

Executive Summary

The *American Recovery and Reinvestment Act* Puts Construction, Manufacturing Back to Work: Key Provisions Invest in Solar Energy to Keep Job-Creating Sector Booming

House – Senate Conference Offers Chance to Improve Bill Further for Greater Economic Impact

If the conference recommendations suggested below are enacted, these provisions will create 67,000 jobs, deploy 1 gigawatt (GW) of solar power and avoid more than 1 million tons of carbon emissions in 2009 alone. In 2010, the industry will create 119,000 jobs, deploy more than 2 GW, and avoid 3.2 million tons of carbon emissions.

Renewable Energy Grants: Offers DOE grants equal to 30 percent of the cost of solar property placed in service during 2009 and 2010, an alternative to tax credits that are not functioning as Congress intended. *SEIA supports creation of grant program and recommends allowing grants for utility-scale projects that have commenced construction within 2 years or are placed in service by 2013.* (H.R. 1)

Federal Power Purchase Agreement (PPA) Term: *SEIA recommends allowing the federal government to enter into 30-year power purchase agreements to secure long-term, below-market electricity rates by placing solar energy on federal buildings and lands. (Current limit is 10 years. This provision is not included in either House or Senate version.)*

Repeals Penalty for Financing Solar Projects: Allows businesses and individuals to qualify for the full amount of the solar tax credit, even if projects are financed with local development bonds or other subsidized energy financing. *SEIA supports this provision in both H.R. 1 and Senate version.*

Loan Guarantee Program: Establishes a temporary DOE loan guarantee program for renewable energy and electric power transmission projects. *SEIA recommends modifying the new program to allow “innovative” technologies (along with “commercial” technologies) to qualify for the new program. Also, projects that “reach financial close by Sept. 30, 2012” should be eligible for a loan guarantee.* (H.R. 1, Senate version)

Manufacturing Investment Credit: Provides up to \$2 billion to fund 30 percent investment tax credit for facilities engaged in the manufacture of advanced energy property. Projects must be certified by the Treasury, in consultation with the Secretary of Energy, through competitive bidding. *SEIA supports this Alternative Energy Investment Credit in the Senate version and recommends removing the prohibition on using this credit along with the Enhanced Research and Development Credit.*

Side-by-Side Comparison of Solar Energy Provisions in the *American Recovery and Reinvestment Act of 2009*

Remove Limits on Solar Water Heating: Repeals the \$2,000 monetary cap, making solar water heating property eligible for the full 30 percent tax credit, like other solar technologies. *SEIA supports this provision in both House and Senate versions.*

5-Year Carry-Back of Business Tax Credits: Extends the carry-back period for general business tax credits, including energy credits, from 1 year to 5 years, and temporarily allows 2008 and 2009 credits to be used to offset alternative minimum tax. *SEIA supports this Senate provision. (Senate version.)*

Extend Bonus Depreciation: Allows businesses to recover 50 percent of the cost of capital investment more quickly to spur upfront expenditures in 2009. (H.R. 1) *SEIA supports this provision in both House and Senate versions.*

Solar on Federal Property: Appropriates \$6 billion for expenditures to construct, repair and make alterations on federal buildings (and \$950 million for VA medical facilities) to increase energy efficiency, including installing solar energy equipment. (H.R. 1, Senate version converts to high performance green buildings and only includes \$323 million for VA facilities.) *SEIA supports the House version.*

Energy Dept. Funding: Appropriates \$18.5 billion to energy efficiency and renewable energy areas, including \$2 billion for R&D, demonstration and deployment projects. (H.R. 1, Senate is \$14.4 billion.) *SEIA recommends \$2.6 billion for EERE (Senate version) with \$400 million to go specifically to solar energy areas, including the Solar Energy Technologies Program and solar heating and cooling research within the Building Technologies Program.*

Interior Dept. Funding: Appropriates \$135 million to BLM for the management of lands and resources and suggests funds be used for renewable energy rights-of-way and related permitting projects. (Senate version.) *SEIA supports the Senate provision and recommends \$5 million be used to expedite processing of permits for renewable energy development.*

New Clean Renewable Energy Bonds (“New CREBs”): Provides an additional \$1.6 billion for new clean renewable energy bonds to finance facilities that generate electricity from renewable energy sources including solar facilities. *SEIA supports this provision in both the House and Senate versions.*

Enhanced R&D Credit: Provides enhanced 20 percent research and development credit in 2009 and 2010 for research expenses for renewable energy sources including solar and efficient transmission of electricity. *SEIA supports the House version and recommends eliminating a prohibition on using this credit in conjunction with the manufacturing tax credit.*

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Qualified Energy Conservation Bonds: Authorizes \$2.4 billion in bonds to finance State, municipal and tribal government programs to reduce greenhouse gas emissions. *SEIA supports this provision in both the House and Senate versions.*

Electric Transmission Infrastructure: Allows Western Area Power and Bonneville Power Administrations to borrow funds (up to \$3.25 billion each) to construct or finance transmission lines. House version directs the DOE to include analysis of renewable energy sources, including solar, in its 2009 National Electric Transmission Congestion Study. *SEIA supports the House version.*

Solar for Schools: Appropriates \$20 billion (Senate and House differ somewhat in directed funding levels) in grants for public schools and institutions of higher education to renovate facilities, including installation of solar energy systems. (H.R. 1, Senate version has \$20.5 billion.) *SEIA supports the Senate's \$17 billion funding for public schools, the House funding for higher education projects (\$6 billion) and House language to carve out 25 percent of funds for green projects.*

Green Collar Jobs: Appropriates \$500 million (\$250 million in Senate version) to fund job training programs in energy efficiency and renewable energy. Also appropriates \$300 million (\$160 million in Senate version) for rehabilitation and construction projects on Job Corps Centers, including energy efficiency and renewable energy. *SEIA supports the House version's funding levels.*

Smart Grid: Provides 50 percent reimbursement to electric utilities that carry out smart-grid demonstration projects. *SEIA supports this provision in both House and Senate versions.*

Solar for the Military: Appropriates \$350 million for DOD research, development, testing and evaluation of projects to improve energy generation and transmission. Senate version appropriates \$200 million, an additional \$494 million for Navy and Marine Corps facilities, and further specifies that funds are for use by operational forces and military installations, including solar demonstrations. *SEIA recommends the House funding level with the Senate's project-specific language, and the Senate's \$494 million for Navy and Marine Corp projects.*

Remedy for AMT and R&D Credits in Lieu of Bonus Depreciation: Senate version allows a taxpayer in a loss position to use the bonus depreciation. *SEIA supports the Senate provision.*

Solar Water Treatment Plants: Appropriates \$2.4 billion in grants that could be used to put solar on wastewater treatment plants. Senate version allocates less than \$2 billion. *SEIA recommends the House version.*

Side-by-Side Comparison of Solar Energy Provisions in the *American Recovery and Reinvestment Act of 2009*

<i>Provision</i>	<i>House (H.R. 1)</i>	<i>Senate Treatment</i>	<i>Preferred Conference Outcome</i>
<p>DOE Grant Program. (Coordination with Renewable Energy Grants) <i>This program does not exist under current law.</i></p>	<p>Requires DOE to, within 60 days of application, provide a grant to the applicant equal to 30% of the cost of the solar property. (Percentages vary for other energy technologies.) Eligible property must be placed in service during 2009 or 2010. Tax-exempt entities are not eligible to receive this grant. Entities must choose between claiming the ITC and receiving a grant; they may not receive both. (pp. 330-334)</p>	<p>No provision.</p>	<p>We strongly support the creation of the Grant Program. However, as currently structured it does not help a critical part of the solar industry – utility-scale projects. The current program limits eligible projects to those that can be placed in service within two years. The House provision should be modified to allow utility-scale solar projects that have commenced construction within two years of bill passage to be eligible to receive a grant. (See SEIA fact sheet for more information.)</p> <p>Alternatively, the duration of the grant program should match that of the Senate option allowing section 45 technologies that would ordinarily claim a production tax credit (PTC) to take a section 48 investment tax credit (ITC). As currently drafted, that option is available through December 31, 2013. Therefore, any utility-scale solar project placed in service by December 31, 2013 would qualify for the grant program.</p> <p>Another option would be to adjust the two-year period for the grant for utility-scale projects to 2011 and 2012, rather than 2009 and 2010, with discretionary authority to the Secretary to extend.</p>
<p>Federal Long-Term Power Purchase Agreement (PPA) Authority. <i>Current law only allows for 10-year federal power purchase agreements.</i></p>	<p>No provision.</p>	<p>No provision.</p>	<p>Allow the federal government to enter into 30-year PPA agreements.</p> <p>Providing this authority will not only be stimulative and create tens of thousands of jobs, but will also save the federal government money on its energy costs. It is critical to achieving the Administration’s goal of doubling renewable energy in three years. (See SEIA fact sheet for more information.)</p>

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Provision	House (H.R. 1)	Senate Treatment	Preferred Conference Outcome
<p>Repeal of subsidized energy financing limitation on the investment tax credit. <i>Current law requires that the solar investment tax credits under Code sections 48 and 25D be reduced if the property qualifying for credit is also financed with industrial development bonds or through any other Federal, State, or local subsidized financing program. The basis of the property is reduced under current law by the amount of subsidized energy financing.</i></p>	<p>Repeals the subsidized energy financing limitation on the investment tax credit in order to allow businesses and individuals to qualify for the full amount of the investment tax credit even if such property is financed with industrial development bonds or through any other subsidized energy financing.</p>	<p>Same as H.R. 1.</p>	<p>Maintain this provision in the final bill.</p>
<p>DOE Loan Guarantee Program. <i>Current law provides loan guarantees for “innovative technologies.” DOE has the authority to guarantee up to \$38.5 billion worth of loans, of which \$10 billion is designated for energy efficiency or renewable energy technologies that avoid or reduce greenhouse gases.</i></p>	<p>Establishes a temporary loan guarantee program for “commercial technology” renewable energy and electric power transmission projects that will commence construction not later than September 30, 2011. (p. 639)</p> <p>Appropriates \$8 billion for the cost of the loans guaranteed under the new program. Sets aside \$25 million for DOE to administer the program. (p. 66)</p> <p>No provision.</p> <p>No provision.</p>	<p>Establishes a temporary loan guarantee program for “commercial technology” renewable energy and electric power transmission projects that will reach financial close not later than September 30, 2012. (S. 336, p. 87)</p> <p>Appropriates \$9.5 billion to pay the costs of guarantees made under this new program. Sets aside \$15 million for DOE to administer the program. (S. 336, p. 76)</p> <p>Provides DOE with an additional \$50 billion worth of loan guarantee authority. (S. 336, p. 74)</p> <p>Specifies that no monies are appropriated to cover the subsidy cost of loan guarantees for the original “innovative technologies” program. (S. 336, p. 75)</p>	<p>Modify the temporary loan guarantee program to include both “commercial” and “innovative” renewable energy projects. Maintain the Senate provision that eligible projects are those that will “reach financial close not later than September 30, 2012”. (See SEIA fact sheet.)</p> <p>Maintain the Senate’s funding level in the final bill.</p> <p>Strike the Senate’s provision and ensure that the appropriation for credit subsidy costs may be applied to support innovative renewable energy projects, as well as commercial projects.</p>

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Provision	House (H.R. 1)	Senate Treatment	Preferred Conference Outcome
<p>Manufacturing Tax Credit. (Alternative Energy Investment Credit) <i>This program does not exist under current law.</i></p>	No provision.	Establishes a 30 percent credit for facilities engaged in the manufacture of renewable energy property. Credits are available only for qualified advanced energy manufacturing projects certified by the Secretary of Treasury, in consultation with the Secretary of Energy. The Secretary of Treasury must establish a certification program no later than 180 days after date of enactment, and may allocate up to \$2 billion in credits. Upon certification, the applicant has five years from the date of issuance of the certification to place the project in service.	<p>Maintain the Senate provision in the final bill.</p> <p>Eliminate the prohibition on using this credit in conjunction with the Enhanced Research and Development Credit (ERDC). Companies that would use the ERDC are the exact companies that want to commence and expand manufacturing in the US through reliance on the manufacturing tax credit.</p>
<p>Removal of dollar limitation on solar water heating. <i>Under current section 25D, individuals are allowed to claim a thirty percent (30%) tax credit for qualified solar water heating property, subject to a cap of \$2,000.</i></p>	Repeals the dollar cap, thereby making solar water heating property eligible for the full 30% investment tax credit.	Same as H.R. 1.	Maintain this provision in the final bill.
<p>5-year Carryback of General Business Tax Credits. <i>Under current law, general business tax credits may be carried back one year before the year that the credit arises and carried forward for five years after the year that the credit arises.</i></p>	No provision.	<p>Extends the carryback period for general business tax credits, including energy credits, from one year to five years.</p> <p>Temporarily allows general business tax credits arising in 2008 and 2009 to be used to offset AMT.</p>	Maintain the Senate provision in the final bill.
<p>Extension of bonus depreciation. <i>Businesses are allowed to recover the cost of capital expenditures over time according to a depreciation schedule. Last year, Congress temporarily allowed businesses to recover the costs of capital expenditures made in 2008 faster than the ordinary depreciation schedule would allow by permitting these businesses to immediately write-off 50% of the cost of depreciable property (e.g., equipment, tractors, wind turbines, solar panels, and computers) acquired in 2008 for use in the United States.</i></p>	Extends bonus depreciation rules for capital expenditures incurred in 2009.	Same as H.R. 1.	Maintain this provision in the final bill.

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<i>Provision</i>	<i>House (H.R. 1)</i>	<i>Senate Treatment</i>	<i>Preferred Conference Outcome</i>
Solar on Federal Government Property	Appropriates \$6 billion for the construction, repair and alteration of federal buildings to increase energy efficiency. (p. 75)	Appropriates \$6 billion for expenditures necessary to convert GSA facilities to High Performance Green Buildings. (S. 336, p. 92)	Maintain House provision in the final bill.
	Appropriates \$950 million for non-recurring maintenance projects, including energy projects, at medical facilities run by the Department of Veterans Affairs. (p. 204)	Appropriates \$323 million for energy efficiency initiatives at medical facilities run by the Department of Veterans Affairs. (S. 336, p. 213)	Maintain the House provision in the final bill.
Funding for the Department of Energy.	Appropriates an additional \$18.5 million to DOE's Office of Energy Efficiency and Renewable Energy, including \$2 billion for EERE research, development, demonstration and deployment activities; \$3.5 billion for energy efficiency and conservation block grants; and \$1 billion for institutional grants to implement sustainable energy infrastructure projects. (pp. 62-63)	Appropriates an additional \$14.4 billion to DOE's Office of Energy Efficiency and Renewable Energy. Specifies that \$4.2 billion is for energy efficiency and conservation block grants. (S. 336, p. 69) The Committee Report specifies \$2.6 billion for research, development, demonstration and deployment activities within EERE and \$1.6 billion for institutional grants. (Report 111-3, p. 31)	Fund research, development, demo, and deployment activities within DOE's Office of Energy Efficiency and Renewable Energy at \$2.6 billion. Specify that \$400 million of this funding shall go to solar technologies under the Solar Energy Technologies Program and the Solar Heating and Cooling program within the Building Technologies Program.
	Appropriates \$4.5 billion for Electricity Delivery and Energy Reliability to modernize the electric grid and increase grid reliability. (p. 65)	Appropriates \$4.5 billion for Electricity Delivery and Energy Reliability to modernize the electric grid and increase grid reliability. Specifies that \$80 million is provided to conduct a resource assessment and analysis of future demand and transmission requirements. (S. 336, pp. 71-72)	
Funding for the Department of Interior.	No provision.	Appropriates \$135 million to the Bureau of Land Management for the management of lands and resources. (S. 336, p. 113) The Committee report specifies certain allocation of those funds and suggests that a potential reallocation to expedite and enhance the processing of renewable energy projects rights-of-way and related permit applications might be appropriate. (Report 111-3, p. 45)	Maintain the Senate's funding level. Specify that \$5 million shall be used to fund the processing of permits for renewable energy development.

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Provision	House (H.R. 1)	Senate Treatment	Preferred Conference Outcome
New Clean Renewable Energy Bonds (“New CREBs”).	Authorizes an additional \$1.6 billion of clean renewable energy bonds to finance facilities that generate electricity from facilities that qualify for the tax credit under section 45 (including solar facilities). This authorization will be subdivided into thirds: 1/3 will be available for qualifying projects of State/local/tribal governments; 1/3 for qualifying projects of public power providers; and 1/3 for qualifying projects of electric cooperatives.	Same as H.R. 1.	Maintain this provision in the final bill.
Five-year Carryback of Net Operating Losses. <i>Under current law, net operating losses may be carried back to the two years before the year that the loss arises (the “carryback period”) and carried forward to each of the succeeding twenty years after the year that the loss arises (the “carryforward period”).</i>	For tax years 2008 and 2009, the proposal extends the maximum carryback period for net operating losses from two years to five years. Companies that received money from the Troubled Asset Relief Program (TARP) are not eligible for this treatment.	Same as H.R. 1.	Maintain this provision in the final bill.
Enhanced Research and Development Credit. <i>Code section 41 provides for a research tax credit equal to 20% of the amount by which the taxpayer’s qualified research expenses for a taxable year exceed its base amount for that year. Thus, the research credit is generally available with respect to incremental increases in qualified research. The research credit, including the university basic research credit and the energy research credit, expires for amounts paid or incurred after December 31, 2009.</i>	Provides for an enhanced 20% R&D credit in tax years 2009 and 2010 for research expenditures incurred in the fields of fuel cells, battery technology, renewable energy (including solar), energy conservation technology, efficient transmission and distribution of electricity, and carbon capture and sequestration.	Similar to the House language. The Chairman’s mark clarifies that research related to renewable fuels is eligible for the credit, and that the credit would be unavailable to taxpayers who receive the Advanced Energy Investment Credit.	Maintain the House provision in the final bill. Eliminate the prohibition on using this credit in conjunction with the Manufacturing Tax Credit (MTC). Companies that would use the MTC are the exact companies engaged in enhanced research and development activities. Such companies want to commence and expand manufacturing in the US through application of the results of their advanced R&D efforts.
Qualified Energy Conservation Bonds.	Authorizes an additional \$2.4 billion of qualified energy conservation bonds to finance State, municipal and tribal government programs and initiatives designed to reduce greenhouse gas emissions.	Same as H.R. 1.	Maintain this provision in the final bill.

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<i>Provision</i>	<i>House (H.R. 1)</i>	<i>Senate Treatment</i>	<i>Preferred Conference Outcome</i>
Electricity Transmission	Authorizes the Western Area Power Administration to borrow money (up to \$3.25 billion), allowing Western to construct or finance electric transmission lines to/from its service area. This money can also be used for delivering or facilitating the delivery of power generated by renewable energy sources. (p. 68)	Same as H.R. 1.	Maintain the House language in the final bill.
	Increases Bonneville Power Administration's borrowing authority by \$3.25 billion. Funds will be used for financing or constructing transmission. (p. 73)	Same as H.R. 1.	
	Directs the Department of Energy, when preparing its 2009 National Electric Transmission Congestion Study to include an analysis of renewable energy sources (including solar) that are prevented from accessing electricity customers due to a lack of adequate transmission. (p. 642)	No provision.	
Solar for Schools, Colleges, and Universities	Appropriates \$14 billion for grants to public schools to modernize, renovate or repair their facilities. Schools can use the money to install renewable energy generation and heating systems, including solar thermal or photovoltaic systems. (p. 165)	Appropriates \$17 billion for school improvement programs, including facility renovation and modernization. (S. 336, p. 142 and p. 168)	Maintain the Senate's funding for school improvements.
	Appropriates \$6 billion for grants to institutions of higher education to modernize, renovate or repair their facilities. This includes buildings used for instruction, research and student housing. Colleges and universities can use the money to install renewable energy generation and heating systems, including solar thermal or photovoltaic systems. (p. 180)	Appropriates \$3.5 billion for grants to institutions of higher education to modernize, renovate or repair their facilities. (S. 336, p. 145)	Maintain the House's funding level for institutions of higher education. Accept House language regarding 25% carve-out of funds for "green" projects at all qualifying educational institutions. (p. 176 & 186)

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Green Collar Jobs	Appropriates \$500 million to fund the Green Jobs Act. The Green Jobs Act provides money for job training programs that prepare workers for a career in energy efficiency and renewable energy industries. (p. 125)	Appropriates \$250 million for training of dislocated workers. Priority shall be given to programs that train workers for careers in energy efficiency and renewable energy industries. (S. 336, p. 123)	Maintain the House’s funding levels.
	Appropriates \$300 million for rehabilitation and construction projects on Job Corps Centers, including energy efficiency equipment. Funds may also be used to provide the residents with training for careers in energy efficiency and renewable energy industries. (p. 128)	Appropriates \$160 million for construction and repair of buildings at Job Corps Centers. Funds may also be used to provide training for careers in energy efficiency, renewable energy, and environmental protection industries. (S. 336, pp. 125-126)	
Smart Grid	Provides a federal reimbursement of 50% to electric utilities carrying out smart grid demonstration projects. Appropriates such sums as necessary. (pp. 635-637)	Same as H.R. 1. (S. 336, p. 84)	Maintain this provision in the final bill.
Solar for the Military	Appropriates \$350 million for Department of Defense research, development, testing and evaluation of projects that will lead to improvements in energy generation and transmission. (p. 56)	Appropriates \$200 million for Department of Defense research, development, testing and evaluation of projects. (S. 336, p. 58) The Committee Report adds that these funds are for demonstrations of energy efficiency technologies for use by operational forces and military installations, including solar cell demonstrations and energy efficient manufacturing enhancements for the defense industrial base. (Report 111-3, p. 24)	Maintain the House’s legislative text and funding levels. Adopt Senate report language.
	No provision.	Appropriates \$494 million for energy conservation and alternative energy projects at Navy and Marine Corps facilities. (S. 336, p. 195)	

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<i>Provision</i>	<i>House (H.R. 1)</i>	<i>Senate Treatment</i>	<i>Preferred Conference Outcome</i>
<p>Extension of Monetization of Accumulated AMT and R&D Credits in Lieu of Bonus Depreciation. <i>An AMT taxpayer cannot utilize the bonus depreciation deduction because the taxpayer is required to pay a minimum percentage of tax on gross income. Therefore, an AMT taxpayer loses the benefit of deductions in excess of the tax due under AMT.</i></p>	No provision.	Where a taxpayer is in a loss position, deductions in excess of income are unable to enjoy the benefit of bonus depreciation. This provision extends the provision contained in the Foreclosure Prevention Act of 2008 and allows AMT and loss taxpayers to receive 20% of the value of their old AMT or research and development (R&D) credits to the extent such taxpayers invest in assets that qualify for bonus depreciation. The amount is capped at the lesser of 6% of outstanding and unused AMT and R&D credits or \$30 million.	Maintain the Senate provision in the final bill.
Solar for Water Treatment Plants	Appropriates approximately \$2.4 billion that could be used for grants to put solar property on wastewater treatment plants in the U.S. (p. 116)	Appropriates less than \$2 billion that could be used for grants to put solar property on wastewater treatment plants in the U.S. (S. 336, p. 117)	Maintain the House's funding level in the final bill.
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