

California ECTRIC IMES



California Electric Homes (CalEHP) Participant Handbook

This handbook is a working document. The California Electric Homes Program staff reserves the right to update, change, and revise the document to clarify program rules and requirements as needed. The most up-to-date version is available on the California Electric Homes website.

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1 Program Terminology

The 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.

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.

All-electric reach code: A building code specific to a jurisdiction requiring that new construction must install electric infrastructure rather than gas for heating, cooking, and other uses.

Applicant: The entity or representative of the entity applying to California Electric Homes. In cases where the applicant is a pass-through entity, such as a Limited liability Companies (LLC) or a Limited liability Partnership (LLP), the parent company of the pass-through entity listed on the application will be considered the Applicant.

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

California Energy Commission: The primary energy policy and planning agency for California, referred to as the CEC throughout this document. The CEC is the program administrator of the California Electric Homes program

California Environmental Protection Agency (CalEPA): A state cabinet-level agency within the government of California with the mission to restore, protect and enhance the environment, to ensure public health, environmental quality, and economic vitality.

California Electric Homes Program (CalEHP): Residential new construction program available statewide for market-rate all-electric residential new construction, referred to as CalEHP throughout this document.

California Energy-Smart Homes Program: Residential new construction program available to Investor-Owned Utility customers.

California Public Utility Commission (CPUC): A regulatory agency that regulates privately owned public utilities in 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.

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

Company Division: A division is an operational unit within a larger corporate structure responsible for overseeing and managing construction projects within a specific market or geographic area, with independent decision-making authority. Multiple divisions within the same company can apply as separate entities, provided each division operates independently. For production builders with multiple regional divisions, each division will have its own incentive cap, and the program will track reserved incentives for each division separately.

Disadvantaged Community (DAC): The California Environmental Protection Agency identifies disadvantaged communities based on geographic, socioeconomic, public health, and environmental hazard criteria, and may include, but are not limited to, either of the following:

- Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation.
- Areas with concentrations of people that are of low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.

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

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. Duplexes must be modeled as individual and separate units.

Electric-preferred reach code: A building code specific to a jurisdiction that requires mixed-fuel buildings to comply with greater energy performance levels.

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.

Hard to Reach (HTR): A specific population group or designated area that faces significant barriers and challenges in terms of accessibility, engagement, and inclusion in various social, economic, and environmental initiatives or programs. This demographic is characterized by multiple factors that contribute to their relative isolation and limited participation in mainstream activities.

Home Energy Management Systems (HEMS): A technology platform consisting of both hardware and software that allows the user to monitor energy usage and production and to manually control and/or automate the use of energy within a household.

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 technology reported in the energy model.

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.

IOU: Investor-Owned Utility.

IRF: Incentive Request Form.

Lots: A designated parcel or area of land established to be used, developed, or built upon as a unit and independent building site. Used in this handbook to identify single or multifamily new construction units and homes.

Market-rate: Residential properties that are not developed to provide affordable housing to lower income households. These properties do not have resale restrictions or equity sharing agreements limiting the sale of residences to low-income households, nor do they have regulatory agreements, deed restrictions, or restrictive covenants that hold some or all residential units to affordability requirements.

Mixed-fuel: Refers to buildings with electric 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 stories above ground.

Manufactured home: Factory-built housing units produced after June 15, 1976, under the Housing and Urban Development code. These homes are exempt from most local codes and building ordinances. Manufactured homes are transported in one piece to a site and can be relocated. These homes are not subject to Title 24 ordinances.

Modular home: Housing units that are assembled onsite and anchored to a foundation. These homes are subject to meet Title 24 requirements for single family and multifamily.

Pacific Gas and Electric Company (PG&E): Natural gas and electricity provider for 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 California Energy-Smart Homes, the shared program with California Electric Homes.

Operations associate: A member of the California Electric Homes team assigned to the participating project to act as the liaison between the participants and builders throughout a project's lifespan. The operations associate is a project's dedicated guide throughout the program.

Participant: Refers to the active individual(s) participating in the California Electric Homes program.

Parent company: The parent company is the primary entity that owns or holds controlling interest in a pass-through entity, such as a Limited Liability Company (LLC) or Limited Liability Partnership (LLP), applying to the California Electric Homes program. Controlling influence is defined as ownership of more than 50% of the voting shares, equivalent decision-making authority, or a contractual agreement designating the controlling owner. For production builders with multiple regional divisions, each division may apply as a separate entity under the program, provided it operates independently, and each division will have its own incentive cap, the program will track reserved incentives for each division separately.

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 used as a home, residence, or sleeping place by one or more persons.

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

San Diego Gas and Electric (SDG&E): Natural gas and electricity provider for San Diego County and southern Orange County in southwestern California.

Southern California Edison (SCE): Electricity provider for 15 million people within a service territory of approximately 50,000 square miles across Southern California.

Technical reviewer: A member of the California Electric Homes team responsible for performing the technical plan review for each project. The technical reviewer is also responsible for scheduling and executing any site visits.

Thermostatic mixing valve (TMV): A valve that blends hot water with cold water to prevent scalding water from reaching faucets

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: California Electric Homes Program implementer, serving on behalf of the CEC. TRC provides program staff, 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 a comprehensive overview of California Electric Homes Program (CalEHP) outlining its objectives, incentive offerings, and the initial steps for participation.

2.1 Program Overview

The California Electric Homes Program (CalEHP), formally known as the Building Initiative for Low-Emissions Development Program Phase 2 under Assembly Bill 137, aims to incentivize the construction of all-electric buildings and the installation of energy storage systems and other technologies that would not otherwise be constructed or installed, as specified. The program provides education, technical assistance, and financial incentives to residential developers and builders who construct new market-rate residential dwellings with advanced all-electric equipment.

CalEHP supports California's advanced energy efficiency policy goals through 2027 and is available statewide for all-electric residential new construction (RNC). All market-rate RNC projects, including single family and multifamily units are eligible for CalEHP. Additionally, projects that are ineligible for the BUILD Program due to income disqualifications are eligible for CalEHP, including those receiving California's Density Bonus. Market-rate units in projects subject to this law may enroll in the CalEHP program.

Eligible residential sub-sectors

- Single Family: Includes, duplexes, triplexes, townhomes, and ADUs
- Multifamily: Includes low-rise (three or fewer stories), high-rise, and condominiums
- Modular Homes: Both single family and multifamily
- Manufactured Homes

Ineligible project types:

- Any building types that do not adhere to Title 24 of the California Energy Code, except for manufactured homes.
- Projects located in jurisdictions enforcing all-electric reach codes or ordinances requiring new construction to be all-electric are only eligible for storage and bonus incentives from CalEHP.
- Commercial, industrial, and other nonresidential buildings, as CalEHP is exclusive to market-rate RNC buildings.
- Mixed-use multifamily buildings with separately metered commercial spaces are eligible, but all residential common areas, including pools, must comply. Residential buildings with gas commercial spaces within the enrolled building are not eligible. Developments with unenrolled gas community buildings are eligible but must receive technical assistance.

The program opened for enrollment in June 2023 and aims to reserve all project incentives by December 31, 2025. The program's anticipated end date is December 31, 2027.

2.2 Program Objectives

CalEHP aims to motivate developers and builders to adopt advanced all-electric new construction practices and install energy storage systems. To achieve this, the program provides incentives and no-cost technical assistance for all-electric residential new construction, including single family homes and multifamily buildings, energy storage systems, and advanced energy efficiency and demand response/load management equipment. The program offers several benefits for builders and developers, such as:

- Reduced construction costs by eliminating gas infrastructure, hookups, and metering
- Simplified utility permitting and installation coordination with a single utility
- Elimination of the need to install carbon monoxide monitors

Additional program objectives include:

- Incorporating grid harmonization and utility communication-enabling technology in design, facilitating demand flexibility and grid integration
- Shifting the market further in favor of all-electric construction
- Educating home buyers on the life cycle cost savings associated with an all-electric home

2.3 Program Contact

For more information about CalEHP, contact us:

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

To receive the latest program news from CalEHP, sign up for our newsletter here:

Electrify your inbox

3 Program Participation Process

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

Participant Journey

CalEHP focuses on a streamlined participant journey including a simple online application process and an online portal for document submittal and incentive requests. Figure 1 provides a high-level overview of the CalEHP participation process.



Figure 1. Participant Journey

Participation Steps

To participate in CalEHP, please follow these initial steps:

- 1. Access the participant portal from the program website to submit an initial application.
- 2. A CalEHP representative will follow up with you to discuss your project, obtain any missing or corrected information, and discuss required program application documentation. You and your project team are responsible for identifying which projects to enroll in the program.
- 3. Program staff will assign a dedicated operations associate to your project. The operations associate will schedule a kickoff call to start the enrollment process. After the call, you will submit the required program application documents through the <u>participant portal</u>. CalEHP staff will review your application documents for completion and will communicate with you regarding any missing information or requirements. The program enrolls lots on a project basis; CalEHP will enroll all eligible lots within a project until the participant reaches the program cap.

- 4. Upon receiving your application documents and participation agreement, CalEHP staff will contact you to obtain any missing or corrected information. After CalEHP staff enrolls your project, you will complete construction prior to the expiration date specified in your project's enrollment documentation. TRC will email the project team with project enrollment details including the number of lots, number of plans, compliance margins, and anticipated incentive levels. The project team has ten business days to contact TRC if any of the project details are inaccurate or need adjustment. If the project team does not contact TRC, the project may be dropped from the pipeline.
- 5. You will be required to attend quarterly calls to give us updates on your project.
- 6. Your application documents will go through the CalEHP technical review process.
- 7. Throughout construction you will submit an adjustment form if any of the following change: the number of lots/buildings, number of plan types, energy models, plan sets, or equipment/product specifications.
- 8. As lots/buildings complete construction, you will submit incentive request forms (IRFS) and verification documents through the portal.
- 9. At any point in the process, CalEHP staff may 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.
- 10. CalEHP staff will verify your project completion online through document submittal and coordination with HERS registries and raters (where applicable). We will review your final as-built documents for each lot on the HERS registry (where applicable) to verify that they match the plans approved during the technical plan review process. All low rise and single family projects are required to have a HERS rater perform testing.

After confirming all submitted lots/buildings included on the IRF have completed construction and the program has granted approval through the technical plan review process, CalEHP staff will issue your payment via check or ACH to the payee listed on your approved application.

3.1 California Electric Homes Participant Portal

As a CalEHP participant, you will have ongoing access to your project's status through the <u>participant portal</u>. The portal enables you to submit applications, upload documents, check on projects 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.

3.2 Program Participation Requirements

This section provides program eligibility requirements. Along with meeting all of the requirements in this section, projects must be able to prove that they were influenced to go all electric by CalEHP. To accomplish the influence requirement, we require that projects that meet the additional program requirements below will be eligible for the program if their first building permit issued date is after June 1, 2023, the program launch date. Projects that have a permit issued date before June 1, 2023, are not eligible for the program.

Projects must submit complete applications and receive enrollment confirmation at least eight weeks prior to receiving certificate of occupancy of the first building or lot. To meet this requirement, projects must submit an initial application sixteen weeks prior to certificate of occupancy.

Multifamily projects can elect to submit a project for enrollment on a building-by-building basis, as an entire project, or in groups of buildings that meet the program eligibility requirements. Enrolled buildings cannot have a gas line or a gas meter associated with them; this includes gas designated for pools, outdoor barbecues and/ or fireplaces. Enrolled buildings cannot have a gas commercial kitchen within the building.

3.2.1 Eligible Building Types

The following new construction project types are eligible for CalEHP incentives.

Single Family

Single family homes, duplexes, triplexes, townhomes, and ADUs. This document collectively refers to all these building types as single family hereafter.

ADUs mechanical and water systems must be separate from any equipment servicing the main home.

Multifamily

Multifamily low-rise, multifamily high-rise, and condominiums. This document collectively refers to these building types as multifamily hereafter.

Modular homes are eligible for either single family or multifamily incentives depending on the permitted occupancy type.

Manufactured Homes

Incentives are available for manufactured housing to bring additional equity to the program and provide incentives for a sector of the residential housing market that is often excluded from programs.

3.2.2 Prerequisites

All CalEHP participating projects must incorporate the following prerequisites

- Permanently wall-mounted, hard-wired communicating thermostats with the following capabilities:
 - Programmable and wi-fi capability that allows occupants to remotely adjust dwelling unit temperature with a smartphone or other mobile device.
 - Auto Demand Response (ADR) capable (capability only, not required to be enrolled in an existing auto demand response program). ADR is not required for manufactured homes.
 - The program does not require installation of a communicating thermostat for projects installing a variable capacity heat pump (VCHP).
- Induction cooking
 - Induction cooking should be permanently installed as the sole cooktop technology.
 - Portable burners are not permitted.
- Heat pump water heating
 - Installed water heating equipment must be heat pump technology.
 - Technology that utilizes electric resistance as the primary source of heating is not eligible for the program.
- Heat pump space heating
 - Installed HVAC equipment must be heat pump technology.
 - Technology that utilizes electric resistance as the primary source of heating is not eligible for the program.
- Segregated circuits by the following types (not required for manufactured homes):
 - Lighting including exit and egress lighting and exterior lighting.
 - HVAC systems and components including furnaces, package units, whole-house fans, chillers, air handling units, cooling towers, and circulation pumps associated with HVAC.
 - Domestic and service water system pumps and related systems and components.
 - Plug load including appliances rated less than 25 kVA.

The segregated circuits requirement goes beyond that of the California Energy Code by requiring that interior plug loads and lighting loads be on separate circuits, in addition to being separate from appliances.¹ This means that any one circuit can only serve either a lighting load, a plug load, or a single major appliance.²

The program recommends the use of conventional panelboards, fuses, circuit breakers, motor control centers, and other standard wiring methods for meeting the requirement to separate electrical loads. Projects may also achieve this requirement through a well-planned wiring approach, such as connecting all HVAC units to a single feeder from the service using a combination of through feeds and taps.

• Thermostatic mixing valves (TMVs) for each unitary heat pump water heater. The program does not require TMVs for central heat pump water heater systems. TMVs are not required for manufactured homes. The program does not require a TMV to be installed outside of a heat pump water heater with an integrated TMV.

TMVs mix hot and cold water to prevent scalding water from reaching faucets. This increases the energy efficiency of the water heater by allowing the temperature of the water heater to remain higher.

- TMVs should be installed at the water heater, not to be confused with the temper valves at faucets and shower heads.
- The TMV will need to be installed outside of the water heater where the hot water outlet and cold water inlet come together.
- TMVs are available for both multifamily and single family projects. It is important to note the gallons/minute to ensure you have the correct type of TMV.
- For single family homes and multifamily units, the TMV should typically have a maximum of 23 gallons/minute.
- Thermostatic Mixing Valves must be ASSE 1017 certified.
- ASSE 1017 certified valves are only required at the point-of-source and not intended for point-of-use.
- The program does not require TMVs for ADUs or projects installing recirculation loops in their water heating piping systems.

¹ Appliances include dishwasher, dryer, refrigerator, clothes washer, oven, whole house fan, heat pump, water heater, sump pumps, etc.

² Consider ceiling fans with lighting as a lighting load.

3.2.3 Electrification Requirements

To be eligible for all-electric program participation, builders and/or developers must confirm the following:

- Projects must be all-electric residential new construction in the state of California
- Projects must not be in a jurisdiction with an all-electric reach code or ordinance that would prohibit the home/building from being constructed with natural gas
- Projects located in jurisdictions where all-electric reach code laws and ordinances are not being enforced are eligible for base electrification and bonuses incentives pending program verification with the reach code jurisdiction
- Projects located in jurisdictions with all-electric reach codes/ordinances prohibiting new natural gas infrastructure are only eligible for battery storage and bonus incentives
- Project cannot be a deed-restricted property
- Submit 2019 or 2022 Title 24 energy models authored by a professional that holds CABEC's 2019 or 2022 residential certified energy analyst (CEA) designation. High-rise projects need to be authored by a non-residential 2019 or 2022 code certified energy analyst (CEA).
- Complete and sign enrollment form, including agreeing to program Terms and Conditions
- Adhere to all applicable federal, state, and local laws and codes
- Apply and complete technical plan review and enrollment (as outlined in 4.5)

Complete construction based on the submitted project schedule and within three years of enrollment to receive incentives for all homes and/or buildings.

3.3 Battery Storage Requirements

To be eligible for battery storage program participation, builders and/or developers must:

- Adhere to all the Electrification requirements in Section 3.2.3
- Install Energy Storage Systems (ESS) with equipment listed as certified to UL9540 and UL1741
- Verify that equipment is in the California Energy Commission list of Batteries, inverters and ESS products that support existing California requirements: Solar Equipment Lists Program | California Energy Commission
- Meet California Fire Code Title 24, Part 9, which details code requirements for the installation of ESS in California
- Submit program application prior to issuance of Certificate of Occupancy (CoO)

3.4 DAC/HTR Requirements

To be eligible to receive DAC/HTR all-electric incentive levels, participants must adhere to all of the electrification requirements in Section 3.2.3 in addition to requirements listed below.

DAC

To be eligible for DAC incentives, a project must be in a disadvantaged community as defined by CalEnviroScreen and verified in the SB 535 Disadvantaged Communities map (https://calepa.ca.gov/envjustice/ghginvest/).

HTR

To be eligible for HTR incentives, projects must serve a demographic that meets one or more of the following criteria:

- Primary language other than English: The applicant primarily speaks a language other than English, which can hinder effective communication and understanding of available resources and opportunities.
- Member of a Native American tribe: Applicant is a part of a Native American tribe, preserving their cultural heritage and traditions but may face historical marginalization and limited access to services.
- Member of a tribal organization: Applicant is affiliated with one or more tribal organizations, which may have unique governance structures and priorities, leading to potential disparities in resource allocation.
- Project located on California Native American Lands: Project is being constructed in a region recognized as Native American lands in California, which may have specific jurisdictional complexities and limited outreach efforts.
- Project located in designated urban heat island: Project is being constructed in a designated urban heat island as defined by the CalEPA Urban Heat Island Interactive Maps, where increased temperatures and environmental challenges may further exacerbate social and health disparities.
- Project located in a disadvantaged community census tract: Project is being constructed in a location that has a census tract classified as a disadvantaged community per the CalEPA Disadvantaged community map, where inhabitants of this census tract may face economic, environmental, and health inequities.
- Project located in a climate investment priority population area: Project is being constructed in an area designated as a climate investment priority population area per the Climate Investments Priority Populations Map which has been prioritized for climate investment due to environmental vulnerabilities and impacts that may indirectly affect social and economic well-being.

3.5 Bonus Requirements

This section provides an overview of available bonus requirements and program requirements to secure additional bonus incentives for your project.

To be eligible for the bonus incentives, participants must adhere to all the electrification requirements in Section 3.2.3.

3.5.1 Envelope Package

The envelope package incentivizes builders for constructing a more efficient building envelope.

Additional incentives are available for projects meeting both the envelope and mechanical package requirements.

Envelope Package Requirements

Envelope package projects must comply with the following specifications entered in the energy models:

- Title 24 Part 6 prescriptive or better walls
- Title 24 Part 6 prescriptive Option B, or better attics
- A weighted average of all glazing < 0.26 U-factor
- Air sealing to ACH50 < 3.03

Envelope Package Required Documentation

Envelope package projects must submit the following documentation:

- Enrollment documents:
 - Architectural plan sets showing insulation R-values for walls and attics
 - Window schedules with clearly stated window efficiency values
- Completion documents:
 - Completed CF3Rs in HERS Registry at project closeout

3.5.2 Mechanical Package

The mechanical package incentivizes builders for specifying better than prescriptive HVAC and water heating.

Additional incentives are available for projects meeting both the envelope and mechanical package requirements.

³ Compartmentalization testing for multifamily

Mechanical Package Requirements

Figures 2 and 3 outline the HVAC and water heater CEE Tier 1 requirements projects must meet.

CEE Tier 1 Requirements	SEER2	EER2	HSPF2
HVAC Ducted and Non-Ducted	≥ 15.2	≥ 11.7	≥ 7.8
HVAC Packaged	≥ 15.2	≥ 10.6	≥ 7.2

Figure 2: CEE Tier 1 HVAC Requirements

CEE Tier 1 Requirements	UEF	Compliance
Water Heating	≥ 3.3	ENERGY STAR® Version 5.0

Figure 3: CEE Tier 1 Water Heating Requirements

Figure 4 outlines the Geothermal HVAC systems requirements projects must meet.

Appliance	Rating Condition	Program Standard
Ground water-source heat pumps (cooling)	59°F entering water temperature	16.5 EER
Ground water-source heat pumps (heating)	50°F entering water temperature	4.0 COP
Ground-source heat pumps (cooling)	77°F entering brine temperature	13.8 EER

Figure 4: Geothermal HVAC System Requirements

Mechanical Package Required Documentation

To receive the Mechanical Package bonus, projects must upload the following documents through the participation portal.

- Enrollment documents:
 - Specification sheet for HVAC system
 - Specification sheet for heat pump water heater
 - The specified water heating system must be entered into the energy model provided
- Completion documents:
 - Completed CF3Rs in HERS registry will be submitted at project closeout

3.5.3 Smart Panel or Hard-Wired HEMS

This measure incentivizes the installation of an eligible smart panel or HEMS.

Smart Panel or HEMS Requirements

Projects applying for the Smart Panel or HEMS bonus must install a smart panel or hardwired 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

Smart Panel or HEMS Required Documentation

All projects must upload the following documents through the participation portal to receive the Smart Panel Bonus.

- Enrollment documents:
 - Smart panel or HEMS product specification sheet
- Completion documents:
 - A photo of the installed panel or HEMS
 - Invoices detailing the installation and material costs of installing the smart panel or HEMS

3.5.4 Heat Pump Water Heater (HPWH) Controller

This measure incentivizes participants to install heat pump water heater controllers that can receive utility demand response signals.

Heat Pump Water Heater Controller Requirement

To be eligible for the heat pump water heater controller offering, projects must install a HPWH controller with grid connectivity. The HPWH controller shall have a modular demand response communications port compliant with the March 2018 version of the ANSI/CTA-2045-A communication interface standard. Alternatively, participants can install a residential HPWH with an integrated controller. The HPWH must be on the list of JA13-compliant products and listed as a Tier 3 or greater water heater found on the Northwest Energy Efficiency Alliance (NEEA) Residential Heat Pump Water Heater Qualified Products List.

Heat Pump Water Heater Controller Required Documentation

All projects must upload the following documents through the participation portal to receive the Heat Pump Water Heater (HPWH) Controller Bonus.

- Enrollment documents:
 - Specification sheet for heat pump water heater with NEEA Tier 3 or greater rating detailing the system's integrated demand response capabilities or the ANSI/CTA-2045-A port
 - If installing an ANSI/CTA-2045-A port, a specification sheet for the ANSI/CTA-2045-A port is needed
- Completion documents:
 - If an ANSI/CTA-2045-A port was installed, a photo of the installed, a photo of installed ANSI/CTA-2045-A

Invoices detailing the labor and material costs are needed if installing the ANSI/CTA-2045-A port to a heat pump water heater without integrated demand response capabilities

3.5.5 Heat Pump Pool Heater

This measure incentivizes participating multifamily properties that install a heat pump pool heater.

Heat Pump Pool Heater Requirements

To be eligible for the heat pump pool heater offering, projects must utilize heat pump pool heating for properties planning pools.

Heat Pump Pool Heater Required Documentation

All projects must upload the following documents through the participation portal to receive the Heat Pump Pool Heater Bonus.

- Enrollment documents:
 - Specification sheet for heat pump pool heater
- Completion documents:
 - Proof that permits have been filed with the city and closed, ensuring a certified plumbing contractor completed the installation
 - Photo of installed heat pump pool heater
 - Invoices detailing the labor and material costs of installing the heat pump pool heater

3.5.6 ENERGY STAR®

This measure incentivizes ENERGY STAR® Certification of manufactured homes.

ENERGY STAR® Requirements

To be eligible for the ENERGY STAR® Bonus offering, projects must be:

- Manufactured housing projects receiving ENERGY STAR® Certification
- Installing a new all-electric manufactured home, with no gas hookups in California

ENERGY STAR® Required Documentation

All projects must upload the following documents through the participation portal to receive the ENERGY STAR® Bonus:

- Photo of ENERGY STAR® label affixed either adjacent to the HUD Data Plate or inside the electric panel cover of the home
- Photo of the ENERGY STAR® Certificate
- Manufactured Home invoice with specification breakdown

3.5.7 Resiliency/Demand Response Ready

CalEHP offers additional incentives for projects that elect to install all the following bonus options:

- Envelope package (Manufactured Homes are exempt from this requirement)
- Energy storage
- Smart Panel or HEMS
- Heat pump water heater controller

Builders will receive a bonus incentive for each of the above listed options, plus an additional bonus for including all options listed above.

4 Incentives

4.1 Incentive Overview

Program funds are limited, and the program will cap total incentives at \$1,500,000 for any applicant and \$2,000,000 for first time all-electric builder applicants⁴. Incentives are reserved on a first-come, first-served basis until funds are no longer available. Applicants are defined as the parent company or division.

The program reserves incentives based on the lot list that the participant submits during the application process. Failure to follow the submitted lot list without updating the schedule with CalEHP staff prior to any deviation in schedule, could result in the loss of incentive reservations. For projects completing lots in 2025, the deadline to receive 2025 incentives for both programs is Monday November 17th, 2025. Lots, buildings, and ADUs submitting technical review documentation after that date will be subject to 2026 incentive levels. Required technical documents include enrollment survey, MEP plans, site plan, spec sheets, and revised CF1Rs/energy models. Following technical review submittal, TRC will review your documentation and confirm your projects meets program requirements. You will then receive guidance from TRC on incentive request submittals.

4.2 All-Electric Incentive Overview

This section summarizes the program incentives by project type for all-electric construction. CalEHP will provide deemed incentives for new construction projects that meet minimum program prerequisites and eligibility requirements. All-electric incentives de-escalate annually, based on completion year.

⁴ Builders/Developers who have never pulled permits for an all-electric project prior to participating in CalEHP. Builders will need to sign an affidavit stating that they are building their first all-electric project.

4.2.1 Base Electrification Incentives

Base Electrification Incentives <i>per unit</i>	2025	2026	2027
Market-Rate			
Single Family	\$3,000	\$2,500	\$2,500
Multifamily/ Accessory Dwelling Unit	\$1,600	\$1,400	\$1,400
Manufactured Home	\$5,500	\$5,000	\$5,000

Figure 5 summarizes available incentives for new construction market-rate projects by year.

Figure 5: Base Electrification Per Unit Incentives

4.2.2 HTR/DAC Community Equity Incentives

CalEHP will issue community equity incentives to projects that meet either HTR or DAC guidelines as defined by the program and detailed in the Program Participation Requirements section of this handbook. If your project falls into the HTR or DAC guidelines, please notify CalEHP staff; a call will be set up to review project details and verify HTR or DAC bonus eligibility. Figure 6 summarizes available electrification incentives for DAC/HTR qualifying new construction projects by year.

Base Electrification Incentives <i>per unit</i>	2025	2026	2027
DAC/HTR			
Single Family	\$3,500	\$3,000	\$3,000
Multifamily/ Accessory Dwelling Unit	\$1,950	\$1,750	\$1,750
Manufactured Home	\$6,000	\$5,500	\$5,500

Figure 6: Base Electrification Per Unit Incentives for HTR and DAC

4.3 Battery Storage Incentives

CalEHP offers battery storage incentives for projects as follows:

- \$250/kWh for battery storage for projects not in an all-electric reach code or for projects in an all-electric reach code where the jurisdiction is not currently enforcing the reach code or ordinance
- \$300/kWh for battery storage for projects in an all-electric reach code where the jurisdiction is currently enforcing the reach code or ordinance

CalEHP will cap battery storage incentives as follows:

• Single family cap: 125% of modeled average daily load or 20kWh, whichever is less

Multifamily battery: 125% of modeled average daily load or 150kWh (200 kWh for DAC/HTR qualified projects), whichever is less

4.4 Other Program Bonuses

CalEHP offers additional bonus incentives per dwelling unit for meeting various advanced energy features. For eligibility and documentation requirements see Section <u>4</u>. Figure 7 below provides a summary of available bonus incentives.

Bonus Incentives per dwelling unit	Single Family	Multifamily/ ADU	Manufactured Housing
Envelope Package	\$1,000	\$600	N/A
Mechanical Package	\$300	\$300	\$2,000
Envelope + Mechanical Adder	\$400	\$250	N/A
Smart Panel or HEMS	\$1,500	\$1,500	\$1,500
HPWH Controller	\$600	\$600	\$600
Resiliency/ DR Ready Adder	\$1,000	\$750	\$1,000
Heat Pump Pool Heater*	\$1,000	\$1,000	N/A
ENERGY STAR®	N/A	N/A	\$1,000

Figure 7: Bonus Incentives Overview

* Incentive is per heat pump pool heater, not dwelling units. Heat Pump Pool Heater incentive is eligible in Multifamily Housing.

4.5 California Residential Programs Shared Incentives

CalEHP will share electrification per-unit/lot incentives with the statewide IOU residential new construction program, California Energy-Smart Homes.

- Automatic Enrollment: When a project qualifies for both CalEHP and California Energy-Smart Homes program, the project will also be automatically enrolled in both programs.
- Incentive Distribution: When a project is eligible for both programs, the program administrators will split the total base per-unit/lot incentive cost accordingly. Each program offers unique bonuses that can be combined.
- Bonus Payments: Each program will pay bonuses separately and in full, once program staff confirm that the project has met the specific bonus requirements.

4.6 Incentive Request Process

CalEHP staff and your operations associate will assist projects throughout the incentive request process. After a project completes construction, the participant and CalEHP staff will follow the steps below to request and process incentives.

- 1. Initiate Request: As lots are completed, participants initiate a request for installation verification and incentive payment.
- 2. Complete IRF: Participants complete an Incentive Request Form (IRF) for each completed lot. Projects can submit up to 10 lots for single family projects or 10 buildings for multifamily projects per IRF.
- 3. Submit IRF: Provide an electronic signature on the completed IRF and upload it to the portal. If you experience any issues with electronic signature or submission, contact your operations associate for assistance.
- 4. Include Certificate of Occupancy Certificate: Submit a certificate of occupancy certificate for each completed lot along with the IRF.
- 5. Notify Operations Associate: Send a follow-up email to your operations associate to notify them that a new incentive request is ready for processing in the portal.
- 6. Verification by CalEHP Staff: CalEHP staff will review the IRF and completion documentation, verify HERS testing in the HERS registry, and verify that each site aligns with the enrolled construction plans. Once verification is complete, CalEHP staff will notify the participant when verification is complete.
- 7. Field Verification: CalEHP staff may schedule and conduct a field verification visit as needed. 15% of all completed units/lots in any given year will undergo field verification for quality control. Refer to Section <u>8.2</u> for field verification details. CalEHP staff reserves the right to perform site visits to confirm program eligibility prior to issuing incentive payment(s).
- 8. Submission for Approval: CalEHP staff submits the project to the CEC for incentive payment approval.

- 9. Incentive Payment Issued: TRC issues incentive payments to the participant on behalf of CalEHP.
- **10.** Project Closure: CalEHP staff will issue a project closure and completion confirmation after the final lot payment has been issued.

5 Technical Assistance

Technical assistance (TA) is available to residential developers and builders along with their designers, energy consultants, HERS rater, and contractors (project team) participating, or attempting to participate in the program. CalEHP will provide TA for new, all-electric market-rate residential housing projects, including planned mixed-fuel projects desiring a fuel substitution to all-electric. To support project teams in designing and constructing all-electric housing, CalEHP can provide TA at any stage during design or construction of the project, and at any point during or prior to program participation.

5.1 Technical Assistance Offerings

TA will include design assistance to project teams to explore project designs and address technical challenges encountered in developing an all-electric residential project. TA can also support design and installation challenges with program bonus incentives. TA is available on a first-come, first-served basis to all eligible project teams. CalEHP TA offerings include:

- General all-electric design and construction practices for all-electric new construction development (e.g., low emission building design and technologies)
- Project-specific support for new construction developments related to program participation (e.g., project related building code requirements, design review and consultation, electric homes sales training, incentive layering, energy consultation, system design and sizing review, field support)
- Energy storage design and installation consulting, product specification, and operation and maintenance education and best practices

Specific examples of TA include, but are not limited to:

- Guidance on incentive sharing and/or layering opportunities
- Guidance on required program documentation
- Consultation for Title 24 compliance and energy efficiency
- Consultation on converting project designs from mixed-fuel to all-electric
- Electric home sales training and marketing support

Low emissions building design components supported through TA include, but are not limited to:

- Low-emissions technologies
- Energy storage
- Electric vehicle service equipment

- Facilitation of low-emissions technologies installation via referrals to manufacturers or other programs
- Project-related local government all-electric building code and permit requirements
- Virtual or in-person site visits as necessary

Specific examples of TA excluded from the program include, but are not limited to:

- Independently developing designs and/or energy models
- Creating or stamping any design or engineering drawings
- Non-electrification or non-energy efficiency features of the home such as structural, plumbing, or building safety code that is not related to electrical design and/or equipment

5.2 Technical Assistance Process

To apply for TA, participants will follow the participation steps below.

- 1. Complete an initial program application in the participant portal and select Technical Assistance in the dropdown.
- 2. CalEHP staff will follow-up with you to discuss your project and obtain any relevant documentation needed to process your request.
- 3. The CalEHP technical manager will review your request and supporting documentation to evaluate your request for TA eligibility and will either directly answer more common questions for you, or if necessary, assign you to a technical assistance provider (TAP) based off your project's unique needs.
- 4. CalEHP staff will connect you with your TAP via email, and you will work together to schedule a TA support meeting.
- 5. During the TA support meeting, you and your TAP will discuss where your project is in construction, your project's needs, and will begin identifying ways in which to best support your project's goals.
- 6. If, during the TA support meeting, you or your TAP discover that your TA request needs further support outside of that TAP's scope, your TAP will alert the technical manager to assign additional TAP support to your project.
- 7. After the TA support meeting, your TAP will follow-up with recommendations for your project team to implement in their design, and together you will discuss a timeline for implementing the TA request recommendations into your project.
- 8. CalEHP staff will send TA completion survey to you to complete after you confirm that all your TA questions have been resolved.

6 Quality Assurance/Quality Control

CalEHP has the following quality assurance and quality control plan to support the program and verify specific project types.

6.1 Project Verification

The program requires technical review for all projects. This process will include the following steps.

- CalEHP staff will examine all documents and files that the applicant(s) provide for project review to verify that the project as submitted meets eligibility requirements. Before performing the plan review, the technical reviewer will work with the operations associate to obtain missing documents required for the review.
- 2. The technical reviewer will compare the plans/drawings to the performance-building simulation models to help ensure they are an accurate model of each plan type.
- 3. After completing the plan review, the technical reviewer will send any questions, comments, requested revisions, or additional specifications to the project team for resolution using a plan review comments spreadsheet.
- 4. The project's energy consultant or other deemed representative from the project team (builder, architect, etc.) will respond to all comments within the spreadsheet and return the spreadsheet to the technical reviewer along with any other revised building simulation files and compliance documents.
- 5. The program's database will retain any requested revisions and corresponding answers within the project file folder for future reference.
- 6. The technical reviewer will upload the approved compliance file (i.e., XML) for each plan to the appropriate HERS registry to verify the approved energy technology are the same technologies that the HERS rater will inspect.
- 7. The technical reviewer will update the project database with all the approved project information and project savings numbers.
- 8. The operations associate will issue an e-mail to the project team with project enrollment details including the number of lots, number of plans, and anticipated incentive levels. The project team has five business days to contact their operations associate if any of the project details are inaccurate or need adjustment.
- At completion, and upon receipt of signed IRFs, CalEHP staff will review the HERS registry for completed CF2Rs, CF3Rs, and certificate of occupancy for each lot or building.

6.2 Field Verification

CalEHP staff will conduct field verification of 15% of all dwelling units/lots completed in any given year for quality control (QC). All high-rise projects enrolled in the CalEHP program are required for a field verification. Field verification will confirm enrolled projects meet all program-required energy efficiency levels and affirm the installation of all energy efficiency technology and any HERS verifications. These field verification processes will complement and leverage the official HERS verification process for code compliance. Any unoccupied homes must be made available for inspection and must be visited at random, with no bias from the site contact in selecting the homes for inspection.

CalEHP staff will maintain a list of potential projects for field verification. This list will include projects that have taken extraordinary energy features, made significant changes to their energy modeling, or give program staff any indication that they cannot meet the energy efficiency levels that the program requires. The CalEHP field verification approach includes the following components:

- Schedule and project team communication protocols
- Complete QC field inspection forms based on enrolled specifications
- Adhere to equipment, tools, and site safety protocols
- Adhere to inspection protocols to review and document envelope and equipment specifications
- Adhere to discrepancy resolution protocols
- Adhere to results documentation and follow-up protocols

CalEHP requires a program representative to conduct a site verification report for completing multifamily high-rise buildings as a part of the completion process.

CalEHP and TRC reserve the right to perform site visits to confirm program eligibility on completed projects prior to issuing incentive payment(s). If there are discrepancies between the submittal documents and what is observed on the site visit, TRC reserves the right for discrepancy resolution. Discrepancy resolution may take the form of adjusting the calculated incentives or rejecting incentives altogether.

7 Other Program Policies

7.1 IRS 1099 Reporting Procedures

On behalf of CalEHP, TRC issues 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 the CEC is responsible for any taxes that may be placed on participants as a result of receiving incentives.

7.2 Dispute Resolution Procedures

TRC has detailed procedures for tracking and responding to participant questions and complaints about CalEHP. 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 help ensure the highest level of satisfaction and resolution. In the event of a dispute, the TRC program manager will be the initial point person for issue resolution. TRC will regularly report complaints to the CEC for review of each complaint's status and outcome. If TRC or the CEC identifies a recurring problem, TRC will work to adjust the program or process to avoid future issues.

7.3 Limited Funding

Program funds are limited, and are reserved on a first-come, first-served basis until funds are no longer available.

7.4 Limitation of Liability

CalEHP will include limitation of liability statements as part of the program's terms and conditions. The statements will limit both the CEC's and TRC's liability:

The CEC 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 the CEC, Implementer, or Customer/Builder be liable for any special, incidental, indirect, lost profits, or consequential damages arising from or related to the Project.

7.5 Handbook Version Control

This handbook is a working document and CalEHP 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 CalEHP website. *This document is version 1.8 (updated 3/28/2025).* Appendix A includes a listing of dates and changes made by version.

8 Project Documentation Checklists

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

Enrollment Documents

Submit before the scheduled Kickoff Call with the CalEHP program team

- □ Share CHEERS HERS registry with TRC: TRC Energy Services (CEA (single family, multifamily low-rise, and ADU projects only)
- □ CF1Rs signed by a 2019 or 2022 Residential CEA (single family, multifamily low-rise, and ADU projects only)
- Derived PERF1Cs signed by a 2019 or 2022 Non-Residential CEA (multifamily high-rise only)

Submit after the Kickoff Call

- □ Completed and signed Enrollment Form (provided by CalEHP staff)
- □ Completed Terms and Conditions (provided by CalEHP staff)
- □ W9 for project payee
- □ Energy Models:
 - Must be in Energy Pro 8+ or CBECC Res 2019 or 2022 (.bld or. ribd format)
 - When a single lot contains both a single-family home and an ADU project applying for incentives, that project must submit two energy models, one for the main home and one for the ADU; the ADU's mechanical and water heating systems must be completely separate from any equipment servicing the main home.
 - Manufactured homes do not require an Energy Model, but must submit a Custom Order Form from the manufacturer that lists all home specifications and a paid invoice
- □ Lot List (template provided by CalEHP staff)
 - Submitted lot lists are used to secure your project's incentive reservation(s). To avoid losing your project's reserved incentives, notify the program team in advance of any deviations from your submitted schedule. Submitted lot lists are used to secure your project's incentive reservation(s). To avoid losing your project's reserved incentives, notify the program team in advance of any deviations from your submitted schedule.

Project Documents to be Submitted DURING Construction

- □ Enrollment survey
- □ Current set of architectural, mechanical, electrical, and plumbing (MEP) plans
- □ Site plan with North arrow
- □ Specification sheets for verification of product qualification
 - Space cooling equipment including make, model number, and manufacturer
 - Space heating equipment including make, model number, and manufacturer
 - Domestic hot water equipment including make, model number, and manufacturer
 - Glazing including U-factor and SHGC for windows
 - If applicable to your project, upload the following spec sheets:
 - o Cool roof
 - Heat recovery ventilator
 - o Solar thermal
 - o Induction cooktop
 - Additional Battery Storage Documents:
 - o A signed contract with the ESS installer
 - A battery storage system must be entered in the energy model provided
- □ Significant change orders that materially affect energy aspects of the project
- □ Revised CF1R or PERF1C and Energy Models

Completion Verification Documents to be Submitted AFTER Construction

- □ Incentive Request Form (IRF) identifying which lots/buildings are complete and ready for verification
- □ CF2Rs (completed and signed via the CHEERS HERS registry)
- □ CF3Rs (completed and signed via the CHEERS HERS registry)
- □ Certificate of Occupancy for completed lots or buildings (as noted on the IRF)
- □ Completed customer satisfaction survey (provided by CalEHP staff)
- □ Invoicing showing the transition to heat pump technology and induction (manufactured homes only)

Adjustment Verification Documents (ONLY required if changes were made to Energy Models after enrollment)

- □ Adjustment Form
- Revised energy models for each plan or building type (.bld files or .ribd files) as applicable
- □ Revised CF1Rs (that match the CF2R & CF3R on the CHEERS HERS registry)
- □ Revised plans
- □ Revised specification sheets

Appendix A: Handbook Version Tracking

Version 1: Released August 18, 2023	Original Release
Version 1.1: Updated August 22, 2023	
Version 1.2: Updated September 11, 2023	Text Edits and Footnote Clarifications
Version 1.3: Updated November 17, 2023 Ind and Text Edits	luction Exception, Application Deadlines
Version 1.4: Updated January 1, 2024 mixing valve for CHPWH, removal of TA Follow-Up Sur	Applicant definition, thermostatic vey requirement and text edits
Version 1.5: Updated March 15, 2024Single Fam Heat Pump Space Heating and Water Heating definition	nily definition, Induction Stove definition, on, Text Edits, Clarifications

Version 1.6: Updated May 20, 2024....Participant Steps update, Prerequisite language updates and clarification, Incentive Process updates, Text Edits, Clarifications

Version 1.7: Updated October 2024.....Text Edits, Clarifications, Modular Home Definition, Parent and Division Definitions

Version 1.8: Updated March 2025......Text Edits, Clarifications Date updates, Participation Steps updates