.

Sec. 132. Domestic Manufacturing Conversion Grant Program. Amends the Energy Policy Act of 2005 (EPAct 05) Section 712 program to encourage domestic production and sales of efficient hybrid and advanced diesel vehicles and components. Program authorizes grants to manufacturers, suppliers of fuel efficient vehicles (hybrids, plug-in hybrids and advanced diesel) and parts; priority to retooling or refurbishing recently, or soon to be, closed facilities. DOT may coordinate with existing state and local programs, including working retraining programs. Authorizes such sums as are necessary.

Sec. 133. Inclusion of Electric Drive in Energy Policy Act of 1992. Revises EPAct 1992 Section 508 fleet requirements to explicitly include electric drive (fuel cell, hybrid, plug-in hybrid, medium and heavy duty [HEVs] and neighborhood [NEVs]) and investment in alternative fuel infrastructure or non-road equipment, as eligible compliance technologies. By 2009, DOE is directed to allocate credits for acquisition of these vehicles and investments.

Credits authorized (between 1 and 5, as determined by DOE) for investment in emerging vehicle technologies that reduce petroleum demand and emissions.

Sec. 134. Loan Guarantees for Fuel-Efficient Automobile Parts Manufacturers. Further modifies EPCA 05 Section 712 to allow “loan guarantees under Section 1703” (the EPCA05 loan guarantee program) for production facilities for fuel efficient vehicles and parts, including electric drive and advanced diesel.

Sec. 135. Advanced Battery Loan Guarantee Program. Provides loan guarantees for construction of facilities to manufacture advanced vehicle batteries and battery systems that are developed and produced in the U.S., including lithium ion batteries, hybrid electrical systems, component manufacturing and software design.

Sec. 136. Advanced Technology Vehicles Manufacturing Incentive Program. Provides grants for up to 30 percent of the cost of re-equipping or establishing advanced technology vehicle and component manufacturing facilities, equipment investment (including manufacturing process development) and engineering integration. “Advanced vehicles” must meet Bin 5 Tier II, any Clean Air Act standard for fine particulate matter, and achieve at least 125% of the average base year combined fuel economy for vehicles with similar attributes. For plug-in electric drive vehicles, combined fuel economy means the reported mileage as determined in a manner consistent with SAE-recommended practice for that configuration or similar practice recommended by DOT.

Directs DOT, within a year, to carry out a program providing up to \$25 billion, subject to appropriation, in direct loans to eligible individual and entities for advanced vehicles and parts manufacturing and engineering integration.

Subtitle C – Federal Vehicle Fleets

Sec. 141. Federal Vehicle Fleets. Amends Section 303 of EPCA 92 to require that all federal agency vehicle purchases of light or medium duty vehicles must be “low greenhouse gas emitting vehicles,” as determined by EPA. Exceptions are provided where the agency certifies that no such vehicle that meets the agency’s functional needs is available or that the agency has taken alternative more cost-effective measures to reduce petroleum consumption that will result in equal or greater reductions in greenhouse gas emissions. EPA guidance is to be based on the most stringent greenhouse gas standards applicable to automobile manufacturers. No vehicle can be certified as a low greenhouse gas emitting vehicle that emits greenhouse gases at a higher rate than such standards for the manufacturer’s fleet average grams-per-mile of carbon-dioxide equivalent emissions for that class of vehicle.

Sec. 142. Federal Fleet Conservation Requirements. Requires DOE to issue federal fleet regulations to achieve, beginning in 2010, reduced petroleum consumption and increased alternative fuel consumption such that by 2015, and every year after, each agency achieves a 20% petroleum reduction and a 10% increase in alternative fuel consumption, using a 2005 baseline. Measures that may be used to meet the goal include acquisition of higher fuel economy vehicles, including hybrids, NEVs and plug-in hybrids.

Title II – Energy Security Through Increased Production of Biofuels

Subtitle A – Renewable Fuel Standard

Sec. 206. Study of Credits for Use of Renewable Electricity in Electric Vehicles. Within 18 months of enactment, EPA study and report to Congress on the feasibility of issuing credits under Sec. 211(o) of the Clean Air Act to electric vehicles powered by electricity produced from renewable energy sources. Report of study results shall include descriptions of: (1) existing programs and studies on the use of renewable electricity as a means of powering electric vehicles; and (2) alternatives for—(A) designing a pilot program to determine the feasibility of using renewable electricity to power electric vehicles as an adjunct to a renewable fuels mandate; (B) allowing the use, under the pilot program, of electricity generated from nuclear energy as an additional source of supply; (C) identifying the source of electricity to power electric vehicles; and (D) equating specific quantities of electricity to quantities of renewable fuel under section 211(o) of the Clean Air Act.

Subtitle B – Biofuels Research and Development

Sec. 227. Study of Optimization of Biogas Used in Natural Gas Vehicles. DOE study, in consultation with EPA and DOT, of methods of increasing the fuel efficiency of vehicles using biogas by optimizing natural gas vehicle systems that can operate on biogas, including the advancement of vehicle fuel systems and the combination of hybrid-electric and plug-in hybrid electric drive platforms with natural gas vehicle systems using biogas.

Subtitle C – Biofuels Infrastructure

Sec. 245. Study of the Adequacy of Transportation of Domestically-Produced Renewable Fuel by Railroads and Other Modes of Transportation. Requires DOE, in coordination with DOT, to study and report to Congress within 180 days of enactment on the adequacy of transportation of domestically-produced renewable fuels by railroad and other modes of transportation. Scope of study includes rail infrastructure, cost, competition, service and regulatory issues that are also of concern to many electric utility rail shippers.

Title III – Energy Savings Through Improved Standards for Appliance and Lighting

Subtitle A – Appliance Energy Efficiency

Sec. 301. External Power Supply Efficiency Standards. Codifies test procedures for Class A External Power Supplies and sets efficiency standards for Class A External Power Supplies that take effect on July 1, 2008. The efficiency standards show maximum wattage allowed in the active mode and in the no-load mode, based on nameplate output. Standards to be reviewed in 2011 and 2015.

Sec. 302. Updating Appliance Test Procedures. Amends Section 323 of EPCA to mandate that DOE review appliance energy efficiency test procedures for all “covered” residential and commercial/industrial products at least once every 7 years.

Sec. 303. Residential Boilers. Amends Section 325 of EPCA to mandate new efficiency standards for residential gas hot water boilers, gas steam boilers, oil hot water boilers, oil steam boilers, electric hot water boilers, and electric steam boilers, effective September 1, 2012. The standards mandate higher minimum Annual Fuel Utilization Efficiency (AFUE) and also mandate equipment design requirements (no constant burning pilot lights and/or automatic means for adjusting temperature).

Sec. 304. Furnace Fan Standard Process. Amends EPCA to require DOE to complete a rulemaking on energy efficiency standards for furnace fans by December 31, 2013.

Sec. 305. Improving Schedule for Standards Updating and Clarifying State Authority. Amends Section 325 of EPCA to mandate that DOE reconsider energy efficiency standards within 6 years of publishing a final rule. Within the 6 year time frame, DOE must either publish a determination that standards for the product do not need to be amended, or publish a Notice of Proposed Rulemaking (NPR) that includes new proposed standards. DOE to provide progress reports to Congress every 180 days.

Sec. 306. Regional Standards for Furnaces, Central Air Conditioners, and Heat Pumps. Authorizes DOE to set regional energy efficiency standards for furnaces (except boilers), central air conditioners, and heat pumps.

Sec. 307. Procedure for Prescribing New or Amended Standards. Amends Section 325(p) of EPCA by striking paragraph 1 and renumbering paragraphs 2 through 4 as 1 through 3. (Section 308, below, creates a new paragraph 4.)

Sec. 308. Expedited Rulemakings. Allows DOE to expedite a final rule when relevant stakeholders submit a consensus position regarding new standards.

Sec. 309. Battery Chargers. For all external power supplies not covered by Section 301, DOE is required to issue a determination on energy efficiency standards within 2 years of the publication of this subsection. Also requires DOE to issue a final rule on energy efficiency standards for battery chargers by July 1, 2011, unless no standard is technically feasible and economically justified.

Sec. 310. Standby Mode. This section amends Section 325 of EPCA to require that by 2010 (and earlier for some products) the efficiency test procedures for all federally covered products include standby mode and off mode energy consumption, unless technically infeasible. In that case, DOE shall prescribe a separate standby mode and off mode energy use test procedure for that product, if technically feasible.

Sec. 311. Energy Standards for Home Appliances. This section mandates new federal energy efficiency standards and rulemakings for the following products:

Residential Dehumidifiers – New standards take effect on October 1, 2012. The efficiency metric is liters / kWh based on product capacity (pints/day).

Residential Clothes Washers – Section 325(g) of EPCA is amended to mandate that clothes washers have a Modified Energy Factor of 1.26 and a Water Factor of 9.5 as of January 1, 2011.

Residential Dishwashers – New standards take effect on January 1, 2010. The new standards for standard dishwashers will be a maximum of 355 kWh/year and 6.5 gallons of water used per cycle.

Residential Refrigerators and Freezers – Amends EPCA Section 325(b) to mandate that DOE publish a final rule on whether to amend current standards by December 31, 2010. If DOE decides to amend the standards, the new standards will take effect on January 1, 2014.

Sec. 312. Walk-In Coolers and Walk-In Freezers. Amends EPCA Section 340 to define and mandate standards for commercial walk-in coolers and freezers; excludes products used exclusively for medical, scientific, or research purposes. Mandates design requirements that take effect on January 1, 2009, which specify requirements for automatic door closers; insulation for walls, ceilings, doors, and floors; evaporator fan motors under 1 horsepower; and condenser fan motors under 1 horsepower. Also mandates that DOE establish a maximum energy consumption level for these products by January 1, 2010.

Sec. 313. Electric Motor Efficiency Standards. Amends Section 340(13) of EPCA to mandate new energy efficiency standards for general purpose electric motors (subtypes I and II, from 1 to 200 horsepower) and NEMA Design B general purpose motors (from 200 to 500 horsepower). All of these covered motors must have nominal full load efficiencies that are equal to or greater than the values found in NEMA MG-1 (2006) Table 12-12 or Table 12-11. Fire pump motors must continue to meet current standards. Amended standards take effect on December 19, 2010.

Sec. 314. Standards for Single Package Vertical Air Conditioners and Heat Pumps. Amends Section 340 of EPCA to define and create energy efficiency standards for single package vertical air conditioners and heat pumps. The new standards take effect on June 19, 2008 and require at least 13.0 SEER on the cooling side and 7.7 HSPF (heat pumps only) on the heating side for air-cooled 3-phase units sized under 65,000 Btu/hour. The standards for these units (and single-phase units) are also mandated to change as of January 1, 2010, to at least 9.0 EER on the cooling side and 3.0 COP (heat pumps only) on the heating side.

Sec. 315. Improved Energy Efficiency for Appliances and Buildings in Cold Climates. Amends Section 911(a)(2) of EPACT 2005 to mandate that DOE perform research, development, and demonstration of technologies to improve energy efficiency of appliances and mechanical systems for buildings in cold climates.

Sec. 316. Technical Corrections. This section provides technical corrections in previous laws for fluorescent lamps, F96T12 fluorescent lamps, mercury vapor lamp ballasts, specialty application mercury vapor lamp ballasts, and ceiling fans.

Subtitle B – Lighting Energy Efficiency

Sec. 321. Efficient Light Bulbs. Amends Section 321(30) of EPCA to mandate new energy efficiency standards for general service incandescent light bulbs, intermediate base lamps, and candelabra base incandescent lamps that have a light output between 310 and 2,600 lumens. Lists 22 categories of incandescent lamps initially excluded from these standards, including appliance lamps, bug lamps, reflector lamps, rough service lamps, and 3-way incandescent lamps.

For typical 100-Watt incandescent bulbs, the new standard will require that new bulbs only use 72 Watts to produce the same light output as of January 1, 2012.

For typical 75-Watt incandescent bulbs, the new standard will require that new bulbs only use 53 Watts to produce the same light output as of January 1, 2013.

For typical 60-Watt incandescent bulbs, the new standard will require that new bulbs only use 43 Watts to produce the same light output as of January 1, 2014.

For typical 40-Watt incandescent bulbs, the new standard will require that new bulbs only use 29 Watts to produce the same light output as of January 1, 2014

Also mandates that candelabra base incandescent lamps use 60 Watts or less and intermediate base incandescent lamps use 40 Watts or less.

Within 1 year of enactment, Federal Trade Commission (FTC) must initiate a rulemaking on lamp efficiency labeling, to be completed within 30 months of enactment.

Sec. 322. Incandescent Reflector Lamp Efficiency Standards. Amends EPCA sections 321 and 325(i) to update definitions and adopt energy efficiency standards for incandescent reflector lamps that were exempted from standards in EPACT 1992. Mandates minimum lumens per Watt efficiency standards for ER, BR, and BPAR incandescent reflector lamps that went into effect as of January 1, 2008. Also mandates minimum lumens per Watt efficiency standards for incandescent reflector lamps with diameters of more than 2.25 inches and less than 2.75 inches that go into effect on June 19, 2008.

Sec. 323. Public Building Energy Efficient and Renewable Energy Systems. Mandates that the General Services Administration create minimum performance requirements for GSA leased space. Also mandates that any public building built, altered, or acquired by GSA be equipped with energy efficiency lighting fixtures and bulbs. Also requires that GSA replace existing bulbs and fixtures with energy efficient bulbs and fixtures during the normal course of maintenance, where feasible.

Sec. 324. Metal Halide Lamp Fixtures. Amends Sections 321, 324(a)(2), and 325 of EPCA by adding new definitions for metal halide lamps, ballasts, and fixtures, along with energy efficiency standards. Requires the FTC to issue labeling rules for metal halide lamp fixtures manufactured on or after January 1, 2009. The FTC has until July 1, 2008, to finalize this labeling rule.

Sec. 325. Energy Efficiency Labeling for Consumer Electronic Products. Amends Section 324(a) of EPCA to mandate that the FTC create energy usage labels (e.g., the yellow “Energy Guide” labels) for televisions, personal computers, cable or satellite set-top boxes, stand-alone digital video recorder boxes, and computer monitors. FTC rulemaking must be completed within 18 months of DOE issuing energy efficiency test procedures for these products. FTC also has the authority to use non-DOE test procedures in the absence of DOE test procedures, and must complete any rulemaking within 18 months of approving such a non-DOE test procedure.

Title IV – Energy Savings in Buildings and Industry

Sec. 401. Definitions. Updates and adds definitions for items such as cost-effective lighting technology, cost-effective technologies and practices, federal facility, operational cost savings, geothermal heat pump, GSA facility, high-performance building, high-performance green building, life-cycle assessment, life-cycle costing, and zero-net-energy commercial buildings.

Subtitle A – Residential Building Efficiency

Sec. 411. Reauthorization of Weatherization Assistance Program. Amends Section 422 of EPCA to authorize increased funding for the federal Weatherization Program (\$750 Million in fiscal year 2008 increasing to \$1.4 Billion in fiscal year 2012). Also allows DOE to expand the program to make grants for sustainable energy resources, up to 2% of the amount of funds made available for any fiscal year. No funds can be used for sustainable energy resources if total program funding is less than \$275 million for any fiscal year.

Sec. 412. Study of Renewable Energy Rebate Programs. DOE report to Congress regarding the energy efficient appliance rebate programs established under Section 124 of EPACT 2005. For this study, DOE is required to develop a plan for how the rebate programs would be carried out if there were funded, and to determine the minimum amount of funding needed to accomplish program goals.

Sec. 413. Energy Code Improvements Applicable to Manufactured Housing. Directs DOE to establish energy efficiency standards for manufactured housing within 4 years of enactment, based on the most recent version of the International Energy Conservation Code (including supplements), except in cases where DOE finds that the code is not cost-effective or a more stringent standard would be more cost-effective.

Subtitle B – High-Performance Commercial Buildings

Sec. 421. Commercial High-Performance Green Buildings. Establishes a DOE Director (“Commercial Director”) and Office of Commercial High-Performance Green Buildings. Mandates several actions by the Commercial Director, including coordination with the DOE Office of Federal High-Performance Green Buildings, promoting research and development of high performance green buildings, and establishing a national high-performance green building clearinghouse (in conjunction with the Office of Federal High-Performance Green Buildings). Also requires the Director to coordinate activities with GSA, ten federal agencies, and non-profit

entities. Creates a High-Performance Green Buildings Partnership Consortium with utility energy efficiency representative. DOE to issue a report every 2 years after enactment.

Sec. 422. Zero Net Energy Commercial Buildings Initiative. Mandates that the DOE Commercial Director created by Section 421 shall establish a Zero-Net-Energy Commercial Buildings Initiative. The Commercial Director must competitively select a consortium to develop and carry out this initiative within 180 days of bill enactment (June 19, 2008). Goals are to develop and disseminate technologies, practices, and policies for the development and establishment of zero net energy buildings for all newly built commercial buildings by 2030, 50% of the commercial U.S. building stock by 2040, and all commercial buildings by 2050.

Sec. 423. Public Outreach. Mandates that the DOE Commercial Director, Federal Director, and the new consortium carry out a public information campaign by starting and maintaining a national high-performance green building clearinghouse, which includes educational resources, technical assistance, certification information, and other forms of assistance or advice.

Subtitle C – High Performance Federal Buildings

Sec. 431. Energy Reduction Goals for Federal buildings. Amends Section 543(a)(1) of the National Energy Conservation and Policy Act (NECPA) to mandate new energy efficiency goals for federal buildings. For FY 2008 through 2015, federal buildings must be 9% more efficient to 30% more efficient, with the stringency increasing by 3% per year.

Sec. 432. Management of Energy and Water Efficiency in Federal Buildings. Requires each federal agency to designate an energy manager responsible for implementing the terms of this section, and identify facilities that consume at least 75% of the energy used by the agency. Federal agencies may fund such improvements through energy savings performance contracts (ESPCs) or utility service contracts. Each agency must complete a comprehensive energy and water evaluation for 25% of such facilities each year under criteria developed by DOE. Each agency is required to analyze facilities that consumer at least 75% of the energy used by the agency.

Sec. 433. Federal Building Energy Efficiency Performance Standards. Amends Section 305(a)(3) of ECPA to mandate that DOE establish, by rule within 1 year, revised federal building energy efficiency performance standards that reduce 100% of fossil fuel energy consumption in new buildings unless technically impractical by 2030.

Sec. 434. Management of Federal Building Efficiency. Amends Section 543 of NECPA to mandate that any federal agency that makes a large capital energy investment that involves replacement of installed equipment such as heating and cooling systems uses the most energy efficiency designs, systems, equipment, and controls that are life-cycle cost effective. This section also mandates that within 180 days of enactment, each federal agency must develop a process for reviewing each decision made on larger capital energy investments, and must report to OMB on the process established.

Sec. 435. Leasing. Mandates that, starting 3 years enactment, no federal agency shall enter into a contract to lease space in a building that has not earned the Energy Star label in the most recent year. Exceptions are provided for lack of available space to meet the functional requirements of the agency, staying in the same building previously occupied, leasing in a building with historical or cultural significance, or for space less than 10,000 gross square feet.

Sec. 436. High-Performance Green Federal Buildings. Mandates GSA to establish an Office of Federal High-Performance Green Buildings and appoint a Federal Director within 60 days of enactment. The Federal Director must establish a Federal Green Building Advisory Committee from relevant agencies to identify and develop federal high-performance green building standards for all types of federal facilities.

Sec. 437. Federal Green Building Performance. Requires the Comptroller General, for the first two years after enactment, to conduct an audit of Federal building efficiency activities, focusing on budget, life-cycle costing, contracting, coordination, and performance issues, as well as other matters deemed appropriate.

Sec. 439. Cost-Effective Technology Acceleration Program. Directs GSA to establish a program to accelerate the use of more cost-effective and practices at GSA facilities and to review current use of cost-effective lighting technologies and geothermal heat pumps at GSA facilities.

Sec. 441. Public Building Life-Cycle Costs. Amends Section 544(a)(1) of NECPA to lengthen the time of analysis for public building efficiency projects from 25 years to 40 years.

Subtitle D – Industrial Energy Efficiency

Sec. 451. Industrial Energy Efficiency. Amends ECPA to add a new a new Part E, sections 371-375, to promote recovery and potential use of waste industrial energy (combined heat and power, or CHP) as electricity or for other uses:

- *Sec. 371. Definitions-* Defines relevant terms such as “recoverable waste energy,” “useful thermal energy,” “combined heat and power system” (recovers at least 60% of energy value of fuel as thermal energy or electricity), and “net excess power” (waste energy recovered as electricity);
- *Sec. 372. Survey and Registry -* Requires EPA to survey waste industrial energy recovery and potential use, and to create a public registry of sites with economically feasible waste energy recovery based on a 5-year payback;
- *Sec. 373. Waste Energy Recovery Incentive Grant Program –* Authorizes DOE to make grants to owners and operators of projects and to utilities purchasing or distributing power from these projects, and to states that have achieved 80 percent or more of the waste-heat recovery opportunities identified by EPA (e.g., grant of \$10 MWh from waste energy for 3 years, half of which goes to any utility purchasing such power);
- *Sec. 374. Additional Incentives for Recovery, Utilization and Prevention of Industrial Waste Energy –* Upon petition by a waste energy project listed on the EPA registry, requires state commissions and non-regulated utilities must consider at least one of the following options for disposal of the net excess power: (1) require the utility to purchase the net excess power; (2) require the utility to transmit the net excess power on behalf of

the project owner to up to three separate locations on the utility's system for direct sale to third parties; (3) authorize the project owner to construct and operate private electric wires to transport the power to up to three other purchasers within a 3-mile radius, with certain additional specified limitations and special rights; or (4) an alternative arrangement mutually agreed to by the utility and project owner. Defines rate components applicable under options (1) and (2). Allows states to decline to implement any standard, but in such event allows project sponsors to re-petition for implementation of an incentive standard every two years.

- *Sec. 375. Clean Energy Application Centers* - Renames and redefines role of existing Combined Heat and Power (CHP) Application Centers to provide expert resources on energy efficiency, CHP, waste energy recovery, and energy-efficient materials usage, working directly with affected industries.

Sec. 452. Energy-Intensive Industries Program. Directs DOE to establish a program for energy-intensive industries and their trade associations to support, research, develop, and promote new processes, technologies, and techniques to maximize energy efficiency and economic competitiveness. Also mandates that DOE establish energy efficiency partnerships with eligible entities to improve efficiency in energy-intensive industries. Partnerships are required to submit their proposals to DOE, to be approved or disapproved. Federal cost-sharing up to 50 percent.

Sec. 453. Energy Efficiency for Data Center Buildings. Directs DOE and EPA to establish a voluntary national information program for energy efficiency in data centers, including the types of data centers and equipment to be covered, benchmarks and best practices for data center energy efficiency, and designation of an information technology industry organization to consult with and coordinate the program.

Subtitle F – Institutional Entities

Sec. 471. Energy Sustainability and Efficiency Grants and Loans for Institutions. Amends EPCA Title III, Part G, to mandate that DOE provide technical assistance, information, loans and grants to implement sustainable energy infrastructure projects for institutional entities, such as schools and local governments. Requires DOE to assist with items such as permitting issues, siting issues, utility interconnection, and negotiation of power and fuel contracts, among others. DOE may make grants available for technical assistance (such as feasibility studies) and for energy efficiency improvements and energy sustainability.

Subtitle G – Public and Assisted Housing

Sec. 481. Application of International Energy Conservation Code to Public and Assisted Housing. Amends Section 109 of the Cranston-Gonzales National Affordable Housing Act to mandate that all new and rehabilitated public and assisted housing meet the provisions of the 2003 International Energy Conservation Code.

Subtitle H – General Provisions

Sec. 491. Demonstration Project. Directs GSA and DOE to establish guidelines to implement a demonstration project to contribute to the research goals of the DOE Office of Commercial High-Performance Green Buildings and the GSA Office of Federal High-Performance Green Buildings. Provides for 1 demonstration project per year developed in each fiscal year from 2009 to 2014 in a federal facility. Also mandates no fewer than 4 demonstration projects at 4 universities that are competitively selected.

Sec. 492. Research and Development. Directs DOE and GSA to jointly conduct research and development on high performance green buildings and develop a research plan.

Sec. 493. Environmental Protection Agency Demonstration Grant Program for Local Governments. Amends the Clean Air Act to require EPA to establish a demonstration program to provide competitive grants to assist local governments in deploying cost-effective efficient technologies and practices. Provides for 40% federal cost-sharing. EPA may waive the non-federal share of the cost if EPA determines that the community is economically distressed. Grant amounts limited to \$1 million.

Sec. 494. Green Building Advisory Committee. Directs DOE and GSA to establish a Green Building Advisory Committee, composed of representatives from federal agencies, state and local governments, building experts, security advisors, public transportation experts, green building associations, and environmental health experts, to provide advice and expertise in helping federal agencies meet the requirements shown in sections 434, 435, and 436 of this bill.

Sec. 495. Advisory Committee on Energy Efficiency Finance. Requires DOE to establish an Advisory Committee on Energy Efficiency Finance to provide advice and recommendations to DOE on energy efficiency finance and investment issues and to assist the energy community in identifying ways of lowering costs and increasing investments in energy efficient technologies.

Title V – Energy Savings in Government and Public Institutions

Subtitle A – United States Capitol Complex

Sec. 501. Capitol Complex Photovoltaic Roof Feasibility Studies. Authorizes \$500,000 for the Architect of the Capitol (AOC) to conduct a feasibility study regarding the construction of photovoltaic roofs for the Rayburn House and Hart Senate Office Buildings.

Section 503- Energy and Environmental Measures in Capitol Complex Master Plan
Requires the AOC, to the maximum extent practicable, to include energy efficiency and conservation measures, greenhouse gas emission reduction measures, and other environmental measures in the Capitol Complex Master Plan.

Sec. 504. Promoting Maximum Efficiency in Operation of Capitol Power Plant. Requires the AOC to take steps to operate the system boilers at the Capitol Power Plant in the most energy efficient manner possible to minimize carbon emissions and operating costs.

Sec. 505. Capitol Power Plant Carbon Dioxide Emissions Feasibility Study and Demonstration Projects. Directs AOC to conduct a feasibility study of CCS technologies and other strategies to reduce carbon emissions at the Capitol Power Plant. Authorizes AOC to conduct one or more carbon emission capture and storage demonstration projects if study determines that is technologically feasible and economically justified. Authorizes \$3 million to carry out the study and demonstration project.

Subtitle B – Energy Savings Performance Contracting

Sec. 511. Authority to Enter into Contracts; Reports. Replaces the current congressional notification requirement with an annual Federal Energy Management Program (FEMP) report detailing the termination penalty exposure of all current projects.

Sec. 512. Financing Flexibility. Allows federal agencies to use any combination of appropriate funds and private financing for ESPCs.

Sec. 513. Promoting Long-Term Energy Savings Performance Contracts and Verifying Savings. Assures that the duration of ESPCs are not less than 25 years, and that the savings are measured and verified.

Sec. 514. Permanent Reauthorization. Permanently extends authority to enter into ESPCs by eliminating sunset of the program.

Sec. 515. Definition of Energy Savings. Revises definition of “energy savings” under ESPCs to include cogeneration and/or CHP, and sales or transfer of excess power from onsite renewable energy sources or cogeneration/CHP projects. However, the sale or transfer of electricity generated onsite at federal facilities but in excess of federal needs to utilities or non-federal energy users must be otherwise authorized by federal or state law (including regulations).

Sec. 516. Retention of Savings. Eliminates previous requirement that amounts equal to 50% of the energy and water cost savings realized remain available for expenditure by the federal agency for additional energy efficiency measures.

Sec. 517. Training Federal Contracting Officers to Negotiate Energy Efficiency Contracts. Directs DOE to create a FEMP program to train federal contract officers in energy-efficiency contracting practices.

Sec. 518. Study of Energy and Cost Savings in Nonbuilding Applications. Directs DOE and the Department of Defense to conduct a joint study of the potential use of ESPCs for non-building applications.

Subtitle C – Energy Efficiency in Federal Agencies

Sec. 521. Installation of Photovoltaic System at Department of Energy Headquarters. Requires GSA to install a photovoltaic system, as set forth in the Sun Wall Design Project, for

DOE headquarters building. Authorizes \$30 million from the Federal Buildings Fund to carry out this section.

Sec. 522. Prohibition on Incandescent Lamps by Coast Guard. Bans use of incandescent lamps in Coast Guard facilities, with some exceptions.

Sec. 523. Standard Relating to Solar Hot Water Heaters. Requires that at least 30% of hot water demand in new or substantially modified federal buildings be met using solar hot water heaters, if life-cycle cost-effective.

Sec. 524. Federally-Procured Appliances with Standby Power. Requires federal agencies to buy products that use 1 watt or less of standby power if cost-effective and practicable.

Sec. 525. Federal Procurement of Energy Efficient Products. Requires GSA and Defense Logistics Agency to list only Energy Star or Federal Energy Management Program-designated products in their catalogues.

Sec. 526. Procurement and Acquisition of Alternative Fuels. Prohibits federal agencies from entering into procurement contracts of alternative or synthetic fuel for any mobility-related use, other than for research or testing, unless the contract specifies that the lifecycle greenhouse gas emissions are less than or equal to emissions from the equivalent conventional fuel produced from conventional petroleum sources.

Sec. 527. Government Efficiency Status Reports. Requires each federal agency to submit an annual efficiency status report to OMB on the status of compliance with requirements made by this bill, the status of implementation on initiatives to improve energy efficiency, and the savings to the taxpayers resulting from the mandated improvements.

Sec. 528. OMB Government Efficiency Reports and Scorecards. Directs OMB to submit an annual Government efficiency report to the House Committee on Oversight and Government Reform and the Senate Committee on Governmental Affairs.

Sec. 529. Electricity Sector Demand Response. Within 18 months of enactment, FERC is to issue a National Assessment of Demand Response report that includes state estimates of 5- and 10-year demand response potential, policy recommendations to achieve such potential, and identification of, and recommendations for overcoming, any barriers to needed programs. Based on this report and after stakeholder involvement, FERC is to issue a National Action Plan on Demand Response within 1 year and submit recommendations to Congress on its implementation. The Plan shall identify technical assistance needs, elements of a national communications program for customer education, model regulatory provisions, model contracts and other support materials. \$10 million authorized each year for 3 fiscal years.

Subtitle D – Energy Efficiency of Public Institutions

Sec. 531. Reauthorization of State Energy Programs. Reauthorizes the State Energy Program at \$125 million per year in FY 2007-2012.

Sec. 532. Utility Energy Efficiency Programs. Amends PURPA 111(d) to require state regulators to consider whether to implement two standards. The first provides for integrating energy efficiency into electric and natural gas utility plans and adopting policies establishing cost-effective energy efficiency as a priority resource. The second provides that electric utility rate structures shall align utility incentives with the delivery of cost-effective energy efficiency and promote energy efficiency investments. States shall specifically consider as policy options: removing the throughput incentive and other regulatory and management disincentives to energy efficiency; providing utility incentives for the successful management of energy efficiency programs; including the impact on adoption of energy efficiency as one of the goals of retail rate design, recognizing that energy efficiency must be balanced with other objectives; adopting rate designs that encourage energy efficiency for each customer class; allowing timely recovery of energy efficiency-related costs; and offering home energy audits, offering demand response programs, and publicizing efficiency-related information.

Subtitle E – Energy Efficiency and Conservation Block Grants

Sec. 541. Definitions. Eligible entities are states, local governments, and Indian tribes.

Sec. 542. Energy Efficiency and Conservation Block Grant Program. DOE to establish a block grant program to assist eligible entities in implementing strategies to reduce fossil fuel emissions created as a result of activities within their jurisdictions in a manner that is environmentally sustainable, to reduce their total energy use, and to improve energy efficiency in the transportation, building, and other sectors.

Sec. 543. Allocation of Funds. Provides details of how grant funds should be allocated among categories of eligible entities.

Sec. 544. Use of Funds. Enumerates purposes for which eligible entities may use grant funds, including hiring technical consultants, conducting energy audits, establishing energy efficiency incentive programs, assistance to nonprofits, development and implementation of energy efficiency programs, building codes, application of energy efficiency technologies (including distributed resources and district heating and cooling systems), recycling programs, landfill gas programs, energy efficient lighting, onsite renewable technologies (including solar, wind, fuel cells, and biomass), and other activities deemed appropriate by DOE, in consultation with EPA, DOT, and HUD.

Sec. 545. Requirements for Eligible Entities. Eligibility requirements for grant recipients related to issues such as prevailing wages, submission and approval of proposals, limitations on the use of funds, and reports.

Sec. 546. Competitive Grants. At least 2 percent of grant funds each year must be distributed on a competitive basis to local governments and Indian tribes in less populated states.

Sec. 547. Review and Evaluation. DOE may review and audit eligible entities' use of grant funds. DOE may withhold funds if they are deemed noncompliant.

Sec. 548. Funding. \$2 billion authorized for each fiscal year 2008 through 2012. Funding shall supplement (and not supplant) federal funding for EPCA state conservation assistance and ECPA Weatherization Assistance Program.

Title VI – Accelerate Research and Development

Subtitle A – Solar Energy

Sec. 601. Short title. “Solar Energy Research and Advancement Act of 2007”

Sec. 602. Thermal Energy Storage Research and Development Program. Establishes an R&D program to develop thermal energy storage technologies.

Sec. 603. Concentrating Solar Power Commercial Application Studies. Directs DOE to conduct a study on cost-effective methods to integrate concentrating solar power and utility-scale PV systems into regional transmission systems and to identify new transmission upgrades needed to bring electricity from the solar facilities to load centers, improve reliability and reduce natural gas use for electric power.

DOE to write a report within 6 months of enactment on methods to reduce the amount of water used by concentrating solar power systems.

Sec. 604. Solar Energy Curriculum Development and Certification Grants. Establishes a competitive grant program, managed by the Office of Solar Energy Technologies, to create and strengthen solar industry workforce training and internship programs in installation, operation and maintenance of solar energy products.

Sec. 605. Daylighting Systems and Direct Solar Light Pipe Technology. Establishes an R&D program to provide assistance in the demonstration and commercial application of direct solar renewable energy sources.

Sec. 606. Solar Air Conditioning Research and Development Program. Establishes a demonstration and R&D program to promote less costly and more reliable decentralized distributed solar-powered air conditioning.

Sec. 607. Photovoltaic Demonstration Program. Establishes a program of grants to States to demonstrate advanced photovoltaic technology.

Subtitle B – Geothermal Energy

Sec. 611. Short Title. “Advanced Geothermal Energy Research and Development Act of 2007”

Sec. 612. Definitions.

Sec. 613. Hydrothermal Research and Development. DOE to support programs of R&D, demonstration and commercial application to expand the use of geothermal energy production from hydrothermal systems, including programs to develop exploration of undiscovered resources.

Sec. 614. General Geothermal Systems Research and Development. DOE, in conjunction with EPA, to support a research program to identify potential adverse environmental impacts of geothermal energy development, production and use, as well as a program of research to compare potential environmental impacts with the potential emissions reductions of greenhouse gases gained due to geothermal energy development, production and use.

Sec. 615. Enhanced Geothermal Systems Research And Development. Charges DOE to support programs of R&D, demonstration and commercial application for enhanced geothermal systems, including a program for enhanced geothermal systems technologies and a program for enhanced geothermal systems reservoir stimulation.

Sec. 616. Geothermal Energy Production From Oil And Gas Fields And Recovery And Production Of Geopressed Gas Resources. DOE to establish a grant-based program of R&D, demonstration and commercial application to support the development of geothermal energy production from oil and gas fields and production and recovery of energy, including electricity from geopressed resources.

Sec. 617. Cost Sharing and Proposal Evaluation.

Sec. 618. Center For Geothermal Technology Transfer. DOE to issue a grant for an institution of higher education to establish a Center of Geothermal Technology Transfer. This Center will serve as an information clearinghouse by collecting and disseminating information relating to geothermal resources, and will seek opportunities to coordinate efforts and share information with domestic and international partners.

Sec. 619. GeoPowering America. DOE's GeoPowering the West program is expanded to cover the whole United States and is renamed "GeoPowering America".

Sec. 620. Educational Pilot Program. DOE to issue a grant to an institution of higher education for a geothermal powered energy generation facility on the institution's campus. Purpose of the facility is to provide electricity and space heating as well as to serve as an educational resource for the students.

Sec. 621. Reports. Between 3 and 5 years after enactment, DOE must report to Congress on advanced concepts and technologies to maximize the geothermal resource potential of the United States, on the results of the different projects undertakes, and on any legal, regulatory, or other barriers encountered that hinder economic development of geothermal resources.

Sec. 622. Applicability of Other Laws. Affirms applicability of environmental and other laws.

Sec. 623. Authorization of Appropriations.

Sec. 624. International Geothermal Energy Development. DOE, coordinating with AID, to support international collaborative efforts to promote the research, development and deployment of geothermal technologies.

Sec. 625. High Cost Geothermal Energy Grant Program. Creates grants to help “high-cost regions” (regions where the average cost of electricity exceeds the 150% of the national average) to develop geothermal resources.

Subtitle C – Marine and Hydrokinetic Renewable Energy Technologies

Sec. 631. Short Title. “Marine and Hydrokinetic Renewable Energy Research and Development Act”.

Sec. 632. Definition. Applies to waves, tides and water currents.

Sec. 633. Marine and Hydrokinetic Renewable Energy Research and Development. DOE to establish an R&D, demonstration and commercial application program to expand marine and hydrokinetic renewable energy production.

Sec. 634. National Marine Renewable Energy Research, Development, and Demonstration Centers. DOE to issue grants for institutions of higher education to establish one or more National Marine Renewable Energy Research, Development and Demonstration Centers.

Sec. 635. Applicability of Other Laws.

Sec. 636. Authorization of Appropriations.

Subtitle D – Energy Storage for Transportation and Electric Power

Sec. 641. Energy Storage Competitiveness. DOE to establish a research, development and demonstration program to support U.S. competitiveness in energy storage for electric drive vehicles, stationary applications, and electricity transmission and distribution.

DOE to establish an Energy Storage Advisory Council—comprised primarily of representatives from the U.S. energy storage industry—to develop a 5-year plan for integrating basic and applied research to retain U.S. competitiveness in energy storage. The Advisory Council will provide a biennial assessment of DOE progress in meeting the plan’s established goals.

Authorizes basic research on energy storage systems that requires coordination of DOE nanoscience centers with its energy storage research centers; authorizes \$50 million per fiscal year through 2018. Also authorizes an applied research program on energy storage systems, including ultracapacitors, batteries, manufacturing technologies for energy storage systems, and hydrogen storage (\$80 million/FY through 2018). For both the basic and applied research programs, funds are to be awarded to National Labs and a range of public, private, and academic stakeholders.

Directs the establishment—through competitive bids—of up to four energy storage research centers to promote the goals of the Advisory Council and translate basic research into applied technologies. (\$100 million/FY through 2018)

Authorizes new demonstrations of advanced energy storage systems that are regionally diversified and expand on existing DOE demonstrations in cooperation with stakeholders, including shareholder-, cooperatively-, and government-owned utilities, manufacturers, and academia. Objectives are to use energy storage to improve grid stability and recovery, security to emergency response infrastructure, emergency backup power for consumers, integration with renewable energy sources, and peak load management (\$30 million/FY through 2018). Additionally authorizes electric drive vehicle energy storage technology demonstrations—to be conducted through consortia (\$30 million/FY through 2018).

Authorizes a program of research, development, and demonstration of secondary applications and disposal of electric drive vehicle batteries (\$5 million per fiscal year through 2018).

Subtitle E – Miscellaneous Provisions

Sec. 653. Technical Criteria for Clean Coal Power Initiative. Amends EPA Act 2005 Section 402(b)(1)(B)(ii) criteria for the Clean Coal Power Initiative.

Sec. 654. H-Prize. Establishes a prize competition to promote hydrogen energy research, development, demonstration, deployment and commercial application. Authorizes \$20 million each, for biennially alternating prizes for: (1) advances in hydrogen production, storage, distribution and utilization; and (2) prototype vehicles. In the former, no prize may exceed \$1 million; in the latter, no prize may exceed \$4 million. One \$10 million prize competition is authorized for transformational technologies in hydrogen production and distribution technology

Title VII – Carbon Capture and Sequestration

Subtitle A – Carbon Capture and Sequestration Research, Development, and Demonstration

Sec. 702. Carbon Sequestration Demonstration Program. Expands the current DOE program to accelerate the research on storage and large-scale demonstrations of CO₂ storage in a range of geologic formations. DOE must conduct research on:

- New or advanced technologies for capture and storage;
- New or advanced technologies for
 - capture and storage that reduce the cost and increase the efficacy of carbon compression;
 - for carbon use, including recycling and reuse; and
 - for the separation of oxygen from air;
- Modeling and simulation of geologic storage field demonstrations; and
- Quantitative assessment of risks relating to specific field storage sites.

DOE is tasked with promoting the Regional Carbon Sequestration Partnerships to conduct geologic CO₂ storage tests in a variety of geologic settings (*i.e.*, operating oil and gas fields, depleted oil and gas fields, deep saline formations, etc.). The objectives with the tests are to:

- Develop and validate geophysical tools, analysis and modeling to understand the CO₂ environment;
- Validate modeling of geologic formations;
- Refine storage capacity estimated for particular geologic formations;
- Determine the fate of CO₂ at the time of injection and post-injection;
- Develop and implement best practices for injection and storage (actual probes and monitoring);
- Assess and ensure the safety of operations related to CO₂ storage;
- Allow the DOE to promulgate policies, procedures, requirements and guidance to ensure that the above bullet points are met during projects funded by DOE; and
- Provide information to states, EPA and other relevant entities to support the development of a regulatory framework for commercial-scale storage operations.

DOE is required to carry out at least 7 initial large-volume storage tests (not including FutureGen) in a variety of geologic formations. “Large-volume” is defined as the injection of at least 1 million tons of CO₂ annually OR a quantity at a scale that demonstrates the ability to inject and store several million metric tons of CO₂ for a large number of years. There is a preference for CO₂ obtained from industrial sources. The DOE Secretary is to give preference to proposals from partnerships among industrial, academic and government entities.

The above activities are considered research and development and subject to section 988(b) cost-sharing criteria. \$240 million is authorized for appropriations for each fiscal year, 2008 through 2012.

Sec. 703. Carbon Capture. Provides for a program to demonstrate a variety of technologies that capture CO₂ from a range of industrial sources. The term ‘large-scale capture’ is not defined but is to be determined by the Secretary. There is a preference for capture projects that can be integrated with storage demonstrations.

The above activities are considered research and development and subject to section 988(b) cost-sharing criteria. \$200 million is authorized for appropriations for each fiscal year, 2009 through 2013.

Sec. 704. Review of Large-Scale Programs. Requires DOE to enter into an arrangement with the National Academy of Sciences (NAS) for independent review and oversight, beginning in 2011, of sections 702 and 703 of this subtitle as well as section 963(c)(3) of EPAct 2005.

No monies are authorized for appropriations for the NAS work in title VII.

Sec. 705. Geologic Sequestration Training and Research. Requires DOE to enter into an arrangement with NAS to undertake a study that:

- Defines an interdisciplinary program (geology, engineering, etc.) that will support the ability to capture and storage anthropogenic CO₂;

- Addresses undergraduate and graduate education that will lead to advanced degrees with emphasis on geologic storage sciences;
- Develop guidelines for proposals from academic institutions that seek to implement programs to advanced carbon management through long-term storage; and
- Outlines the budget and recommendations for how much funding will be necessary to establish a grant program (newly designated faculty positions and internships related to CO₂ storage).

The above study is authorized for \$1 million for 2008 only. Monies will be authorized for the grant program as necessary.

Sec. 706. Relation to Safe Drinking Water Act. The injection and geologic storage of CO₂ pursuant to subtitle A and amendments made by this subtitle are subject to the requirements of the Safe Drinking Water Act (SDWA). Nothing in subtitle A and its amendments impose or authorize the promulgation of any requirement that is inconsistent or in conflict with the SDWA.

Sec. 707. Safety Research. Requires EPA to conduct a research program to address public health, safety and environmental impacts that may be associated with carbon capture, injection and storage. Authorizes \$5 million for each fiscal year.

Sec. 708. University-Based Research and Development Grant Program. Requires DOE, in coordination with other agencies, to establish a university-based research and development program to study carbon capture and storage using various types of coal. Special consideration will be given to rural or agricultural-based institutions in areas with regional sources of coal and that offer interdisciplinary programs in the area of environmental science. \$10 million authorization.

Subtitle B – Carbon Capture and Sequestration Assessment and Framework

Sec. 711. Carbon Dioxide Sequestration Capacity Assessment. Directs the Secretary of Interior (SOI), acting through USGS and in coordination with EPA and DOE, to develop methodology for a geologic storage assessment including:

- The geological extent of all potential storage formations in the U.S.;
- The capacity of potential storage formations;
- The injectivity of potential storage formations;
- An estimate of potential oil and gas volumes recoverable of CO₂;
- The risk associated with potential formations, and
- The DOE's Carbon Sequestration Atlas of the U.S. and Canada.

The methodology must undergo external peer review and public comment and undergo updates every 5 years. The assessment must be completed within 2 years after publication of the methodology.

The bill authorizes \$30 million for each fiscal year 2008 through 2012 to develop the methodology and conduct the assessment.

Sec. 712. Assessment of Carbon Sequestration and Methane and Nitrous Oxide Emissions from Ecosystems. Requires the SOI, in consultation with DOE, Agriculture, EPA and NOAA, to develop a methodology for and conduct an assessment of terrestrial systems to determine the amount of carbon that can be stored in terrestrial, aquatic and coastal ecosystems and an estimate of the potential for increasing carbon sequestration in natural systems through managed measures (*i.e.*, adaptive strategy).

The bill authorizes \$20 million per year for fiscal years 2008 through 2012 to conduct the assessment.

Sec. 713. Carbon Dioxide Sequestration Inventory. Amends section 354 of EPAct 2005 by adding a paragraph that requires the SOI, acting through the Bureau of Land Management, to maintain records on and an inventory of the quantity of CO₂ stored within public lands.

Sec. 714. Framework for Geological Carbon Sequestration on Public Land. Requires the SOI to submit a report to specific committees within the House and Senate on a recommended framework for managing geological carbon storage activities on public land. The report must provide:

- Recommended criteria for identifying potential geological sequestration sites on public lands;
- A proposed regulatory framework for leasing of public land for long-term geological storage of CO₂, including an assessment of options to ensure that the U.S. receives fair market value for use of the land;
- A proposed procedure for ensuring that any geological CO₂ storage activities on public land provide for public review and comment and protect the quality of natural and cultural resources;
- A description of the status of federal leasehold or federal mineral estate liability issues related to geological subsurface trespass of stored CO₂;
- Recommendations for additional legislation that may be required to ensure that public land management and leasing laws are sufficient to accommodate long-term CO₂ storage;
- Identification of legal and regulatory issues specific to CO₂ storage on lands where the title to mineral resources is held by the U.S. but the surface estate is not;
- Identification of issues specific to pipeline rights-of-way on public land for natural or anthropogenic CO₂; and
- Recommendations for additional legislation that may be needed to clarify the appropriate framework for issuing rights-of-way for CO₂ pipelines on public land.

All recommendations developed under this section must be in compliance with the SDWA.

Title VIII – Improved Management of Energy Policy

Subtitle A – Management Improvements

Sec. 801. National Media Campaign. Directs DOE, acting through the Assistant Secretary of Energy Efficiency and Renewable Energy, to develop and conduct a ten-year national media

campaign to: (1) increase energy efficiency throughout the U.S. economy; (2) promote the national security benefits associated with increased energy efficiency; and (3) decrease U.S. oil consumption.

Sec. 803. Renewable Energy Deployment. Authorizes DOE to issue grants for construction of projects for the commercial generation of electricity from solar, wind, geothermal, ocean, biomass, or landfill gas, and small hydro projects in Alaska.

Sec. 805. Assessment of Resources. Requires EIA to develop a 5-year plan to enhance the scope, accuracy and timeliness of energy information collected related to energy markets and related financial operations, with particular focus on data related to demand response, state level information, solid byproducts from coal-based generation, and ability to meet federal deadlines.

Sec. 806. Sense of Congress Relating to the Use of Renewable Resources to Generate Energy. Establishes national goal that by January 1, 2025, the agricultural, forestry, and working land of the United States should provide from renewable resources not less than 25% of the total energy consumed in the United States; and continue to produce safe, abundant, and affordable food, feed, and fiber.

Sec. 807. Geothermal Assessment, Exploration Information, and Priority Activities. Directs DOI, acting through USGS, to conduct a comprehensive assessment of U.S. geothermal resources.

Title IX – International Energy Programs

Title X – Green Jobs

Sec. 1002. Energy Efficiency and Renewable Energy Working Training Program. Within 6 months of enactment, the Department of Labor (DOL) is to establish an energy efficiency and renewable energy worker training program, with the renewable electric power industry among the industries eligible to participate. DOL would award national energy training partnership grants on a competitive basis to eligible non-profit partnership entities to enable them to carry out the training. Seeks to involve employers, unions; targets low-income and other underserved sectors. “Renewable energy” is defined as solar, wind, biomass, landfill gas, ocean, geothermal, municipal solid waste, and new hydro resulting from increased efficiencies or additions of new capacity at an existing hydro project.

Title XI – Energy Transportation and Infrastructure

Title XII – Small Business Energy Programs

Sec. 1201. Express Loans for Renewable Energy and Energy Efficiency. Authorizes the Small Business Administration (SBA) to make loans to small businesses under the Express Loan Program for the purpose of purchasing a renewable energy system or carrying out an energy efficiency project.

Sec. 1202. Pilot Program for Reduced 7(a) fees for Purchase of Energy Efficient Technologies. Directs SBA to establish and carry out a pilot program to reduce by 50% the fees for Section 7(a) loans the proceeds of which are used to purchase energy efficiency designs, equipment, or fixtures, or to reduce the energy consumption of the borrower by 10 percent or more.

Sec. 1203. Small Business Energy Efficiency. Directs SBA to: (1) establish a program, building on the Energy Star for Small Business program, to assist small businesses in becoming more energy efficient, understanding the cost savings from improved energy efficiency, and identifying financing options for energy efficiency upgrades; (2) establish a Small Business Energy Efficiency Program to provide energy efficiency assistance to small businesses through small business development centers; (3) conduct pilot programs to encourage telecommuting by employees of small businesses; (4) ensure that federal agencies, in their dealings with small businesses, encourage innovation in energy efficiency and renewable energy system R&D projects, and (5) facilitate “on-bill financing” with utilities for efficiency measures to the extent consistent with state utility law.

Sec. 1204. Larger 504 Loan Limits to Help Business Develop Energy Efficient Technologies and Purchases. Increases the size of 504 loans to \$4,000,000 to small businesses that reduce energy consumption by 10% or to install renewable energy production systems (including fuel).

Sec. 1205. Energy Saving Debentures. Amends the Small Business Investment Act to allow small business investment companies licensed after date of enactment to issue “Energy Saving Debentures” for energy saving qualified investments.

Sec. 1206. Investments in Energy Saving Small Businesses. Amends the Small Business Investment Act of 1958 to further define the parameters of energy saving qualified investments.

Sec. 1207. Renewable Fuel Capital Investment Company. Amends the Small Business Act of 1958 to create a pilot program to establish a “Renewable Fuel Capital Investment Company” that would establish a venture capital fund to invest in small businesses that research, manufacture, develop, or bring renewable energy systems (including solar and wind) to market.

Title XIII – Smart Grid

Sec. 1301. Statement of Policy on Modernization of Electricity Grid. U.S. policy is to support modernization of the Nation’s electricity transmission and distribution system to maintain a reliable and secure electricity infrastructure that can meet future demand growth and to achieve ten enumerated goals, which together characterize a Smart Grid.

Sec. 1302. Smart Grid System Report. Requires DOE, acting through the Assistant Secretary of the Office of Electricity Delivery and Energy Reliability (OEDER) and the Smart Grid Task Force, to prepare a biennial status report and survey of smart grid deployments and any regulatory or government barriers to continued smart grid deployment.

Sec. 1303. Smart Grid Advisory Committee and Smart Grid Task Force. Within 90 days of enactment, DOE is to establish the Smart Grid Advisory Committee, a public/private federal advisory committee of at least 8 members to work with the DOE and other federal officials concerning the deployment of smart grid technologies, standards and interoperability and communication protocols and optimum means of using federal incentive authority to encourage such progress.

Within 90 days of enactment, OEDER shall establish a Smart Grid Task Force composed of employees from that office as well as representatives from FERC, the National Institute of Standards and Technology (NIST), and other agencies. The Task Force is to coordinate federal government activities relating to smart grid development and research, including the development of smart grid standards and protocols, the relationship of smart grid technologies to electricity regulation, infrastructure development, system reliability and security and to electricity supply, demand, transmission distribution and policy.

Sec. 1304. Smart Grid Technology Research, Development and Demonstration. Directs DOE, in consultation with FERC, utilities and stakeholders, to create a Power Grid Digital Information Technology Program to develop advanced technologies for measuring peak-load reductions and energy efficiency savings from smart metering, demand response, distributed generation and electricity storage systems; investigate how some of these can provide ancillary services; advance use of wide-area measurement and control networks; test new reliability technologies against outage and blackout scenarios; investigate feasibility of time of use and real time electricity pricing; and propose interconnection protocols to access electricity stored in EVs. Authorizes \$100 million for 5 regional demonstrations of advanced technologies for grid modernization, for 2008-2012.

Sec. 1305. Smart Grid Interoperability Framework. Directs NIST, with input from FERC, OEDER, the Smart Grid Task Force, the Smart Grid Advisory Committee and other relevant federal and state agencies, to develop protocols and model standards to achieve interoperability of smart grid devices and systems. NIST is to begin work within 60 days of enactment and publish a progress report within one year. When FERC determines that there is sufficient consensus in NIST's work, it is to institute a rulemaking to adopt standards and protocols necessary to insure smart grid functionality and interoperability in interstate transmission and regional wholesale electricity markets. Authorizes \$5 million/year for 2008-2012;

Sec. 1306. Federal Matching Fund for Smart Grid Investments. DOE to establish a federal matching fund for 20% of qualifying smart grid investments.

Sec. 1307. State Consideration of Smart Grid. Amends PURPA to require states to consider adopting standard requiring consideration of smart grid investments prior to making non-smart grid investments. The standard directs the state to consider whether to authorize rate recovery for smart grid investments and recovery of the remaining value of any equipment rendered obsolete by new smart grid equipment. Also requires states to consider adopting a standard on smart grid information standard that would require electricity purchasers to be given information on time-based retail and wholesale electricity prices, usage, projection of day ahead price information, and generation sources, including greenhouse gas emissions.

Sec. 1308. Study of the effect of private wire laws on the development of combined heat and power facilities. Directs DOE, in conjunction with the states and other entities, to study and issue a report within 1 year of enactment on the laws affecting the siting of privately-owned electric distribution wires on and across public rights-of-way. The study is to include an evaluation of the effect of the laws on combined heat and power facilities, a determination of the operating, cost and reliability impacts, and an assessment of whether privately owned wires would result in duplicative facilities and whether duplicative facilities are necessary and desirable.

Sec. 1309. DOE study of security attributes of smart grid systems. Within 18 months of enactment, DOE is to submit to Congress a quantitative assessment and determination of the existing and potential impacts of smart grid systems on improving the security of the electricity infrastructure and operating capability, including making the system less vulnerable to intentional disruptions.

Title XIV – Pool and Spa Safety

Title XV – Revenue Provisions

Title XVI – Effective Date

Sec. 1601. Effective Date. December 20, 2007 (1 day after date of enactment).

*Edison Electric Institute
January 30, 2008*