

Side-by-Side Comparison of H.R. 2454 (ACES) and S. 1462 (ACELA)

Provision	House Bill (ACES)	Senate Bill (ACELA)	SEIA's Preferred Outcome
Renewable Portfolio Standard			
Overall RPS requirements	<p>6% in 2012, increasing to 20% by 2020 and through 2039. (p. 31)</p> <p>Qualifying renewables are wind, solar, ocean, geothermal, renewable biomass, biofuels or biogas derived from renewable biomass, and some marine and hydrokinetic energy.</p> <p>Non-qualified hydroelectric, new nuclear, and fossil-fueled facilities equipped with carbon capture are excluded from a utility's baseload calculation.</p> <p>Up to 25% of the RPS requirement can come from energy efficiency improvements. (p. 27) State governors can petition for up to 40% of the RPS to be satisfied by annual electricity savings. (p. 27)</p> <p>Renewable energy credits can be banked for 3 years. (p. 37)</p>	<p>3% in 2011, increasing to 15% by 2021 and through 2039. (p. 103)</p> <p>Qualifying renewables are wind, solar, ocean, geothermal, biomass, landfill gas, incremental hydropower, hydrokinetic, new hydropower at existing dams with no generation, incremental geothermal production, coal-mined methane, qualified waste-to-energy, or any other renewable energy source based on innovative technology--determined by the Secretary. (p. 102)</p> <p>Efficiency measures can satisfy up to 26.67% of a utility's RPS requirement. (p. 103)</p> <p>Renewable energy credits can be banked for 3 years. (p. 107)</p>	<p>Basic framework of the RPS that is designed to encourage the growth of all forms of renewable energy, including solar applications (utility-scale, distributed, and solar water heating).</p> <p>Match President Obama's stated goal of 25% by 2025.</p> <p>Maintain efficiency as a separate category, and not a carve-out from the overall RPS requirement.</p>

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Applicability	<p>Utilities selling less than 4 million megawatt hours per year are exempt.</p> <p>Establishes an RPS for all federal energy purchases. The Federal government must purchase 6% renewable energy by 2012, increasing to 20% by 2020. (p 54)</p>	<p>Utilities selling less than 4 million megawatt hours per year are exempt. (p. 112)</p>	<p>Require all utilities to meet the RPS.</p>
Treatment of Distributed Generation within the RPS	<p>Distributed generation is defined as:</p> <ul style="list-style-type: none"> • A facility that generates renewable electricity (Solar Water Heating does not count) • Primarily serves 1 or more electricity consumers at or near the facility site • Is no larger than 2 megawatts in capacity for facilities in service at the time of enactment, 4 megawatts for new facilities <p>DG systems receive a 3x REC multiplier. (p. 34)</p>	<p>Distributed generation is defined as:</p> <ul style="list-style-type: none"> • A facility at or near a customer site • That provides electric energy to 1 or more customers for purposes other than resale other than to a utility through a net metering arrangement. (p. 94) <p>DG systems less than 1 megawatt receive a 3x REC multiplier. (p. 105)</p>	<p>Maintain the 3x multiplier for DG systems.</p> <p>Increase the maximum size of a distributed system to 5 MW.</p>
Treatment of Solar Water Heating within the RPS	<p>Solar water heating qualifies as a technology that meets the efficiency portion of the RPS requirement. (p. 39)</p>	<p>No Similar Provision.</p>	<p>Include solar water heating within the RPS framework as a qualifying renewable energy technology.</p>

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Alternative Compliance Penalty	<p>Establishes an ACP of \$25 per megawatt-hour (adjusted for inflation)</p> <p>Payments go to states to be used for deploying renewable electricity generation and energy efficiency mechanisms. (p. 44-49)</p> <p>Requires that if a utility opts for an ACP, it must certify that it has maximized the level of deployment of renewable electricity generation (measured in megawatt hours) and electricity savings per dollar. (p. 50)</p>	<p>Establishes an ACP of 2.1 cents per kilowatt hour (adjusted for inflation). (p. 103)</p> <p>Payments are returned to states whose utilities have contributed to the fund. States will use the money to:</p> <ul style="list-style-type: none"> • increase the quantity of renewable energy produced in State • promote the deployment and use of electric vehicles in State • offset increases in customer's bills. (p. 111) <p>No similar provision</p>	<p>Increase the ACP to at least 5 cents per kilowatt hour (\$50 per megawatt-hour).</p> <p>Ensure that ACP does not go back to utilities by supporting the House language requiring states to use payments collected to deploy renewables.</p>

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Transmission			
Regional Transmission Grid Planning	<p>Not later than 1 year after enactment, FERC shall adopt rules for national electricity grid planning principles that will apply to on-going and future transmission planning</p> <p>Not later than 3 months after adoption of rules by FERC, regional planning entities must identify themselves and the regions for which they propose to develop plans</p> <p>FERC shall encourage cooperation and coordination across regions; provide support and assistance as requested; and assist regional planning entities in resolving conflicts between plans</p> <p>Plans must be submitted to FERC 18 months after final rule is issued (p. 172-190)</p>	<p>Not later than 180 days after enactment, FERC shall publish a rule establishing planning principles for the development of interconnection-wide plans which identify high-priority national transmission projects. (p. 63)</p> <p>Regional plans are to be developed by one or more utilities, transmission owners, RTOs/ISOs, or regional entities. Any utility that does not participate in a regional planning process must develop its own plan. (p. 66-67)</p> <p>Plans shall be submitted to FERC within 2 years of enactment of this legislation and periodically thereafter, as established by FERC. (p. 67)</p> <p>FERC shall encourage coordination that would permit submission of a single, interconnection-wide plan. FERC may require modification of plans to reconcile inconsistencies or achieve established policy goals. (p. 67-68)</p>	<p>Develop a strong national transmission grid that enables increased renewable energy generation.</p> <p>Require the development of regional and interconnection-wide transmission plans, to be approved by FERC.</p>

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Federal Siting Authority	<p>This authority applies only to the Western Interconnection and only to interstate transmission projects.</p> <p>States will have one year from time of filing of a proposal to site a transmission project identified in the planning stage.</p> <p>If state(s) have been unable to site the facility or have denied the application, the transmission developer may go to FERC for its siting permits. FERC shall consider any siting constraints and mitigation measures identified by state and local authorities.</p> <p>Dept. of the Interior will be the lead agency for any transmission project that involves public lands.</p>	<p>States will have one year from time of filing of a proposal to site a high priority national transmission project identified in the planning stage. (p. 69)</p> <p>If state(s) have been unable to site the facility or have denied the application, the transmission developer may go to FERC for its siting permits. (p. 69-70) FERC shall give due weight to the record established in the state siting proceedings. (p. 73)</p> <p>Dept. of the Interior will be the lead agency for purposes of coordinating the environmental review for any high-priority transmission project that involves public lands. (p. 77)</p>	<p>Ensure FERC siting authority if state(s) fail to issue permits for transmission facilities identified in the plan.</p>

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Regional Cost Allocation	No Similar Provision.	<p>Not later than 270 days after enactment, FERC shall establish rules governing cost allocation methodologies for high-priority national transmission projects. (p. 87)</p> <p>FERC may allocate costs to load-serving entities within all or part of a region. Costs may not be allocated unless they are "reasonably proportionate to measurable economic and reliability benefits." (p. 87-88)</p> <p>Costs may be allocated to generators of electricity connected by a high-priority national transmission project. (p. 88)</p> <p>FERC shall provide deference to cost allocation proposals supported by broad agreement among affected States. (p. 88)</p>	Allocate the cost of new transmission facilities identified in the interconnection-wide plan broadly across the interconnection.

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Climate			
Carbon Allowances	<p>Renewable energy and energy efficiency receive 10% of emission allowances: 9.5% for the State Energy and Environmental Development (SEED) accounts (p. 872) and 0.5% going toward greater efficiency and renewables in buildings.</p> <p>The SEED allowances begin at 9.5% in the first 4 years, declining afterwards until 2050. (p.872)</p> <p>States have control of the allowances and the proceeds from the SEED accounts. States must use at least 20% of the proceeds exclusively for renewable energy projects, with no limit on the project size or scale. (p. 148)</p> <p>Solar also qualifies for allowances allocated to Energy Innovation Hubs, investment in workers, domestic and international adaptation, and the international clean technology fund. (p. 873-880)</p>	There currently is no Climate title in the Senate.	<p>Maintain the allowance allocation to solar and other renewables.</p> <p>In addition to the allocation via the states, SEIA strongly supports an “off-the-top” provision, in which approximately 1% of allowances would be set aside in a voluntary renewable energy account that is under the control of the administrator. Under this off-the-top provision, based on a demonstration and documentation of voluntary renewable energy purchases, the administrator would retire carbon allowances on behalf of the voluntary purchases.</p>
Auction Revenues	Auction proceeds are directed toward reduction of the deficit and a Climate Change Consumer Refund account. (p. 881-882)	There currently is no Climate title in the Senate.	If the auction proceeds are used for anything beyond debt reduction and energy bill assistance programs, 5% of the auction proceeds should go toward a Solar Deployment Fund.

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Preservation of State Programs	The bill does not hinder the state programs; however, a state is not allowed to implement a cap and trade program or similar program that caps and trade emissions. (p. 1018)	There currently is no Climate title in the Senate.	Ensure no current state programs for solar are hindered or pre-empted.
Other Solar-Related Provisions			
Long-term Power Purchase Agreements for the Federal Government	<p>Grants federal agencies the authority to enter into 20-year power purchase agreements for renewable energy.</p> <p>Requires the Secretary of Energy to report agency-by-agency renewable electricity consumption.</p> <p>Requires the Secretary of Energy, through the Federal Energy Management Program, to publish a standardized renewable energy purchase agreement that contains commercial terms and conditions that Federal agencies may use to acquire electricity generated from a renewable energy resource. (p.55)</p>	<p>Federal agencies can enter into a contract of no more than 30 years to acquire renewable energy. (p. 273-274)</p> <p>The Secretary of Energy, acting through the Federal Energy Management Program, will publish a standardized renewable energy purchase agreement that contains commercial terms and conditions that Federal agencies may use to acquire renewable energy. (p. 274)</p>	Ensure authority to sign 20- to 30-year power purchase agreement for all federal entities.

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<p>Clean Energy Deployment Administration)</p>	<p>Establishes a Clean Energy Deployment Administration to aid the domestic development and deployment of renewable technologies including solar. (p. 269-273)</p> <p>CEDA is empowered to provide a suite of financing options, including direct loans, letters of credit, loan guarantees, insurance products and others.</p> <p>CEDA is an independent corporation of the U.S.</p>	<p>Establishes a Clean Energy Deployment Administration to promote the domestic development and deployment of clean energy technologies including the development of breakthrough technologies perceived as too risky by commercial lenders. CEDA will also focus on the deployment and advancement of achieving the commercial viability of clean energy technologies. (p. 20 & 34)</p> <p>CEDA will provide various types of credit to support the deployment of clean energy technologies, including loans, loan guarantees and secondary market support. CEDA will also develop products such as clean energy-backed bonds that would allow less expensive lending in the private sector. (p. 33 & 38)</p> <p>CEDA is established as a corporation within the Department of Energy. (p. 20)</p> <p>Implements reforms to the existing DOE Loan Guarantee Program including a new "Clean Energy Investment Fund." (p. 11)</p>	<p>Create a clean energy bank that would be the central office for the government to provide a range of financial tools to support the widespread deployment of solar energy in the U.S. This entity would offer rebates, loan guarantees, and other financial mechanisms to finance solar energy deployment and generation.</p> <p>Support the House provision establishing CEDA as an independent corporation.</p> <p>Eliminate the preference for "breakthrough" technologies.</p>

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Interconnection Standards and Net Metering Provisions	<p>Prohibits utilities from imposing additional charges or fees if a federal facility installs on-site generation that interconnects to the grid.</p> <p>Requires utilities to offer net metering to federal facilities and provide an electric meter capable of measuring the on-site generation.</p> <p>Applies to utilities that sold over 4 million MWh of electricity in the preceding year. (p.190-195)</p>	<p>Directs FERC to create two national interconnection standards: one for systems 15 kW or smaller, and one for systems between 15 kW and 20 MW. Requires FERC to study extending the former standard to systems up to 50 kW. (pp. 312-315)</p>	<p>Create uniform net metering and interconnection standard for all retail and commercial customers, with provisions to allow for full offset of electricity purchased at retail by electricity generated on-site, and with allowances for use of time-differentiated rates.</p>
Elimination of Restrictive Covenants, High Permit Fees	<p>Conditions receipt of Community Development Block Grant (CDBG) funding on a limit for the costs of a permit or license for the construction or installation of any solar system (Residential: \$500; Non-residential: \$10,000), including solar thermal systems. (p. 416-419)</p> <p>Makes it illegal for any private covenant, contract provision, lease provision, homeowners' association rule or bylaw for one-family homes to prohibit the installation of solar systems, including solar thermal. (p. 419)</p>	<p>No Similar Provision</p>	<p>Maintain House Language</p>

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Jobs and Worker Training	<p>The Secretary of Education will award grants, on a competitive basis, to eligible partnerships to develop programs of study focusing on emerging careers and jobs in renewable energy, energy efficiency, and climate change mitigation. (p. 1127)</p> <p>Authorizes the HUD Secretary to create grants to train, educate, support, or advise community development organizations or qualified youth service and conservation corps in improving energy efficiency or installing or constructing renewable energy improvements, including solar. (p. 368)</p> <p>Establishes an Energy Efficiency and Renewable Energy Worker Training Fund. (p. 1131)</p> <p>Establishes within the Department of Labor an information and resources clearinghouse to aid career and technical education and job training programs for the renewable energy sector. (p. 1131)</p>	<p>The Director of Science, Engineering, and Mathematics shall establish best practices for career pathway programs at public secondary schools that prepare students for careers in the energy technology industry. (p. 431)</p> <p>This bill will establish a grant program of grants that will be awarded to State educational agencies to help local educational agencies create or expand energy career academies.</p> <p>This program will supply sufficient training to allow academy graduates to secure jobs in the energy technology industry.</p> <p>This program will offer grants to state educational agencies to help create or expand energy career academies.</p> <p>The Director of the Office of Science and Technology Policy shall report to Congress on energy workforce training programs funded by Federal agencies.</p> <p>The Director of the Office of Science and Technology Policy shall also submit a plan which will provide a Federal strategy for the training of a domestic workforce to support the production, transmission, and use of energy in the U.S.</p>	<p>Support the plan for state educational agencies to developing programs of study in the renewable energy sector which will prepare students for careers in the renewable energy industry.</p> <p>Support domestic workforce education and training in the renewable energy industry.</p>

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Energy Innovation Centers	<p>The Secretary of Energy shall carry out a program to establish Clean Energy Innovation Centers to enhance the Nation's economic, environmental, and energy security by promoting commercial deployment of clean, indigenous energy alternatives to oil and other fossil fuels, reducing greenhouse gas emissions, and ensuring that the United States maintains a technological lead in developing and deploying state-of-the-art energy technologies. Clean energy technology includes solar resources.</p> <p>The center will focus on the advancement of clean energy technologies including solar. (p. 235-249)</p>	<p>Energy Innovation and Workforce Development: sets the authorization level of the Department of Energy's energy research and development program from \$281.97 billion in fiscal year 2010 to \$563.26 billion in fiscal year 2013. (p. 411)</p>	<p>Double DOE's research and development program, especially R&D for solar technologies.</p>
Smart Grid Advancement	<p>Each load serving entity shall prepare a peak demand reduction plan that demonstrates its ability to meet each applicable goal by any or a combination of the following options such as megawatts from a demonstrated and assured minimum of distributed solar electric generation capacity in instances where peak period and peak demand conditions are directly related to solar radiation and accompanying heat. (p. 154-172)</p>	<p>The Secretary of Energy, in cooperation with relevant entities, shall develop an action plan, updated every 3 years, to optimize and make more efficient the planning and operation of national and local electricity systems in a manner that the system load factor of the systems will be improved by 1.5 percent per year during each of calendar years 2010 through 2030. (p. 308-310)</p>	<p>Support provisions to advance the smart grid.</p>

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Competitive Grant Program	The Secretary of Energy will provide grants to organizations to conduct business competitions to offer incentives and training to entrepreneurs and early stage start-up companies to meet environmental, energy, and economic goals including renewable energy. (p. 311-312)	No Similar Provision	Support the House provision to include a competitive grant program.
State Feed-in-Tariff	Allows states and/or regulatory authorities to set the rates for electricity sales from renewable energy sources in accordance with a State- approved production incentive program, under which the facility voluntarily sells the electric energy. (p. 53)	No Similar Provision	Ensure that states have the authority to create a feed-in-tariff policy, should the state so desire one.
National Energy Efficiency Goals	Establishes a goal to improve the overall energy productivity of the U.S. by at least 2.5 percent per year by 2012 and to maintain that annual rate of improvement. (p. 565-568)	Establishes a goal to improve the nation's energy productivity by at least 2.5% annually by 2012 (measured in GDP per unit of energy input), and to maintain that annual rate of improvement till 2030. (p.278)	Maintain this goal of 2.5% annually by 2012 and thereafter, and the ability to strengthen this goal if necessary.

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Building Codes	<p>Compared to the 2006 IECC for residential buildings and the ASHRAE Standard 90.1-2004 for commercial buildings, new buildings must meet:</p> <ul style="list-style-type: none"> • 30% reduction in energy use relative to a comparable building constructed in compliance with the baseline order (effective on enactment date). • 50% reduction in energy use relative to baseline code in 2014 for residential buildings, 2015 for commercial buildings. <p>If there is any successor code to the baseline that provides for greater reduction in energy use, the overall percentage reduction in energy use provided by the successor code shall be the national building code efficiency target.</p>	<p>Compared to the 2006 IECC for residential buildings and the ASHRAE Standard 90.1-2004 for commercial buildings, new buildings must meet:</p> <ul style="list-style-type: none"> • 30% energy savings for each model code or standard released during and after 2010. • 50% energy savings for each model code or standard released during and after 2016. (p. 229) <p>Voluntary advanced model codes that achieve 30% energy savings compared to national model building codes and standards shall be supported. (p. 240)</p>	Maintain this provision in the final bill.

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Residential High-Performance Zero-Net Energy Buildings initiative	Directs the Secretary of Energy to consider ways to support deployment of renewable technologies and seek to achieve the goal of zero net energy commercial buildings.	<p>Directs the Secretary of Energy to develop technologies, policies, and practices for establishment of zero net energy buildings.</p> <p>Promote strategies for design and construction by 2015; and new residential building constructed on or after 2020 to be a cost-effective zero net energy building. (p. 302)</p> <p>Funds appropriated are:</p> <ul style="list-style-type: none"> • \$40 million in FY2010 • \$60 million in FY2011, FY2012 • \$100 million each year FY2013-FY2020 	Maintain support for zero net energy buildings.

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Labeling of Building Energy Performance	<p>Establish a building energy performance labeling program with broad applicability to the residential and commercial markets to enable and encourage knowledge about building energy performance.</p> <p>Demonstration projects will be conducted.</p> <p>Appropriated amount: \$50,000,000 for implementation FY2010-FY2020 to the administrator; and \$20,000,000 for implementation in FY2010 and \$10,000,000 in FY2011-FY2020 to the Secretary of Energy.</p>	<p>Establishes a voluntary energy performance labeling and information program for residential and commercial buildings. (p. 285)</p> <p>Establishes a voluntary state and local building information program. (p. 293)</p> <p>Demonstration projects will be conducted for energy performance labeling, including zero net energy commercial buildings. (p. 292)</p>	Support a labeling system on buildings showing energy performance.

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Energy Efficiency Retrofits	<p>Creates a Retrofit for Energy and Environmental Performance (REEP) Program.</p> <p>Incentives for reducing financial barriers to improved energy and environmental performance in buildings shall be created.</p> <p>Residential buildings funds for audits and energy savings up to 50% of the total retrofit costs.</p> <p>Non-residential buildings funds for audits and energy savings based on retrofitted floor area. (p. 369)</p>	<p>Grants made available to states to carry out Energy Efficiency Retrofit Programs.</p> <p>Priority for funding based on cost-effectiveness of the energy efficiency program, number of jobs created, and quantity of energy and water saved, among others.</p> <p>States that receive a grant to carry out an energy efficiency program may implement the program through the state or a 3rd party designated by the state.</p> <p>Grants may be given from the state to a home owner for an energy efficiency retrofit in accordance with either a prescriptive option or a performance based option.</p> <p>Grants may be given from the state to a commercial building owner for an energy efficiency retrofit based on floor area retrofitted. (p. 255)</p> <p>Establishes a Home Energy Retrofits Finance Program to provide grants to states for the purpose of expanding or establishing a State revolving finance fund for energy efficiency measures and renewable energy improvements in residential buildings. (p. 266)</p>	<p>Maintain retrofitting provisions as long as solar hot water and other solar technologies qualify.</p>

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Energy Efficiency Manufactured Homes	Rebates of up to \$7,500 are available to assist low-income households residing in manufactured homes constructed prior to 1976 to purchase new, Energy Star-qualified manufactured homes. (p. 372-376)	Manufactured Housing Energy Efficiency Grant Program is established, and includes Multifamily homes. (p. 246)	Support an energy efficient manufactured homes provision as long as solar technologies qualify.
Building Efficiency Knowledge Centers	The Secretary of Energy will provide funding to institutions of higher education for Building Assessment Centers to identify opportunities for optimizing energy efficiency and environmental performance in existing buildings. Solar water heaters qualify for this program. (p. 251-253)	Provides grants to higher education institutions to establish building training and assessment centers for: <ul style="list-style-type: none"> • Promoting emerging technologies and concepts • Promoting R&D for heating and cooling, among others. (p. 249) 	Maintain provisions for building training and assessment centers.

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Other Green Building Provisions	<p>Gives Fannie Mae and Freddie Mac authority to insure energy-efficiency mortgages. These include installation of solar systems. (p. 609)</p> <p>Solar Counts toward energy efficient certifications for manufactured housing with mortgages. (p.623- 625)</p> <p>Requires consideration of the installation of renewable energy sources when doing private property appraisals. (p. 650)</p> <p>Establishes the Alternative Energy Sources State Loan Fund and authorizes \$5 billion for its funding. The fund can provide loans to States and Indian Tribes to incentivize the installation of renewable energy systems in homes, commercial property, and public buildings. (p. 654)</p>	No similar provision.	Support the House provision to promote energy-efficient mortgages.

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Financing Clean Energy Manufacturing	<p>Establishes a Clean Energy Manufacturing Revolving Loan Fund Program to provide loans to small and medium-sized manufacturers to finance the cost of re-equipping, expanding, or establishing a manufacturing facility in the United States to produce clean energy technology products, energy efficient products, or reduce the energy intensity or greenhouse gas production of a manufacturing facility.</p> <p>Up to \$15 billion is authorized for the fund in Fiscal Years 2010 and 2011. (p. 534)</p>	<p>Requires the National academy of Sciences to conduct a study of the development of advanced manufacturing capabilities for various energy technologies, including recommendations on leveraging the expertise of energy efficiency and renewable energy user facilities so that best materials and manufacturing practices are designed and implemented. (p. 191)</p> <p>Under the Sustainable Manufacturing Initiative, the Secretary of Energy to award grants to State-industry partnerships to develop, demonstrate, and commercialize new energy efficiency technologies. This will be a competitive program. (p. 187)</p>	Support a Clean Energy Manufacturing Revolving Loan Fund.
Grand Energy Challenges Research Initiative	No Similar Provision.	<p>A Grand Energy Challenges Research Initiative shall be established to accelerate the solutions to 'Grand Energy Challenges' by creating large-scale research activities such as basic, applied, and engineering sciences and technology development. The Department of Energy shall award competitive grants to consortiums that integrate diverse approaches to solving one or more of the 'Challenges' through a robust plan designed to achieve success. (p. 414-417)</p>	Support the Senate provision for a Grand Energy Challenges Research Initiative.