



California
**ELECTRIC
HOMES**



California Electric Homes (CaEHP) 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.

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.

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.

CALGreen Building Code EV ready requirements: For single family homes, the 2019 California Green Building Standards Code (“CALGreen”, Title 24, Part 11) requires that new construction and major alterations include adding “EV Capable” parking spaces that have electrical panel capacity, a dedicated branch circuit, a raceway to the EV parking spot, and wiring to support future installation of charging stations. For multifamily homes, CALGreen requires 10% of parking spaces to be “EV Capable” charging spaces. Spaces must be identified on the plans, but no chargers are required to be installed at “EV Capable” spaces. These requirements remained the same in 2022 code.

The 2022 CALGreen Code updated multifamily dwellings to have additional “EV Ready” charging requirements. They must have 25% of their parking spaces equipped with low power level 2 receptacles, and 5% of parking spaces in buildings with 20 or more units require higher power level 2 chargers. These spaces must be identified on the plans.

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 Electric Homes Program staff (CalEHP staff): A member of the broader CalEHP team, consisting of TRC staff, who provide all program implementation activities. CalEHP staff includes but is not limited to the operations associates, technical reviewers, technical managers, and other.

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.

Community Choice Aggregation (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.

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 measures 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.

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.

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 an overview of CalEHP including program objectives, incentive offerings, and initial participation steps.

2.1 Program Overview

The California Electric Homes Program (named in statutes as the Building Initiative for Low-Emissions Development Program Phase 2) by Assembly Bill 137 incentivizes 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 appliances and equipment. This program supports California's advanced energy efficiency policy goals through 2027. The program is available statewide for all-electric residential new construction. All market-rate RNC projects (single family and multifamily) are eligible for CalEHP. Projects that are ineligible for the BUILD Program due to income disqualifications are eligible for CalEHP.

The program offering will serve the following residential sub-sectors:

- Single family, which includes, duplexes, triplexes, townhomes, and ADUs
- Multifamily low-rise (three or fewer stories) and high rise, and condominiums
- Modular homes (single family and multifamily)
- Manufactured homes

Any building types that do not adhere to Title 24 of the California Energy Code, except for manufactured homes, are ineligible for CalEHP participation. Projects located in jurisdictions that have adopted all-electric reach codes or ordinances that would require new construction to be all-electric are only eligible for storage and bonus incentives from CalEHP. Additionally, commercial, industrial, and other nonresidential buildings are ineligible as CalEHP is exclusive to market-rate RNC buildings. For mixed-use multifamily buildings with separately metered commercial spaces, all residential common areas, including pools, must comply.

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. To accomplish this, the program provides incentives and technical assistance for all-electric homes and multifamily buildings, energy storage systems, and advanced energy efficiency and demand response/load management measures. 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. Additional program objectives include:

- Incorporating grid harmonization and utility communication-enabling measures as prerequisites in design, allowing for more easily achievable demand flexibility and grid integration
- Shifting the market further in favor of all-electric
- 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: caelectrichomes@trccompanies.com
- Website: caelectrichomes.com
- 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.

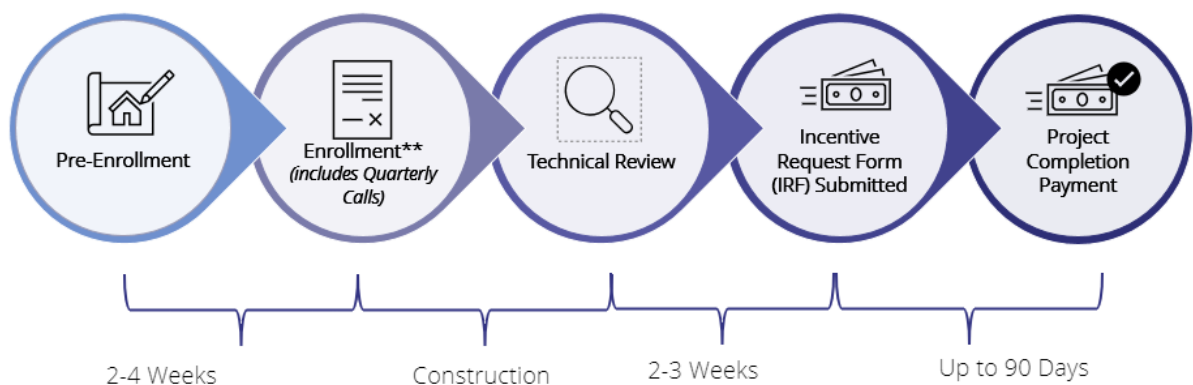


Figure 1. Participant Journey

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.
3. Program staff will assign a dedicated operations associate to your project. The operations associate will schedule a kickoff call presentation to start the enrollment process. After the call, you will submit the required program application documents through the [participant portal](#). CalEHP staff will review your application documents for completion and will communicate with you regarding any missing information or requirements.
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.
5. You will be required to attend quarterly calls to give us updates on your project and construction schedule.
6. Your application documents will go through the CalEHP technical review process (outlined in Section [8.1](#)).
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, construction schedule, or equipment/product specifications.
8. As lots/buildings complete construction, you will submit incentive request forms (IRFS) and verification documents (outlined in section [2.4.6](#) and [10](#)) 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. See Section [8.2](#) for field verification details.
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 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 [participant portal](#). 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, /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 completely 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

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 prerequisite measures:

- 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)

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. No portable burners are permitted.

Projects enrolling before December 31, 2024, can request an exception for the induction cooking requirement. Builders must self-certify on their application supply chain/availability issues to indicate that induction units are unavailable for the specifically enrolled project. Builders using this option must install a 40-amp circuit in the panel to support future induction upgrades. Incentives will be reduced by \$700 for single family homes and \$500 for multifamily homes using the exception.

- 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.

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.

- Thermostatic mixing valves (TMVs) for each heat pump water heater

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.
- The program does not require TMVs for central heat pump water heater systems.

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 territory 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 territories 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
- Complete and sign enrollment form, including agreeing to program Terms and Conditions
- Adhere to all applicable federal, state, and local laws and codes
- Submit an application 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 3.4
- 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

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 3.4 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 Measure Requirements

This section provides an overview of available Bonus Measure Requirements and program requirements to secure bonus measure incentives for your project.

To be eligible for the bonus measures, 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 hard-wired 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
- Have the ability to 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:
 - A signed affidavit stating that the project will install an eligible smart panel or HEMS system
 - 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 specified
 - Specification sheet for ANSI/CTA-2045-A port
- Completion documents:
 - Photo of installed ANSI/CTA-2045-A
 - Invoices detailing the labor and material costs of installing the ANSI/CTA-2045-A device

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 multifamily 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 measures:

- Envelope package (Manufactured Homes are exempt from this requirement)
- Storage
- Smart Panel or HEMS
- HPWH controller

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

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. Program incentive caps are per parent company⁵.

The program reserves incentives 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 CalEHP staff prior to any deviation in schedule, could result in the loss of incentive reservations. All projects must submit complete incentive request packages including incentive request forms and certificates of occupancy for each completed lot or building by November 15 to receive that program year's incentives.

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. The program will reduce incentives by \$700 for single family homes and \$500 for multifamily homes for any project using the induction cooking exception.

4.2.1 Base Electrification Incentives

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

Base Electrification Incentives per unit	2024	2025	2026	2027
Market-Rate				
Single Family	\$3,000	\$3,000	\$2,500	\$2,500
Multifamily/ Accessory Dwelling Unit	\$1,600	\$1,600	\$1,400	\$1,400
Manufactured Home	\$5,500	\$5,500	\$5,000	\$5,000

Figure 5: Base Electrification Per Unit Incentives

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.

⁵ Pass-through entities such as LLC's or LP's are ineligible for consideration as a separate entity for program caps.

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 per unit	2024	2025	2026	2027
DAC/HTR				
Single Family	\$3,500	\$3,500	\$3,000	\$3,000
Multifamily/ Accessory Dwelling Unit	\$1,950	\$1,950	\$1,750	\$1,750
Manufactured Home	\$6,000	\$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 cap⁶: 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

⁶ Homes with <8kWh modeled average daily load will be capped at 10kWh of storage incentives

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 4. 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

1 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 state-wide IOU residential new construction program, California Energy-Smart Homes.

When a project is eligible for CalEHP and meets the requirements of the California Energy-Smart Homes program, the project will also be automatically enrolled in the California Energy-Smart Homes Program. When a project is eligible for more than one program, the program administrators will split the total base per unit/lot incentive cost for the applicable program incentivized costs. Each program has individual bonuses that can layer with each other. Each program will pay bonuses separately and in the full amount of that program's offering after program staff confirm the project has met the specific bonus requirements.

4.6 Incentive Request Process

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

1. As lots complete, participants initiate a request for installation verification and incentive payment.
2. 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. After completing the IRF, participants provide an electronic signature and upload to the portal. Contact your operations associate if you are having trouble with the electronic signature or the submission of the IRF in the portal.
4. After submitting the IRF in the portal, participants upload documents for the IRF and must include a certificate of occupancy for each completed lot.
5. Participants send a follow up email to their operations associate to notify them that a new incentive request is ready for processing in the portal.
6. CalEHP staff reviews IRFs and completion documentation provided by the participant as well as verifies in the HERS Registry that HERS testing has been completed and each site has been built in alignment with enrolled construction plans. Once verification is complete, CalEHP staff notifies the participant when verification is complete.
7. 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. See Section [8.2](#) for field verification details. CalEHP staff reserves the right to perform site visits to confirm program eligibility on completed projects prior to issuing incentive payment(s).
8. CalEHP staff submits the project to the CEC for incentive payment approval.
9. TRC issues incentive payments to the participant on behalf of CalEHP.
10. CalEHP staff issues a project closure and completion confirmation after issuing payment for the final lot.

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 measures. 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

Technical Assistance Process

To apply for TA, participants will follow these participation steps:

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.

Project Verification

The program requires projects to go through the following technical review process for project verification:

1. 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 measures are the same measures 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, current construction schedule, 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.
9. 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.

6.1 Field Verification

CalEHP staff will conduct field verification of 15% of all dwelling units/lots completed in any given year for quality control (QC). Field verification will confirm enrolled projects meet all program-required energy efficiency levels and affirm the installation of all energy efficiency measures 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). 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. The current version is listed on the cover page of this document and a list of dates and changes made from version to version is available in Appendix A of this document.

8 Project Documentation Checklists

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

New Construction Project Document Checklist

Enrollment Application Documents:

Completed and signed enrollment form (provided by CalEHP staff)

Completed Terms and Conditions (provided by CalEHP staff)

W9 for project payee

Construction schedule (include number of lots completed by quarter per year)

- Submitted construction schedules will be used to reserve incentives, failure to follow the construction schedule, without updating the program prior to deviating from the schedule, could result in loss of incentive reservations.

Share HERS registry with TRC: TRC Energy Services

- Please provide TRC with the HERS provider and company name

CF1RS:

- Watermarked w/ CalCERTS or CHEERS
- Signed by 2019/2022 residential certified CEA

Energy Models

- Must be in Energy Pro 8+ or CBECC Res 2019 or 2022 (.bld or .ribd format)

Lot List (provided by CalEHP staff)

Construction/Installation Documents (submitted during construction):

Enrollment Survey

Current set of architectural, mechanical, electrical, and plumbing (MEP) plans.

Site plan with North arrow

Specification sheets for verification or product qualification.

- Space Cooling Equipment (include make, model number, and manufacturer)
- Space Heating Equipment (include make, model number, and manufacturer)
- Domestic Hot Water Equipment (include make, model number, and manufacturer)
- Glazing (include U-factor and SHGC for windows)
- Induction Cooktop (include make, model number, and manufacturer)
- If applicable to your project, you must upload the following spec sheets for your application approval:
 - Cool Roof
 - Heat Recovery Ventilator
 - Solar Thermal
- Additional Battery Storage Documents
 - A signed contract with the ESS installer
 - A battery storage system must be entered in the energy model provided
- Updated Construction Schedule
- Significant change orders that materially affect energy aspects of the program
- Revised CF1Rs and energy models

Verification Documents (submitted after construction completion):

IRF to identify which lots or buildings are complete and ready for verification

CF2Rs (completed and signed via the HERS registry)

CF3Rs (completed and signed via the HERS registry)

Invoices for verification of product qualification and completion

Certificate of Occupancy for completed lots or buildings (as noted on the IRF)

Proof of Permit Closure required for certain measures

Completed customer satisfaction survey (provided by CalEHP staff)

Additional Battery Storage Documents:

- A photo of the battery disconnect location
- Confirmation of the mode of operation the battery was placed in. This is in the battery manufacturer's mobile application. A screenshot of the app depicting the operation mode will be sufficient to meet this requirement. If a mobile application is not available, a letter from the Original Equipment Manufacturer (OEM) specifying the mode of operation the battery should be programmed to will be required.

Additional Adjustment Verification Documents (if changes were made to energy models)

Adjustment form (required for projects that are going through an adjustment)

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 HERS registry)

Revised plans (required for projects going through an adjustment)

Revised specification sheets (required for projects going through an adjustment)

Appendix A: Handbook Version Tracking

Version 1: Released August 18, 2023	Original release
Version 1.1: Updated August 22, 2023	Text edits
Version 1.2: Updated September 11, 2023	Text edits and footnote clarifications
Version 1.3: Updated November 17, 2023	Induction exception, application deadlines, and text edits
Version 1.4: Updated January 1, 2024.....	Applicant definition, thermostatic mixing valve for CHPWH, removal of TA Follow Up Survey requirement, and text edits
Version 1.5: Updated March 15, 2024	Single family definition, induction stove definition, heat pump space heating and water heating definition, text edits, and clarifications
Version 1.6: Updated May 20, 2024.....	Participant steps update, prerequisite language updates and clarification, incentive process updates, text edits, clarifications