Residential Retrofits for Energy Equity

Home Energy Rebates: Home Efficiency and Electrification Rebate Programs

U.S. Department of Energy (DOE)

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In This Resource

This resource is targeted toward local retrofit program administrators, including local governments and community-based organizations (CBOs), looking to better understand the new federal home energy rebate programs. While State Energy Offices will design and implement state-specific programs, local retrofit program administrators can play an important role in marketing the program, coordinating projects, stacking multiple funding streams, and perhaps applying for and receiving rebates on behalf of eligible households. These rebates may fill critical gaps in existing retrofit program funding.

This resource also highlights program design elements that states will be choosing in the coming months, including areas where local retrofit program administrators and affordable housing advocates may support states in program implementation design that best serves the needs of low-income households and complements existing programs. DOE requires states to dedicate a minimum amount of funding to low-income and multifamily households and strongly encourages states to work with CBOs, retrofit program administrators, and affected communities. States are required to submit plans outlining how their programs will achieve DOE goals around workforce development, community engagement, and equity and inclusion. Application and plan development timelines will vary by state, but interested states are likely already beginning to develop plans and engage stakeholders. Interested stakeholders could begin engaging their State Energy Offices on rebate programs immediately.

Program Overview

Under the Inflation Reduction Act of 2022 (IRA), DOE received **$4.3 billion** for the Home Efficiency Rebate Program, **$4.5 billion** for the Home Electrification and Appliance Rebate Program (collectively, the "Home Energy Rebate Programs"), and **$200 million** for Contractor Training Grants. These funding streams fund states, territories, and tribes to provide rebates for home energy efficiency and electrification upgrades.[1] Rebates will be available for single family and multifamily homes, with a focus on serving low-income households and households in disadvantaged communities.

The funds will be disbursed as **formula funding,** meaning that states are effectively guaranteed this funding so long as they fulfill the minimum application requirements laid out by DOE. The vast majority of the funding ($8.3 billion) is designated for State Energy Offices, in both states and territories, and the remainder ($225 million of the electrification rebates) is designated for tribes. While DOE has prescribed many of the program requirements, **states and tribes still have considerable flexibility to adapt elements of their programs** to best work with existing state programs and serve resident needs, including retrofitting affordable housing.

The two rebate programs overlap considerably but serve distinct purposes. The efficiency rebates are designed to pay a share of the costs for whole-home retrofit projects that achieve minimum energy savings, based on a scope of work and home assessment from a contractor. The electrification rebates are designed to reduce the upfront cost of efficient electric heating, cooling, and cooking equipment. Though the electrification rebates are primarily designed to promote electric appliances, they may also be used for air sealing, insulation, electric paneling, and electric wiring upgrades. Eligible recipients may be eligible for both rebates, so long as the rebates are not applied toward the same appliance or energy efficiency upgrade.

Key Program Dates

August 16, 2024 states must notify DOE of their intent to apply. After this date DOE can reallocate unclaimed funds to the other states.

January 31, 2025 complete applications are due to DOE.

States may apply sooner, and most have already begun initial planning. Check with your State Energy Office to determine their timeline.

September 30, 2031 all state funds must be spent. States will likely use up rebate funding before this date.

[1] Appropriations for the rebate programs were established in Section 50121, "Home Energy Performance-Based, Whole-House Rebates", or HOMES, and Section 50122, "High Efficiency Electric Home Rebate Program", or HEEHR, of the IRA, along with Section 50123, "State-Based Home Energy Efficiency Contractor Training Grants," or HOPE. DOE now refers to the rebate programs as the Home Efficiency Rebate Program and the Home Electrification and Appliance Rebate program, respectively. DOE is implementing the two programs jointly and has issued joint program guidance.

Funding Lifecycle

Figure: Flow of Home Energy Rebate Funds.

*The rebates may also go to contractors or "aggregators" who implement the upgrades for the owners.

On July 27th, 2023, DOE released program guidance detailing requirements and application instructions for states. DOE will consider applications as they are submitted, starting with "Quick Start" applications from states that can use existing programs to start the rebates in 2023.

Eligible Activities and Award Details

Guidance Overview

Below, we describe some of the overarching requirements for both home energy rebate programs, and in the following sections we describe the detailed guidance specific to the efficiency rebates, followed by guidance specific to the electrification rebates. Table 1 provides a summary of some of the key details.

Table 1. Summary of Home Energy Rebates program

	Efficiency Rebates	Electrification Rebates
Purpose	Formula funding for state- or tribal-administered home rebate programs.	
Total Funding	$4.300 billion to states	$4.275 billion to states, $225 million to tribes
Eligible Measures	Energy efficiency upgrades, such as equipment upgrades or building envelope improvements that achieve a minimum of 15 or 20 percent energy savings.	(1) Electric heat pumps for space heating and cooling, heat pump water heaters, heat pump clothes dryers, and electric cooking equipment (2) Insulation, air sealing, ventilation, electric panel, and electric wiring upgrades
New vs. Retrofits	Retrofits only	Retrofits and new construction

Rebate Amounts	Based on total project cost, household income, equipment purchased, and energy savings (see Tables 2 and 3 for details)	
Eligible Households	All households	Low- and moderate-income households only
Rebate Recipient	Likely contractors or "aggregators," though households may also be able to apply directly to the state.	Households or eligible representatives (such as a nonprofit, local government, or business—such as a contractor—carrying out a qualified electrification project).
Customer Rebate Timing	If through a contractor or aggregator, likely at point of sale. If a household applies directly to the state, after project completion.	Point of sale

Low Income households. DOE defines a household as "low-income" if the household's income is 80% or less of the Area Median Income (AMI) and "moderate-income" if the household's income is between 80%-150% of AMI.[2,3] Tables 2 and 3 outline the minimum and maximum rebate amounts for these households.

Income Verification. States have flexibility in how household income is verified. States must allow categorical eligibility (e.g., if the household is already enrolled in recognized state low-income programs or this list of federal programs), and they may allow eligibility through income documentation or self-attestation. States are encouraged to adopt multiple income verification methods.

Set Asides for Low-Income Households. States are required to set aside, at a minimum, a share of their funding for low-income households in line with the share of low-income housing in the state as well as another 10% of their funding specifically for low-income multifamily (see Appendix A of the DOE guidance for state minimums). DOE estimates that roughly 39-41% of households are low income in each state, so collectively these set-asides amount to approximately half of the funding in each state.

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[2] AMI will vary based on where the household is located. For example, 80% of the AMI for a family of four in New York City, NY would be approximately $112,960, whereas 80% of the AMI for a family of four in Tulsa, OK would be approximately $64,400. The Department of Housing and Urban Development (HUD) publishes annual AMI data at https://www.huduser.gov/portal/datasets/il.html#2023_faq.

[3] Multifamily buildings qualify as low or moderate income if at least 50% of the units qualify as low or moderate income. If a multifamily building is mixed-use, rebates are only available for residential portions.

Affordability restrictions: For at least two years after receiving the rebates, the owner of a low-income rental unit is required to continue to rent the unit to a low-income renter and may not increase the rent as a result of the energy improvement.[4] As a requirement, affordability conditions must be communicated clearly to residents, such as in an addendum to the lease.

Third-Party Rebate Recipients. By law, the electrification rebates must be available at the point of sale. Though not required, the efficiency rebates will likely also be available at the point of sale. In both cases, the rebates will likely pass through a third party that will provide the rebate amount to customers at the point of sale and then collect rebates from the state. For the electrification rebates **"eligible entity representatives"** will likely be a contractor or a home energy service provider that installs the measure (including those affiliated with utility-run efficiency programs or nonprofit programs). The efficiency rebates are more complicated, and contractors may need to be paid by **"aggregators"** (such as a utility program) up front. The aggregator would collect the rebate from the state upon completion of the project.

The measured pathway of the home efficiency rebates (see the Home Efficiency Rebates Section for an explanation of the two pathways) requires the aggregator to (1) average the energy savings over a large portfolio of projects in order to reduce the risk from poor performance in one home; (2) carry the rebate costs for longer (at least one year until state reimbursement). For these reasons, some States can anticipate the participation of a new type of "aggregator" that will likely be for-profit companies that can deploy qualified projects at scale. This allows the technical, administrative, and marketing burden to be removed from small contractors or home energy service providers and the rebate process to be streamlined.

DOE provides limited guidance on the role of these third parties, specifying broadly that they could be nonprofits, local governments, or private businesses. Third parties will need to be approved by states. In the case of the electrification rebates, DOE requires the third-party representatives to pass the full rebate amount to the customer (by reducing the purchase price). No such requirement has been stated for third party aggregators for the efficiency rebates.

Braiding funding. DOE strongly encourages states to combine multiple funding programs to extend the reach of the rebate programs. These rebates may not be combined with each other or with other federal grants for the same measure but may be combined with other non-federal funding sources (or federal financing). In particular, state weatherization programs and utility incentives will be well suited to complement the home energy upgrades for which rebates would be available.[5]

Required state plans. DOE requires that states submit various detailed plans:

- **Community Benefits Plan.** States are required to develop a Community Benefits Plan to facilitate community engagement with the rebate programs, promote equity goals,

[4] DOE makes an exception for rent increases related to increased costs as a result of the energy improvement (e.g., property taxes, operating expenses, or maintenance costs).
[5] For example, if a household installs a new heat pump, the efficiency and electrification rebates may not be combined to cover costs related to this piece of equipment.

and ensure that at least 40% of the benefits of the program flow to disadvantaged communities. As part of this plan, states are required to develop measurable annual goals, detail their approach to working with contractors, host at least one public comment session to inform the design of the state program, provide a forum to receive and respond to community feedback throughout the program, and define an outreach strategy.

- **Consumer Protection Plan.** States must develop a quality assurance (QA) plan to ensure that the work performed meets the program standards.
- **Utility Data Access Plan.** States must develop a plan to safely store and transfer consumer data, per DOE data access guidelines.
- **Market Transformation Plan.** States must develop a plan to enable the market to recognize the value of homes that have been upgraded, such as at the time of sale or rental, as well as to enable continued transformation of the residential energy sector even after rebate funds are depleted.
- **Education and Outreach Strategy.** States must develop a plan to reach out to and educate various stakeholders, including utilities, local governments, labor unions, etc.
- Privacy and Security Risk Assessment for state systems.

Deadlines will vary between required plans. Detailed timeline requirements can be found in the DOE guidance.

Home Efficiency Rebates (Section 50121)

The home efficiency rebates are designed to support home upgrades that achieve at least 15-20% energy savings, depending on the measurement pathway. Any efficiency upgrade that contributes to the minimum savings requirement could be eligible for the rebate: this could include insulation, air sealing, windows, doors, mechanical systems, appliances, home energy management and control systems and more. Any heating, cooling, or water heating equipment must be ENERGY STAR certified to be eligible for the rebate.

Savings Pathways. States may elect to offer one or both of the following measurement pathways:

Modeled Savings. A contractor does an assessment of the home and enters data into modeling software that estimates the energy use and savings from proposed measures. The contractor and owner agree on a package of measures that the software estimates will reduce energy use in the home by at least 20%. The contractor (or team of contractors) then carries out the project.

In order to improve the accuracy of the savings estimate, the modeled energy use generally must be calibrated to actual energy use of the home over the previous year according to the BPI-2400 standard. However, this standard does not currently apply to multifamily buildings (BPI is working on that). In addition, this is not possible in homes with less than one year of energy data for the current residents, if there is not good data on delivered fuels such as heating oil, or if new cooling load cannot be accurately accounted for in the model.[6] With DOE

[6] In January 2024, BPI is gathering feedback on a new informative annex for homes with insufficient energy use data (Annex E: Alternative Asset-Based Savings Calculation with Insufficient Energy Use Data).

approval, states will need to develop alternative methods in these situations (see Section 3.2.4.1.1. of the guidance).

Measured Savings. Energy savings are determined based on measured energy use before and after the project is complete (after normalizing for weather changes). Typically, an aggregator would identify homes and develop a scope of work and then hire contractors to do the work. The customer cost may be reduced based on the amount of the anticipated rebate. The aggregator will receive the rebate for the home a year after the upgrades based on measured savings if they achieve at least 15% savings (for an individual home or across a portfolio of homes). Averaging over a large number of homes makes it easier to predict the energy savings and thus the rebate amount. The rebates associated with the measured savings pathway are based on the amount of energy saved and may be larger than those for modeled savings. For example, a rebate could be more than $20,000 for a low-income zero energy-performance home.

Rebate Amounts: Rebate amounts are based on energy savings, household income, and total project cost (see Table 2). As noted above, states may opt to provide an even larger rebate for low-income homes (though not to exceed the total project cost). Multifamily rebate recipients may combine rebates from multiple units to invest in upgrades that also serve common areas. States will need to provide guidance on how to account for common area energy savings.

Table 2. Home Efficiency Rebate Amounts (rebates apply to single family homes and multifamily units)

Modeled Savings Pathway			Measured Savings Pathway		
Energy Savings	Low-Income Household*	All Other Households	Energy Savings	Low Income Household*	All Other Households
20-34%	$4,000 (up to 80% of project cost)	$2,000 (up to 50% of project cost) Up to $200,000 per multifamily building.	15%+	An amount per kWh-equivalent based on $4,000 for 20% energy savings**	An amount per kWh-equivalent based on $2,000 for 20% energy savings**
35%+	$8,000 (up to 80% of project cost)	$4,000 (up to 50% of project cost). Up to $400,000 per multifamily building.			

Contractors or aggregators qualify for a $200 incentive for projects completed in disadvantaged communities.

*Under 80% of Area Median Income. Multifamily buildings qualify if at least 50% of the units are low-income.

**Rebate is the measured kWh-equivalent savings for the home times a rate that would yield $2000 or $4000 for 20% energy savings in the average single-family or multifamily home in the state.

Home Electrification and Appliance Rebates (Section 50122)

The home electrification and appliance rebates are designed to lower the upfront cost of electrifying low- and moderate-income homes (up to 150% of AMI). These rebates may be applied toward the cost of purchase and installation of qualified electrification projects (QEPs), which include one or more of the following: electric heat pumps for heating and cooling, heat pump water heaters, heat pump clothes dryers, electric cooking equipment, insulation, air sealing, ventilation, electric wiring, and electric panel upgrades. The appliances must either be in new construction, replace a non-electric appliance (e.g., switching from a gas furnace), or be a first-time purchase (e.g., replacing electric resistance heat).

The rebates may be claimed by the household, multifamily building owner, or a governmental, commercial, or nonprofit entity performing the retrofit. In multifamily buildings, the rebates may be used for centralized systems that serve residential common areas in addition to the qualified units. In this case, the rebate recipient may combine the rebates from multiple units to go towards the centralized system.

Table 3. Home Electrification Rebate Amounts (for single family homes and multifamily units).

Low-income households are eligible for up to 100% of the project costs, and moderate-income households are eligible for up to 50% of the project costs.
Installation incentives also exist but are not included in this table.

Measure	ENERGY STAR required?	Max Rebate Amount
Heat Pump Water Heater	Yes. DOE will issue further guidance on central heat pump water heating systems, which do not currently have an ENERGY STAR rating.	$1,750
Heat Pump for Space Heating and Cooling	Yes (window-mounted heat pumps do not qualify).	$8,000
Electric Stove* or Heat Pump Clothes Dryer	Yes.	$840
Insulation, Air Sealing, and Ventilation	Yes.	$1,600
Electric Load Service Center (Electric Panel)	n/a	$4,000
Electric Wiring	n/a	$2,500
Total Project Rebate		$14,000

*Electric stove, cooktop, range, or oven are all eligible. However, only one may be eligible for a given project.

Installation Incentives. In addition to providing household rebates, states are required to provide incentives to the contractor or other entity that performs the QEP.[7] The incentives may not exceed $500 per housing unit (see Table 9 in the DOE guidance for a detailed list of maximum incentive amounts, including maximums based on the appliance). Within DOE-designated maximums, states have considerable flexibility in how they set the installation incentives—such as limiting incentives to projects for low-income households or limiting incentives to specific equipment—but must at a minimum provide incentives for projects in disadvantaged communities, unless the project consists only of the installation of an electric stove and/or heat pump dryer.[8]

State Program Implementation

Below, we highlight program areas where states have flexibility to adapt their home energy rebate programs, including areas where local program administrators and affordable housing advocates can support or influence states.

Key Program Decisions Affecting Low-Income Households

- In coordination with relevant stakeholders, states are required to develop a **community benefits plan** before they can access federal rebate funds. Local program administrators and interested affordable housing stakeholders could use this opportunity to support states in identifying barriers and solutions to reaching low-income households and to advocate for a benefits plan that best serves the needs of these residents and is aligned with affordable housing sector constraints. Recommendations could pertain to language access, public feedback sessions, screening tools for identifying Environmental Justice communities, priority communities, processes for consumer feedback, recruitment for workforce training, etc.

- **Income verification** methods will impact how easily the rebates will reach the low-income residents they are designed to serve. DOE has directed states to qualify residents who have qualified for other low-income programs and has provided states with a range of other options—including self-attestation—to show households meet income qualifications. Stakeholders who work with low-income households and affordable housing should consider advocating for methods that will reduce burdens on income-qualified residents and rental property owners.

- States have the flexibility to **expand low-income rebates**. States may increase the rebate amounts for low-income households and may increase the total share of funding set aside for these households. Similarly, states could **expand rebates specifically for low-income multifamily units**. States and advocates should consider an initial assessment of needs for their state's single family low-income and multifamily low-income (including the availability and size of programs that serve each

[7] Other entities could be governmental, philanthropic, commercial, or nonprofit (e.g., community groups).
[8] For its definition of a disadvantaged community, DOE relies on disadvantaged areas identified by the Climate and Economic Justice Screening Tool (CEJST). Subject to DOE approval, states may use an alternate definition of disadvantaged communities.

type of housing) and compare against the minimum rebate amounts and funding set-asides required by DOE for these sectors.

- DOE only requires that **affordability requirements extend 2 years** after efficiency upgrades in low-income rentals. States should consider extending this requirement proportionally for larger rebates.

- The required **Consumer Protection Plan** must describe states' Quality Assurance plan. Interested stakeholders could provide feedback to ensure that there are transparent and effective mechanisms for consumer feedback, adequate processes to assess bill impacts, and household education for new equipment.

- **Evaluate gaps and opportunities to combine with existing programs.** States are strongly encouraged to integrate the rebate funds with existing programs and fill in any funding gaps. Though the rebates may not be combined with other federal grants, they may be combined with other federal financing, utility incentives, state or local programs, or other funding streams. Additionally, states might promote to households interested in pursuing energy efficiency upgrades and that owe federal income tax that they may also be eligible for the Section 25C tax credit on a portion of the upgrade costs.

Other Anticipated Technical Considerations for State Programs

- **States need to develop approaches for multifamily buildings.** DOE specifies many key requirements for single-family homes but requires states to develop their own approach for multifamily buildings. Some key multifamily considerations include income qualification for buildings not already in low-income programs (relevant for both rebate programs), access to energy bill data for units, specifications for home energy assessments, modeling energy savings, calibrating energy models, and incorporating centralized systems and associated energy savings in common areas (all relevant for the efficiency rebates). Program administrators, rental property owners, and affordable housing advocates should ensure that the approaches are responsive to local needs and can be easily implemented.

- **States need to develop methods to ensure that electrification projects do not increase utility bills.** DOE requires that states set criteria for home assessments for electrification rebates, including a method to estimate utility bill impacts if the project shifts the home from fossil fuel to electric heat (i.e., electrification). States also need to determine when recipients should be warned of a high risk that upgrades will increase utility bills. These risks will vary based on factors such as climate zone and relative electric and natural gas rates. To mitigate these risks, states might consider various approaches such as rate reforms or requiring envelope upgrades to be paired with electrification upgrades.

- States will need to inform DOE if their target building stock will require envelope upgrades prior to the installation of mechanical systems or appliances that receive the efficiency rebates. Similarly, states may encourage or require envelope upgrades for projects eligible for the electrification rebates. Envelope upgrades, or weatherization, may lessen the size of mechanical systems needed, ensure reduced energy bills, and

lead to improved home comfort, even beyond the life of new mechanical systems or appliances. However, requiring envelope upgrades may increase the upfront cost of qualified projects and require a different contractor. Stakeholders should assess the needs of impacted communities and other locally specific factors.

For answers to home energy rebate programs frequently asked questions, visit R2E2's Resources page or DOE's Home Energy Rebates FAQ page.

Residential Retrofits for Energy Equity (R2E2) is a partnership of the American Council for an Energy-Efficient Economy (ACEEE), Elevate, Emerald Cities Collaborative, and HR&A Advisors. This initiative provides technical assistance to state and local governments, community-based organizations, and other entities to jumpstart energy upgrades for single family and multifamily affordable housing across the country, especially in frontline communities.