

Tax Incentive Opportunities for Energy Efficiency and Alternative Energy

White Paper

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On December 17, 2010, President Obama signed the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010. This law extends, but alters, the tax credits for energy efficiency available in 2011. This latest update to the Energy Policy Act of 2005 incentivizes American homeowners and business by providing:

- Tax credits for homeowners for energy efficiency improvements to existing homes
- Tax credits for builders of highly efficient new homes
- Rebates for energy efficient appliances

The American Recovery and Reinvestment Act of 2009 (ARRA) continues to provide incentives for:

- Tax credits¹ for residential and commercial photovoltaics, solar water heating systems, geothermal heat pumps, and other renewable technologies
- Tax deductions¹ for owners or designers of highly efficient commercial buildings

Residential Energy Efficiency

Existing Homes

For homeowners wishing to make their primary residence more energy efficient, the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 will provide some incentives. Qualified improvements receive a federal tax credit of 10% of the cost, excluding labor, with a lifetime maximum of \$500. Therefore, homeowners who have claimed \$500 or more in any previous year are ineligible. The improvements must be in place prior to December 31, 2011. The following improvements are eligible for the tax credit:

- **Insulation material** which meets 2009 IECC and amendments
- **Exterior windows** that meet ENERGY STAR criteria (subject to \$200 cap, through lifetime of credit 2006-2011)
- **Exterior doors and skylights** that meet ENERGY STAR criteria
- **Metal roofing** having pigmented coatings specifically design to reduce heat gain and meets ENERGY STAR

The following products have individual limits:

- **Advanced main air circulating fan** (subject to \$50 cap)
- **Natural gas, propane, or oil furnace or hot water boiler** with an annual fuel utilization efficiency of 95 or greater (subject to \$150 cap)

- **Electric heat pump water heater** with an energy factor of at least 2.0 (subject to \$300 cap)
- **Electric heat pump** which achieves the highest efficiency tier established by the Consortium for Energy Efficiency (subject to \$300 cap)
- **Central air conditioner** which achieves the highest efficiency tier established by the Consortium for Energy Efficiency (subject to \$300 cap)
- **Natural gas, propane, or oil water heater** which has either an energy factor of at least 0.82 or a thermal efficiency of at least 90 percent (subject to \$300 cap)
- **Biomass stoves** that use “plant-derived fuel available on a renewable or recurring basis, including agricultural crops and trees, wood and wood waste and residues (including wood pellets), plants (including aquatic plants), grasses, residues, and fibers” (subject to \$500 cap)

Residential Solar and Renewables

New Homes & Existing Homes

For new and existing homes, there is no limit on the size of the tax credit for many renewable systems including geothermal heat pumps, solar water heaters, solar photovoltaics, small wind energy, fuel cells and microturbine systems. Qualified products receive a federal tax credit equal to 30% of their cost. These systems must be placed in service between Jan 1, 2009 and Dec 31, 2016. Some examples of qualified products are:

- **Solar water heating systems** property certified by the Solar Rating and Certification Corporation (SRCC) which provide at least 50% of the system demand
- **Photovoltaic systems** which provide electric power for the residence
- **Wind energy systems** which provide 100 kW or less electric power to the residence
- **Geothermal heat pumps** which satisfy the ENERGY STAR criteria
- **Fuel cells** with a capacity ≥ 0.5 kW and efficiency $\geq 30\%$ (\$500 per 0.5 kW)
- **Microturbines** with a maximum capacity of 2,000 kW and a minimum efficiency of 26%

Energy Efficient Home Credit

Home Builders

The Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 extends the tax credit created by the Energy Policy Act of 2005. It provides retroactive and current tax credits for houses acquired between December 31, 2009 and January 1, 2012.

- Site-built homes may receive up to \$2000 if they reduce heating and cooling energy consumption by 50% relative to the 2004 Supplement to the 2003 International Energy Conservation Code standard and the minimum efficiency standards established by the Department of Energy. The building envelope component improvements must account for at least one-fifth of the reduction in energy consumption.
- Manufactured homes may receive \$2000 if their consumption is cut by 50% relative to the same stipulations provided for the site-built home as well as follow the Federal Manufactured Home Construction and Safety Standards.
- Manufactured homes may also receive \$1000 for a 30% decrease relative to 2004 Supplement to the 2003 International Energy Conservation Code. Building envelope improvements must account for at least one-third of the reduction in energy consumption, and the house must meet ENERGY STAR® Labeled Home requirements.

In all instances, the builder must complete a certification process provided by the Internal Revenue Service (IRS). More information is provided on www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US41F&re=1&ee=1.

Commercial Buildings

Owners or tenants (or designers, in the case of publicly owned buildings) of new or existing commercial buildings may qualify for a tax deduction of up to \$1.80 per square foot. The buildings must be constructed or reconstructed to save at least 50% of the heating, cooling, water heating, and interior lighting energy cost of a building that meets ASHRAE Standard 90.1-2001.

Each of the three energy-using systems of the building — the envelope², interior lighting system, and heating and cooling system — is eligible for one third of the incentive (\$0.60 per square foot) if it meets its share of the whole-building savings goal.

Software that meets the Internal Revenue Service's requirements for accuracy and consistency will determine the projected energy savings. Third party inspectors review the plans and verify building parameters to determine compliance. The incentives apply to buildings or systems placed in service or remodeled between January 1, 2006 and December 31, 2013

For more information, visit the Commercial Building Tax Deduction Coalition website: www.efficientbuildings.org.

Renewables for Businesses

The business investment tax credit varies from 10% to 30% depending upon the type of system installed. This tax credit is available to businesses that purchase solar water heaters, solar photovoltaics, small wind energy, geothermal heat pumps, fuel cells and microturbine systems placed into service between Jan 1, 2009 and Dec 31, 2016. This business investment tax credit has no maximum cap. ARRA allows a business to receive a federal grant for renewable energy property but this offer may not be combined with the investment tax credit.

Combined Incentives

In many cases, multiple tax incentives may be claimed. In the case of a new home for example, the builder may claim credit for the high efficiency home and the homeowner may claim tax credits for solar hot water, photovoltaic, and fuel cell systems. Other financial incentives, such as local utility rebates, further reduce the cost of building or owning a solar and energy efficient home. For example, in Georgia, Georgia Power offers financial incentives to builders of ENERGY STAR® qualified new homes. To learn more about state incentives for renewable energy, visit: www.dsireusa.org.

Resources

Database of State Incentives for Renewables & Efficiency
www.dsireusa.org

Florida Solar Energy Center
www.fsec.ucf.edu

Residential Energy Services Network (RESNET)
www.natresnet.org

Southeast Energy Efficiency Alliance
www.seea.us

Tax Incentives Assistance Project (TIAP)
www.energytaxincentives.org

Internal Revenue Service (IRS)
www.irs.gov

The American Recovery and Reinvestment Act of 2009 (ARRA)
www.recovery.gov

Footnotes

- 1 Tax deductions are subtracted from income before total tax liability is computed. Tax credits are subtracted directly from the total tax liability. A credit is three or more times more advantageous to the taxpayer than a deduction. For example a tax credit of \$500 for someone in the 28% tax bracket is equivalent to a tax deduction of \$1,786.
- 2 The building envelope separates conditioned space from unconditioned (or outside) and consists of an air barrier and insulation that must be continuous and touching. Another way is to think of the building envelope as the balloon that keeps the living space separate from outside.