

DOCKETED	
Docket Stamp Updated:	11/21/2024 9:18:41 AM
Docket Number:	20-DECARB-01
Project Title:	Building Initiative for Low-Emissions Development (BUILD) Program
TN #:	260198
Document Title:	BUILD Program Guidelines Second Edition Workshop
Description:	Presentation slidedeck used in the in November 19 workshop.
Filer:	Steven Van
Organization:	California Energy Commission
Submitter Role:	Energy Commission
Submission Date:	11/20/2024 4:56:49 PM
Docketed Date:	11/20/2024

DOCKETED

Docket Number:	20-DECARB-01
Project Title:	Building Initiative for Low-Emissions Development (BUILD) Program
TN #:	260198
Document Title:	BUILD Program Guidelines Second Edition Worksheet
Description:	Presentation slidedeck used in the in November 19 workshop.
Filer:	Steven Van
Organization:	California Energy Commission
Submitter Role:	Energy Commission
Submission Date:	11/20/2024 4:54:17 PM
Docketed Date:	11/20/2024



BUILD (SB 1477)

Building Initiative for Low-Emission Development (BUILD) Program

BUILD Program Guidelines-Second Edition – Workshop November 2024



Welcome and Logistics



Please Note...

- Today's workshop is being recorded
- This presentation, the recording, and a written transcript will be posted to the CEC website
- The CEC welcomes and encourages written comments and supporting documentation
- Zoom issues? Contact Zoom at (888) 799-9666 ext. 2, or the CEC Public Advisor at publicadvisor@energy.ca.gov or by phone at (916) 957-7910



Virtual Housekeeping

This workshop is conducted remotely via Zoom

3 ways to comment during the workshop:

1. Use the “raise hand” feature in Zoom
2. Over the telephone: dial *9 to “raise hand” and *6 to mute/unmute your phone line
3. Type your question in the Q&A window

Please limit comments to 3 minutes

Written comments due at 5:00PM on December 3, 2024:

Submit through the e-commenting system at:

<https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-DECARB-01>

Subscribe to the BUILD Subscription List:

<https://www.energy.ca.gov/programs-and-topics/programs/building-initiative-low-emissions-development-program>



Workshop Agenda

- 9:30 Welcome & Logistics
- 9:35 Program Overview
- 9:45 Eligibility Requirements
- 10:00 Incentive Structure
- 10:10 Program Participation
Funding Update
- 10:30 Application and Compliance Issues
- 10:35 Proposed Guideline Revisions & Discussion
- 11:35 Public Comments & Next Steps
- 11:55 Closing Remarks



Background: How BUILD Evolved

SB 1477

CPUC D. 20-03-027



From Heat Pumps to Whole Buildings:
Developing a Market Transformation Program

Ensure that new low-income residential housing projects receiving incentives through the BUILD Program **do not result in higher utility bills** for building occupants. *Public Utilities Code §921.1(c) and (d)(3)*



BUILD Overview and Benefits

- New, all-electric construction or repurposing/refurbishing existing buildings for low-income occupancy
- Up to \$2,000,000 in incentives per developer
- 300 hours of technical assistance
- Allows for fund layering
- New Adopter incentive (up to \$100,000)
- Reduction in gas infrastructure costs and GHG emissions— improving indoor and local air quality

BUILD is administered by the California Energy Commission in collaboration with the California Public Utilities Commission. It is authorized by Senate Bill 1477 (2018, Stern) and funded by the four California gas corporations apportioned according to each gas corporation's percentage share of allocated Cap-and-Trade Program allowances. Reservations are approved on a first come, first served basis, and regional funding availability is based on the utilities' contribution to the program.



BUILD Original Budget

Budget Item	Amount
Program Costs Incentives for Low-Income Housing Developments	\$60 Million (no less than)
Program Costs Other <ul style="list-style-type: none">• Technical assistance provider for low-income housing developments• Other	\$10 Million (no less than)
Administrative Costs	\$8 Million (no more than)
Joint Evaluation Cost Share	\$2 Million (no more than)
Total	\$80 million

Incentives must be proportional to each gas IOUs Cap & Trade allowances:

Gas Territory	Percentages
SCG	49.26%
PG&E	42.34%
SDG&E	6.77%
SWG	1.63%



BUILD Information Sources Available Online



Incentives

BUILD incentives are designed to support market transformation toward building decarbonization and reduce the up-front costs and perceived risk of adopting new technologies. Learn about the incentives and eligibility requirements.

[SEE DETAILS](#)

Technical Assistance

Technical assistance applications are now being accepted for low-income all-electric residential building planning, project fuel-switching, low-emissions building design and technologies, and incentive application completion and program participation. Recipients of technical assistance are not required to apply for a BUILD incentive, and applicants for the BUILD incentive are not required to use technical assistance.

[MORE INFORMATION](#)

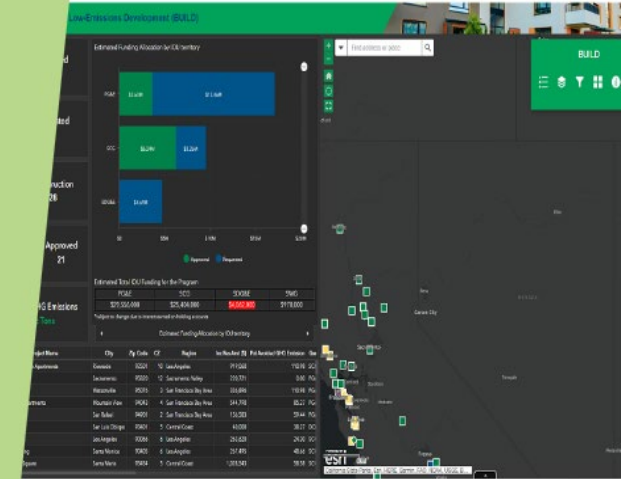


BUILD GIS Tool

The GIS Tool can be viewed using a PC, tablet, or mobile devices with a minimum desktop window size of 1440 x 900 or mobile desktop window size of 1200 x 800. If you have trouble viewing the map content, the BUILD Project Data is available for download.

[BUILD Project Data](#)

[ACCESS THE TOOL](#)



The BUILD Program Fact Sheet provides a quick overview of program requirements and incentive opportunities. The Technical Assistance Fact Sheet outlines the technical assistance services available. The Technology Kicker Incentive Fact Sheets detail optional all-electric technologies that further reduce greenhouse gas emissions. See the Electrification FAQ to learn why developers are making the switch to all-electric and the Heat Pump Overview for key information on the benefits of heat pump technology. To maximize project funding opportunities review the Incentive Layering Overview.

- BUILD Program Fact Sheet
- Technical Assistance Fact Sheet
- Technology Kicker Incentive Fact Sheets
- Build FAQ-Electrification
- Heat Pump Overview
- Incentive Layering Overview

In addition, please take some time to review the [Electrification Knowledge Hub](#) which offers comprehensive education and exclusive training on electric market transformation opportunities delivered by industry experts.

PROCEEDING INFORMATION

[Docket Log \(20-DECARB-01\)](#)

[Submit e-Comment \(20-DECARB-01\)](#)

SUBSCRIBE

Building Initiative for Low-Emissions Development Program

Email *


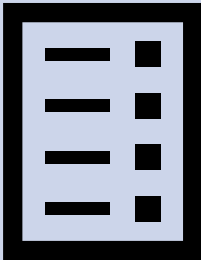
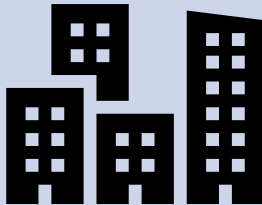
[SUBSCRIBE](#)



Eligibility Requirements



Eligibility

Applicant Eligibility	Project Eligibility	BUILD Includes...
<ul style="list-style-type: none">• Building owners or developers of low-income housing• 5 years experience• At least one affordable housing certificate of occupancy in California 	<ul style="list-style-type: none">• Low-income residential housing (single family and multifamily)• All electric and have no hookups to the gas distribution grid• Demonstrate Modeled Resident Utility Cost savings 	<ul style="list-style-type: none">• New residential buildings: SF, MF, triplexes, condos, dorms, residence hotels, assisted living, farm work housing, all electric mixed-use buildings• Tribal Areas 



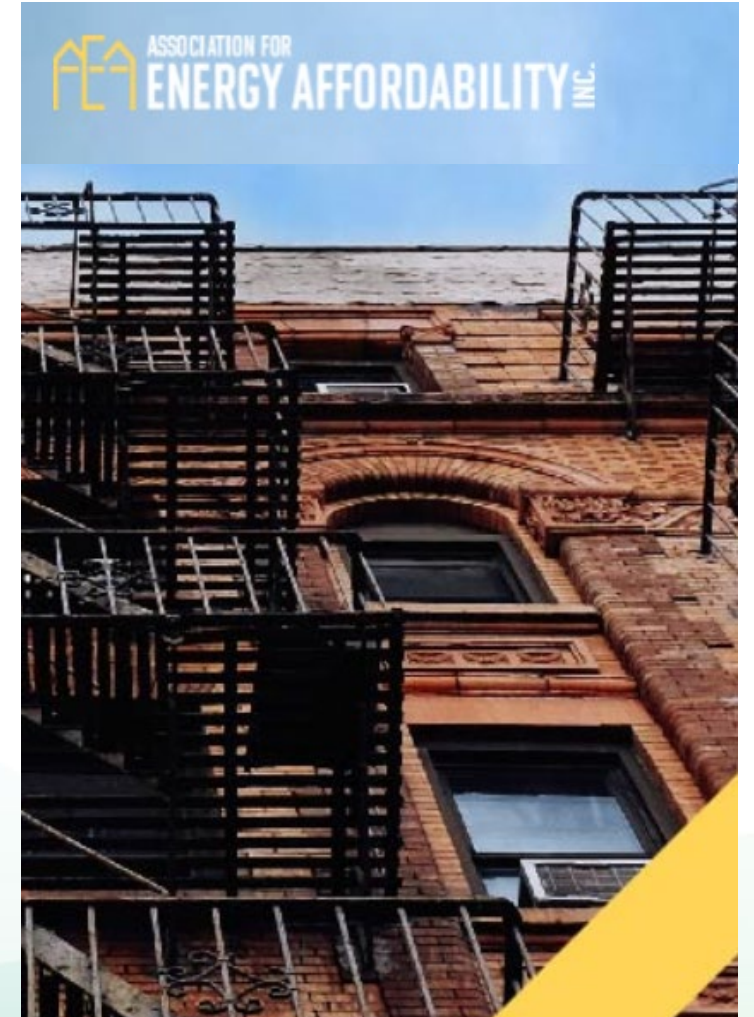
Residential Low-Income Requirements

Multifamily deed-restricted low-income residential rental building (2+ units)			Residential (condo or single-family)
Type 1 Disadvantaged community	Type 2 Low-Income community	Type 3 80% of the households with income at or below 60% AMI	Type 4 - Sold to low-income buyers at an affordable cost - Resale restriction or equity sharing agreement
Flexibility in Affordability Limits 80% at AMI defined by PUC 2852 (a)(3)(A); low-income housing tax credits, tax-exempt mortgage revenue bonds, general obligation bonds, or local, state, or federal loans or grants			



Technical Assistance

- Up to 300 hours of no-cost technical assistance
- Technical assistances can be used to:
 - Improve energy efficiency of a project
 - Support equipment selection and installation
 - Help fill knowledge gaps
 - Apply for BUILD
- Visit BUILD Technical Assistance webpage to apply at <https://www.energy.ca.gov/programs-and-topics/programs/building-initiative-low-emissions-development-program-build/build-0>



Screenshot from AEA website



Incentive Structure



Incentive Types

**Base
GHG
Incentive**

Based on
avoided GHG
emissions

+

**Increased
Building
Efficiency**

Based on % above
Code to obtain the
Building Permit

+

**Modeled
Resident
Utility Costs
and
Incremental
PV**

Based on additional PV
above Code to achieve
utility cost savings

+

**Kicker
Incentives**

Based on technologies
to reduce GHG
emissions such as:

=

**Total
Incentive**



Kicker Incentives



Grid Flexibility

\$50 for smart thermostats
\$500 for JA13 compliant HPWH



Refrigerants

Lower-GWP (<750)
\$500 per lb
Low-GWP (<150)
\$1,500 per lb



Induction Cooktop

\$300 for induction cooktops



Heat Pump Clothes Dryer

\$150 for heat pump clothes dryers



On-Site Energy Storage

\$250 per kWh for JA12 compliant battery systems



EV Chargers

\$200 for single-family
\$300 for multifamily

Smart EV Chargers

\$500 for single family
\$600 for multifamily

Bi-Directional EV Chargers

\$1,000 each



New Adopter Design Award

- Up to \$100,000 per applicant
- Eligible applicant's first all-electric residential building project
- Multifamily ≥ 10 dwelling units.

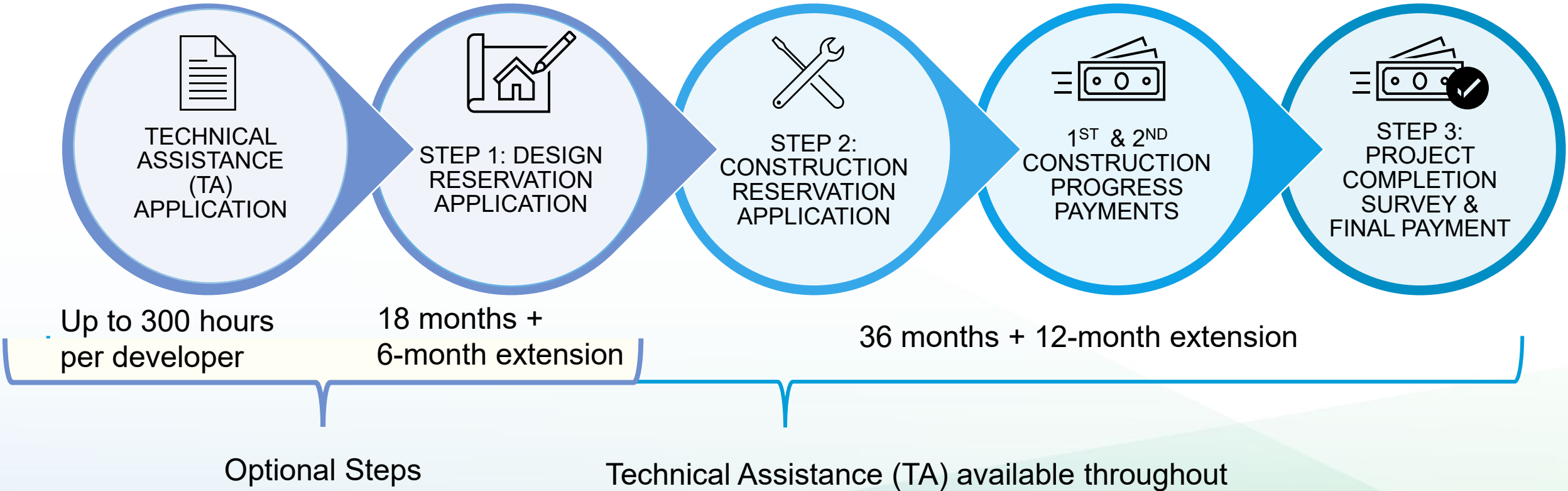
IOU	Total NA Funding Allocated	Remaining NA Funds
SCG	\$985,2000	\$385,200.00
PG&E	\$846,800.00	\$446,800.00
SDG&E	\$135,400.00	\$35,400.00
SWG	\$32,600.00	\$32,600.00
Total	\$2,000,000.00	\$900,000.00



Program Participation



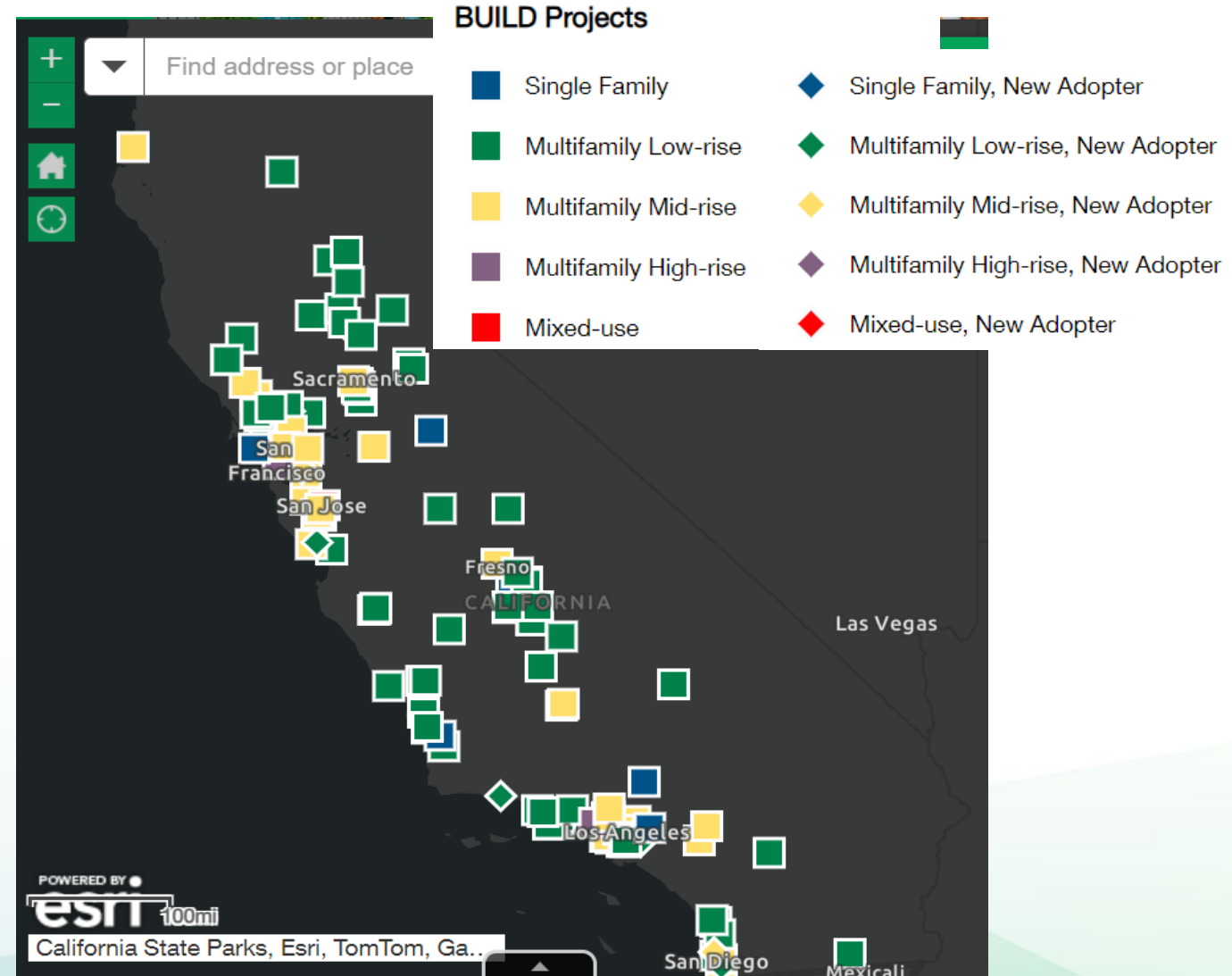
Program Participation Roadmap





BUILD Program Reach

- **65%** Multifamily - with 80% of household income at or below 60% AMI
- **19%** Multifamily - located in DAC
- **12%** Multifamily - located in Low Income Communities
- **4%** Single Family - Resale Restriction/Equity Agreement





Program Funding Update



Incentive Applications Status

Applications	Design Reservation	Construction Reservation	Project Completion	Total
Approved	40	44	3	87
In Review	11	6	0	17
Number of Active Projects:	51	50	3	104
Incentive Amounts:				
Approved	\$19,287,377	\$17,609,386	\$1,304,800	\$38,201,563
In Review	\$5,547,513	\$858,774	\$0	\$6,406,287
Incentive Amounts Approved by IOU:				
SCG	\$5,313,864	\$8,328,019	\$660,002	\$14,301,885
PG&E	\$11,562,138	\$8,975,487	\$644,798	\$21,182,423
SDG&E	\$2,411,375	\$305,880	\$0	\$2,717,255
SWG	\$0	\$0	\$0	\$0
Estimated Program Lifetime GHG savings for Approved Projects				4,892 MT CO2e

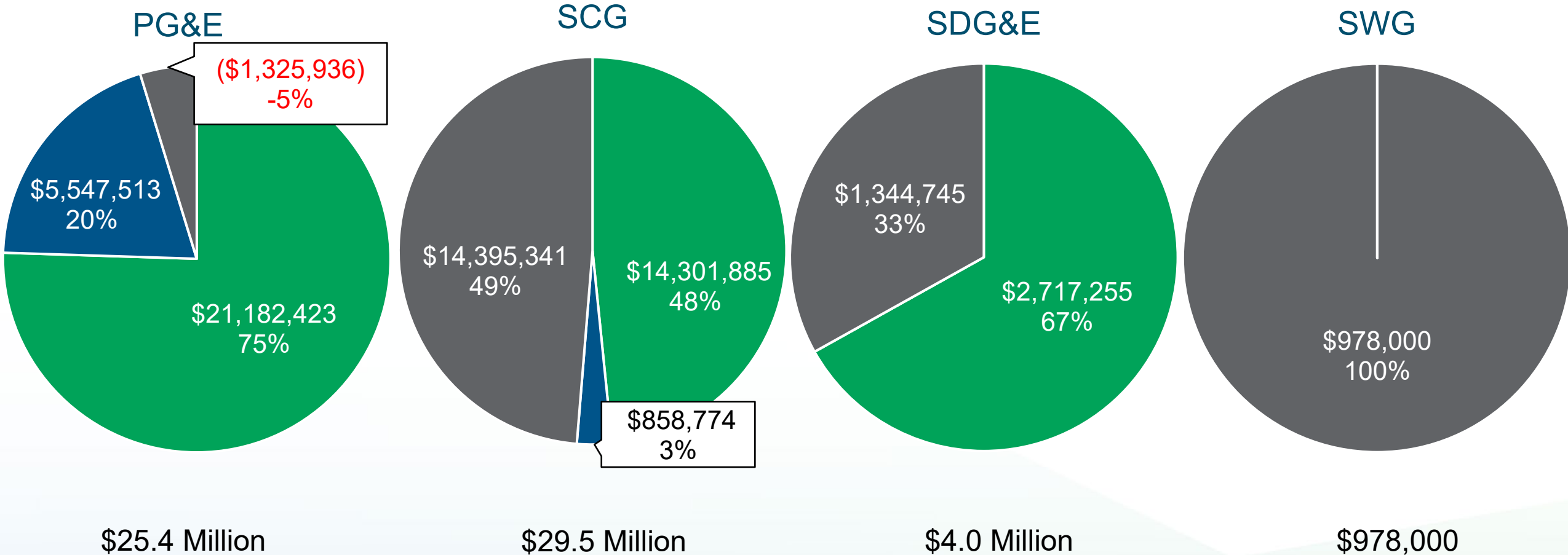


Approved, Anticipated Number of Affordable Units

Region	Design Reservation	Construction Reservation	Completion Reservation	Total
Central Coast	133	587	181	901
Inland Desert	0	96	136	232
Los Angeles	1,123	805	0	1,928
Sacramento Valley	409	592	120	1,121
San Diego	624	127	0	751
San Francisco Bay Area	789	549	72	1,410
San Joaquin Valley	356	440	76	872
Sierra Nevada Mountains	219	70	0	207
# Affordable Units	3,653	3,266	585	7,504



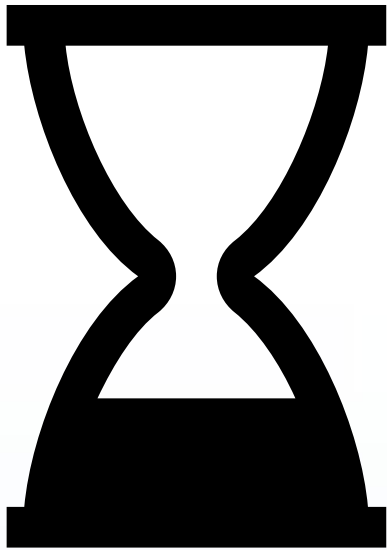
BUILD Remaining Budget



■ Incentive reserved ■ Application under review ■ Estimated funds remaining



Oversubscribed Territory Waitlist



- Program staff will continue to process incentive applications on a first-come, first-served basis, up to 95% of an IOU territory's budget allocation.
- Applications submitted afterwards will be placed on a waitlist.
 - Waitlisted applications that receive their Certificate of Occupancy will no longer be eligible.
- Any incentive revisions in a fully-subscribed territory may not receive their full amounts due to insufficient funds.



Application and Compliance Issues



Home



About



Projects



Contact Us

Testing Project Construction

Project Type : Construction

Project Status

Initial Screening

Supplemental Narrative

Calculator Upload

Supporting Documents

Summary

Project Information

Project Name

Testing Project Construction

Climate Zone (1-16)

9

Please provide CEA Name

Tester CEA



Common BUILD Application Issues

Eligibility

- Missing or incomplete narrative responses
- Project conformity with low-income requirements
- Unsigned compliance reports

Technical

- Missing energy models
- Incorrect versions of the Custom Path Tool (CPT)
- Discrepancies between submitted documentation
- Missing Step 3 Completion required documentation
 - Service Point & Premise Meter IDs no longer required

Claims

- Missing geotagged project foundation photograph
- Missing proof of invoice payment
- Missing project completion survey
- 3rd Party Assignments- no longer available



Evaluation Measurement & Verification Process: Project Participation Surveys & Site Visits

Key Elements of the EM&V Process

- Initial Application Approval Survey
 - Upon approval of Step 1 Design or Step 2 Construction application
- Applicant Completion Survey
 - Applicant must complete to receive final BUILD incentive payout
- Project Completion Site Visits





Proposed Guideline Revisions



Summary of Proposed BUILD Guidelines Revisions

- 1. Increase Participation:** Allow collective developer experience
- 2. Clarify Requirements:** Provide a rental/lease addendum to ensure Non-VNEM Modeled Resident Utility Cost Savings (Bill Savings) for tenants
- 3. Ensure Accuracy:** Require incentive and incremental PV calculation with Custom Path Tool (CPT) requirements
- 4. Update Equipment Lists:** Align with 2022 Energy Code and current industry trends.



1. Increase Participation

Topic	Current Requirements	Proposed Requirements
Developer Experience	Requires applicant to demonstrate 5 years of development experience, and developed and received a certificate of occupancy (COO) for at least one deed-restricted multifamily residential property in CA.	Make the 5-year developer experience requirement a collective total years of experience



Discussion Item 1

Increase Participation

- As proposed in Chapter 2, Section A.1; Chapter 5, Section A.2(b)(vii): allowing collective developer experience to meet the 5-year requirement.



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



2. The What and Where of Virtual Net Energy Metering (VNEM)*

VNEM is a program that allows multi-tenant building owners to install a solar energy system to cover the electricity load of both common and tenant areas connected at the same service delivery point. This allows property owners to share benefits of the PV system with their tenants, by allowing the owner to allocate portions of the energy credits to tenants and common areas.

Figure 1



- (1) central generation facility - exports energy to the grid
- (2) multiple tenants - tenant and common area units import energy from the grid
- (3) one service delivery point

LSE's with established or evolving VNEM programs:

- PG&E
- SDG&E
- SCE
- LADWP (pilot program)
- SMUD (Virtual Solar for qualified properties)
- Liberty and PacifiCorp (for SOMAH participants)
- Riverside (working towards implementing a VNEM program)

**Virtual Net Billing Tariff (VNBT) was adopted by the CPUC in D.23-11-068 as the successor tariff to VNEM. As of February 15, 2024, all new applicants must take service on VNBT (unless SOMAH or MASH).*



2. Non-VNEM Rental Agreement Addendum & CPT "Bill Savings"

The Custom Path Tool calculates the "Monthly Modeled Resident Utility Cost Difference" between the mixed fuel baseline and the all-electric BUILD project.

The bill savings calculations should, in most cases, be a meaningful rent reduction amount.

As Modeled	
Monthly Modeled Resident Utility Cost Difference =	-\$26.09
Modeled Utility Cost Savings =	-55%
As Modeled with BUILD Required PV	
Monthly Modeled Resident Utility Cost Difference =	\$2.39
Modeled Utility Cost Savings =	5%

Screenshot of Custom Path Tool describing a minimum of \$28.48 credit allocation to tenants.
(Calculations are for demonstrative purposes only. Actual credit amounts will be calculated and verified manually.)



2. Modified Non-VNEM Requirements

Topic	Current Requirements	Proposed Requirements
Modifying Non-VNEM Allocation Requirements to meet Modeled Utility Cost Savings	<p>Applicants must submit either a VNEM or a proof of measure and a legal covenant that assigns PV benefits to tenants, as calculated by the Custom Path Tool (CPT).</p> <p>Does not include a legal specificities or timeframe for projects.</p>	<p>Add a provision/addendum to allow for applicants to submit a rental/lease agreement that would issue utility/lease credits to tenants, equivalent to the Monthly Modeled Resident Utility Cost Difference, as calculated by the CPT.</p> <p>Minimum term is 5 years.</p>



Discussion Item 2

Modifying Resident Utility Cost Savings Requirements for Non-VNEM Applicants

- As proposed in Chapter 5, Section A.4.a: modifying the legal covenant to a rental/lease addendum template that provides a utility rent credit for 5 years.



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



3. Ensure Accuracy

Topic	Current Requirements	Proposed Requirements
<p>Deprecating the BUILD Calculator references as a pathway for incentive calculations during Step 1 Design.</p>	<p>Applicants may use either the BUILD Calculator or CPT to apply at Step 1. The CPT is required to apply at Step 2 or Step 3.</p>	<p>Revise language to require CPT usage for all application steps unless the applicant is identified as a new adopter. (Chapter 3, Section A.2.a.)</p> <p>Revisions include Step 1 Design incentive calculations, Chapter 2 Section A.6, Chapter 4 Section B, and Chapter 5.</p>



Discussion Item 3

Ensure Accuracy

- As proposed in Chapter 2, Section A.6; Chapter 4, Section B; Appendix B: ensuring the accuracy of incentive calculations and fund availability through consistent use of the Custom Path Tool.



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



4. Proposed BUILD Guideline Changes – Modeled Resident Utility Costs Methodology

Topic	Current Methodology	Proposed Methodology
Rates	2020 rates	Adding 2023 rates
Excess PV Generation	Net Energy Metering 2.0 (NEM 2.0)	Adding Net Billing Tariff (NBT)
Rate Schedules	Default Time-Of-Use (TOU) or tiered rates	Adding rates required by NBT
Utility not listed in Custom Path Tool (CPT)	Applicant provides utility tariffs to CEC	Adding the option of accepting one of the existing investor-owned utility tariffs in the CPT



Discussion Item 4

Modeled Resident Utility Costs Methodology

- As proposed in Appendix C: updates the Modeled Resident Utility Costs Methodology to reflect rate revisions including those required by the new Net Billing Tariff.



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



5. Proposed BUILD Guideline Changes – Space Conditioning Equipment

Core Technologies	Current Requirements	Proposed Requirement
Air-Source Split Central Heat Pump	Heating Seasonal Performance Factor (HSPF) ≥ 8.2	HSPF2 ≥ 7.5 Energy Efficiency Ratio (EER2) EER2 ≥ 11.7 (for $< 45,000$ Btu/h) EER2 ≥ 11.2 (for $\geq 45,000$ Btu/h)
Variable Capacity Heat Pump (VCHP)	Meet all requirements of the VCHP Compliance Option*	Meet all requirements of the VCHP Compliance Option or meet performance values specified in the Northeast Energy Efficiency Partnerships (NEEP) database for a detailed analysis
Variable Refrigerant Flow (VRF)	HSPF ≥ 7.7 , COP ≥ 3.3	HSPF2 ≥ 7.5 (for capacity $< 65,000$ Btu/h) COP ≥ 3.3 (for capacity $\geq 65,000$ Btu/h)

*Qualifying variable-capacity heat pumps shall meet the requirements of publication CEC-400-2019-012, located at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=234449&DocumentContentId=67303>



5. Proposed BUILD Guideline Changes – Water Heating Equipment

Core Technologies	Current Requirements	Proposed Requirement
Central On-site Heat Pump Water Heater (HPWH)	UEF \geq 3.75 Or CEC Certified and available in the CEC approved compliance software	CEC Certified* (JA14) Or Available in the CEC approved compliance software. Or Cluster of NEEA Tier 3 unitary heat pump water heaters (compressor should be listed). Or NEEA Tier 2 commercial heat pump water heater.

*Qualifying central heat pump water heater shall be certified and on the CEC's certification list, located at <https://www.energy.ca.gov/rules-and-regulations/building-energy-efficiency/manufacture-certification-building-equipment-8>



5. Proposed BUILD Guideline Changes – Kicker Equipment Updates

Eligible Technologies	Current Requirements*	Proposed Requirement
Grid Flexibility, Joint Appendix 13 (JA13) HPWH	For HPWHs, must comply with 2019 Title 24 Part 6 Joint Appendix 13.	For unitary HPWHs, must comply with Title 24 Part 6 Joint Appendix 13.
Smart EVSE	<ul style="list-style-type: none"> • Minimum rate of 6.2 kW • Automatic Load Management System (ALMS) requirement • CALeVIP Eligible Equipment List or ENERGY STAR-certified • Approved by a NRTL program • Support Open Charge Point Protocol or OpenADR 	<ul style="list-style-type: none"> • For AC EVSE only, minimum rate of 6.2 kW • Listed on Southern California Edison’s Approved Product List
Bi-Directional EVSE	<ul style="list-style-type: none"> • Meet the smart EVSE requirements • Submitting an approved interconnection agreement or an equivalent approval from the electric utility 	<ul style="list-style-type: none"> • Meet the Smart EVSE requirements listed above • Submit an approved interconnection agreement or an equivalent approval from the electric utility • (For electric IOU) UL 1741 SB certified for interconnection in CA.**

*Please refer to Table B.3 from the guidelines for the complete list of requirements. **Please refer to the applicable utility’s interconnection tariff (Electric Rule 21)



5. Proposed BUILD Guideline Changes – Other Technologies

Eligible Technologies	Current Requirements	Proposed Requirement
Electric Resistance	Guidelines only lists heat pump technologies	Add clarification that equipment that use electric resistance as the <u>primary technology</u> will not qualify for incentives. Additionally, these spaces will be removed from the incentive calculations.
Ground-Source Heat Pumps (GSHPs)	Current guidelines do not allow for GSHPs.	Update guidelines to allow other heat pumps that follow ISO-13256 and use the minimum standards as specified in the 2022 Energy Code.



Discussion Item 5

Update Equipment Lists

- As proposed in Appendix B: Proposed updates to various equipment lists.



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



Public Comments & Next Steps



Public Comments

Limited to 3 minutes per comment

4 ways to leave a public comment:

1. Use the “raise hand” feature in Zoom
2. Type your question in the Q&A window
3. Over the telephone: dial *9 to “raise hand” and *6 to mute/unmute your phone line
4. You can submit your comments in writing during the 14-day public comment period



Written Comments

- Written comments due by 5:00PM on December 3, 2024
- Submit through the e-commenting system at: <https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-DECARB-01>

Add Comment

Docket #: 20-DECARB-01 Project Title: Building Initiative for Low-Emissions Development (BUILD) Program

Fields denoted by an asterisk (*) are required.

Contact Information

Full Name * Business or Entity Name or Your Name (if filing for yourself)	Contact Address
<input type="text"/>	<input type="text"/>
Email Address *	Address 2
<input type="text"/>	<input type="text"/>
Role in this Proceeding	City State Zip
Public <input type="text"/>	<input type="text"/> CA <input type="text"/>

Comment

Comment Title *	Subject(s) select one or more
<input type="text" value="Invalid characters: /:*<> "/>	<input type="text" value="Choose subject(s)"/>
128 Character left out of 128	
Comment Text not required if you include a document attachment	
<input type="text"/>	



Anticipated Schedule

- CEC comment period ends December 3rd at 5:00PM
- Post final draft guidelines by mid-December 2024
- Anticipate Guideline approved at CEC Business Meeting on January 21, 2025



Thank You



Email & BUILD Webpage:

BUILD@energy.ca.gov

<https://www.energy.ca.gov/programs-and-topics/programs/building-initiative-low-emissions-development-program>