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| Project Title: | Building Initiative for Low-Emissions Development (BUILD) Program |
| TN #: | 233466 |
| Document Title: | Presentation - Building Initiative for Low-Emissions Development (BUILD) Program |
| Description: | Presentation for June 15, 2020 Workshop on BUILD Implementation Plan - Presentation for CEC-CPUC Joint Agency Workshop on Building Initiative for Low-Emissions Development (BUILD) Implementation Plan |
| Filer: | Erica Chac |
| Organization: | California Energy Commission |
| Submitter Role: | Commission Staff |
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Building Initiative for Low-Emissions Development (BUILD) Program

Joint Agency Workshop

California Energy Commission & California Public Utilities Commission

June 15, 2020



Introduction & Purpose

Jordan Scavo

BUILD Implementation Project Manager

California Energy Commission



Virtual Housekeeping

- Workshop/hearing conducted remotely via Zoom
 - Recorded and transcribed by court reporter
- 3 ways to comment:
 - Use the “raise hand” feature in Zoom
 - Over the telephone: dial *9 to “raise hand” and *6 to mute/unmute your phone line
 - Type your question in the Q&A window
- Please limit comments to 3 minutes
- Written comments due Monday, June 29, 2020.
 - Submit through the [e-commenting system](https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-DECARB-01) at:
<https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-DECARB-01>



Workshop Format

9:00 AM: Opening Remarks and Overview

9:20 AM: Workshop Purpose and Format

9:30 AM: Incentive Structure & Application Process

10:30 AM: Eligibility - Applicants, Projects, and Technologies

11:30 AM: Bill Savings Methodology

12:30 PM: Break

1:30 PM: Technical Assistance Provider

2:00 PM: SB 1477 Programs Evaluator

2:30 PM: Public Comments and Discussion

3:30 PM: Closing Remarks



Purpose

- Scope out framing concepts for BUILD implementation
- Outline implementation requirements
- Solicit stakeholder feedback to inform the Implementation Plan



Background: SB 1477

- SB 1477 directs the CPUC to establish the BUILD and TECH pilot programs
- Calls for BUILD to provide incentives to promote GHG emission reductions and bill savings in new residential buildings with a focus on clean heating technologies
- Allocates \$200 million of Greenhouse Gas Reduction Fund for SB 1477 pilots, including \$60 million specifically for new low-income housing developments



Background: Decision 20-03-027

- CPUC built upon SB 1477 requirements in Decision 20-03-027
 - Identifies the CEC as the BUILD administrator
 - Allocates \$80 million to BUILD, of which at least \$60 million must be used for new low-income residential housing
 - Specifies additional program requirements and guidance



Process for Program Development

- June 29: 2020: Due date for public comments on this workshop
- July 24, 2020: Submit Implementation Plan to CPUC
- August 7, 2020: Due date for public comments on Implementation
- September 2020: Issue Implementation Plan Addendum
- Q3 2020: Issue RFP for technical assistance provider
- Q4 2020: Publish draft BUILD guidelines
- Q1 2021: Publish final BUILD guidelines
- Q2 2021: Launch BUILD program



Application Process and Incentive Structure

Geoffrey Dodson

BUILD Staff Member

California Energy Commission



Application Process

- Two-Step Process
 - Reservation – Submit application during project planning stage, funding locked in upon application approval.
 - Payment – Verify project requirements, pay upon project completion





Application Process

- Reservation Application
 - Interested applicant may choose to work with Technical Assistance Provider to get started during project design stage
 - Applicant submits documents prior to construction signaling commitment to build all-electric housing per requirements.
- Funding locked in for applicant upon approval of reservation
- Incentive amount will be lump-sum at whole-building level



Application Process

- Payment Claim Application
 - Applicant submits after Certificate of Occupancy
 - Documentation will verify satisfaction of BUILD requirements and all-electric design.
 - Payment will be issued upon verification



Application Process

- Other Considerations
 - Two-step process may pose a barrier to low-income housing developers that need cash early in the process
- Open to suggestions for alternatives that provide funding earlier in the process while ensuring accountability of incented projects



Incentive Structure

- Program Boundaries - Statute and CPUC Decision
 - “Incentives shall target an entire building, project, or subdivision rather than specific equipment.”
 - “Shall be based on projected amount of reduction in the emissions of greenhouse gases resulting from the installation of near-zero-emission building technology.”
 - “Act consistently and tie incentives to the cost of equipment, incremental cost difference for builders, and estimated GHG emission reduction level with prioritization to low-income and disadvantaged communities.”
 - “Shall take into account the availability of existing incentives.”



Incentive Structure

- Guiding Principles and Goals
 - Incent building technologies beyond the prescriptive standard for mixed-fuel residential buildings
 - Induce an all-electric building design and create a path for eventual self-sustaining market
 - Whole-building approach to emphasize holistic design measures
 - Enable simple incentive estimation before applying



Incentive Structure

Key Elements

All projects must meet minimum requirements

No natural-gas hookup to property

Minimum building codes

Incentive tied to modeled performance (may vary by Climate Zone)

Kicker Incentives for features not modeled in CBECC

Account for existing incentives from similar programs



Incentive Structure

- BUILD “Kicker” Incentives
 - Additional incentive for features not easily modeled in CBECC
 - Designed to encourage integrated energy efficiency, GHG emission reduction, grid flexibility, or renewable energy generation and storage
 - Not tied to performance modeling
 - Must meet minimum BUILD requirements to qualify for kickers



Funding from Related Programs

- BUILD Goal: Encourage applicants to leverage funding from other programs
- Issue: How to account for leveraged funding in a simple way while avoiding double-dipping
- Barriers:
 - Lack of identical goals and requirements across programs
 - Administration coordination barriers
 - Misaligned eligibility criteria



Examples of Related Programs

Downstream - Statewide

| | |
|----------------------------------|--|
| SGIP WH | Non HPWH Equipment (Panels, Mixing Valves) |
| BUILD | All-electric new construction, low income |
| CA Advanced Homes Program | All-electric new construction, market rate |
| Savings by Design | New Construction, C&I |

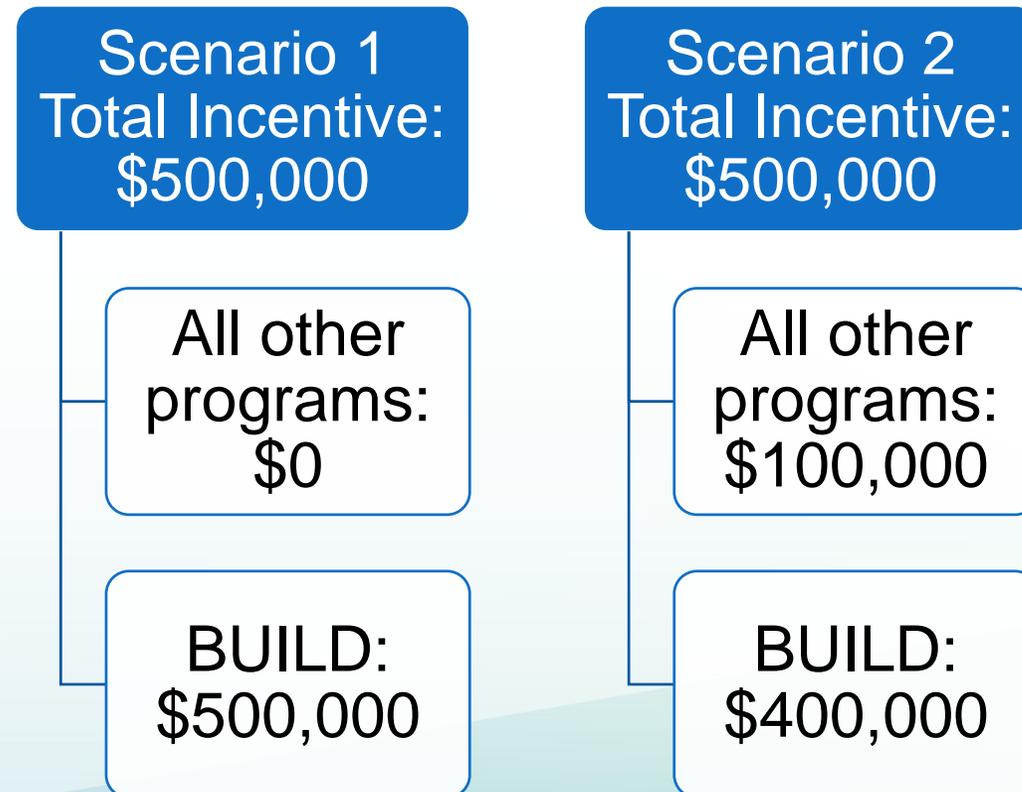
Downstream - Regional

| | |
|--|--|
| WatterSaver, Smart Water Heater WH | Grid-enabled controls on WHs – PG&E, SCE |
| PG&E, SCE Wildfire Rebuild | New construction |
| MCE's LIFT | Multi-family low income |
| San Joaquin Pilots | Low income retrofits |
| EE Fuel Substitution Measures | Efficiency appliances in SCE and Bay REN territories |
| SMUD's Smart Home Builder Incentive Program | Builder incentive for all-electric smart home |



Funding from Related Programs

- Leveraged-funding proposal:
 - Dollar-for-dollar discount on leveraged funding from other Building Decarbonization Programs





Funding from Related Programs

- Benefits:
 - Accommodates leveraged funding
 - Simplified approach for applicant and administrators
 - Does not reduce total incentive
- Flaws:
 - Difficult to verify
 - Leveraged funding may indirectly overlap which complicates ability to prevent double-dipping while allowing leveraged funding
 - Timing issues based on when applicant applies to each program



Funding from Related Programs

- **Incentive Layering Public Workshop**
 - June 30th
 - Hosted by CPUC
 - Purpose is to dive deeper into this specific challenge
 - Additional information about the workshop will be posted at www.cpuc.ca.gov/buildingdecarb



Public Comments

- Limited to 3 minutes per comment
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Eligible Applicants, Projects, and Technologies

Erica Chac
BUILD Staff Member
California Energy Commission



Eligible Applicants

Eligible applicants can be building owners or building developers of new residential housing (SB 1477, Stern 2018).*

*For the first two years, initial program rollout will exclusively serve eligible applicants developing low-income residential housing. After the first two years, expanding the applicant pool may be considered.





Low-Income Residential Housing

Low-income residential housing, is defined in SB 1477 as either:

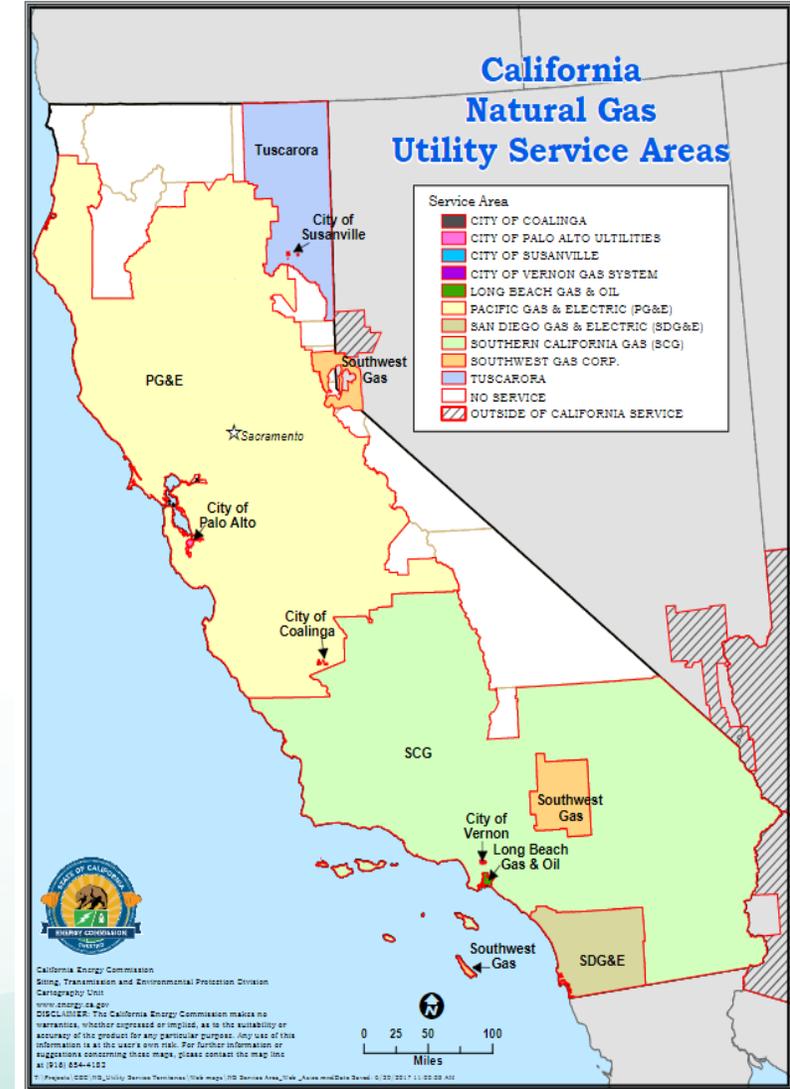
1. A multifamily residential building of at least two rental housing units that is operated to provide deed-restricted low-income residential housing, and that meets one or both of the following conditions:
 - Located in a disadvantaged community or low-income community; or
 - At least 80% of the households living in the buildings have incomes at or below 60% of the area median income
2. An individual low-income residence



Eligible Projects

Eligible projects must:

- Be in one of the following gas corporation territories:
 - Southern California Gas Company (SCG).
 - Pacific Gas and Electric Company (PG&E).
 - San Diego Gas & Electric Company (SDG&E).
 - Southwest Gas Corporation.
- Show utility bill savings for the building occupant. (SB 1477, Stern 2018)
- Use the all-electric prescriptive or performance pathway for code compliance.





Eligible Projects Cont.

Eligible projects must be:

- New residential housing, that is defined as one of the following:
 - A building that has never been occupied or used.
 - Any work, addition to, remodel, repair, renovation, or alteration of any buildings or structure(s) when 50% or more of the exterior weight bearing walls are removed or demolished.
 - An existing building repurposed for housing, whose original use was not residential.
- All electric and have no hookup to the gas distribution grid.



Eligible Technologies for Basic Incentives

| Energy End Use | Eligible Technologies | Minimum Requirement | Eligible Equipment Lists |
|------------------------|---|---|---|
| Space Conditioning | Heat Pump HVAC | <ul style="list-style-type: none"> HSPF > 10 | NEEP's cold climate Air-Source Heat Pump Product List |
| Water Heating | Heat Pump Water Heater | <ul style="list-style-type: none"> NEEA Tier 3 | NEEA's Advanced Water Heater Specification Qualified Products List for HPWH |
| | Solar Water Heater with Electric Backup | <ul style="list-style-type: none"> Energy Star Certified | Energy Star's Product Finder |
| On-Site PV Generation | PV System | <ul style="list-style-type: none"> Listed on the Solar Equipment Lists, and JA 11 Compliant | CEC's Solar Equipment Lists |
| On-Site Energy Storage | On-Site Energy Storage | <ul style="list-style-type: none"> Listed on the Solar Equipment Lists, and JA 12 Compliant | CEC's Solar Equipment Lists |
| Other | Roof, attic, or wall insulation | <ul style="list-style-type: none"> R value > prescriptive Energy Code | |
| | Windows | <ul style="list-style-type: none"> R value > prescriptive Energy Code | |



Eligible Technologies for Kicker Incentives

| Technologies | Minimum Requirement |
|-------------------------|---|
| Heat Pump Refrigerant | <ul style="list-style-type: none">• GWP < 750 |
| Load Flexibility | <ul style="list-style-type: none">• For HPWH, JA 13 compliant• CTA-2045 compliant or other open source compliant standards |
| Induction Cooktop | |
| Heat Pump Clothes Dryer | <ul style="list-style-type: none">• Energy Star Certified |



Evaluating New Technologies

Approach to evaluating new technologies:

- Adopt an existing process to incorporate new technology.
 - Incorporating new technology into CBECC.
- Develop a new process for new technology.





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Bill Savings Methodology

Tiffany Mateo

BUILD Staff Member

California Energy Commission



Program Intent

"It is the intent of the Legislature that projects receiving incentives under the programs created by this act only if they result in utility bill savings for the building occupant." (SB 1477, Stern 2018)

"In supervising the administration of the program, the CPUC shall ensure that projects funded with moneys reserved for new low-income residential housing do not result in higher utility bills for building occupants." (SB 1477, Stern 2018)



CPUC Decision

"The CEC shall develop or adopt a tool or a methodology to measure bills savings prior to the start of program implementation for low-income housing. The program evaluator shall examine the efficacy and accuracy of the tool and recommend any necessary improvements. The CEC shall make change to the tool based on the evaluator's recommendations." (D.20-03-027)



Bill Savings Parameters

How do we define "bill savings"?

- No increase on **monthly** energy utility bill
- No increase on **quarterly or annual** energy utility bills

How many years should be analyzed?

- **15 years**
- Longer?



Bill Savings Parameters

What utility rates to use?

- Default utility rates
 - Baseline/Tier 1 or higher
 - Time-of-use (TOU) rates
- CARE rates
 - Low-income IOU customers qualify for the California Alternative Rates for Energy program
 - Up to 25% discount on electric rate
 - Up to 30% discount on natural gas rate
 - Baseline/Tier

How often should the rates be updated?

- Quarterly, annually, with updates to the BUILD Implementation Plan



Bill Savings Parameters

What utility rate projections to use?

- Integrated Resource Planning assumed annual rate increase

| Gas Utility | 2018-2022 | 2023-2025 | 2026-2050 |
|---------------|-----------|-----------|-----------|
| SoCalGas | 32% | 4% | 1% |
| Other NG IOUs | 6% | 4% | 1% |

| Electric Utility | 2019-2025 | 2026-2050 |
|------------------|-----------|-----------|
| All | 2% | 1% |

- Other?



Establishing Baselines

Bill savings baseline consistent with GHG baseline: building meeting the 2019 T24 mixed-fuel prescriptive requirements.

For scalability, what level should the bill saving baseline be calculated?

- On unit level
- On bedroom level



Proposed Methodology Options

- CEC Staff evaluates menus of decarbonization measure packages to show bill and carbon savings, or
- Applicants prepare detailed modeling of each project to document bill and carbon savings



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Lunch Break

We will resume at 1:30 PM



Technical Assistance and Outreach

Jordan Scavo

BUILD Implementation Project Manager

California Energy Commission



Technical Assistance

- Required component of the Implementation Plan
- Q3 2020: Issue Request for Proposal for technical assistance provider (pending budgetary approval)
- Technical assistance provider will assist applicants in project development and program software and documentation requirements
- Technical assistance provider should have expertise in low-income housing development and building electrification and have knowledge of varying regional and jurisdictional barriers
- Recommendations for specific forms of technical assistance?



Outreach Plan

- Required component of the Implementation Plan
- Outreach should raise stakeholder awareness of BUILD and provide basic information about related programs
- Two approaches under consideration:
 - Require technical assistance provider to develop and conduct an outreach plan
 - Develop and conduct an outreach plan using Energy Commission staff



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Evaluation of SB 1477 Programs

Abhilasha Wadhwa

Senior Analyst, Building Decarbonization; BUILD Project Lead

California Public Utilities Commission



D.20-03-027 Parameters

- Single Evaluator for both TECH and BUILD
- \$5 million combined budget over duration of programs
- SCE will be the Contracting Agent with CPUC oversight
- Coordinated data collection with TECH Implementer and CEC
- Evaluate bill savings tool/ methodology, recommend changes



Evaluator Recommendations

- Follow best practices of Market Transformation Initiatives
- Establish program baselines
- Align program goals, additional metrics, and logic models with TECH Implementer and CEC
- Use embedded M&V approaches, where possible
- Recommend program design modifications through findings



BUILD Program Metrics

Required by statute:

- Number of low-emission systems installed in each building type
- Projected utility bill savings
- Cost per metric ton of avoided GHG emissions



BUILD Program Metrics

Potential additional metrics:

- Total avoided GHG emissions
- Number of new technologies funded
- Number of low income all-electric projects funded
- Others?



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Public Comments & Additional Information

Public comments can be submitted to the docket by using the following link:
<https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-DECARB-01>

Additional program information can be found on our website at
<https://www.energy.ca.gov/programs-and-topics/programs/building-initiative-low-emissions-development-program>

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CPUC point of contact: Abhi Wadhwa, BUILD Project Lead.
abhilasha.wadhwa@cpuc.ca.gov; (916) 823-4774



Thank You!

