



Whole Building Electrification Alterations Participant Handbook

This handbook is a working document and Energy-Smart Homes staff reserves the right to update, change and revise the document to clarify program rules and requirements. The most up-to-date version is available on the Energy-Smart Homes website. **This document is version 2.4.**

<u>caenergysmarthomes.com | caenergysmarthomes@trccompanies.com | (833) 987-3935</u>





Pacific Gas and Electric Company®

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1 Program Terminology

Following is a brief list of terms and parties that this handbook includes.

Accessory Dwelling Unit (ADU): A smaller, independent residential dwelling unit located on the same lot as a stand-alone single family home. ADUs include conversion of existing attached space, a new attached building, or conversion of existing detached space.

Affordable Housing: Housing that is deemed affordable to those with a household income at or below the median income level as rated by the national government or local government by a recognized housing affordability index.

All-Electric: A building or home with no gas end uses in which electricity is the only power source that heats, cools, illuminates, launders, preserves, and prepares foods, and entertains.

Alterations: For the Energy Smart Homes Programs' Alterations component, we define an alteration as a complete change in technology.

Applicant: The entity, or representative of the entity applying to Energy-Smart Homes.

Builder: A person(s) or firm whose business is the construction of dwellings.

California Energy-Smart Homes Program: Residential new construction program available to Investor-Owned Utility customers, referred to as *Energy-Smart Homes* throughout this document.

California Public Utility Commission (CPUC): A regulatory agency that regulates privately owned public utilities in the state of California, including electric power, telecommunications, natural gas, and water companies.

Certified Energy Analyst (CEA): This certification signifies that an individual understands the current Building Energy Efficiency Standards. The California Association of Building Energy Consultants (CABEC) manages both the residential and nonresidential CEA certification programs.

Community Choice Aggregation (CCA): CCA allows local jurisdictions to aggregate, or combine, their electricity load to purchase power on behalf of their residents. CCAs work with the region's existing utility, which continues to provide customer services including meter-reading, billing, grid maintenance, power delivery, outage response services, and billing.

Contractor: A person or company that undertakes a contract to provide materials or labor to perform the service or job on a project.

Developer: A person(s) who develops land through construction and who, to this end, becomes an owner of the developed land.

Deed-Restricted Housing: This is a legal mechanism used to preserve the long-term affordability of residential units priced below market rates. The restrictions limit the sale price or rental rates to ensure that it remains affordable for low- to moderate-income households over a specified period. This restriction is a legally binding agreement recorded on the property's deed at point of sale.

Duplex: A house plan with two living units attached, either next to each other as townhouses, condominiums, or above each other like apartments. Duplex homes share a single wall with a dwelling unit on either side of the wall.

Energy Consultant or Title 24 Consultant: The party responsible for preparing and revising the energy model using Title 24 compliance software.

ENERGY STAR®: A program that the U.S. Environmental Protection Agency and U.S. Department of Energy run that promotes energy efficiency.

Heat Pump Space Heating: Heat pumps use electricity to move heat from one place to another instead of generating heat directly. An example of a heat pump space heating is the ductless mini split heat pump, which is a system that uses individual wall-mounted blowers to provide heating and cooling to a room.

Heat Pump Water Heating (HPWH): Heat Pump Water Heaters use electricity to move heat from one place to another and therefore heating the water instead of generating heat directly. Therefore, they can be up to three times more energy efficient than conventional electric resistance water heaters.

HERS Rater/Rater: A third-party special inspector that performs field verification and diagnostic testing at various times during construction, to corroborate the technical specification of the energy conservation measures reported in the energy model.

IOU: Investor-Owned Utility.

Induction Cooking: Cooktops with electromagnetic fields beneath the surface that create heat directly within cookware, rather than relying on indirect radiation, convection, or thermal conduction.

Mixed-fuel: Refers to buildings with electricity and natural gas utilities.

Mixed-use: A development that blends residential, commercial, institutional, or entertainment uses into one space.

Multifamily high-rise (MFHR): Housing with four or more separate units located in one or more buildings with four or more stories above ground.

Multifamily low-rise (MFLR): Housing with four or more separate units connected by shared walls located in one or more buildings with three or fewer habitable stories above ground. A "habitable story" refers to any story that has a dwelling space on it. Parking garage is not a habitable story whether it is above or below ground.

Operations Associate: A member of the California Energy-Smart Homes team assigned to the participating project to act as your dedicated guide throughout the program.

Pacific Gas and Electric Company (PG&E): PG&E provides natural gas and electricity to approximately 16 million people from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east. PG&E is the statewide IOU lead for Energy-Smart Homes.

Participant: Refers to the active individual(s) taking place in the Energy-Smart Homes program.

Reach Code: Local building energy code that "reaches" beyond the state minimum requirements for energy use in building design and construction.

Regional Energy Network (REN): A network of local governments partnering to promote resource efficiency at the regional level, focusing on energy, water, and greenhouse gas reduction.

Residential New Construction (RNC): The act of building any structure, or that part of any structure that is used as a home, residence, or sleeping place by one or more persons.

San Diego Gas and Electric (SDG&E): SDG&E provides natural gas and electricity to San Diego County and southern Orange County in southwestern California.

Single Family: Homes that have just one dwelling unit. For the purpose of this program, duplexes, townhomes, and ADUs are eligible under our single family program requirements. ADUs will receive the same incentive offering as multifamily low-rise projects. Manufactured Homes are not included in this definition.

Southern California Edison (SCE): SCE provides 15 million people with electricity across a service territory of approximately 50,000 square miles across Southern California.

Thermostatic Mixing Valve: A valve that blends hot water with cold water.

Title 24 Part 6 Building Energy Efficiency Standards ("Standards"): The current building energy standards for all residential and nonresidential buildings. Title 24 Part 6 regulates building envelope, space conditioning systems, water-heating systems, and indoor and outdoor lighting systems. Building design and construction must comply with Part 6.

Townhome: A single family dwelling unit constructed in a group of three or more attached units in which each unit extends from the foundation to the roof with open space on at least two sides. Must be modeled as individual separate units.

TRC: TRC is serving as the Energy-Smart Homes Program implementer on behalf of PG&E. TRC recruits program participants, provides energy design assistance, conducts plan review, facilitates project approval, provides program coordination, and designs and delivers educational opportunities.

2 Program Introduction

This section provides an overview of the Energy-Smart Homes program including program objectives, incentive offerings, and initial steps to participate.

2.1 Program Overview

The California Energy-Smart Homes All-Electric Residential Program focuses on supporting a high-level approach to achieving California's advanced energy efficiency policy goals through 2025. The deadline is based on the CPUC-approved program cycle and may be extended. The program is available to customers in the PG&E, SDG&E, and SCE territories. The all-electric program offering will serve the following residential subsectors:



Single family, duplex, townhomes

Multifamily low-rise (three or fewer stories)



Accessory dwelling units

2.2 Program Objectives

Energy-Smart Homes is an all-electric residential program focused on supporting California's advanced energy efficiency policy goals and climate change mitigation. The all-electric program offers several benefits for builders and developers including reduced construction costs by eliminating gas hookups and metering, single utility permitting and installation coordination, and elimination of the need to install carbon monoxide monitors. Residents of all-electric homes will benefit from improved indoor air quality, modernized cooking control from electric or induction stoves, improved safety from eliminating unseen gas leaks, reduced operating expenses, and can achieve deeper savings from behavior changes.

The objective of the program is to influence the decision and ease the transition to adopt all-electric new construction practices. To accomplish this, the program will educate potential participants and stakeholders on the features of all-electric homes, enroll projects, emphasize the installation of advanced energy efficiency technologies that position homes to install high-impact demand response technologies more easily in the future. Additional program objectives include:

- Incorporating grid harmonization and utility communication-enabling as prerequisites in residential new construction (RNC) design, allowing for more easily achievable demand flexibility and grid integration in the near future
- Shifting the market further in favor of all-electric
- Educating home buyers on the life cycle cost savings associated with an all-electric home
- Overcoming misconceptions about fuel-substitution

2.3 Program Contact

For more information about California Energy-Smart Homes please contact us:

- Toll-free: (833) 987-3935
- Email: <u>caenergysmarthomes@trccompanies.com</u>
- Website: <u>www.caenergysmarthomes.com</u>
- Participant Portal: TRC Customer Portal (anbetrack.com)

To receive the latest program news from Energy-Smart Homes, sign up for our mail listing here:

Electrify your inbox

3 Program Participation Process

This section provides an overview of the steps you take to participate in the program.

3.1 Participant Journey

Energy-Smart Homes focuses on a streamlined participant journey including a simple online application process and an online portal for document submittal and incentive requests. For alterations projects, applicants can submit their application after their work is completed.



3.2 Participation Steps

To participate in Energy-Smart Homes, please follow these initial steps:

- Document each of your existing appliances and their name plates through photos (outlined in Section <u>7</u>).
- 2. Install program-eligible fuel-substitution technology (outlined in Section 3.4.3)
- 3. After learning about the program, either:

Contact Energy-Smart Homes staff at <u>caenergysmarthomes@trccompanies.com</u> to share details about your project or ask program questions before applying.

OR

Access the participant portal from the program website to submit an initial application.

- 4. An Energy-Smart Homes representative will follow up with you to discuss your project, obtain any missing or corrected information, and discuss required application documentation.
- 5. You will submit the required program application documents (outlined in Section <u>7</u>) through the participant portal. Energy-Smart Homes staff will review your application documents for completion and will communicate with you regarding any missing information or requirements.
- 6. Upon receiving your application documents and participation agreement, Energy-Smart Homes staff will contact you to obtain any missing or corrected information. At this phase, program staff will also assign an operations associate to your project.

- Your application documents will go through our verification process (outlined in Section <u>5.1</u>). The Energy-Smart Homes team will verify eligibility requirements and installations, confirming projected energy savings and incentive amounts.
- 8. Energy-Smart Homes staff will work with you to schedule and conduct a field verification visit as needed, as 15% of all units/lots completed in any given year will participate in field verification for quality control. See section <u>5.2</u> for field verification details.
- 9. Energy-Smart Homes staff will verify your project completion through document submittal.
- **10**. After confirming project details, Energy-Smart Homes staff will issue your payment via check to the payee listed on your approved application.

3.3 California Energy-Smart Homes Participant Portal

As an Energy-Smart Homes participant, you will have ongoing access to your project's status throughout the <u>participant portal</u>. The portal enables you to submit applications, upload documents, check on project and incentive status, and submit incentive requests. Participants will be able to access their project in the portal using the application ID, applicant email address, and electric utility entered on the application.

3.4 Program Participation Requirements

This section provides program eligibility requirements. These requirements must be met to receive Energy-Smart Homes funding. The program does not accept alteration projects converting from propane to electric.

3.4.1 Eligible Building Types

The following alteration project types are eligible for Energy-Smart Homes program incentives.

Single Family

Single Family, Duplexes, Townhomes, and ADUs. This document refers to these building types as single family hereafter.

Multifamily Low-Rise

Multifamily low-rise is defined housing with four or more separate units connected by shared walls located in one or more buildings with three or fewer habitable stories above ground. A "habitable story" refers to any story that has a dwelling space on it. Parking garage is not a habitable story whether it is above or below ground.

3.4.2 Applicant Eligibility Requirements

To be eligible for program participation, existing single family, ADU, and/or multifamily low-rise property owners must:

- Complete whole building electrification alterations on an existing single family dwelling unit, multifamily low-rise building, or ADU
- Be located in PG&E, SDG&E, or SCE electric service territory and pay the Public Purpose Program (PPP) charge
- Have work (heat pump space heating, heat pump water heating, and electrification infrastructure) completed by a licensed contractor
- Meet minimum program alteration criteria and equipment specifications
- Complete and sign an online program participation agreement, including agreeing to program Terms and Conditions
- Agree to not receive financial incentives for the same advanced energy technology installations or scope of work from other CPUC resource-funded programs
- Adhere to all applicable federal, state, and local laws and codes, which can include public works requirements under the California Labor Code

3.4.3 Prerequisites

Alterations to existing single family and/or multifamily properties require:

- All gas lines to the participating building(s) to be capped
- All equipment must be federally regulated
- Mechanical and water heating systems cannot be shared between single family residences unless permitted to do so
- A change in technology that includes conversion of all gas appliances and equipment to electric systems (replacing fossil fuel combustion equipment with heat pumps), including:
 - Heat pump space heating
 - HVAC equipment installed must utilize heat pump technology (SEER 15 or SEER2 14.29 or greater; HSPF 8.7 or HSPF2 7.44 or greater). Examples of eligible heat pump space heating includes ductless mini split heat pumps and ducted heat pumps.
 - Technology that utilizes electric resistance as the primary source of heating is not eligible for the program.¹
 - Heat pump water heating (NEEA Tier 2 rating or greater)
 - Induction cooking (projects with existing electric cooking qualify for incentives without upgrading to induction cooking). For Energy-Smart Homes eligibility, induction cooking should be permanently installed as the sole cooktop technology. Portable burners are not

¹Projects with solar thermal may install electric resistance heating as a backup water heating source instead of heat pump technology.

permitted. Deed restricted multifamily affordable housing projects will receive a bonus of \$500 per unit for installing induction cooktop technology.

- Electric clothes dryers (bonus incentives for heat pump clothes dryers)
- Electrical infrastructure upgrade (not required, bonus incentives)
- Before and after pictures including photos of equipment name plates for every appliance being replaced and installed
 - Full list of photo and other documentation requirements are outlined in Section 7
 - Single family projects require photos for each advanced energy efficiency technology being installed and replaced; multifamily low-rise projects are subject to a sampling protocol. See Section <u>3.7.2</u> for multifamily low-rise alteration sampling requirements.
- At minimum, at least two out of the four upgrades need to be a gas to electric conversion, with one of them being heat pump space heating or heat pump water heating. For example, a project with pre-existing electric space and water heating cannot qualify with a conversion of a dryer and cooktop only.
- Projects cannot receive incentives for the same fuel-substitution upgrades from any of the regional area network (REN) provider programs or any other CPUC funded program.

If the project does not meet all of the applicant eligibility requirements or the program prerequisites, the project is not eligible for whole building electrification alteration incentives from California Energy-Smart Homes.

3.4.4 Electrical Infrastructure Upgrades

Energy-Smart Homes offers electrical infrastructure upgrade bonus incentives to projects that must perform electrical infrastructure upgrades as part of a program incentivized advanced energy efficiency technology installation.

Energy-Smart Homes can offer up to \$1,000 (for single family projects) and up to \$600 per unit served (for multifamily low-rise projects) for eligible projects. The bonus incentive awarded cannot exceed the costs associated with the upgrade itself.

To be eligible for this incentive, a project's upgrade must meet at least one of the following criteria as noted on their itemized and paid invoice below:

- New electrical wiring to the installed advanced energy efficiency technology upgrades
- Running 208, 220/240V outlets/circuits for upgraded appliance installations

In addition to meeting the criteria above, projects must submit an itemized invoice that includes material and installation/labor costs associated with the electrical upgrade. If your project is performing an electrical infrastructure upgrade and you want to learn more about eligibility or potential incentives, please contact your program representative.

Electrical panel upgrades are not eligible for the Electrical Infrastructure Upgrade. Projects are encouraged to review the Electrical Load Management Advanced Technology Bonus for electrical panel upgrades.

3.5 Advanced Technology Bonus Requirements

To further advance the market towards clean energy technology and decarbonization, Energy-Smart Homes offers additional incentives for advanced technology bonuses. These are advanced energy efficient technologies that are proven technologies but not frequently installed in California. Additional incentives are available to offset the implementation and design costs. If you plan to receive the Advanced Technology Bonus installation incentives, your application must be accompanied by an allelectric alteration project application. Your project will be subject to the same eligibility requirements outlined in sections 3.4 and must submit the same documentation as outlined in Section <u>7</u>.

3.5.1 Central Heat Pump Water Heater

Design and installation incentives for central heat pump water heaters (CHPWH) are available as an add-on to an existing program-eligible multifamily low-rise whole building electrification alterations project. Building owners applying for the program are eligible for the design incentive once for each unique building type, as determined by TRC. If you are interested in learning more about this Advanced Technology Bonus and including it as part of your application package, please let a member of our team know prior to application.

The program will pay the design incentive upon receipt and verification of the following design documents:

- Cost estimate report with specifications for original design cost (gas DHW) and second, with specifications for the design cost with a heat pump central DHW system. A cost estimate template is available upon request from your operations associate.
 - Provide labor, material, and quantities broken down for the heat pump, storage, and distribution costs for both gas and heat pump cost estimates
 - Include descriptions of parts, price, quantity/units, final pricing, and quote date
 - Add/deduct alternate to establish the incremental cost of the work
 - Include annual operating costs and annual savings for gas DHW and heat pump central water heating
- Invoice for services from engineer commissioned to design the CHPWH system at this property
- All associated dimensioned plan sets stamped by a licensed PE. At minimum, the following should be provided:
 - Plumbing
 - Electrical
 - Mechanical
- Additional Documents:
 - Spec sheet for future Central Heat Pump Water Heater
 - W9 for project payee

- Proof of utility service at PG&E, SDG&E, or SCE through utility bill or will serve letter
- Projects moving forward with installation of the Central Heat Pump Water Heater and seeking installation incentives must submit the same documentation as outlined in Section <u>7</u> upon completion of project

The design incentive must be applied for prior to installation of the system. Projects that have completed installation are not eligible for the design incentive.

The program does not require projects to complete installation to be eligible for the design incentive. You will be eligible to receive the design incentive if the plans submitted meet the requirements listed above.

3.5.2 Variable Capacity Heat Pump

Installation incentives for variable capacity heat pumps are available for single family, multifamily, and ADU owners. Heat pump must be inverter driven and air-source heat pumps providing space heating must meet or exceed CEE Tier 1 requirements. Eligibility is not contingent on the California Energy Commission's List of Variable Capacity Heat Pump Systems.

The program will pay the installation incentive upon receipt and verification of the following documents:

- Spec sheet for variable capacity heat pump with inverter
- AHRI sheet showing outdoor and indoor model numbers.
- Air-source heat pumps must meet or exceed CEE Tier 1 requirements. Review the AHRI database to ensure that the equipment is CEE Tier 1.
- Paid invoices

3.5.3 Heat Pump without Electric Resistance

Installation incentives for heat pumps without electric resistance are available for single family, multifamily, and ADU owners. The heat pump system must be capable of meeting the Manual J heating design load or the domestic hot water load without the use of electric resistance heating.

The program will pay the installation incentive upon receipt and verification of the following documents:

- Spec sheet for installed heat pump that shows no electric resistance heating
- For Water heating:
 - HPWH must be sized to the domestic hot water load of the home.
- For space heating and conditioning:
 - Completed Manual J showing the heating load
 - AHRI sheet showing outdoor and indoor model numbers
 - Air-source heat pumps must meet or exceed CEE Tier 1 requirements (if applicable). Review the AHRI database to ensure that the equipment is CEE Tier 1.
- Paid Invoices

3.5.4 Integrated Heat Pump Space and Water Heating

Installation incentives for integrated heat pump space and water heating are available for single family, multifamily, and ADU owners. These are a combined hydronic system that uses a single air-to-water heat pump as the primary source of space heating and water heating, also known as a combi system.

The program will pay the installation incentive upon receipt and verification of the following documents:

- Spec sheets for heat pump, water tank(s), and heating/cooling system
- Heating distribution type (ducted, ductless, radiant, other)
- Cooling distribution type (ducted, ductless, radiant, other)
- AHRI sheet showing outdoor and indoor model numbers (if applicable)
- Paid invoices

3.5.5 Heat Pump Pool or Spa Heater

Installation incentives for heat pump pool or spa heaters are available for single family and multifamily owners. Only one heat pump is allowed per pool or spa. Projects are eligible for two incentives if one heat pump is installed for the pool and one heat pump is installed for the spa. No electric resistance is allowed.

The program will pay the installation incentive upon receipt and verification of the following documents:

- Spec sheet showing a minimum COP of 4.0
- Paid invoices
- Size of pool or spa (gallons)
- Photo of the pool or spa cover (section 110.4(b).2 of Title 24)

3.5.6 Low-GWP Heat Pump

Installation incentives for heat pumps with low global warming potential (GWP) refrigerants are available for single family, multifamily, and ADU owners. The GWP of the refrigerant used must be less than 750.

The program will pay the installation incentive upon receipt and verification of the following documents:

- Spec sheet showing refrigerant used
- Paid invoices
- For space heating and conditioning:
 - AHRI sheet showing outdoor and indoor model numbers

3.5.7 Thermal Energy Storage

Installation incentives for thermal energy storage are available for single family, ADU, and multifamily owners.

The program will pay the installation incentive upon receipt and verification of the following documents:

- Spec sheet for all equipment installed in the thermal energy storage system
- Pictures of the installed equipment
- Paid invoices
- Integrated Space and Water Heating:
 - Water storage tank spec sheet (must be 100 Gallons or larger)
 - Spec sheet showing JA13 Certified HPWH
- Completed Thermal Energy Storage Advanced Technology Bonus Form

3.5.8 Induction Cooking with Integrated Battery

Installation incentives for induction cooking equipment with integrated batteries are available for single family, ADU, and multifamily owners.

The program will pay the installation incentive upon receipt and verification of the following documents:

- Spec sheet for installed range or stove
 - Equipment must contain an integrated battery of 3 kWh or larger
 - Cooktop must use only induction technology
- Pictures of the installed equipment
- Paid invoices

3.5.9 Electrical Load Management

Incentives for electrical load management strategies are available for single family, ADU, and multifamily owners. Alterations projects must complete and submit a Residential Service Upgrade Decision Tool. A bonus incentive of up to \$1,000 per lot for single family and \$500 per ADU or multifamily unit is available for alterations projects that install eligible load management equipment and keep the existing electrical service of 100 amps or less.

Eligible electrical load management strategies include a smart panel, smart breakers, or home energy management system (HEMS) with the ability to:

- Measure the electrical usage at each circuit load in the home
- Control the usage by turning the electrical usage on or off from a user interface, typically a mobile device
- Integrate critical load management and backup power integration

The program will pay the incentive upon receipt and verification of the following documents:

- Spec sheet for installed smart panel, smart breakers, or HEMS
- Pictures of the installed equipment
- Paid invoices
- Completed Residential Service Upgrade Decision Tool
- Picture of the existing panel

3.5.10 ERV or HRV with Bypass

Installation incentives for an energy recovery ventilator (ERV) or heat recovery ventilator (HRV) with a bypass option are available for single family and multifamily owners. The installed equipment must meet the requirements of Title 24 Section 160.2(b)2Aivb and have a bypass or control that directly economizes with ventilation air based on outdoor air temperature limits specified in Table 170.2-G. Specific temperature limits can be found in the referenced table of the Energy Code.

The program will pay the installation incentive upon receipt and verification of the following documents:

- Spec sheet for installed ERV or HRV
- Picture of the installed equipment
- Completed HRV with Bypass Advanced Technology Bonus Form

3.5.11 Continuous ERV or HRV with Override

Installation incentives for an ERV or HRV with a manual override are available for single family and multifamily owners. The installed ERV or HRV must run continuously, meet the requirements of Title 24 Section 160.2(b)2Aivb and other applicable codes, and have a manual ON-OFF switch in the conditioned space or main electrical panel displaying the following text, or equivalent text: "This switch controls the indoor air quality ventilation for the home. Leave switch in the 'on' position at all times unless the outdoor air quality is very poor."

The program will pay the installation incentive upon receipt and verification of the following documents:

- Spec sheet for installed ERV or HRV
- Picture of the installed equipment and override switch (located in conditioned space or main electrical panel)
- Completed Continuous ERV or HRV with Override Advanced Technology Bonus Form

4 Incentives

4.1 Incentives Overview

The Energy-Smart Homes program offers different incentives for each project type. Program funds are limited. Incentives are available on a first-come, first-served basis until funds are no longer available. Energy-Smart Homes cannot provide any incentives greater than the total costs associated with the project measures. Incentives are issued based on completion year. The program issues incentives based on completion year. The program issues incentives based on completion year. The program will accept projects with measures that have completed after the program launch date, January 1, 2022. To be eligible for that program year's incentives, at least one upgraded measure must have been upgraded that year. This includes permit dates and invoice dates. Projects that completed their final upgrade in the previous year are not eligible for the program. Projects must apply by November3 to receive that program year's incentive amount. Projects completing construction between November 4 and December 31, 2025, may still be eligible for program incentives. Contact your assigned operations associate as soon as possible.

4.2 Whole Building Electrification Incentives

This section summarizes the program incentives by project type. Energy-Smart Homes will provide deemed incentives for alteration projects that meet minimum program prerequisites and eligibility requirements. Whole building electrification incentives de-escalate annually, based on completion year. Figure 1 provides a summary of the per unit whole building electrification alteration incentives available.

Whole Building Electrification Incentives per Unit	2024	2025
Single Family Whole Building Electrification Alterations		
Each dwelling unit must remove all gas appliances and		
install heat pump space heating, heat pump water heating,		
induction cooking*, and an electric dryer	\$4,250	\$4,250
Single Family HP Dryer Bonus	\$250	\$250
Single Family Electrical Infrastructure Upgrade Bonus		
See section <u>3.4.4</u> for eligibility requirements	\$1,000	\$1,000
Multifamily Low-Rise/ADU		
Whole Building Electrification Alterations		
Each participating building must remove all gas appliances		
and each dwelling unit in that building must install heat		
pump space heating, heat pump water heating,		
induction cooking*, and an electric dryer	\$2,200	\$2,200
Multifamily/ADU HP Dryer Bonus	\$250	\$250
Multifamily/ADU Electrical Infrastructure Upgrade Bonus		
(per unit served)		
See section <u>3.4.4</u> for eligibility requirements	\$600	\$600

*Projects with existing electric cooking qualify without upgrading to induction cooking

Figure 1. Whole Building Electrification Per Unit Incentives

4.3 Advanced Technology Bonus Incentives

Energy-Smart Homes offers additional bonus incentives for projects installing program eligible advanced technologies. Additional incentives may be available for properties selected for monitoring.

4.3.1 Central Heat Pump Water Heater

Figure 2 provides a summary of the central heat pump water heater incentives. Projects are eligible for this equipment if it was installed after May 24, 2024.

Central Heat Pump Water Heater Bonus	Incentive
Central System Design (per project/developer) Full MEP design and documentation	\$5,000
Central System Installation (per unit served)	\$500

Figure 2. Central Heat Pump Water Heater Incentive Bonus

4.3.2 Variable Capacity Heat Pump

Figure 3 provides a summary of the variable capacity heat pump incentives. Projects are eligible for this equipment if it was installed after May 24, 2024.

Variable Capacity Heat Pump Bonus	Incentive
Variable Capacity Heat Pump (per single family lot)	\$300
Variable Capacity Heat Pump (per multifamily dwelling unit or ADU)	\$300

Figure 3. Advanced Variable Capacity Heat Pump Bonus

4.3.3 Heat Pump without Electric Resistance

Figure 4 provides a summary of the heat pump without electric resistance incentives. Projects are eligible for this equipment if it was installed after May 24, 2024.

Heat Pump without Electric Resistance Bonus	Incentive
Heat Pump without Electric Resistance (per single family lot)	\$300
Heat Pump without Electric Resistance (per multifamily dwelling unit or ADU)	\$300

Figure 4. Heat Pump without Electric Resistance Bonus

4.3.4 Integrated Heat Pump Space and Water Heating

Figure 5 provides a summary of the integrated heat pump space and water heating incentives. Projects are eligible for this equipment if it was installed after May 24, 2024.

Integrated Heat Pump Space and Water Heating Bonus	Incentive
Integrated Heat Pump Space and Water Heating (per single family lot)	\$1,000
Integrated Heat Pump Space and Water Heating (per multifamily dwelling unit or ADU)	\$1,000

Figure 5. Integrated Heat Pump Space and Water Heating Bonus

4.3.5 Heat Pump Pool or Spa Heater

Figure 6 provides a summary of the heat pump pool or spa heater incentives. This incentive is eligible for both single family and multifamily plan types. Projects are eligible for this equipment if it was installed after May 24, 2024.

Heat Pump Pool or Spa Heater Bonus	Incentive
Heat Pump Pool or Spa Heater (per piece of equipment)	\$1,000

Figure 6. Heat Pump Pool or Spa Heater Bonus

4.3.6 Low-GWP Heat Pump

Figure 7 provides a summary of low GWP heat pumps incentives. Projects are eligible for this equipment if it was installed after May 24, 2024.

Low-GWP Heat Pump Bonus	Incentive
Low-GWP Heat Pump (per single family lot)	\$800
Low-GWP Heat Pump (per multifamily dwelling unit or ADU)	\$800

Figure 7. Low-GWP Heat Pump Bonus

4.3.7 Thermal Energy Storage Bonus

Figure 8 provides a summary of the thermal energy storage bonus for single family, ADU, and multifamily plan types. Projects are eligible for this equipment if the equipment was installed after May 1, 2025.

Thermal Energy Storage Bonus	Incentive
Thermal Energy Storage (per single family lot)	\$1,500
Thermal Energy Storage (per multifamily dwelling unit or ADU)	\$1,200

Figure 8. Thermal Energy Storage Bonus

4.3.8 Induction Cooking with Integrated Battery Bonus

Figure 9 provides a summary of the induction cooking with integrated battery bonus for single family, ADU, and multifamily plan types. Projects are eligible for this equipment if the equipment was installed after May 1, 2025.

Induction Cooking with Integrated Battery Bonus	Incentive
Induction Cooking with Integrated Battery (per single family lot)	\$3,000
Induction Cooking with Integrated Battery (per multifamily dwelling unit or ADU)	\$3,000

Figure 9. Induction Cooking with Integrated Battery Bonus

4.3.9 Electrical Load Management Incentives

Figure 10 provides a summary of the electrical load management incentives for single family, ADU, and multifamily plan types. Projects are eligible for this equipment if the equipment was installed after May 1, 2025.

Electrical Load Management Incentives Bonus	Incentive
Electrical Load Management Incentives (per single family lot)	\$3,500
Electrical Load Management Incentives (per multifamily dwelling unit or ADU)	\$3,500
Additional Bonus for Alterations Project Keeping Panel of 100 Amps or Less (per single family lot)	\$1,000
Additional Bonus for Alterations Project Keeping Panel of 100 Amps or Less (per multifamily or ADU)	\$500

Figure 10. Electrical Load Management Incentives

4.3.10 ERV or HRV with Bypass Bonus

Figure 11 provides a summary of the ERV or HRV with bypass bonus for single family and multifamily plan types. Projects are eligible for this equipment if the equipment was installed after May 1, 2025.

ERV or HRV with Bypass Bonus	Incentive
ERV or HRV with Bypass (per single family lot)	\$2,000
ERV or HRV with Bypass (per multifamily dwelling unit)	\$1,500

Figure 11. ERV or HRV with Bypass Bonus

4.3.11 Continuous ERV or HRV with Override Bonus

Figure 12 provides a summary of the continuous ERV or HRV with override bonus for single family and multifamily plan types. Projects are eligible for this equipment if the equipment was installed after May 1, 2025.

Continuous ERV or HRV with Override Bonus	Incentive
Continuous ERV or HRV with Override (per single family lot)	\$1,000
Continuous ERV or HRV with Override (per multifamily dwelling unit)	\$500

Figure 12. Continuous ERV or HRV with Override Bonus

4.4 Reservation Letters

Multifamily low-rise projects and projects receiving advanced technology bonuses are eligible for incentive reservation letters to set aside allocated funding for program eligible projects. A reservation letter does not guarantee that funding will be distributed and completed projects must be built to the efficiency specifications submitted at date of the reservation letter.

Incentives are reserved based on the construction schedule that the participant submits during the application process. Failure to follow the submitted construction schedule, without updating the schedule with Energy-Smart Homes staff prior to any deviation in schedule, could result in the loss of incentive reservations.

The program will issue reservation letters for multifamily low-rise projects upon receipt of the following documents:

- W-9 for project payee
- Spec sheets for all relevant equipment upgrades
- Project scope of work spreadsheet (provided upon request by your operations associate)
- Utility bill or contract showing proof of IOU-electric utility service (PG&E, SCE, or SDG&E)
- Photographs of the determined sample size of the existing water heating, space heating, cooktops and dryers including a wide angle and data plate photo

A signed reservation letter must be returned from the project team to consider your reservation letter approved.

4.5 Project Payee

A third party or contractor may complete the application(s) on behalf of a homeowner or property owner; however, Energy-Smart Homes reserves the right to contact the homeowner or property owner to confirm the recipient of the program incentives prior to releasing program incentives. Homeowners and property owners may permit a third party to receive Energy-Smart Homes incentives on their behalf by sending an email to the California Energy-Smart Homes team or noting this agreement in the paid invoice provided for the work performed by the contractor. The email must come from the homeowner or property owner and clearly state that the third party is authorized to claim incentives related to the Energy-Smart Homes application(s).

5 Quality Assurance/Quality Control

Energy-Smart Homes has the following quality assurance and quality control plan to support the program and verify specific project types.

5.1 Alterations Project Verification

TRC will review the application and all documentation to verify eligibility requirements and installation, confirming projected energy savings and incentive amounts. The energy savings will be based on CPUC-approved statewide fuel substitution workpapers.

5.2 Alterations Field Verification

TRC will conduct field verification of 15% of all alteration units/lots completed in any given year for quality control (QC). Field verification will confirm that enrolled projects have installed program-eligible fuel substitution upgrades and equipment. TRC's field inspection approach includes the following components:

- Schedule and project team communication protocols
- QC field inspection form creation based on enrolled specifications
- Equipment, tools, and site safety protocols
- Inspection protocols to review and document fuel substitution upgrades
- Discrepancy resolution protocols
- Results documentation

TRC reserves the right to perform site visits to confirm program eligibility on completed projects prior to issuing incentive payment(s). TRC will facilitate the prompt remedy of all installation discrepancies that may arise. Upon completion of the field verification, TRC will record any discrepancies between the submitted equipment installation documentation and the field verification. We will resolve any discrepancies between the enrolled project specification, installation documentation, or field verification as per the QA/QC plan. Discrepancy resolution may take the form of adjusting the calculated incentives or rejecting incentives altogether.

Multifamily Low-Rise Photo Sampling

Photos should provide a comprehensive overview of existing and proposed equipment to aid in project review. For the existing equipment, program participants are required to provide the equipment nameplate picture and the picture of the equipment itself for each of the following end uses – cooking, space heating, water heating, and clothes drying.

For the newly installed equipment, the program participant must provide the equipment specification sheets, equipment nameplate picture, and the equipment itself. The program participant is also required to provide pictures of the gas lines that have been capped for each of the four end uses mentioned above.

The program will accept documentation according to the following sampling protocol for participants performing whole building electrification in multiple units in multifamily low-rise buildings. This protocol pertains to documentation for both existing and new equipment.

Photo Sampling Protocol

The program encourages <u>participants to provide photo samples of as many dwelling units as possible</u> to best represent the existing and proposed equipment type per end use. **This section outlines how to determine the sample size and randomly select units.**

Table 1 below provides a minimum threshold for sample size with which participants must comply².

Determine the number of units to be sampled: The level of sampling shown below is required for each building on the property applying for incentives. If a project has more than one building on the property, then this protocol applies to each building on the property applying for incentives.

In accordance with the level of sampling that is required (i.e., 1 or 3 buildings), count the total units and use the sampling guidance table to select a total sample number for each building applying for incentives. If there is variation in unit types within the sample (e.g., multiple bedroom types within a property), divide the sample proportionally between unit types, rounding up.

Total Units	Sample (minimum)
5-9	2
10-19	3
20-29	4
30-49	5
50-74	6
75-99	7
100-149	8
150-200	9
>200	10

Table 1. Minimum Sample Size

² The minimum unit sample size is derived from section 2.5 of the Technical Guidelines for Multifamily Building Energy Audits for the DOE Weatherization Assistance Program.

Example for sampling size for different unit types: A 200-unit multifamily low-rise building consists of 150 one-bedroom units and 50 two-bedroom units. The minimum sample size according to the above guidance is 10 units. For unit specific sample sizes, multiply the recommended total sample by the proportion of units in the building, rounded up, as shown in Table 2 below.

WHOLE PROPERTY			
Number of Units	200		
Recommended Sample Size	10		
	1-BEDROOM	2-BEDROOM	
Number of Units	150	50	
Proportion of Total	150 (1 BR units) 200 (Total units) = 0.75	50 (1 BR units) 200 (Total units) = 0.25	
Recommended Sample Size (Rounding Up)	10 * 0.75 ≅ 8	10 * 0.25 ≅ 3	

Table 2. Example for Determining Sampling Size With Multiple Unit Sizes

6 Other Program Policies

6.1 IRS 1099 Reporting Procedures

Energy-Smart Homes design includes incentive payments to individuals and businesses, which may require filing of IRS Form 1099. TRC will follow all applicable IRS 1099 reporting requirements and provide information as needed or requested. Neither TRC nor PG&E is responsible for any taxes that may be placed on participants because of receiving incentives.

6.2 Dispute Resolution Procedures

TRC has detailed procedures for tracking and responding to participant questions and complaints about Energy-Smart Homes. When received, TRC will log participant complaints into a tracking system; include the nature, time, and date of the complaint; and address complaints within one week. TRC's program or operations manager will follow up with the participant to ensure the highest level of satisfaction and resolution. In case of a dispute, the TRC program manager will be the initial point person for issue resolution. TRC will regularly report complaints to PG&E for review of each complaint's status and outcome. If TRC or PG&E identifies a recurring problem, TRC will work to adjust the program or process to avoid future issues.

6.3 Limited Funding

Regarding incentive availability, the program handbook, participation agreement, marketing collateral, and similar participant instructions shall indicate that the program operates on limited funding, using the phrase "first-come, first-served until funds are no longer available."

6.4 Limitation of Liability

Energy-Smart Homes will include limitation of liability statements as part of the program's terms and conditions. The statements will limit both PG&E and TRC's liability:

PG&E shall not be liable for any costs due to a Project's estimated versus actual energy savings related to the Project Incentive to be paid, Project savings that did not materialize, Project cancellation, or implementation cost increase for any reason. In no event shall PG&E, Implementer, or Customer/Builder be liable for any special, incidental, indirect, lost profits, or consequential damages arising from or related to the Project.

6.5 Handbook Version Control

This handbook is a working document and Energy-Smart Homes staff reserves the right to update, change and revise the document to clarify program rules and requirements. The most up-to-date version is available on the Energy-Smart Homes website. *This document is version 2.4 (updated 05/23/2025*)

7 Program Documentation Checklists

All projects must upload the following documents through the participant portal.

ALTERATIONS DOCUMENT CHECKLIST

California Energy-Smart Homes projects must upload the following documents through the participant portal. Multifamily low-rise properties should contact their operations associate to confirm sampling size prior to submitting photographs.

Completed Terms and Conditions (provided by Energy-Smart Homes staff)

- □ W9 for project payee
- □ 12 months of utility bills

□ Itemized invoices showing full payment and with no balance due including material and installation labor costs for each new piece of equipment

- □ Heat Pump Space Heating
- □ Heat Pump Water Heater
- □ Induction Cooktop
- □ Dryer (Heat Pump or Electric)
- □ Electrical Infrastructure Upgrade Bonus (optional)

□ Closed permits. All permits must be closed/finalized in accordance with your local building laws before applying to California Energy-Smart Homes

□ Specification sheets for all new pieces of equipment

□ AHRI certificates for heat pump space heating and heat pump water heater

□ Completion survey (upon application approval)

REQUIRED PHOTOGRAPHS

 \square Capped gas lines for the whole house and new measures installed

□ Before Dryer

□ Wide angle (must show vent)

□ Data plate

□ New Dryer

□ Wide angle (must show vent if applicable)

Data plate

CONTINUED ON NEXT PAGE

Before Cooktop

□ Wide angle

□ Data plate (often found along the interior edge of the door of the oven or broiler)

□ Oven interior (if applicable)

□ New Induction Cooktop

 \Box Wide angle

□ Data plate (often found along interior edge or the door of the oven or broiler)

□ Oven interior (if applicable)

□ Before Water Heater

 \Box Wide angle

🗆 Data plate

□ New Heat Pump Water Heater

 \Box Wide angle

🗆 Data plate

□ Multifamily Central Heat Pump Water Heater projects must include condenser and storage tank data plate and wide angle photos

 \Box Before HVAC

□ Wide angle (mini-split heat pump installations require photos of each wall furnace being removed in accordance with each indoor unit replacing them)

🗆 Data plate

□ Window AC (if applicable)

□ New Heat Pump Space Heating

 \Box Wide angle

Data plate

 \Box Condensers

 \Box Indoor Heads

□ Manual J Load Calculations (if applying for Heat Pump without Electric Resistance bonus) □ New Heat Pump Pool or Spa Heater (if applicable)

Pool/spa cover

ADVANCED TECHNOLOGY BONUS REQUIREMENTS

Documentation and photo requirements for bonuses installing after May 24th, 2024

Variable Capacity Heat Pump

- Paid Invoices
- Spec sheet for variable capacity heat pump with inverter
- Spec sheet must show that the variable capacity heat pump meets or exceeds CEE Tier 1 requirements AHRI sheet showing outdoor and indoor model numbers
- Picture of installed equipment
 - o Nameplate and wide view

Heat pump without electric resistance

- Paid Invoices
- Spec sheet for installed heat pump that shows no electric resistance heating
- AHRI sheet showing outdoor and indoor model numbers
- Manual J heating and cooling load calculations (space heating only)
- Picture of installed equipment
- Nameplate and wide view

Integrated Heat Pump Space and Water Heating

- Paid Invoices
- Spec sheets for heat pump, water tank(s), and heating/cooling system
- AHRI sheet showing outdoor and indoor model numbers (if applicable)
- Picture of installed equipment
 - Nameplate and wide view

Low Global Warming Potential (GWP) Heat Pump

- Paid Invoices
- AHRI showing outdoor and indoor model numbers
- Spec sheet showing refrigerant used

Heat Pump Pool or Spa Heater

- Paid Invoices
- □ Spec sheet showing a minimum COP of 4.0
- Picture of installed equipment
 - Pool or spa cover (section 110.4(b).2 of Title 24)

Central Heat Pump Water Heater Design and Installation

- Paid Invoices
- Dimensioned plan sets stamped by a licensed PE

Documentation and photo requirements for bonuses installing after May 1st, 2025

Thermal Energy Storage (TES)

- Specification Sheet for all installed TES equipment
- Paid Invoices
- Pictures of installed equipment
 - Nameplate and wide view
- Completed Thermal Energy Storage Advanced Technology Bonus Form

Induction Cooking with Integrated Battery

- Specification Sheet
- Paid Invoice
- Picture of installed equipment
 - Nameplate and wide view
- Indication of electrical service to stove/range (120 or 240 V)

Electrical Load Management*

- Specification Sheet
- Paid Invoice
- Pictures of installed equipment
- Completed <u>Residential Service Upgrade Decision Tool</u>
- Picture of existing panel

ERV or HRV with Bypass

- Spec sheet for installed ERV or HRV
- Picture of the installed equipment
- Completed ERV or HRV with Bypass Advanced Technology Bonus Form

Continuous ERV or HRV with Override

- Spec sheet for installed ERV or HRV
- Picture of the installed equipment and override switch (located in conditioned space or main electrical panel)
- Completed Continuous ERV or HRV with Override Advanced Technology Bonus Form