GRANTS CONNECTOR

ENERGY PROJECT GRANTS, INCENTIVES AND OTHER FUNDING OPPORTUNITIES

September 2011
Grants Connector – September 2011
Sample Opportunities

$ Sustainability Research Networks
$ University Transportation Centers
$ Industry/University Cooperative Research Centers
$ New York Clean Energy RFPs
$ California Clean Energy RFPs
$ USDA, Departments of Energy and Navy Seek Input from Industry to Advance Biofuels for Military and Commercial Transportation
$ Maine OEIS RFP – Wind Development Assessment
$ HUD Multifamily Energy Innovation Fund
$ Funding for Energy-Saving Lighting Technology Research and Development
$ PV Manufacturing Initiative Part 2: SUNPATH (Scaling Up Nascent PV AT Home)
$ Efficiency Maine Trust – Maine PACE Financing
$ FHA, Fannie Mae Launch Energy Efficiency Retrofit Program
$ Coastal Climate Adaptation
$ Centers for Chemical Innovation
$ Biotechnology, Biochemical, and Biomass Engineering
$ Energy for Sustainability
$ Tax Credits for Energy Efficiency
(http://www.energysavers.gov/financial/70010.html)
Grants Connector – September 2011

Sustainability Research Networks

The National Science Foundation requests proposals for the Sustainability Research Networks Competition. Through this competition, NSF, in partnership with other agencies, international efforts, and the private sector, aims to support members of the academic research community for projects which produce discoveries and knowledge that will inform decisions leading to environmental, energy, social and cultural sustainability. $36 million expected to be available, up to 4 awards anticipated. Preliminary proposals due 12/1/11, final proposals due 4/1/12. For more info, including contacts, go to: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11574. Refer to NSF 11-574.

University Transportation Centers

The U.S. Department of Transportation requests proposals for the University Transportation Centers Program Open Competition. The purpose of the Centers is to advance U.S. technology and expertise in transportation through research, education, and technology transfer; and to provide a critical transportation knowledge base outside the DOT; and to address vital workforce needs for the next generation of transportation leaders. $80 million expected to be available, up to 22 awards anticipated. Responses due 10/26/11. For more info, contact UTCgrants@dot.gov or go to: http://www.grants.gov/search/search.do?mode=VIEW&oppId=108433. Refer to Sol# UTCOPENCOMP2011.

Industry/University Cooperative Research Centers

The National Science Foundation requests proposals for Fundamental Research Program for Industry/University Cooperative Research Centers. Areas of interest include, but are not limited to: Energy and Environment; Advanced Manufacturing; Biotechnology; Advanced Materials; and Fabrication and Process Technology. $1.6 million expected to be available, up to 10 awards anticipated. Responses due 2/1/12. For more info, contact Rathindra DasGupta at rdasgupt@nsf.gov or go to: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11570. Refer to NSF 11-570.

New York Clean Energy RFPs

The New York State Energy Research and Development Authority requests proposals for Distributed Generation as Combined Heat and Power (DG-CHP). This RFP will support the installation and demonstration of Combined Heat and Power systems in NY that produce electricity and useful thermal energy throughout the design life of the installed equipment. $5.5 million expected to be available, individual awards NTE $1 million.
Responses due 10/4/11. For more info, contact Edward Kear at ebk@nyserda.org or go to: http://www.nyserda.org/funding/2373pon.asp. Refer to PON@ 2373.

The New York State Energy Research and Development Authority requests proposals for Innovation in the Manufacturing of Clean Energy Technologies. This RFP will support RD&D or commercialization of innovative technologies that provide an energy benefit to clean energy technology manufacturing process in NY. Up to $2.5 million expected to be available. Responses due 9/15/11. For more info, contact Ashley Cox at adc@nyserda.org or go to: http://www.nyserda.org/funding/2250pon.asp. Refer to PON# 2250.

**California Clean Energy RFPs**

The California Energy Commission requests proposals for the:

- Emerging Technology Demonstration Grant Program
- Advanced Medium- and Heavy-Duty Vehicle Technologies Pre-Commercial Demonstrations
- Energy Innovations Small Grant Program - Electricity Program
- Transportation (Electric) Innovations
- Transportation (Natural Gas) Innovations

For more information, contact eisg@projects.sdsu.edu or go to: http://www.energy.ca.gov/contracts/

**USDA, Departments of Energy and Navy Seek Input from Industry to Advance Biofuels for Military and Commercial Transportation**

The U.S. Departments of Energy, Agriculture and Navy issued a Request for Information (RFI) requesting from industry specific ideas for how to leverage private capital markets to establish a commercially viable drop-in biofuels industry. The three Departments announced an investment in the private sector of up to $510 million during the next three years to produce advanced drop-in aviation and marine biofuels to power military and commercial transportation. Drop-in biofuels serve as direct replacements or supplements to existing gasoline, diesel and jet fuels, without any changes to existing fuel distribution networks or engines.

The main objective of this government-industry partnership is the construction or retrofit of several domestic commercial or pre-commercial scale advanced drop-in biofuel refineries. These facilities will produce drop-in advanced biofuels meeting military specifications, will be located in geographically diverse locations for ready market access, and will have no significant impact on the supply of agricultural commodities for the production of food.

Industry questions regarding the RFI can also be directed to Laura J. Ortiz, Det 1 AFRL/PKMD, 2310 Eighth Street, Bldg 167, Wright-Patterson AFB OH 45433-7801, Telephone: (937) 656-9883, E-mail: laura.ortiz@wpafb.af.mil.
Maine OEIS RFP – Wind Development Assessment

The Governor’s Office of Energy Independence and Security (OEIS) is issuing this “Request for Proposals” (RFP) for a Provider to prepare an assessment of progress in meeting Maine’s wind energy development goals. The Provider will prepare the economic and energy information and data needed and format in a clear, comprehensible arrangement with narrative, graphs, tables and documents that will permit the OEIS to formulate substantive recommendations.

To request a copy of the detailed RFP, contact Jeffrey.Marks@maine.gov.

A signed original and 5 copies of the proposal must be clearly marked with the bidder's return address and the notation: "Proposal: RFP # 201108133 Wind Development Assessment" and delivered to the Division of Purchases, Burton Cross Bldg., 4th floor, 111 Sewall Street, 9 State House Station, Augusta, ME 04333-0009 no later than 2:00 p.m. local time on September 28, 2010 at which time and place they will be opened.

HUD Multifamily Energy Innovation Fund

The Department of Housing and Urban Development’s (HUD) Office of Affordable Housing Preservation (OAHP) is issuing a notice of fund availability (NOFA) for the Multifamily Energy Innovation Fund. This fund provides a total of $25 million in grants to be used for the purpose of energy efficiency upgrades at multifamily properties. The goals of this NOFA are to:

1. Demonstrate solutions to the primary and longstanding challenges to implementing energy efficiency and renewable energy improvements, in existing affordable multifamily properties.
2. Leverage private capital and additional public funding to demonstrate “proof of concept” of specific models.
3. Conduct applied research to document and disseminate mainstream, scalable approaches to retrofitting affordable multifamily properties.

The overall objective of the Energy Innovation Fund is to help catalyze a home energy retrofit market in the United States by accelerating private investment in cost-saving energy efficiency retrofits in the residential sector. Innovative and replicable strategies to improve the usefulness of existing HUD programs--as well as developing new financing tools--will lead to significant reductions in energy consumption, operating costs, and the carbon footprint of both affordable and market-rate housing. More information can be found here: http://www.hud.gov/offices/adm/grants/nofa10/grpeif.cfm.
DOE Announces up to $12 Million in Funding for Energy-Saving Lighting Technology Research and Development

The U.S. Department of Energy (DOE) announced the availability of up to $12 million in funding for energy-saving lighting technologies. The Energy Department will invest in projects to accelerate research and development of solid-state lighting technologies – semiconductor devices such as light-emitting diodes (LEDs) and organic light-emitting diodes (OLEDs).

DOE is seeking applications for solid-state lighting projects in the following categories:

- Core Technology – Between two and six projects to receive up to $6 million, will be selected to focus on applied research to develop lighting technologies that increase efficiency, improve performance, and reduce costs. Selected projects will fill technology gaps or provide enabling knowledge or data to drive these energy-saving technologies forward.
- Product Development – Between two and six projects to receive up to $6 million, will be selected to build on the knowledge gained from basic or applied research to move materials, devices, or systems in to the market faster. Selected projects will develop targeted, market-ready products with the competitive price, performance, and efficiency needed for successful commercialization.

This is the eighth round of funding directed toward these two well established solid-state lighting research and development program areas. Over the course of the program, the Core Technology area has been funded with $68.7 million and Product Development with $56.1 million for a total of $124.8 million in federal funding. For more information on these funding opportunities, see DOE's Funding Opportunity Exchange website at https://eere-exchange.energy.gov/. Applications will be accepted through 5 p.m. Eastern Time on November 3, 2011. DOE anticipates notifying applicants selected for award by the end of June 2012 and making awards by no later than September 30, 2012.

PV Manufacturing Initiative Part 2: SUNPATH (Scaling Up Nascent PV AT Home)

Funding: Up to $50M total; maximum $25M per award

Open Date: 08/02/2011

Close Date: 10/28/2011

Funding Organization: Solar Energy Technologies Program

Funding Number: DE-EE0000566

Summary:
The U.S. Department of Energy is requesting applications for the first industrial-scale demonstration of the applicant's photovoltaic (PV) module, cells, substrates, or module components that will achieve lower cost per watt. The applicant must demonstrate lower cost targets over the next two years than the current market-leading technology and enable the path to $1/watt system costs by 2020.

Significant non-federal cost share is required, to be achieved in partnership with sources of private capital and state and regional funds. This funding opportunity will address the currently unfulfilled and urgent need for a significant investment to assist the first industrial-scale manufacturing of a new PV technology.

For more information, go to https://eere-exchange.energy.gov/#521ef7df-e162-4db5-9cf1-7dafd431307f. Funding amounts and schedules are subject to change.

**Efficiency Maine Trust – Maine PACE Financing**

Borrow up to $15,000, at 4.99% for 15 years, for energy efficiency upgrades that make your home more comfortable. Upgrade your heating system, weatherize your home, and make other improvements to cut your heating bills month after month.

Please visit: http://www.efficiencymaine.com/pace.

Find a participating energy advisor at: http://www.efficiencymaine.com/at-home/hesp_program/find_an_energy_advisor.


**Low Monthly Payments Mean Big Energy Savings!**

<table>
<thead>
<tr>
<th>Months</th>
<th>60</th>
<th>120</th>
<th>180</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6,500</td>
<td>$123</td>
<td>$69</td>
<td>$51</td>
</tr>
<tr>
<td>$7,500</td>
<td>$141</td>
<td>$80</td>
<td>$59</td>
</tr>
<tr>
<td>$8,500</td>
<td>$160</td>
<td>$90</td>
<td>$67</td>
</tr>
<tr>
<td>$9,500</td>
<td>$179</td>
<td>$101</td>
<td>$75</td>
</tr>
<tr>
<td>$10,500</td>
<td>$198</td>
<td>$111</td>
<td>$83</td>
</tr>
<tr>
<td>$11,500</td>
<td>$217</td>
<td>$122</td>
<td>$91</td>
</tr>
<tr>
<td>$12,500</td>
<td>$236</td>
<td>$133</td>
<td>$99</td>
</tr>
<tr>
<td>$13,500</td>
<td>$255</td>
<td>$143</td>
<td>$107</td>
</tr>
<tr>
<td>$14,500</td>
<td>$274</td>
<td>$154</td>
<td>$115</td>
</tr>
<tr>
<td>$15,000</td>
<td>$283</td>
<td>$159</td>
<td>$119</td>
</tr>
</tbody>
</table>

"Ballpark" payments based on 4.99% APR. Final payment depends on actual loan amount.

APPLY ONLINE at https://www.afcfirst.com/application/index.php?programid=642e92efb79421734881b53e1e1b18b6 OR CALL 1-866-ES-MAINE TO APPLY TODAY.
Borrow up to $15,000, at 4.99% for 15 years, for energy efficiency upgrades that make your home more comfortable. Upgrade your heating system, weatherize your home, and make other improvements to cut your heating bills month after month.

**FHA, Fannie Mae Launch Energy Efficiency Retrofit Program**

The U.S. Housing and Urban Development Department (HUD) announced on May 31 its Green Refinance Plus, a program between HUD’s Federal Housing Administration (FHA) and Fannie Mae to boost energy efficiency in older affordable housing. The program will allow owners of existing affordable rental housing properties to refinance into new mortgages that include funding for energy- and water-saving upgrades, along with other needed property renovations.

Under the program, FHA and Fannie Mae will share the risk on loans to refinance existing rent-restricted projects while permitting owners to borrow additional funds to make energy-saving improvements to their properties. Owners of existing multifamily affordable properties typically refinance their mortgages every 10 to 15 years. In older apartment buildings, however, owners are often hard-pressed to find additional financing to maintain or improve the physical condition of their properties, including making energy-efficient upgrades. Soon, Fannie Mae and its participating lenders will begin accepting applications to refinance owners’ debt and improve the energy efficiency of their properties.

The initiative is intended to refinance the expiring mortgages of Low Income Housing Tax Credit properties, and other affordable projects, and to lower annual operating costs by reducing energy consumption. Fannie Mae and HUD anticipate approximately $100 million in initial refinance volume with an average loan amount of $3.5 to $5 million.


**Coastal Climate Adaptation**

The U.S. Department of Commerce, National Oceanic and Atmospheric Administration, requests proposals for the Sea Grant Community Climate Adaptation Initiative 2011. This initiative will fund climate adaptation efforts as part of an overall plan to enhance climate adaptation in coastal communities. $1 million expected to be available, individual awards NTE $100K. Responses due 11/22/11. For more info, contact oar.hq.sg.competitions@noaa.gov or go to: [http://www.grants.gov/search/search.do?mode=VIEW&oppId=103673](http://www.grants.gov/search/search.do?mode=VIEW&oppId=103673). Refer to Sol# NOAA-OAR-SG-2011-2002930.
Centers for Chemical Innovation

The National Science Foundation requests proposals for Centers for Chemical Innovation. For the FY 2012 Phase I competition, only projects addressing sustainable chemistry will be considered. Areas of interest include, but are not limited to: Developing clean, safe, and economical alternatives to traditional chemical products and practices; Exploring alternatives to petroleum as a source of feedstock chemicals, including biorenewables; Exploring earth-abundant, inexpensive and benign alternatives to rare, expensive and toxic chemicals; and Developing efficient recognition/sequestration and recycling of key elements essential for sustainability, for example phosphorus and rare earth elements. $15 million expected to be available, up to 7 awards anticipated. Responses due 10/25/11. For more info, contact Katharine Covert at kcovert@nsf.gov or go to: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11552. Refer to Sol# 11-552.

Biotechnology, Biochemical, and Biomass Engineering

The National Science Foundation requests proposals for Biotechnology, Biochemical, and Biomass Engineering. This program addresses fundamental problems involved in the processing and manufacturing of products of economic importance by effectively utilizing renewable resources of biological origin and bioinformatics originating from genomic and proteomic information. $8.2 million expected to be available, up to 34 awards anticipated. Responses due 9/15/11. For more info, contact Theresa Good at tgood@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501024. Refer to Sol# PD-12-1491. (Grants.gov 6/8/11)

Energy for Sustainability

The National Science Foundation requests proposals for Energy for Sustainability. This program supports fundamental research and education in energy production, conversion, and storage and is focused on energy sources that are environmentally friendly and renewable. Sources of sustainable energy include: Sunlight, Wind/Wave, Biomass, and Geothermal. $9.2 million expected to be available, up to 42 awards anticipated. Responses due 2/17/12. For more info, contact Gregory Rorrer at grorrer@nsf.gov or go to: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501026. Refer to Sol# PD-12-7644. (Grants.gov 6/8/11)

Tax Credits for Energy Efficiency
(http://www.energysavers.gov/financial/70010.html)

If you purchase an energy-efficient product or renewable energy system for your home, you may be eligible for a federal tax credit. Below is an overview of the federal tax credits for energy efficiency that are currently available.
While some energy efficiency tax credits are available through 2011, others are available through 2016 as noted below.

**How to Claim Your Tax Credit**

- Visit the [IRS website](http://www.irs.gov/) to obtain the correct forms for the tax year you are filing.
- Use the following forms:
  - For renewable and efficiency credits: [IRS Form 5695](http://www.irs.gov/pub/irs-pdf/f5695.pdf)
- Save your receipts, or make copies of them, and the Manufacturer Certification Statement for your records.
- NOTE: The credits are nonrefundable—in other words, the credits are only available to the extent you have a tax liability. The credits for home energy improvement products eligible through 2011 may be limited if you are subject to the AMT.
- Tax credits can only be claimed once, and are limited to the year in which they are purchased: If you claimed a home energy improvement tax credit on your 2010 taxes, you cannot take an additional credit for the same purchase on your 2011 taxes.
- There is a $500 lifetime limit on the federal tax credits that expire in December 2011 (not those that expire in 2016). If you have received a total of $500 or more in these tax credits from 2006-2010, you are not eligible for any more.

**Products Eligible for Tax Credits Through 2011**

<table>
<thead>
<tr>
<th>Biomass Stoves</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Credit:</strong> $300</td>
</tr>
<tr>
<td><strong>When and Where:</strong></td>
</tr>
<tr>
<td>2011 only</td>
</tr>
<tr>
<td>Existing primary residence</td>
</tr>
<tr>
<td>See details</td>
</tr>
<tr>
<td>Product</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
</tbody>
</table>
| **Biomass stoves**      | Thermal efficiency rating of at least 75% as measured using a lower heating value. Credit includes installation costs. | Biomass stoves burn biomass fuel to heat a home or heat water. "Biomass fuel" includes agricultural crops and trees, wood and wood waste and residues (including wood pellets), plants (including aquatic plants), grasses, residues, and fibers. Learn more about:  
  - Wood and pellet heating systems  
  - Burning wood safely and efficiently |

**HVAC**

Credit: ©iStockphoto.com/Kameleon007

Credit: See details

When and Where:

- 2011 only
- Existing primary residence

See details

<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
<th>More Information</th>
</tr>
</thead>
</table>
| **Central Air Conditioning**     | Split Systems: EER >=13; SEER >= 16                    | Learn more about:  
  - Air conditioners and efficiency ratings  
  - Split systems vs. package systems  
  You may need to replace both your |
| Credit = $300                    | Package systems: EER >= 12; SEER >= 14                 |                                                                                  |
|                                  | Credit includes installation costs.                    |                                                                                  |
heating and cooling systems to qualify for the tax credit. Learn why.
Not all ENERGY STAR products qualify.

| Electric Heat Pumps Credit = $300 | Split Systems:  
HSPF >= 8.5; EER >= 12.5; SEER >= 15  
Package systems:  
HSPF >= 8; EER >= 12; SEER >= 14  
Credit includes installation costs. | Learn more about:  
- Air-source heat pumps and efficiency ratings  
- Split systems vs. package systems  
Not all ENERGY STAR products qualify. |
|---|---|---|
| Furnaces and Boilers Credit = $150 | Natural Gas or Propane Furnace:  
AFUE >= 95  
Oil Furnace: AFUE >= 90  
Gas, Propane, or Oil Hot Water Boiler: AFUE >= 90  
Credit includes installation costs. | Learn more about:  
- Furnaces and boilers and efficiency ratings  
Not all ENERGY STAR products qualify. |
| Advanced Main Air Circulating Fan Credit = $50 | No more than 2% of furnace total energy use. | If the fan is qualified but the furnace is not, you can get a 30% tax credit on the cost of the fan alone. Ask your contractor to break out the cost. |

**Insulation**

Credit: ©iStockphoto.com/DonNichols

Credit: 10% of the cost, up to $500

When and Where:

- 2011 only
### Insulation material or system

- **Insulation material or system specifically and primarily designed to reduce the heat loss or gain of your home. Primary purpose must be to insulate (example: insulated siding does not qualify).**
- Must meet 2009 International Energy Conservation Code (IECC) & Amendments
- Credit does not include installation and labor costs.

Learn more about **insulation**:
- Insulating an existing home
- Where to insulate
- Types of insulation
- R-Value recommendations for your area

Learn more about **air sealing**:
- Air sealing an existing home
- Caulking and weatherstripping

### Roofing

**Credit**: 10% of cost, up to $500

**When and Where**:
- 2011 only
- Existing primary residence

#### Metal roofs, asphalt roofs

- All ENERGY STAR qualified metal and reflective asphalt shingles.
- Materials only; installation or labor costs are not eligible for the 10% tax

The credit is for "Any metal roof or asphalt roof installed on a dwelling unit, but only if such roof has appropriate pigmented coatings or cooling granules which are..."
credit. specifically and primarily designed
to reduce the heat gain of such
dwelling unit."

### Water Heaters (non-solar)

<table>
<thead>
<tr>
<th>Credit: ©iStockphoto.com/Andrew_Howe</th>
</tr>
</thead>
</table>

Credit: $300

#### When and Where:
- 2011 only
- Existing primary residence

#### See details

<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
<th>More Information</th>
</tr>
</thead>
</table>
| **Gas, Oil, Propane Water Heater** | Energy Factor >= 0.82 or a thermal efficiency of at least 90%. Credit includes installation costs. | - All [ENERGY STAR gas tankless water heaters](https://www.energystar.gov) qualify for the tax credit. Learn more about [tankless water heaters](https://www.energystar.gov).
- Most storage tank water heaters will not qualify for the credit.
- Electric storage tank and electric tankless water heaters are not eligible for tax credits. |

| **Electric Heat Pump Water Heater** | Energy Factor >= 2.0. Credit includes installation costs. | Learn more about [heat pump water heaters](https://www.energystar.gov).
- All [ENERGY STAR heat pump water heaters](https://www.energystar.gov) will qualify. |

### Windows, Doors, and Skylights
Credit: ©iStockphoto.com/Skyak

Credit: 10% of the cost, up to $500, but windows are capped at $200

When and Where:

- 2011 only
- Existing primary residence

See details

<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior windows, doors, and skylights</td>
<td>Must be ENERGY STAR labeled. Credit does not include installation and labor costs.</td>
<td>Learn more about:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Energy performance ratings for windows, doors, and skylights (including U factor and SHGC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Selecting energy-efficient windows</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Selecting energy-efficient exterior doors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Selecting energy-efficient skylights</td>
</tr>
</tbody>
</table>

Products Eligible for Tax Credits Through 2016

Tax credits for these products are available at 30% of the cost, with no upper limit, through 2016 (Select “See Details” for more information on each product, or see the printable version).

Geothermal Heat Pump

Credit: Bruce Green

Credit: 30% of cost, with no upper limit

When and Where:
• Must be "placed in service" by Dec. 31, 2016
• Available on principal home or second home.
• New and existing homes

See details

<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Geothermal Heat Pump</strong></td>
<td>Closed Loop: EER &gt;= 14.1; COP &gt;= 3.3&lt;br&gt;Open Loop: EER &gt;= 16.2; COP &gt;= 3.6&lt;br&gt;Direct Expansion: EER &gt;= 15; COP &gt;= 3.5&lt;br&gt;Credit includes installation costs.</td>
<td>Learn more about geothermal heat pumps, including:&lt;br&gt;• Types of geothermal heat pumps&lt;br&gt;• Efficiency ratings of geothermal heat pumps&lt;br&gt;All ENERGY STAR geothermal heat pumps qualify.</td>
</tr>
</tbody>
</table>

**Solar Energy Systems**

Credit: Cheryl Unger

Credit: 30% of cost, with no upper limit

When and Where:

• Must be "placed in service" by Dec. 31, 2016
• Available on principal home or second home.
• New and existing homes

See details

<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solar Water Heating Property</strong></td>
<td>At least half of the energy generated by the &quot;qualifying property&quot; must come from the sun.&lt;br&gt;The system must be certified by the Solar Rating and Certification</td>
<td>Learn more about solar water heaters.&lt;br&gt;All ENERGY STAR solar water heaters qualify.&lt;br&gt;The water must be used in the</td>
</tr>
<tr>
<td>Product</td>
<td>Requirements</td>
<td>More Information</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
<td>-----------------</td>
</tr>
</tbody>
</table>
| Residential Small Wind Turbines | Nameplate capacity of not more than 100 kilowatts. Credit includes installation costs. | Learn more about:  
  - Small wind electric systems  
  - Things to consider when making your own electricity with renewable energy |

**Photovoltaic Systems (Solar Electric Property)**

Photovoltaic systems must provide electricity for the residence and must meet applicable fire and electrical code requirement.

Learn more about:  
  - Small solar electric systems  
  - Things to consider when making your own electricity with renewable energy systems

**Wind Energy Systems**

![Wind Energy Systems](image)

**Credit: Bergey WindPower**

**Credit:** 30% of cost, with no upper limit

**When and Where:**

- Must be “placed in service” by Dec. 31, 2016
- Available on principal home or second home.
- New and existing homes

- See details

**Corporation (SRCC).**

Credit includes installation costs.

dwelling. The credit is not available for expenses for swimming pools or hot tubs.

Tax credits are only available for the solar water heating system property, not the entire water heating system of the household.
**Fuel Cells**

Credit: Capstone Turbine Corporation

**Credit:** 30% of cost, up to $500 per .5 kW of power capacity

**When and Where:**
- Must be "placed in service" by Dec. 31, 2016
- Primary residence
- New and existing homes

- See details

<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Fuel Cell Systems</td>
<td>Efficiency of at least 30% and must have a capacity of at least 0.5 kW. Credit includes installation costs.</td>
<td>Learn more about fuel cells</td>
</tr>
</tbody>
</table>

**Vehicle Tax Credits**

Tax credits are also available for some vehicles (Select "See Details" for more information on each product, or see the printable version).

**Plug-In Electric Vehicles**

Credit: ©iStockphoto.com

**Credit:** Varies, see below.

**When:**
- See below; credits phased-out after certain number of vehicles are sold.

- See details
<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug-in electric and small neighborhood electric vehicles</td>
<td>Credit: Up to $7,500, based on capacity of the battery system.</td>
<td>The first 200,000 vehicles sold get the full tax credit before the credit begins phasing out. <a href="https://www.irs.gov/forms-pubs/about-form-8936">Use IRS Form 8936</a>. See <a href="https://www.fueleconomy.gov">Fueleconomy.gov</a> to find out which vehicles qualify for the credit. See the IRS information on the Plug-in Electric Vehicle Credit. Also see credits for alternative fuel vehicle refueling property.</td>
</tr>
</tbody>
</table>