



Energy Efficiency in the 2007 Energy Bill

December 2007

RESIDENTIAL AND COMMERCIAL BUILDINGS

Item	H.R. 6 as First Passed the Senate ¹	H.R. 3221 as Passed the House ²	H.R. 6 as Enacted ³
Appliance, Equipment, and Lighting Standards and Labels			
New and Updated Standards	<p>New and updated appliance efficiency standards based on consensus agreements among manufacturers and efficiency advocates:</p> <ul style="list-style-type: none"> • <i>Sec. 230</i>: Residential clothes washers, dishwashers, and dehumidifiers. Also directs DOE⁴ to update the standard for refrigerators and freezers and the other appliances. • <i>Sec. 227</i>: Residential boilers. • <i>Sec. 229</i>: Certain electric motors. • <i>Sec. 212</i>: Incandescent reflector lamps <p><i>Sec.223</i>: Directs DOE to set a standard for electricity use by furnaces (for furnace fans) by 12/31/14.</p>	<p>New and updated appliance efficiency standards based on consensus agreements among manufacturers and efficiency advocates:</p> <ul style="list-style-type: none"> • <i>Sec. 9001, 9003, 9002, 9022</i>: Similar to Senate Sec. 230, 227, 229, and 212. • <i>Sec. 9017</i>: Walk-in coolers and freezers. • <i>Sec. 9024</i>: Metal halide lamps. • <i>Sec. 9014</i>: External power supplies. • <i>Sec. 9015</i>: Requires that power use in standby mode be included in federal appliance standards. • <i>Sec. 9016</i>: Directs DOE to set a standard for battery chargers by 7/1/11. <p><i>Sec. 9011</i>: Similar to Senate Sec. 223, but with a deadline of 7/1/13.</p>	<p>New and updated appliance efficiency standards from both bills:</p> <ul style="list-style-type: none"> • <i>Sec. 311, 303, 313, 322</i>: Similar to Senate Sec. 230, 227, 229, and 212. • <i>Sec. 312, 324, 301, 310, 309</i>: Similar to House Sec. 9017, 9024, 9014, 9015, and 9016. <p><i>Sec. 304</i>: Similar to Senate Sec. 223, but with a deadline of 12/31/13.</p>
Light Bulb Efficiency Standards	<p><i>Sec. 214</i>: Sense of the Senate that the Senate should adopt performance standards for light bulbs.</p>	<p><i>Sec. 9021</i>: Sets performance standards for general service light bulbs with 25-30% savings compared to traditional incandescent bulbs by 2012 to 2014, and a standard for 75% savings effective 2020. Allows some states to adopt federal standards early. Directs DOE to report on an incentive plan and on mercury releases, and directs the Federal Trade Commission to review labeling of lights.</p>	<p><i>Sec. 321</i>: Similar to House Sec. 9021, but directs DOE to set the 2020 standard. Allows California and Nevada to adopt the first standards one year early and the 2020 standard starting in 2018. Directs research, market tracking, and reports, and directs the Federal Trade Commission to review labeling.</p>

¹ Passed the Senate on 6/21/07 by a vote of 65-27. Also includes provisions on biofuels, renewable energy, carbon capture and storage, healthy schools, price gouging, and energy security, as well as some energy-efficiency provisions not included here.

² Passed the House on 08/04/07 by a vote of 241-172. Also includes provisions on climate change, carbon capture and sequestration, renewable energy and fuels, oil and gas drilling, transportation, and other areas, as well as some energy-efficiency provisions not included here.

³ The Energy Independence and Security Act of 2007, P.L. 110-140, passed the Senate on 12/13/07 by a vote of 86-8, passed the House on 12/18/07 by a vote of 314-100, and was signed by the president on 12/19/07. Also includes other provisions as above, and on pool and spa safety.

⁴ Department of Energy

Item	H.R. 6 as First Passed the Senate¹	H.R. 3221 as Passed the House²	H.R. 6 as Enacted³
Periodic Review of Standards	<p><i>Sec. 225:</i> Directs DOE to review each standard within 5 years of the last final rule or the last review, and if warranted to set a standard within 3 more years. Sets a timetable for adopting standards for certain products set in the ASHRAE model commercial building energy code.</p> <p>Directs DOE to review test procedures for all covered products at least every 7 years.</p>	<p><i>Sec. 9009:</i> Directs DOE to review each standard within 6 years of the last final rule or 3 years of the last review, and if warranted to set a standard within 2 more years. Sets a timetable for adopting standards for certain products set in the ASHRAE model commercial building energy code. Allows standards to become effective 3 years after the final rule (now is 5 years for some products).</p> <p><i>Sec. 9010:</i> Directs DOE to review test procedures for all covered products at least every 7 years.</p>	<p><i>Sec. 305:</i> Same as House Sec. 9009.</p> <p><i>Sec. 302:</i> Same as House Sec. 9010.</p>
Regional Standards	<p><i>Sec. 222:</i> Authorizes DOE to determine that a standard more stringent than the national standard is appropriate in up to two regions for furnaces, boilers, and air conditioners. States in those regions can then petition to allow a state regulation to implement the more stringent standard. DOE can issue a rule granting the petition after public comment only if it will not “significantly burden manufacturing, marketing, distribution, sale, or servicing of a covered product on a national basis.”</p>	<p><i>Sec. 9004:</i> Authorizes DOE to establish standards that vary in up to three regions for central heating and air-conditioning equipment. Bans sale or installation of such equipment in the wrong region. Requires manufacturers to label such equipment to show where it is allowed, and to track intended installation locations.</p>	<p><i>Sec. 306:</i> Authorizes DOE to establish standards that vary in up to two regions for furnaces and up to three regions for central air conditioners and heat pumps. Directs DOE to issue an enforcement plan for each regional standard, and directs the Federal Trade Commission to establish labeling and disclosure requirements.</p>
Multiple Standards	<p><i>Sec. 221:</i> Clarifies DOE’s authority to set multiple performance standards for a product. Allows design requirements only if already established or included in a consensus agreement, and allows a standard for a product component only if explicitly authorized.</p>	<p><i>Sec. 9008:</i> Same as Senate Sec. 221.</p>	
Expedited Rulemaking	<p><i>Sec. 224:</i> Allows DOE to issue as a direct final rule a standard recommended jointly by manufacturers, states, and efficiency advocates. If there are adverse public comments, the direct final rule is to be withdrawn.</p>	<p><i>Sec. 9005:</i> Repeals requirement for an advanced notice of proposed rulemaking (ANOPR) when setting a standard.</p> <p><i>Sec. 9006:</i> Similar to Senate Sec. 224.</p>	<p><i>Sec. 307:</i> Same as House Sec. 9005.</p> <p><i>Sec. 308:</i> Same as Senate Sec. 224.</p>

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Corrections to EAct 2005 Standards	<i>Sec. 228:</i> Corrects EAct 2005 ⁵ language to clarify that DOE can adopt ASHRAE standards for certain products. Makes technical corrections to EAct 2005 provisions on fluorescent lamps and mercury vapor lamp ballasts.	<i>Sec. 9007:</i> Adopts ASHRAE standard for small commercial air conditioners that DOE believes it cannot adopt due to a technical error in EAct 2005. <i>Sec. 9012:</i> Makes technical corrections to EAct 2005 provisions on ceiling fans and fluorescent lamps.	<i>Sec. 316:</i> Makes technical corrections to EAct 2005 provisions on ceiling fans, fluorescent lamps, and mercury vapor lamp ballasts. <i>Sec. 314:</i> Similar to House Sec. 9007.
Consumer Electronics Labels	<i>Sec. 226:</i> Directs the Federal Trade Commission (FTC) to require energy use labels for consumer electronics (televisions, personal computers and monitors, cable and satellite set-top boxes, and digital video recorders) when test procedures are available and unless determined not to be feasible. FTC may add product categories and may change the label for these products.		<i>Sec. 325:</i> Same as Senate Sec. 226.
Building Codes			
National Targets		<i>Sec. 9031:</i> Sets targets for national model building codes of 30% savings by 2010 and 50% savings by 2020. DOE is to set such models if the code-setting organizations do not, at the highest level technically feasible and economically justified. States are required to adopt codes with at least as much energy savings, and to show high rates of compliance. Increases funding authorized for DOE assistance in training code officials.	
Manufactured Housing		<i>Sec. 9032:</i> Directs DOE, after consultation with the Department of Housing and Urban Development, to set a standard for manufactured housing at least as stringent as the IECC national model code.	<i>Sec. 413:</i> Same as House Sec. 9032.

⁵ Energy Policy Act of 2005

Item	H.R. 6 as First Passed the Senate¹	H.R. 3221 as Passed the House²	H.R. 6 as Enacted³
Subsidized Housing	<i>Sec. 267:</i> Updates criteria for new homes with VA and FHA insured mortgages and for new public housing to current national model codes.		<i>Sec. 481:</i> Same as Senate Sec. 267.
Appliance Efficiency		<i>Sec. 9033:</i> Allows states to base performance building codes on baselines that assume appliances more efficient than required to meet a federal standard.	
Research, Development, and Deployment (RD&D) Programs			
Zero-Energy Commercial Buildings	<i>Sec. 268:</i> Authorizes an Energy Efficient Commercial Buildings Initiative, to be run by DOE with an industry consortium, with the goal to develop technologies, practices, and policies that lead to net-zero-energy commercial buildings for all new commercial buildings by 2030, half of commercial building stock by 2040, and all commercial buildings by 2050.	<i>Sec. 9044:</i> Authorizes a Zero-Energy Commercial Buildings Initiative, to be run by a public-private partnership of the DOE Office of High-Performance Green Buildings established in Sec. 9043 and an industry consortium, with goals to include net-zero-energy commercial buildings for all new commercial buildings by 2025, half of commercial building stock by 2035, and all commercial buildings by 2050. The partnership is to develop a market transformation strategy and carry out extensive deployment activities. Sec. 9050 authorizes appropriations rising to \$200 million each year through 2050.	<i>Sec. 422:</i> Authorizes a Zero-Net-Energy Commercial Buildings Initiative, to be run by the DOE Office of Commercial High-Performance Green Buildings established in Sec. 421 and an industry consortium, with the goal to develop and disseminate technologies, practices, and policies for net-zero-energy commercial buildings for all new commercial buildings by 2030, half of commercial building stock by 2040, and all commercial buildings by 2050. Authorizes appropriations rising to \$200 million each year through 2018.
Incentives, Prizes, and Loan Guarantees	<p><i>Sec. 213:</i> Directs DOE to establish Bright Tomorrow Lighting Prizes for development of solid-state lighting that meets specified criteria.</p> <p>Directs DOE to develop federal purchase guidelines to replace existing lights with the winning technologies within 5 years.</p> <p><i>Sec. 232:</i> Directs DOE to award financial incentives for the manufacture of high-efficiency consumer products through a reverse auction, based on the lowest cost per energy saved.</p>	<i>Sec. 9052:</i> Authorizes the DOE Office of High-Performance Green Buildings established in Sec. 142 to guarantee up to a total of \$100 million in loans for green building renovations that achieve a “LEED Certified” rating.	<i>Sec. 655:</i> Same as Senate Sec. 213.

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Data Centers		<i>Sec. 9049:</i> Authorizes a joint DOE-EPA program, to be coordinated by an industry organization, for energy efficiency of data center equipment and buildings, including establishing specifications and benchmarks.	<i>Sec. 453:</i> Similar to House Sec. 9049.
Low-Income Weatherization Assistance	<i>Sec. 271:</i> Reauthorizes the Weatherization Assistance Program at \$750 million per year in 2008-2012. <i>Sec. 279:</i> Makes Puerto Rico eligible for the weatherization program.	<i>Sec. 9034:</i> Reauthorizes the Weatherization Assistance Program at \$1.2 billion in 2007 and \$1.4 billion per year in 2008-2012. Authorizes a pilot project focusing on key energy-saving components and grants for materials, benefits, and technologies not currently covered under the program, with up to 2% of funds in years in which funding is over \$275 million.	<i>Sec. 411:</i> Reauthorizes the Weatherization Assistance Program at \$750 million in 2008, rising to \$1.4 billion in 2012. Makes Puerto Rico eligible for the program and includes pilot program in House Sec. 9034.
Assistance to State and Local Governments	<i>Sec. 275:</i> Authorizes DOE energy and environmental formula block grants to local governments and states to reduce energy use in their jurisdictions. <i>Sec. 403:</i> Authorizes \$20 million per year in 2007-2012 for EPA grants to local governments for achieving 40% energy cost savings in their buildings. <i>Sec. 276:</i> Authorizes DOE grants to universities for energy-efficiency and sustainability projects. <i>Sec. 272:</i> Reauthorizes the State Energy Program at \$125 million per year in 2008-2012.	<i>Sec. 9091-9098:</i> Similar to Senate Sec. 275. Requires energy efficiency strategies from recipients. Authorizes \$2.125 billion a year through 2012. <i>Sec. 9055:</i> Same as Senate Sec. 276. <i>Sec. 9076:</i> Same as Senate Sec. 272, but starting in 2007. <i>Sec. 9071-9075:</i> Authorizes a DOE technical assistance and grants program for combined heat and power and renewable thermal energy in public institutions. Authorizes \$250 million in 2008 and \$500 million per year in 2009-2012 for a revolving loan fund for up to 70% of capital costs.	<i>Sec. 541-548:</i> Similar to House Sec. 9091-9098. Authorizes \$2 billion a year through 2012. <i>Sec. 493:</i> Same as Senate Sec. 403 <i>Sec. 471:</i> Authorizes \$250 million per year in 2009-13 for a DOE technical assistance and grants program, and \$500 million per year for direct loans, for energy-efficiency and sustainability projects, including combined heat and power, in public institutions. <i>Sec. 531:</i> Same as House Sec. 9076.
Small Businesses	<i>Sec. 270C:</i> Authorizes loans for renewable energy systems and energy efficiency projects under the Express Loan Program of the Small Business Administration (SBA). <i>Sec. 270D:</i> Creates an Assistant Administrator for Small Business Energy	<i>Sec. 3003:</i> Increases loan limit for SBA “504-CDC” loans for projects that reduce energy use by at least 10%, use sustainable design, or produce renewable energy or fuels. <i>Sec. 3004:</i> Similar to Senate Sec. 270C, but with added requirements and benefits.	<i>Sec. 1201:</i> Same as Senate Sec. 270C. <i>Sec. 1204:</i> Same as House Sec. 3003. <i>Sec. 1203:</i> Directs SBA to establish a small business energy-efficiency education program authorized in Sec. 132 of EPAAct 2005 and a new program

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	<p>Policy at SBA to establish a small business energy-efficiency education program authorized in Sec. 132 of EPAct 2005 and a new pilot program to provide energy-efficiency assistance through small business development centers.</p>	<p><i>Sec. 3005-3006:</i> Authorizes grants of \$150,000 to \$300,000 to small business development centers for sustainability initiative, similar to Senate Sec. 270D. Authorizes an SBA energy-efficiency program, very similar to the one authorized in Sec. 132 of EPAct 2005 and referred to in Senate Sec. 270D.</p> <p><i>Sec. 3007-3008:</i> Authorizes new small business investment companies to issue Energy Saving debentures (bonds for energy efficiency investments), and excludes these investments from SBA calculations of company leverage.</p>	<p>to provide energy-efficiency assistance through small business development centers.</p> <p><i>Sec. 1205-1206:</i> Similar to House Sec. 3007-3008.</p>
Other RD&D Programs	<p><i>Sec. 231:</i> Authorizes DOE research and rebates for technologies that improve the energy efficiency of appliances and mechanical systems in cold climates.</p> <p><i>Sec. 247:</i> Authorizes a demonstration program for advanced insulation for commercial refrigeration.</p>		<p><i>Sec. 315:</i> Same as Senate Sec. 231.</p> <p><i>Sec. 652:</i> Same as Senate Sec. 247.</p>
Federal Energy Management			
Energy and Demand Targets	<p><i>Sec. 264:</i> Accelerates targets for energy use reductions in federal buildings to 3% per year, ending in a 30% reduction in energy intensity by 2015, consistent with Executive Order 13423.</p>	<p><i>Sec. 9121:</i> Requires agencies to reduce their peak electricity demand by 2% per year compared to a forecast baseline for a 10-year period, or free up such demand through demand response.</p>	<p><i>Sec. 431:</i> Same as Senate Sec. 264.</p>
Building Standards	<p><i>Sec. 266:</i> Requires new federal buildings, if feasible, to reduce fossil fuel consumption by 50% in 2007 rising to 100% by 2030, compared to the 2003 average.</p> <p><i>Sec. 270A:</i> 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.</p>	<p><i>Sec. 6204:</i> Similar to Senate Sec. 266, but with somewhat different scope, including major renovations, and starting with a 55% reduction in 2010. Also requires sustainable design, including green building certification at least comparable to LEED Silver level.</p>	<p><i>Sec. 433:</i> Similar to House Sec. 6204.</p> <p><i>Sec. 523:</i> Same as Senate Sec. 270A.</p>

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Measures in Federal Buildings		<p><i>Sec. 6205:</i> Requires large capital energy investments in federal facilities to be the most energy-efficient that is cost-effective. Also requires federal agencies to meter natural gas, steam, chilled water, and water, as well as electricity.</p> <p><i>Sec. 9047:</i> Requires agencies, for large buildings (including at least two-thirds of federal building energy use), to:</p> <ul style="list-style-type: none"> • designate an energy manager, • do energy and water evaluations within 18 months and every 5 years, including recommissioning, • implement within 2 more years all identified measures that are life-cycle cost-effective and have no more than a 12-year simple payback, • do ongoing operations, maintenance, and repair for all measures, and • track implementation on the web and benchmark and report building energy use. <p>DOE is to develop uniform guidelines, and OMB is to include implementation in its scorecards. Appropriations and private financing may be combined to fund activities.</p>	<p><i>Sec. 434:</i> Same as House Sec. 6205.</p> <p><i>Sec. 432:</i> For large buildings (including at least 75% of agency building energy use), agencies:</p> <ul style="list-style-type: none"> • shall designate an energy manager, • shall do energy and water evaluations every 4 years (25% each year), including recommissioning measures, • may implement within 2 more years all identified measures that are life-cycle cost-effective, and • shall do follow-up and reporting as in House Sec. 9047. <p>Guidelines, scorecard, and funding provisions also retained from House Sec. 9047.</p>
Leased Buildings	<i>Sec. 402 below applies to buildings leased by the General Services Administration (GSA).</i>	<p><i>Sec. 6206:</i> Requires federal agencies to lease space in buildings that have earned the Energy Star label in the previous year, with certain exceptions.</p> <p><i>Sec. 8601(a), (b), and (e):</i> Directs the GSA to set minimum energy-efficiency and renewable energy performance requirements for leased space, to estimate energy performance in the prospectus submitted to Congress, and to make energy efficiency and renewable energy an evaluation factor for leases.</p>	<p><i>Sec. 435:</i> Similar to House Sec. 6206.</p> <p><i>Sec. 323:</i> Same as House Sec. 8601.</p>

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Energy Savings Performance Contracts (ESPCs)	<p><i>Sec. 263: (a) Permanently extends authority to enter into ESPCs, (b) clarifies retention of savings under an ESPC, (c) clarifies that cogeneration, renewable energy generation, and water savings can be included in ESPCs, and (d) eliminates a congressional notification requirement.</i></p> <p><i>Sec. 263(e): Requests a joint DOE and Defense Department study of the potential use of ESPCs for non-building (mobile) applications.</i></p>	<p><i>Sec. 9084, 9081, 9083: Same as Senate Sec. 263(a), (c), and (d).</i></p> <p><i>Sec. 9082: Allows agencies to provide all or part of the financing under ESPCs.</i></p> <p><i>Sec. 9085: Authorizes a FEMP program to train federal contract officers in the use of ESPCs and other energy-efficiency contracts.</i></p> <p><i>Sec. 9086: Clarifies allowed length of contracts under Super-ESPCs. Bars agencies from capping the duration of ESPCs (below the 25-year legal limit) or the total obligations under ESPCs. Specifies that measurement and verification under Sec. 9047 can be used for contract requirements.</i></p>	<p><i>Sec. 514, 515, 511, 518: Same as Senate Sec. 263(a), (c), (d), and (e).</i></p> <p><i>Section 512: Simliar to House Sec. 9082, allows agencies to use any combination of appropriated funds and private financing for ESPCs.</i></p> <p><i>Sec. 517: Same as House Sec. 9085.</i></p> <p><i>Sec. 513: Similar to House Sec. 9086.</i></p>
Utility Energy Service Contracts (UESCs)		<p><i>Sec. 8601(d): Allows GSA to contract for utility services, presumably including UESCs, for periods up to 30 years.</i></p>	
Lighting, Appliances, and Equipment	<p><i>Sec. 211: Requires all general purpose lighting in federal buildings to be Energy Star or FEMP designated products by 10/1/13. See also Sec. 213 above.</i></p> <p><i>Sec. 402: Directs the GSA to implement a program for maximum feasible replacement in its buildings of existing lighting, heating, and cooling with cost-effective lighting technologies and geothermal heat pumps, and to submit to Congress a plan for 20% reduction in operational costs.</i></p> <p><i>Sec. 270: Requires agencies to buy products that use 1 watt or less of standby power if cost-effective and practicable.</i></p>	<p><i>Sec. 8601(c) and 9023: Directs GSA to use Energy Star or other energy-efficient lighting where feasible.</i></p> <p><i>Sec. 8631: Bans use of incandescent lights by the Coast Guard, with some exceptions.</i></p> <p><i>Sec. 9053: Similar to Senate Sec. 402, but only for geothermal heat pumps.</i></p> <p><i>Sec. 9013: Same as Senate Sec. 270.</i></p> <p><i>Sec. 9051: Directs DOE to study the use of power management software to reduce electricity use by the federal government's personal computers.</i></p>	<p><i>Sec. 323(c): Same as House Sec. 8601(c).</i></p> <p><i>Sec. 522: Same as House Sec. 8631.</i></p> <p><i>Sec. 439: Similar to Senate Sec. 402, coordinated with many other provisions in this bill.</i></p> <p><i>Sec. 524: Same as Senate Sec. 270.</i></p>

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Procurement	<i>Sec. 452:</i> Directs the Office of Federal Procurement Policy to modify procurement regulations to employ green building materials and technologies and reduce environmental impacts, and give green buildings preference in leasing.	<i>Sec. 9046:</i> Same as Senate Sec. 452. <i>Sec. 6203:</i> Requires the GSA and Defense Logistics Agency to list only Energy Star or FEMP designated products in their catalogues.	<i>Sec. 525:</i> Same as House Sec. 6203.
Green Buildings Office	<i>Sec. 431-433:</i> Establishes an Office of High-Performance Green Buildings in GSA, and a Green Building Advisory Committee, to coordinate federal green building activities, identify building and procurement standards, and review budget practices. <ul style="list-style-type: none"> • <i>Sec. 434:</i> Directs the office to establish a green building information clearinghouse. • <i>Sec. 435:</i> Directs the office to develop a research plan, and an indoor air quality program. • <i>Sec. 436:</i> Directs the office to conduct analysis, guidance, and training on life-cycle costing for green buildings. • <i>Sec. 451:</i> Directs the office to identify green building incentives through recognition awards and retention of savings. • <i>Sec. 461-462:</i> Directs the office to do at least 3 green building demonstration projects at federal facilities, and authorizes \$10 million. • <i>Sec. 437:</i> Authorizes \$4 million per year in 2008-2012. 	<i>Sec. 9041-9043:</i> Establishes an Office of Federal High-Performance Green Buildings in GSA and an Office of Commercial High-Performance Green Buildings in EERE, ⁶ and a Green Building Advisory Committee and an industry Green Building Partnership Consortium. <ul style="list-style-type: none"> • <i>Sec. 9045:</i> Same as Senate Sec. 434, but in the DOE office. • <i>Sec. 9042(d):</i> Same as Senate Sec. 436. • <i>Sec. 9042(e):</i> Same as Senate Sec. 451. • <i>Sec. 9048:</i> Directs the GSA office to do at least 6 green building demonstration projects at federal facilities, and the DOE office to do at least 4 at universities. • <i>Sec. 9050:</i> Authorizes \$10 million in 2008 and \$20 million per year in 2009-2014, and an additional \$20 million per year for demonstration projects. <i>Sec. 8602:</i> Extends the period for life-cycle cost accounting for federal buildings to 40 years.	<i>Sec. 436:</i> Similar to House Sec. 9042, with identification of certification system similar to Senate Sec. 432(d). <i>Sec. 421, 423:</i> Same as House Sec. 9043, and 9045. <i>Sec. 492:</i> Same as Senate Sec. 435. <i>Sec. 491:</i> Same as House Sec. 9048, but authorizes \$10 million each for 2008-2012 for federal and university demonstration projects. <i>Sec. 441:</i> Same as House Sec. 8602.

⁶ DOE Office of Energy Efficiency and Renewable Energy

TRANSPORTATION

Item	H.R. 6 as First Passed the Senate	H.R. 3221 as Passed the House	H.R. 6 as Enacted
Fuel Economy Standards			
<p>CAFE Standards Increase</p>	<p><i>Sec. 502-504:</i> Directs the Department of Transportation (DOT) to set the maximum feasible Corporate Average Fuel Economy (CAFE) standards for cars and light trucks for 2011-2030, achieving average fuel economy for new vehicles of at least 35 mpg by 2020. DOT may set a lower standard based on clear and convincing evidence that the required standard is not cost-effective, including externalities. Standards are to be technologically achievable, cost-effective, and no weaker than previous standards, and are not to reduce safety.</p>	<p><i>Proposed CAFE amendments were withdrawn or not considered, including:</i></p> <ul style="list-style-type: none"> • <i>An amendment by Rep. Barton would increase CAFE standards to 35 mpg for cars and 27.5 mpg for light trucks by 2022.</i> • <i>An amendment by Rep. Hill (similar to H.R. 2927) would direct DOT to increase standards to at least 32 mpg and not more than 35 mpg by 2022.</i> • <i>An amendment by Rep. Markey (modified from H.R. 1506) would direct DOT to set standards for cars and light trucks (but excluding “work trucks”), achieving an average of at least 27.5 mpg by 2013 and 35 mpg by 2019.</i> 	<p><i>Sec. 102-103:</i> Directs DOT to set the maximum feasible CAFE standards for cars and separate standards for light trucks for 2011-2030, achieving a total fleet average fuel economy of at least 35 mpg by 2020. There also is a backstop standard for domestic cars of each manufacturer of 27.5 mpg and 92% of industry average fuel economy.</p> <p><i>Sec. 109:</i> Extends credit up to 1.2 mpg for flexible fuel vehicles, to be phased out from 2015-2020.</p>
<p>Other CAFE Reforms</p>	<p><i>Sec. 502, 504:</i> The standards are to be set as a function of vehicle attributes (such as size), but no distinction is made between passenger and non-passenger vehicles.</p> <p>Includes passenger vehicles (not heavier trucks) up to 10,000 lbs.</p> <p><i>Sec. 506:</i> Allows DOT to establish a CAFE credit trading program between manufacturers, and allows manufacturers to carry forward earned credits for 5 rather than 3 years.</p> <p><i>Sec. 516-517:</i> Directs that CAFE fines be used half by DOT for fuel-saving technologies and half by the DOE Clean Cities program for alternative fueling infrastructure.</p> <p><i>Sec. 505:</i> Directs NHTSA by 2014 to issue a safety standard to reduce automobile incompatibility.</p>		<p><i>Sec. 102-103:</i> Standards are to be set as a function of vehicle attributes (such as size). Includes passenger vehicles (not heavier trucks) up to 10,000 lbs.</p> <p><i>Sec. 104:</i> Similar to Senate Sec. 506, and also allows credit trading between fleets of the same manufacturer within limits.</p> <p><i>Sec. 112:</i> Directs that CAFE fines be used by DOT half for rulemaking and half for grants for upgrading existing manufacturing plants to produce advanced vehicles.</p>

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Larger Vehicles	<i>Sec. 502(b)</i> : Directs DOT within 3 1/2 years to establish fuel economy standards and test methods for medium duty and heavy duty vehicles.		<i>Sec. 102(b)</i> : Similar to Senate Sec. 502(b), but with time reduced to 3 years.
National Oil Savings Goals	<p><i>Sec. 251</i>: Sets oil savings targets of 2.5 million barrels per day (bpd) in 2016, 7 million bpd in 2026, and 10 million bpd in 2031. Requires OMB to issue an action plan to meet the targets within 270 days of enactment, and agencies to issue the necessary standards and other requirements within 18 months.</p> <p><i>Sec. 259-260</i>: Sets goal that 90% of U.S. energy needs be met by domestic sources. Establishes National Commission on Energy Independence.</p>		
Vehicle Labels	<p><i>Sec. 507</i>: Directs DOT to modify vehicle labels to compare fuel economy and emissions among all automobiles and to include the “Fuelstar Program,” awarding stars for fuel economy above the CAFE standard.</p> <p><i>Sec. 512</i>: Directs EPA every 5 years to reevaluate fuel economy tests used for labels and public information.</p>		<p><i>Sec. 105</i>: Directs DOT to modify vehicle labels with a rating based on fuel economy and emissions, and to designate vehicles that can run on alternative fuel.</p> <p><i>Sec. 110</i>: Same as Senate Sec. 512.</p>
Tires	<i>Sec. 513</i> : Directs DOT to establish a tire fuel efficiency rating system, test method, and consumer information program.		<i>Sec. 111</i> : Similar to Senate Sec. 513.
Flexible Fuel Vehicles	<p><i>Sec. 520</i>: Directs DOT to ensure that by 2015 at least 50% of new vehicles for sale are flexible-fuel, hybrid, advanced diesel, or other alternative technologies.</p> <p><i>Sec. 511</i>: Directs DOE to require labeling of flexible fuel vehicles.</p>	<i>Sec. 9309</i> : Authorizes DOT consumer education program on flexible fuel vehicles.	<i>Sec. 105</i> : See above.
Research, Development, and Deployment Programs			
Manufacturing Incentives	<i>Sec. 242</i> : Makes manufacturing facilities for fuel-efficient vehicles or parts, including electric drive and advanced diesel, eligible for loan guarantees under Title XVII of EPAct 2005.	<i>Sec. 9402</i> : Modifies a grant program authorized in EPAct 2005 to include production of parts for hybrid and advanced diesel vehicles. See also <i>Sec. 9404</i> below.	<p><i>Sec. 134</i>: Same as Senate Sec. 242.</p> <p><i>Sec. 136</i>: Similar to Senate Sec. 243, but includes additional loan</p>

Item	H.R. 6 as First Passed the Senate	H.R. 3221 as Passed the House	H.R. 6 as Enacted
	<p><i>Sec. 243:</i> Authorizes DOE awards of up to 30% of costs for manufacturing facilities of clean and efficient vehicles and their parts. Automakers are eligible only if their average fuel economy is no worse than in 2005.</p>	<p><i>Sec. 9311:</i> Modifies grant program to include production of flexible fuel vehicles.</p> <p><i>Sec. 9401:</i> Authorizes DOE loan guarantees for manufacturing facilities for advanced vehicle batteries.</p>	<p>guidelines.</p> <p><i>Sec. 132:</i> Similar to House Sec. 9402.</p> <p><i>Sec. 135:</i> Same as House Sec. 9401.</p>
Batteries and Energy Storage	<p><i>Sec. 244:</i> Authorizes up to \$230 million per year in 2008-2017 for a DOE RD&D program on energy storage systems for motor transportation and electricity transmission and distribution.</p> <p><i>Sec. 514:</i> Authorizes a DOE RD&D program on battery technologies.</p>		<p><i>Sec. 641:</i> Similar to Senate Sec. 244, but also authorizes total of \$65 million per year for demonstration programs for energy storage systems, vehicle energy storage, and reuse and disposal of vehicle batteries.</p>
Plug-In Hybrid Vehicles	<p><i>Sec. 245:</i> (a) Authorizes \$60 million per year in 2008-2012 for a DOE demonstration program for plug-in electric vehicles. (b)-(e) Authorizes \$125 million per year in 2008-2013 for grants and a revolving loan fund for electric transportation projects and for grants to utilities to manage electric transportation loads. (f) Authorizes \$205 million per year in 2008-2013 for R&D and education on plug-in hybrid vehicles.</p>	<p><i>Sec. 9403:</i> Authorizes DOE grants to encourage use of plug-in hybrid vehicles, and education and training programs.</p> <p><i>Sec. 9404:</i> Authorizes DOE grants for production of plug-in hybrid electric motors and conversion modules for use by utilities to store electricity, and at least 5 pilot programs to convert at least 1000 vehicles each.</p> <p><i>Sec. 9407:</i> Authorizes a DOE revolving loan program for electric transportation projects and for grants to utilities to manage electric transportation loads.</p>	<p><i>Sec. 131(b):</i> Authorizes \$90 million per year in 2008-2012 for DOE grants for plug-in hybrid vehicles.</p> <p><i>Sec. 131(c)-(d):</i> Authorizes \$95 million per year in 2008-2012 for electric transportation grants and an education program.</p>
Lightweight Materials R&D	<p><i>Sec. 241:</i> Authorizes \$60 million per year in 2007-2012 for DOE R&D on lightweight materials for vehicles.</p>		<p><i>Sec. 651:</i> Similar to Senate Sec. 241, but \$80 million per year in 2008-2012.</p>
Bus Idling	<p><i>Sec. 278:</i> Authorizes \$5 million per year in 2007-2012 for a DOE education program on reducing school bus idling.</p>		
Public Transit and Railroads		<p><i>Sec. 8201:</i> Authorizes \$850 million per year in 2008-2009 for formula grants for public transportation.</p>	<p><i>Sec. 1111- 1112:</i> Similar to House Sec. 8301-8302, but \$50 million per year for railroad track work.</p>

Item	H.R. 6 as First Passed the Senate	H.R. 3221 as Passed the House	H.R. 6 as Enacted
		<i>Sec. 8301-8302:</i> Authorizes \$250 million per year in 2008-2011 for railroad track work and \$10 million per year for hybrid locomotives.	
Federal and Fleet Fuel Use			
Federal Fuel Costs		<i>Sec. 6202:</i> Requires all federal agencies that deliver fuel to use the fully burdened cost of fuel, including costs to move and protect the fuel, in analyses and decisions on activities that create a demand for energy, such as choosing equipment.	
Federal and Other Fleets	<p><i>Sec. 261:</i> Directs DOE to issue regulations requiring federal fleets to reduce oil use by 20% and increase alternative fuel use by 10% from a 2005 baseline by 10/1/15, and to include a requirement to purchase energy-efficient replacement tires. Directs agencies to encourage employees and contractors to reduce oil use.</p> <p><i>Sec. 510:</i> Requires agencies to ensure that automobiles they purchase are as fuel efficient as practicable.</p> <p><i>Sec. 246:</i> Allows alternative fuel provider and state fleets to use hybrid electric vehicles and other oil-saving technologies to comply with EPAAct 1992 alternative fuel vehicle fleet requirements.</p>	<p><i>Sec 6201:</i> Requires federal agencies and Congress to purchase light- and medium-duty vehicles with low greenhouse gas emissions, based on EPA guidance based on state standards.</p> <p><i>Sec. 9405-9406:</i> Similar to Senate Sec. 246.</p>	<p><i>Sec. 142:</i> Similar to Senate Sec. 261, but without employee incentive programs.</p> <p><i>Sec. 133:</i> Same as Senate Sec. 246</p> <p><i>Sec. 141:</i> Similar to House Sec. 6201, but adds exceptions if no vehicle meets the needs of the agency or if the agency reduces oil use in a more cost-effective way,</p>
Telecommuting		<i>Sec. 6301-6306:</i> Directs federal agencies to allow most employees to telecommute, and to maximize participation. Each agency is to appoint a telework managing officer, and the Government Accountability Office is to evaluate and rate compliance.	

INDUSTRY

Item	H.R. 6 as First Passed the Senate	H.R. 3221 as Passed the House	H.R. 6 as Enacted
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Item	H.R. 6 as First Passed the Senate	H.R. 3221 as Passed the House	H.R. 6 as Enacted
Combined Heat and Power and Waste Energy		<p><i>Sec. 9061:</i> Directs EPA to survey and create a registry of sites where recoverable waste energy and combined heat and power projects may be economically feasible.</p> <p>Authorizes \$100 million in 2008 and \$200 million per year in 2009-2012 for EPA grants for production of electricity and useful thermal energy from waste energy (at \$10 per megawatt-hour or equivalent), and \$10 million per year for grants to states that have achieved 80% recovery of identified opportunities (at \$1000 per megawatt).</p> <p>Requires states and nonregulated utilities to consider a standard for sale of excess power from waste energy recovery projects to the utility or for transport of the electricity to enable sale to a third party.</p> <p>Authorizes \$10 million per year to EERE for Clean Energy Application Centers (formerly CHP Application Centers) in 8 regions.</p>	<i>Sec. 451:</i> Similar to House Sec. 9061.
Industrial RD&D	<i>Sec. 233:</i> Authorizes a DOE RD&D program in cooperation with industry to improve the energy efficiency of data centers, product manufacturing, and food processing. Authorizes \$184 million in 2008 rising to \$208 million in 2012.	<i>Sec. 7303:</i> Authorizes Interior Department research into improving energy efficiency in desalination technology.	<i>Sec. 452:</i> Same as Senate Sec. 233.
Agriculture		<p><i>Sec. 5005:</i> Extends authorization for the Energy Audit and Renewable Energy Development Program to 2012.</p> <p><i>Sec. 5006:</i> Modifies the Farm Bill Sec. 9006 program for energy efficiency and renewable energy grants and loan guarantees to farms, ranches, and rural small businesses, and increases dedicated funding to \$40 million in 2008 rising to \$150 million in 2012.</p>	

Utilities

Item	H.R. 6 as First Passed the Senate	H.R. 3221 as Passed the House	H.R. 6 as Enacted
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Item	H.R. 6 as First Passed the Senate	H.R. 3221 as Passed the House	H.R. 6 as Enacted
Renewable Portfolio Standard		<p><i>Sec. 9611:</i> Requires retail electric providers to meet an increasing portion of electricity needs from renewable sources or energy-efficiency programs, rising from 2.75% of previous year's sales in 2010 to 15% in 2020-2039.</p> <ul style="list-style-type: none"> • Energy efficiency is limited to 27% of the standard, or 4% of electricity in 2020, for states that opt in. Eligible energy efficiency includes customer facility savings, reductions in distribution system losses, net savings from combined heat and power systems, and recycled energy savings. • Allows providers to buy credits, including from third parties, and to borrow credits through 2012. DOE administers the standard and sets regulations, but may delegate administration to states. 	
State Regulation	<p><i>Sec. 258, 273:</i> Requires state regulators to consider:</p> <ul style="list-style-type: none"> • integrating energy efficiency into electric and natural gas utility plans, • modifying rate structures to provide incentives for energy efficiency and to decouple returns from energy sales, and • requiring and funding smart grid investments. 	<p><i>Sec. 9117, 9511:</i> Requires state regulators to consider:</p> <ul style="list-style-type: none"> • integrating energy efficiency into natural gas utility plans, • modifying electric and natural gas utility rate structures to provide incentives for energy efficiency and to decouple returns from energy sales, • requiring and funding smart grid investments, • requiring electricity providers to provide time-based use, price, and source information • modifying existing time-based requirements to take into account smart grid technologies, and • requiring electric utilities to offer home energy audits and to educate homeowners on home energy-efficiency improvements. 	<p><i>Sec. 1307, 532:</i> Same as Senate Sec. 258 and 273, with time-based information added from House Sec. 9117.</p>
Smart Grid and Demand Response	<p><i>Sec. 254-256:</i> Directs DOE, FERC, and other agencies to support advanced distribution and transmission technologies, including real-time monitoring. Authorizes DOE Smart Grid RD&D program, including \$100 million per year in 2008-2012 for demonstration projects.</p> <p><i>Sec. 257:</i> Directs FERC to develop a framework for the connection of smart grid devices and</p>	<p><i>Sec. 9111, 9115:</i> Similar to Sec. 254 and 256 of Senate bill, but authorizes \$20 million per year.</p> <p><i>Sec. 9112-9113, 9116, 9121:</i> Directs the president to establish a Grid Modernization Commission with offices at DOE. Directs the Commission to</p> <ul style="list-style-type: none"> • prepare a biannual assessment and report, • lead development of interoperability protocols and model standards, 	<p><i>Sec. 1301, 1302, 1304:</i> Similar to House Sec. 9111 and Senate Sec. 255 and 256.</p> <p><i>Sec. 1305:</i> Directs the National Institute of Standards and Technology to develop a framework for the connection of smart grid devices and systems,</p>

Item	H.R. 6 as First Passed the Senate	H.R. 3221 as Passed the House	H.R. 6 as Enacted
	systems.	<ul style="list-style-type: none"> • develop a standard for information to electricity purchasers, and • assess demand response potential and develop and implement a demand response action plan. Directs EPA to study environmental effects of demand response and Smart Grid implementation, and develop a plan for incorporating those technologies in EPA energy programs. <i>Sec. 9114:</i> Authorizes \$260 million in 2008 and \$510 million in 2009-2012 for a DOE matching grant program for one-fourth of Smart Grid investment costs.	and FERC to adopt such standards and protocols. <i>Sec. 1306:</i> Similar to House Sec. 9114, but for one-fifth of costs and without specific authorizations. <i>Sec. 529:</i> Similar to part of House Sec. 9121, directs FERC to assess demand response potential and develop a demand response action plan.

Cross-Cutting

Item	H.R. 6 as First Passed the Senate	H.R. 3221 as Passed the House	H.R. 6 as Enacted
National Energy Goals	<p><i>Sec. 252:</i> Sets an energy productivity target of a 2.5% increase in GDP per unit energy input by 2012 and maintaining that annual rate of improvement through 2030. Directs DOE to develop a strategic plan to meet the target within one year.</p> <p><i>Sec. 113:</i> Expresses the sense of Congress that domestic renewable sources of energy should provide 25% of energy consumed in the U.S. by 2025.</p>		<i>Sec. 806:</i> Same as Senate Sec. 113.
Public Outreach	<i>Sec. 253:</i> Authorizes \$5 million per year in 2008-2012 for a DOE national media campaign to increase energy efficiency and reduce oil consumption.		<i>Sec. 801:</i> Same as Senate Sec. 253.
Worker Training	<i>Sec. 277:</i> Authorizes a Department of Labor energy efficiency and renewable energy worker training program, including grants to industry-labor partnerships and to states, and tracking workforce trends.	<i>Sec. 1001-1002:</i> Similar to Senate Sec. 277.	<i>Sec. 1001-1002:</i> Same as House Sec. 1001-1002.
Financing		<i>Sec. 9089:</i> Directs EERE to establish an advisory committee on energy-efficiency financing.	<i>Sec. 495:</i> Similar to House Sec. 9089.
Loan Guarantees	<i>Sec. 124(b):</i> Clarifies qualifications, authority, maximum amounts, rights, and use of fees for loan guarantees under EPAct 2005 Title XVII.	<i>Sec. 9201:</i> Similar to Senate Sec. 124(b)(3), clarifies that loan guarantees may be for up to 100% of the loan and 80% of the project cost.	
ARPA-E		<i>Sec. 4001-4005:</i> Establishes an Advanced Research Projects Agency-Energy, modeled after the Defense ARPA, to conduct RD&D on energy technologies. The Director would report directly to the Secretary of Energy. Authorizes \$300 million in FY 2008, and \$1, 1.1, 1.2, and 1.3 billion in FY 2009-2012.	

Item	H.R. 6 as First Passed the Senate	H.R. 3221 as Passed the House	H.R. 6 as Enacted
<p>Federal Government Greenhouse Gas Emission Requirements</p>		<p><i>Sec. 6101-6107:</i> Directs federal agencies to report their direct and indirect greenhouse gas emissions (including from contractors), and to reduce their emissions to targets set by EPA such that total federal emissions are reduced by at least 2% each year, resulting in zero net emissions by 2050. Also authorizes agencies to buy greenhouse gas offsets.</p>	
<p>Foreign Assistance</p>		<p><i>Sec. 2201-2208:</i> Authorizes \$200 million per year in 2008-2012 for U.S. Agency for International Development clean and efficient energy technologies assistance. Directs the Department of Commerce through the United States and Foreign Commercial Service to promote U.S. exports in clean and efficient energy to India, China, and other countries, and through the International Trade Administration to organize related trade missions. Encourages the Overseas Private Investment Corporation and the U.S. Trade and Development Agency to promote clean and efficient energy technologies. Authorizes a State Department climate change foreign exchange program. Directs the president to support the Interagency Working Group to support a Clean Energy Technology Exports Initiative.</p> <p><i>Sec. 2301-2307:</i> Authorizes \$20 million per year in 2008-2012 for an International Clean Energy Foundation, a government corporation, to make grants for foreign projects to show how to reduce greenhouse gas emissions through clean and efficient energy.</p>	<p><i>Sec. 911-915:</i> Same as House Sec. 2202-2206 (no foreign exchange).</p> <p><i>Sec. 916:</i> Establishes an interagency task force on international clean energy, and working group and center on clean energy exports.</p> <p><i>Sec. 921-927:</i> Same as House Sec. 2301-2307, except in 2009-2013.</p>

Tax Incentives *(not in enacted bill)*

Item	<i>Senate Finance Committee (S. Amdt. 1704)</i> ⁷	H.R. 3221 as Passed the House ⁸	<i>H.R. 6 as Failed in the Senate</i> ⁹
Buildings Tax Incentives			
Home Improvements Credit	<i>Sec. 851: Extends the tax credit for energy-efficient home improvements for two years, through 2009. Adds a \$300 credit for efficient natural gas fired heat pumps (with a coefficient of performance of at least 1.1). Increases the credit for oil furnaces to \$300. Modifies the criteria for heat pumps (to the Consortium for Energy Efficiency's highest tier), for water heaters (to energy factor 0.8 or 90% thermal efficiency), and for oil furnaces and all boilers (to 90% annual fuel utilization efficiency). Applies starting in 2008.</i>		<i>Sec. 1543: Extends the tax credit for energy-efficient home improvements for one year, through 2008. Adds a \$300 credit for wood and other biomass stoves.</i>
New Homes Credit	<i>Sec. 852: Extends the tax credit for energy-efficient new homes for three years, through 2011, and permits the builder to claim the credit on a home built for personal use, starting in 2009.</i>		
Commercial Buildings Deduction	<i>Sec. 853: Extends the deduction for energy-efficient commercial buildings for five years, through 2013, and increases the deduction amount to \$2.25 per square foot (or \$0.75 for subsystems), starting at enactment.</i>	<i>Sec. 12013: Extends the commercial buildings deduction for five years, through 2013.</i>	<i>Sec. 1544: Same as House Sec. 12013.</i>

⁷ This package was approved by the Senate Finance Committee on 6/19/07 but failed to receive the 60 votes needed to overcome a filibuster on the Senate floor, and thus was not part of the Senate energy bill. Also includes incentives for renewable energy and fuels, coal, electricity, and carbon dioxide processing, and repeals oil and natural gas incentives.

⁸ Passed the House on 8/4/07 by a vote of 241-172. The tax title also includes incentives for renewable electricity and fuels, and for New York City transportation infrastructure, and repeals oil and natural gas incentives.

⁹ This version of the bill failed to overcome a filibuster in the Senate, 59-40, on 12/13/07; a similar version of the bill passed the House. Also includes other incentives as above.

Item	<i>Senate Finance Committee (S. Amdt. 1704)</i> ⁷	H.R. 3221 as Passed the House ⁸	<i>H.R. 6 as Failed in the Senate</i> ⁹
Appliances Credit	<p><i>Sec. 854: Extends the tax credit for energy-efficient appliances with modified criteria.</i></p> <p>Dishwashers:</p> <ul style="list-style-type: none"> • \$75 in 2008-2010 if uses no more than 307 kilowatt-hours per year and 5.0 gallons per cycle (5.5 gallons if designed for more than 12 place settings). <p>Clothes washers:</p> <ul style="list-style-type: none"> • \$125 in 2008-2009 for residential top-loading clothes washers with at least 1.8 modified energy factor (MEF) and no more than 7.5 water factor (WF). • \$150 in 2008-2010 for residential or commercial clothes washers with at least 2.0 MEF and no more than 6.0 WF. • \$250 in 2008-2010 for residential or commercial clothes washers with at least 2.2 MEF and no more than 4.5 WF. <p>Refrigerators:</p> <ul style="list-style-type: none"> • \$75 in 2008-2009 if uses at least 23% less energy than required by current appliance standards. • \$100 in 2008-2010 if uses at least 25% less energy. • \$200 in 2008-2010 if uses at least 30% less energy. <p><i>Applies only to the increase in production of eligible appliances in the United States above a two-year rolling baseline, and is capped at \$75 million (and at 2% of average gross receipts) for each manufacturer.</i></p>	<p><i>Sec. 12014: Like Senate Sec. 854, extends the appliances tax credit with modified criteria.</i></p> <p>Dishwashers—Same as the Senate, plus:</p> <ul style="list-style-type: none"> • \$45 in 2008-2009 if uses no more than 324 kilowatt-hours per year and 5.8 gallons per cycle. <p>Clothes washers—Same as the Senate plus:</p> <ul style="list-style-type: none"> • \$75 in 2008 for residential top-loading clothes washers with at least 1.72 MEF and no more than 8.0 WF. <p>Refrigerators—Same as the Senate plus:</p> <ul style="list-style-type: none"> • \$50 in 2008 if uses at least 20% less energy. <p>Dehumidifiers:</p> <ul style="list-style-type: none"> • \$15 (capacity up to 45 pints per day) or \$25 (larger capacity) in 2008 if is 7.5% more efficient than required by new appliance standards that will take effect in 2012. <p>Cap does not apply to highest tier for refrigerators and clothes washers.</p>	<p><i>Sec. 1545: Same as House Sec. 12014.</i></p>
Fuel Cells, Microturbines, and Solar and Wind Equipment	<p><i>Sec. 804: Extends the business investment tax credit for fuel cells, microturbines, and solar equipment for eight years, through 2016, repeals the dollar per kilowatt cap for fuel cells, and allows utilities to take the credit.</i></p> <p><i>Sec. 808-809: Extends the consumer investment</i></p>	<p><i>Sec. 11003: Extends the business investment tax credit for fuel cells and solar equipment for eight years, through 2016, increases the cap for fuel cells to \$3000 per kilowatt, allows the credit to be taken against the alternative minimum tax, and allows utilities to take the credit.</i></p>	<p><i>Sec. 1502(a): Similar to House Sec. 11003, but also includes microturbines.</i></p> <p><i>Sec. 1503: Similar to Senate Sec. 808-809, and allows the credit to be taken against the</i></p>

Item	<i>Senate Finance Committee (S. Amdt. 1704)</i> ⁷	H.R. 3221 as Passed the House ⁸	<i>H.R. 6 as Failed in the Senate</i> ⁹
	<i>tax credit for fuel cells and solar equipment for six years, through 2014, increases the cap for solar equipment to \$4000, and adds a credit for small wind turbines..</i>		<i>alternative minimum tax.</i>
Combined Heat and Power	<i>Sec. 805: Creates a 10% investment tax credit for businesses that install combined heat and power systems. System must have above 60% efficiency, unless designed to use biomass, and must be smaller than 15 megawatt electrical capacity or 2000 horsepower mechanical capacity. Applies through 2016.</i>		<i>Sec. 1502(c): Same as Sec. 805.</i>
Electricity Meters	<i>Sec. 812: Allows accelerated seven-year depreciation to electricity providers for installing a two-way communications network and associated time-of-use meters. Applies through 2010.</i>	<i>Sec. 12015: Allows accelerated five-year depreciation to electricity providers for installing time-of-use meters and associated communication equipment at customer sites. Provider must allow net metering. Applies upon enactment.</i>	<i>Sec. 1546: Similar to House Sec. 12015, but for accelerated seven-year depreciation and applies starting 2008.</i>
Residential Energy Efficiency Assistance Bonds		<p><i>Sec. 12012: Allows states and local governments to issue bonds to fund residential energy assistance, with the federal government paying the interest on the bonds. All of the funds from the bonds must be used for grants or low-interest loans to purchase:</i></p> <ul style="list-style-type: none"> <i>• Energy Star appliances and equipment,</i> <i>• renewable energy and fuel cell equipment, including ground-source heat pumps, and</i> <i>• home improvements certified by an expert to yield at least 20% energy savings.</i> <p><i>Grants and loans may be for up to \$5,000, except that the limit is \$8,000 for home improvements certified to yield 35% savings, and is \$12,000 for 50% savings. At least 20% of bond funds must be used for low-income homes. The issuers pay back the principal, but the bondholders receive tax credits in lieu of interest. The IRS sets the credit rate and a maximum duration. Bonding authority is allocated to state governments based on population, with an overall cap of \$2.4 billion. Applies upon enactment.</i></p>	

Item	<i>Senate Finance Committee (S. Amdt. 1704)</i> ⁷	H.R. 3221 as Passed the House ⁸	<i>H.R. 6 as Failed in the Senate</i> ⁹
Transportation Tax Incentives			
Plug-in Hybrid Vehicle Credit	<p><i>Sec. 842: Creates a new credit for purchasers of plug-in hybrid vehicles (instead of the existing hybrid vehicle credit for these vehicles). The amount of the credit is a base of \$2,500 plus \$400 for each kilowatt-hour (kWh) of battery capacity above 4 kWh, up to a combined maximum of \$7,500 for a light-duty vehicle and as high as \$15,000 for larger vehicles. Vehicles must have at least a 4 kWh capacity battery and meet pollution requirements. Applies 2008 through 2014 or the year in which a total of 250,000 eligible vehicles have been sold.</i></p> <p><i>Also creates a 10% investment tax credit, capped at \$2,500, for the cost of a “plug-in traction battery module” used to convert a hybrid vehicle to a plug-in hybrid vehicle. Applies 2008-2009.</i></p>	<p><i>Sec. 12001: Similar to the Senate plug-in hybrid vehicle provision. Applies only to light and medium-duty vehicles (up to 14,000 pounds). The amount of the credit is a base of \$4,000 plus \$200 for each kilowatt-hour of battery capacity above 5 kilowatt-hours, up to a combined maximum of \$6,000. Applies beginning in 2008 and phases out for each manufacturer over more than a year beginning when a manufacturer has sold 60,000 eligible vehicles.</i></p>	<p><i>Sec. 1528: Similar to House Sec. 12001, but the amount of the credit is a base of \$3,000 plus \$200 for each kilowatt-hour of battery capacity, up to a combined maximum of \$5,000.</i></p> <p><i>Also creates a 20% investment tax credit for conversion of a hybrid vehicle to a plug-in hybrid vehicle, similar to provision in Senate Sec. 842.</i></p>
Hybrid and Diesel Vehicle Credit	<p><i>Sec. 841: Extends the credit for hybrid, advanced diesel, and alternative fuel vehicles through 2012, and the credit for fuel cell vehicles through 2016.</i></p>	<p><i>Sec. 12001(e): Treats the credit for hybrid, advanced diesel, alternative fuel, and fuel cell vehicles for individuals as a personal tax credit, which may affect treatment under the alternative minimum tax.</i></p>	<p><i>Sec. 1528(e): Same as House Sec. 12001(e).</i></p>
Truck Idling Reduction Exemption	<p><i>Sec. 843: Exempts auxiliary power units, which power the truck cab while the engine is off, and advanced insulation, which allows a refrigerated truck to remain cold, from the 12% excise tax on large trucks. Applies starting in 2008.</i></p>		<p><i>Sec. 1529: Same as Senate Sec. 843.</i></p>
Bicycle Commuting Deduction		<p><i>Sec. 12005: Makes employer reimbursements for bicycle commuting expenses up to \$20 per month tax deductible starting in 2008.</i></p>	<p><i>Sec. 1531: Same as House Sec. 12005.</i></p>
SUV Deduction		<p><i>Sec. 12006: Makes SUVs and minivans ineligible for the small business investment deduction, starting in 2008 (cars are already ineligible; the deduction for SUVs and minivans is now capped at \$25,000).</i></p>	

Item	<i>Senate Finance Committee (S. Amdt. 1704)</i> ⁷	H.R. 3221 as Passed the House ⁸	<i>H.R. 6 as Failed in the Senate</i> ⁹
Cross-Cutting Tax Incentives			
Energy Conservation Bonds		<p><i>Sec. 12011:</i> Allows states and local governments to issue tax-credit bonds, similar to the residential energy-efficiency assistance bonds in Sec. 12012 above, to fund energy-efficiency and renewable energy projects. All of the funds from the bonds must be used for specified purposes:</p> <ul style="list-style-type: none"> • capital costs of reducing energy use in public buildings by at least 20%, green community programs, and rural renewable energy, • research in vehicle and building efficiency, biofuels, and carbon sequestration, • mass transit, • demonstration projects for green buildings, battery manufacture, peak electric demand reduction, carbon sequestration, and farm waste fuel, and • public education on energy efficiency. <p>Bonding authority is allocated to state and local governments based on population, with an overall cap of \$3.6 billion. Applies upon enactment.</p>	<p><i>Sec. 1541:</i> Similar to House Sec. 12011, but with overall cap of \$3 billion.</p>