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Incentives
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Federal Incentives for Renewables and Efficiency

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Residential Renewable Energy Tax Credit

Last DSIRE Review: 02/19/2009

Incentive Type: Personal Tax Credit

Eligible Renewable/Other Technologies: Solar Water Heat, Photovoltaics, Wind, Fuel Cells, Geothermal Heat Pumps, Other Solar Electric Technologies

Applicable Sectors: Residential

Amount: 30%

Maximum Incentive: Solar-electric systems placed in service before 1/1/09: \$2,000
Solar-electric systems placed in service after 12/31/08: no maximum
Solar water heaters placed in service before 1/1/09: \$2,000
Solar water heaters placed in service after 12/31/08: no maximum
Wind turbines placed in service in 2008: \$4,000
Wind turbines placed in service after 12/31/08: no maximum
Geothermal heat pumps placed in service in 2008: \$2,000
Geothermal heat pumps placed in service after 12/31/08: no maximum
Fuel cells: \$500 per 0.5 kW

Carryover Provisions: Excess credit may be carried forward to succeeding tax year

Eligible System Size: Fuel cells: 0.5 kW minimum

Equipment/Installation Requirements: Solar water heating property must be certified by SRCC or by comparable entity endorsed by the state in which the system is installed. At least half the energy used to heat the dwelling's water must be from solar. Geothermal heat pumps must meet federal Energy Star requirements. Fuel cells must have electricity-only generation efficiency greater than 30%.

Authority 1: [26 USC § 25D](#)

Date Enacted: 8/8/2005 (subsequently amended)

Effective Date: 1/1/2006

Expiration Date: 12/31/2016

Authority 2: [H.R. 1424 \(The Energy Improvement and Extension Act of 2008\)](#)

Date Enacted: 10/3/2008

Effective Date: 1/1/2008

Expiration Date: 12/31/2016

Authority 3: [H.R. 1: Div. B, Sec. 1122 \(The American Recovery and Reinvestment Act of 2009\)](#)

Date Enacted: 2/17/2009

Effective Date: 1/1/2009

Authority 4: [IRS Form 5695 & Instructions: Residential Energy Credits](#)

Summary:

Note: The American Recovery and Reinvestment Act of 2009 does not allow taxpayers eligible for the residential renewable energy tax credit to receive a U.S. Treasury Department grant instead of taking this credit.

Established by the federal *Energy Policy Act of 2005*, the federal tax credit for residential energy property initially applied to solar-electric systems, solar water heating systems and fuel cells. *The Energy Improvement and Extension Act of 2008* (H.R. 1424) extended the tax credit to small wind-energy systems and geothermal heat pumps, effective January 1, 2008. Other key revisions included an eight-year extension of the credit to December 31, 2016, the ability to take the credit against the alternative minimum tax, and the removal of the \$2,000 credit limit for solar-electric systems beginning in 2009. The credit was further enhanced in February 2009 by *The American Recovery and Reinvestment Act of 2009*, which removed the maximum credit amount for all eligible technologies (except fuel cells) placed in service after 2008.

Click [here](#) for a four-page Q&A on the revised federal solar tax incentives, prepared by Solar Energy Industries Association. (Note that this document was published in October 2008.)

A taxpayer may claim a credit of 30% of qualified expenditures for a system that serves a dwelling unit located in the U.S. used as a residence by the taxpayer. Expenditures with respect to the equipment are treated as made when the installation is completed. If the installation is on a new home, the "placed in service" date is the date of occupancy by the homeowner. Expenditures include labor costs for onsite preparation, assembly, or original system installation and for piping or wiring to interconnect a system to the home. If the federal tax credit exceeds tax liability, the excess amount may be carried forward to the succeeding taxable year. The maximum allowable credit, equipment requirements, and other details vary by technology as outlined below.

Solar-electric property

- There is no maximum credit for systems placed in service after 2008. The maximum credit is \$2,000 for systems placed in service before January 1, 2009.
- Systems must be placed in service from January 1, 2006, through December 31, 2016.
- The home served by the system does *not* have to be the taxpayer's principal residence.

Solar water-heating property

- There is no maximum credit for systems placed in service after 2008. The maximum credit is \$2,000 for systems placed in service before January 1, 2009.
- Systems must be placed in service from January 1, 2006, through December 31, 2016.
- Equipment must be certified for performance by the Solar Rating Certification Corporation (SRCC) or a comparable entity endorsed by the government of the state in which the property is installed.
- At least half the energy used to heat the dwelling's water must be from solar in order for the solar water-heating property expenditures to be eligible.
- The tax credit does not apply to solar water-heating property for swimming pools or hot tubs.
- The home served by the system does *not* have to be the taxpayer's principal residence.

Fuel cell property

- The maximum credit is \$500 per half kilowatt (kW).
- Systems must be placed in service from January 1, 2006, through December 31, 2016.
- The fuel cell must have a nameplate capacity of at least 0.5 kW of electricity using an electrochemical process and an electricity-only generation efficiency greater than 30%.
- In case of joint occupancy, the maximum qualifying costs that can be taken into account by all occupants for figuring the credit is \$1,667 per half kilowatt. This does not apply to married individuals filing a joint return. The credit that may be claimed by each individual is proportional to the costs he or she paid.
- The home served by the system *must* be the taxpayer's principal residence.

Small wind-energy property

- There is no maximum credit for systems placed in service after 2008. The maximum credit is \$500 per half kilowatt, not to exceed \$4,000, for systems placed in service in 2008.
- Systems must be placed in service from January 1, 2008, through December 31, 2016.
- The home served by the system does *not* have to be the taxpayer's principal residence.

Geothermal heat pumps

- There is no maximum credit for systems placed in service after 2008. The maximum credit is \$2,000 for systems placed in service in 2008.
- Systems must be placed in service from January 1, 2008, through December 31, 2016.
- The geothermal heat pump must meet federal Energy Star program requirements in effect at the time the installation is completed.
- The home served by the system does *not* have to be the taxpayer's principal residence.

Significantly, *The American Recovery and Reinvestment Act of 2009* repealed a previous limitation on the use of the credit for eligible projects also supported by "subsidized energy financing." For projects placed in service after December 31, 2008, this limitation no longer applies.

History

The federal [Energy Policy Act of 2005](#) established a 30% tax credit up to \$2,000 for the purchase and installation of residential solar electric and solar water heating property and a 30% tax credit up to \$500 per 0.5 kilowatt for fuel cells. Initially scheduled to expire at the end of 2007, the tax credits were extended through December 31, 2008, by the [Tax Relief and Health Care Act of 2006](#).

In October 2008, the [Energy Improvement and Extension Act of 2008](#) extended the tax credits once again (until December 31, 2016), and a new tax credit for small wind-energy systems and geothermal heat pump systems was created. In February 2009, *The American Recovery and Reinvestment Act of 2009* removed the maximum credit amount for all eligible technologies (except fuel cells) placed in service after 2008.

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