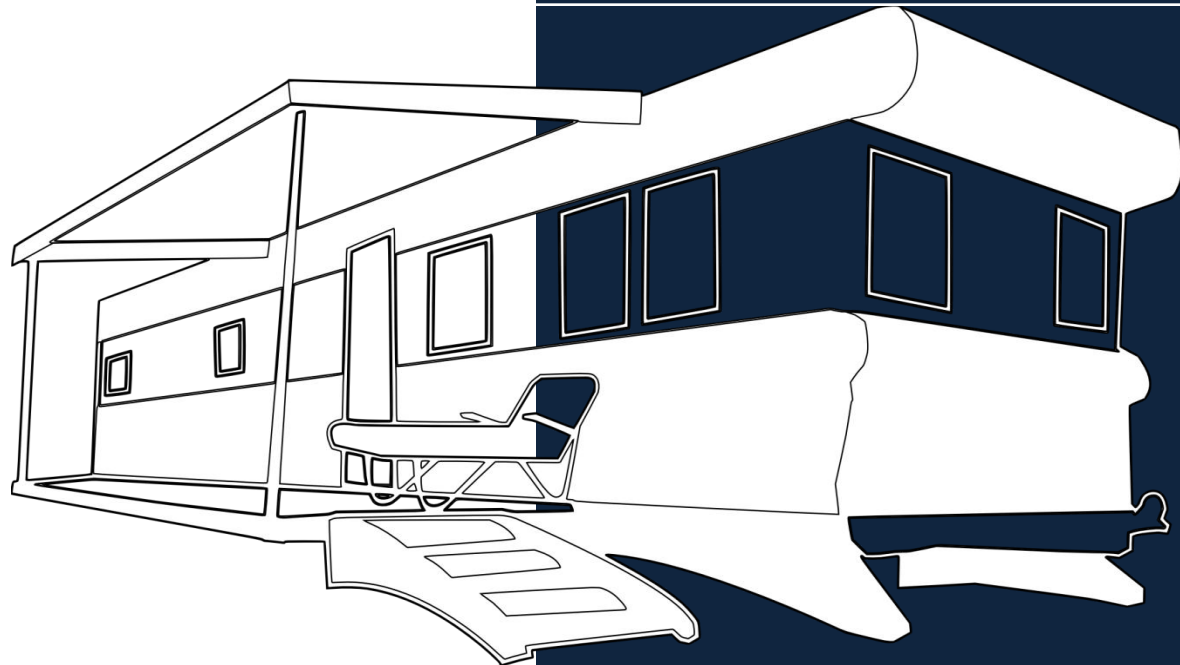


2012

13 Retrofit Grant and Rebate Programs(*)

FREE WHITE PAPER

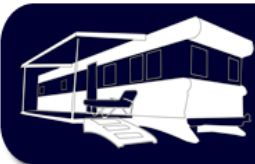


(*) This White Paper features a number of federal and state programs which are changing from time-to-time. The reader is encouraged to verify the information.

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13 Retrofit Rebate and Grant Programs – effective January 2011

Accumulated by Mobile Home Contractors

SOURCE: <http://www.greentrainingusa.com/blog/recovery-through-retrofit/cash-for-caulkers-guide/>

NOTICE: The information given below was assembled in 2010. Since that time some of the Federal funds have been expended and are no longer available. State incentives however continue in a number of instances. As a part of the BASIC PACKAGE of services provided by Mobile Home Contractors, a full assessment of the available retrofit rebate and grant programs with a unique report is generated for you and your particular mobile home in your State. For a complete list of the services provided in our BASIC PACKAGE, call us at 760-409-2510 or email us at mobilehomecontractor@gmail.com and we will supply you with our BASIC PACKAGE brochure.

Cash for Caulkers – The Definitive Guide To The Home Star Energy Retrofit Act of 2010 - by admin on June 17, 2010

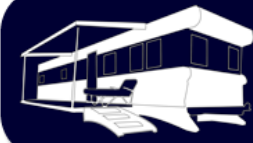
“Cash for Caulkers” is nearly here. Last month the House of Representatives passed H.R. 5019 – also known as the Home Star Energy Retrofit Act of 2010 or “Cash for Caulkers” – to kick-start construction, create jobs and cut back carbon emissions. While the bill still needs to clear the Senate, supporters predict it will pass this summer.

This is great news for homeowners and contractors alike. The bill provisions \$6 billion for energy-efficient or “green” retrofits. It is expected to fund renovations for 3 million families, create 168,000 new jobs and save consumers \$9.2 billion on energy bills over the next 10 years.

But in order to cash in on upcoming rebates, homeowners and contractors will need to do their homework. There are 13 types of retrofits eligible for funding. Each retrofit has unique eligibility requirements and set rebate amounts. You can read the full text [here](#).

We made it really easy to wade through the legalese. Below is a table that breaks down the 13 retrofits of the bill, along with the requirements and rebate amount for each. In addition to the requirements we listed, each retrofit must comply with Building Performance Institute (BPI) standards or other procedures to be approved by the Secretary of Energy.

Retrofit	Requirements	Rebate Amount
Air sealing	Rebate covers both interior and exterior sealing and includes use of the following products: sealants, caulks, insulating foams, gaskets, weather-stripping, mastics, and other building materials.	\$1,500
Attic insulation	Must meet the attic portions of the Department of Energy (DOE) or Environmental Protection Agency (EPA) thermal bypass checklist. You must add at least R-19 insulation to existing insulation, and it must result in at least R-38 insulation in DOE climate zones 1 through 4	\$1,000



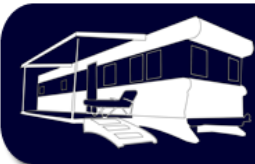
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Retrofit	Requirements	Rebate Amount
	and at least R-49 insulation in DOE climate zones 5 through 8. Finally, it must cover at least 100 percent of an accessible attic or 75 percent of the total conditioned footprint of the house.	
Duct replacement and sealing	Sealing must be installed in accordance with BPI standards or other procedures approved by the Secretary of Energy. For duct replacement, you must replace and seal at least 50 percent of a distribution system of the home.	\$1,000
Wall insulation	Insulation must be installed to full-stud thickness or add at least R-10 of continuous insulation. It must covers at least 75 percent of the total external wall area of the home.	\$1,500
Crawl space or basement insulation	Insulation must cover at least 500 square feet of crawl space or basement wall and add at least R-19 of cavity insulation or R-15 of continuous insulation to existing crawl space insulation; or R-13 of cavity insulation or R-10 of continuous insulation to basement walls. For rim joist insulation, you must fully cover the rim joist with at least R-10 of new continuous or R-13 of cavity insulation.	\$250 for rim joist insulation
Window replacement	Must replace at least 8 exterior windows, or 75 percent of the exterior windows in a home, whichever is less, with windows that are certified by the National Fenestration Rating Council. Must comply with criteria applicable to windows under section 25(c) of the Internal Revenue Code of 1986 or, in areas above 5,000 feet elevation, have a U-factor of at least 0.35 when replacing windows that are single-glazed or double-glazed with an internal air space of 1/4 inch or less.	\$1,000
Door or skylight replacement	Must replace at least 1 exterior door or skylight with doors or skylights that comply with the 2010 Energy Star specification for doors or skylights.	\$125 per door or skylight with a limit of 2 doors and 2 skylights
Heating system replacement	See second table below	\$1,000
Air-source air conditioner or heat pump installation	Must be installed in accordance with ANSI/ACCA Standard 5 QI-2007. The air-source air conditioner must meet or exceed SEER 16 and EER 13; or SEER 18 and EER 15. The air-source heat pump must meet or exceed SEER	\$1,500



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Retrofit	Requirements	Rebate Amount
Geothermal heat pump installation	15, EER 12.5, and HSPF 8.5. Must be an Energy Star qualified geothermal heat pump that meets Tier 2 efficiency requirements and that is installed in accordance with ANSI/ACCA Standard 5 QI-2007.	\$1,000
Water heater replacement	See third table below	\$1,000
Storm windows or doors installation	Must be installed on at least 5 existing doors or existing single-glazed windows. Must comply with any procedures that the Secretary of Energy may set for storm windows or doors and their installation.	\$50 for each window or door with a minimum of 5 windows or doors and a maximum of 12
Window film installation	Window film that is installed on at least 8 exterior windows, doors, or skylights, or 75 percent of the total exterior square footage of glass in a home, whichever is more, with window films that are certified by the National Fenestration Rating Council. Must have a solar heat gain coefficient of 0.43 or less with a visible light-to-solar heat gain coefficient of at least 1.1 for installations in 2009 International Energy Conservation Code climate zones 1-3; or a solar heat gain coefficient of 0.43 or less with a visible light light-to-solar heat gain coefficient of at least 1.1 and a U-factor of 0.40 or less as installed in 2009 International Energy Conservation Code climate zones 4-8.	\$500

We also decided to combine these retrofits into three packages that will help homeowners get the best bang for their buck. But first, let's review the program details.

Who is Eligible and How to Qualify?

The Home Star bill offers two rebate programs, the "Silver Star" program and "Gold Star" program. Here are details for each:

- Silver Star** – Unless another amount is specified in the "Rebate Amount" column above, homeowners will receive a \$1,000 rebate for each retrofit listed in our table. The maximum amount of rebates paid out will be \$3,000 or 50% of the total cost, whichever is lower. For example, if a homeowner spends a total of \$4,000 on eligible retrofits, they will get \$2,000 or 50% back as a rebate. If they spend \$8,000 on eligible retrofits, they would only receive \$3,000 in rebates instead of \$4,000 (which would be 50% of the cost).



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- **Gold Star** – To qualify for the Gold Star program, homeowners must reduce their total home energy consumption by 20%. A \$3,000 rebate will be rewarded for this reduction. Homeowners can receive an additional \$1,000 for each additional 5% reduction, up to a total rebate of \$8,000 or 50% of the total retrofit cost. Rebates may be provided for any of the retrofits listed under the Silver Star program, or for any other energy-saving measure, including: home energy management systems, high-efficiency appliances, highly reflective roofing, awnings, canopies, and similar external fenestration (window) attachments, automatic boiler water temperature controllers, energy-efficient wood products, insulated vinyl siding, and mechanical air circulation and heat exchangers in a passive-solar home.

The Home Star bill also includes rebates for do-it-yourself (DIY) homeowners that are confident in taking on the renovations themselves. DIY'ers can get up to \$250 in rebates for products purchased without installation service. This rebate is limited to attic insulation, crawl space insulation and/or air-sealing retrofits.

Seal Your House Envelope and Improve Insulation

Before carrying out any serious retrofit, homeowners need to weatherize and seal their house "envelope." The envelope includes outer walls, windows, doors, floors and the ceiling. If the house is not properly sealed and insulated, then subsequent HVAC retrofits won't be as effective.

In some cases, savvy do-it-yourselfers may be able to handle these projects themselves. There are plenty of books and great online resources (e.g. ACEEE.org) that provide instructions. However, you should seriously consider hiring an auditor beforehand. Special diagnostics equipment will show where air is escaping and to what extent. For example, thermal imaging devices detect areas in walls that are poorly insulated and dispersing heat. This information would be unavailable without such devices.

[Common Air Leaks](#)

So how much does it cost to seal all the air leaks in a home? Prices will obviously vary based on where you live, how big your property is and the scope of the retrofit. But it will likely cost a few thousand dollars to hire a contractor for this type of renovation. In this [example](#) from the New York Times, the author spent \$3,760 for insulating and sealing the envelope of his 1,200 square foot home.

How much can homeowners expect to save? The Environmental Protection Agency (EPA) estimates that homeowners can save 20% on heating and cooling costs by sealing leaks and



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adding insulation. In New York – one of the most expensive places to heat a home with an average annual cost of \$1,513 – this would be a yearly savings of \$300 just for heating.

Continuing with the example from the New York Times, the Silver Star program would provide \$1,880 (50%) in rebates for their retrofit. At an annual savings rate of \$300, the renovation would pay for itself in six years (or less if you include cost savings from reduced air conditioning bills).

Repair and Replace Leaky Ducts

Ducts are notoriously leaky and inefficient. They are one of the usual suspects in a crime of high utility bills, or when rooms are difficult to heat and cool. The EPA calculates that 20% of air moving through ductwork is lost due to leaks, holes and poor connections. Other sources put estimates closer to 40%. So while suffering from “leaky ducts” may sound innocuous, it can have a big impact on the efficiency and costs of heating and cooling your home.

Fortunately, duct replacement and sealing is eligible for funding under the Home Star bill. Many homeowners will want to outsource this project to a qualified HVAC contractor. Contractors have equipment to detect leaks that otherwise may not be immediately visible. They also have methods to seal ducts that are inaccessible. For example, by spraying an adhesive or sealant through the duct work.

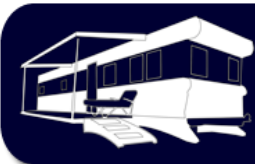
Replacing and sealing ducts can also be a DIY project, especially when ducts can be easily accessed in an attic or basement. Leaks should be sealed with mastic sealant or metal tape (not duct tape), then insulated to reduce heat loss and to further improve efficiency. The Lawrence Berkeley National Laboratory has an excellent [guide](#) on how to seal and insulate ducts.

Upgrade Your Furnace and Water Heater

Heating is the largest energy expense in homes, according to the American Council for an Energy-Efficient Economy (ACEEE). In colder parts of the country, it makes up 30 to 50% of annual energy bills. So improving the heating efficiency of your home will have the biggest impact on lowering your energy costs. Sealing air leaks is a good start, but replacing your heating system could provide real leverage towards cost savings.

If your furnace or boiler was purchased before 1990, then it is time to consider an upgrade. Modern furnaces are much more efficient than those that are older than 20 years. You can use rebates from the Home Star bill to replace your furnace, but you will need to meet their guidelines:

Type of Replacement	Requirements	Rebate Amount
Replacement with a natural gas or	The furnace must have an AFUE rating of 92 or greater; or an AFUE rating of 95 or greater. Must	\$750



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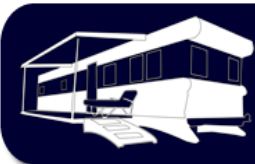
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Type of Replacement	Requirements	Rebate Amount
propane furnace	be installed in accordance with ANSI/ACCA Standard 5 QI-2007.	
Replacement with a natural gas or propane boiler	Boiler must have an AFUE rating of 90 or greater. Must be installed in accordance with ANSI/ACCA Standard 5 QI-2007.	\$1,000
Replacement with an oil furnace	Furnace must have an AFUE rating of 86 or greater and use an electrically commutated blower motor. Must be installed in accordance with ANSI/ACCA Standard 5 QI-2007.	\$1,000
Replacement with an oil boiler	Boiler must have an AFUE rating of 86 or greater and temperature reset or thermal purge controls. Must be installed in accordance with ANSI/ACCA Standard 5 QI-2007.	\$1,000
Replacement with a wood or pellet furnace, boiler, or stove	The new system must meet at least 75 percent of the heating demands of the home; and in the case of a wood stove, but not a pellet stove, replace an existing wood stove, but not a pellet stove, and is certified by the Administrator of the EPA. The home must have a distribution system (such as ducts, vents, blowers, or affixed fans) that allows heat to reach all or most parts of the home. In the case where an old wood stove is being replaced, a voucher must be provided by the installer or other responsible party certifying that the old wood stove has been removed and rendered inoperable or recycled at an appropriate recycling facility. An accredited independent laboratory recognized by the Administrator of the EPA must certify that the new system has thermal efficiency (lower heating value) of at least 75 percent for wood and pellet stoves, and at least 80 percent for furnaces and boilers; and has particulate emissions of less than 3.0 grams per hour for stoves, and less than 0.32 lbs/mmbTU for outdoor furnaces and boilers.	\$500 for a wood or pellet stove that has a heating capacity of at least 28,000 Btu per hour. \$1,000 if it provides 75% of the heating demands of the home.

Water heaters are typically the second largest energy users after home heating and cooling systems. Replacing convention oil-fired water heaters with high-efficiency gas or electric heaters can save homeowners thousands of dollars over a 10 to 15 year period. The Home Star bill includes a variety of replacement options eligible for rebates.



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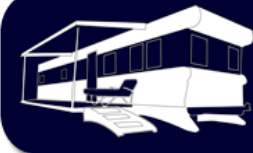
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Replacement options	Rebate Amount
Replace with a natural gas or propane condensing storage water heater with an energy factor of 0.80 or more, or a natural gas or propane storage or tankless water heater with thermal efficiency of 90 percent or more.	\$1,000
Replace with a tankless natural gas or propane water heater with an energy factor of at least 0.82.	\$750
Replace with a natural gas or propane storage water heater with an energy factor of at least 0.67.	\$400
Replace with an indirect water heater with an insulated storage tank that has a storage capacity of at least 30 gallons and is insulated to at least R-16; and is installed in conjunction with a qualifying boiler described in the previous table.	\$1,000
Replace with an electric water heater with an energy factor of 2.0 or more.	\$1,000
Replace with an electric tankless water heater with an energy factor or thermal efficiency, as applicable, of .96 or more or a thermal efficiency of 96 percent or more, that operates on not greater than 25 kilowatts.	\$250 each for a maximum of 4 electric tankless water heaters
Replace with a solar hot water system that is certified by the Solar Rating and Certification Corporation or that meets technical standards established by the State of Hawaii.	\$1,000
Replace with a water heater installed in conjunction with a qualifying geothermal heat pump – as described in our first table – that provides domestic water heating through the use of a desuperheater or year-round demand water heating capability.	\$500 for a desuperheater

An alternative to furnaces and boilers are ground source heat pumps (GSHPs). Also known as geothermal heat pumps, GSHPs are one of the most efficient systems for heating and cooling buildings. According to the International Ground Source Heat Pump Association, GSHPs are 50 to 70% more efficient than other

[Ground Source Heat Pump](#)

heating systems, and 20 to 40% more efficient than traditional air conditioners. They can also be used as an alternative water-heating system and save up to 50% on water-heating bills.



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Ground source heat pumps are more economical than using oil or air-source heat pumps, but there is still a lot of debate over GSHPs versus natural gas. Homeowners will need carry out their own due diligence beforehand. For starters, here is an academic [report](#) that compares the two options.

Year over year, a ground source heat pump is more cost effective than natural gas. It's the initial cost that really drives down the return on investment (ROI) and makes natural gas a more attractive option. However, there are several rebates and tax credits available that help subsidize the upfront cost.

Additional Financing Resources

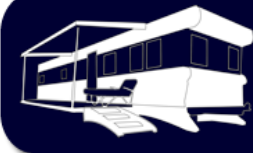
With other legislation in the queue, it might take weeks or months to hear the Senate's final decision on the Home Star bill. In the meantime, homeowners can receive funding from other sources to pay for green renovations. The federal government, state governments, local municipalities and even utility companies offer several options.

For example, homeowners can still receive a federal tax credit for 30% of the cost of energy-efficient products (up to a total credit of \$1,500). This includes the purchase of central air conditioning systems (both the product and installation), electric heat pumps, furnaces and boilers, and whole-house ventilation fans. Visit the US Department of Energy Energy Savers [website](#) for more information.

Another great resource is the Database of State Incentives for Renewables and Efficiency or "DSIRE" [website](#). This allows you to view rebates, loan and grant programs, financing options and tax credits offered in your region.

Finally, new home buyers should consider an energy-efficient mortgage or energy improvement mortgage. These mortgages allow consumers to count savings from energy bills as additional income, ultimately giving them more buying power. Home Energy Magazine has a helpful article [here](#).

This article was originally published by Software Advice at: [Cash for Caulkers – The Definitive Guide To The Home Star Energy Retrofit Act of 2010](#)



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