STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

PUBLIC UTILITIES COMMISSION

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TO PARTIES OF RECORD IN RULEMAKING 19-01-011

This is the proposed decision of Commissioner Liane M. Randolph. Until and unless the Commission hears the item and votes to approve it, the proposed decision has no legal effect. This item may be heard, at the earliest, at the Commission's March 26, 2020 Business Meeting. To confirm when the item will be heard, please see the Business Meeting agenda, which is posted on the Commission's website 10 days before each Business Meeting.

Parties of record may file comments on the proposed decision as provided in Rule 14.3 of the Commission's Rules of Practice and Procedure.

/s/ ANNE E. SIMON_________
Anne E. Simon
Chief Administrative Law Judge

AES:avs

Attachment

Decision **PROPOSED DECISION OF COMMISSIONER RANDOLPH**
(Mailed 2/12/2020)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Building Decarbonization.	Rulemaking 19-01-011

PROPOSED DECISION ESTABLISHING BUILDING DECARBONIZATION PILOT PROGRAMS

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PROPOSED DECISION ESTABLISHING BUILDING DECARBONIZATION PILOT PROGRAMS

Summary

This decision establishes a framework for California Public Utilities Commission oversight of Senate Bill (SB) 1477's (Stern, 2018) two building decarbonization pilot programs – the Building Initiative for Low-Emissions Development (BUILD Program) program and the Technology and Equipment for Clean Heating (TECH Initiative) initiative. These two pilot programs are designed to develop valuable market experience for the purpose of decarbonizing California's residential buildings in order to achieve California's zero-emissions goals.

This building decarbonization pilot program funding is authorized and financed pursuant to SB 1477. SB 1477 makes available $50 million annually for four years,[1] for a total of $200 million, derived from the revenue generated from the greenhouse gas (GHG) emission allowances directly allocated to gas corporations and consigned to auction as part of the California Air Resources Board's (CARB's) Cap-and-Trade program.[2] This decision appropriates 40 percent of the $200 million budget for the BUILD Program and 60 percent for the TECH Initiative.

To comply with CARB rules regarding Cap-and-Trade funds, spending for the BUILD Program and the TECH Initiative shall be proportionally directed to

[1] Fiscal Year (FY) 2019-2020 to FY 2022-23.

[2] Four gas corporations currently participate in California's Cap-and-Trade program: Southern California Gas Company, Pacific Gas & Electric Company, San Diego Gas & Electric Company, and Southwest Gas Corporation.

the gas corporation service territories where the funds are derived.[3] The percentage allocation for pilot program spending in each gas corporation service territory shall be consistent with each gas corporation's allocation of Cap-and-Trade allowances:

Southern California Gas Company: 49.26 percent
Pacific Gas and Electric Company: 42.34 percent
San Diego Gas & Electric Company: 6.77 percent
Southwest Gas: 1.63 percent

To the extent that there are unspent GHG allowance proceeds allocated for an individual gas corporation's service territory, and no remaining eligible projects within that service territory, the remaining GHG allowance proceeds may be spent, starting two years after initial implementation.

The BUILD Program shall be administered by the California Energy Commission (CEC), with California Public Utilities Commission (Commission or CPUC) oversight.[4] We ask the CEC to design the BUILD Program with the goal to deploy near-zero emission building technologies in the largest number of new residential housing units possible. To achieve that aim, at least 30 percent of the total $200 million in total funding authorized by SB 1477 (*e.g.,* $80 million) is appropriated for new low-income residential housing under BUILD Program.

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[3] *See* Title 17 of the California Code of Regulations Section 95893(d)(3): "Allowance value, including any allocated allowance auction proceeds, obtained by a natural gas supplier must be used for the primary benefit of retail natural gas ratepayers of each natural gas supplier, consistent with the goals of Assembly Bill 32, and may not be used for the benefit of entities or persons other than such ratepayers."

[4] "CPUC oversight," is defined as activities typically performed by the CPUC where ratepayer funds are expended for public interest purposes. For example, the CPUC retains ultimate policy oversight in the areas of energy efficiency, demand response, renewables, and general procurement of electricity. Staff Proposal, Section 4.2.

This percentage is not the ceiling for spending on low-income housing but rather, the floor.

Incentive eligibility for the BUILD Program shall be limited strictly to newly constructed[5] all-electric building projects, without any hookup to the gas distribution grid.

In the event that funds reserved for new low-income residential housing building projects remain unspent after two years following BUILD Program implementation, the CEC, and after informal consultation with the Commission's Energy Division staff, and through the implementation plan approval process, may change building project eligibility requirements, as allowed under Public Utilities Code Section 921.1(c)(2), to include, but not be limited to, the following:

1) Extending unspent funds to new market-rate housing projects;
2) Extending funding eligibility to new construction in existing buildings pursuant to the California Energy Code;
3) Extending funding eligibility to building projects that repurpose industrial or commercial facilities for residential use; and
4) Extending funding eligibility to electric-ready retrofits to ease future transitions toward all-electric buildings.

The California Energy Commission shall ensure that technical assistance is available to all prospective applicants for new low-income residential housing building projects in order to encourage greater participation in the BUILD Program. If necessary, the CEC has the discretion to solicit a third-party contractor to provide technical assistance or to implement any or parts of the BUILD Program for effective implementation.

[5] Title 24 of the California Code of Regulations Section 100.1 defines a "newly constructed" building as a building that has never been used or occupied for any purpose.

The TECH Initiative shall be effectuated by a third-party implementer. The third-party implementer shall be selected with Commission oversight. The Commission directs Southern California Edison Company (SCE) to act as the contracting agent responsible for managing the solicitation for the third-party implementer. SCE is entitled to a portion of the TECH Initiative funding, to recover expenses that may be incurred while serving as the contracting agent. The selection of the implementer shall occur through a request for proposal process. The Commission's Energy Division, alongside a panel of financially disinterested experts, shall score proposals and select a bidder to serve as the third-party implementer for the TECH Initiative. Upon the conclusion of the selection process, SCE shall file a Tier 3 advice letter seeking approval of candidate-implementer for the TECH Initiative.

To accelerate market development and adoption of building decarbonization technologies targeted under the TECH Initiative, we allow the implementer the prerogative to consider or build upon an array of tactics and approaches. However, we require the implementer to, at a minimum, use the upstream and midstream approaches we adopt here, as well as provide consumer education, contractor training, and vendor training. We decline to adopt a prescriptive list of eligible technologies and products, until an implementer is selected for the TECH Initiative, as Applicants in the request for proposal process shall propose the most promising market segments areas for focused implementation efforts. We support the development of program designs that consider barriers to participation faced by low-income, disadvantaged, and hard-to-reach customers in order to maximize the market development benefits for these customer segments.

Finally, a single, independent program evaluator shall evaluate both pilot programs. SCE shall procure the independent program evaluator through a request for proposal process at the same time as the implementer for the TECH Initiative is procured. The program evaluator shall be engaged throughout the initiation of these two pilot programs and during the administration of them to ensure that substantive, real-time feedback is given, and data and information gathering is meaningful to support programmatic success.

1. Background

The California Public Utilities Commission (Commission or CPUC) initiated this rulemaking to craft a policy regarding the decarbonization of buildings in California. Phase I of this proceeding focuses on the implementation of Senate Bill (SB) 1477 (Stern, 2018), which requires the Commission to develop two programs, designed to test two specific programmatic approaches to building decarbonization. The two SB 1477 pilot programs are: (1) the Building Initiative for Low Emissions Development or BUILD (BUILD Program); and (2) the Technology and Equipment for Clean Heating (TECH Initiative).

First, the BUILD Program, codified under Sections 921 and 921.1,[6] is aimed to incent the deployment of near-zero building technologies in new residential buildings that reduce greenhouse gas (GHG) emissions significantly beyond what otherwise would be expected to result from the implementation of the prescriptive standards described in Part 6 of Title 24 of the California Code of

[6] All subsequent references are to the Public Utilities Code unless otherwise specified.

Regulations (California Energy Code).[7] Second, the TECH Initiative, codified under Section 922, is aimed to advance California's market for low-emissions space and water heating equipment that is in an early stage of market development in both new and existing residential buildings.

The BUILD Program and TECH Initiative are building decarbonization pilot programs intended to raise awareness of building decarbonization technologies and applications, test program and policy designs, and gain practical implementation experience and knowledge necessary to develop a larger scale approach in the future. Scalability is a critical criterion for evaluating different program design and implementation options.

1.1. BUILD Program Statutory Requirements

SB 1477 establishes key strictures for the BUILD Program. First is the BUILD Program's funding source. Under Sections 748.6 and 921.1(a)(3), the Legislature provides that funding for the BUILD Program is available from a pool of $200 million, collected in four $50 million annual installments, from Fiscal Year (FY) 2019-20 to FY 2022-23. These funds are derived from the greenhouse gas (GHG) proceeds resulting from emissions allowances directly allocated to gas corporations and consigned to auction as part of the California Air Resources Board's (CARB) Cap-and-Trade program.

Second, SB 1477 places specific programmatic emphasis on "new, low-income residential housing."[8] SB 1477 requires that no less than 30 percent of the total funding allocated by SB 1477 be reserved to incentivize "new

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[7] The California Energy Code is updated every three years. References to the California Energy Code used in this decision mean the iteration of the code that the building project applying for the incentive will be built to.

[8] Pub. Util. Code § 921.1(c)(1).

low-income, residential housing."[9] SB 1477 also requires that for new low-income, residential housing building projects must: (a) receive higher incentives than other types of housing,[10] (b) be offered technical assistance, and (c) not result in higher utility bills for occupants.[11] SB 1477 further specifies that an outreach plan must be implemented to encourage applications for projects in new low-income, residential housing building projects.[12] Finally, SB 1477 establishes for all building projects funded by the BUILD Program requirements for incentives[13] and program guidelines.[14]

1.2. TECH Initiative Statutory Requirements

SB 1477 establishes key parameters for the TECH Initiative. First, under Sections 748.6 and 922.(d), funding for the TECH Initiative is available from a pool of $200 million, collected in four $50 million annual installments, starting in FY 2019-20 to FY 2022-23, and derived from the GHG proceeds resulting from emissions allowances directly allocated to natural gas corporations and

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[9] *Id.*

[10] Pub. Util. Code § 921.1(b) and § 921.1(d)(2).

[11] Pub. Util. Code § 921.1(d)(3).

[12] Pub. Util. Code § 921.1(d)(5).

[13] Pub. Util. Code § 921.1(a) requires that incentives be provided such as to significantly reduce emissions of greenhouse gases (GHGs) that would otherwise be expected to result from compliance with the prescriptive building energy standards established under Section 150.1 of Subchapter 8 of Part 6 of Title 24 of the California Code of Regulations (California Energy Code). Pub. Util. Code § 921.1(b) states that the amount of the incentive must be set in consideration of other existing available incentives and the amount of expected GHG emission reductions.

[14] Pub. Util. Code § 921.1(d)(4)(A) states that the BUILD Program guidelines must include, at a minimum: (1) a list of eligible technologies; (2) a process for evaluating new technologies; (3) criteria for scoring and selecting projects; and (4) a process and set of metrics by which to evaluate and track the BUILD Program's results pursuant to § 921.1(d)(4)(B).

consigned at auction as part of the CARB's Cap-and-Trade program. This funding source is shared with the BUILD Program.[15]

Second, SB 1477 places specific programmatic emphasis on eligible technology and targeting criteria. Section 922(b) specifies that, the TECH Initiative's technology and targeting criteria are: (1) low-emission space and water heating; (2) technology at an early stage of market development; (3) technology with the greatest potential for reducing GHG emissions; and (4) technology with the greatest potential for improving health and safety and energy affordability for low-income households.

Third, SB 1477 requires the Commission, in coordination with the CEC, to develop guidelines and evaluation metrics, implement outreach strategies for hard-to-reach customers, and provide job training and employment opportunities.[16] The guidelines[17] and evaluation metrics[18] require, among other things, consideration of projected utility bill savings.

1.3. SB 1477 Pilot Programs Staff Proposal Summary

The Commission and CEC staff jointly issued a *Staff Proposal for Building Decarbonization Pilot – Draft* (Staff Proposal or Staff) on July 16, 2019.[19] The Staff Proposal provides recommendations and proposals for how to implement the

[15] Pub. Util. Code §§ 748.6 and 922(d).

[16] Pub. Util. Code § 922(c)(1).

[17] Pub. Util. Code § 922 (c)(2)(A) states that the TECH Initiative guidelines must include, at a minimum: (1) a list of eligible technologies; (2) a process for evaluating new technologies; and (3) a process and set of metrics by which to evaluate and track the TECH Initiatives results pursuant to § 922(c)(2)(B).

[18] Pub. Util. Code § 922(c)(2)(B) states that evaluation metrics must include: (1) market share for eligible technologies; (2) projected utility bill savings; and (3) cost per metric ton of avoided GHG emissions.

[19] *See*: https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442462255

BUILD Program and TECH Initiative to promote building decarbonization pursuant to SB 1477. The Staff Proposal includes policy rationales and frameworks that the Commission could use to support development of portions of the building market to support faster penetration of technologies that will help decarbonize residential buildings in California. The Staff Proposal includes the following key recommendations:

- Guiding Principles: the BUILD Program and TECH Initiative should put California on a path to have completely carbon-free homes by 2045. To do this, the pilot programs should also strive for equity, cost-effectiveness, regulatory simplicity, and market transformation.
- Budget: the CPUC should allocate 40 percent of the total annual funding made available by SB 1477 to the BUILD Program and 60 percent to the TECH Initiative, excluding evaluation costs.
- BUILD Program Administration: the CPUC should provide policy oversight of the BUILD Program, with the CEC potentially designing and administering the program.
    - Incentive Eligibility: BUILD Program incentives should only be available for all-electric residential new construction projects.
    - Low-income and Disadvantaged Communities with Technical Assistance for Project Developers: the CPUC should set aside 30 percent of the annual funding made available to the BUILD Program and for new residential housing in low-income and/or disadvantaged communities. A portion of these funds should be dedicated for a contractor with low-income project development expertise to provide technical assistance to low-income residential building project developers.
        - Incentives Levels by Technology Type and Climate Region: BUILD Program incentives should be

established for specific technology categories and climate regions.

- Kicker Incentives: additional BUILD Program incentives should be made available for a small number of technologies that provide incremental GHG reductions beyond the basic incentives introduced in the Staff Proposal.
- Project Level: the CPUC should consider offering BUILD Program incentives at the subdivision level rather than, or in addition to, the building level.
- Education and Outreach for Builders: the CPUC should ensure the provision of outreach materials to builders, with specific information about each incentive category, including the type of equipment that is eligible, proper installation guidelines, and expected emission reductions.

- TECH Initiative Administration: the CPUC should select a third-party implementer for the TECH Initiative and create a governance structure where the CPUC provides central oversight, while also allowing the CEC and stakeholders to provide collaborative input.
  - Program Architecture
    - Strategy 1 (Upstream): the implementer should partner with supply-side market actors to adopt the most efficient equipment available with incentives.
    - Strategy 2 (Midstream): the implementer should provide incentives to wholesale distributors, retailers, e-commerce companies, and/or contractors to stock and/or sell more efficient products.
    - Strategy 3 (Quick Start Grants): the implementer should provide a limited carve out of the TECH Initiative budget to create grant money for high-impact projects and partnerships that rapidly test market transformation strategies.

    - Strategy 4 (Prize Program): the CPUC, implementer, and stakeholders should set up simple targets for entities to meet, with a prize given to the first entity who hits the target (*e.g.*, the number of heat pump heating ventilation and air conditioning (HVAC) systems installed).
    - Target Geographical Areas: the Implementer should consider a regional approach in its initial targeting of customers who are most likely to see bill savings. Additional priority should be given to targeting incentives in areas prone to gas infrastructure failures, particularly the area around Aliso Canyon in Southern California.
    - Education and Outreach for the TECH Initiative: the implementer should provide a robust plan to educate key market participants about the TECH Initiative.
- Eligible Technologies: targeted technologies of the BUILD Program and TECH Initiative should include heat pump technologies for space and water heating, and solar thermal technologies for water heating. Other technologies that achieve comparable heating-related GHG emission reductions to heat pump and solar thermal technologies should be considered.
- Metrics: program success should be measured using the following metrics: (1) volume of GHG emissions reduced or avoided; (2) cost per metric ton of avoided GHG emissions; (3) projected utility bill savings; (4) number of low-emission systems installed (BUILD Program only); and (5) market share for eligible technologies (TECH Initiative only).

1.4. Parties' Response to Staff Proposal

Comments on the Staff Proposal were filed on August 13, 2019 by parties. The parties are: (1) Association of Bay Area Governments (ABAG); (2) Bioenergy Association of California (BAC) and American Biogas Council (ABC);

(3) California Building Industry Association (CBIA); (4) California Efficiency + Demand Management Council (The Council); (5) California Energy Storage Alliance (CESA); (6) California Housing Partnership Corporation (The Partnership); (7) California Hydrogen Business Council (CHBC); (8) California Solar & Storage Association (CALSSA); (9) Center for Sustainable Energy (CSE); (10) Environmental Defense Fund (EDF); (11) Coalition for Renewable Natural Gas (CRNG); (12) National Fuel Cell Research Center (NFCRC); (13) Pacific Gas & Electric Company (PG&E); (14) Public Advocates Office (Cal Advocates); (15) San Diego Gas & Electric Company (SDG&E); (16) Natural Resources Defense Council, California Environmental Justice Alliance, and Sierra Club (Joint Environmentals); (17) Small Business Utility Advocates (SBUA); (18) Sonoma Clean Power, Peninsula Clean Energy, Marin Clean Energy, and Silicon Valley Clean Energy Authority (Joint CCAs); (19) Southern California Edison Company (SCE); (20) Southern California Gas Company (SoCalGas); (21) Southwest Gas Corporation (SWG); (22) Vermont Energy Investment Corporation (VEIC); and (23) Wild Tree Foundation.

Reply Comments were filed on August 20, 2019. The parties that field reply comments are : (1) Cal Advocates; (2) Coalition for Renewable Natural Gas (CRNG); (3) CHBC; (4) CSE; (5) CALSSA; (6) EDF; (7) Joint Environmentals; (8) NFCRC; (9) SBUA; (10) SCE; (11) SoCalGas; (12) SWG; (13) VEIC; and (14) Wild Tree Foundation.

2. Issues Before the Commission

The assigned Commissioner issued a Scoping Memo and Ruling on May 17, 2019.[20] The Scoping Memo determined that in the first Phase of this

[20] *See*: http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M290/K324/290324466.PDF

proceeding, the scope of this rulemaking will focus on the implementation of SB 1477's two pilot programs, the BUILD Program and the TECH Initiative. As set forth in the Scoping Memo, the issues are:

1. How should the Commission implement SB 1477?
   a. Who should the Commission select to administer the BUILD Program?
      i. How should the Commission authorize funding for the BUILD Program and the TECH Initiative pursuant to Section 748.6?
      ii. How should the Commission establish budgets for the BUILD Program and TECH Initiative?
   b. Who should the Commission select to administer the TECH Initiative?
   c. What program design parameters should the Commission establish for the BUILD Program?
      i. Technology eligibility criteria;
      ii. Process for evaluating new technologies;
      iii. Guidelines and evaluation metrics;
      iv. Criteria for scoring and selecting projects; and
      v. Customer eligibility for benefits of the BUILD Program.
   d. What program design parameters should the Commission establish for the TECH Initiative?
      i. Technology eligibility criteria;
      ii. Process for evaluating new technologies;
      iii. Guidelines and evaluation metrics;
      iv. Criteria for scoring and selecting projects; and
      v. Customer eligibility for benefits of the TECH Initiative.
   e. Who should the Commission select to evaluate the BUILD Program and TECH Initiative?

2. Should the Commission implement any programs dedicated specifically to support the construction of decarbonized buildings in communities affected by wildfires?
3. Should the Commission make any changes to existing policies, rules, or procedures in order to facilitate better coordination with the development of Title 24 and Title 20 standards at the CEC that facilitate building decarbonization?
4. What policies, rules, and procedures should the Commission adopt to facilitate the decarbonization of buildings?

Additionally, the Scoping Memo directed the Commission's Energy Division (Energy Division), in joint consultation and development with CEC staff, to develop the Staff Proposal (discussed above) with a proposed approach to implement SB 1477's BUILD Program and TECH Initiative. The assigned Administrative Law Judge (ALJ) issued the Staff Proposal through a ruling on July 16, 2019, requiring parties to this proceeding to comment on the Staff Proposal and respond to specific questions regarding the proposed approaches.

3. Discussion and Analysis of Common Issues Between the BUILD Program and TECH Initiative

In SB 1477, the Legislature determined that the electricity and heating fuels used in buildings are responsible for a quarter of California's GHG emissions and contribute to indoor and outdoor air pollution.[21] The Legislature further found that there are a range of technologies that can achieve deep emissions reductions in buildings, including advanced energy efficiency technologies, clean heating technologies, energy storage, and load management strategies.[22]

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[21] *See*: http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1477

[22] *Id.*

SB 1477's findings and declarations also identify the barriers to and benefits of building decarbonization. Barriers to building decarbonization include, but are not limited to, clean heating technologies that are not widely available in the marketplace and little uptake of near-zero emissions construction practices.[23] Benefits of building decarbonization include not only reduced GHG emissions, but also the potential for utility bill savings, improved housing affordability, and a greater selection of products available for California consumers.[24]

In adopting SB 1477, the Legislature declared its intent that California build on its success in incentivizing rooftop solar energy systems by providing new incentives for decarbonized buildings.[25]

3.1. SB 1477 Pilot Program Budgets

Section 748.6 requires the Commission, from FY 2019-20 July 1, 2019 through FY 2022-23, to allocate $50 million annually, including any accrued interest,[26] from gas corporations' GHG allowance proceeds to fund the BUILD Program and TECH Initiative pursuant to SB 1477.

In the Scoping Memo and Ruling,[27] and in a subsequent Administrative Law Judge Ruling,[28] parties were asked: (1) whether the Staff Proposal's approach for using gas corporation revenue from the direct allocation of GHG allowances for funding the BUILD Program and TECH Initiative is reasonable;

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[23] *Id.*

[24] *Id.*

[25] *Id.*

[26] Neither the statute nor the Staff Proposal defines when interest starts accruing.

[27] May 17, 2019 Assigned Commissioner's Scoping Memo and Ruling.

[28] July 16, 2019 Assigned Administrative Law Judge's Ruling.

(2) whether the Staff Proposal's approach appropriately prescribes how to prioritize among different authorized uses of directly allocated GHG emission allowance revenues; and (3) whether the Staff Proposal's proposed budgets for the BUILD Program and TECH Initiative are appropriate.

3.1.1. Staff Proposal Recommendations for Pilot Program Appropriations

The Staff Proposal provides budgetary guidelines for both the BUILD Program and TECH Initiative. The Staff Proposal recommends allocating 40 percent of $50 million in annual funding to the BUILD Program and 60 percent of $50 million in annual funding to the TECH Initiative. The Staff Proposal also recommends a larger allocation of funds for the TECH Initiative than the BUILD Program because a successful decarbonization effort will have to address existing buildings, which is more challenging due to the number of existing buildings, their diversity, and barriers facing home energy retrofits.[29]

The Staff Proposal recommended that 10 percent of the BUILD Program's budget (*i.e.,* $2 million annually) be used for administration and did not specify an administrative budget for the TECH Initiative.[30]

Pursuant to SB 1477, as featured in the Staff Proposal, $50 million for funding the two pilot programs is available annually for four years from the GHG allowance proceeds resulting from emission allowances directly allocated to gas corporations and consigned to auction as part of the CARB Cap-and-Trade program.

With respect to the budget appropriation for program evaluation, the Staff Proposal recommends the following:

[29] Staff Proposal, Section 1.2.

[30] Staff Proposal, Section 3.1.

- The program evaluation budget should be set at four annual percent of program costs, or $2,000,000 per year;
- The CPUC should hire one evaluator for both pilot programs; and
- The program evaluation budget should be split between both the BUILD Program and TECH Initiative

3.1.2. Parties' Positions

Parties did not reach a consensus on the Staff Proposal's allocation of funds but generally agreed that the Staff Proposal was compliant with the plain language of Sections 748.6, 921.1(a)(3) and 922(d). We summarize the positions of the parties, below.

The Joint Environmentals recommend that the Commission provide a four-year budget rather than an "annual budget."[31] The Joint Environmentals recommend that the allotment for low-income program costs should be a minimum, not a cap, and the budget for technical efforts should be benchmarked for similar efforts.[32] The Joint Environmentals agree with the Staff Proposal's division of funding between the BUILD Program and TECH Initiative.[33]

Cal Advocates offer that to implement the statutorily required funding mechanism, the Commission should direct the gas corporations to file a Tier 1 advice letter creating an SB 1477 balancing account in which to record authorized Cap-and-Trade proceeds for the BUILD Program and TECH Initiative and from which to disburse funds to the pilot program's administrators and evaluators.[34] Cal Advocates recommends that the each gas corporation should also adjust the

[31] Joint Environmentals Opening Comments on Staff Proposal at 5.

[32] *Id.*

[33] *Id.* at 7.

[34] Cal Advocates Opening Comments on Staff Proposal at 2.

annual climate credit beginning with the April 2020 climate credit.[35] Cal Advocates also recommends that the Commission should only authorize the first year of the budget based on the Staff Proposal, and, in parallel, move forward with a phase of the proceeding to develop budgets for years two through four.[36]

BAC asserts that the budget is too small and needs a portfolio of decarbonized fuels and technologies.[37] CHBC,[38] BayREN[39] and Wild Tree Foundation[40] support the Staff Proposal's funding allocation division with 40 percent of the funds going to the BUILD Program and 60 percent going to the TECH Initiative.

CALSSA supports the budgetary division in the Staff Proposal, stating that retrofitting existing buildings is a "more important and more difficult challenge … and should therefore receive a high portion of funding"[41] CALSSA recommends the Commission consider allocating up to 70 percent of funding for the TECH Initiative and 30 percent for the BUILD Program.[42]

EDF believes that 40 percent of funding for the BUILD Program and 60 percent for the TECH Initiative is an appropriate allocation for an overall

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[35] *Id.*

[36] *Id.* at 5.

[37] BAC Opening Comments on Staff Proposal at 10.

[38] CHBC Opening Comments on Staff Proposal at 3.

[39] BayREN Opening Comments on Staff Proposal at 3.

[40] Wild Tree Foundation Opening Comments on Staff Proposal at 5.

[41] CALSSA Opening Comments on Staff Proposal at 2.

[42] *Id.*

budget but recommends that both budgets be adjusted for a 50/50 split to equally fund program evaluation efforts.[43]

SCE supports the Staff Proposal's proposed budgetary split.[44] The Council recommends a 75 percent budget for the TECH Initiative and a 25 percent budget for the BUILD Program.[45]

VEIC recommends that the Commission plan for a four-year budget rather than an annual budget and that the BUILD Program allotment for low-income program costs should be designated as a minimum threshold, not a cap.[46] VEIC also recommends reducing the administrative and/or evaluation budget to increase program impact.[47] Finally, VEIC encourages the Commission allocate 70 percent for the TECH Initiative and 30 percent for the BUILD Program.[48]

CSE[49] and CHBC[50] support the Staff Proposal's greater portion of budgetary allocation to the TECH Initiative.

PG&E states that the TECH Initiative may warrant a higher level of funding, beyond 60 percent.[51] PG&E states that the TECH Initiative will prove a larger challenge because it involves transforming the retrofit market, which has greater barriers to entry.[52]

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[43] EDF Opening Comments on Staff Proposal at 5.

[44] SCE Opening Comments on Staff Proposal at 3.at 4-5.

[45] The Council Opening Comments on Staff Proposal at 3.

[46] VEIC Opening Comments on Staff Proposal at 4.at 4.

[47] *Id.*

[48] *Id.* at 5.

[49] CSE Opening Comments on Staff Proposal at 3.

[50] CHBC Opening Comments on Staff Proposal at 3.

[51] PG&E Opening Comments on Staff Proposal at 2-3.

[52] *Id.*

SBUA contends that the annual budgets should not be constant[53] and recommends that the administrative costs should be frontloaded[54] and evaluation costs capped.[55] SBUA recommends that that the initial funding level for both programs should be set at 40 percent with the remaining 20 percent to be re-allocated for the third and fourth years of the programs based on lessons learned and relative merits of available opportunities at that time.[56]

SoCalGas[57] argues against using natural gas ratepayer funds to market against specific products. SWG[58] disagrees with the Staff Proposal's suggested use of natural gas ratepayer funds to fund electrification.

The Joint CCAs recommend that the Commission: (1) adopt a cap on the administrative budget for the TECH Initiative; (2) eliminate the prize program so funds can be better spent; and (3) support the low-income/disadvantaged community set aside.[59]

The Partnership asserts that the Commission should set aside at least 50 percent of the total budget for the BUILD Program[60] and that the TECH Initiative budget should have a specific allocation for low-income and residents in disadvantaged communities.[61]

[53] SBUA Opening Comments on Staff Proposal at 4-6.

[54] *Id.*

[55] *Id.* at 4-5.

[56] *Id.* at 6.

[57] SoCalGas Opening Comments on Staff Proposal at 10.

[58] SWG Opening Comments on Staff Proposal at 4.

[59] Joint CCAs Opening Comments on Staff Proposal at 4.

[60] The Partnership Opening Comments on Staff Proposal at 7.

[61] *Id* at 8.

Several parties commented on the appropriate levels of funding for program administration, including CEDMC, CBIA, SCE, Joint Environmentals, EDF, and VEIC. Parties were divided with regard to the 10 percent administrative budget for the BUILD Program, with EDF, CEDMC, CBIA, and VEIC stating that 10 percent is too high and SCE recommending maintaining the 10 percent level for the BUILD Program in their recommended budget.

With respect to the overall evaluation budget for both the BUILD Program and TECH Initiative parties agreed to a smaller budgetary allotment. For example, SBUA argues that the evaluation budget should be based on request for proposal (RFP) bids and the budget should not be fixed, but rather capped at an appropriate level with the actual price based on competitive bidding by prospective program evaluators.[62]

VEIC[63] and CSE[64] recommend that the Commission contract with an independent program evaluator at the same time that the TECH Initiative implementer is selected to ensure the evaluation process is embedded within the program design early.

The Joint Environmentals argue that the evaluation budget is too large, and should be reconsidered.[65] The Joint Environmentals recommend a total evaluation budget of $6 million over the program life.[66] EDF recommends an $800,000 evaluation budget to maximize program efficiencies.[67] EDF also

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[62] SBUA Opening Comments on Staff Proposal at 4-5.

[63] VEIC Opening Comments on Staff Proposal at 13

[64] CSE Opening Comments on Staff Proposal at 8.

[65] Joint Environmentals Opening Comments on Staff Proposal at 6.

[66] *Id.*

[67] EDF Opening Comments on Staff Proposal at 5.

recommends that evaluators be given guidance on how non-market participants share information.[68]

3.1.3. Analysis: The SB 1477 Pilot Program Budget and Compliance Costs Shall Be Apportioned Across the Four Gas Corporations According to Each Gas Corporation's Percentage Share of Allocated Cap-and-Trade Allowances and Shall Comply with Cap-and-Trade Regulations

Section 748.6 states:

> Beginning with the fiscal year commencing July 1, 2019, and ending with the fiscal year ending June 30, 2023, the commission shall annually allocate fifty million dollars ($50,000,000) of the revenues, including any accrued interest, received by a gas corporation as a result of the direct allocation of greenhouse gas emissions allowances provided to gas corporations as part of a market-based compliance mechanism adopted pursuant to subdivision (c) of Section 38562 of the Health and Safety Code to fund the [BUILD] Program (Article 12 (commencing with Section 921)) and the [TECH] Initiative (Article 13 (commencing with Section 922).

Thus, all gas corporations who receive allowances as part of the CARB Cap-and-Trade program are required collectively to contribute $50 million annually for four years to fund the two SB 1477 pilot programs, beginning in FY 2019-20 and ending in FY 2022-23.

D.15-10-032 determined – and D.18-03-017 reaffirmed – that 100 percent of GHG allowance proceeds shall be returned to residential natural gas customers in the form of a single annual bill credit, called the "California Climate Credit."[69]

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[68] EDF Opening Comments on Staff Proposal at 11.

[69] CARB holds quarterly auctions in February, May, August, and November. Each gas corporation must put up for auction its consigned allowances within the designated calendar year. The percentage of consigned allowances for gas corporations started at 25 percent in 2015

D.15-10-032 further specified the way in which gas corporations must report their GHG allowance proceeds – including all interest accrued from those proceeds – to the Commission, as well as what expenses to deduct from those proceeds in order to determine "Net GHG Proceeds Available for Customer Returns." Each year, gas corporations must file an advice letter with the Commission, pursuant to Ordering Paragraph 5 of D.15-10-032. In these advice letters, among other things, gas corporations must seek approval for their per household California Climate Credit amounts.

The introduction of the BUILD Program and TECH Initiative necessitates changes to the existing process used to establish per household California Climate Credit amounts. Resolution G-3565, pending before the Commission on February 6, 2020, ensures that the gas corporations make available first year funding for SB 1477 pilot program implementation.[70] In order to provide funding for the following three years, each gas corporation in its annual natural gas true-up advice letters that set natural gas transportation rates shall henceforth in the form of a new line item, deduct "SB 1477 Compliance Costs" before calculating "Net GHG Proceeds Available for Customer Returns." SB 1477 Compliance Costs shall be apportioned across the four gas corporations

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and increases five percent each year until hitting 100 percent in 2030. Within a given year, the gas corporation can decide at its discretion how to distribute those allowances among the four auctions.

[70] Resolution G-3565 pertains to the 2019 filings of annual natural gas true-up advice letters that set natural gas transportation rates and determine California Climate Credit amounts for 2020. We expect that the 2023 filings of annual natural gas true-up advice letters that set natural gas transportation rates and determine California Climate Credit amounts for 2024 will no longer include an allocation for the BUILD Program or TECH Initiative unless directed otherwise by a subsequent decision of the Commission.

according to each gas corporation's percentage share of allocated Cap-and-Trade allowances and remain the same each year for the duration of the pilot programs:

SoCalGas: $24,630,000 (49.26 percent of $50 million)
PG&E: $21,170,000 (42.34 percent of $50 million)
SDG&E: $3,385,000 (6.77 percent of $50 million)
SWG: $815,000 (1.63 percent of $50 million)

The gas corporations shall, within 15 days following the Commissions of their annual natural gas true-up advice letters that set natural gas transportation rates, remit their respective "SB 1477 Compliance Costs" directly and in full to the designated building decarbonization pilot program contracting agent (contracting agent). Southern California Edison Company (SCE), serving in the capacity of the contracting agent (discussed in detail below), shall, within 15 days of the approval of this decision, file a Tier 1 advice letter with Energy Division formalizing a new balancing account for this purpose. SCE shall, immediately following approval of the new balancing account, request from the gas corporations disbursal of first year funding set aside as directed by Resolution G-3565, which shall be provided no more than 15 days following the request. SCE shall account for all interest accrued, prior to disbursal of funds to the BUILD Program administrator and TECH Initiative implementer.

All requests for pilot program funding disbursement shall be made in writing by the BUILD Program administrator and TECH Initiative implementer to SCE who shall disburse funds and provide monthly updates to Energy Division regarding all funding disbursements made and the status of funds available. Any interest that may have accrued while program funds resides with SCE shall be made available to the BUILD Program Administrator and TECH Initiative implementer for additional non-administrative spending in proportion to each pilot program's share of total funding (*e.g.,* 40 percent for the BUILD

Program and 60 percent for the TECH Initiative). Energy Division shall provide annual updates to the Legislature regarding funding and expenditures for the two pilot programs, as directed by Section 910.4.

Title 17 of the California Code of Regulations (17 CCR) Section 95893(d)(3) states, "Allowance value, including any allocated allowance auction proceeds, obtained by a natural gas supplier must be used for the primary benefit of retail natural gas ratepayers of each natural gas supplier, consistent with the goals of AB 32, and may not be used for the benefit of entities of persons other than such ratepayers." Therefore, the regional spending for the BUILD Program and TECH Initiative must be proportionally directed in the gas corporation service territories where the funds are derived. The percentages allocated for each gas corporation service territory are consistent with the compliance cost shares outlined above:

SoCalGas: 49.26 percent
PG&E: 42.34 percent
SDG&E: 6.77 percent
SWG: 1.63 percent

To the extent that there are unspent GHG allowance proceeds allocated for a particular gas corporation's service territory and no remaining eligible projects within that service territory, the remaining GHG allowance proceeds may be spent elsewhere after two years following implementation.

3.1.4. Analysis: The SB 1477 Pilot Program Budget Shall Appropriate 40 Percent of Program Funds to the BUILD Program and 60 Percent of Program Funds to the TECH Initiative

The funding for these two pilot programs shall be allocated using a 40/60 percent split, with 40 percent of the funds allocated to the BUILD Program and

60 percent of the funds allocated to the TECH Initiative.[71] We agree with parties and the Staff Proposal that it is easier to build a zero-emissions building than retrofit existing one. In addition, appropriating 60 percent of the budget will provide added support for overall market development of low-carbon technologies.

SB 1477 seeks to develop the state's market for low-emission space and water heating equipment for new and existing residential buildings through consumer education, contractor training, and the provision of upstream and midstream incentives for technologies that are in an early stage of market development.[C1]

We agree with CBIA, Joint Environmentals, VEIC, CSE, and SBUA that a four-year budget is more appropriate than an annual budget. The year-one costs, will likely be different from the subsequent ongoing costs and, thus, the BUILD Program administrator and the TECH Initiative implementer are not prescribed a fixed amount of annual spending. We keep in mind that, according to Section 748.6, funds will only be made available on an annual basis. While collections will be annual, funds may be carried across the four-year period beginning with FY 2019-20 and must be spent within 10 years of their allocation, at the very latest, pursuant to 17 CCR Section 95893(d)(8).

Requirements tied to an annual budget may in fact, be restrictive to market development efforts. It will take time for both the BUILD Program administrator and the TECH Initiative implementer to launch the pilot programs, and it will take the market actors – the builders, developers, manufacturers, distributors, contractors, and customers – time to respond to program signals. We strive to

[71] No more than 1.8 percent of each pilot program's budget allocation will be dedicated for a single, independent program evaluator who will evaluate both pilot programs with the precise budgetary allocation ultimately depending on the winning bid.

give the BUILD Program administrator and the TECH Initiative implementer maximal flexibility, and a four-year budget rather than an annual budget provides this flexibility so they can calibrate the pilot programs to better reflect an evolving market response. Under the funding mechanism established by this decision, first year funding will be available prior to the start of either pilot program's implementation. Second year funding is anticipated to be available around January 1, 2021, meaning that when program implementation begins, or shortly thereafter, at least $100 million will be available.

We are in favor of maximizing program efficiencies and agree with parties that some of the allocated administrative and evaluation budget amounts should be decreased. First, we agree with the Staff Proposal that administrative spending for the BUILD Program should be capped at 10 percent[72] of the total BUILD Program budget.[73] Second, administrative spending for the TECH Initiative implementer's administrative costs shall be capped at five percent of the TECH Initiative budget. If the selected bid to implement the TECH Initiative is below the five percent cap, the difference between the winning bid amount and the five percent administrative costs cap shall be reallocated for program costs.

We believe it is appropriate to have a single, independent program evaluator covering both programs for the purposes of economies of scale in reporting and tracking data, as well as illustrating outcomes. We direct the program evaluator to closely engage with both the BUILD Program

[72] This percentage of the BUILD Program's total cost was determined by the CEC to ensure their administrative needs to administer the BUILD Program.

[73] This is contingent upon Legislative authorization, as discussed in detail in Section 4.1.3 of this decision.

administrator and the TECH Initiative implementer early on, to provide real-time feedback, and to ensure efficient tracking of data. A joint evaluation budget for both the BUILD Program and TECH Initiative shall not exceed 1.8 percent of the total funding allocated for the pilot programs.

The BUILD Program is allocated 40 percent of the $200 million (*e.g.,* $80 million) authorized for the two pilot programs under SB 1477. Table 1 below summarizes the four-year budgetary allocation for the BUILD Program:

Table 1: BUILD Program Four-year Budget

Budget Item	Amount	Notes
Program Costs[74] (Low-Income)	$60,000,000	No less than 75% of the BUILD Program's $80 million budget
BUILD Program Costs (Other)	$10,560,000	No less than 13.2% of the BUILD Program's $80 million budget
Administrative Costs	$8,000,000	No more than 10% of the BUILD Program's $80 million budget
Joint Evaluation Cost Share	$1,440,000	No more than 1.8% of the BUILD Program's $80 million budget
Total	**$80,000,000**	**100%**

The TECH Initiative is allocated 60 percent of the $200 million (*e.g.,* $120 million) authorized for the two pilot programs under SB 1477. Table 2 below summarizes the four-year budgetary allocation for the TECH Initiative:

[74] *See infra* Section 4.2.3.

Table 2: TECH Initiative Four-year Budget		
Budget Item	**Amount**	**Notes**
Program Costs	$110,640,000	No less than 92.2% of the TECH Initiative's $120 million budget
Administrative Costs (Implementer)	$6,000,000	No more than 5% of the TECH Initiative's $120 million budget
Administrative Costs (Contracting Agent)	$1,200,000	No more than 1% of the TECH Initiative's $120 million budget
Joint Evaluation Cost Share	$2,160,000	No more than 1.8% of the TECH Initiative's $120 million budget
Total	**$120,000,000**	**100%**

3.2. Pilot Program Guidelines, Program Metrics, and Performance Evaluation

For the BUILD Program, Section 921.1(d)(4)(A) requires that the Commission develop program guidelines that include: (a) a list of eligible technologies; (b) a process for evaluating new technologies; (c) criteria for scoring and selecting projects; and (d) a process and set of metrics by which to evaluate and track results.

Section 921.1(d)(4)(B) requires BUILD Program metrics to include, at a minimum: (a) the number of low-emission systems installed in each building type; (b) projected utility bill savings; and (c) cost per metric ton of avoided GHG emissions.

For the TECH Initiative, Sections 922(c)(1) and 922(c)(2)(A) requires the Commission to develop guidelines that include: (a) a list of eligible technologies; (b) a process for evaluating new technologies; and (c) a process and set of metrics by which to evaluate and track results.

Section 922(c)(2)(B) requires TECH Initiative metrics to include, but not be limited to: (a) the market share for eligible technologies; (b) projected utility bill savings; and (c) the cost per metric ton of avoided GHG emissions.

In the assigned Administrative Law Judge's Ruling issued on July 16, 2019, parties were asked to comment on whether the Staff Proposal's recommendations pertaining to these requirements are reasonable.

3.2.1. Staff Proposal Summary

In fulfillment of Sections 921.1(d)(4)(A) and (B), and Sections 922(c)(2)(A) and (B), the Staff Proposal included the following program metrics, in addition to a list of other metrics: (a) the number of low-emission systems installed in each building type (BUILD Program only); (b) projected utility bill savings; (c) cost per metric ton of avoided GHG emissions; and (d) market share for eligible technologies (TECH Initiative only).[75]

The Staff Proposal also includes a number of additional sub-metrics to calculate the cost per metric ton of avoided GHG emissions[76] and specifies that program parameters and algorithms applied to calculate the cost per metric ton of avoided GHG emissions should be consistent with the CEC's approach for the California Energy Code in the 2022 code cycle.[77] The Staff Proposal recommends, consistent with 17 CCR Section 95893(e), that each gas corporation will need to provide the following, annually: (1) total avoided GHG emissions expected from that year's expenditures (estimated); (2) total expenditures; (3) itemization of administration and outreach expenditures; and (4) description of the nature and purpose of the program. Optionally, this description may include co-benefits such as health effects of increased indoor air quality.[78] The evaluator will use these metrics to generate regular BUILD Program and TECH Initiative

[75] Staff Proposal, Section 3.5.

[76] *Id.*

[77] *Id.*

[78] *Id.*

evaluation reports and also provide these reports to the utilities for their annual reports to CARB.[79]

Finally, the Staff Proposal highlighted the importance of providing early feedback through the life of the BUILD Program and TECH Initiative by forming a Project Coordination Group (PCG).[80]

3.2.2. Parties' Positions

The Joint Environmentals disagree with Staff's proposed recommendation of GHG emissions intensities using hourly average factors instead of long-run marginal factors.[81] Cal Advocates also disagrees with the metrics recommended in the Staff Proposal. Cal Advocates states that the Commission should focus on metrics that will reveal whether the programs are successful in building out a market for low-emissions technologies in California.[82] Cal Advocates recommends using the following: (1) market share data (*i.e.* demographic factors) that track both the overall share of various low-emissions technologies and the share of new installations; (2) customer satisfaction; (3) number of workers trained to install each type of technology and size of available skilled workforce; and (4) contractor performance.[83]

Wild Tree Foundation states that GHG metrics must include full life cycle of replaced and replacement appliances.[84] Wild Tree Foundation also asserts that other critical metrics include utility bill savings, change in electrical load,

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[79] *Id.*

[80] Staff Proposal, Section 3.12.

[81] Joint Environmentals Opening Comments on Staff Proposal at 20.

[82] Cal Advocates Opening Comments on Staff Proposal at 24.

[83] *Id.*

[84] Wild Tree Foundation Opening Comments on Staff Proposal at 21.

installations of greater than six kilowatt photovoltaic systems, and building efficiency improvements.[85]

VEIC suggests including potential metrics that measure market share for eligible technologies, as well as product availability, quality, standardization, efficacy, cost, awareness, and reliability.[86] VEIC also recommends that the Commission require the program implementer of the TECH initiative propose market development metrics and a data model to facilitate appropriate tracing.[87]

SBUA recommends additions to the evaluation criteria.[88] SBUA recommends that evaluation and metrics criteria include: (1) an assessment of the effectiveness of the outreach strategies to hard-to-reach customers; and (2) degree of training provided to contractors, manufacturers and employers.[89]

SWG[90] argues that both the BUILD Program and TECH Initiative should have a balanced approach for customers in implementing SB 1477, which should include an array of technologies such as: (1) solar thermal offsetting natural gas usage; (2) natural gas heat pump technologies; (3) carbon absorption technologies applied to natural gas appliances; (4) low-NOx technologies; and (5) renewable natural gas. In a similar vein, the CHBC also argues for a balanced GHG emissions reduction portfolio of technologies.[91]

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[85] *Id.*

[86] VEIC Opening Comments on Staff Proposal at 13.

[87] *Id.* at 14.

[88] SBUA Opening Comments on Staff Proposal at 6.

[89] *Id.*

[90] SWG Opening Comments on Staff Proposal at 5.

[91] CHBC Opening Comments on Staff Proposal at 8.

SoCalGas[92] disagrees with Staff's metrics for evaluation, arguing there should be an inclusion of natural gas technologies and renewable natural gas that could result in cost-effective mixes for customers and reduce utility bills.

Joint CCAs agree with Staff's primary strategy for decarbonization of buildings through electrification of appliances that do not have direct emissions. Joint CCAs point out that renewable natural gas is a limited resource, in limited supply and therefore, the limited supply of this resource should be spent in areas where electrification is particularly difficult.[93] Joint CCAs recommend that both the BUILD Program and TECH Initiative capture load shifting by adding an evaluation component for grid-dispatchable technologies in the technology eligibility criteria.[94]

SDG&E[95] observes that these pilot programs present an opportunity to begin collecting data to inform future consideration of rate reforms to electric rates that may be needed to support California's decarbonization goals.

SCE states that the Commission should drive guidelines and evaluation metrics for the BUILD Program and should establish an approach for inputs to calculate benefits and costs to the program.[96] With respect to the TECH Initiative, SCE states that Staff Proposal's evaluation and metrics recommendations are reasonable.[97] SCE recommends: (1) adding other environmental impacts to the TECH Initiative scoring criteria such as criteria air

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[92] SoCalGas Opening Comments on Staff Proposal at 7.

[93] Joint CCAs Opening Comments on Staff Proposal at 8.

[94] *Id.*

[95] SDG&E Opening Comments on Staff Proposal at 2.

[96] SCE Opening Comments on Staff Proposal at 9.

[97] *Id.* at 14-15.

pollution (NOx, SOx, CO, particulates, and ozone), indoor air quality, water use, water pollution; (2) including building commissioning requirements to improve real-world operation and performance in TECH Initiative projects; (3) use metrics to focus on technologies and applications that have the greatest potential for scale and replicability; and (4) align the BUILD Program and TECH Initiative metrics and evaluation as close as practicable.[98]

EDF recommends that the Commission create an evaluation framework to determine which strategies will reduce the most carbon at the least ratepayer expense, minimizing customer bill impact, and maximizing carbon reduced.[99] CSE encourages coordinating and streamlining the data gathering between the BUILD Program and TECH Initiative.[100]

CBIA cautions that using utility bill savings as a measure of success may be not be illustrative of the benefits of projects because many projects will be near cost-neutral, even when they offer substantial GHG emissions reduction.[101] CSE recommends that the Commission contract with an evaluator as soon as an implementer is selected for the TECH Initiative to ensure program evaluation is embedded with program design.[102] The Partnership asserts that the TECH Initiative guidelines should articulate a clear emphasis on and plan to support clean heating technology that benefits low-income households.[103]

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[98] *Id.*

[99] EDF Reply Comments on Staff Proposal at 5.

[100] CSE Opening Comments on Staff Proposal at 8.

[101] CBIA Opening Comments on Staff Proposal at 5.

[102] CSE Opening Comments on Staff Proposal at 8.

[103] The Partnership Opening Comments on Staff Proposal at 5.

3.2.3. Analysis: To Fulfill SB 1477's Program Evaluation Requirements, a Single Evaluator Shall Evaluate Both the BUILD Program and the TECH Initiative at the Initiation of Both Pilot Programs, and Throughout Implementation

As stated above, we support economies of scale in tracking and evaluating the BUILD Program and TECH Initiative by having a single evaluator covering both programs. Having a single evaluator covering both programs will simplify engaging with the BUILD Program administrator and TECH Initiative implementer during program design to ensure that the pilot programs are set up with evaluation needs in mind. We direct the following guidelines for hiring an evaluator:

- The evaluation program budget will be set at 1.8 percent of program costs, or $3.6 million over the four-year program period. Both data collection and real-time monitoring will be expected of the program implementers, who will work to deliver this data to the program evaluator in a timely fashion.
- The CPUC, working with the contracting agent (*e.g.*, SCE), will solicit for, hire, and manage one evaluator for both programs. The evaluation budget will be split between the two programs based on what the evaluator finds appropriate, in consultation with an evaluation PCG.
- The CPUC will form a PCG, which will include Energy Division staff, CEC staff, program implementer staff, and the evaluator staff. The PCG will advise the evaluation process. It will be up to Energy Division staff to determine if any other parties are appropriate for the PCG and to design the meeting schedule and format for the PCG.
- The program evaluator will measure the impact of program activities using the metrics detailed in Section 3.2.4, as well as qualitatively assess the success and scalability of the programs' strategies.

- The CPUC will conduct a competitive solicitation for a program evaluator through the contracting process administered by SCE (contracting agent).

The program evaluator shall be continuously engaged throughout the initiation of these pilot programs and during the administration of them. This should occur in as close to real time as possible, so that timely, substantive feedback can be used to change course when and if appropriate, and to ensure the success of these pilot programs.

3.2.4. Analysis: The BUILD Program and TECH Initiative Evaluator Shall Use the GHG Benefits Metrics as a Primary Factor for Measuring Success

The program evaluator shall use the GHG benefits metrics, outlined in SB 1477, as a primary factor for measuring pilot program success. Pursuant to statute, the evaluator must include the following pilot program metrics to measure each pilot program's compliance with SB 1477: (1) cost per metric ton of avoided GHG emissions; (2) projected annual and lifetime utility bill savings; (3) number of low-emission systems installed (BUILD Program only); and (4) market share for eligible technologies (TECH Initiative only).

Additionally, the program evaluator shall collaborate closely with Energy Division staff. Specifically, the program evaluator shall work with Energy Division to determine whether – and to what extent – to apply the sub-metrics listed in Section 1.1 of appendix to this decision, and if any additional metrics are needed, in order to calculate the cost per metric ton of avoided GHG emissions.[104] Energy Division shall work with the program evaluator to determine the best method for quantifying and valuing all GHG

[104] *Id.*

emissions, including those associated with methane and refrigerants, as they relate to the BUILD Program and TECH Initiative.

We also find the metrics and evaluation recommendations from Cal Advocates, Wild Tree Foundation, VEIC, and SBUA reasonable. Therefore, the program evaluator shall work with Energy Division staff to determine which of the following metrics should be required, as part of the pilot program evaluation: (1) market share data (*i.e.*, demographic factors) that track both the overall share of various low-emissions technologies and the share of new installations; (2) customer outreach and customer satisfaction; (3) number of workers trained to install each type of technology and size of available skilled workforce; (4) contractor performance; (5) full life cycle of replaced and replacement appliances; and (6) success in degree of training provided to market actors necessary to facilitate market transformation.

Sections 921.1(d)(4)(B) and 922(c)(2)(B) require the calculation of participant bill savings. The Staff Proposal recommends that a comprehensive cost-effectiveness analysis that tracks the net lifetime costs to end users be used in the evaluation process to determine cost-effectiveness from the participant perspective.[105] We direct the program evaluator to work with Energy Division to develop a cost-effectiveness analysis in its evaluation measure for the pilot program compliance and performance reviews to ensure customer utility bills do not increase, and that a full range of costs and benefits to the customer (*e.g.*, non-energy impacts and improvements in energy services) is evaluated.

The program evaluator shall ensure that the BUILD Program administrator and TECH Initiative implementer include the following data

[105] Staff Proposal, Section 3.6.

annually so that gas corporations can comply with their reporting obligations pursuant to the Cap-and-Trade program: (1) total avoided GHG emissions expected from that year's expenditures (estimated); (2) total expenditures; (3) itemization of administration and outreach expenditures; and (4) description of the nature and purpose of the program, including aspects such as eligibility requirements.[106]

3.3. Pilot Programs Education and Outreach

Sections 921.1(d)(5) requires the Commission to implement a BUILD Program outreach plan. 921.1(d)(1) requires the Commission to ensure that new low-income residential housing building projects are offered technical assistance to encourage applications eligible for BUILD Program incentives.

Section 922(a)(1) requires the TECH Initiative to advance the state's market for low-emission space and water heating equipment for new and existing buildings through several measures. These measures include consumer education, contractor training, vendor training, and the provision of upstream and midstream incentives. Section 922(c)(1) requires the development of guidelines and evaluation metrics, implementation of outreach strategies for hard-to-reach customers, and provision of job training and employment opportunities.

In the assigned Administrative Law Judge Ruling,[107] parties were asked to comment on the Staff Proposal's execution of these plans for the BUILD Program and TECH Initiative.

[106] 17 CCR Section 95893(e).

[107] July 16, 2019 Assigned Administrative Law Judge's Ruling.

3.3.1. Staff Proposal Summary

For the BUILD Program, the Staff Proposal envisions developing and disseminating field verification protocols for equipment installation, which can be used both as outreach material to educate builders about the BUILD Program and also act as a technical guide. These would include specific information on each incentive category, the type of equipment that is eligible, proper installation guidelines, and expected emission reductions.[108]

For the TECH Initiative, which will focus primarily on upstream and midstream approaches, the Staff Proposal envisions treating supply chain market actors as partners, with established memoranda of understanding and shared sales, marketing, and training strategies, including close coordination with midstream HVAC programs sponsored by utilities that target the same technologies or supply chain actors.[109]

3.3.2. Parties' Positions

The Partnership recommends that the Commission clarify that the technical assistance provider for the BUILD Program need not be limited to a single entity so that a potential joint venture can leverage multiple organizations with varied expertise in outreach, troubleshooting, and financing, such as to become a one-stop shop resource for property owners.[110] For BUILD Program outreach, Joint Environmentals recommend outreaching to builders directly at the forums they already attend and through trade associations.[111]

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[108] Staff Proposal, Section 4.4.9.

[109] Staff Proposal, Section 5.2.2.

[110] The Partnership Opening Comments on Staff Proposal at 11.

[111] Joint Environmentals Opening Comments on Staff Proposal at 9.

For the TECH Initiative, SBUA recommends, among other things, direct education and training to cities and counties' staff through advocacy and partnerships with existing municipal interest groups to remove barriers related to permitting.[112]

Cal Advocates asks the Commission to ensure the development of a robust outreach plan to target both owners and developers of new residential housing for the BUILD Program.[113]

3.3.3. Analysis: A Successful Education and Outreach Campaign for the Pilot Programs Shall Have a Calibrated Approach with Technical Assistance Activities to Ensure Effective Market Adoption of Building Decarbonization Strategies Education and outreach will increase the effectiveness of the BUILD Program and TECH Initiative

The objectives and goals of the BUILD Program and TECH Initiative education and outreach campaigns should increase the level to which market actors and, consequently, Californians are engaged in building decarbonization to such a degree that market transformation ensures that customers are able to adopt building decarbonization technologies.[114]

For the TECH Initiative, such an education and outreach campaign should complement the upstream and midstream strategies, by seeking partnerships with supply chain actors, as discussed in the Staff Proposal,[109] as well as providing technical education to installers and contractors. Therefore, we direct the TECH Initiative implementer to engage in an education and outreach campaign, in consultation with stakeholders.

[112] SBUA Opening Comments on Staff Proposal at 17.

[113] Cal Advocates Opening Comments on Staff Proposal at 10.

[114] Staff Proposal, Section 5.10.

The BUILD Program administrator and the TECH Initiative implementer should engage in tactics to increase willingness of market actors to adopt building decarbonization strategies and technologies into their business practices. The administrator and implementer's efforts should target audiences and marketing partnerships that include those with on-the-ground community-based organizations, businesses, and local governments.

The BUILD Program administrator and the TECH Initiative implementer shall design their education and outreach to boost awareness and adoption of building decarbonization technologies into Californian homes and businesses, including customers that are low-income, disadvantaged, and hard-to-reach. It is particularly important that the BUILD Program administrator and the TECH Initiative implementer form partnerships with organizations that primarily serve low-income, disadvantaged, and hard-to-reach customers to ensure active participation and partnership with customers across a variety of demographic groups.

The BUILD Program administrator and the TECH Initiative implementer's implementation of any education and outreach campaigns should reflect the legislative intent of SB 1477 as well as the policy objectives we hold here, to ensure compliance with the statutory directives.[115] While we assign the implementation of the education and outreach efforts to the BUILD Program administrator and TECH Initiative implementer, the Commission will exercise its oversight power and judge the effectiveness of the education and outreach campaigns during the evaluation process to determine whether or not they have accomplished the objective of demonstrating that the customers targeted by these

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[115] Proportional funding for these efforts must be allocated in the gas corporation service territories as detailed above.

pilot programs have increased awareness of building decarbonization and adoption of building decarbonization technologies into their homes and businesses. This determination will be based on findings of the program evaluator. Metrics for success may include, but are not limited to: (1) customer awareness and knowledge of building decarbonization; (2) customer awareness and knowledge of specific building decarbonization actions and technologies promoted by the BUILD Program and TECH Initiative; (3) solutions to perceived barriers and benefits and sense of action efficacy; and (4) demonstration of customer and market actor transformative behavior (*i.e.,* increased installation of building decarbonization technologies in the home and/or small business).

3.4. Refrigerants

Section 921.1(b) states that the BUILD Program must aim to "encourage building designs that reduce greenhouse gas emissions beyond industry practices and to offer greater incentives for larger projected [GHG] reductions." BUILD Program incentives must "be based on the projected amount of reduction in the emissions of [GHG] resulting from the installation of the near-zero-emission building technology."[116] "Near-zero-emission building technology," as defined in Section 921(e)(1), includes technology that reduces both the energy demand of a building and its direct and indirect GHG emissions.

Section 922(b) requires the TECH Initiative to "give consideration to technologies that have the greatest potential to reduce greenhouse gas emissions in California." The TECH Initiative is further required to target "key low-emission space and water heating equipment technologies that are in an early stage of market development and would assist the state in achieving the

[116] Pub. Util. Code § 921.1(b).

state's greenhouse gas emissions reduction goal for 2030 and other long-term greenhouse gas emissions reduction goals established by the Legislature."[117] SB 1013 (Lara, 2018) added Section 39734(a) to the Health and Safety Code, which states: "The Legislature finds and declares that certain fluorinated gases are potent causes of global warming, and it is in the public interest that restrictions or prohibitions on the use of these gases be maintained and enhanced as appropriate in the state."[118] SB 1383 (Lara, 2016) mandates a strategy to reduce hydrofluorocarbon emissions by 40 percent below 2013 levels by 2030.[119]

3.4.1. Staff Proposal Summary

Refrigerants[120] are mentioned in multiple sections of the Staff Proposal. The Staff Proposal emphasizes refrigerants as they pertain to the BUILD Program, envisioning a "kicker incentive" for, among other things, technologies that use low-Global Warming Potential (GWP)[121] refrigerants.[122]

3.4.2. Parties' Positions

Parties generally did not comment on refrigerants. However, Wild Tree Foundation comments that the BUILD Program and TECH Initiative should both "support the development of nascent technologies that can help solve existing

[117] Pub. Util. Code § 922(b).

[118] *See*: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB1013.

[119] *See*: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383.

[120] "Refrigerants" are chemical substances used in refrigerators, air conditioners, and heat pumps. These appliances leak small amounts of refrigerants during their lifetimes and large amounts during the disposal process. Most refrigerants, including certain hydrofluorocarbons and the chlorofluorocarbons they replaced as a result of the Montreal Protocol, are high- GWP fluorinated gases.

[121] GWP measures the strength of a GHG as compared to CO2. One of the most commonly used refrigerants, R-410a, has a GWP of 2,088 over the course of 100 years, which means that it has 2,088 times the impact of an equivalent amount of CO2 over the same time period.

[122] Staff Proposal, Section 4.4.6.

problems such as the high GHG emissions of most refrigerants used in heat pumps…"[123] Wild Tree Foundation notes further that the cause of those high GHG emissions in refrigerants is due to their high-GWP.[124] In addition, CALSSA points out that, despite best practices, a portion of refrigerants are lost to the environment, hence their impact should be "included in the evaluation of a technology's greenhouse gas saving potential."[125]

3.4.3. Analysis: Reducing Refrigerant-based GHG Emissions has some of the Greatest Potential to Reduce GHG Emissions in California and the Adoption of a Lower GWP Will Further the Objectives of SB 1477 to Promote Emerging Building Decarbonization Technologies and Strategies

We agree with Wild Tree Foundation and CALSSA that refrigerants should be a focus of the two pilot programs. Furthermore, we find that fulfilling SB 1477's mandate to move beyond existing industry practices requires a transition away from the refrigerants in common use today and toward lower GWP alternatives, which appropriately constitute a technology that is in an early stage of market development.

In the absence of a definition provided in the Staff Proposal for what constitutes a "low-GWP" refrigerant or by parties, we rely on guidance from the CEC24 CCR Section 100.1 defines a "low-GWP" refrigerant as a refrigerant with a GWP less than 150, which this decision adopts for the purpose of providing "kicker incentive" eligibility. We define "high-GWP" refrigerants as refrigerants

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[123] Wild Tree Foundation Opening Comments on Staff Proposal at 1.

[124] Wild Tree Foundation Reply Comments on Staff Proposal at 3.

[125] CALSSA Reply Comments on Staff Proposal at 3.

with a GWP above 750, consistent with CARB's recent regulatory proposal for new stationary air conditioning systems starting January 1, 2023.[126]

Refrigerants used in the space and water heating appliances of building projects funded by the BUILD Program or incentivized by the TECH Initiative shall not exceed the 750 GWP threshold. By establishing this threshold, we send a market signal to immediately accelerate the transition toward lower GWP refrigerants.

4. BUILD Program

SB 1477 also found that in cases of new construction, electrification and other decarbonizing methods may be competitive with the low costs afforded by natural gas fuel.[127] With the passage of SB 1477, the Legislature created the BUILD Program for decarbonization of new building construction. Section 921.1(a)(1) states that the BUILD Program is intended "for the deployment of near-zero-emission building technologies to significantly reduce the emissions of GHG from those buildings below the minimum projected emissions reductions that would otherwise be expected to result from the implementation of the prescriptive standards…" described in California's Building Energy Efficiency Standards."

The major elements related to the implementation of the BUILD Program are: (1) the selection of the BUILD administrator; (2) a focus on new low-income housing; (3) incentives for participation in the BUILD Program and the availability of the appropriate amount of incentives for eligible participants; and

[126] *See*: https://ww2.arb.ca.gov/sites/default/files/2019-08/AC%20Hand-Out%20%28Final%2008-01-19%29_2.pdf.

[127] SB 1477 Legislative History, August 30, 2018 Senate Floor Analysis, at: http://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=201720180SB1477

(4) program guideline requirements. We discuss the parties' positions with respect to each of these elements, below.

4.1. BUILD Program Administrator

Section 921.1(a)(2) provides that the "[C]ommission may determine whether each gas corporation or a third party, including the [CEC], shall administer the [BUILD Program]."[128] In the Scoping Memo and Ruling,[129] and in a subsequent Administrative Law Judge Ruling,[130] parties were asked who the Commission should select to administer the BUILD Program.

4.1.1. Staff Proposal Summary

The Staff Proposal recommends that the CEC administer the BUILD Program.[131] The Staff Proposal also recommends that the Commission provide policy oversight of the BUILD Program, with the CEC designing and administering the program.[132]

4.1.2. Parties' Positions

Generally, the parties agree that the Commission provide the policy oversight of the BUILD Program, with the CEC designing and administering the program.

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[128] Pub. Util. Code § 921.1(a).

[129] May 17, 2019 Assigned Commissioner's Scoping Memo and Ruling.

[130] July 16, 2019 Assigned Administrative Law Judge's Ruling.

[131] Staff Proposal, Section 4.2.

[132] *Id.*

SCE,[133] Cal Advocates,[134] CALSSA,[135] SDG&E,[136] PG&E,[137] VEIC,[138] CSE,[139] and Joint Environmentals,[140] state that the CEC has significant experience implementing statewide programs such as the New Solar Homes Partnership (NSHP), the Electric Program Investment Charge, and the energy efficiency standards for newly constructed buildings and renovations of existing buildings under the California Energy Code.

In response to a question in the Ruling regarding allowing technologies that receive California Energy Code performance credits to also receive program incentives, the Joint Environmentals refer to the compliance difficulty that the industry faces since the performance of non-Northwest Energy Efficiency Alliance (NEEA) Tier 3-compliant heat pump water heaters is derated by the CEC's California Energy Code compliance software.

4.1.3. Analysis: The CEC Shall Administer the BUILD Program with Commission Oversight

The CEC is a prudent and logical choice to select as the BUILD Program administrator, with Commission oversight consistent with the directives of SB 1477. The CEC has broad technical, programmatic, and policy experience. The agency has administered many incentive programs including the NSHP, the Renewable Energy Agricultural Program and Cash for Appliances. By having

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[133] SCE Opening Comments on Staff Proposal at 5.

[134] Cal Advocates Opening Comments on Staff Proposal at 7.

[135] CALSSA Opening Comments on Staff Proposal at 2.

[136] SDG&E Opening Comments on Staff Proposal at 4.

[137] PG&E Opening Comments on Staff Proposal at 3.

[138] VEIC Opening Comments on Staff Proposal at 5.

[139] CSE Opening Comments on Staff Proposal at 4.

[140] Joint Environmentals Opening Comments on Staff Proposal at 7.

the CEC serve as administer of the BUILD Program, there will be alignment and continuity California Energy Code that will provide market development that can support the strengthening of future Title 24 standards and market development. However, we agree with the Joint Environmentals that the CEC should update the California Energy Code compliance software to appropriately incent low-carbon technologies (*e.g.,* non-NEEA Tier 3-compliant heat pump water heaters single family homes) to ensure the industry is encouraged to adopt these technologies. Disbursal of funding to the CEC for the purpose of implementing the BUILD Program shall be contingent on legislative authorization for the CEC's administrative expenses. The total funding for BUILD Program administration is $8 million over a four-year period, or $2 million annually. Should the Legislature authorize an administrative funding amount less than this, remaining funds shall be repurposed for non-administrative programmatic activities.

If the CEC does not receive legislative authority to administer the BUILD Program, or for any other reason that the CEC determines to be detrimental to program implementation, the Commission, in consultation with the CEC, may choose to issue BUILD Program-related RFPs through the contracting agent. In selecting the CEC to administer the BUILD Program, we give it the flexibility to propose technology criteria and incentive levels to the Commission by mandating an implementation plan that shall be filed with and approved by the Commission every two years. The CEC shall coordinate closely with Energy Division, to develop implementation plan. We direct Energy Division staff to ensure that the CEC's implementation plan fulfills the requirements and intent of SB 1477.

The CEC, as the BUILD Program administrator, shall also be the lead entity to issue a request for proposal (RFP) for a third party low-income technical assistance provider, score the proposals, and select the contractor. The CEC may choose to solicit a third-party contractor to provide this technical assistance or to implement any other part of the BUILD Program, provided that the contractor follows the same rules and guidelines laid out in this decision.

Finally, as BUILD Program administrator, the CEC shall be responsible for awarding and handling disbursement of funds to program applicants. The CEC shall also collect program performance data and information to inform evaluation and lend insight to program successes and failures. Data collection plans should be coordinated with the Commission and the program evaluator.

4.2. BUILD Program Parameters for New Low-Income Housing and Disadvantaged Communities with Technical Assistance

Section 921.1(c)(1) provides that, to encourage the adoption of near-zero building technologies in new housing located low-income and disadvantaged communities, "the program shall reserve a minimum of 30 percent of the amount allocated pursuant to Section 748.6 for new low-income residential housing." Section 921(f) provides that "[p]rogram means the Building Initiative for Low-Emissions Development (BUILD) Program.

The Legislature also requires that any new low-income residential housing building projects must not result in higher utility bills for occupants.[141] Additionally, technical assistance must be offered in conjunction with funding for projects directed at new low-income residential housing.[142] Finally, the

[141] Pub. Util. Code § 921.1(d).

[142] Pub. Util. Code § 921.1(d)(1).

Legislature authorizes that after two years, unspent funds reserved for new low-income residential housing may be directed to other purposes that are consistent with the BUILD Program, or program rules may be changed to increase participation.[143]

In the Scoping Memo and Ruling,[144] and in a subsequent Administrative Law Judge's Ruling,[145] parties were asked: (1) whether the 30 percent funding component for the low-income focus of the BUILD Program appropriate; and (2) whether some funding levels for the low-income component of the BUILD Program should prioritize technical assistance or for the incentive budget

4.2.1. Staff Proposal Summary

The Staff Proposal sets aside 30 percent of BUILD Program funding for new low-income residential housing, including technical assistance to low-income developers. Staff proposes that a portion of this low-income funding be devoted to incentives for new low-income residential housing and a portion to a contractor with low-income project development expertise to provide technical assistance to low-income residential project developers.

The Staff Proposal also recommends that the BUILD Program administrator (here, the CEC) select an expert company/organization to conduct the technical assistance to reach low-income housing developers. Since the low-income housing market is different from market-rate housing, an entity with significant experience working with the low-income and disadvantaged segment, as well as field experience with deployment of low-carbon

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[143] Pub. Util. Code § 921.1(c)(2)

[144] May 17, 2019 Assigned Commissioner's Scoping Memo and Ruling.

[145] July 16, 2019 Assigned Administrative Law Judge's Ruling.

technologies, is required to ensure that funds reserved for this group are effectively and efficiently spent

4.2.2. Parties' Positions

CBIA states that funding for low-income should be focused on incentives because there is no mechanism to capture the value of energy saved in rental housing.[146] PG&E recommends that the funding levels for the low-income component of the BUILD Program should be prioritized for offering incentives to developers.[147]

Joint Environmentals argue that that the funding level for the low-income component of the BUILD Program is a minimum level, and levels above this should be pursued.[148] They also argue that technical assistance and direct incentives for low-income buildings should not compete because both are critical.[149] Joint Environmentals recommend that a minimum of $24 million should be available as direct incentives and the funds for technical assistance should be in addition to this amount.[150]

Similarly, Cal Advocates assert that program funding targeting low-income housing should not prioritize between technical assistance work and incentive budgets.[151] Cal Advocates recommend that the BUILD Program's

[146] CBIA Opening Comments on Staff Proposal at 4.

[147] PG&E Opening Comments on Staff Proposal at 8.

[148] Joint Environmentals Opening Comments on Staff Proposal at 10.

[149] *Id.*

[150] *Id.*

[151] Cal Advocates Opening Comments on Staff Proposal at 13.

targeting of low-income housing should be designed to include both technical assistance and incentives without prioritizing one over the other.[152]

VEIC[153] and SBUA[154] state that the low-income budget should be clarified as a floor, not a ceiling and that low-income budget thresholds should be applicable to the incentive budget. VEIC asserts that a metric for technical assistance should be the number or proportion of participating affordable housing developers rather than budget threshold.[155]

BayREN,[156] CHBC,[157] and EDF[158] asserts that 30 percent of the total budget of the BUILD Program is appropriate and that the Commission should allow for an increase of up to 50 percent. EDF also argues that the low-income component could prioritize, but not limit, funding for technical assistance.[159]

CSE recommends prioritizing technical assistance work for the low-income component of the BUILD Program, as well as within the BUILD Program as a whole as technical assistance may provide builders with more value to fully electrify new construction projections.[160]

The Partnership asserts that 30 percent of funding for the low-income component of the BUILD Program is too low and recommends 100 percent of the BUILD Program incentives go toward low-income residents of multifamily

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[152] *Id.*

[153] VEIC Opening Comments on Staff Proposal at 7.

[154] SBUA Opening Comments on Staff Proposal at 10.

[155] VEIC Opening Comments on Staff Proposal at 7.

[156] BayREN Opening Comments on Staff Proposal at 3.

[157] CHBC Opening Comments on Staff Proposal at 4.

[158] EDF Opening Comments on Staff Proposal at 8.

[159] *Id.* at 7.

[160] CSE Opening Comments on Staff Proposal at 5.

housing across California.[161] The Partnership also asserts that the BUILD Program should require unspent funds to be used only to benefit low- low-income residents.[162]

Finally, CSE recommends prioritizing technical assistance work for the low-income component of the BUILD Program as well as within the BUILD Program as a whole.[163]

4.2.3. Analysis: 30 Percent of the SB 1477 Funds Allocated to New Low-Income Residential Housing of the BUILD Program is a Floor, Not a Ceiling

Section 921.1(c)(1) states:

> To encourage the adoption of near-zero-emission building technologies in new low-income residential housing located in disadvantaged communities or low-income communities, the program shall reserve a minimum of 30 percent of the amount allocated pursuant to Section 748.6 for new low-income residential housing.

Section 921.1(d)(1) further requires technical assistance be offered in conjunction with funding for projects directed at new low-income housing.

The Staff Proposal states that 30 percent of BUILD Program funding shall, at a minimum, be made available, based on the statute, for new low-income residential housing. While the Staff's proposal is consistent with the minimum funding requirements set forth in SB 1477, we agree with parties who argue that a larger share of the BUILD Program funding should be allocated to projects that implement near-zero emissions technologies in new residential homes located in low-income and disadvantaged communities.

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[161] The Partnership Opening Comments on Staff Proposal at 14.

[162] *Id.* at 5.

[163] CSE Opening Comments on Staff Proposal at 5.

We find that a critical component of California's transition to a cleaner energy future is ensuring that parts of the population are not left behind. Similarly, we interpret Section 921.1(c)(1) to mean that there should be a priority given to new low-income residential housing projects built within low-income and disadvantaged communities. New low-income residential housing projects built outside of these communities are also eligible for BUILD Program funds. For illustrative purposes, using the current volume of new low-income housing statistics, note that 9,383 new low-income housing units sought tax credits under the Low-Income Housing Tax Credit Program in 2018.[164]

Accordingly, we find that the minimum funding requirement for projects in new low-income residential housing should be 75 percent of the funding allocated to the BUILD Program or $80 million, plus interest, over the life of the program. Further, because SB 1477 finds it essential that achieving near-zero-emissions in new buildings also improve housing affordability, particularly in low-income communities, we direct the BUILD Program administrator (here, the CEC) to evaluate the needs of the low-income sector and adjust the funding amount and/or the program structure as appropriate to improve program delivery of incentives for projects in new low-income residential housing.

Joint Environmentals and Cal Advocates argue that both direct incentives and technical assistance are important for program success, and should therefore, not compete. We agree. There is no reason why technical assistance and direct incentives for low-income buildings should compete because both are critical. Thus, the minimum funding requirement is allocated exclusively for

[164] California Housing Partnership (2019) available at: https://chpc.net/resources/2019-statewide-housing-need-report/

low-income housing, and the technical assistance activities shall be paid from other BUILD Program funds. This approach will ensure that a true 75 percent minimum of program funding directly benefits low-income community residents.

In the event that funds reserved for new low-income residential housing building projects remain unspent after two years following BUILD Program implementation, the CEC, in consultation with Energy Division staff, may and through the implementation plan approval process, may change building project eligibility requirements, as allowed under Public Utilities Code Section 921.1(c)(2), to include, but not be limited to, the following:

1) Extending unspent funds to new market-rate housing projects;
2) Extending funding eligibility to new construction in existing buildings pursuant to the California Energy Code;
3) Extending funding eligibility to building projects that repurpose industrial or commercial facilities for residential use; and
4) Extending funding eligibility to electric-ready retrofits to ease future transitions toward all-electric buildings.

To ensure compliance with Section 921.1(d)(3), the CEC shall develop or adopt a tool to measure bill savings as a result of the BUILD Program. While the tool is not a direct requirement of SB 1477, the law states the Legislature's intent that energy bills not rise for building occupants and *requires* that they not rise for low-income building occupants. A tool to estimate program-driven bill savings should be assessed, adopted, or modified for this purpose. The program evaluator shall examine the efficacy and accuracy of the tool and recommend any necessary improvements. The CEC shall make changes to the tool based on the evaluator's recommendations.

Given that construction timelines for multifamily and low-income housing can be long, funds set aside for approved applications shall be considered spent in interpreting this requirement.

4.3. BUILD Program Incentive Architecture

Section 921.1(b) and 921.1(d)(2) of the Public Utilities Code requires that incentives available from the BUILD Program for new low-income residential must be higher than incentives for other types of housing.

In the Scoping Memo and Ruling,[165] and in a subsequent Administrative Law Judge Ruling,[166] parties were asked: (1) whether the BUILD Program's incentives should be offered for individual homes or collectively, for each new subdivision; (2) whether the BUILD Program's incentives should be offered on a first-come, first-served basis or limited to regions where the largest GHG emission reduction potentials exist; (3) whether there should be a limit on the total share of incentive dollars per year, or overall; and (4) what appropriate incentive level should be for the BUILD Program.

4.3.1. Staff Proposal Summary

The Staff Proposal recommends that BUILD Program incentives be designed around projected GHG emission reductions and at the subdivision level.[167] First, the Staff Proposal recommends that all BUILD Program incentives be offered only to new construction projects designed to be all-electric[168] and the amount of the incentives provided will be proportional to the projected amount

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[165] May 17, 2019 Assigned Commissioner's Scoping Memo and Ruling.

[166] July 16, 2019 Assigned Administrative Law Judge's Ruling.

[167] Staff Proposal, Section 4.4.7.

[168] Staff Proposal, Section 4.1.

of GHG emission reductions resulting from the installation of the near-zero-emission building technology.[169]

Second, the Staff Proposal recommends that BUILD Program incentives be established for specific technology categories and climate regions. According to the Staff Proposal, eligible technologies include, but are not limited to the following: (a) space heating and cooling; (b) water heating; and (c) cooking.[170]

Third, the Staff Proposal recommends "kicker incentives" for a small number of technologies that will provide incremental GHG emissions reductions and/or load management benefits beyond the basic incentives.[171] Examples include the following technologies: (a) very high-efficient heat pumps for space cooling; (b) electric battery technologies where a photovoltaic system is installed; (c) heat pump water heaters that use low-GWP refrigerants; (d) thermal storage technologies, and (e) design assistance incentives to fund complex efficient designs.[172] The design assistance incentive is proposed to provide BUILD Program incentives to partially off-set additional design costs needed to include a system design or new technology in newly constructed building projects.

Fourth, the Staff Proposal asks the CEC and the CPUC to assess the feasibility of leveraging other complementary existing programs with energy utilities, state agencies, and local agencies.[173]

Fifth, the Staff Proposal recommends that BUILD incentives should not be allowed for projects receiving California Energy Code performance credit.

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[169] *Id.*

[170] *Staff Proposal*, Section 6.4.

[171] Staff Proposal, Section 4.4.6.

[172] *Id.*

[173] Staff Proposal, Section 2.2.

Finally, in implementing Section 921.1(d)(1)'s requirements, the Staff Proposal recommends that the CEC select an expert entity to conduct technical assistance to reach low-income housing developers.[174]

4.3.2. Parties' Position

BAC and ABC argue that the BUILD Program should include projects in each of California's geographic and climate zones, as heating, cooling, and other building needs vary and, therefore, the BUILD Program's pilot should test different technologies for different climate zones in California.[175] BAC and ABC[176] also argue that the Commission should utilize a portfolio of technologies and fuels to decarbonize buildings.[177] Likewise, SoCalGas, argues that the pilot program should include renewable natural gas.[178]

However, PG&E recommends that BUILD Program incentives be limited to subdivision-level, all-electric new construction.[179] PG&E asserts that the Commission should:

> consider that the cost of building, maintaining, and operating the natural gas delivery system is largely fixed, but throughput in the natural gas delivery system may decline in coming years. If fixed costs are spread over fewer customers and fewer therms, customers unable to electrify may experience rising gas bills. Expanding the natural gas delivery system to serve some of the homes within a new subdivision will add to the fixed costs to be recovered from all gas customers. By contrast, utilizing the Building Decarbonization pilot programs to maximize avoided gas

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[174] Staff Proposal, Section 4.4.8.

[175] BAC and ABC Opening Comments on Staff Proposal at 7.

[176] *Id.* at 9-11.

[177] *Id.* at 9-11.

[179] PG&E Opening Comments on Staff Proposal at 1.

system investments can decarbonize buildings while promoting energy affordability for all customers.[180]

Likewise, Joint Environmentals support Staff's proposal to allocate BUILD Program incentives to new construction projects that are all-electric.[181] Joint Environmentals argue that SB 1477 requires bills paid by households in new affordable housing developments should be equal or less than those for duel-fuel new construction and all-electric, low-emissions homes fulfill that requirement.[182]

Cal Advocates also recommends limiting BUILD Program incentives to all-electric new construction to eliminate the costs associated with building new natural gas infrastructure.[183] Agreeing with PG&E, Cal Advocates argues that the BUILD Program should avert the need for new investments in natural gas infrastructure because this approach reduces construction costs for new homes that are directly included in the program, but that also reduces the cost of natural gas infrastructure for all natural gas customers.[184]

The Partnership offers several recommendations on the Staff Proposal's BUILD Program incentives. The Partnership recommends that all BUILD Program incentives should be allocated to benefit low-income multifamily residents with a majority of the program allocated for incentives.[185] The Partnership also states that the BUILD Program incentives should be offered collectively to the developers of properties serving low-income and

[180] PG&E Opening Comments on Staff Proposal at 1-2 and 5-6.

[181] Joint Environmentals Opening Comments on Staff Proposal at 4.

[182] *Id.* at 6.

[183] Cal Advocates Reply Comments on Staff Proposal at 7-8.

[184] *Id.*

[185] The Partnership Opening Comments on Staff Proposal at 7.

disadvantaged community residents,[186] allow the incentives to be available for residents of low-income housing and disadvantaged communities residing in multifamily rental housing, and not be restricted by developers or regions, but by income and energy burden levels of residents.[187]

Wild Tree Foundation argues that only the highest efficiency technologies should be permitted, such as: (1) highly efficient space and water heat pumps utilizing neutral, non-GHG emitting refrigerants; (2) low cost solar thermal water heating systems; (3) efficient space heat pump that works in climate extremes of both heat and cold.[188]

EDF asks the Commission to consider strategies beyond electrification to decarbonize a building that can be included in the pilots.[189] The Joint Environmentals express concern regarding technologies that receive California Energy Code performance compliance credit not being allowed BUILD Program incentives, as performance credits are the most reasonable pathway for all-electric homes under the 2019 iteration of the California Energy Code.[190]CALSSA argues that the BUILD Program should not focus exclusively on production homebuilders but also, on regional builders that focus on single homes.[191] CALSSA also recommends that incentives be offered on a first-come, first-served basis across the state.[192]

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[186] *Id* at 12.

[187] *Id.*

[188] Wild Tree Foundation Opening Comments on Staff Proposal at 19.

[189] EDF Opening Comments at Comments on Staff Proposal at 2.

[190] The Joint Environmentals Opening Comments on Staff proposal at 11.

[191] CALSSA Opening Comments on Staff Proposal at 3.

[192] *Id.*

CSE recommends that BUILD Program parameters include preference for offering incentives or technical assistance at the subdivision level.[193] Additionally, CSE states that the BUILD Program administrator should determine whether incentives should be offered separately or collectively for a new subdivision.[194]

CBIA argues that BUILD Program incentives should be focused at the subdivision level,[195] that the incentives should be focused on a first-come, first-served basis,[196] and the program should not set a limit for each developer or builder on the total share of incentive dollars but rather, measure success constantly and award that success.[197]

4.3.3. Analysis: BUILD Program Incentives Shall Be Appropriated Only to Newly Constructed Projects That Are All Electric, Consistent with the State Requirements to a Zero-GHG Emissions Future

It is reasonable to offer BUILD Program incentives at both the subdivision and custom/single family home levels, with a minimum of 30 percent of total funding made available by SB 1477 specifically for new low-income residential housing projects. Eligibility for BUILD Program incentives shall be based on demonstrably higher GHG reductions than the prescriptive requirements of the California Energy Code for newly constructed buildings. Projects seeking program incentives may not trade off mandatory code requirements in lieu of high-performance incented equipment. We leave it up to the California Energy

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[193] CSE Opening Comments on Staff Proposal at 4.

[194] *Id.*

[195] CBIA Opening Comments on Staff Proposal at 3.

[196] *Id.*

[197] *Id.*

Commission to determine the minimum greenhouse gas performance threshold above the prescriptive compliance baseline that a project must meet to qualify for incentives.

We direct the CEC to award BUILD Program incentives to newly constructed projects that are, at a minimum, all-electric, given the state's policy commitment to a zero-GHG electricity supply by 2045 and the risk of locking in new natural gas assets that could be unused or underutilized before the end of their life. We agree with Staff, Cal Advocates, Joint Environmentals, PG&E, and the Partnership that limiting natural gas line extensions are of strategic policy value to California and it is not appropriate to provide BUILD Program incentives for projects that ultimately require natural gas infrastructure extensions to serve one or more home appliances. To do this effectively, the CEC may need data regarding natural planned gas infrastructure extensions, and upcoming housing developments. Housing rebuilds resulting from the wildfires will also need to be anticipated in BUILD Program implementation. The utilities gas corporations maintain data pertaining to planned transmission and distribution infrastructure extensions and should share data that can help with program design.[198]

Under the performance option[199] for a building to achieve California Energy Code compliance, we do not assume that only the space heating, water

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[198] If a non-disclosure agreement exists or is executed, the confidential data can be shared.

[199] The California Energy Code provides two options for a building to achieve code compliance, prescriptive and performance option. The prescriptive option allows builders to comply with the code by using a pre-determined set of methods and measures that the CEC 'prescribes' as efficient. The performance option allows builders complete freedom in their designs provided that the building achieves the same overall efficiency as a hypothetical reference equivalent building that uses the prescriptive option. Section 921.1(a) requires that incentives be provided for GHG reductions beyond the prescriptive standards of the California Energy Code.

heating, and cooking appliances identified by the Staff Proposal can achieve significant GHG reductions. Incentives shall be based on demonstrable whole building GHG performance modelled using the CEC's California Energy Code compliance software against a reference case. Therefore, a building project may use BUILD Program incentives to receive California Energy Code performance compliance credit when the performance *exceeds* that of the prescriptive reference case. We leave it up to the CEC to determine how to model the reference case and establish industry standard practice assumptions.

4.3.4. Analysis: The CEC Shall Structure BUILD Program Incentive Design and Distribution, and Ensure that Such Incentives are Proportionally Allocated by Service Territory, Consistent with Cap-and-Trade Regulations

Next, we turn to whether the BUILD Program incentives should be offered on a first-come, first-served basis across the state, or be limited to regions of the state where the greatest opportunities for near-zero-emissions projects exist. We determine that it is appropriate to leave incentive design and incentive distribution to the CEC. However, it is also appropriate to prioritize BUILD Program incentives toward the regions in the state with the highest potential for achieving program goals, including reducing GHG emissions and serving low-income customers. The CEC must ensure incentives are proportionally allocated by service territory and disbursed back to the service territory from where the funds were derived, in accordance with CARB regulations. This shall include focusing on specific climate regions of the state where there is a high cooling and high heating load, low-income residential housing, or specific

Therefore, any building projects seeking BUILD Program incentives will be required to use the performance option.

building ages or types. We allow the CEC to design the program incentives to ensure successful, replicable, and scalable results.

We decline to establish a limit on the total share of incentive dollars a developer may receive. However, we give the CEC the discretion to set limits on incentives by participant, location, technology, or other factors the CEC determines appropriate, during the implementation of the BUILD Program to achieve broader market penetration. The CEC is required, however, to ensure that incentives for new low-income residential housing are higher than incentives for similar new market-rate residential housing.

Finally, we decline to dictate a specific incentive level, but, rather, give the CEC the flexibility to establish and adjust incentive level based on participation rates, market activity, costs, complementary programs,[200] location, GHG savings, grid impacts, and program data. We require the CEC, when administering the BUILD Program incentives, to 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. We also require the CEC to track the incentives, projected bill savings, costs, and estimated GHG emission reductions geographically and by income, and report them annually with the other metrics outlined, above.

In determining incentive levels, the CEC shall include kicker incentives for the purposes outlined in the Staff Proposal. The CEC may adjust or update the eligible technologies or designs that receive kicker incentives, as well as the incentive levels, through the BUILD Program Implementation Plan to achieve the goals of the BUILD Program.

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[200] *See* Section 2.1 of the appendix to this decision for further guidance.

BUILD Program incentives shall target an entire building, project, or subdivision rather than specific equipment. Projects in areas with "reach" codes passed by local governments that surpass the requirements of the California Energy Code or any other state requirement may receive BUILD Program incentives.

5. TECH Initiative

In SB 1477, the Legislature found that there are a range of technologies that can achieve deep emissions reductions in buildings, including advanced energy efficiency technologies, clean heating technologies, energy storage, and load management strategies.[201]

Section 922(a)(1) requires the Commission to develop and supervise the administration of the TECH Initiative to spur the state's market for low-emission space and water heating equipment in new and existing residential buildings.

The TECH Initiative has three basic premises. First, The TECH Initiative requires consumer education about low-emission space and water heating equipment, contractor training, and vendor training, and the provision of upstream and mid-stream incentives to install low-emission space and water heating equipment in existing and new buildings.[202] Second, the Legislature requires the Commission to identify and target key low-emission space and water heating equipment technologies that are in an early stage of market development and would assist the state in achieving the state's GHG emissions reduction goals.[203]

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[201] SB 1477 Legislative History, August 30, 2018 Senate Floor Analysis, at: http://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=201720180SB1477

[202] Pub. Util. Code § 922(a)(1)

[203] Pub. Util. Code § 922(b).

Finally, the TECH Initiative requires the Commission, in coordination with the CEC, to develop guidelines and evaluation metrics, implement outreach strategies for hard-to-reach customers, and provide for job training and employment opportunities.[204]

5.1. TECH Initiative Implementer Selection

In the Scoping Memo and Ruling,[205] and in a subsequent Administrative Law Judge Ruling,[206] parties were asked: (1) whether the Staff Proposal's proposed process for selecting a TECH Initiative implementer is reasonable; and (2) who should serve as the TECH implementer.

5.1.1. Staff Proposal Summary

Staff proposes a competitive solicitation process for a third-party implementer for the TECH Initiative through this proceeding.[207] Staff describes this process as receiving RFP bids through the service list and allowing stakeholders to comment on the bids.[208]

5.1.2. Parties' Positions

Generally, all parties disagree with the solicitation and selection process presented by Staff. While parties support rapid selection and opportunity for public feedback that Staff recommended in selecting an implementer, they also offered various revisions to Staff's proposed selection process. As VEIC put it, the approach Staff recommends might discourage bidders because they may be reluctant to share intellectual property with potential competitors.[209] Some

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[204] Pub. Util. Code § 922(c)(1).

[205] May 17, 2019 Assigned Commissioner's Scoping Memo and Ruling.

[206] July 16, 2019 Assigned Administrative Law Judge's Ruling.

[207] Staff Proposal, Section 5.9.

[208] *Id.*

[209] VEIC Opening Comments on Staff Proposal at 8.

parties, such as the Joint Environmentals, recommend that only third-party administrators (not investor-owned utilities) be allowed to bid for the role of the TECH Initiative implementer.[210] While others, like Cal Advocates, recommend emulating the energy efficiency third-party procurement model or allowing Energy Division to solicit bids with advice and oversight from stakeholders.[211]

5.1.3. Analysis: Selection of the TECH Initiative Implementer shall be led by an Energy Division selection process, with expert advice and stakeholder advice

After consideration of comments from parties and in conjunction with review of the Staff Proposal, we believe it makes sense to depart from the recommendation from Staff and adopt a modified version of Cal Advocates' proposal, to issue a solicitation process led by Energy Division with expert advice and stakeholder oversight. We designate SCE as the Contracting Agent for the solicitation process, discussed in detail below, responsible for administering an RFP per the guidelines below and managing the SB 1477 balancing account.

Before we discuss the selection process, we adopt the following guidelines for TECH Initiative implementer selection. The requirements include the following:

- Bidders must demonstrate substantial experience overseeing or participating in a market transformation initiative. Bidders should identify key personnel and describe their experience relevant to their expected role in the program.
- Bidders should show that the organization has the capability to successfully implement the program.

[210] Joint Environmentals Opening Comments on Staff Proposal at 13.

[211] Cal Advocates Opening Comments on Staff Proposal at 13.

- Proposals should identify the most promising near-term opportunities to promote low-emissions heating technologies.
- Proposals should detail how the implementer will, in the first six months, develop a market study that examines the state of the market and identifies the optimal market opportunities.
- Proposals should detail a plan for data collection, reporting and interfacing with an independent evaluator.
- Proposals should describe the bidders' strategy and preliminary logic model for how the initial pilot programs could eventually help transform the market.
- Proposals should provide a budget that ties program spending to the logic model. In other words, bidders should describe how each item in the budget contributes to program outputs and outcomes.
- Proposals should demonstrate that the proposed strategy or tactics[212] can feasibly be implemented within the budget allocated for the TECH Initiative.
- Proposals should demonstrate a targeted, regional approach. We recognize that the budget for the TECH Initiative does not allow for a broad, statewide approach. As detailed above, funds spent shall be proportionally directed to the gas corporation service territories where the funds are derived.
- Proposals should consider activities to evaluate the region impacted by the Aliso Canyon gas leak.[213]
- Proposals should identify the likely obstacles to success and discuss strategies for overcoming or mitigating those obstacles.

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[212] *See* Section 5.2.3 below for a list of mandatory and optional market development strategies to address.

[213] *See* Section 3.1 of the appendix to this decision for a list of specific market barriers to address.

Under the model we adopt here, the organizational structure for the TECH Initiative shall have five actors:

- Contracting Agent: hold the contract, provide fiscal support for collection and disbursal of funds, and will facilitate RFP process for the program implementer and evaluator;
- CPUC: Facilitate the stakeholder process and provide oversight and management of implementer and evaluator; and;
- Implementer: will plan for, execute, and implement the TECH initiative and has the largest and most significant role of the five actors;
- Program evaluator: evaluate TECH Initiative performance pursuant to program metrics; and
- Stakeholders – provide program input during facilitation.

This model leaves the details of running the TECH Initiative to the implementer while providing for oversight by the Commission and allowing the CEC and stakeholders to provide collaborative input and advice. As the TECH Initiative is intended to test and model unique approaches to building decarbonization, the implementer may be a single, leading contractor working with sub-contractors. The implementer will be required to facilitate, at minimum, quarterly, in-person stakeholder meetings, to be noticed to all parties to this proceeding. These meetings shall be public, and the implementer shall collaborate with Energy Division to ensure public accessibility to these meetings.

The contracting agent is the entity that holds the contract and manages the balancing account that pays the implementer. The TECH Initiative implementer shall be the entity that wins the RFP to implement and execute the program.

The Commission, in this decision, selects a utility to act as the contracting agent, and delegates authority to Energy Division to have the lead role in confidentially evaluating bids, and managing a process to select the winning bidder. This is analogous to the process established to select the statewide marketing and outreach administrators for the Energy Upgrade California program established in D.16-03-029 (*i.e.,* a scoring panel of experts will be convened among stakeholders with no financial interest in the outcome to assist in scoring proposals).

Under the adopted model, we select SCE to carry out these responsibilities. SCE has experience with administering similar programs (*i.e.,* the Solar on Multifamily Affordable Housing program and several statewide energy efficiency programs). SCE shall book all costs associated with performing the functions required of the Contracting Agent to a new balancing account and shall be entitled to no more than one percent of TECH Initiative funding, with cost recovery subject to a true-up based on actual costs accrued and to a final verification by Commission staff. All bidders and potential bidders must direct all communications and questions about the solicitation to SCE. Bids will be confidential as public bidding may reveal trade secrets.

Upon approval of this decision, we direct the Commission's Energy Division to draft a formal RFP. Energy Division shall collaborate with SCE, the designated contracting agent, to ensure that the RFP complies with all necessary procurement rules, to develop RFP scoring criteria, to post to a procurement website,[214] and to publicize the RFP to a qualified pool of contractors. Bids and the scoring of bids shall be designated as confidential, market-sensitive information pursuant to D.06--06-066.[215]

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[214] SCE uses Ariba for their solicitations.

[215] *See* D.06-06-066, at 41-43.

Once the RFP solicitation has been made public, we direct Energy Division to convene a TECH Initiative Scoring Committee (Scoring Committee). The purpose of the Scoring Committee is to select the TECH Initiative implementer. The Scoring Committee consists of the following nine members:

- One representative each from Energy Division, the CEC, and the Contracting Agent.
- Three market development experts, chosen by Energy Division.
- One representative each from three separate environmental or consumer public interest groups that are parties to R.19-01-011, chosen by Energy Division. Interested parties may submit to Energy Division a letter of interest, no longer than two pages, which explains their qualifications for being on the Scoring Committee. Should Energy Division receive more than three letters of interest, staff will select the three they determine to be the most qualified. Letters of interest are due to Energy Division no later than 14 days after the date of this decision is adopted.

All members of the Scoring Committee must be financially disinterested.[216]

Once the RFP is issued, bidders have eight weeks to submit responses to the Contracting Agent. Bids are kept confidential and communications between bidders and members of the Scoring Committee are prohibited in order to protect confidential information.

The Scoring Committee shall evaluate bids using the pre-established RFP scoring criteria and exercising professional judgment. The Scoring Committee may request interviews or presentations with finalists. The Scoring Committee shall recommend the preferred choice. We direct Energy Division to make the

[216] "Financially disinterested," for the purposes of this decision, means scoring panel should not have a financial interest in any potential program implementer or any specific company who may receive incentives from the program.

final decision on the winning bid and, subsequently, inform the winning bidder of its selection.

SCE, as the designated contracting agent, shall negotiate and sign a preliminary contract with the winning bidder upon instruction by Energy Division. SCE shall file a Tier 3 advice letter with Energy Division seeking Commission approval of the preliminary contract, which will be voted on during a formal Commission meeting for final approval. Upon a formal Commission vote of approval, the contract shall be considered ratified.[217]

5.2. TECH Initiative Market Development Parameters

Section 922(a)(1) requires the TECH Initiative to advance the state's market for low-emission space and water heating equipment for new and existing buildings through consumer education, contractor training, vendor training, and the provision of upstream and midstream incentives to install low-emission space and water heating in new and existing buildings. The Legislature identified specific technology parameters applicable to TECH, codified under Section 922(b). These parameters require the Commission to identify and target key low-emission space and water heating equipment technologies that are in the early stage of market development and would assist in achieving the state's GHG emissions reduction goal for 2030.[218] The Legislature requires the Commission to give consideration of technologies that have the greatest potential to reduce GHG

[217] Ten percent of the invoiced amounts from the TECH Initiative implementer will be held back, payable at the end of each program year, contingent on the implementer meeting program targets set out in the RFP and agreed upon in the contracting process. Energy Division will authorize the payment of the 10 percent holdback.

[218] Pub. Util. Code § 922(a)(1).

emissions in California that improve the health and safety of, and energy affordability for, households.[219]

In the Scoping Memo and Ruling,[220] and in a subsequent Administrative Law Judge Ruling,[221] parties were asked: (1) are there any elements in the Staff Proposal that should be removed, changed, or added prior to initiating the solicitation process; and (2) whether the Staff Proposal's four-pronged market based effort is appropriate.

5.2.1. Staff Proposal Summary

The Staff Proposal articulates a four-pronged approach to help accelerate the market development and sales of high efficiency heating equipment in existing homes. Discussed in more detail below, the four-pronged approach contains the following elements: (1) incentives and partnerships with supply-side market actors (upstream incentives);[222] (2) market facilitation activities, including workforce development, education and outreach (midstream incentives);[223] (3) a quick start grants program; and (4) a prize program. For

[219] *Id.*

[220] May 17, 2019 Assigned Commissioner's Scoping Memo and Ruling.

[221] July 16, 2019 Assigned Administrative Law Judge's Ruling.

[222] Upstream is defined as a "Program element aimed at encouraging manufacturers to make the most efficient equipment available at competitive prices, as well as program elements that provide incentives to distributors. This also includes manufacturer buydowns to targeted channels such as retailers that are not in a position to collect data from the purchaser or end-user."

[223] Midstream is defined as a "Program element that provides incentives to wholesale distributors, retailers, e-commerce companies and/or contractors to stock and/or sell more efficient products," and which includes the collection of data from the market actor's purchaser. The definition includes program elements that require a percent pass-through of the incentive to the distributor's purchaser or customer and could also include a spiff/management fee paid to the applicant for participating with the program and the program's requirements such as collecting data. It could also include interventions that will affect contractors, builders, plumbers, electricians, and retail sales outlets.

cost-effective purposes, the Staff Proposal also recommends targeting geographical areas with existing homes in California's hotter climate zones and around Aliso Canyon in Southern California.

The Staff Proposal defines "upstream" incentives as a program element aimed at encouraging manufacturers to make the most efficient equipment available at competitive prices, as well as program elements that provide incentives to distributors.[224] Staff also states that "upstream" incentives must include manufacturer buydowns to target channels such as retailers that are not in a position to collect data from the purchaser or end-user.[225] The Staff Proposal recommends targeting the potential business risks for the "upstream" supply chain actors, which include manufacturer representatives and distributers, by collaborating with them and offering solutions to financial barriers, supporting product development in the market place, and a "compendium of best practices."[226]

Second, the Staff Proposal defines "midstream" incentives as a "program element that provides incentives to wholesale distributor retailers, e-commerce companies and/or contractors to stock and/or sell more efficient products."[227] The Staff Proposal provides that this definition requires a percent pass-through of the incentive to the distributor's customer and could also include a management fee paid to the applicant for participating with the program and the program's requirements.[228] Staff summarizes that a successful midstream

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[224] Staff Proposal, Section 5.2.1

[225] *Id.*

[226] *Id.*

[227] Staff Proposal, Section 5.2.2.

[228] *Id.*

incentive program treats supply chain market actors as partners, with an established memorandum of understanding and shared sales, marketing, and training.[229]

Third, the Staff Proposal recommends a quick start grants program. The quick start grants program provides the TECH Initiative implementer with a $5 million budget to fund localized, innovative approaches to building decarbonization.[230] The goal of the quick start grants program aims to test market transformation strategies and approaches, support technology development, and building decarbonization market research.[231]

Fourth, the Staff Proposal provides for a prize program. The prize program is intended to foster innovative, short term approaches by market actors.[232] Here, the Commission and the TECH Initiative implementer would set simple targets for entities to hit (*i.e.,* the number of heat pump HVAC systems installed), and a prize may be given to the first party who hits the target.[233]

Finally, the Staff Proposal recommends that the TECH initiative take a regional approach in its initial targeting of customers who are most likely to see bill savings and where final costs are minimized.[234] Thus, Staff recommends targeting the hotter climates of California.[235]

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[229] *Id.*

[230] Staff Proposal, Section 5.2.3.

[231] *Id.*

[232] *Id.* at 42-43.

[233] *Id.* at 43.

[234] *Id.*

[235] *Id.*

5.2.2. Parties' Positions

All parties oppose Staff's proposed prize program. However, parties offer recommendations on the other components of Staff's market approach.

SBUA advocates for redistributing the prize program funds to the "quick start" grant category or reserve the funds for future allocation.[236] SBUA disagrees with Staff's recommendation that the TECH Initiative focus on California's hotter climate zones.[237]

Wild Tree Foundation recommends pairing the upstream and midstream strategies with a downstream strategy of decommissioning and recycling of replaced appliances.[238] CALSSA, recommends: (1) on-bill financing to customers to cover some of the cost of installing a certain number energy efficient, electrified appliances; (2) funding a call center to provide off-site audits to help customers decided whether replacing existing water heaters; (3) send customer a sticker to attach to their water heater tank with information about replacement options; and (4) support local inspector training.[239] EDF supports Staff's "upstream" approach as well as its midstream approach but did not support the "quick start" grants program.[240]

SWG argues that the TECH Initiative should not be limited to high efficiency electric equipment but, a broader portfolio of technologies applied to natural gas appliances.[241]

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[236] SBUA Opening Comments at 13.

[237] *Id.*

[238] WTF Opening Comments on Staff Proposal at 2 and 21.

[239] CALSAA Opening Comments on Staff Proposal at 8.

[240] EDF Opening Comments on Staff Proposal at 10.

[241] SWG Opening Comments on Staff Proposal at 6.

VEIC supports Staff's focus on specific climate markets but discourages an overly geographic focus in lieu of the broader state marker.[242] VEIC recommends increased program administrator flexibility for the TECH Initiative, a strengthened focus on low-income households and hard-to-reach populations, and tie the quick start grants program to specific market development strategies.[243] PG&E similarly agrees, asserting that the TECH Initiative implementer be given the flexibility to propose only one or two of the proposed approaches presented by Staff.[244]

The Partnership and Joint Environmentals argue that the four-pronged approach presented by Staff must ultimately benefit low-income households[245] and hard-to-reach populations and that there should be funding for the quick start grants program of up to $10 million.[246]

Cal Advocates articulates that if manufacturer offerings are not an important barrier that impedes the availability of low-emissions heating technologies, the implementer for the TECH initiative should budget less money to upstream incentives in subsequent program years.[247] Cal Advocates recommends that the implementer for the TECH Initiative should adjust the program to specific product improvements or market niches where incentives are likely to be useful.[248]

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242 VEIC Opening Comments on Staff Proposal at 11-12.

243 *Id.*

244 PG&E Opening Comments on Staff Proposal at 10.

245 The Partnership Opening Comments on Staff Proposal at 16.

246 Join Environmentals Opening Comments on Staff Proposal at 18.

247 Cal Advocates Opening Comments on Staff Proposal at 26.

248 *Id.*

5.2.3. Analysis: The TECH Initiative Implementer Shall Approach the Initiative with a Menu of Tactics but must Implement an Upstream and Mid-Stream Market Approach to Drive Market Transformation Consistent with Statutory Requirements

We decline to adopt an approach that may, in effect, become overly prescriptive for the TECH Initiative implementer. Market development initiatives involve phases that require development and testing of strategies and approaches to arrive at impactful market intervention efforts. Therefore, we adopt an approach that gives the implementer the flexibility to approach the TECH Initiative with a menu of tactics. While we grant the implementer flexibility, we do not deviate from the statutory mandate that the implementer include an upstream and midstream approach to drive market development, as well as provide consumer education, contractor training, and vendor training. The statute does not envision the TECH Initiative delivering downstream or direct-to-customer incentives. The implementer has the responsibility to evaluate the market structure and dynamics, by proposing intervention strategies intervention strategies to overcome barriers and to further the market.

To set some parameters to guide the implementer, we define the elements of upstream and midstream programs. Upstream[249] shall be defined as program elements aimed at encouraging manufacturers to make the most efficient equipment available at competitive prices. This also includes manufacturer buydowns to targeted channels such as retailers that are not positioned to collect data from the purchaser or end-user. For market adoption of energy-efficient products in the upstream supply chain, the implementer must work with upstream supply chain actors like manufacturers, manufacturer representatives,

[249] Staff Proposal at Section 5.2.1.

and distributors to reduce the real and perceived business risks of building decarbonization market development. Next, we define midstream.

Midstream[250] shall mean program elements that provide incentives to wholesale distributors, retailers, e-commerce companies and/or contractors to stock and/or sell more efficient products. The definition also includes: (1) program elements that require a percent pass-through of the incentive to the distributor's purchaser or customer; (2) a spiff/management fee paid to the applicant for participating with the program and the program's requirements such as collecting data; and (3) interventions that will affect contractors, builders, plumbers, electricians, and retail sales outlets.

With respect to a menu of tactics for the implementer to pursue, we offer the following discretionary tactics the implementer may utilize as options to further market development transformation efforts through the TECH Initiative:

- **Manufacturer incentives for resilient and long-lasting equipment:** As California prepares for catastrophic wildfires, we will need equipment that is more resilient, and designed and installed with adaptive safety features. Low-income households will benefit from equipment with longer expected useful lives and manufacturer warranties to get the best return on investment.
- **Kicker incentives to manufacturers for innovative technology partnerships:** The need for flexible demand side resources means grid-responsive capabilities across multiple integrated systems. Niche products such as demand-responsive electrical panels and smart battery storage that can seamlessly work with distributed resource-enabled space and water heaters would need program support for integration into mainstream market.

[250] Staff Proposal at Section 5.2.2.

- **Bulk purchasing:** This could include working with a utility to purchase a large quantity of appliances in order to take advantage of economies of scale.
- **Local government outreach and advocacy:** This could include educating permitting offices and inspectors on the state regulations for heat pump appliances or partnering with local governments to promote heat pump appliances to their citizens.
- **Consumer financing**: In order to reduce the up-front costs to consumers, the implementer may partner with a bank to offer loans to customers, or with a utility to offer an on-bill financing program.
- **Buyback programs:** This could include paying a customer to take their high-emissions appliance as part of an incentive program.
- **Layering incentives from other programs:** We encourage bidders to consider innovative approaches to layer or stack TECH Initiative incentives with other programs, such as net energy metering, the Self-Generation Incentive Program, Home Upgrade, or the Energy Savings Assistance Program.
- **Quick Start Grants Program:** Under this program category, the implementer will work with a limited carve out of the TECH Initiative budget over the first two years of the program. These funds will be intended to fund localized, vanguard approaches to decarbonization. This program will consist of a grants program involving the procurement and administration of a portfolio of high-impact projects and strategy testing engagements with local, regional and other third-party implementers.

Finally, SB 1477 requires the Commission to ensure that TECH Initiative implementation includes outreach strategies for hard-to-reach customers.[251] The implementer shall employ strategies that target not only hard-to-reach

[251] Pub. Util. Code § 922(c)(1).

customers, but also those in low-income and disadvantaged communities. These strategies should support long-term market development across these groups and communities.

5.3. TECH Initiative Technology Parameters

Section 922(a)(2)(a) requires the Commission, under its supervision of the TECH Initiative, to develop guidelines that include a list of eligible technologies, a process for evaluating new technologies, and a process and set of metrics by which to evaluate and track the TECH Initiative results.

In the Scoping Memo and Ruling,[252] and in a subsequent Administrative Law Judge Ruling,[253] parties were asked: (1) what technology eligibility criteria should be utilized; (2) what process should be utilized for evaluating new technologies; (3) guidelines for evaluation metrics; and (4) what criteria should be used for scoring and selecting projects.

5.3.1. Staff Proposal Summary

In selecting the eligible technologies for the TECH Initiative, Staff recommends that the CEC provide preliminary technology specifications, then work with the selected contractors to finalize all technology eligibility.[254] The Staff Proposal gives the Commission final approval over technology eligibility specifications.[255] The Staff Proposal focuses on existing technical specifications for space and water heating equipment, such as the Northeast Energy Efficiency Partnership's cold-climate air-source heat pump specification.[256] For water

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[252] May 17, 2019 Assigned Commissioner's Scoping Memo and Ruling.

[253] July 16, 2019 Assigned Administrative Law Judge's Ruling.

[254] Staff Proposal, Section 5.5.

[255] *Id.*

[256] *Id.*

heating, the Staff Proposal recommends utilizing the NEEA's performance specification for heat pump water heaters.[257] The Staff Proposal also recommends that future decision making regarding technology eligibility consider: (1) GHG reduction potential;[258] (2) commercial readiness;[259] and (3) equipment and installation costs.[260]

Finally, Staff recommends targeting an array of technologies and approaches for the TECH Initiative. This includes the following: (1) heat pump HVAC systems in residential low-rise retrofit homes, where central air conditioning is warranted or needed; (2) HVAC heat pumps to replace space heating currently provided by propane, distillate, or electric resistance heat; (3) high efficiency HVAC heat pumps rather than standalone central AC units should be encouraged wherever possible; (4) early replacement program for older natural gas furnaces and natural gas water heaters should be considered; and (5) incentives and low-cost financing targeted to landlords and low-income consumers to overcome capital cost barriers and ensure that clean energy benefits are enjoyed by all communities.[261]

5.3.2. Parties Positions

Joint Environmentals support the elements of Staff's proposal but caution that leveraging certain technical specifications (*i.e.,* cold climate heat pump) may not be needed everywhere and the Commission should not predetermine how

[257] *Id.*

[258] Staff Proposal, Section 5.5.1.

[259] Staff Proposal, Section 5.5.2.

[260] *Id.* 46-47.

[261] Staff Proposal, Section 5.5.4.26-27.

the implementer should target TECH Initiative funding.[262] Cal Advocates also agrees that Staff's technology eligibility criteria is reasonable but adds that it is beneficial for market transformation goals if the TECH Initiative implementer focuses on technologies with a large market potential, leaving technologies aimed at smaller market niches for later efforts.[263]

CHBC disagrees with some of Staff's recommendations, arguing that hydrogen should be considered[264] while EDF supports an emphasis on market ready technologies like water heating technologies that require little electrical panel work for conversion from a natural gas system.[265] SWG also argues for consideration of additional heating technologies – like solar thermal, gas heat pump technologies, low-NOx technologies and renewable natural gas.[266]

VEIC argues that the TECH Initiative should emphasize heat pump technologies for space and heating.[267] Specifically, VEIC suggests: (1) retrofit-ready technologies and specifications suitable for the California market, like low-amperage and low-wattage water heaters and space heaters that do not rely on electric resistant backup; and (2) technologies with specific application to low-income households, such as replacements for swamp coolers.[268]

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[262] Joint Environmentals Opening Comments on Staff Proposal at 19.

[263] Cal Advocates Opening Comments on Staff Proposal at 23.

[264] CHBC Opening Comments on Staff Proposal at 8.

[265] EDF Opening Comments on Staff Proposal at 12.

[266] SWG Opening Comments on Staff Proposal at 5.

[267] VEIC Opening Comments on Staff Proposal at 12.

[268] *Id.*

CBIA cautions against supporting heat pump water heaters because they are typically more expensive per unit and have high operating costs.[269] The Partnership encourages low-cost technologies that help achieve high savings to ensure that the technologies are accessible.[270]

Wild Tree Foundation argues for highly efficient heat pumps utilizing natural, non-GHG emitting refrigerants, low cost solar thermal water heating systems, and efficient space heat pump that works in climate extremes of both heat and cold.[271]

PG&E recommends that the Commission require an evaluation plan with a program design to maximize the program evaluation's usefulness.[272]

5.3.3. Analysis: The TECH Initiative Implementer Shall Select Eligible Technologies With a Performance-based Approach on GHG Emission Reduction Baselines to Best Meet Program Goals

The selected implementer shall work with Energy Division and the CEC to finalize all technology eligibility requirements as needed. Energy Division shall have final approval over these specifications.

We direct the TECH Initiative implementer to leverage existing technical specifications where possible and in doing so, delegate it the discretion to determine that such specifications may not be needed everywhere. In other words, we provide the implementer flexibility in setting technology criteria, allowing for adjustments to be made as advanced low-emission technologies become commercially available.

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[269] CBIA Opening Comments on Staff Proposal at 4.

[270] The Partnership Opening Comments on Staff Proposal at 17.

[271] Wild Tree Foundation Opening Comments at 19.

[272] PG&E Opening Comments on Staff Proposal at 11.

We decline to adopt an approach that could single out any particular product, which could stymie innovation in this emerging market. Therefore, rather than having a list of eligible equipment and products, we adopt a performance-based approach on GHG emission reduction baselines. When submitting bids to serve as the TECH Initiative implementer, bidders shall propose which technologies would best meet program goals and only include technologies that are eligible for other programs if they provide evidence. Additionally, special consideration shall be given to technologies that are grid-enabled, have a high market-potential, and that improve the health and safety of, and energy affordability for, low-income households.[273] Bidders are directed to explain their strategy for technology selection in the RFP process, and also explain what strategy they would not pursue and why.

We decline to adopt the recommendations by SWG, SoCalGas, and CHBC for the inclusion of renewable natural gas and hydrogen into these pilot programs because SB 1477 is focused on advancing the state's market for low-emission space and water heating equipment for new and existing residential and non-residential buildings through consumer education, contractor training, vendor training, and the provision of upstream and midstream incentives,[274] - not on particularized infrastructure or fuels.

Finally, we direct the implementer to use its discretion to determine the most promising geographic target areas for a focused TECH Initiative effort, within the regional requirements required by CARB regulations for Cap-and-Trade funding. We agree with Joint Environmentals that targeting

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[273] We note that low-GWP use refrigerants have the highest potential to reduce GHG emissions.

[274] Pub. Util. Code § 922(a)(1).

program funds can help achieve critical mass in certain markets and better jump start market development. We acknowledge that due to climate change, an increased number and higher intensity of heat waves is affecting many areas of the state – including the Central Valley, which experiences hotter summers and colder winters than coastal areas. Given the changing climate and the diversity of the state, we grant the implementer the flexibility to identify the most promising geographic target areas for a focused TECH Initiative implementation.

6. Conclusion

In summary, this decision establishes a framework for Commission oversight of SB 1477's two building decarbonization pilot programs. SB 1477 makes available a pool of $200 million, collected in four $50 million annual installments starting in FY 2019-20 and ending in FY 2022-23,[275] and derived from the revenue generated from the GHG allowances directly allocated to gas corporations and consigned to auction as part of the California's Cap-and-Trade program, from 2019-2023. We appropriate 40-percent of the $200 million budget for the BUILD Program and sixty percent for the TECH Initiative. To comply with Cap-and-Trade rules, the spending for the BUILD Program and the TECH Initiative shall be proportionally directed to the gas corporation service territories where the funds are derived.[276] The percentage allocation for each gas corporation service territory is discussed above. To the extent that there are unspent GHG allowance proceeds allocated for an individual gas corporation's service territory, and no remaining eligible projects within that service territory,

[275] Fiscal Year 2019-2020 to Fiscal Year 2022-23.

[276] *See* 17 CCR Section 95893(d)(3): "Allowance value, including any allocated allowance auction proceeds, obtained by a natural gas supplier must be used for the primary benefit of retail natural gas ratepayers of each natural gas supplier, consistent with the goals of AB 32, and may not be used for the benefit of entities or persons other than such ratepayers."

the remaining GHG allowance proceeds may be spent elsewhere after two years following implementation.

The BUILD Program shall be administered by the CEC, with Commission oversight. We direct the CEC to design the BUILD Program with the goal to deploy near-zero-emission building technologies in the largest number of residential units as possible. Thirty percent of the $200 million in total funding authorized by SB 1477 (*e.g.*, $80 Million) is appropriated for new low-income residential housing under the BUILD Program. This percentage is not the ceiling for spending on low-income households but rather, the floor. Incentive eligibility for the BUILD Program shall be limited strictly to newly constructed[277] all-electric building projects, without any hookup to the natural gas distribution grid.

The TECH Initiative shall be effectuated by a third-party implementer. The third-party implementer shall be selected with Commission oversight. The Commission directs SCE to act as the contracting agent responsible for managing the solicitation for the third-party implementer. SCE is entitled to a portion of the TECH Initiative funding in order to recover expenses that may be incurred while serving as the contracting agent. Energy Division, alongside a panel of financially disinterested experts, shall score proposals and select a bidder to serve as the third-party implementer for the TECH Initiative. The selection process shall occur through an RFP process. Upon the conclusion of the selection process, SCE shall file a Tier 3 advice letter with Energy Division to seek final approval of the candidate-implementer for the TECH Initiative.

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[277] Section 100.1 of Title 24, Part 6 (Building Energy Efficiency Standards) defines a "newly constructed" building as a building that has never been used or occupied for any purpose.

To accelerate market development and adoption of building decarbonization technologies targeted under the TECH Initiative, we allow the implementer the prerogative to select from an array of tactics and approaches. However, we require the implementer to use the upstream and midstream approaches we adopt here, as well as provide consumer education, contractor training, and vendor training, to facilitate the market development for building decarbonization technologies. Additionally, we decline to adopt a prescriptive list of eligible technologies and products at this time, as we do not want to single out a product or products which could stymie market innovation. We direct Energy Division to include in the RFP process direction to applicants to propose the most promising market segments areas for focused implementation efforts.

The TECH Initiative implementer shall employ outreach strategies that target hard-to-reach customers, as well as those in low-income and disadvantaged communities, in order to support long-term market development across these groups and communities.

Finally, a single, independent program evaluator shall evaluate both pilot programs. SCE shall procure an independent program evaluator through a RFP process at the same time as an implementer for the TECH Initiative is procured. The program evaluator shall be engaged throughout the initiation of the two pilot programs and during the administration of them to ensure that substantive, real time feedback is given, and data and information gathering is meaningful to support the success of these pilots.

7. Comments on Proposed Decision

The proposed decision in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the CPUC's Rules of Practice and Procedure.

Comments were filed on ____________ and reply comments were filed on _________________.

8. Assignment of Proceeding

Liane M. Randolph is the assigned Commissioner and Colin Rizzo and Julie Fitch are the assigned Administrative Law Judges in this proceeding.

Findings of Fact

1. The Commission initiated Rulemaking (R.)19-01-011 to begin crafting policy regarding building decarbonization in California pursuant to SB 1477.
2. SB 1477 requires the Commission to develop two programs to test specific programmatic approaches to building decarbonization.
3. The SB 1477 pilot programs are BUILD Program and the TECH Initiative.
4. SB 1477 mandates the BUILD Program to incent the deployment of building technologies in new residential buildings that GHG emissions significantly beyond what otherwise would have resulted from complying the prescriptive requirements of the California Energy Code.
5. SB 1477 mandates the TECH Initiative to incent the deployment of low-emissions space and water heating technologies that are in an early stage of market development in both new and existing residential buildings that are in an early stage of market development.
6. SB 1477 finances the BUILD Program and the TECH Initiative from a pool of $200 million, collected in four $50 million annual installments starting in FY 2019-20 and ending in FY 2022-23, and derived from the GHG proceeds resulting from emissions allowances directly allocated to gas corporations and consigned to auction as part of the CARB Cap-and-Trade program..
7. The natural gas corporations covered under SB 1477's compliance costs are: (1) SoCalGas; (2) PG&E (3) SDG&E; and (4) SWG.

8. SB 1477 should emphasize new, low-income residential housing by allocating no less than 75 percent of the total BUILD Program funding (i.e., $80 million) for new low-income residential housing.

9. SB 1477 requires states the Legislature's intent that the building decarbonization pilot programs ultimately not result in higher utility bills for occupants and requires that they not rise for low-income building occupants.

10. SB 1477 requires a BUILD Program outreach plan that encourages applications for projects in new low-income, residential housing building projects.

11. SB 1477 places specific programmatic emphasis on eligible technology and targeting criteria.

12. SB 1477 TECH Initiative's technology and targeting criteria are: 1) space and water heating technology; (2) technology at an early stage of market development; (3) technology with the greatest potential for reducing GHG emissions; and (4) technology with the greatest potential for improving health and safety and energy affordability for low-income households.

13. SB 1477 requires the development of an outreach plan to determine guideline and evaluation metrics, outreach strategies for hard-to-reach customers, and provide job training and employment opportunities to further building decarbonization market transformation.

14. Commission staff, in consultation with the CEC staff, issued a Staff Proposal for the two building decarbonization pilots in July of 2019.

15. The Staff Proposal offered recommendations for the implementation of SB 1477's BUILD Program and TECH Initiative.

Conclusions of Law

1. It is reasonable to appropriate the SB 1477 program budget compliance costs across California's gas corporations according to each gas corporation's percentage share of allocated Cap-and-Trade allowances, consistent with Cap-and-Trade regulations.

2. It is reasonable to set SoCalGas' SB 1477 compliance costs at $24,630,000 annually, or 49.26 percent of the annual pool of SB 1477 funds.

3. It is reasonable to set PG&E's SB 1477 compliance costs at $21,170,00 annually, or 42.34 percent of the annual pool of SB 1477 funds.

4. It is reasonable to set SDG&E's SB 1477 compliance costs at $3,385,000 annually, or 6.77 percent of the annual pool of SB 1477 funds.

5. It is reasonable to set SWG's SB 1477 compliance costs at $815,000, or 1.63 percent of the annual pool of SB 1477 funds.

6. It is reasonable to require SoCalGas, PG&E, SDG&E, and SWG to remit their respective SB 1477 compliance costs directly and in full to the Commission designated contracting agent who shall establish a new balancing account specifically for these funds.

7. It is reasonable to designate SCE as the Commission designated building decarbonization pilot program contracting agent.

8. It is reasonable to require SCE to file a Tier 1 advice letter with the Energy Division formalizing a new SB 1477 balancing account.

9. It is reasonable to require SCE, immediately following approval of the new balancing account, to request from the gas corporations disbursal of first year funding set aside as directed by Resolution G-3565, which shall be provided no more than 15 days following the request.

10. It is reasonable to require SCE to account for all interest accrued, prior to disbursal to the BUILD Program administrator and TECH Initiative implementer.

11. It is reasonable to require SCE to immediately disburse the SB 1477 funds to the BUILD Program administrator and the TECH Initiative implementer when the funds are requested formally by writing.

12. It is reasonable to require SCE to provide Energy Division monthly updates regarding all disbursements of funds made and the status of the funds.

13. It is reasonable to require Energy Division to provide annual updates to the Legislature regarding funding and expenditures for the SB 1477 pilot programs.

14. It is reasonable to require spending levels for the BUILD Program and TECH Initiative in the gas corporation service territories to be proportional to where the funds are derived, consistent with Cap-and-Trade regulations.

15. It is reasonable to appropriate 40 percent of the total program funds to the BUILD Program and 60 percent of the program funds to the TECH Initiative to maximize pilot program efforts to stimulate market transformation.

16. It is reasonable to encourage the BUILD Program administrator to go beyond the SB 1477 minimum of 30 percent allotment for new low-income residential housing; in other words, the BUILD Program's budgetary allotment for the low-income program costs should be considered a minimum threshold, not a cap.

17. It is reasonable to cap the BUILD Program administrative budget at 10 percent of the total BUILD Program budget.

18. It is reasonable to cap the TECH Initiative administrative budget at five percent of the TECH Initiative budget; if the selected bid to implement the

TECH Initiative is below the five percent cap, then the difference between the winning select bid amount and the total spending of the TECH Initiative implementation cost shall be reallocated for program costs.

19. It is reasonable to entitle the TECH Initiative contracting agent to no more than one percent of TECH Initiative funding.

20. It is reasonable to designate a single, independent program evaluator for both the BUILD Program and TECH Initiative for purposes of economies of scale and to require the program evaluator to engage closely with the initiation and ongoing implementation of both pilot programs.

21. It is reasonable to require the program evaluator to use the SB 1477 GHG benefits metrics as the primary factor for measuring both pilot program's outcomes and success.

22. It is reasonable to require the program evaluator to closely collaborate with Energy Division to determine whether and to what extent GHG benefits sub-metrics shall be applied.

23. It is reasonable to require the program evaluator to include gas corporations' Cap-and-Trade reporting obligations as part of its pilot program evaluation.

24. It is reasonable to require the BUILD Program administrator and the TECH Initiative implementer to calibrate the education and outreach of their respective building decarbonization pilot programs to the varied regions of California.

25. It is reasonable to require the BUILD Program administrator and the TECH Initiative implementer to partner with organizations that primarily serve low-income, disadvantaged, and hard-to-reach customers to ensure active

participation and partnership with customers across a variety of demographic groups.

26. It is reasonable to reduce refrigerant-based GHG emissions and thus, adopt: (1) a low-Global Warming Potential refrigerant threshold of less than 150; and (2) a high-Global Warming Potential refrigerant threshold above 750. Refrigerants used in the space and water heating appliances of building projects funded by the BUILD Program or incentivized by the TECH Initiative shall not exceed the 750 GWP threshold.

27. It is reasonable to designate the CEC as the BUILD Program administrator, with ultimate Commission oversight, because the CEC has broad technical, programmatic, and policy experience.

28. It is reasonable to make disbursal of BUILD Program funding to the CEC contingent upon legislative authorization for the CEC's administrative expenses.

29. It is reasonable to cap the total BUILD Program administration at $8 million over a four-year period, or $2 million annually.

30. It is reasonable to ultimately defer to the Legislature should the Legislature find that BUILD Program administrative funding to the CEC should be less.

31. It is reasonable to appropriate BUILD Program incentives to only newly constructed projects that are all-electric, which is consistent with State of California requirements to achieve a zero-GHG electricity supply by 2045.

32. It is reasonable to require the CEC to ensure that the structure of the BUILD Program incentives design and distribution is consistent with Cap-and-Trade regulations so that incentives are proportionally allocated back to the service territory from which they came.

33. It is reasonable to require that BUILD Program incentives be based on demonstrable whole building GHG performance modelled using the CEC's California Energy Code compliance software against a reference case.

34. It is reasonable to reconsider the BUILD Program parameters if the CEC is unable to spend the funds after two years of implementation.

35. It is reasonable to consider extending BUILD Program eligibility to new construction in existing buildings, buildings repurposed for residential usage, electric-ready retrofits, and market-rate projects if allocated funds are not spent within two years of implementation.

36. It is reasonable to consider funds set aside for approved BUILD Program applications as spent for the purposes of this program.

37. It is reasonable to require gas corporations to release non-confidential data regarding planned natural gas infrastructure extensions and existing aging infrastructure that may not be worth replacing or maintaining long-term to assist with BUILD Program design.

38. It is reasonable to require the CEC to submit an implementation plan every two years to the Commission's Deputy Executive Director for Energy and Climate Policy for approval via the Commission's resolution process.

39. It is reasonable to designate all new low-income residential housing projects within the territories of gas corporations subject to this decision be eligible for BUILD Program incentives.

40. It is reasonable to direct SCE, in cooperation with the Commission's Energy Division, to issue a request for proposal (RFP) to select the implementer for the TECH Initiative.

41. It is reasonable to convene a scoring committee for the purpose of selecting the TECH Initiative implementer that consists of the following nine members:

(1) one representative from Energy Division; (2) one representative from the CEC; (3) one representative from SCE; (4) three market transformation experts selected by Energy Division; and (5) one representative each from three separate environmental or consumer public interest groups that are parties to R.19-01-011, as selected by Energy Division.

42. It is reasonable to require, upon selection of a prospective TECH Initiative implementer, to require SCE to file a Tier 3 advice letter requesting formal Commission approval of the selection of the TECH Initiative implementer.

43. It is reasonable to give the TECH Initiative implementer the prerogative to select from a menu of market transformation tactics, but it shall implement an upstream and mid-stream market transformation approach as specific drivers for market transformation.

44. It is reasonable to define upstream market transformation as program elements aimed at encouraging manufacturers to make the most efficient equipment available at competitive prices.

45. It is reasonable to define mid-stream market transformation as a program element that provides incentives to wholesale distributors, retailers, e-commerce companies and/or contractors to stock and/or sell more efficient products.

46. It is reasonable to require the TECH Initiative implementer to select from performance-based technologies that demonstrably reduce GHG emissions to meet building decarbonization pilot program goals.

ORDER

IT IS ORDERED that:

1. Pursuant to Senate Bill 1477, we order that the funding for the Building Initiative for Low-Emissions Development program (BUILD Program) and the Technology and Equipment for Clean Heating initiative (TECH Initiative) be

made available from a pool of $200 million, collected in four $50 annual installments starting in Fiscal Year (FY) 2019-20 and ending in FY 2022-23, and derived from the revenue generated from the greenhouse gas emission allowances directly allocated to gas corporations and consigned to auction as part of the California Air Resources Board Cap-and-Trade program.

2. California gas corporations subject to Senate Bill (SB) 1477 funding obligations are Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SCE), San Diego Gas & Electric Company (SDG&E), and Southwest Gas Company (SWG) with SCE shall act as the Commission's contracting agent. To comply with California Air Resources Board rules regarding Cap-and-Trade funds, SB 1477 compliance costs shall be allocated according to the following percentages, for each gas corporation service territory is as follows: (a) PG&E: 42.34 percent; (b) SoCalGas 49.26 percent; (c) SDG&E 6.77 percent; and (d) SWG 1.63 percent.

3. To comply with California Air Resources Board's rules regarding Cap-and-Trade funds, the spending for the Building Initiative for Low-Emissions Development and Technology and Equipment for Clean Heating initiative shall be proportionally directed to the gas corporation service territories where the funds are derived.[278]

4. Southern California Edison Company (SCE) shall, immediately following approval of the new balancing account, request from the gas corporation's disbursal of first year funding set aside as directed by Commission

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[278] *See* Title 17 of the California Code of Regulations Section 95893(d)(3): "Allowance value, including any allocated allowance auction proceeds, obtained by a natural gas supplier must be used for the primary benefit of retail natural gas ratepayers of each natural gas supplier, consistent with the goals of Assembly Bill 32, and may not be used for the benefit of entities or persons other than such ratepayers."

Resolution G-3565, which shall be provided no more than 15 days following the request. SCE shall account for all interest accrued, prior to disbursal to the Building Initiative for Low-Emissions Development Program administrator and Technology and Equipment for Clean Heating initiative implementer.

5. Southern California Edison Company shall, within 15 days of the date of the approval of this decision, file a Tier 1 advice letter with the Commission's Energy Division formalizing a new balancing account for the gas corporation's Senate Bill 1477 compliance costs.

6. Pacific Gas and Electric Company, Southern California Gas Company, San Diego Gas & Electric Company, and Southwest Gas Company shall, within 15 days following the Commission's approval of their annual natural gas true-up advice letters that set natural gas transportation rates, remit their respective "SB 1477 Compliance Costs" directly and in full to the designated building decarbonization pilot program contracting agent, Southern California Edison.

7. Southern California Gas Company, Pacific Gas & Electric , San Diego Gas & Electric, and Southwest Gas shall, within 15 days following a formal request from the contracting agent, disburse first year funding for the two Senate Bill 1477 pilot programs set aside pursuant to Resolution G-3565.

8. $80 million of the $200 million Senate Bill (SB) 1477 budget shall be appropriated for the Building Initiative for Low-Emissions Development program and $120 million of the $200 million SB 1477 budget shall be appropriated for the Technology and Equipment for Clean Heating Initiative.

9. The California Energy Commission shall be the administrator of the Building Initiative for Low-Emissions Development program, with Commission oversight.

10. The California Energy Commission's (CEC) administration of the Building Initiative for Low-Emissions Development program shall be contingent upon legislative authorization for the CEC's administrative expenses.

11. The California Energy Commission's total administrative budget implementing the Building Initiative for Low-Emissions Development program shall be no more than $8 million over a four-year period, or $2 million annually. Should the Legislature authorize an administrative funding amount less than this, remaining funds shall be repurposed for non-administrative programmatic incentives.

12. If the California Energy Commission (CEC) does not receive budgetary approval from the Legislature for administering the Building Initiative for Low-Emissions Development Program, or otherwise determines that it is unable to administer the program or parts of the program due to unforeseen circumstances, the Energy Division staff, in consultation with the CEC, may issue Building Initiative for Low-Emissions Development related request for proposals through the contracting agent, Southern California Edison.

13. At least 30 percent of the total Senate Bill 1477 four-year budget shall be appropriated for new low-income residential housing, to be disbursed under the Building Initiative for Low-Emissions Development Program.

14. The Building Initiative for Low-Emissions Development program financial incentives are authorized solely to newly constructed projects that are all-electric, consistent with the State of California's requirements to achieve a zero-greenhouse gas emissions future by 2045.

15. The Building Initiative for Low-Emissions Development Program incentives shall be based on demonstrable whole building greenhouse gas

performance modelled using the California Energy Commission's California Energy Code compliance software against a reference case.

16. The Building Initiative for Low-Emissions Development program incentive design and distribution shall be implemented consistent with California's Cap-and-Trade regulations, to ensure that such incentives are proportionally allocated to the service territory from which the fund are derived.

17. The California Energy Commission shall submit an implementation plan to the Commission's Deputy Executive Director for Energy and Climate Policy for approval via the Commission resolution process within one-hundred and twenty days of the adoption of this decision and every two years thereafter.

18. The California Energy Commission shall develop or adopt a tool to measure bill savings as a result of the Building Initiative for Low-Emissions Development Program. It is reasonable to require the program evaluator to examine the efficacy and accuracy of the tool and recommend any necessary improvements and the CEC shall make changes to the tool based on the evaluator's recommendations.

19. On July 1 of each year, each gas corporation shall release downloadable planned natural gas infrastructure extension maps on a publicly accessible website in GeoJSON or Keyhole Markup Language format.

20. On July 1 of each year, each gas corporation shall release non-confidential downloadable data regarding the number of housing units with natural gas hook-ups by zip code in JSON or CSV format.

21. On July 1 of each year, each gas corporation shall publicly release non-confidential downloadable map-based data that shows the book value, age, and location of existing natural gas distribution and transmission infrastructure in GeoJSON or Keyhole Markup Language format.

22. The solicitation and selection process of the Technology and Equipment for Clean Heating Initiative implementer shall be led by Energy Division, with advice from partnered stakeholders, consistent with Section 5.1.3 of this decision.

23. The solicitation and selection process of the Technology and Equipment for Clean Heating (TECH) Initiative implementer and the program evaluator for both the Building Initiative for Low-Emissions Development program and TECH Initiative, shall be led by Energy Division, with advice from partnered stakeholders, and be implemented consistent with the minimum requirements as stated in Section 5.1.3 of this decision.

24. Energy Division shall convene a Tech Initiative Scoring Committee (Scoring Committee) to select the TECH Initiative Implementer, consisting of the following nine financially disinterested[279] entities:

- One representative each from the CPUC, the CEC, and the Contracting Agent.
- Three market transformation experts, chosen by Energy Division.
- One representative each from three separate environmental or consumer public interest groups that are parties to Rulemaking 19-01-011, chosen by Energy Division. Interested parties may submit to Energy Division a letter of interest, no longer than two pages, which explains their qualifications for being on the Scoring Committee. Should Energy Division receive more than three letters of interest, staff will select the three they determine to be the most qualified. Letters of interest are due to Energy Division no later than 14 days after the date of this decision's adoption.

[279] "Financially disinterested," for the purposes of this decision, means scoring panel should not have a financial interest in any potential program implementer or any specific company who may receive incentives from the program.

With the advice of stakeholders, Energy Division shall make the final decision for selection of the TECH Initiative implementer. Southern California Edison Company, as the designated contracting agent, shall negotiate and sign a preliminary contract with the winner upon instruction by the Energy Division on selected TECH Initiative implementer.

25. Southern California Edison Company shall, within 15 days of Energy Division's final decision, file a Tier 3 advice letter seeking Commission approval of the preliminary contract.

26. The Technology and Equipment for Clean Heating Initiative implementer shall approach the initiative with a menu of tactics, that may include but is not limited to the list in Section 5.2.3 of this decision, but shall implement the upstream and mid-stream market approach, as well as provide consumer education, contractor training, and vendor training, to drive market development.

27. The Technology and Equipment for Clean Heating Initiative Implementer shall select eligible technologies with a performance-based approach on greenhouse gas emission reduction baselines to best meet program goals.

28. The California Energy Commission and the Technology and Equipment for Clean Heating Initiative implementer shall make requests for Senate Bill 1477 funding, including any accrued interest, in writing to Southern California Edison who shall disburse funds and provide monthly updates to Energy Division regarding all disbursements made and the status of funds available.

29. The Building Initiative for Low-Emissions Development Program and Technology and Equipment for Clean Heating Initiative shall be evaluated by a single evaluator and supervise the initiation of both building decarbonization pilot programs, and throughout the implementation.

30. The Building Initiative for Low-Emissions Development Program and Technology and Equipment for Clean Heating Initiative single program evaluator shall use the building decarbonization pilot program evaluation guidelines, at a minimum, as set forth in Sections 3.1.3 and 3.1.4 as a part of its programmatic evaluation.

31. The Building Initiative for Low-Emissions Development Program (BUILD Program) and Technology and Equipment for Clean Heating Initiative (TECH) single program evaluator budget is 1.8 percent of total program costs, or $3.6 million over the four-year program period. Both data collection and real-time monitoring will be expected of the BUILD Program administrator and TECH Initiative implementer, who shall work with the program evaluator in a collaborative fashion.

32. Rulemaking 19-01-011 is remains open.

This order is effective today.

Dated ____________________________, at San Francisco, California.

Appendix A – Style Reference Tables

Name		Description/Usage
Standard		Body text
Heading 1		First level headings
Heading 2		Second level headings
Heading 3		Third level headings
List Alpha		Lower case lettered list at one indent
List Bullet		Bulleted list at one indent
Block Quote		Block quotes
FoF		Findings of Fact
CoL		Conclusions of Law
OP		Ordering Paragraphs
Name		**Description/Usage**
No Spacing		"Standard" Style – Single spaced, no indent
Dummy		Unnumbered headings
Heading 4		Fourth level headings (avoid deep subheadings if possible)
Heading 5		Fifth level headings (avoid deep subheadings if possible)
Heading 6		Sixth level headings (avoid deep subheadings if possible)
Main		Centered titles
Mainex		"Order" title
TOC 1/2/etc.		Table of Contents style by level
TOC Heading		Table of Contents title
Footnote Text		Footnotes

Font	Description Usage
Arial 13 Bold Caps	Titles
Arial 13 Bold	Headings
Book Antiqua 13	Body Text
Book Antiqua 11	Footnotes

(End of Appendix A)

Appendix B

[APPENDIX A]

[APPENDIX A]

Table of Contents

1. Program Evaluation Guidelines

1.1. GHG Sub-metrics

In calculating the cost per metric ton of avoided GHG emissions, the Program Evaluator shall work with the CPUC to determine whether – and to what extent – to apply the following sub-metrics:

- Upfront incremental equipment costs
- Upfront incremental installation costs (including labor and infrastructure upgrades)
- Upfront incremental design costs
- Annual incremental operation and maintenance costs
- Avoided or incremental energy-to-the-home infrastructure costs[280]
- Effective Useful Lifetime of equipment and buildings, if applicable
- Remaining useful lifetime (if applicable, re any early replacement of existing equipment)
- Annual energy consumption and load profiles of decarbonized and baseline technologies
- GHGs associated with refrigerants used in electric appliances
- GHG emissions of electric and gas generation and delivery, including methane leakage
- Avoided or incremental costs of providing electric and gas service, including transmission and distribution system costs
- Other relevant avoided or incremental costs
- Other relevant costs incurred by customers

2. BUILD Program Guidelines

2.1. Complimentary Incentives

The BUILD Program administrator, in consultation with the CPUC, shall assess the feasibility of using BUILD Program incentives to complement existing

[280] For example, costs of extending gas lines to homes with gas end uses and piping gas lines within those homes (a cost savings for all-electric homes). For all-electric homes, this would include increased panel capacity, where needed.

programs that fund decarbonization and/or GHG reduction efforts, including programs offered by Investor-Owned Utilities (IOUs), Publicly Owned Utilities (POUs), and state or local government agencies, as appropriate.

The Low-Income Housing Tax Credit (LIHTC) Program of the Tax Credit Allocation Committee (TCAC) is particularly relevant for outreach and implementation of the BUILD Program. The scoring criteria used by TCAC is a significant motivating force for owners and developers, and it directly influences their design decisions. The BUILD Program administrator shall collaborate with the TCAC to ensure mutual benefit between the BUILD Program and the LIHTC Program.

Some IOU programs are particularly relevant and will require close coordination to develop complementary strategies and avoid duplication. These include but are not limited to:

1. **Single-family New Homes Programs**
    - California Advanced Homes Program (PG&E, SCE, SDG&E, SoCalGas)
2. **Newly Constructed Multifamily Programs**
    - California Multifamily New Homes Program (PG&E)[281]
3. **Wildfire Rebuild Programs**

    As of 2019, two Wildfire Rebuild programs exist and have been approved for 2020 implementation:
    - Advanced Energy Rebuild Program (PG&E/Sonoma Clean Power/Marin Clean Energy)[282]

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[281] This program is also often sought by low-income multifamily owners applying for tax credits through the state treasurer's office.

[282] This program also leverages Bay Area Air Quality Management District funds to pursue electrification strategies.

- Clean Energy and Resiliency Rebuild Program (SCE)

4. Statewide Codes & Standards Program

3. TECH Initiative Guidelines

3.1. Overcoming Market Barriers

Bidders seeking to become the TECH Initiative Implementer shall clearly state how they intend to address the following market barriers:

- Lack of incentives encouraging customer adoption
- Lack of financing solutions to help customers manage up-front costs
- Lack of coordination with existing building weatherization support programs
- Lack of paths to market for electric load shift enabled by heat pumps
- Lack of customer bill savings in some utility service territories at current electric and gas rates
- Lack of markets to monetize grid and climate values
- Lack of incentives encouraging builders to construct carbon-free structures
- Lack of training for builders and contractors
- Lack of recognition for builders and contractors promoting building decarbonization
- Lack of coordination and support for local government permitting offices
- Lack of adequate measurement and valuation of GHG emissions
- Lack of consumer demand

(End of Appendix B)