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The Inflation Reduction Act: Financial Incentives for Residential Energy Efficiency and Electrification Projects

Introduction

P.L. 117-169, commonly known as the Inflation Reduction Act of 2022 (IRA), includes a number of provisions affecting energy use in the buildings sector. The IRA appropriates \$9 billion for residential energy efficiency and electrification financial assistance programs. These include consumer rebates and funds for technical training.

The IRA includes \$4.3 billion to award grants to state energy offices (SEOs, defined in §124(a) of the Energy Policy Act of 2005 (P.L. 109-58)) to develop and implement Home Energy Performance-Based, Whole-House Rebates, also known as a HOMES (Home Owner Managing Energy Savings) rebate program. In addition, the IRA provides \$4.275 billion to SEOs and \$225 million to Indian tribes to implement high-efficiency electric home rebate (HEEHR) programs. A further \$200 million is appropriated for SEOs to provide training and education to contractors involved in these rebate programs.

The energy efficiency rebates are determined by energy savings of the whole house. The electrification rebate supports a menu of projects, including replacing appliances, adding insulation, and upgrading the in-home electrical delivery system itself. The two rebate programs have unique means-testing provisions and cost recovery rates and caps, as explained further below.

To receive the funds, the SEOs apply for grants from the U.S. Department of Energy (DOE). The statute specifies that DOE determine the amount of funds for each state using DOE’s allocation formula in effect on January 1, 2022. This In Focus provides highlights of the statutory programs but does not describe all the details, some of which will be determined by the SEOs.

The programs exemplify two main trends in home energy efficiency programs. In the first, during the 1980s and 1990s, energy efficiency programs focused on single appliances or systems (e.g., windows), complemented by appliance efficiency standards, information campaigns, and other policies. The second trend, which evolved later, includes initiatives aimed at whole-house energy performance. The rebates based on whole-house improvements necessitated the development of measurement methods and computer modeling platforms for simulation of energy consumption in the home.

Whole-House Rebates (HOMES)

Section 50121 of the IRA offers HOMES rebates for energy efficiency upgrades that improve the overall energy performance of a single-family home (SFH) or multi-family building (MFB). As building stock can be in place for many

years, the materials and practices at the time of construction may not perform as well as today’s materials and practices. While the IRA does not specify what retrofits would satisfy its requirements, these might include efficient windows, doors, and insulation materials.

Applicants can demonstrate savings by comparing energy consumption before and after the retrofits, either through use of building energy models that estimate the energy performance of the whole house, or by measured performance. The energy savings requirements and the rebate calculation differ for the two methods.

For modeled performance, the rebate is awarded at two different levels depending on the how much energy savings is achieved. As shown in **Table 1**, for retrofits of SFHs that achieve a 20% energy savings, an owner or aggregator is eligible for rebates of 50% of project cost, with rebates capped at \$2,000; for low- or moderate-income (LMI) households, rebates increase to 80% of project cost, up to a cap of \$4,000. For SFHs achieving at least a 35% reduction, the caps are doubled. The IRA defines LMI households as those with income below 80% of area median income; these income thresholds are estimated at <https://www.huduser.gov/portal/datasets/il.html>, but there are a number of methods for determining income itself.

Table 1. HOMES Rebates Based on Modeled Energy Savings for Single-Family Homes

	Rebate	Rebate Cap
at least 20% energy savings, but less than 35%		
if LMI household	80% of cost	\$4,000
all other households	50% of cost	\$2,000
at least 35% energy savings		
if LMI household	80% of cost	\$8,000
all other households	50% of cost	\$4,000

Source: §50121(c) of Inflation Reduction Act of 2022 (P.L. 117-169).

Notes: IRA defines LMI households to have income below 80% of the area median income for purposes of HOMES rebates.

For MFBs, the projects are eligible for a rebate of \$2,000 per dwelling unit, provided they achieve a reduction of 20%-35%. The total of all rebates in one MFB cannot exceed \$200,000. For at least a 35% reduction, the rebate per dwelling unit and the cap per building are doubled.

The rebate structure differs slightly for MFBs with 50% or more of dwelling units occupied by LMI households. Energy savings of 20%-35% qualify retrofits for rebates of 80%, up to a cap of \$4,000 per dwelling unit. For energy savings of at least 35%, the cap is \$8,000 per dwelling unit. In either case, there is no per-building maximum.

The second way to show eligibility for rebates is by measurement. Provided that retrofits achieve at least a 15% energy savings, homeowners are eligible for a rebate of 50% of the project cost, or, alternatively, a reimbursement calculated per kilowatt-hour of energy saved. Consultants who assist homeowners with participating in the rebate program (i.e., aggregators) are also eligible. For LMI households or MFBs having at least 50% of dwelling units that are LMI households, owners or aggregators are eligible for a higher rebate of 80% of project cost, or, alternatively, a reimbursement per kilowatt-hour of energy saved, with no statutory cap. The rate is \$100 per 1% reduction in energy consumption of the average SFH or MFB in the state; multiplying this rate by the homeowner’s actual energy savings gives the amount of the rebate. For LMI households or MFBs having at least 50% of dwelling units that are LMI households, the per-kilowatt-hour rate is twice as large, or \$200 per 1% reduction in the state average. These are summarized in **Table 2**.

Table 2. HOMES Rebates Based on Measured Energy Savings

Means Testing	Rebate	Rebate Cap	Rate (alternative method)
if LMI households	80% of cost	none	\$200 per 1% of reduction from avg. home energy use
all other households	50% of cost	none	\$100 per 1% of reduction from avg. home energy use

Source: §50121(c) of Inflation Reduction Act of 2022 (P.L. 117-169).
Notes: IRA defines LMI (low- or moderate-income) as income below 80% of the area median income for purposes of HOMES rebates. Measured energy savings must be at least 15% for the rebate option.

The IRA includes requirements on both methods—modeled and measured energy savings. For modeled energy savings, the IRA requires models to adopt a specific technique, ANSI/BPI-2400, for calibrating the building energy models. Analysis has shown that such calibration improves the accuracy of the predicted energy improvements.

The IRA requires measured performance evaluations to use open-source advanced measurement and verification software. DOE maintains a list of such software (which includes its own self-developed software).

There is an additional rebate of up to \$200 to certain entities performing HOMES retrofits on behalf of eligible entities in disadvantaged communities as determined by the Secretary of Energy.

High-Efficiency Electric Home Rebates

Section 50122 of the IRA, High-Efficiency Electric Home Rebate Program, authorizes SEOs to establish programs to provide point-of-sale rebates to eligible entities for qualified electrification projects (QEPs), which may include: heat pumps for water heating, up to \$1,750; heat pumps for space heating/cooling, up to \$8,000; and electric stoves or electric heat pump clothes dryers, up to \$840.

The IRA also funds rebates for QEPs that enable electrification. These include up to \$4,000 for an electric load service center upgrade and up to \$2,500 for electric wiring upgrades. The IRA also includes rebates of up to \$1,600 for insulation, air sealing, and ventilation. The total of all rebates is generally limited to \$14,000 per household, and new equipment generally must be Energy Star certified (42 U.S.C. §6294a). Further, an entity that receives one of the above rebates and performs the installation may receive up to an additional \$500, provided the amount is commensurate with the scale of the installed upgrades.

The means testing falls into three tiers. Households with income below 80% of the AMI may claim a rebate for the full expense of their upgrades, up to \$14,000. Those whose income is 80% or more but generally not greater than 150% of the area median income are eligible for rebates of 50% of their costs, up to \$14,000. Households are generally not eligible for rebates if their income is greater than 150% of the AMI. Certain entities determined by DOE who install upgrades in such households are also eligible, according to the same means-testing schedule.

Owners of MFBs, or certain entities who install upgrades in MFBs (as determined by DOE), are eligible for 50% of the value of the above rebates if at least 50% of dwelling units are households with incomes generally not greater than 150% of AMI. If at least 50% of dwelling units are households with incomes below 80% of AMI, the rebate increases to 100%.

State-Based Home Energy Efficiency Contractor Training Grants

Section 50123 of the IRA also appropriates \$200 million for SEOs to provide training and education to contractors and organizations involved in the rebate programs.

How Rebates Will Be Made Available

The funds appropriated for the rebate program are to be made available to SEOs based on plans submitted to DOE, as described in §§50121(b) and 50122(b). On November 2, 2022, DOE announced its allocations to states according to a statutory allocation formula. The IRA allocated \$225 million to Indian tribes.

DOE announced its anticipated timeline on November 2, 2022, and issued a Request for Information on January 31, 2023 to solicit ideas on best practices. DOE expects that the funding to states and tribes will be available by spring 2023. The SEOs will then issue the rebates to individual applicants under their own procedures and timelines.

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