

# Program Handbook



## **Self-Generation Incentive Program (SGIP) Heat Pump Water Heater (HPWH) Program**

<b>1</b>	<b>Purpose.....</b>	<b>5</b>
<b>2</b>	<b>SGIP HPWH Overview.....</b>	<b>5</b>
2.1	Program Overview.....	5
2.2	Implementation with TECH Clean California.....	6
<b>3</b>	<b>Budget.....</b>	<b>6</b>
3.1	Funding Allocation Details.....	7
3.2	Budget Availability.....	8
<b>4</b>	<b>Customer Classes and Project Types.....</b>	<b>8</b>
4.1	Residential Unitary.....	8
4.2	Residential Central.....	8
4.3	Commercial Unitary.....	9
<b>5</b>	<b>Participant Eligibility.....</b>	<b>9</b>
5.1	Customer Eligibility.....	9
5.1.1	Enrollment Requirements.....	10
5.1.2	Equity Requirements.....	10
5.2	Contractor Eligibility.....	13
5.2.1	License Requirements.....	13
5.2.2	Other Requirements.....	14
5.2.3	Training Requirements.....	14
<b>6</b>	<b>Contractor Enrollment Process.....</b>	<b>15</b>
6.1	Eligible Contractor Listing.....	16
<b>7</b>	<b>Project and Equipment Eligibility.....</b>	<b>16</b>
7.1	Requirements for all Project Types.....	16
7.1.1	Thermostatic Mixing Valves.....	16
7.1.2	Permits.....	16
7.2	Requirements by Project Type.....	17
7.2.1	Residential Unitary Heat Pump Water Heater Requirements.....	17
7.2.2	Residential Central Heat Pump Water Heater Requirements.....	19
7.2.3	Commercial Unitary Heat Pump Water Heater Requirements.....	20
7.2.4	Small Business Unitary.....	20
7.2.5	Large Commercial Unitary.....	20
7.2.6	Commercial Central Heat Pump Water Heaters.....	20
<b>8</b>	<b>Incentives.....</b>	<b>21</b>
8.1	Incentive Requirements.....	21
8.1.1	Timing of Incentives Availability.....	21
8.1.2	Passthrough to Customer.....	21

8.1.3	Replacement Scenarios .....	21
8.1.4	Project Cost Cap .....	21
8.1.5	Low Global Warming Potential (GWP) Kicker .....	22
8.1.6	Changes to Incentive Levels .....	22
8.2	Residential Unitary Incentives .....	22
8.2.1	Electrical Upgrade Incentive Rules.....	23
8.2.2	Pre-electrification Costs Incentive Rules (Equity Only) .....	23
8.3	Residential Central Incentives .....	24
8.4	Commercial Unitary Incentives.....	25
8.5	Incentive Calculations .....	25
8.5.1	Residential Central Heat Pump Water Heater Systems .....	25
8.5.2	Large Commercial Unitary Heat Pump Water Heater Systems.....	27
<b>9</b>	<b>Incentive Applications .....</b>	<b>28</b>
9.1	Application Processing Software .....	28
9.2	Designated Applicants .....	28
9.3	Application Process Overview .....	28
9.3.1	Incentive Reservation .....	29
9.3.2	Proof of Project Milestone (PPM)—Large Commercial and Multifamily .....	30
9.3.3	Installation and Incentive Submission .....	30
9.3.4	Incentive Claim Status and Updates .....	31
9.3.5	Application Review .....	31
9.3.6	Approval and Payment .....	31
9.4	Required Information by Project Type.....	32
9.4.1	Single Family Unitary.....	32
9.4.2	Small Business Unitary.....	34
9.4.3	Multifamily Unitary and Residential Central .....	34
9.4.4	Large Commercial Unitary .....	37
9.5	Taxes.....	39
9.6	Verification and Inspections .....	39
<b>10</b>	<b>Demand Response and Time of Use Requirements .....</b>	<b>40</b>
10.1	Benefits of Time of Use Rates and Demand Response Programs.....	40
10.2	Time of Use Enrollment Requirement.....	41
10.3	Demand Response Enrollment Requirement .....	41
10.4	Time of Use and Demand Response Education.....	41
<b>11</b>	<b>Data Collection, Measurement, and Evaluation.....</b>	<b>42</b>
11.1	Measurement and Evaluation of installed Heat Pump Water Heaters .....	42
11.1.1	Disposition of SGIP Metering Equipment.....	42

11.2 Access to Customer Data.....	42
11.3 Use of Meter Data.....	43
11.4 Embedded Evaluation .....	43
<b>12 Dispute Resolution .....</b>	<b>43</b>

# 1 Purpose

---

The purpose of this public-facing *SGIP HPWH Handbook* is to provide guidance to external parties that may participate in the Self-Generation Incentive Program (SGIP) Heat Pump Water Heater (HPWH) program. The handbook documents the program's policies, eligibility, requirements, and key processes outlined in the California Public Utilities Commission (CPUC) Decision Establishing HPWH Requirements D.22-04-036, as well as additional clarifications based on collaboration between the program implementer (Energy Solutions), the CPUC, and other stakeholders.

## 2 SGIP HPWH Overview

---

### 2.1 Program Overview

The Self-Generation Incentive Program Heat Pump Water Heater Program (“SGIP HPWH program” or “the program”) will offer \$80.2 million in new funding for heat pump water heaters and play a critical role in scaling heat pump water heater adoption throughout California and in meeting California's decarbonization objectives through the integration of load shifting and demand response enrollment into the heat pump water heater installation process. The program has the following goals:

- Deploy heat pump water heaters at scale throughout California.
- Ensure that installed systems are achieving greenhouse gas (GHG) reductions goals.
- Integrate demand response and load shifting.
- Ensure equitable distribution of program benefits, including efforts to ensure bill savings for equity customers.
- Align with heat pump water heater market transformation strategies and initiatives across the state.
- Offer a streamlined experience for contractors and customers.

To qualify for incentives, heat pump water heater systems must be installed and operated in a manner that shifts electricity use from peak to off-peak periods and reduces GHG emissions. Load-shifting heat pump water heaters provide benefits that align with the program’s goals, including GHG emissions reductions and bill savings. The program provides incentive funding to significantly increase the number of heat pump water heaters installed each year, with budget allocated based on the following “customer classes” (with more information provided in the Customer Classes section):

- General Market Residential Unitary and Central heat pump water heaters
- Equity Residential Unitary and Central heat pump water heaters
- Commercial Unitary heat pump water heaters (including small business unitary heat pump water heater systems)

## 2.2 Implementation with TECH Clean California

This program will integrate seamlessly with the TECH Clean California initiative which has already achieved broad familiarity and recognition and has a contractor network upwards of 1,500 contractors on the mailing list and 6,500 enrolled contractors as of September 2023. Through this integration, the SGIP HPWH program will also leverage all of TECH Clean California’s processes, including the incentive application portal, contractor network and engagement efforts, educational activities, and broader market transformation scope. This also means that incentives will be implemented at the midstream level—incentives will be paid to contractors who will pass savings through to customers.

The SGIP HPWH program will provide \$80.2 million in additional incentives for heat pump water heater installations which will be branded as new TECH Clean California heat pump water heater incentives and administered through the TECH Clean California infrastructure while incorporating the additional requirements that the SGIP HPWH program introduces regarding load shifting and demand response program participation.

During launch activities, and on certain materials such as the [TECH Public Reporting Site](#),<sup>1</sup> language will be included referencing the funding source as the SGIP HPWH program, so that stakeholders who were familiar with the SGIP HPWH program and the proceeding will make the connection between the two program names. For the purposes of this handbook, we refer to the SGIP HPWH program, but in future communications to and materials created for market participants, TECH Clean California HPWH incentives will be the primary name.

## 3 Budget

The program budget is available through December 31, 2025, and is set to \$84,670,000, with \$80,203,000 for incentives and the remainder for evaluation and administration.

Funding was allocated via two separate legislative processes as described in more detail in Funding Allocation Details, and each of these two funding buckets has different allocation requirements. The first, HPWH Program Budget, is allocated according to customer class and the second, Cap and Trade Budget, is further broken down based on gas investor-owned utility (IOU) service territory.

Table 1 displays a high-level overview of the program incentives broken down into funding categories while the following descriptions explain the various allocations in depth. The SGIP HPWH Decision authorizes the Program Administrator—as soon as April 11, 2025 (three years from the issuance of the SGIP HPWH Decision)—to submit a Tier 1 advice letter to reallocate the budget

<sup>1</sup> [www.techcleanca.com](http://www.techcleanca.com)

between customer classes as needed. The Tier 1 advice letter approach gives the program team the flexibility to move forward with budget reallocations ahead of CPUC approval of the advice letter.

**Table 1 SGIP HPWH Program Budget**

			HPWH Program Budget (\$40.203 M)	Cap -and -Trade Budget (\$40 M)			All Funds
Customer Class	Budget Percentage	Limitations	HPWH Program Budget	SoCalGas (50.08%)	PG&E (43.04%)	SDG&E (6.88%)	Total Budget
<b>General Market Residential (Unitary and Central)</b>	47.36%	Unitary: 20% minimum Central: 40% maximum*	\$19,040,141	\$9,487,155	\$8,153,498	\$1,303,347	\$37,984,141
<b>Equity Residential (Unitary and Central)</b>	47.36%	Unitary: 20% minimum Central: 40% maximum*	\$19,040,141	\$9,487,155	\$8,153,498	\$1,303,347	\$37,984,141
<b>Commercial Unitary</b>	5.28%	none	\$2,122,718	\$1,057,690	\$909,005	\$145,306	\$4,234,718
			<b>\$40,203,000</b>	<b>\$20,032,000</b>	<b>\$17,216,000</b>	<b>\$2,752,000</b>	<b>\$80,203,000</b>

\*20 percent and 40 percent limitations for residential budgets are described in the Funding Allocation Details section.

### 3.1 Funding Allocation Details

In D.19-09-027 and D.20-01-021, the CPUC approved \$40,203,000 for heat pump water heater incentives. This budget is allocated according to customer class and market type, including:

- General Market Residential: \$19,040,141
- Equity Residential: \$19,040,141
- Commercial Unitary: \$2,122,718

The General Market Residential and Equity Residential budgets are available on a first come, first served basis to unitary and central heat pump water heater systems, with a 20 percent minimum from each budget to go to unitary systems and an initial 40 percent cap for each budget to go to central systems. The 40 percent cap is designed to allow for a review of the effectiveness of Residential Central heat pump water heater systems in shifting load before further incentive funds are reserved. When applications for Residential Central heat pump water heater incentives meet or exceed 40 percent of either of the residential budget categories, the program team will initiate a waitlist for Residential Central heat pump water heater applications and submit a report of the load shift performance of approved Residential Central heat pump water heater installations to the CPUC.

In D.22-04-036, the CPUC approved an additional \$40 million of Cap-and-Trade funding for heat pump water heater incentives only, allocated across customer classes with the same breakdowns

and percentage caps and floors as determined for the prior funding. This funding is further broken down by gas IOU service area in a manner consistent with each IOU's respective percentage of their combined CARB allocation of Cap-and-Trade allowances.

### 3.2 Budget Availability

The budget values along with reserved and remaining amounts are posted on the [TECH Public Reporting Site](#). Reserved and remaining amounts will be updated with increasing frequency as the budget nears exhaustion. Participants are encouraged to review the available budget prior to including an incentive in a job scope. Participants will be notified via email and text messaging (if they have signed up) once the budget drops below pre-defined thresholds. Only reservations created while funds remain will be eligible for incentives.

## 4 Customer Classes and Project Types

The SGIP HPWH Decision outlined three main customer classes (General Market Residential Unitary & Central HPWH, Equity Residential Unitary & Central HPWH, and Commercial Unitary HPWH) which map directly to how the budget is allocated. However, within each of those three customer classes there are several types of projects which follow different incentive structures and follow different pathways for application processes. Below is an overview of project types. More details on the different incentive structures and application processes are found in the Incentives and Incentive Applications sections.

### 4.1 Residential Unitary

Residential Unitary includes any project in which there is one heat pump water heater per household. Projects will be either:

- Single Family Unitary: A single family project includes the following situations:
  - A single family home.
  - An accessory dwelling unit (ADU).
  - An individual homeowner residence within a homeowners' association (HOA), condominium association, or residential co-op type property.
- Multifamily Unitary: Any property with two or more dwelling units where units are owned by a property owner.

### 4.2 Residential Central

Residential Central can also be understood as "multifamily central" and includes any project in which a heat pump water heater is serving more than one household. Projects will either be:

- One large central system serving more than one household.



- An installation of one or more unitary heat pump water heaters which can be plumbed together (or "ganged-together") in a central location to serve more than one household. These are unitary heat pump water heaters with integrated tanks that are installed individually, or plumbed together in parallel, to provide hot water to two more households, and do not include additional heat pump or electric resistance water heating equipment or storage tanks besides the unitary heat pump water heaters themselves.

For simplicity, both types of projects are grouped together as the Residential Central project type.

### 4.3 Commercial Unitary

The Commercial Unitary customer class and budget category includes projects serving one customer on a non-residential tariff (not including multifamily residential buildings, which are served by the residential customer classes and budget categories). There is no SGIP HPWH funding for commercial central heat pump water heater installations (i.e., installations serving multiple non-residential customers). Projects will either be:

- **Small Business Unitary:** Small Business Unitary heat pump water heater installations are those that meet the requirements for Residential Unitary system installations—including equipment, installation, and JA13 load-shifting requirements—but that serve a customer on a non-residential time-of-use (TOU) rate.
- **Large Commercial Unitary:** Large Commercial Unitary heat pump water heater installations serve one non-residential customer but do not meet the Small Business Unitary installation definition above and do not serve multifamily residential buildings.

## 5 Participant Eligibility

SGIP HPWH incentives are available for retrofit projects only; new construction is ineligible for SGIP HPWH incentives. Contractors looking to obtain incentives for new construction projects should look to the Switch is On [incentive lookup tool](#).<sup>2</sup>

### 5.1 Customer Eligibility

All retail electric or gas customers of Pacific Gas and Electric (PG&E), Southern California Edison (SCE), Southern California Gas Company (SoCalGas), or San Diego Gas & Electric (SDG&E) are eligible to receive incentives through the program. This includes customers of Community Choice Aggregators (CCAs). The Cap-and-Trade portion of the budget will be allocated to existing natural gas customers only in the service territory of the funding gas utility.

<sup>2</sup> <https://incentives.switchison.org/contractors>

For the purpose of understanding which entities must comply with the customer TOU and demand response enrollment requirements discussed in this handbook, the SGIP HPWH customer is defined below. This does not preclude another party (e.g., the owner of a single family rental property) from purchasing the heat pump water heater and receiving the incentive passthrough from the contractor.

- For single family unitary projects (as defined in section 4.1) and for non-residential projects (not including multifamily projects), the customer is utility account holder at the site where heat pump water heater is or will be located.
- For multifamily projects (as defined in sections 4.1 and 4.2), the customer is the property owner.

### 5.1.1 Enrollment Requirements

The following customer enrollment requirements are described in more detail in the Demand Response and Time of Use Requirements section.

- The customer must agree, before installation, that their utility will switch them onto a TOU rate if not already on one.
- The customer must enroll in a qualified demand response program for a minimum of three years.

### 5.1.2 Equity Requirements

Customers who meet the following additional requirements are eligible for the higher incentive amounts available for equity customers. Please note that the equity requirements are subject to change over the course of the program based on future CPUC directives and any changes will be broadly announced.

#### SINGLE FAMILY

The Equity Budget and associated incentive levels is available to customers who meet the following single family equity eligibility criteria:

- Live in single family low-income residences as defined in Section 4.1 (with the modification that for the purposes of equity eligibility only, this includes properties with fewer than five dwelling units).
- Have household income at either A) at or below 80 percent of the area median income; or B) at or below 250 percent of the federal poverty level.

Customer eligibility for the single family SGIP HPWH Equity Budget is determined via direct income verification or via categorical eligibility (meaning confirmation of enrollment in programs that verify income at the same levels).

Accepted forms of direct income verification include the following, however the program team may release a shortened list prior to launch based on the feasibility of verification:

- A copy of the customer's most recent 1040 form, or if not available,

- Any of the accepted types of "Full Documentation" as listed in Table E-1 of the ESA Statewide 2021-2026 Cycle Policy and Procedures Manual.<sup>3</sup>

Accepted programs for categorical eligibility may include the following, however the program team may release a shortened list prior to launch based on the feasibility of verification.

- Disadvantaged Communities—Single Family Solar Homes (DAC-SASH)
- Single Family Affordable Solar Homes (SASH)
- Low-Income Household Water Assistance Program (LIHWAP)
- Self-Generation Incentive Program (SGIP)
- Weather Assistance Program (WAP)
- California Alternate Rates for Energy (CARE)/ Family Electric Rate Assistance Program (FERA): only customers whose income have been verified by CARE/FERA implementers. If by April 11 2025<sup>4</sup>, the Equity Budget has not been exhausted, eligibility may be extended to CARE/FERA customers whose income has not been verified by CARE/FERA implementers.)
- Energy Savings Assistance (ESA)
- Any other program listed in Table E-1 of the ESA Statewide 2021-2026 Cycle Policy and Procedures Manual for categorical eligibility.
- Any other current or future CPUC and CEC income-based program with verification criteria as defined above for the SGIP HPWH program.

The program team may revise the list of accepted programs for categorical eligibility or introduce alternative means of income verification over the course of the program with approval from the CPUC.

In contrast to the SGIP solar/storage rules, the requirement to provide proof of resale restriction or equity sharing agreement is waived for the SGIP HPWH program.

#### MULTIFAMILY

The Equity Budget and associated incentive levels are available to customers who meet the following multifamily equity eligibility criteria:

A multifamily residential building of at least five rental housing units that is operated to provide deed-restricted low-income residential housing and is either:

<sup>3</sup> See Table E-1: Household Income Types and Documentation, in the ESA Program Policy and Procedures Manual linked at <https://www.cpuc.ca.gov/consumer-support/financial-assistance-savings-and-discounts/energy-savings-assistance>.

<sup>4</sup> Or sooner if found appropriate for ensuring faster expansion to the single family equity customer population, in consultation with ED staff, and via a Tier 1 AL

- Located in a SB535 disadvantaged community (DAC);<sup>5</sup> or
- A property where at least 80 percent of the households have incomes at or below 60 percent of the area median income in accordance with the terms of their deed restriction.

Any customer account in such buildings will be eligible for the equity funding. Additionally, equity funding is available to multifamily properties that have participated in or who are eligible for funds via approved eligibility programs. Approved eligibility programs include the Multifamily Affordable Solar Housing (MASH) or Solar on Multifamily Affordable Housing (SOMAH) programs. The program team will establish acceptable means of program verification for each approved eligibility program and broadly communicate those requirements prior to the launch of SGIP HPWH equity funds. The program team may revise the list of approved eligibility programs or introduce alternative means of income verification over the course of the program with approval from the CPUC.

To be verified as eligible for the multifamily Equity Budget, the participant will need to provide one of the following:

- The deed restriction on the property, or a regulatory agreement signed and executed between the property owner/developer and entity issuing financing;
- A copy of an enrollment or eligibility confirmation document for an approved eligibility program; or
- For multifamily housing in Tribal lands, documentation that at least 80 percent of the households have incomes at or below 60 percent of area median income.

#### TRIBAL LANDS

Tribal lands (referred to as "Indian Country" in 18 USC § 1151), as identified by the California EPA Census in the 2021 American Indian Areas Related National Geodatabase, are considered a disadvantaged community for the purposes of SGIP HPWH Equity Budget.<sup>6</sup> A Tribe may establish that a particular area of land is under its control even if it is not represented as such on CalEPA's disadvantaged community map and therefore should be considered a disadvantaged community by requesting a consultation with the CalEPA Deputy Secretary for Environmental Justice, Tribal Affairs and Border Relations at TribalAffairs@calepa.ca.gov. Multifamily housing in Tribal lands is eligible for the Equity Budget if it demonstrates that it has at least five rental housing units where at least 80 percent of the households have incomes at or below 60 percent of the area median income. Any customer account in such buildings will be eligible for the Equity Budget and a deed restriction is not required.

<sup>5</sup> Defined as census tracts receiving the highest 25 percent of overall scores in CalEnviroScreen, census tracts lacking overall scores in CalEnviroScreen due to data gaps but receiving the highest five percent of CalEnviroScreen cumulative pollution burden scores, census tracts identified in the 2017 DAC designation as disadvantaged, and lands under the control of federally recognized Tribes. <https://oehha.ca.gov/calenviroscreen/sb535>

<sup>6</sup> Per the May 2022 Final Designation of Disadvantaged Communities. See <https://oehha.ca.gov/calenviroscreen/sb535>

## 5.2 Contractor Eligibility

To enroll in the program and be included on the eligible contractor list, which will be the same list as for TECH Clean California Contractors (see the [Clean Energy Connection Find a Contractor tool](#) linked to on the *Switch Is On* website)<sup>7</sup>, participating contractors must meet the following requirements.

### 5.2.1 License Requirements

Contractors must hold one or more of the following active Contractors State License Board (CSLB) licenses in good standing, appropriate for installation of heat pump water heaters:<sup>8</sup>

- C36 (Plumbing)
- C20 (Warm-Air Heating, Ventilating and Air Conditioning)
- B (General Contractor)
- Some combination of the above

Contractors with C20 or C36 licenses may self-perform or subcontract any incidental electrical work required for the heat pump water heater installation.<sup>9</sup> Incidental electrical work includes work downstream of the main panel that is required for the heat pump water heater installation. This may include the following:

- The addition of a water heater branch circuit (and associated secondary disconnect, when required) that is run from the main panel, or from an existing or new subpanel, to the heat pump water heater.
- Adding, replacing, or relocating a subpanel that is downstream of the main panel.

If the installation requires an upgrade or replacement of the main electrical service panel, contractors with a B-General Building license may self-perform or subcontract with a C10.<sup>10</sup> All other main panel upgrades or replacements will require a C10 licensed contractor to perform that work under a separate contract with the customer.

<sup>7</sup> "Find a Contractor" *The Switch is On*,

[https://switchison.cleanenergyconnection.org/?\\_ga=2.36144744.918453216.1680405592-898629019.1680405592](https://switchison.cleanenergyconnection.org/?_ga=2.36144744.918453216.1680405592-898629019.1680405592)

<sup>8</sup> CLSB Fast Facts: Classifications Related to Heat Pumps.

[https://www.cslb.ca.gov/Resources/GuidesAndPublications/2023/Fast\\_Facts\\_for\\_Heat\\_Pump\\_Water\\_Heaters\\_and\\_HVAC\\_Heat\\_Pumps.pdf](https://www.cslb.ca.gov/Resources/GuidesAndPublications/2023/Fast_Facts_for_Heat_Pump_Water_Heaters_and_HVAC_Heat_Pumps.pdf)

<sup>9</sup> Pursuant to [Business and Professions Code section 7059 subdivision \(a\)](#) and [California Code of Regulations section 831](#), it is appropriate for specialty contractors to self-perform, or subcontract, any incidental/supplemental work in other trades that are essential in completing projects they are otherwise licensed to perform.

<sup>10</sup> Pursuant to [Business and Professions Code section 7057 subdivision \(b\)](#), general building contractors must subcontract out any project involving trades other than framing or carpentry "unless the prime contract requires at least two unrelated building trades or crafts other than framing or carpentry, or unless the general building contractor holds the appropriate license classification or subcontracts with an appropriately licensed contractor to perform the work."

## 5.2.2 Other Requirements

Participating contractors must:

- Provide one of the following:
  - Two or more online customer reviews
  - Two customer references
  - Proof that two customer references have been verified previously in relation to a similar heat pump water heater incentive program, such as the TECH Clean California initiative
- Be insured and bonded per CSLB requirements
- Have no unresolved CSLB license citations in the previous five years.
- Have no unresolved violations with California Department of Occupational Health and Safety in the previous five years.
- Have no unresolved Department of Industrial Relations wage claim violations in the previous five years.

## 5.2.3 Training Requirements

### PROGRAM ONBOARDING TRAININGS

Contractors will need to complete a series of short (10-20 minutes) onboarding videos required for enrollment in TECH Clean California that cover program basics as well as use of the online incentive application portal, described in greater detail in the Application Processing Software section. A new onboarding video will be added to cover the new SGIP HPWH rules for heat pump water heater installations. These trainings are hosted on the [Association for Energy Affordability \(AEA\)'s Electrification Knowledge Hub](#), which allows the program team to confirm completion. These videos will also be hosted on the TECH Clean California YouTube channel to increase accessibility, and contractors will be encouraged to share these links widely among their staff.

### HEAT PUMP WATER HEATER INSTALLATION TRAINING

Installers of incentivized heat pump water heaters must either complete a relevant state-certified apprenticeship program or complete a heat pump water heater installation training deemed appropriate by the program team.

The program team has identified the *Introduction to Heat Pump Water Heater Education* courses created by the ENERGY STAR® Manufacturing Action Council (ESMAC) in collaboration with TECH Clean California as the training option to fulfill this requirement. The program team has worked with TECH Clean California and ESMAC to integrate education about the SGIP HPWH demand response and TOU requirements. ESMAC training attendance will be verified at the company level. The contractor will need to have at least one person take the ESMAC training along with the required TECH Clean California trainings, and the person responsible for enrollment will need to attest that each installer will complete an eligible training before installing a project.

For installers, eligible training includes the state-certified apprenticeship program, ESMAC training, or manufacturer-specific training sessions that have been vetted by the program team as providing a sufficient level of detail and range of topics. Contractors can decide which of those training options they would like their installers to complete. Manufacturers are invited to reach out to the program team to propose eligible training and will need to provide a direct link to only the SGIP HPWH-approved training for the program team to share with contractors.

## 6 Contractor Enrollment Process



1. The contractor fills out the online [Clean Energy Connection enrollment form](#) and selects “Yes” for “Would you like to apply for TECH Clean California?” The program enrollment form is combined with the enrollment onto the Clean Energy Connection, which is a public-facing contractor listing and used for TECH Clean California contractor enrollment.
  - a. The Program Team encourages contractors to enroll all subcontractors in the initiative, so that all parties can receive recognition and other participation benefits. However, contractors are allowed to use non-participating subcontractors as stipulated in the Participation Agreement.
  - b. The contractor signs the Program Trade Professional Participation Agreement within the online application workflow.
2. The program team reaches out with a confirmation email once online enrollment has been received and provides information on next steps, including the links to the required training.
3. The contractor completes the required onboarding training and heat pump water heater installation training.
4. Once the contractor completes the onboarding training, a member of the program team works with them to create accounts in the incentive application portal to enable the contractor to submit incentive applications.

Contractors already enrolled in TECH Clean California who wish to receive heat pump water heater incentives will simply need to take the new heat pump water heater training which will be made available prior to the launch of SGIP HPWH incentives.

## 6.1 Eligible Contractor Listing

Enrolled contractors will be listed and easily searchable via the [Clean Energy Connection's "Find a Contractor"](#) tool on the *Switch Is On* website.<sup>11</sup> Customers looking to electrify are pointed to this search tool. Another advantage of being listed on the Clean Energy Connection is that contractors can receive bids directly through that platform.

Prospective customers can search for a local contractor by location, specialty, and more. Customers can filter for TECH Clean California contractors as well as filter by service types (ex: heat pump water heaters, panel upgrades, energy audits), project types (ex: retrofit, maintenance, low-income housing), property type, languages, and more. TECH-approved contractors will have a TECH Clean California logo badge on their profile.

# 7 Project and Equipment Eligibility

The following sections describe project eligibility criteria common to all projects, and then full project requirements by project type, broken into the categories of equipment eligibility, installation requirements, and customer enrollment requirements. Eligible equipment is the main differentiating factor across project types, but installation and enrollment requirements also vary slightly.

## 7.1 Requirements for all Project Types

### 7.1.1 Thermostatic Mixing Valves

Thermostatic Mixing Valves must be installed for every project, regardless of project type. Thermostatic mixing valves must conform to ASSE 1017. Alternatively, for heat pump water heaters with built-in thermostatic mixing valves, the thermostatic mixing valve may conform to UL 60730-1, ASSE 1082, or ASSE 1084.

### 7.1.2 Permits

For all SGIP HPWH projects, a permit must be pulled with the customer's Authority Having Jurisdiction (AHJ), and the permit must be closed. At the time of claim submission, the applicant must include the project's permit number on the incentive claim form. Incentives may be paid prior to the program team verifying with the AHJ that a permit has been closed.

<sup>11</sup> "Find a Contractor" *The Switch is On*, [https://switchison.cleanenergyconnection.org/?\\_ga=2.36144744.918453216.1680405592-898629019.1680405592](https://switchison.cleanenergyconnection.org/?_ga=2.36144744.918453216.1680405592-898629019.1680405592)



## 7.2 Requirements by Project Type

Table 2 Summary of Equipment, Installation, and Enrollment Requirements by Project Type

	Equipment Requirements	Installation Requirements	Enrollment Requirements
<b>Residential Unitary</b>	JA13 compliant <b>and either</b> NEEA with CTA-2045 Compliant Communication Port <b>or</b> ENERGY STAR Residential WH V4 (or later) with Connected Capability.*	Installed in compliance with the CEC’s JA13 installation specification, including executing at a minimum the basic load-up and light shed demand management functionality based on a local TOU rate.	Customer must enroll on a TOU rate and in a qualified demand response program.**
<b>Small Business</b>	Same as above.	Same as above.	Same as above.
<b>Residential Central</b>	***Individual or ganged-together: JA13 compliant <b>or</b> ENERGY STAR Commercial WH V 2.0 (or later)  Standard Central: Approved and included in CBECC-Res	Installed and operated to shift $\geq 5\text{kg CO}_2/\text{kWh}$ . Must install data monitoring equipment with two-way communication.	Account linked to central heat pump water heater must enroll in a qualified demand response program.
<b>Large Commercial</b>	Individually installed: ENERGY STAR Commercial WH V 2.0 (or later).  ***Ganged-together: JA13 compliant <b>or</b> ENERGY STAR Commercial WH V 2.0 (or later).	Installed and operated to shift $\geq 5\text{kg CO}_2/\text{kWh}$ .	Customer must enroll in a qualified demand response program.

\* AHRI 1430 may serve as an alternate compliance pathway for JA13 and the communication port.

\*\* Demand response and TOU not required for occupants of rental properties with two or more units. For common areas that have significant flexible loads, property owners are required to enroll those electric accounts in a qualifying demand response program and TOU rate.

\*\*\* Individual or ganged-together central HPWH are unitary heat pump water heaters with integrated tanks that are installed individually, or plumbed together in parallel, to provide hot water to two more households, and do not include additional heat pump or electric resistance water heating equipment or storage tanks besides the unitary heat pump water heaters themselves.

### 7.2.1 Residential Unitary Heat Pump Water Heater Requirements

Residential Unitary heat pump water heaters are defined as both integrated and split heat pump water heaters installed to serve a single household in a single family or multifamily property. This includes Multifamily Unitary projects with in-unit heat pump water heaters installations in more than one unit. “Combi” units that can provide both water and space heating, and 120-volt units are

both eligible technologies. Eligible Residential Unitary heat pump water heaters must meet the following requirements:

#### EQUIPMENT REQUIREMENTS

- Be identified as California Energy Commission (CEC) Joint Appendix 13 (JA13)<sup>12</sup> compliant water heater by the CEC (which ensures that they are installed with a thermostatic mixing valve).
- Be identified by Northwest Energy Efficiency Alliance's (NEEA) most recent qualified product list as having a CTA-2045 Compliant Communication Port or be certified as a Connected Water Heater product under Version 4.0 or later of the ENERGY STAR Product Specification for Residential Water Heaters.
- The Air Conditioning, Heating, and Refrigeration Institute (AHRI) 1430 may serve as an alternate compliance pathway for JA13 and communication port requirements.

#### INSTALLATION REQUIREMENTS

Installed in compliance with the CEC's JA13 installation specification:

- The system shall comply with applicable installation standards in the California electrical, mechanical, and plumbing codes.
- Specifically, the system must be correctly sized at a minimum according to first hour rating (FHR) requirements as described in the California Plumbing Code.
- The contractor must set the heat pump water heater to execute at a minimum the basic load-up and light shed demand management functionality based on the local utility's TOU rates as defined in JA13. This demand management functionality will signal the heat pump water heater to store thermal energy during certain times and to avoid electricity usage at different times.

#### ENROLLMENT REQUIREMENTS

- Customer must agree to enroll in a TOU rate if not already on one.
- Customers must enroll in a qualified demand response program.

As explained in the Customer Eligibility section, for Multifamily Unitary projects, the customer is defined as the property owner. Because of this, TOU and demand response enrollment is not required for tenants for Multifamily Unitary projects.<sup>13</sup> For multi-unit properties with common areas that have significant flexible loads, property owners are required to enroll those electric accounts in

<sup>12</sup> JA13 – Qualification Requirements for Heat Pump Water Heater Demand Management System; see <https://www.energy.ca.gov/rules-and-regulations/building-energy-efficiency/manufacture-certification-building-equipment/ja13> for more information.

<sup>13</sup> Per sections 4.1 and 5.1, an individual homeowner residence within a homeowners' association (HOA), condominium association, or residential co-op type property must comply with the single family TOU and demand response requirements.

a qualifying demand response program and TOU rate. Property owners are also required to provide tenants with a letter asking them to enroll in a qualifying demand response program and TOU rate, with education on the benefits of TOU and demand response participation and instructions for enrollment. For large multifamily properties, property owners may post the letter in common areas.

## 7.2.2 Residential Central Heat Pump Water Heater Requirements

Eligible Residential Central heat pump water heaters include integrated and split design systems that meet two or more households' hot water demands. This includes projects with a large central system as well as projects utilizing multiple unitary heat pump water heaters plumbed together in a central location. In addition to the options listed below under Appliance Requirements, the program team may add additional product qualification pathways over the course of the program since the residential central market is especially dynamic.

### EQUIPMENT REQUIREMENTS

- Unitary heat pump water heaters used for Residential Central projects must be identified as JA13 compliant water heaters by the CEC (which ensures that they are installed with a thermostatic mixing valve) or meet the requirements of Version 2.0 or later of the US Environmental Protection Agency's ENERGY STAR Commercial Water Heater Specification.
- Larger Central heat pump water heater system designs must be approved and included in CBECC-Res. Requirements regarding the eligibility status of any given central heat pump water heater technology (i.e., approved versus included in the software) will also be based on the most recent Decision.

### INSTALLATION REQUIREMENTS

- Residential Central heat pump water heaters must be installed and operated in a manner that shifts energy from peak to off-peak periods and annually reduces GHG emissions by at least five kilograms (kg) of carbon dioxide (CO<sub>2</sub>) per kilowatt-hour (kWh). See the Incentive Calculations section for a description of how this will be calculated.
- Must install equipment that enables data collection through two-way communication, if not already embedded in the heat pump water heater. The technical specifications for connectivity, monitoring, and data sharing requirements for two-way communication will be maintained on the program website.

### ENROLLMENT REQUIREMENTS

- Customers must enroll in a qualified demand response program.

As explained in the Customer Eligibility section, for multifamily buildings that are installing a system on behalf of tenants, the customer is defined as the property owner. Therefore, this enrollment requirement does not apply to the occupants in multifamily buildings. However, property owners are required to provide tenants with a letter asking them to enroll in a qualifying demand response program, with education on the benefits of demand response participation and instructions for enrollment. For large multifamily properties, property owners may post the letter in

common areas. The property owner will also need to enroll the electric account tied to the central heat pump water heater system in a demand response program.

### **7.2.3 Commercial Unitary Heat Pump Water Heater Requirements**

Eligible Commercial Unitary heat pump water heaters are individually installed or ganged-together integrated heat pump water heaters and split heat pump water heaters serving a single non-residential customer's hot water demand that meet the following requirements. Multifamily residential building customers are not eligible under the commercial unitary pathway and instead fall under residential project pathways.

### **7.2.4 Small Business Unitary**

Small Business Unitary heat pump water heater systems must meet the same requirements as an eligible Residential Unitary system, except that the customer is on a non-residential TOU tariff.

### **7.2.5 Large Commercial Unitary**

#### **APPLIANCE REQUIREMENTS**

- Individually installed: Meet the requirements of Version 2.0 or later of the ENERGY STAR Commercial Water Heater Specification.
- Ganged-together: Meet the requirements of Version 2.0 or later of the ENERGY STAR Commercial Water Heater Specification or be identified as JA13 compliant water heaters by the CEC.

#### **INSTALLATION REQUIREMENTS**

- Installed and operated in a manner that shifts energy from peak to off-peak periods and annually reduces GHG emissions by five kg of CO<sub>2</sub> per kWh.

#### **EQUIPMENT REQUIREMENTS**

- Customers must enroll in a qualified demand response program.

### **7.2.6 Commercial Central Heat Pump Water Heaters**

Commercial central heat pump water heaters are not eligible for SGIP HPWH incentives due to the uncertainty around the ability for this configuration of heat pump water heaters to shift load from peak to off-peak periods.

# 8 Incentives

---

## 8.1 Incentive Requirements

For all customer classes, the following rules apply:

### 8.1.1 Timing of Incentives Availability

In order for a project to qualify for incentives, the date on the customer-signed TECH Program Terms and Conditions<sup>14</sup> and the date on the project invoice must be on or after the date of incentives launch and on or after the date of participant (contractor) enrollment in TECH.

### 8.1.2 Passthrough to Customer

**The incentive must be passed down 100 percent from the contractor to the consumer.** It can either be passed along as an instant discount deducted from the total project cost at the time of customer payment or provided to the customer in the form of a check or other payment method after the contractor receives the incentive.

In either case, the incentive must be listed as a line item on the invoice and be paid to the customer. All applications will be checked to ensure the incentive is passed through to the customer. The invoice must specify whether the incentive is being applied as an instant rebate or delayed passthrough (incentive to be paid upon receipt of incentive check). The program team recommends the instant passthrough option to provide the best possible consumer experience.

### 8.1.3 Replacement Scenarios

Incentives are available for the replacement of all prior technology types aside from heat pump water heaters. Prior technology may be a gas or propane storage water heater, an electric resistance storage water heater, an electric resistance tankless water heater, a gas tankless water heater, or other type other than heat pump water heaters, as long as all other SGIP requirements are met.

### 8.1.4 Project Cost Cap

Incentive amounts are capped at the total cost of the project, factoring in any other incentives that the customer or contractor applies for based on a user-entered field. Contractors are expected to use all available incentives. SGIP HPWH incentives are applied after all other incentives and will be lowered if the combined incentive funding (based on user-entered fields for other program incentives) exceeds the total project costs. The program team may introduce additional incentive capping rules at any point throughout the program if deemed important to account for market developments; for example, the introduction of new incentive programs such that total incentives

<sup>14</sup> As described in section 2.2 Implementation with TECH Clean California, TECH is the market-facing brand for the SGIP HPWH incentives.

across different programs significantly exceed project costs. Such a capping mechanism would be vetted with relevant stakeholders prior to introduction.

### 8.1.5 Low Global Warming Potential (GWP) Kicker

The Low GWP Kicker is available for all project types for heat pump water heaters that utilize a refrigerant with a GWP of 150 or less. The SGIP HPWH Decision authorizes the program team to submit a Tier 1 advice letter proposing modifications to the kicker incentive as appropriate, for instance, in the event changes in CARB requirements render it unnecessary.

### 8.1.6 Changes to Incentive Levels

The program team may reduce the incentive levels adopted in the SGIP HPWH Decision at any time. Any changes to incentive levels will be communicated to participants and other stakeholders as far in advance as possible, with the goal being to give all contractors time to adjust. Incentive level eligibility will be based on the date the customer signed the TECH Program Terms and Conditions, not when the application was submitted.

## 8.2 Residential Unitary Incentives

As detailed in the Customer Classes section, the Residential Unitary incentive design applies to Single Family Unitary and Multifamily Unitary projects. Incentives may be claimed for one or two heat pump water heater(s) per household.<sup>15</sup> Small Business Unitary projects mirror these incentives, with the exception that Small Business Unitary commercial projects are not eligible for panel upgrade incentives or for the additional incentive for units with storage capacities of 55 gallons or more.

Incentive amounts were calculated and outlined by the CPUC based on the following assumptions:

- The energy storage capacity of a 50-gallon tank volume and a temperature setpoint of 135° F.
- An estimated 3.1 kWh energy storage capacity and incentive value of:
  - \$1,000/kWh for general market customers.
  - \$1,350/kWh for equity customers.

**Table 3 Residential Unitary Incentives**

Customer Class	Unitary HPWH Incentive	Low-GWP Kicker Incentive	55-Gallon Capacity Incentive	Electrical Upgrade Incentive	Max Incentive
General Market	\$3,100	\$1,500	\$700	\$2,000	\$7,300

<sup>15</sup> The Program will take the same approach as TECH Clean California: that up to two HPWHs can be installed per household as long as both are replacing an existing water heater. As of February 2023, only 12 of the nearly 1,500 single family TECH Clean California claims have been for two HPWHs in the same household.

Customer Class	Unitary HPWH Incentive	Low-GWP Kicker Incentive	55-Gallon Capacity Incentive	Electrical Upgrade Incentive	Max Incentive
Equity	\$4,185	\$1,500	\$700	\$4,000	\$10,385

For Equity customers, the \$4,000 incentive may cover a variety of other costs associated with a heat pump water heater installation. This is described in the Pre-electrification Costs Incentive Rules (Equity Only) section. The total amount of program budget spent on electrical upgrade incentives and re-electrification costs incentives is capped at 30 percent of both the general market and equity residential budgets.

### 8.2.1 Electrical Upgrade Incentive Rules

- Panel upgrades are not incentivized for panels already 200 amps or larger.
- Incentives can only cover the costs of upgrading to 200 amps; participants wishing to upgrade to a panel larger than 200 amps will need to submit a quote for the price of an upgrade to 200 amps only.
- Incentives are capped at 50 percent of eligible electrical upgrade costs for general market customers, up to \$2,000, and at 100 percent of costs for equity customers.
- Eligible upgrades and associated costs include:
  - Replacement, upgrade, or relocation of main service panel
  - Installation of a smart load center/circuit breaker
  - Installation of a subpanel
  - Feeder upgrade and/or Secondary Disconnect/Dwelling Unit Main Disconnect Upgrades (i.e., any upgrades needed for home or apartment that occurs between the utility electricity meter and up to and including the panel(s) or subpanel(s) serving the newly installed heat pump water heater equipment)
- Costs associated with distribution or electric service line upgrade costs (i.e., utility side of the meter upgrades), if needed to support the heat pump water heater installation, are not eligible for SGIP incentives. However, the customer or contractor may work with the electric IOU to access funding via Tariff Rule 15 (Distribution Line Extensions) and/or Rule 16 (Service Line Extension).
- Branch circuits to the heat pump water heater, including dedicated and shared circuits, are ineligible for general market electrical upgrade incentives.

### 8.2.2 Pre-electrification Costs Incentive Rules (Equity Only)

Incentives are available for all the above electrical upgrade costs and also for a variety of costs associated with the installation of the heat pump water heater, including electric incidentals. Contractors interested in having the incentive cover a cost not included in this list must contact the program team for preapproval. Eligible costs include, but are not necessarily limited to the following:

- Relocating installed water heater within the residence or property or modifying the water heater location to accommodate the newly installed heat pump water heater.
- Plumbing or wiring upgrades needed for installation of the heat pump water heater (including trenching as well as adding branch circuits to the heat pump water heater including dedicated and shared circuits).
- Venting, including installation of louvered doors.
- Replacing/repairing/sealing flooring, walls, or ceiling due to leakage or improper venting of prior water heater.

The pre-electrification costs incentive may be offered even if a different program (for example, ESA) covers the cost of the heat pump water heater installation but does not have sufficient funding for these additional costs. This will enable incentive layering with direct install programs to help reduce the overall cost of a project for an equity household.

### 8.3 Residential Central Incentives

As detailed in the Customer Classes and Project Types section, the Residential Central incentive design applies to projects with a large central system as well as projects utilizing one or more unitary heat pump water heater plumbed together in a central location.

**Table 4 Residential Central Incentives**

Customer Class	Central HPWH Incentive	Low-GWP Kicker	Max Incentive per Project
General Market Residential Central	\$900/kWh	\$200/kWh	\$300,000
Equity Residential Central	\$1,000/kWh	\$200/kWh	\$300,000

Residential Central heat pump water heater system incentive amounts are tied to the anticipated kWh of average load-shifting performance. A single incentive based on the system’s thermal energy storage capacity will be determined through the application process in collaboration with the program team.

There is a \$300,000 per-project incentive cap for Residential Central heat pump water heaters. A project is defined as a distinct central heat pump water heater system serving a distinct group of multiple households. There can be multiple central heat pump water heater systems that each serve their own group of households and that do not share common hot water supply piping across the systems. In this scenario, each system is considered an individual project.

The program team may also introduce a participant cap to ensure that the budget is distributed across multiple multifamily developers.



## 8.4 Commercial Unitary Incentives

As detailed in the Customer Classes section, the Commercial Unitary budget applies to both Large Commercial Unitary and Small Business Unitary projects. Small Business Unitary projects will mirror the base Residential Unitary incentive design.

**Table 5 Commercial Unitary Incentives**

Customer Class	Unitary HPWH Incentive	Low-GWP Kicker	Max Incentive per Project
Large Commercial	\$700/kWh	\$200/kWh	\$50,000
Small Business	\$3,100/unit	\$1,500/unit	N/A

For Large Commercial, a single incentive based on the system's thermal energy storage capacity (in kWh) will be determined through the application process in collaboration with the program team. There is a \$50,000 per project incentive cap for Commercial Unitary heat pump water heaters.

A project is defined as the installation of a HPWH or heat pump water heating system that serves the needs of one non-residential customer (not including multifamily residential buildings).

## 8.5 Incentive Calculations

Due to their complexity, Residential Central and Large Commercial Unitary projects require a significantly more in-depth incentive calculation and review process (as compared to Residential Unitary and Small Commercial Unitary) to determine an incentive amount based on the load shift capacity and resulting GHG emissions reductions.

### 8.5.1 Residential Central Heat Pump Water Heater Systems

#### PROJECT CAPACITY

Incentive amounts will be tied to the estimated load shift capacity of the system. Load shift capacity will be calculated based on the thermal storage volume and controls strategies. The user enters details about the building size and system details to the Ecosizer tool and Ecosizer performs a calculation to size the system and estimate load shift capacity.<sup>16</sup> Systems will get no additional incentive for load shift capacity that provides less than five kilograms CO<sub>2</sub> annual savings per kWh of system energy storage capacity. The load shift capacity will be used to estimate the project incentives and confirm program eligibility.

<sup>16</sup> The free [Ecosizer tool](#) is used for sizing central water heating systems based on HPWHs in multifamily buildings.

## PROJECT NON-LOAD-SHIFTING BASELINE

A baseline heat pump water heater system that meets the prescriptive requirements of the California Title 24, Part 6<sup>17</sup> building energy efficiency code, but does not use load-shifting strategies or controls, will be used as the non-load-shifted baseline system. The program team will model the baseline system and the load-shifted system with the Ecosizer simulator.

## STANDARDIZED NORMALIZATION FACTORS

Normalization factors that will be considered for Residential Central heat pump water heater systems include occupancy assumptions based on the number of bedrooms in accordance with Title 24, Part 6 code assumptions; per-capita daily water use based on California Residential Appliance Saturation Study data; entering water temperature; and potable hot water supply temperature to the building. The user guide for the SGIP central heat pump water heater module will provide guidance on selection of heat pump water heating system output capacities based on ambient operating temperatures for the project location. Output capacities for various ambient air temperatures vary based on the specific heat pump water heater equipment model.

## GREENHOUSE GAS (GHG) EMISSION REDUCTIONS

To calculate GHG emissions reductions for Residential Central systems, the program team will utilize grid carbon signatures from the CPUC Avoided Cost Calculator and key hourly targets for load reduction throughout the year. The program team will assess the average GHG impact of load reduction during key periods to determine the time and number of hours of load shifting needed to meet the minimum GHG emissions reduction performance criteria identified by the CPUC (5 kg CO<sub>2</sub> per kWh).<sup>18</sup> This data will be used to prioritize the load shift deployment patterns loaded into the Ecosizer SGIP HPWH incentives calculator. Ecosizer will be updated to include tools that allow designer to optimize storage capacity and controls for load shifting. Then, after the designer selects actual equipment and controls to be installed onsite, users will input those values into the Ecosizer SGIP Incentives calculator.

The Ecosizer SGIP HPWH incentives calculator will incorporate new functionality to calculate and report emissions reductions based on baseline and optimized schedules, and the tool will be updated as needed based on field performance verification of initial participants and ongoing data collection. As new data become available, the program team will continually review and improve GHG reduction calculation methodologies and develop program requirements to balance system operating temperature, storage volume, load-shifting schedule, and GHG emissions reductions.

Load shifting with central heat pump water heaters is still relatively new territory, and there are very few examples of real-world projects to draw from for estimating potential impact. Over time,

<sup>17</sup> The evaluation of HPWH performance in the Title 24, Part 6 software is based on software algorithms developed by Ecotope in partnership with SCE, the California Energy Commission, and Dr. Bruce Wilcox, a senior analytics consultant with over 30 years' experience providing management and information systems consulting.

<sup>18</sup> CPUC 2. 2022. Self-Generation Incentive Program Handbook. CPUC. <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/self-generation-incentive-program/2022-sgip-handbook-v4.pdf>.

the SGIP HPWH program will provide valuable insights and data that the program team will use to refine incentive levels and load-shifting strategies. Additionally, new systems and system configurations will emerge over the course of the program, and this could necessitate modifications to incentive levels, allowable load shift schedules, or operation strategies based on system and configuration type. To facilitate these insights, the program team will require that all installed Residential Central systems have a means to determine hourly heat pump run times (such as system power meters), along with a data acquisition system that will enable the program team to access relevant system data.

## 8.5.2 Large Commercial Unitary Heat Pump Water Heater Systems

### PROJECT CAPACITY

Incentive amounts will be based on the system's thermal energy storage capacity. The team will review energy storage capacity values proposed by Large Commercial Unitary incentive applicants to approve or propose changes to these values. Estimated energy storage capacity may be based on factors such as system configuration, hot water storage volume, the difference between the storage tank setpoint or hot water delivery temperature and the water supply temperature, and the hot water use load profile, as well as site specific factors such as stratification, controls, and piping connections.

Because the program aims to maximize load shifting to off-peak periods, the team will also consider factors that would reduce the ability of the facility to shift load up to the system's full potential energy storage capacity. These factors may include the total daily hot water use of the facility compared to the storage tank capacity, the typical hot water draw pattern of the facility type compared to the load-shifting window, and the existence of inflexible, critical loads in the facility that would require hot water use during the peak period.

If review of these factors indicates that the equipment will not be able to shift load up to the full initial energy storage capacity estimate, the team may reduce the project's estimated energy storage capacity accordingly.

### PROJECT NON-LOAD-SHIFTING BASELINE

To establish a non-load-shifting baseline for Large Commercial Unitary systems, the program team will aim to collect pre-retrofit unit operation data where available. If the pre-retrofit system has reporting capabilities, this data can be exported from that system and provided by the project applicant. Alternatively, for new heat pump water heater systems with building management system connectivity or system monitoring and reporting capabilities, the applicant can leverage this capability to provide data on baseline hot water demand prior to initiating the load-shifting schedule. If collection of this data is not possible, the program team may estimate a non-load-shifting baseline using other data including data from published commercial building stock surveys and assessments, reported appliances that use hot water at the facility and appliance operating schedules, and metered electricity or gas consumption data provided by the applicant or by the utility with the applicant's consent.

## STANDARDIZED NORMALIZATION FACTORS

For Large Commercial Unitary systems, normalization factors may include facility location and climate zone, type of heat pump water heater system (e.g., integrated system, split system, ganged-together system, among others), building/facility type and hot water draw pattern, system operating temperatures, building square footage, and the existence of features such as hot water recirculation loops.

## COMMERCIAL UNITARY HPWH SYSTEMS

The program team will also use values from the CPUC Avoided Cost Calculator to calculate GHG emissions reductions for Commercial Unitary systems. Each project will be matched to a grid region based on its installation location. Then, emissions reductions will be calculated by using the estimated load shift value and the difference in GHG emissions intensity between the baseline and load shift operation schedules.

# 9 Incentive Applications

---

## 9.1 Application Processing Software

All incentive claim applications will be completed through Iris, an online claim processing system and highly configurable software solution. Participants will be invited to create an Iris account after completing enrollment. Iris is the application processing system used for TECH Clean California and has a large user base that will be ready to participate immediately. No paper mail or faxed documents will be accepted. There will be a separate claim form in Iris for each project type, and each claim form will have a set of data points required for the category, detailed in the Required Information by Project Type section.

## 9.2 Designated Applicants

Designated Applicants are entities that manage the application process on behalf of their contractor partners, which is allowed for SGIP HPWH incentives. Designated Applicants also apply for TECH Clean California incentives on behalf of contractors and have been helpful program partners both for contractors and the program team.

## 9.3 Application Process Overview

The processes for reservation, submission, and approval of incentive applications ("claims") are explained in full below. These processes are broken down by project type since there is a substantial amount of variance:

- Single family and small business sales and installations are typically quick, with minimal scope change. A Single Family Unitary heat pump water heater contract can be signed and the unit installed within a week, sometimes over the course of a single day.
- Multifamily projects have longer timelines, with installations happening over the course of a year. These projects tend to be more complex, with significant opportunity for scope changes and pre-construction development.
- Large commercial projects are similarly complex and may have longer timelines or scope changes over the course of project development.

Even with these variations, the claim process for each category will follow the same general pattern: incentives will be reserved (and reviewed for some project types), the job will be installed, the claim information will be submitted to Iris, and the incentive will be paid to the contractor.

### 9.3.1 Incentive Reservation

All project types will begin the claim process with an incentive reservation. The reservation stage provides participants with confidence that funds will be available by the time the project is completed and helps the program team manage the budget.

For Single Family Unitary and Small Business Unitary projects, the applicant may reserve incentives by saving an application in Iris before installing the project and submitting the final claim. This reservation is not mandatory; applicants may skip this reservation step and wait to enter information into Iris once they are ready to submit the claim after the installation. Any application started in Iris that has a project address entered but gets saved to a draft and is not submitted will be referred to as a “Reservation” or “Unsubmitted claim.”

Reservations for these project types will not be prescreened, but applicants will be asked to include the required reservation information entered in their Unsubmitted claim in order to reserve the incentive funding. Contractors can move on to installation and then claim submission without any feedback required from the program team.

For Multifamily Unitary, Residential Central, and Large Commercial Unitary projects the applicant will fill out a reservation form which the program team will prescreen to confirm project eligibility. The program team may develop a streamlined reservation and application process for smaller quantity in-unit unitary heat pump water heater installations, similar to the Single Family unitary process, to better align with typically quick installations with minimal scope change that are more akin to single family installations. For Residential Central and Large Commercial projects, the program team will confirm that the project is designed and configured with load-shifting controls and can achieve annual GHG emissions reductions of 5 kg/kWh. Once the review is complete, the program team will communicate the approval and estimated incentive amount via email. The applicant can then accept the incentive value or request further review based on additional information, if available.

## EXPIRATION DATES

Expiration dates will be placed on all reservations via a note to ensure that incentive funding is returned to the available budget from projects that do not end up moving forward. Timelines below may be modified at any point throughout the program.

- Reservations for Single Family Unitary and Small Business Commercial will be valid for 90 days from the Reservation's created date in Iris.
- Reservations for Multifamily Unitary and Residential Central will be valid for 12 months.
- Reservations for Large Commercial Unitary installations will be valid for 12 months.

Applicants can request reservation extensions due to unexpected delays, via email, by providing evidence of project progress such as (but not limited to) proof of equipment purchase, along with an updated estimated install start date. Any communication of delays from manufacturers, distributors, or parties other than the contractor should also be included in the extension request. These requests will be evaluated on a case-by-case basis.

### 9.3.2 Proof of Project Milestone (PPM)—Large Commercial and Multifamily

Large Commercial Unitary projects and all multifamily project types (Multifamily Unitary and Residential Central) will include a PPM stage, which will either be achieved through a new online form or an updated submission of the reservation form. Since these projects have longer timelines and many design factors, which could change the details of project approach and incentive amounts, the PPM stage is important for ensuring progress and approving edits to incentive amounts as needed. Projects should submit for PPM approval within 90 days of reservation approval, to maintain an active reservation.

For Residential Central projects, the PPM will not be approved to proceed to incentive claim submission until the program team confirms that all design drawings and equipment specifications match the inputs used for Ecosizer. The incentive reservation amount will be updated as needed during the PPM stage. Once the applicant receives confirmation of PPM approval from the program team, they can move forward with installation and eventual incentive claim submission.

### 9.3.3 Installation and Incentive Submission

Claim applications can be submitted as soon as the project installation is complete. The person responsible for claim submissions, or the "applicant," should take care to confirm that all information included in the incentive application is true and valid. Discovery of intentionally falsified information is considered grounds for potential suspension or termination from the program.

All customers who receive an installation through TECH Clean California **must also receive and sign** a copy of the TECH Program Terms and Conditions. This signed agreement must be uploaded to the incentive claim as an attachment.

### 9.3.4 Incentive Claim Status and Updates

Iris allows applicants to track claim status and modify claims. All applicants can edit and resubmit a claim in the unsubmitted, submitted, or approved state at any time before the claim is locked for payment. When edits are made, claims must be reevaluated to guarantee eligibility. Applicants can also monitor the status of their incentive payment. Users have access only to the records affiliated with their organizations. The program team will also send weekly updates through email to all participants who have claims awaiting corrections from any prior week with instructions to log-in to Iris to view the required corrections. Applicants can also see a log of all flag activity and claim status changes in the messages center of Iris.

### 9.3.5 Application Review

An application processing team member will review each claim. If corrections are needed, an “Awaiting Participant Follow-up” flag will be added to the claim and the flag’s notes will provide details on the correction needs. When the flag has been added to a claim, a message will appear in the applicant’s message center in Iris. If the correction has not been addressed, then an email will be sent to the applicant at the beginning of the following week. Applicants are also trained and encouraged to proactively filter their claims for corrections flags. The program team reserves the right to implement a system for ensuring corrections happen on a reasonable timeline, such as giving applicants 30 days to make corrections and resubmit, and establishing that any claim unaddressed after 30 days is put at risk of rejection. Timelines may be adjusted over the course of the program.

### 9.3.6 Approval and Payment

Once the application processing team has completed its review, the application will be marked as “approved” in Iris. The program will not send an email when claims are approved because applicants are notified in Iris under their message center. All approved applications are grouped and reviewed weekly for payment to ensure that at least two individuals verify all claims are eligible for payment. Additional quality processes are incorporated at this stage to ensure that claims are not paid unless complete and eligible.

The program team will aim to approve heat pump water heater claims within 30 days from submittal, due to the extended review time to incorporate verification of TOU rate and demand response program enrollment. Claim payments may be delayed, however, if corrections are necessary. Payment will be made via paper check or direct deposit to the assigned payee as indicated on the Incentive Claim Form and will be mailed to the address provided. The payments will include information on which claims were paid. The applicants can also easily find this information in Iris, allowing them to track and reconcile their payments against their sales systems. Payments are made to enrolled contractors only, or to Designated Applicant Companies who prefer to handle contractor payments after claims have been paid out. Absolutely no payments will be issued directly to customers or other third parties such as subcontractors.

If an error with an application is discovered by the participant or the program team after the claim has been paid, the application will be rejected. Any such installation deemed unqualified after a claim has been paid will be debited (deducted) from the participant's next payment.

## 9.4 Required Information by Project Type

The fields listed below are meant to provide an idea of the information that will be required but are subject to changes and additions. Questions which require further explanation or clarification will have subtext included on the incentive claim form.

### 9.4.1 Single Family Unitary

#### RESERVATION

- Service address
- Customer name
- Signed TECH Program Terms and Conditions
- TECH Program Terms and Conditions signed date

#### INCENTIVE CLAIM SUBMISSION

##### Site and Customer Information

- Customer name, service address (line 1 and 2), city, and five-digit ZIP code, email, and phone number
- Housing type
- Customer's electricity provider
- Electric meter number
- Electrical account number (has a different name for each utility, instructions will clarify)
- Other electric/backup technologies on site
- Number of bedrooms and bathrooms served by the installed heat pump water heater
- Previous unit information (fuel type, tank size, product type)

##### Project Information

- TECH Program Terms and Conditions signed date and uploaded copy
- Invoice number and uploaded copy
- Total HPWH installation costs (all eligible costs prior to incentive)
- Confirmation that the incentive is listed on the invoice
- Whether the incentive was passed through as an instant or delayed rebate
- Permit number
- Installation completion date
- Through which distributor was the heater pump water heater purchased?
- Other building upgrades (not included in heat pump water heater installation)



### **HPWH Equipment Information**

- Manufacturer and model number
- Serial number(s) of installed equipment
- Quantity of HPWH heat pump water heater units installed (all having the same model number)

### **Installation Details**

- Was the replacement an emergency?
- Where the HPWH was installed (conditioned or non-conditioned space)
- Confirmation that an eligible thermostatic mixing valve was installed
- Operating mode in which the heat pump water heater was commissioned
- What temperature was the unit left in at the time of installation?

### **Electrical Upgrade Details**

- Was an electrical upgrade required?
- Type of electrical upgrade?
- Pre- and post-upgrade panel capacity in amps
- Total cost of electrical upgrades qualifying for electrical upgrade incentive

### **Equity**

- Does the customer qualify for equity incentives?
- Document confirming verification of eligibility
- Equity pre-electrification measures included
- Total equity pre-electrification costs

### **Demand Response/Time of Use Requirements**

- Confirm JA13 setup was enabled to have the heat pump water heater follow a TOU rate schedule
- Which demand response program(s) did the customer enroll in?
- Did the customer choose a TOU rate to be moved to? If so, which rate?
- Was a communication module add-on (CTA-2045) installed?

### **Additional Incentives**

- Total amount of other incentives being applied for
- Program names of other incentives being applied for

### **Installation Photos**

- Prior water heater showing equipment name plate
- Newly installed heat pump water heater showing equipment name plate
- Close up image showing installed thermostatic mixing valve (not required for systems with integrated thermostatic mixing valves)
- Screenshot from contractor app showing confirmation of JA13 enablement
- Photo of control panel showing mode and temperature set point

- Electric meter showing meter number and utility
- Zoomed-out image(s) showing:
  - Capped gas line
  - Hot and cold-water lines, insulated, first five feet from the tank
  - HPWH earthquake strap
  - Temperature pressure release valve and drain lines
  - Condensate drain line and where it's being drained to

### 9.4.2 Small Business Unitary

The small business fields on the commercial claim form will be identical to the single-family claim fields, with the following exceptions:

- Additional field:
  - Property name
- Modified fields:
  - Facility type (instead of Housing type)
  - Instead of customer name, email, and phone, include project contact name, email, and phone
- Omitted fields:
  - Number of bedrooms and bathrooms served by the installed heat pump water heater
  - Electrical Upgrade Details
  - Equity Eligibility Details

### 9.4.3 Multifamily Unitary and Residential Central

#### RESERVATION

- Property name
- Service address(es)
- Customer (property owner) name and contact information
- Contractor company and contact information
- Anticipated heat pump water heater incentive categories (Unitary, Central, etc.)
- Anticipated electric upgrade incentive categories
- Supporting documentation if requesting equity incentives

For Residential Central project reservations will include the Ecosizer calculation inputs and results (see Incentive Calculations section for more information). This calculation tool will include the Ecosizer inputs for various system parameters, building size, and more, and will produce an estimated load-shifting capacity, which will be used to estimate the expected incentive amount.

#### PPM

- Contract signed date
- TECH Program Terms and Conditions signed date and uploaded copy

- Anticipated construction start and completion dates
- For Residential Central:
  - Full design drawings of the Central heat pump water heater plant, including full schedule of HPWH equipment, primary storage tanks, parallel loop or swing tank equipment, piping, pumps, and controls, and communication equipment
  - Updated Ecosizer SGIP Central HPWH module calculation (if different from original application calculation)
  - Control strategy for temperature maintenance heating shift and electric resistance lock-out for swing tanks

## INCENTIVE CLAIM SUBMISSION

### Site and Customer Information

- Customer's electricity provider
- Electrical account number associated with each new heat pump water heater
- Electric meter number associated with any central HPWH and any common area(s)
- Number of bedrooms and bathrooms per unitary heat pump water heater
- Previous unit information (fuel type, tank size, product type)

### Project Information

- TECH Program Terms and Conditions signed date and uploaded copy
- Invoice number and uploaded copy
- Total HPWH installation costs (all eligible costs prior to incentive)
- Confirmation that the incentive is listed on the invoice
- Whether the incentive was passed through as an instant or delayed rebate
- Permit number
- Installation start date and end date
- Through which distributor was the heat pump water heater purchased?
- Other building upgrades (not included in heat pump water heater installation)

### HPWH Equipment Information

- Manufacturer and model number
- Serial number(s) of installed equipment
- Quantity of units installed (all with the same model number)
- For Residential Central:
  - Full design drawings of the Central heat pump water heater plant, including full schedule of heat pump water heater equipment, primary storage tanks, parallel loop or swing tank equipment, piping, pumps, and controls, and communication equipment
  - Updated Ecosizer SGIP Central HPWH module calculation (if different from original application calculation)

## Installation Details

- Was the replacement an emergency?
- Location unit was installed (conditioned vs non-conditioned space)
- Confirm an eligible thermostatic mixing valve was installed (if not integrated)
- Operating mode in which the heat pump water heater was commissioned
- What temperature was the unit left in at the time of installation?

## Electrical Upgrade Details (For Unitary Only)

- Was an electrical upgrade required?
- Type of electrical upgrade?
- Pre-install electrical panel capacity in amps
- Pre- and post-upgrade panel capacity in amps
- Total cost of electrical upgrades qualifying for electrical upgrade incentive

## Central HPWH Details

- Completed SGIP Central HPWH Connectivity, Monitoring and Data Reporting Checklist

## Demand Response/Time of Use Requirements

- Confirm JA13 setup was enabled to have the heat pump water heater follow a TOU rate schedule (where applicable)
- Which demand response program(s) did the customer enroll in? (where applicable)
- Did the customer choose a TOU rate to be moved to? If so, which rate? (where applicable)
- Was a communication module add-on (CTA-2045) installed? (where applicable)

## Additional Incentives

- Total amount of other incentives being applied for
- Program names of other incentives being applied for

## Installation Photos

- Prior water heater showing equipment name plate
- Newly installed heat pump water heater showing equipment name plate
- Close up image showing installed thermostatic mixing valve (not required for systems with integrated thermostatic mixing valves)
- Zoomed-out image of installed heat pump water heater with the thermostatic mixing valve
- Photos of electric meters for common areas and/or central HPWH showing utility and meter number
- Screenshot from contractor app showing confirmation of JA13 enablement (where applicable)
- Photo of control panel showing mode and temperature set point
- Zoomed-out image(s) showing:
  - Close up image of capped gas line
  - Hot and cold water lines, insulated, first five feet from the tank (unitary)

- Heat pump water heater earthquake strap (unitary)
- Temperature pressure release valve and drain lines
- Condensate drain line and where it's being drained to

#### 9.4.4 Large Commercial Unitary

##### RESERVATION

For Large Commercial Unitary application reservations, participants will be provided with a checklist of information to submit to the program team including, but not limited to the following:

- Customer and property/facility name
- Service address
- Project contact information
- Contractor company and contact information
- System make, model, and configuration
- System type, location, and typical use (e.g., facility operations served by water heater)
- The system's proposed energy storage capacity and basis for proposed capacity
- Total hot water storage tank volume
- Average tank setpoint temperature(s)
- Estimated system efficiency (i.e., coefficient of performance) at system's standard operating conditions
- Information on pre-retrofit system, including system fuel type, components, configuration, capacity, and operation schedule
- Estimated annual GHG emission reduction (kg CO<sub>2</sub> per kWh) due to load shifting

If desired, the applicant can provide information in addition to these items to ensure that any unique factors of the facility are considered in the incentive review process. Upon submission of this information, program team engineers will review and approve the proposed energy storage capacity or revise the value as needed to accurately reflect the system's expected load-shifting capability.

##### PPM

PPM documentation for Large Commercial Unitary applications will include:

- Date of signed TECH Program Terms and Conditions
- Anticipated construction start and completion dates
- Design drawing or plan for the heat pump water heater system, including a full schedule of all equipment and controls associated with the heat pump water heater system

During an iterative review process, the program team will communicate with the applicant to collect more information as needed. The calculated incentive will be based on the final energy storage capacity value approved by the program team and accepted by the participant.

## APPLICATION SUBMISSION

Application submission for Large Commercial projects will require the following information, in addition to the information listed in the reservation section. The required information may be updated in the future as needed.

### Site and Customer Information:

- Customer's electricity provider
- Electrical account number associated with the heat pump water heater
- Electrical meter number associated with the heat pump water heater

### Project Information

- TECH Program Terms and Conditions signed date and uploaded copy
- Invoice number and uploaded copy
- Total heat pump water heater system installation costs (all eligible costs prior to incentive)
- Confirmation that the incentive is listed on the invoice
- Permit number
- Installation completion date
- Through which distributor was the heat pump water heater purchased?
- Other building upgrades (not included in heat pump water heater installation)
- Proof of project approval by program team
- Final approved project energy storage capacity

### HPWH Equipment Information

- Manufacturer make(s) and model number(s)
- Serial number(s)
- Number and capacity of storage tanks
- Design drawings or plans of the heat pump water heater system, including a full schedule of all equipment and controls associated with the heat pump water heater system and system configuration (e.g., mode, temperature setpoints, etc.) at time of commissioning

### Installation Details

- Was the replacement an emergency?
- Location unit was installed (conditioned vs non-conditioned space)
- Confirm an eligible thermostatic mixing valve was installed (if not integrated)
- Operating mode in which the heat pump water heater was commissioned
- What temperature setpoint(s) were programmed into the system at the time of installation?
- Estimated annual GHG emission reduction (kg CO<sub>2</sub> per kWh) due to load shifting

### Demand Response/Time of Use Requirements

- Confirm that unit was installed with schedule or controls that shift energy from peak to off-peak periods
- Which demand response program(s) did the customer enroll in?
- Was a CTA-2045 communications module installed?

## Additional Incentives

- Total amount of other incentives being applied for
- Program names of other incentives being applied for

## Installation Photos

- Prior water heater showing equipment name plate
- Newly installed heat pump water heater showing equipment name plate
- Close up image showing installed thermostatic mixing valves (if applicable)
- Electrical meter associated with the installed heat pump water heater(s)
- Photo of control system or interface showing system mode and temperature setpoint
- Documentation of system strategy or operation schedule showing that equipment is programmed to shift load off peak
- Zoomed-out image(s) showing the following, if applicable to the installation”
  - Close up image of capped gas line
  - Hot- and cold-water lines, insulated, first five feet from the tank (unitary)
  - Heat pump water heater earthquake strap (unitary)
  - Temperature pressure release valve and drain lines
  - Condensate drain line and drain outlet location

## 9.5 Taxes

Though participating contractors must consult a tax advisor for confirmation, incentives may not be considered income if applied after sales tax on qualifying installations. Participants are encouraged to consult their tax advisor concerning the taxability of incentives. Neither the CPUC nor the program are responsible for any taxes, interest, and/or penalties that may be imposed on the payee as a result of receipt of incentives from this program.

## 9.6 Verification and Inspections

All applications will go through “desktop review” to verify that installations were done correctly. The following information is reviewed as part of the quality assurance/quality control (QA/QC) process:

- The invoice is reviewed to ensure that the invoice requirements are met, including:
  - Incentive is listed as a line item and passthrough approach (instant or delayed) is indicated.
  - Customer site information is included.
  - Installed equipment model and manufacturer is listed.
- Signed TECH Program Terms and Conditions is reviewed to ensure completeness.
- Pre- and post-installation photos are reviewed to ensure that the installation and safety requirements have been met, and match with the information submitted on the application.

If there are serious or repeated issues with an individual contractor, the program team will work with these contractors to resolve the issues or conduct an onsite inspection as needed. The Trade Professional Participation Agreement states that projects involving the installation of incentivized equipment are subject to project site audits by the evaluator and describes the terms and conditions of these post-installation inspections. Contractors must provide these program terms and conditions to the customer and upload a signed copy to the incentive application.

## 10 Demand Response and Time of Use Requirements

To ensure that customers realize the benefits from their new heat pump water heater and in order to prevent increased electric load on the grid during peak hours, customers are required to:

- Switch to a TOU rate if not already on one
- Enroll in a demand response program for a minimum of three years

As explained in the Requirements by Project Type section, some project types are exempt from the TOU and/or demand response enrollment requirements.

### 10.1 Benefits of Time of Use Rates and Demand Response Programs

Customers on TOU rates can save money and contribute to a clean environment and more reliable electric grid by shifting some of their electricity consumption out of peak hours and into the hours of the day when energy is less expensive and cleaner to produce. Heat pump water heaters are well suited to do this type of load shifting — they can store thermal energy by pre-heating water up to a higher temperature during the middle of the day when electricity prices are lower so that the heat pump water heaters can reduce its operation during the evening hours when electricity prices are higher, without sacrificing comfort.

Heat pump water heater load shifting can be enabled with the JA13 programming which sets the HPWH to follow a TOU rate (as described in the Residential Unitary Heat Pump Water Heater Requirements section), demand response programs, or both.

Demand response programs help customers lower energy usage during the most expensive times. This can be achieved by simply notifying customers when they should try to reduce energy (referred to as a "behavioral" demand response program), or by sending signals directly to the heat pump water heater so that it changes its energy consumption patterns without the customer having to do anything (referred to as an "automated" demand response program).



## 10.2 Time of Use Enrollment Requirement

Customers must agree, via the signed Contractor to Customer Agreement, to switch to a TOU rate if not already on one. All TOU rates are eligible options, including those without TOU in the name such as PG&E's E-ELEC.

The program team will work with the IOUs to determine appropriate contract language required to provide the IOUs written or electronic consent to switch a customer to the utility's default TOU rate if the customer does not choose a TOU rate. The program team will contact IOUs weekly with a list of all Residential Unitary customers in their service territories with recent installations. The IOUs will confirm which customers are already on a TOU rate, and transfer customers not already on one.

## 10.3 Demand Response Enrollment Requirement

Customers must enroll in a qualified demand response program for at least three years as a condition of receiving SGIP incentives unless they are already enrolled in a qualifying demand response program. Customers will be notified of the requirement to remain enrolled in a qualified demand response program for three years and will need to sign off on this requirement.

The definition of a qualified demand response program is based on the most recent CPUC Decision regarding the SGIP HPWH program. Customers must enroll in any qualifying demand response program for which the implementer establishes a data sharing agreement that the program team approves. This is necessary to enable the program team to verify enrollment. The program website will have a list of qualifying demand response programs. The program team will provide contractors with customer-facing fliers with directions on accessing a list of all eligible programs and signup instructions for each.

## 10.4 Time of Use and Demand Response Education

It is critical that the program team educate contractors on these requirements since they are not part of the standard sale and installation process for contractors. As described in the Training Requirements section, contractors will be required to take an ESMAC heat pump water heater installation training which will cover the basics of the TOU and demand response requirements, benefits, and the contractor's role in ensuring these requirements are met. An additional program onboarding training will cover these topics in more detail and contractors will also be pointed to manufacturer-specific trainings on the JA13 setup process for their products.

Additionally, the program team will design and distribute educational materials for contractors to leave with customers. These materials will emphasize the program requirement for demand response enrollment and provide simple instructions for enrollment, as well as provide customers with information on the various TOU rates available to them and prompt them to choose their preferred TOU rate..

# 11 Data Collection, Measurement, and Evaluation

---

## 11.1 Measurement and Evaluation of installed Heat Pump Water Heaters

Installed heat pump water heaters will be subject to measurement and evaluation by the program team and the program evaluator. During the course of the program, the program team or evaluator may require one or more visits to the site for measurement and evaluation purposes. These site visits can occur before, during, or after startup of the system for the purposes of developing a monitoring plan, installing additional measurement and evaluation instrumentation, performing equipment operations inspection, and retrieving system data. Evaluation (including onsite inspections at customer address), and metering may be performed on all equipment listed, or a select portion of the equipment. Evaluation activities may include surveys and interviews of contractors and homeowners/occupants to understand equipment performance and the program experience. Contractors shall be responsible for obtaining necessary customer consent to such inspections and evaluations, by collecting their signature on the TECH Program Terms and Conditions.

### 11.1.1 Disposition of SGIP Metering Equipment

All heat pump water heater installations for Residential Central project will include equipment that enables data collection through two-way communication, if not already embedded in the heat pump water heater. The evaluator and program team may also install monitoring devices on a subset of non-Residential Central heat pump water heaters. Site-level agreements will specify what happens to the metering equipment if and when data collection is deemed to be complete.

## 11.2 Access to Customer Data

Any data related to this program, including any customer data, may be shared with authorized entities, including but not limited to, policy makers, program implementers, and the program evaluator under confidentiality protocols. Customer data includes but is not limited to (a) any data collected via incentive applications, (b) any data collected from incentivized equipment, either obtained directly from the manufacturer or from other authorized entities by Energy Solutions, program evaluator, or other authorized entities approved by the CPUC, (c) meter-based gas consumption and electricity consumption data collected by a customer's utility prior to and following installation of incentivized equipment, and (d) demand response program enrollment data. The program team and evaluator will follow the confidentiality rules and protocols established in the TECH Program Terms and Conditions.

### 11.3 Use of Meter Data

Recurve performs open-source advanced measurement and verification to assess the impacts of the program at the meter. This assessment is achieved by processing advanced metering infrastructure data to analyze heat pump water heater installations of those participants enrolled in the program. The program team will use the existing data pipeline process and data visualization platform developed for TECH Clean California to obtain advanced metering infrastructure data for program participants and visualize key outcomes. This data will be analyzed to report comprehensive insights through the existing [TECH Public Reporting Site](#). Thus, SGIP HPWH project data will be fully integrated into the larger TECH Clean California data management processes.

### 11.4 Embedded Evaluation

Embedded evaluation provides real-time data and results throughout the initiative rather than waiting until activities are completed before starting evaluation. A primary focus of the SGIP HPWH evaluation will be to evaluate the GHG performance and grid impacts of load-shifting heat pump water heaters installed through the program. The benefits to report on include but are not limited to the total GHG reductions achieved by the heat pump water heater including the fuel-switching benefits, any energy efficiency benefits, and benefits achieved specifically by load shifting. When multiple incentive programs contributed an incentive to a given heat pump water heater installation, the efficiency benefits will be attributed to other programs and the load-shifting benefits will be attributed to SGIP HPWH. Reports will acknowledge that other programs contributed to the reported benefits, where applicable.

## 12 Dispute Resolution

All participants shall attempt in good faith to resolve any dispute promptly by negotiations between the program team and the customer. Either party must give the other party, or parties, written notice of any dispute. Within thirty calendar days after delivery of the notice, the parties shall meet, and attempt to resolve the dispute. If the matter has not been resolved within thirty calendar days of the first meeting, any party may pursue other remedies including mediation. All negotiations and any mediation conducted pursuant to this clause are confidential and shall be treated as compromise and settlement negotiations, to which Section 1152.5 of the California Evidence Code shall apply. Notwithstanding the foregoing provisions, a party may seek a preliminary injunction or other provisional judicial remedy if in its judgment such action is necessary to avoid irreparable damage or to preserve the status quo. Each party is required to continue to perform its obligations under this contract pending final resolution of any dispute arising out of, or relating to, this contract.