

SMUD Smart Homes

Program Manual

November 2019

Revision log

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1 Introduction

SMUD is leading the state in its effort to decarbonize the grid. Electrification will reduce building operating expenses and atmospheric carbon, create local jobs, improve air quality and generate new energy efficiency savings opportunities. SMUD has an aggressive commitment to reach carbon neutrality by 2040 and surpass the state's greenhouse gas reduction goals of 80 percent by 2050.

The Smart Homes Program incentivizes home builders to construct all-electric and all-electric ready new homes. Efficient, electric technologies such as heat pump water heaters, heat pump space heater, and induction cooktop allow customers to take greater advantage of the renewable energy economy. The absence of combustion in all-electric homes results in greater occupant safety and improved indoor air quality.

The program is open to new single family or multifamily homes. It currently offers higher incentives for all-electric homes that do not have any natural gas or propane connections on or around the property. Reduced incentive levels are available for all-electric ready construction, which means that the home utilizes non-electric (e.g., natural gas) equipment like a stove or fireplace, but the home is also pre-wired for an easy conversion to all-electric equipment in the future.

Smart Home participants also gain access to SMUD's Developer SolarShares program, which can be used in lieu of on-site solar for 2019 Building Standards Code compliance pending California Energy Commission (CEC) approval in late 2019. For a limited time only, participants are also eligible for battery storage incentives.

In addition to financial incentives, Smart Homes offers limited technical assistance to builders to help with code compliance and marketing materials that builders and their salespeople can use to explain the benefits of all-electric homes to prospective homebuyers.

The purpose of this Manual is to provide guidance to participating and prospective builders of new homes.

2 Program Eligibility

Eligibility is limited to production home builders constructing new homes in the [SMUD service area](#). Production builders build communities or neighborhoods of homes with the same or

similar blueprint. They own the land they are building on and usually have a say in how the community is developed.¹

A single family home is defined as a building that conforms to the R-3 Occupancy as adopted by the City of Sacramento. The City currently uses California Code of Regulations, Title 24 Part 9. Single family homes are eligible for the all-electric and all-electric ready (mixed fuel) incentive bundles.

3 Program Requirements

Section 3.1. General Requirements

- Incentives are only available for new homes built in SMUD service territory.
- Participating projects must meet minimum program requirements for all homes within the same project.
- Builders must apply prior to beginning any HERS testing or drywall installation.
- All participating units must be new construction dwellings and modeled accordingly.
- For verification purposes, all projects must contract with a certified HERS rater, even if HERS measures are not required. The HERS rater will be required to enter project verifications into the HERS registry for the compliance certificate. This includes verifications of non-HERS measures as applied in the projects' specified registry.
- Solar photovoltaic (PV) systems installed at the project location shall be minimally sized to comply with code. Minimally sizing the PV array includes downsizing the PV array if a battery is also installed. Rooftop solar PV installation should comply with CEC Title 24 EXCEPTION 6 to Section 150.1(c)14.
- Smart Homes participation requires one 50 kVA transformer per 10 homes.
- Builder agrees to construct all homes with a 240 volt/22 ampere plug adjacent to the parking area (e.g., garage or driveway) to facilitate homeowner installation of an electric vehicle charger. The plug shall have a rating of 14 to 30 amperes according to the United States National Electrical Manufacturers Association (NEMA).

Section 3.2. Additional Requirements: All-Electric

All-electric homes must have only electric-powered equipment and no other fuel connections (e.g., natural gas) to or adjacent to the property, including common areas. Certain multifamily equipment and/or pools are exempted. Distributed energy resources (DERs) such as wind and solar are not considered fuel connections.

¹ National Association of Home Builders, 2019

Section 3.3. Additional Requirements: All-Electric Ready (Mixed Fuel)

“All-electric ready” homes are those with other fuel connections (e.g., natural gas) and are pre-wired for more convenient conversion to electric equipment in the future. The following conditions must be met to qualify as all-electric ready:

1. Builder must locate an electrical outlet adjacent to any non-electric water heater. The outlet shall accommodate a like-for-like replacement,
2. Builder will locate a US National Electrical Manufacturers Association (NEMA) connector with a rating of 15-16 amperes adjacent to each piece of non-electric cook top or non-electric laundry equipment,
3. Builder shall install a junction box and AC disconnect adjacent to any non-electric heating ventilation and air conditioning (HVAC) equipment.
4. ****For multifamily properties only**** With the exception of electric resistance technologies, for central HVAC and central domestic water heating designs, Builder shall prepare outline specifications that identify major materials and systems that establish in general the quality level of the future conversion to all-electric equipment. The outline specifications shall also graphically identify space requirements and location of the future all-electric conversion in the proposed building design. Electrical connections at the point of use and on the panel for future integration of these systems shall be included in the outline specification documentation.

Section 3.4. Additional Requirements: Battery Bonus

In order to qualify for the Smart Homes battery storage bonus incentive, the battery must be installed in a manner that complies with SMUD’s Commitment to Operate participation requirements. SMUD’s Commitment to Operate program requires 51% of the battery capacity to meet electricity needs during peak periods. Any incidental energy (kWh) discharge to the grid will be credited at normal Net Energy Metering rates.

More information on the Commitment to Operate program can be found on SMUD’s website at smud.org/en/Going-Green/Battery-storage/Homeowner

4 Incentives and Assistance

Section 4.1. Financial Incentives

The following incentives are available on a per home basis for all-electric homes.

Table 1 – Single Family, All-Electric Incentives

Incentive	Amount Available
Base Incentive for All-Electric Home	\$4,000
Induction Cooktop	\$1,000
Battery Bonus	\$2,000
Total All-Electric Incentive per Home	Max \$7,000

Table 2 – Single Family, All-Electric Ready/Mixed Fuel Incentives

Incentive	Amount Available
Compliant with All-Electric Ready Definition (Required)	\$1,000
Heat Pump HVAC & Water Heater	\$950
Heat Pump HVAC only**	\$950
Heat Pump Water Heater only**	\$800
Induction Cooktop	\$600
Electric Laundry Dryer	\$200
Electric Fireplace or Outdoor Grill	\$50
Subtotal All-Electric Ready Incentive per Home	Max \$3,000

Table 3 – Multifamily, All-Electric Units

Incentive	Amount Available
Base Incentive for All-Electric Unit	\$1,250.00
Induction Cooktop	\$500.00
Battery Bonus	N/A
Total All-Electric Incentive per Home	\$1,750.00

Table 4 – Multifamily, All-Electric Ready (Mixed Fuel) Units

Incentive	Amount Available
Compliant with All-Electric Ready Definition (Required)	\$310
Heat Pump HVAC*	\$320
Heat Pump Water Heater*	\$450
Induction Cooktop	\$300
Electric Laundry Dryer	\$110
Subtotal All-Electric Ready Incentive per Home	Max \$1,490

* Must choose either heat pump HVAC or heat pump water heater, or both

Section 4.2. Coordination with Developer SolarShares

Program participants will automatically begin the enrollment process for the SMUD Developer SolarShares program unless they select to opt out. The SolarShares program provides an alternative way to access solar photovoltaic power for new residential homes to meet Title 24 2019 Energy Code pending California Energy Commission (CEC) approval in late 2019. Customers that live in SolarShares neighborhoods will receive a portion of their power from a utility-scale solar farm located in California at little or no cost to the builder.

Visit smud.org/going-green for more information.

Section 4.3. Design Assistance

SMUD or its authorized representatives can provide limited design assistance at the request of the Builder, especially as it relates to the specifications or accommodations for all-electric technologies like heat pump water heaters and heat pump space heaters and/or guidance regarding CEC approved energy analysis computer output prepared by the builder's consultants.

Section 4.4. Marketing Assistance

SMUD, at its sole discretion and contingent on availability of funds, may provide Builder and its affiliates marketing support for these projects, which may include, but is not limited to the following:

- Advertising,
- Brochures specific to each project,
- Project specific signage, and
- Special event promotion.

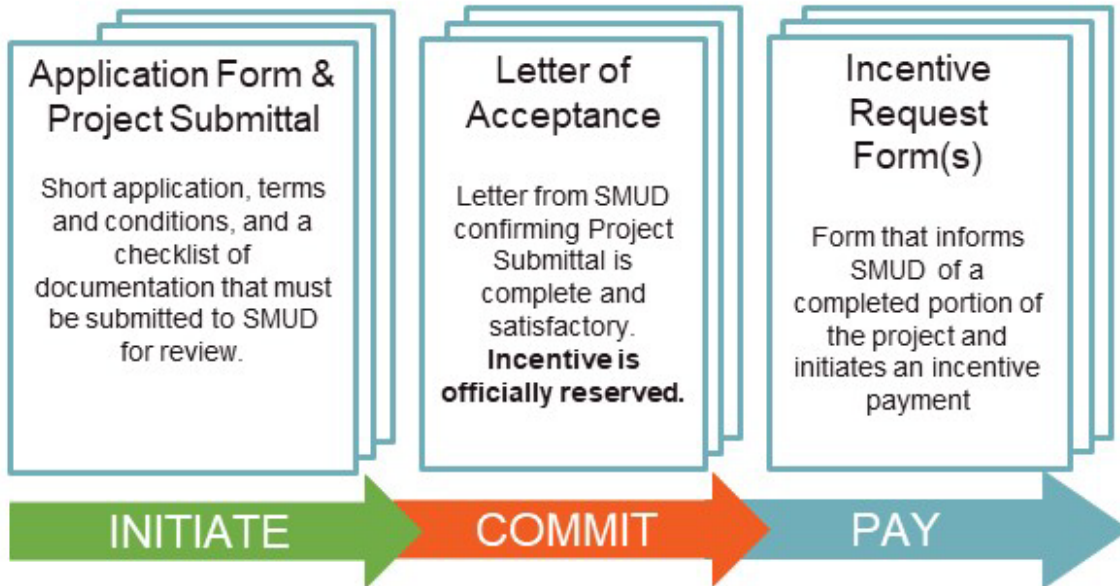
All marketing efforts or materials that mention SMUD or display SMUD's logo must be approved in advance by SMUD.

5 Participation Process

Section 5.1. Smaller Projects Less than \$150,000 in Incentives

Figure 1 below shows the Smart Homes program enrollment and documentation process for smaller developments of approximately 30 homes and receiving \$150,000 or less in incentives.

Figure 1 – Project Lifecycle and Smart Homes Documentation for Smaller Developments



The Smart Homes application and incentive process can be completed in three steps for smaller development projects:

1. Submit Application for Small Developments and Project Submittal Checklist
2. Receive Acceptance Package: Letter and addition enrollment document from SMUD confirming application and project submittal is complete and satisfactory. **Incentives are officially reserved upon issuance of the letter.**
3. Submit Incentive Request Form to inform SMUD of a completed project and initiate an incentive payment.

Section 5.1. Larger Projects Over \$150,000 in Incentives

Figure 2 below shows the Smart Homes program enrollment and documentation process for larger developments of approximately 30 homes or more and receiving \$150,000 or more in incentives.

Figure 2 – Project Lifecycle and Smart Homes Documentation for Larger Developments



The Smart Homes application and incentive process can be completed in four steps for larger development projects:

1. Submit Application for Large Developments and Project Submittal Checklist. You'll receive an email confirmation of a successful project submittal with an agreement for your signature.
2. Return signed agreement to SMUD.
3. Receive an acceptance package with the fully executed agreement and details on how to receive the incentive payment. **The SMUD incentive is officially reserved after this step.**
4. Submit incentive request form(s) to request payment from SMUD after each phase of the project is complete.

6 Incentive Commitment Timing

Incentives are subject to change at SMUD's discretion. All final incentives are subject to management approval, which may include SMUD's Board of Directors depending on the total incentives being requested. Incentives will only be reserved through an executed agreement (large projects) or Letter of Acceptance (small projects).

It is important to note that, regardless of the size of the community, SMUD reserves incentives on a calendar year annual basis. **Incentive funds do not automatically roll over to the following year.**

As an example, Builder A and SMUD execute an Agreement for 20 homes in 2020 and 21 additional homes in 2021. The builder experiences a delay and only completes 15 homes in 2020. The Builder submits an Incentive Request Form for the 15 homes and receives the funds. In 2021, the builder hires more workers and catches up on their backlog, completing the delayed 5 homes and the 21 additional homes. Since the builder's incentive for the five delayed homes is not guaranteed to roll over, the Builder contacts SMUD, informs SMUD that they completed 26 homes instead of 21 homes, and requests additional incentive funds. The additional incentives are not guaranteed and will be offered at SMUD's discretion.

Incentives are considered received in a calendar year if the incentive request form is received prior to the end of the calendar year, even if it means that processing and payment occurs in the following year.

The Smart Homes budgets are finite and could potentially be exhausted. SMUD will only reserve those funds identified per community per year. The projects must be completed within the timeframe provided in the Agreement and invoiced before year-end. Additional program funds are available on a first-come, first-served basis.

Future incentive levels are subject to change without notice.

7 Additional Information

TRC consulting is under contract with SMUD for technical services. Email them at rnc@trccompanies.com or call 866-352-7457 with questions or to discuss your interest or application.