

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE



July 18, 2019

Advice Letter 4110-G/5564-E

Erik Jacobson
Director, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

**SUBJECT: PG&E and BayREN's 2020 Joint Cooperation Memo in Compliance with
Decision 18-05-041, Ordering Paragraph 38**

Dear Mr. Jacobson:

Advice Letter 4110-G/5564-E is effective as of July 17, 2019.

Sincerely,

A handwritten signature in cursive script that reads "Edward Randolph".

Edward Randolph
Deputy Executive Director for Energy and Climate Policy/
Director, Energy Division

June 17, 2019

Advice 4110-G/5564-E

(Pacific Gas and Electric Company ID U 39 M)

Advice 11-E

(BayREN ID #941)

Public Utilities Commission of the State of California

Subject: PG&E and BayREN's 2020 Joint Cooperation Memo in Compliance with Decision 18-05-041, Ordering Paragraph 38

Pacific Gas and Electric Company (PG&E) hereby submits the 2020 Joint Cooperation Memo (JCM) with the Bay Area Regional Energy Network (BayREN) by Tier 2 advice letter (AL) in compliance with the Decision Addressing Energy Efficiency Business Plans, Decision (D.) 18-05-041 (see Attachment A).¹

D.18-05-041 approved PG&E's and BayREN's Energy Efficiency Business Plans for 2018-2025. In doing so, the California Public Utilities Commission (Commission or CPUC) acknowledged the conflict between D.15-10-028's direction for the Business Plans to focus on high-level intervention strategies² and direction in D.12-11-015 and D.16-08-019 for REN proposals to detail how they fill gaps in IOU portfolios, serve hard-to-reach customers, and leverage special expertise or relationships with customers that other administrators do not possess.³

Accordingly, D.18-05-041 requires the IOUs and RENs to file annual JCMs to provide assurance that their Business Plans are implemented pursuant to D.12-11-015 and D.16-08-019. The JCM, provided as Attachment A, describes energy efficiency programs that PG&E and BayREN anticipate offering in the nine Bay Area counties (their shared service area) in 2020 and discusses how the proposed activities will complement each other.⁴ The JCM also details how BayREN's proposed activities comply with the criteria for REN activities required in D.12-11-015.⁵

¹ D.18-05-041, Ordering Paragraph (OP) 38.

² D.15-10-028, pp. 46-47.

³ D.12-11-015, p. 17; D.16-08-019, pp. 11-12.

⁴ D.18-05-041, Finding of Fact (FOF) 55.

⁵ D.12-11-015, p. 17.

Protests

Anyone wishing to protest this submittal may do so by letter sent via U.S. mail, facsimile or E-mail, no later than July 8, 2019, which is 20 days⁶ after the date of this submittal. Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to via both E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

For PG&E:

Erik Jacobson
Director, Regulatory Relations
c/o Megan Lawson
Pacific Gas and Electric Company
77 Beale Street, Mail Code B13U
P.O. Box 770000
San Francisco, California 94177

Facsimile: (415) 973-3582
E-mail: PGETariffs@pge.com

For BayREN:

Gerald Lahr
Assistant Director - Energy Programs
Metropolitan Transportation Commission
375 Beale Street, 7th Floor
San Francisco, CA 94105
Email: JLahr@bayareametro.gov

⁶ The 20-day protest period concludes on a weekend. PG&E is hereby moving this date to the following business day.

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

Effective Date

PG&E requests that this Tier 2 advice letter become effective on regular notice, July 17, 2019, which is 30 calendar days after the date of the submittal.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service lists for A.17-01-013 (et al.) and R.13-11-005. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter filings can also be accessed electronically at: <http://www.pge.com/tariffs/>.

_____/S/

Erik Jacobson
Director, Regulatory Relations

Attachments

cc: Service List A.17-01-013 and R.13-11-005



ADVICE LETTER SUMMARY

ENERGY UTILITY



MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Pacific Gas and Electric Company (ID U39M)

Utility type:

- ELC GAS WATER
 PLC HEAT

Contact Person: Yvonne Yang

Phone #: (415)973-2094

E-mail: PGETariffs@pge.com

E-mail Disposition Notice to: Yvonne.Yang@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas WATER = Water
 PLC = Pipeline HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 4110-G/5564-E

Tier Designation: 2

Subject of AL: PG&E and BayREN's 2020 Joint Cooperation Memo in Compliance with Decision 18-05-041, Ordering Paragraph 38

Keywords (choose from CPUC listing): Compliance

AL Type: Monthly Quarterly Annual One-Time Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: D.18-05-041

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested? Yes No

If yes, specification of confidential information:

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required? Yes No

Requested effective date: 7/17/19

No. of tariff sheets: N/A

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected:

Service affected and changes proposed¹: N/A

Pending advice letters that revise the same tariff sheets: N/A

¹Discuss in AL if more space is needed.

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102
Email: EDTariffUnit@cpuc.ca.gov

Name: Erik Jacobson, c/o Megan Lawson
Title: Director, Regulatory Relations
Utility Name: Pacific Gas and Electric Company
Address: 77 Beale Street, Mail Code B13U
City: San Francisco, CA 94177
State: California Zip: 94177
Telephone (xxx) xxx-xxxx: (415)973-2093
Facsimile (xxx) xxx-xxxx: (415)973-3582
Email: PGETariffs@pge.com

Name:
Title:
Utility Name:
Address:
City:
State: District of Columbia Zip:
Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email:

ATTACHMENT A

2020 JOINT COOPERATION MEMO PACIFIC GAS AND ELECTRIC COMPANY BAY AREA REGIONAL ENERGY NETWORK

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A. Overview

The 2020 Joint Cooperation Memo (JCM) between Pacific Gas and Electric Company (PG&E) and the Bay Area Regional Energy Network (BayREN) provides an overview of coordination of programs the two energy efficiency program administrators (PAs) intend to offer in overlapping areas in 2020.¹ The JCM also describes how BayREN's anticipated offerings satisfy the criteria for REN activities in California Public Utilities Commission (CPUC or Commission) Decision (D.) 12-11-015.²

The discussion in the 2020 JCM is organized around each program BayREN will administer in 2020. Each section begins with a summary of how the anticipated BayREN program is distinct from the anticipated PG&E program(s), describes the planned BayREN and PG&E program(s) in greater detail, discusses the coordination protocol between BayREN and PG&E, and identifies how the BayREN program satisfies the criteria for REN activities in D.12-11-015. Appendix A includes a summary of REN compliance with D.12-11-015 for all planned programs.

Appendices B and C list all similar programs BayREN and PG&E currently anticipate offering in 2020, including information on draft budgets and measure eligibility.

After reflecting on the program year following the filing of the first JCM in August 2018, the BayREN and PG&E policy and program staff have committed to meeting on a quarterly basis to ensure that the cooperation, coordination, and best service to joint territory ratepayers is realized. BayREN and PG&E have jointly determined a schedule for 2020.

B. Residential – Single Family (BayREN08)

a. Summary of Program Differentiation

BayREN's Home+ program launched in 2019 and will continue to offer services to customers in 2020. This program will be available to all Bay Area single family residents, but it is designed to primarily serve moderate income single family households³ in the nine Bay Area counties (Bay Area). Currently, PG&E's Energy Savings Assistance (ESA) Program is a single-family program offering in the Bay Area serving primarily low income households as defined by the California Alternate Rates for Energy (CARE) program, which has an upper limit eligibility of \$48,600 in annual income. According to the Department of Housing and Urban Development (HUD)

¹ Please note that this memo includes preliminary budget forecasts for 2020 that are highly variable and will be finalized in the 2020 Annual Budget Advice Letter.

² D.12-11-015, p. 17.

³ Defined as dwellings with less than five units and annual household income between \$48,000 to \$125,000. As provided in BayREN's Business Plan, this market segment is chronically underserved with energy efficiency programs.

guidelines,⁴ a household of four with an annual income of \$60,000⁵ is considered very low income in the Bay Area, but this household would be ineligible for the ESA Program.

BayREN's Home+ program targets this underserved market in the Bay Area that is ineligible for ESA but also unable to make efficiency upgrades without considerable assistance. BayREN's program will use an engaged Home Energy Advisor⁶ to walk customers step-by-step through the process and local Participating Contractors⁷ to deliver energy savings to households.

One of the outreach channels for the Home+ program is an online self-evaluation tool available to customers. The tool asks customers basic questions about their home's characteristics and energy using equipment and qualifies them to receive an energy savings kit which may include: LED lamps, faucet aerators and Tier II advanced power strips depending on the customer's responses. The other outreach channel for the program is through Green House Calls, which are offered to targeted households in eight⁸ of the nine Bay Area counties; primarily senior households and households where English is not the primary language. Green House Calls involve a program representative performing a visual audit of an interested customer's home and installing some of the energy savings kit measures. Both channels direct customers to the broader Home+ program offerings, including the Home Energy Advisor service which guides them step-by-step through Home+ program participation.

PG&E's single-family residential offerings that serve moderate and market rate customers in the Bay Area include: Advanced Home Upgrade (AHUP, previously known as Energy Upgrade California), Pay for Performance (P4P) Pilot, Direct Install for Manufactured and Mobile Homes, and the Residential Energy Fitness (REF) Program. Some of these programs have distinct sub-programs which are described below.

PG&E's programs in the BayREN territory focus on market rate and income qualified households. PG&E serves middle-income customers through the Middle Income Direct Install (MIDI) program, but this program is not comparable to BayREN's Home+ program because the MIDI program: has different offerings than those of the Home+ program; the MIDI program is not available in all of the BayREN counties; and the MIDI program is delivered through the direct install channel. PG&E has several somewhat comparable programs, with the most comparable PG&E program being the Advanced Home Upgrade program (see Table 1 below).

⁴ https://www.huduser.gov/portal/datasets/il.html#2019_query

⁵ Based on the average of the nine San Francisco Bay Area counties found here: https://www.huduser.gov/portal/datasets/il/il2018/select_Geography.odn

⁶ Please note that PG&E also has a service called Energy Advisor but it is unrelated to the BayREN offering.

⁷ A Participating Contractor has successfully completed the BayREN two day training, has submitted all required paperwork and has been onboarded into the program.

⁸ Not offered in Alameda County since this same program is provided through the East Bay Energy Watch/Local Government Partnership.

In addition to smart thermostat measures included in the residential programs, PG&E also offers a stand-alone deemed smart thermostat rebate to all residential customers in PG&E territory (single-family and multi-family) through its Plug Load and Appliances program (also called the Residential Energy Efficiency Program (REEP)). Customers can receive a rebate by documenting proof of purchase and meeting standard eligibility criteria, consistent with workpaper requirements. Smart thermostat is also an eligible measure in BayREN’s Home+ menu of measures; however, to receive the rebate, eligible customers have to install the smart thermostat through a participating contractor and otherwise participate in Home+.

PG&E offers an online Home Energy Check-up to all its residential customers (single family and multi-family), which is an online questionnaire that customers can answer to better understand their energy usage. Customers who fill out the questionnaire are also provided with energy savings tips and recommendations. Customers do not receive any rebates through this service.

Table 1: Summary of Similar BayREN and PG&E Single-Family Programs

BayREN Current PG&E Programs under BayREN Territory					
Program Name	BayREN Home+	Advanced Home Upgrade	Pay for Performance Pilot	Direct Install for Manufactured and Mobile Homes	The Residential Energy Fitness Program and Moderate Income Direct Install sub-Program
Eligible Measures	<ul style="list-style-type: none"> Duct sealing, attic and wall insulation, HVAC equipment upgrades, Smart thermostats, gas storage water heaters and heat pump 	<p>The following measures are eligible in PG&E’s Advanced Home Upgrade program in BayREN territory, but only if the contractor performs the High Performance HVAC Installation (HPHI) measure. A minimum of 4 measures is required, where one is shell and one is HVAC. Measures include wall insulation, attic</p>	<p>Online energy audit and home energy reports, high performance air conditioning systems, smart thermostats, high efficiency furnaces, LED lighting (A-lamps, BR/R/MR/P AR lamps, globes and</p>	<p>The measures include: assessment, education, faucet aerators, low flow showerheads, refrigerant charge adjustment, brushless blower motor retrofit, efficient fan control switch, smart thermostat, duct test and</p>	<p>The program focuses on customers with high energy end use (REF) and moderate income or hard to reach customers (MIDI) and promotes energy efficiency measures. The following measures are</p>

	<p>water heaters, LED lamps, water faucet aerators, low flow showerheads and Tier II power strips. Single measure upgrades allowed</p> <ul style="list-style-type: none"> • Bonus incentives are offered to downsizing equipment, combining shell and HVAC measures, building air sealing and CAS testing • Savings will be deemed per measure based in CPUC approved work papers 	<p>insulation, floor insulation, whole building/envelope air sealing and ventilation, infiltration reduction measures, exterior windows, window film, HVAC equipment replacement, duct insulation, duct sealing, HVAC duct replacement/retrofit, radiant/hydronic heating, lighting, domestic hot water, tankless water heater, primary refrigerator replacement/installation, pool pumps, cool roof</p>	<p>candelabras), low flow showerheads and faucet aerators, tier 2 smart power-strips, duct sealing, attic insulation and building leakage reduction.</p>	<p>seal, and duct replacement.</p>	<p>eligible: Energy education, smart thermostat, smart power strips, HVAC tune-up, duct test & seal, lighting, and water saver measures.</p>
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Estimated 2020 Budget⁹	\$8,831,180	\$5,582,690 ¹⁰	\$4 Million	\$5,670,000	\$14.9 Million
Target Audience	<ul style="list-style-type: none"> Moderate-income households (owners and/or renters)¹¹ Specialty contractors 	<ul style="list-style-type: none"> Mainstream, market rate homeowners. 	<ul style="list-style-type: none"> High AC users, High baseload Contra Costa County, San Mateo 	<ul style="list-style-type: none"> Mobile and manufactured Homes, All PG&E service territory 	<ul style="list-style-type: none"> High energy users (REF) Moderate income and hard to reach (MIDI) All PG&E service territory
Resource/Non-Resource	Resource	Resource	Resource	Resource	Resource

b. Summary of BayREN Program Objectives

BayREN sunset their Home Upgrade Program in December 2018. The new Home+ program targets Bay Area moderate income single family homeowners and renters, a population that is consistently underrepresented in ratepayer energy efficiency programs in BayREN territory and across the state.¹² The BayREN Single Family Moderate Income Market Characterization Study, completed in September 2018, identified key barriers to participation for the target market including financial barriers, low energy costs and expected savings, and renter status if applicable. The Home+ program offers solutions to customers to overcome these barriers.

The key objective of the Home+ program is to fill the gap to meet the moderate-income customer where they are and to offer incremental and affordable energy efficiency measures that are complimentary to measures available through current mainstream program offerings. An important program element continues to be utilizing the Home Energy Advisors and local government staff outreach, to get the customer on an incremental path, phasing in new measures as they are feasible and educating the customer along the way.

⁹ The budgets provided herein are estimates. Final budgets will be provided in the 2020 Annual Budget Advice Letter.

¹⁰ This budget reflects PG&E's best estimate of the Advanced Home Upgrade program.

¹¹ This is defined as an annual household income in the range of \$48,000 to \$125,000

¹² M. Frank and S. Nowak, "Who's Participating and Who's Not? The Unintended Consequences of Untargeted Programs", American Council for an Energy-Efficient Economy, 2016.

The Home+ program offers a menu of eligible measures for the customer to choose from. Customers can choose a single measure to upgrade, but they are encouraged to undertake multiple measures. These measures must be installed by a Home+ Participating Contractor, a group that is key to the Home+ program. BayREN coordinates with the Workforce Education and Training activities, offered through the PG&E Energy Centers, to ensure that efforts are not duplicated. BayREN also offers its contractors program related trainings and one-on-one trainings on an as needed basis. A particular focus will be on specialty contractors. BayREN will help to expand their services to full building performance and/or partner with other firms to achieve a better business model that supports deeper whole house upgrades.

An integral part of the implementation of the Home+ program is the Home Energy Advisor service. This service is essentially a call center that customers can access to speak with an Energy Advisor. The Advisors assist both homeowners and renters and maintain a long-term relationship with the customers after they have assisted with the initial contact in order to see the customer through a full energy-efficiency journey until the customer's home is most efficient. Energy Advisors also refer customers to complementary programs offered by utilities, Community Choice Energy programs, Energy Watch offerings and other organizations, and help customers understand their financing options. The Energy Advisors also assist Home+ Participating Contractors with understanding program requirements and when needed, help mediate issues that may arise with the customer and contractor. (Please see coordination section below)

Like all BayREN programs, outreach will continue to be done primarily by local governments. This also allows for the seamless layering of other climate programs and activities.

c. Comparable and/or Equivalent PG&E Programs

PG&E has multiple offerings for all its residential customers, including in the Bay Area. Those programs specific to single family customers include AHUP, P4P, Direct Install for Manufactured and Mobile Homes, and the REF Program (including the MIDI sub-program).

AHUP is a single-family whole-house program that targets market-priced homes. Customers in BayREN's territory are required to install at least four eligible measures including the High Performance HVAC Installation (HPHI) measure to participate in PG&E's AHUP program. All HPHI measures must be installed by contractors who go through a specialized HPHI training. EM&V studies have shown that program participants have higher incomes and the average project costs about \$16,000.¹³ Outreach to homeowners is done by third party implementers, with limited outreach to contractors.

¹³ 2010–2012 PG&E and SCE Whole House Retrofit Program Process Evaluation Study. CalMAC ID PGE0302.01

PG&E offers two third-party P4P programs in the Bay Area:

1. Home Intel (implemented by Home Energy Analytics): Offers free energy audits, education, and advisor services throughout Bay Area.
2. Home Energy Rewards Program (implemented by Franklin Energy): Offers free energy audits, education, advisor services, and a light touch measure kit. Additional measures are offered at a discount. In the BayREN territory, this program is only available in Contra Costa County, and is not available in the other eight counties.

Both P4P programs provide online energy audits, home energy reports, and education services, while only Home Energy Rewards offers high performance air conditioning systems, smart thermostats, high efficiency furnaces, LED lighting, low flow showerheads and faucet aerators, Tier 2 smart power-strips, duct sealing, attic insulation and building leakage reduction.

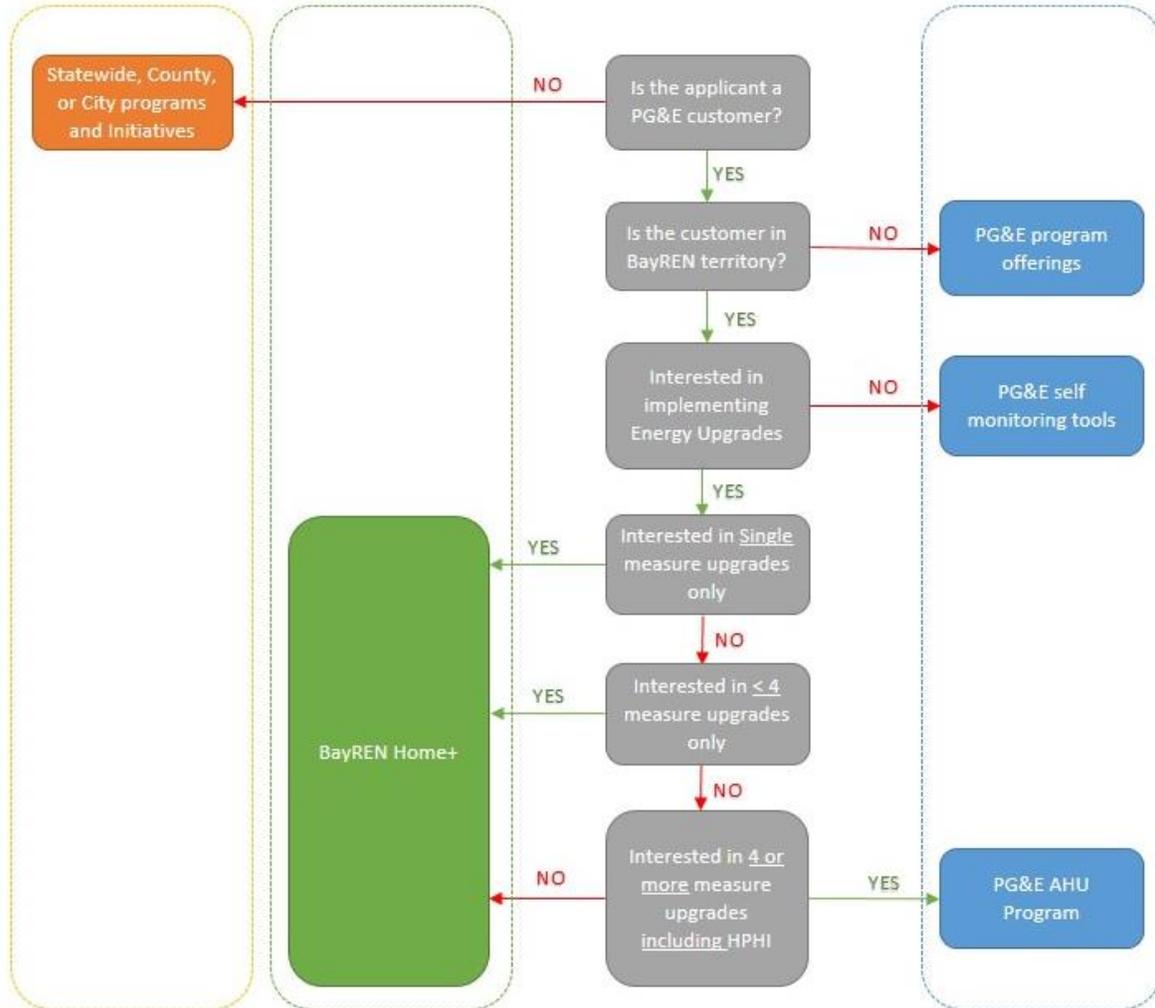
The Direct Install for Manufactured and Mobile Home Program provides free basic upgrades to manufactured and mobile homes across PG&E's service territory. The measures include: assessment, education, faucet aerators, low flow showerheads, refrigerant charge adjustment, brushless blower motor retrofit, efficient fan control switch, smart thermostat, duct test and seal, and duct replacement.

The Residential Energy Fitness (REF) Program is composed of two subprograms: (1) The Residential Energy Fitness (REF) program and (2) the Moderate Income Direct Install (MIDI) Program. REF targets high energy users across PG&E's service territory and the MIDI program targets single family homes that are ineligible for ESA due to income above the ESA eligibility threshold. Both programs provide an energy audit, education, and free basic upgrades. Upgrade measures include: Energy education, smart thermostats, smart power strips, HVAC tune-up, duct test & seal, lighting, and water saver measures. In 2018, the PG&E MIDI program completed over 20% of the program's projects within Alameda and Contra Costa counties.

d. Coordination Protocol between Programs

The BayREN Home Energy Advisor will continue to direct customers to PG&E who are interested in a whole-home energy retrofit or otherwise may fit the criteria for PG&E's AHUP program. PG&E also refers customers to BayREN who do not qualify for AHUP. Please see Figure 1 below for an overview of the coordination protocol between BayREN and PG&E single-family programs.

Figure 1: Coordination Protocol for Single-Family Programs



NOTE: (1) BayREN Energy Advisors will remain a resource for customer questions, regardless of the program they participate in. (2) BayREN Energy Advisors will direct customers to Home Energy Score, described in the sections below, to support the BayREN customer journey and in-home assessment offerings. (3) Energy Advisors will continue to support customers through the renewable or non-EE measure process in order to develop a long-term customer relationship and ensure program completion based on available program offerings.

BayREN and PG&E’s single family residential team plans to hold standing monthly check in calls. Ad-hoc meetings will also be scheduled to accommodate the need to resolve any urgent issues that might arise. Standing agenda items include program updates, uptake, challenges, contractor issues, data transfer, double dip processes, and marketing campaign plans.

BayREN and PG&E senior management teams will plan to meet – at a minimum - on a quarterly basis to discuss ongoing collaboration and coordination.

e. Coordination between SW program(s)

BayREN’s residential program offering is not a statewide program. The Home+ program was designed with maximum involvement of contractors, including offering trainings on workforce and installation standards (in conjunction with and coordination with the Workforce Education and Training activities when available) and professional development.

f. D.12-11-015 Compliance

The following table describes in further detail how BayREN’s Home+ program satisfies the REN criteria in D.12-11-015.

Table 2: BayREN Home+ Program's Compliance with D.12-11-015

REN Criteria	BayREN Compliance
1. Activities IOU cannot or does not intend to undertake	34% of Bay Area single family owners/renters comprise the defined moderate-income market. They do not qualify for ESA or other programs available to income qualified low earning households. PG&E offers downstream, direct install measures for low-moderate income customers, but it is distinct from Home+ because it is not direct install, but rather the measures must be installed by a Home+ participating contractor. PG&E will work with BayREN to determine if the offer that is developed in the BayREN region should be expanded to serve other customers.
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	Not applicable
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	The definition in D.18-05-041 precludes most Bay Area properties from being considered hard-to-reach. Therefore, BayREN and PG&E programs that are open to all single family properties cannot be considered hard-to-reach in the Bay Area.

C. Residential – Green Labeling (BayREN07)

a. Summary of Program Differentiation

BayREN offers Home Energy Score (HES) as a simple home evaluation tool to all residents in its territory and offers an incentive for voluntary completion of scores (not mandated by a local government). PG&E does not offer HES or a program similar to HES. BayREN fills the gap as the only PA offering HES. This BayREN offering provides

other ancillary elements (e.g. follow up by an advisor), to enhance the outcomes and lead generation potential of the HES.

Table 3: Summary of Similar BayREN and PG&E Home Energy Score Activities

	BayREN	PG&E
Program Name	Green Labeling	N/A
Eligible Measures	N/A	N/A
Estimated 2020 Budget¹⁴	\$1,013,000 (includes \$500,000 for incentives)	N/A
Target Audience in 2020	<ul style="list-style-type: none"> • <u>Home Energy Score</u>: Bay Area Single-family homeowners with support through contractors, raters, home inspectors • <u>Real Estate Trainings</u>: realtors, appraisers, and lenders 	N/A
Resource or Non Resource	Non-Resource	N/A

b. Summary of BayREN Program Objectives

Green labeling is a critical component of a comprehensive approach to achieve greater energy efficiency in California’s homes, in accordance with Assembly Bill 758. BayREN’s Green Labeling program provides the following services:

- Promotes HES as a lead generation opportunity for energy upgrades and low-cost home label.
- Supports jurisdictions that may elect to adopt a mandatory ordinance based on HES.
- Offers a HES incentive for scores generated in the Bay Area, except where they are required by a jurisdiction.
- Sponsors training and certification for real estate agents, home appraisers, and lenders in the nine-county Bay Area.

c. Comparable and/or Equivalent PG&E Program

PG&E does not offer the HES or an equivalent program.

d. Coordination Protocol Between Programs

There are no protocols in place as PG&E does not offer HES. However, PG&E does refer customers interested in HES to BayREN.

BayREN and PG&E have coordinated on real estate sector engagement since 2013. In addition, BayREN and PG&E representatives have facilitated and participated in statewide real estate sector strategy conversations, including a statewide Green Real

¹⁴ The budgets provided herein are estimates. Final 2020 budgets will be provided in the 2020 Annual Budget Advice Letter.

Estate Working Group comprised of representatives of utility companies, local governments, and green building and energy efficiency program implementers. Participants shared best practices for how program implementers can better coordinate their programs to have greater overall impact in the California market and more successfully engage with the real estate community. Both BayREN and PG&E’s real estate sector activities align with best practice recommendations and are complementary.

e. D.12-11-015 Compliance

The following table describes in further detail how BayREN’s proposed Green Labeling program satisfies the REN criteria in D.12-11-015.

Table 4: BayREN Green Labeling Program's Compliance with D.12-11-015

REN Criteria	BayREN Compliance
1. Activities IOU cannot or does not intend to undertake	<ul style="list-style-type: none"> • BayREN offers Home Energy Score through open-market assessors in in the nine-county Bay Area. This supports jurisdictions that may be interested in passing energy assessment and disclosure ordinances, similar to the City of Berkeley. • PG&E does not offer Home Energy Score or an equivalent program.
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	Home Energy Score is a scalable program, which is offered nationally by the US Department of Energy. BayREN began offering Home Energy Score as a pilot activity in 2016, when there was no utility program supporting it in California. BayREN began offering Home Energy Score to support the City of Berkeley’s adoption of a reach code for existing buildings.
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	Not applicable

D. Residential – Multifamily (BayREN02)

a. Summary of Program Differentiation

BayREN and PG&E both offer multifamily programs in the Bay Area; however, they target two different segments of the multifamily sector. BayREN focuses on smaller projects that achieve 10-20% energy savings on average. PG&E’s program focuses on properties that will achieve 20% energy savings or more on average. These programs are in alignment and will continue to be coordinated to ensure that property owners are referred to the best program based on their needs.

Table 5: Summary of Similar BayREN and PG&E Multifamily Programs

	BayREN	PG&E	
Program Name	Bay Area Multifamily Building Enhancement	Multifamily Upgrade Program	Energy Savings Assistance – Common Areas Measures (ESA-CAM)
Eligible Measures	Envelope, HVAC, DHW, lighting, and appliance measures – requires multiple measures, targeting 15-20% savings	Envelope, HVAC, DHW, lighting, appliances, and cold-water measures – requires multiple measures, targeting >20% savings	Envelope, HVAC, DHW, lighting, and appliance measures – requires multiple measures
Estimated 2020 Budget¹⁵	\$7,500,000	\$7,500,000	\$20,000
Target Audience	Bay Area multifamily property owners requiring a higher level of program assistance and/or are interested in smaller scopes of work.	Multifamily property owners interested in deep scopes of work and engaged with a third-party rater in PG&E’s territory.	Deed-restricted multifamily property owners where at least 65% of residents meet ESA low-income criteria
Resource/Non Resource	Resource	Resource	Resource

¹⁵ The budgets provided herein are estimates. Final 2020 budgets will be provided in the 2020 Annual Budget Advice Letter.

b. Summary of BayREN Program Objectives

The Bay Area Multifamily Building Enhancement (BAMBE) program offers multifamily property owners a flat per-unit incentive to undertake multiple energy efficiency measures that achieve 15% energy savings on average. BAMBE is accessible to property owners that do not have the interest or ability to do a comprehensive audit and retrofit. The program supplies no-cost technical assistance (TA) to guide the property owner through the process from initial interest to project completion and quality assurance of the installed measures. BAMBE developed and uses a simplified, lower cost assessment tool called EnergyPro Lite (EPL) to determine which measures meet the minimum energy savings requirement.

In 2020, PG&E and BayREN will continue to work collaboratively on rater-guided projects participating in BAMBE. Alignment of modeling software and program delivery will simplify participation for market actors and clearly channel the smaller scope projects to BayREN and the deeper energy savings projects (>20%) to PG&E within the Bay Area.

BayREN also provides a Loan Referral Service (LRS) that directs properties to appropriate sources of financing. One financing option operated by BayREN is the Bay Area Multifamily Capital Advance Program (BAMCAP) is a regional pilot that offers co-financing at zero interest, leveraging an equivalent amount or more of private capital. It is available for any multifamily building in the Bay Area that participates in either BAMBE or PG&E's Multifamily Upgrade Program (MUP), described below. BayREN provides financial analysis and simple access to existing private-sector financing products for multifamily property owners participating in either BAMBE or MUP. The LRS also refers properties to private sector financing products and PG&E's On-Bill Financing (OBF) program described below.

c. Comparable and/or Equivalent PG&E Multifamily Program— Multifamily Upgrade Program

MUP offers per-unit incentives for multiple energy efficiency upgrades that escalate with higher energy savings. Third-party energy raters and contractors (trade allies) conduct site audits, build models to calculate project savings, and complete installations. If a project shows 10-19% savings in EPL, it will be referred to BAMBE; if savings are 20% or higher, it will be referred to MUP, and be given the opportunity to receive a higher incentive for its deeper and more robust scope of work. MUP will require a minimum of 20% savings in the BayREN region and have an incentive that is higher than BAMBE's \$750 per unit.

Energy Savings Assistance – Common Areas Measures (ESA-CAM) offers deed-restricted multifamily property owners no-cost energy upgrades across multiple energy efficiency measures. ESA-CAM is accessible to property owners of qualifying deed restricted multifamily properties. ESA-CAM supplies no-cost technical assistance (TA)

to guide the property owner through the process from initial interest to project completion and quality assurance of the installed measures. Projects that enter the BAMBE pipeline determined income-eligible with appropriate measures for the ESA-CAM program will be referred to PG&E.

The OBF program provides qualified PG&E customers 0% interest loans for energy efficiency retrofits; loans are repaid on PG&E bills. Projects can receive this financing without participating in an incentive program. A streamlined approach to project review is available for properties participating in MUP or BAMBE. Projects in the BAMBE pipeline interested in OBF will be screened by BayREN and referred to the PG&E Single Point of Contact (SPOC) for assistance with the OBF application process.

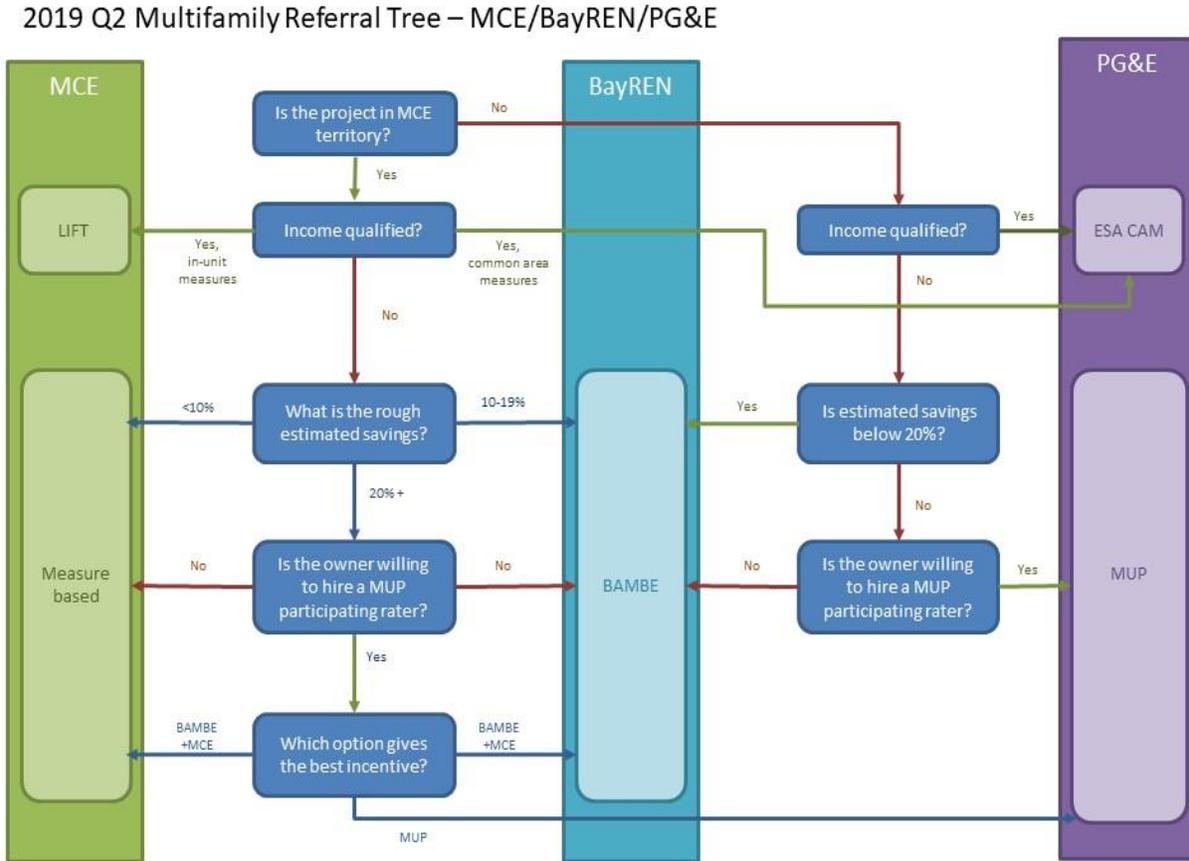
d. Coordination Protocol Between Programs

PG&E and BayREN multifamily implementation teams closely coordinate program design and customer referral to minimize duplication and optimize the customer experience and ratepayer resources:

- Customer referral: The PG&E SPOC and the BayREN technical assistance provider use a consistent decision-making tree (Figure 3, below) that defines when a project is a best fit for each program. The teams have agreed-upon referral protocols to make hand-offs seamless and to minimize loss of participant engagement.
- Consistent calculation methodology: The programs are aligning energy savings calculation methodology. BayREN will accept projects that conform with MUP's calculation methodology.
- Complementary incentive structure: PG&E's incentives are designed to drive deeper savings while BayREN is designed to serve a "middle of the road" participation path. BayREN targets deeper savings than a single-measure program, but not a comprehensive retrofit.
- Financial offerings: Financing resources from PG&E and BayREN will be open to both BAMBE and MUP participants. PG&E OBF and BayREN Multifamily Financing programs will accept and review both PG&E and BayREN projects.

Figure 3 provides an overview of the coordination protocol between PG&E and BayREN multifamily programs, which includes how both PAs will coordinate with Marin Clean Energy's (MCE) multi-family offerings. As seen from the chart below, this protocol allows for a large breadth of program offerings for this underserved market.

Figure 2: Coordination Protocol for Multi-Family Programs



e. D.12-11-015 Compliance

The following table describes in further detail how BayREN’s proposed Multifamily program satisfies the REN criteria in D.12-11-015.

Table 6: BayREN Multifamily Program's Compliance with D.12-11-015

REN Criteria	BayREN Compliance
<p>1. Activities IOU cannot or does not intend to undertake</p>	<p>BayREN is focused on serving multifamily owners that have smaller scopes of work and need more personal attention and assistance to participate in energy efficiency programs. PG&E’s MUP program is designed for deeper savings with robust participant involvement (financially and time-wise).</p>
<p>2. Pilot activities where there is no IOU program offering and where there is potential for scalability</p>	<p>BayREN is piloting financing mechanisms that PG&E is not currently offering. These mechanisms, if successful, have the potential to scale in volume and geography. BayREN developed and piloted the use of EnergyPro Lite, a simplified lower-cost assessment tool for estimating energy savings. With grant funding from the California Energy Commission, this tool is being scaled up for other programs to use, including PG&E’s Multifamily Upgrade Program.</p>
<p>3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap</p>	<p>The definition in D.18-05-31 precludes most Bay Area properties from being considered hard-to-reach. Therefore, BayREN and PG&E programs that are open to all multifamily properties cannot be considered hard-to-reach in the Bay Area.</p>

E. Commercial (BayREN06)

a. Summary of Program Differentiation

The proposed BayREN Small and Medium Commercial Buildings (SMCB) program will work with property owners and property managers to deliver whole building energy efficiency solutions focusing on properties under 50,000 square feet (sf). BayREN will use data-driven targeting to identify customers in this category and provide comprehensive technical assistance, bundled measure packages, and financing options that will be attractive to these customers.

The key differentiators for BayREN’s program include the following: a specific focus on small business (under 50,000 sq ft), predictive energy model based targeting; the non-OBF financing options; and an incentive structure that provides upfront incentives based on modeled savings estimates followed up by incentives for metered savings in compliance with Commission-approved normalized metered energy consumption (NMEC) methods.

PG&E has several programs that serve small and medium business (SMB) customers, including Regional SMB programs, the Hospitality, Healthcare, and Energy Smart

Grocer programs, the Statewide Commercial HVAC program, Deemed, and Custom programs. However, none of these programs currently utilize the Lawrence Berkeley National Laboratory (LBNL) building model to target customers, nor do they offer incentives for savings delivered at the meter. PG&E’s finance offering include OBF both with and without incentives. OBF without incentives measures savings at the meter.

Coordination with PG&E, as well as any Regional SMB implementers, third-party implementers, and existing local government programs will be incorporated into implementation to reduce any possible customer confusion and avoid double dipping if a customer was previously served (although this is unlikely due to BayREN’s targeting focus).

The following table provides a summary of 2020 BayREN and PG&E programs. PG&E is currently in the midst of a solicitation process for new programs. It is anticipated that new SMB offerings will be available in 2020, although the exact date is still to be determined. Once new SMB programs are under contract for 2020, this JCM will be updated to reflect the offerings.

Table 7: Summary of Similar BayREN and PG&E Small and Medium Commercial Buildings Programs

	BayREN	PG&E
Program Name	Small and Medium Commercial Buildings Program	<ul style="list-style-type: none"> • East Bay Energy Watch • Marin Energy Watch • Napa Energy Watch • San Mateo Energy Watch • San Francisco Energy Watch • Silicon Valley Energy Watch • Solano Energy Watch • Sonoma Energy Watch • Hospitality • Healthcare • Energy Smart Grocer • Commercial HVAC • Commercial Deemed • Commercial Calculated
Eligible Measures	<ul style="list-style-type: none"> • Advanced Metering Systems; Boiler Plant Improvements • EMCS; • Building Envelope Modifications; 	<ul style="list-style-type: none"> • Chilled water, hot water, and steam distribution systems • Chiller and boiler plant improvements • Lighting improvements • Refrigeration equipment • HVAC maintenance and replacement • Food service equipment

	<ul style="list-style-type: none"> • Chilled Water, Hot Water, and Steam Distribution Systems; • Chiller Plant Improvements; Electrical Peak Shaving/Load Shifting; • Electric Motors and Drives; Energy/Utility Distribution Systems; • Energy Related Process Improvements; • Lighting Improvements; • HVAC maintenance and replacement; • Appliance and Plug-Load Reductions; • Refrigeration & Food Service Equipment; • Water and Sewer Conservation Systems 	
<p>Estimated 2020 Budget¹⁶</p>	<p>\$2,772,000</p>	<ul style="list-style-type: none"> • Commercial Calculated: \$8,524,651 • Commercial Deemed: \$14,077,204 • Commercial HVAC: \$13,021,318 • East Bay Energy Watch: \$3,189,040 • Marin Energy Watch: \$868,459 • Napa Energy Watch: \$356,668 • San Mateo Energy Watch: \$1,073,415 • Sonoma Energy Watch: \$1,632,927 • Silicon Valley Energy Watch: \$3,107,863 • San Francisco Energy Watch: \$3,783,713 • Solano Energy Watch: \$1,136,345 • Energy Smart Grocer: \$7,869,842 • Healthcare: \$2,330,778 • Hospitality: \$16,021,373

¹⁶ The budgets provided are estimates based on the 2019 ABAL program budgets. The final 2020 budgets will be provided in the 2020 Annual Budget Advice Letter.

Target Audience	Property Owners and Managers of small and medium commercial buildings in the Bay Area with more than 50% of its floor-space used for non-residential activities, up to 50,000 sq-ft, <500-kW Demand, and <250,000 Therms, and their contractors	<ul style="list-style-type: none"> • Regional SMB for small and medium customers >50,000 sq-ft • Hospitality/Hotels, chains • Medium grocers, with multiplex refrigeration systems. • Healthcare facilities • Commercial HVAC • Deemed and calculated programs have no size or segment restrictions
Resource/Non-Resource	Resource	Resource

b. Summary of BayREN Program Objectives

The BayREN SMCB offering will deploy energy-efficiency technical assistance, easy-to-understand incentives, and financing referrals to serve micro, small and medium (less than 50,000 sf) Bay Area commercial buildings, and the business tenants within. Micro and small businesses will have access to program referrals to other utility Energy Efficiency programs, which are eligible to use the BayREN microloan program. Through the Whole Building Performance program, property owners and managers will receive easy-to-access technical assistance that will specialize in bundling cost-effective measures and layering existing programs.

A fundamental feature of the program is “program layering” via referrals to complimentary energy efficiency and financing programs (e.g. PG&E’s offerings) to harvest deeper energy savings. Program layering serves not only to amplify the program’s ability to develop comprehensive projects with a small budget, but also helps other utility programs achieve the five percent small commercial penetration target in D.18-05-041.¹⁷

c. Comparable and/or Equivalent PG&E Program

PG&E programs that serve small and medium customers are described below.

i. Regional SMB Offering via Local Government Partner Programs

The Regional Small Medium Business (SMB) offering serves small and medium customers under local government partnership programs, otherwise known as “Energy Watches”. Through this offering, SMB customers benefit from a high level of technical assistance and turnkey installation of lighting, refrigeration, and HVAC control measures whereby the incentive payment is incorporated into to the project proposal. These programs are implemented by either third parties or local government partners.

¹⁷ D.18-05-041, p. 28.

ii. Hospitality Program

PG&E's Hospitality program offers a comprehensive list of energy efficiency measures and services to hospitality customers including those that have ten or more locations within PG&E's territory. The subprogram offers both custom and deemed measures and assists customers with EE projects from start to finish.

iii. Energy Smart Grocer Program

The Energy Smart Grocer program provides comprehensive energy efficiency services for medium to large grocery stores and supermarkets and those with multi-plex refrigeration systems. The subprogram provides comprehensive energy audits, long-term energy planning, and support for the implementation of efficiency measures.

iv. Healthcare Energy Efficiency Program

The Healthcare Energy Efficiency Program (HEEP) provides hospital facilities (medical office buildings and acute care facilities) a wide range of support services to address barriers to EE. HEEP delivers electric and gas savings through retrofits (deemed and calculated) and Retrocommissioning (RCx) services.

v. Commercial Deemed Incentives Program

The Commercial Deemed Incentives (Deemed) program offers prescriptive rebates directly to customers, vendors, or distributors for the installation or sale of energy-efficient equipment. The subprogram offers a broad array of measures across technology segments including lighting, HVAC, food service, refrigeration, and water heating. This program is offered to all customer segments and sizes.

vi. Commercial Calculated Program

The Calculated program provides financial incentives for non-residential customers to install new equipment or systems that exceed applicable code and/or industry standards in existing buildings. PG&E's Calculated program includes both customized incentives (formerly "Customized Retrofit") and RCx offerings. RCx represents an important element of PG&E's EE toolkit by reducing energy usage and optimizing the efficiency of mechanical equipment, lighting, and control systems to current standards in existing facilities. To these ends, PG&E offers financial and technical assistance for customers to undertake RCx projects and implement measures that improve facility operations.

Beginning in mid-2019, PG&E is planning to launch a meter-based incentive channel as a subprogram of this calculated incentive program. The subprogram will initially be focused on sites that are at least 50,000 sq-ft, and will incorporate site-specific NMEC-based performance incentives for capital retrofits, retro-commissioning, and behavioral and operational bundled projects.

vii. Commercial HVAC Program

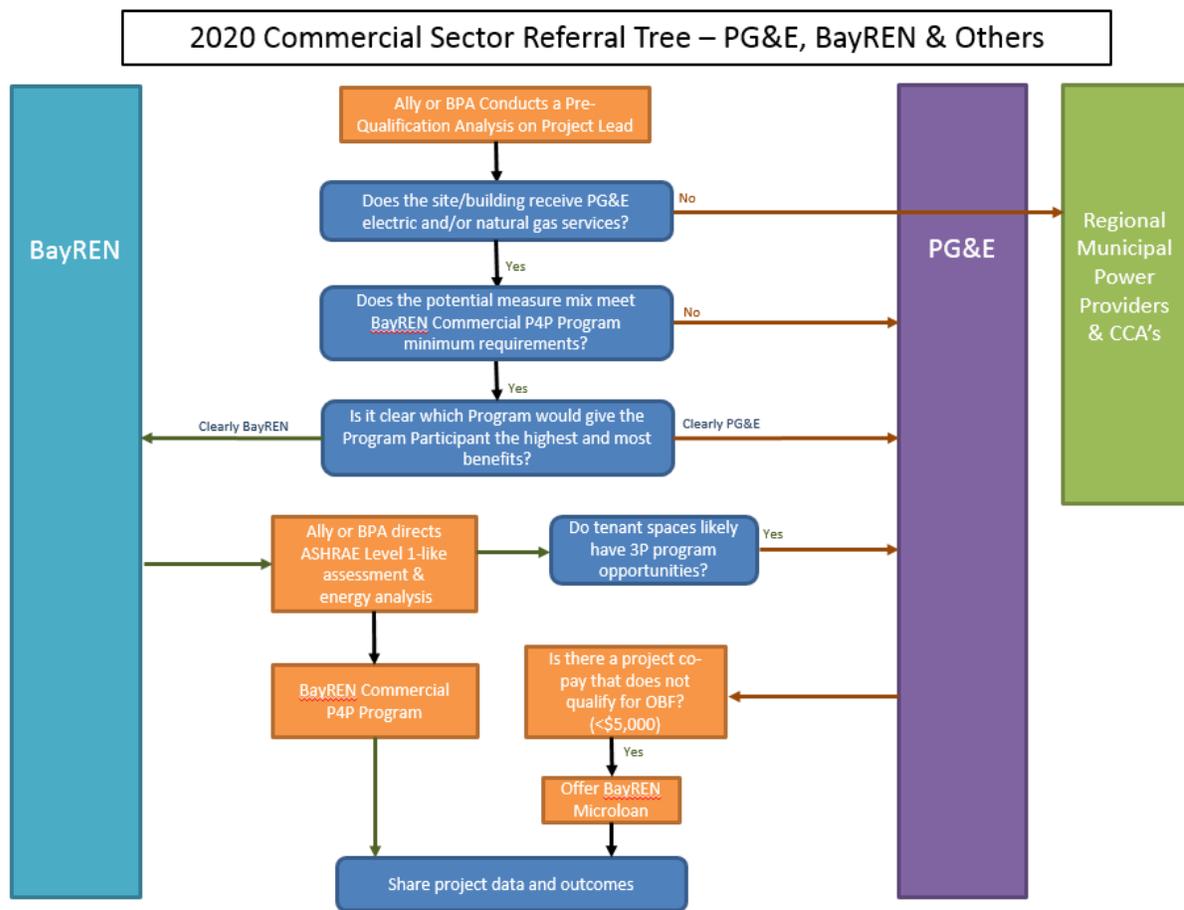
The commercial HVAC subprogram comprises three elements that enable market transformation, direct energy savings, and demand reductions: upstream HVAC

equipment incentives, commercial quality installation, and midstream commercial quality maintenance (C-QM).

d. Coordination Protocol Between Programs

Using the referral tree in Figure 4, the Building Performance Advisor will make appropriate program referrals after obtaining preliminary site information. The BayREN and PG&E program teams will conduct regularly scheduled check-in calls to allow for notice of marketing campaigns, continued coordination, double-dipping concerns, discussion of any issues impacting the programs, and to learn about updates of other programs (i.e. financing) that could benefit SMCB energy efficiency projects.

Figure 3: Coordination Protocol for Commercial Programs



BayREN’s SMCB program may leverage existing PG&E programs when it is beneficial to the customer. As such, a coordinated process will be developed to avoid double-dipping. The BayREN and PG&E program managers plan to hold a monthly call to review any BayREN projects that are leveraging PG&E incentives to ensure that the

customer is not paid twice for the savings resulting from a particular measure. Once the SMCB program is operational, a formal double dipping review process will be established.

e. Coordination Between SW Program(s)

The Statewide Programs include the Commercial Deemed Incentive, Calculated, and Commercial HVAC subprograms. BayREN and PG&E’s Program Manager will conduct regularly scheduled check-in calls as described in Section (d) above.

f. D.12-11-015 Compliance

The following table describes in further detail how BayREN’s proposed Small and Medium Commercial Buildings program satisfies the REN criteria in D.12-11-015.

Table 8: BayREN Small and Medium Commercial Buildings Program's Compliance with D.12-11-015

REN Criteria	BayREN Compliance
1. Activities IOU cannot or does not intend to undertake	Not applicable
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	<p>BayREN provides more technical assistance, is specifically targeted to SMBs under 50,000 sq-ft, and would be the only currently active program that combines both upfront computer-modeling incentives and backend NMEC incentives to develop a comprehensive project for the SMB sector.</p> <p>The subprogram has the potential for scalability by heavily leveraging local and regional resources (e.g. downstream and midstream programs, OBF, microloan).</p>
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	<p>The Building Advisor and the Whole Building Performance activities are designed to harvest sizable amounts of energy savings cost-effectively in the SMB sector, many of which will be HTR. For example, strip mall lessees and individual lessees in small and medium-sized office parks and mid-rises are often HTR-eligible.</p> <p>The Microloan program is specifically targeted to help the region’s DI and downstream programs reduce the barrier in micro businesses, many are eligible under the modified definition if HTR, per D.18-05-041.</p>

F. Codes and Standards (BayREN03)

a. Summary of Program Differentiation

BayREN and PG&E Codes and Standards programs address similar audiences – local government building departments and others involved with the building code– but from two different approaches, ensuring a comprehensive program offering and service. As the statewide lead for Codes and Standards, PG&E develops resources, templates, and studies that are comprehensive, effective and useful across the state. PG&E also does code advocacy at the state-level. BayREN bridges the gap between local governments and the state, working from the bottom up to coordinate directly with Building Departments in the Bay Area and to customize training, templates and approaches to codes and standards. PG&E and BayREN will continue to work together to ensure a well-coordinated set of offerings.

Table 9: Summary of Similar BayREN and PG&E Codes and Standards Programs

	BayREN	PG&E
Program Name	Codes and Standards	<ul style="list-style-type: none"> • Compliance Improvement • Reach Codes • Building Codes Advocacy
Eligible Measures	N/A	N/A
Estimated Budget	\$1,918,000	<ul style="list-style-type: none"> • Compliance Improvement: \$4,044,129 • Reach Codes: \$604,747 • Building Codes Advocacy: 4,331,109
Target Audience	Bay Area local government staff and officials including building officials, planners, sustainability coordinators, and elected officials, and others involved in code compliance such as applicants and contractors.	<ul style="list-style-type: none"> • The compliance improvement supply chain, including manufacturers, distributors, retailers, architects, builders, designers, energy consultants, contractors, building officials, planners, etc. • State, Federal, and local entities engaged in building codes, appliance standards, or reach codes.
Resource/Non-Resource	Non-Resource	Resource and Non-Resource ¹⁸

b. Summary of BayREN Program Objectives

BayREN's Codes and Standards Program is focused on supporting Bay Area local governments relative to codes and policies concerning energy efficiency, with three

¹⁸ The Building Codes Advocacy subprogram is a resource program, while the Compliance Improvement and Reach Codes subprograms are non-resource programs.

general program areas: energy code compliance tools and services; specialized and focused trainings and workshops; and stakeholder engagement and policy development.

In terms of compliance tools and services, BayREN works with Bay Area local governments to provide tools and approaches to assist them with code compliance, focusing on the most common project types, as well as those where local governments can have the most influence, such as municipal buildings. BayREN often customizes its tools and services for specific jurisdictions.

BayREN provides specialized and focused trainings and workshops to complement those offered by PG&E. BayREN also hosts regional forums for local government staff, building professionals, energy consultants and policy makers on important energy issues that allow for the sharing of perspectives and best practices.

Finally, BayREN provides regional coordination on energy efficiency policy and assists jurisdictions that are interested in reach codes and/or other energy efficiency policy development, adoption, implementation, and impact tracking. BayREN also facilitates engagement between local governments and the California Energy Commission (CEC) on code development efforts, including ensuring that local government staff are aware of proposed code development proposals and that their concerns about enforceability are considered. BayREN collaborates with other regional agencies on energy efficiency policy and activities, including the Bay Area Air Quality Management District and the Bay Area Regional Collaborative.

c. Comparable and/or Equivalent PG&E Program – Codes and Standards

PG&E's Codes and Standards program includes seven subprograms:

1. State Building Energy Codes Advocacy
2. State Appliance Standards Advocacy
3. National Codes and Standards Advocacy
4. Compliance Improvement
5. Reach Codes
6. Planning and Coordination
7. Code Readiness

PG&E and BayREN both have programs that work towards compliance improvement, reach codes adoption, and building codes development.

PG&E's Compliance Improvement subprogram targets actors within the compliance improvement supply chain to maintain robust statewide compliance with building codes and appliance standards. Compliance Improvement program needs are determined through a performance-based solutions approach to identify training, tools, resources and outreach necessary to narrow the gap between actual and desired performance.

Multiple training modalities are used to maximize student participation. A consistent curriculum is developed and delivered statewide by a team of subject matter experts.

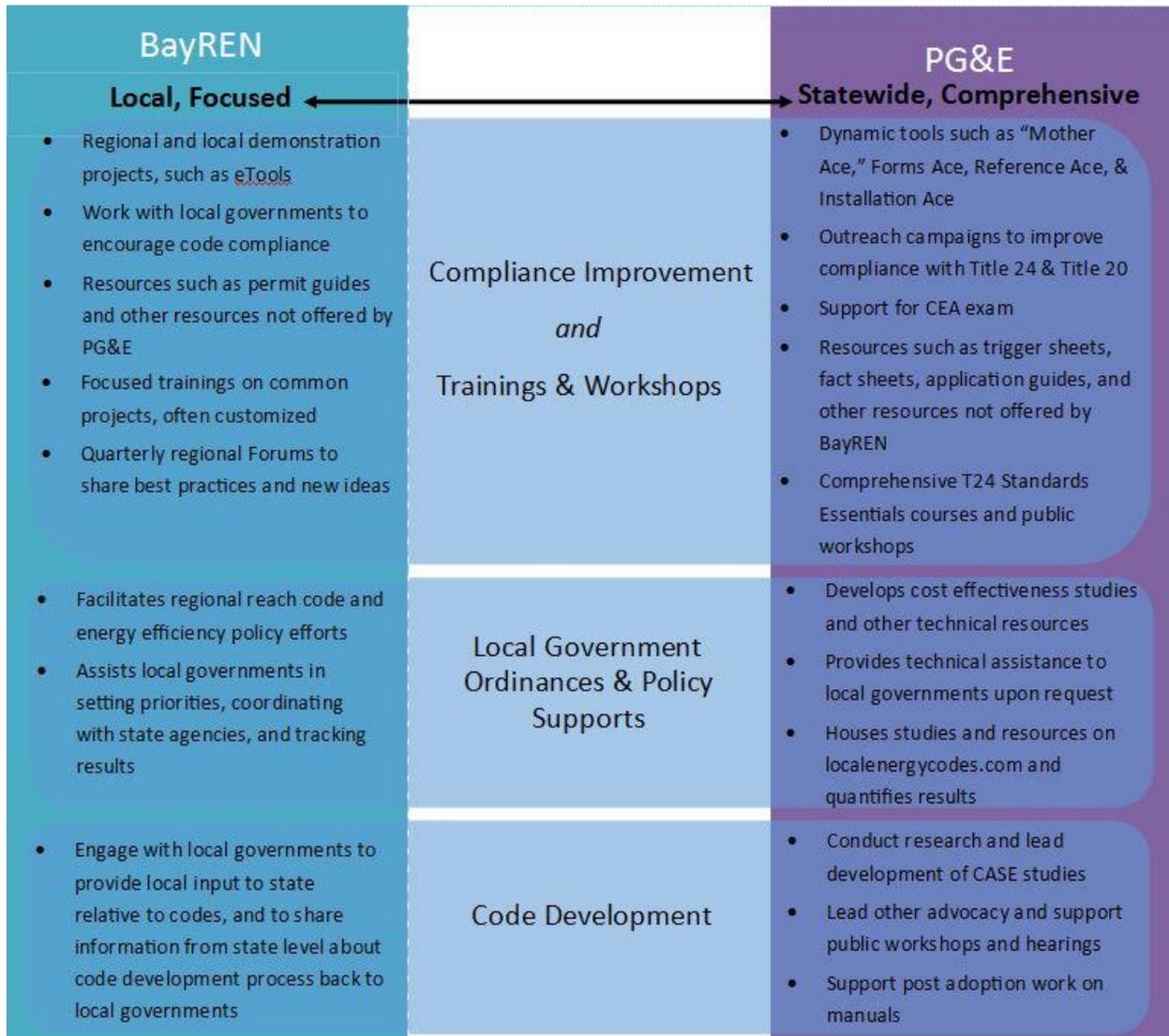
PG&E's Reach Codes subprogram provides technical support to local governments that wish to adopt ordinances that exceed statewide Title 24 minimum energy efficiency requirements. Local energy ordinances must be cost-effective to be legally enforceable, but preparing the supporting documentation can present an insurmountable obstacle for many jurisdictions. IOU activities include analysis of cost-effective ordinance options, providing technical support to local government staff, and assistance completing the required CEC application and approval process. Additionally, the Reach Codes subprogram may provide technical support to facilitate ordinance implementation, including training for staff, or resources such as applicant handouts.

The Building Energy Codes Advocacy subprogram targets improvements to California's Building Energy Efficiency Standards (Title 24, Part 6) that are updated by the CEC on a triennial cycle. The subprogram also intervenes, but to a lesser extent, in CALGreen (Title 24, Part 11) and in ratings organizations as necessary. PG&E advocates for new or more stringent regulations by: a) conducting research and analysis to assess cost effectiveness, technical feasibility, market availability for building code measures, and compliance ability for proposed regulations within the scope of a rulemaking, b) developing code enhancement proposals, and c) participating in public proceedings.

d. Coordination Protocol Between Programs

To identify opportunities for collaboration and to ensure activities are complementary and non-duplicative, the BayREN and PG&E Codes and Standards teams have monthly coordination calls to discuss ongoing and planned activities and intend to meet in person twice per year. To ensure there is no overlap of compliance improvement or reach code activities, additional coordination protocols have been developed (see Figure 5 below).

Figure 4: Coordination Protocol for Codes and Standards Programs



i. Compliance Improvement

Each PA’s website is kept current with training opportunities and other relevant activities. For new compliance improvement tools, resources or training, BayREN and PG&E will discuss the ideas during the regular coordination calls to identify any potential overlap and determine if there are opportunities for collaboration. The PAs will provide, within two weeks from the date of the communication, drafts of compliance improvement resources to each other for comment and consideration. Each program administrator will assist in marketing and outreach efforts of the others’ activities by providing information about such activities as appropriate at events, on webpages, or through email channels.

ii. Reach Codes

BayREN and PG&E will continue to work together to increase and improve reach code adoption and implementation within the Bay Area and will discuss approaches and progress during regular coordination meetings. PG&E will continue to maintain a local energy codes website which houses completed cost effectiveness studies, model language, and other resources that any local government may download and use to support a local ordinance. BayREN’s website will continue to provide links to this resource. BayREN will continue to direct local governments to this resource as appropriate. BayREN’s website will also provide educational material and links to relevant resources for local government staff.

PG&E, in coordination with other IOUs, will continue to lead reach code cost-effectiveness studies for Bay Area jurisdictions, individually and on a regional level. BayREN will continue to lead outreach among local governments and will refer local governments to PG&E for technical support. PG&E will contact the requesting local government within one week to establish a mutually acceptable schedule, and will inform BayREN of the schedule if PG&E intends to carry out a study. If PG&E does not conduct the study, BayREN will respond to the request. During monthly coordination calls, BayREN and PG&E will provide updates on studies that are planned and in progress.

- e. Coordination between SW program(s) –** PG&E will coordinate with the statewide codes and standards program as appropriate and will work with BayREN to implement opportunities to reduce ratepayer resource use by working together to address a need. This may take the form of a division of labor, or collaboration, as in the case of a co-sponsored forum or other event.

f. D. 12-11-015 Compliance

The following table describes in further detail how BayREN’s proposed Codes and Standards program satisfies the REN criteria in D.12-11-015.

Table 10: BayREN Codes and Standards Program's Compliance with D.12-11-015

REN Criteria	BayREN Compliance
<p>1. Activities IOU cannot or does not intend to undertake</p>	<ul style="list-style-type: none"> • BayREN's Codes and Standards activities are designed by local governments. • BayREN's compliance tools and services, and trainings and workshops all fill gaps and support PG&E's compliance improvement activities. While PG&E prepares comprehensive tools, BayREN focuses on key areas of interest to local governments. • BayREN's reach codes activities focus on regional outreach include outreach and coordination. PG&E's activities focus on cost effectiveness and other technical support. • BayREN's stakeholder engagement and policy development activities are undertaken with a regional perspective and directed by the Bay Area local governments such that they do not overlap with PG&E's activities.
<p>2. Pilot activities where there is no IOU program offering and where there is potential for scalability</p>	<ul style="list-style-type: none"> • BayREN pilots activities within the Bay Area which could potentially be duplicated in other regions or scaled to the state level. • BayREN's compliance tools and services, and trainings and workshops all fill gaps and support PG&E's compliance improvement activities. While PG&E prepares comprehensive tools, BayREN focuses on key areas of interest to local governments. • Additionally, BayREN conducts various demonstration projects, such as with its eTools, that do not duplicate existing PG&E tools or resources, or those in development. These tools are being used in a limited number of local jurisdictions, in order to test them and determine whether they can be scaled for use throughout the region or in other parts of California.
<p>3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap</p>	<p>Not applicable</p>

G. Water Energy Nexus (BayREN04)

a. Summary of Program Differentiation

PG&E offers water-saving measures through various programs described in the Single Family section above (see Table 1). However PG&E does not administer a water energy nexus program similar to BayREN’s Water Bill Savings program.

Table 11: Summary of Similar BayREN and PG&E Water Energy Nexus Programs

	BayREN	PG&E
Program Name	Water Bill Savings Program	N/A
Eligible Measures	<p>Water efficiency upgrades that also deliver site and embedded energy savings through the water-energy nexus. The cost to install eligible measures is repaid through a tariffed on-bill surcharge on the participant’s water bill that is significantly lower than the estimated savings.</p> <p>Measures are not limited to energy efficiency eligible measures (EEMs). Measures are not eligible for BayREN Energy Efficiency Portfolio rebates. IOU rate-payer funds are not used to underwrite or directly finance measure installation.</p> <p>Eligible measures will include, but may not be limited to:</p> <ul style="list-style-type: none"> • A 1.06 gallon per flush or better toilet with a Maximum Performance (MAP) rating of 600 grams or more. • A high efficiency (typically 1.5 gallon per minute) showerhead. • A 1.0 gallon per minute bathroom faucet aerator. • A 1.5 gallon per minute kitchen faucet aerator. • Drought tolerant landscaping 	N/A
Estimated Budget	\$1,170,000	N/A
Target Audience	Bay Area Municipal Water Utilities, and through those utilities, their Residential Water Customers/Account Holders (single family and multifamily) and small-to-medium commercial Customers/Account Holders	N/A
Resource/ Non-Resource	Non-Resource	N/A

b. Summary of BayREN Program Objectives

BayREN’s Water Bill Savings Program provides a financing and program administration service that enables its partner municipal water utilities (Partner Utilities) to provide customers with a no-risk, tariffed on-bill offer that captures the dual benefit of conserving water and its embedded and site energy, where possible.

Program objectives for 2020 include:

- Continue to support BayREN's three current Partner Utility pilot programs with on-bill program design, and technical assistance to facilitate installation of water measures and energy improvements depending on the Partner Utility.¹⁹
- Establish a regional Water Bill Savings Program that will centralize funding and administration services for the tariffed on-bill program to make the offer available to municipal water utilities and their customers throughout the Bay Area and provide:
 - Easier opt-in for utilities and their water customers.
 - Centralized and streamlined program services to better meet the needs of various customer classes, including affordable housing and small-to-medium commercial properties and support utility participation.
 - A low-cost capital financing service through the ABAG joint powers authority.
 - Better alignment with BayREN, PG&E, and MCE energy efficiency programs (e.g. rebate, technical advising, and financing), providing participating customers with more pathways to pursue water and energy property upgrades and savings.

BayREN's current on-bill program allow Partner Utilities (specifically, water utilities) to offer participating customers the option to install water and energy measures with no upfront cost – through a monthly tariffed on-bill surcharge that appears as a line item on their utility bill, is based on their reported use and estimated savings, and is significantly lower than the estimated savings.

Informed by the current BayREN on-bill program, the forthcoming regional program will provide a tool to access underserved market sectors and increase participation in other efficiency programs, including those administered by both BayREN and other PAs. In the short-term, the regional program will focus be residential customers and in the mid to long -term or long term, expand to focus on small and medium commercial customers. The Water Bill Savings Program is a unique mechanism to deliver efficiency improvements that directly support the goals of SB 350 to serve low-income, moderate-income and disadvantaged communities. It will also demonstrate a model that can serve municipal utilities in achieving other community goals—such as rental property condition and safety, code compliance, time-of-sale requirements, greenhouse gas reductions, and water conservation targets.

¹⁹ From 2013-2016, this work was conducted under the BayREN PAYS® On Water Bill Program. BayREN original Program Implementation Plan that authorized this work in 2013-16 used the trademarked name of the Pay As You Save® (PAYS®) model. To enable further program evolution consistent with the PAYS® model but also aligned with the California market, BayREN has renamed this already approved program to the Water Bill Savings Program.

As a cross-cutting initiative, the BayREN’s Water-Energy Nexus work is coordinated with BayREN Residential and Commercial activities.

c. D. 12-11-015 Compliance

The following table describes in further detail how BayREN’s proposed Water Energy Nexus program satisfies the REN criteria in D.12-11-015.

Table 12: BayREN Water Energy Nexus Program's Compliance with D.12-11-015

REN Criteria	BayREN Compliance
1. Activities IOU cannot or does not intend to undertake	PG&E does not have a similar offering.
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	There are no PG&E offerings similar to this program.
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	Not applicable

APPENDIX A: SUMMARY OF BAYREN PROGRAM COMPLIANCE WITH D.12-11-015

Check D.12-11-015 Threshold Criteria that apply for each program	Comparable PG&E Program if applicable	1. Activities that utilities cannot or do not intend to undertake.	2. Pilot activities where there is no current offering, and where there is potential for scalability to a broader geographic reach, if successful.	3. Pilot activities in hard to reach markets, whether or not there is a current utility program that may overlap.
BayREN Single Family (BayREN08)	Energy Upgrade California (PGE21004)	XX	XX	
BayREN Green Labeling (BayREN07)	Energy Upgrade California (PGE21004)	XX	XX	
BayREN BAMBE (Multifamily) ((BayREN02)	Multifamily Upgrade Program (PGE21003)	XX	XX	
BayREN Commercial (BayREN06)	<ul style="list-style-type: none"> • Commercial Calculated (PGE21011) • Commercial Deemed (PGE21012) • Commercial HVAC (PGE21015) • East Bay (PGE211009) • Marin (PGE211013) • Napa (PGE211015) • San Mateo (PGE211019) • Sonoma (PGE211022) • Silicon Valley (PGE211023) • San Francisco (PGE211024) 		XX	XX

	<ul style="list-style-type: none"> • Solano (PGE211029) • Energy Smart Grocer (PGE21018) • Healthcare (PGE210123) • Hospitality (PGE210143) 			
BayREN Codes and Standards (BayREN03)	<ul style="list-style-type: none"> • Building Codes Advocacy (PGE21051) • Compliance Improvement (PGE21053) • Reach Codes (PGE21054) 	XX	XX	
BayREN Water Energy Nexus (BayREN04)	N/A	XX	XX	

APPENDIX B: BAYREN’S PORTFOLIO SUMMARY OF PROGRAMS OFFERED FOR 2020

REN Program Unique ID	Sector	Annual Budget ²⁰	Eligible Measures
BayREN Single Family (BayREN08)	Residential	\$8,831,180	Measures include Duct sealing, attic and wall insulation, HVAC equipment upgrades, Smart thermostats, gas storage water heaters and heat pump water heaters, LED lamps, water faucet aerators, low flow showerheads and Tier II power strips. Single measure upgrades allowed
BayREN Green Labeling (BayREN07)	Residential	\$1,013,500	N/A
BayREN BAMBE (Multifamily) (BayREN02)	Residential	\$7,576,300	Envelope, HVAC, DHW, lighting, and appliance measures – requires multiple measures, targeting 15-20% savings
BayREN Commercial (BayREN06)	Commercial	\$2,713,832	Advanced Metering Systems; Boiler Plant Improvements; EMCS; Building Envelope Modifications; Chilled Water, Hot Water, and Steam Distribution Systems; Chiller Plant Improvements; Electrical Peak Shaving/Load Shifting; Electric Motors and Drives; Energy/Utility Distribution Systems; Energy Related Process Improvements; Lighting Improvements; HVAC maintenance and replacement; Appliance and Plug-Load Reductions; Refrigeration & Food Service Equipment; Water and Sewer Conservation Systems
BayREN Codes and Standards (BayREN03)	Cross Cutting	\$1,766,730	N/A
BayREN Water Energy Nexus (BayREN04)	Cross Cutting	\$1,170,933	Water efficiency upgrades that also deliver energy savings (site and embedded) through the water-energy nexus. Measures are “eligible” to be included as part of a program participants on-bill charge. Measures are not limited to energy efficiency eligible measures (EEEMs). Measures are not eligible for BayREN Energy Efficiency Portfolio rebates. IOU rate-payer funds are not used to

²⁰ BayREN’s Annual Budget is based on the 2019 ABAL and serves as an estimate for 2020 budgets. The 2020 budgets will not be finalized until the 2020 ABAL is submitted in 2019.

		<p>underwrite or directly finance measure installation.</p> <p>Eligible measures will include, but may not be limited to:</p> <ul style="list-style-type: none"> • A 1.06 gallon per flush or better toilet with a Maximum \$185,123,470 (MAP) rating of 600 grams or more. • A high efficiency (typically 1.5 gallon per minute) showerhead. • A 1.0 gallon per minute bathroom faucet aerator. • A 1.5 gallon per minute kitchen faucet aerator. <p>Drought tolerant landscaping</p>
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APPENDIX C: PG&E’S PORTFOLIO SUMMARY OF PROGRAMS OFFERED FOR 2020

IOU Program Unique ID	Sector	Annual Budget ²¹	Eligible Measures
Multifamily Upgrade Program (PGE21003)	Residential	\$6,333,027	Envelope, HVAC, DHW, lighting, appliances, and cold-water measures – requires multiple measures, targeting >20% savings
Advanced Home Upgrade (PGE21004)	Residential	\$5,582,690 ²²	<p>The following measures are eligible in PG&E’s Advanced Home Upgrade program in BayREN territory, but only if the contractor performs the High Performance HVAC Installation (HPHI) measure. A minimum of 4 measures is required, where one is shell and one is HVAC.</p> <p>Measures include wall insulation, attic insulation, floor insulation, whole building/envelope air sealing and ventilation, infiltration reduction measures, exterior windows, window film, HVAC equipment replacement, duct insulation, duct sealing, HVAC duct replacement/retrofit, radiant/hydronic heating, lighting, domestic hot water, tankless water heater, primary refrigerator replacement/installation, pool pumps, cool roof</p>
Residential Energy Advisor (PGE21001)	Residential	\$11,864,451	<p>The Residential Energy Advisor subprogram uses behavioral outreach initiatives and interactive tools, including the Home Energy Report (HER), Home Energy Checkup (HEC), and PG&E Marketplace, to engage customers and encourage participation in innovative energy initiatives. The suite of products and services enable customers to understand and manage their energy use, and where appropriate, be guided to other energy solutions. The HER shows customers how their energy usage changes over time and how their usage compares with similar homes in their area. The HEC is a self-guided online assessment that helps customers understand where they use energy in their homes, providing energy-saving tips and suggestions based on their specific situations, and generates a simple checklist plan saved on a customer’s PG&E Your Account website to track their progress as they complete the items on their plan.</p>
Pay for Performance Pilot (PGE210010)	Residential	\$7,513,707	Online energy audit and home energy reports, high performance air conditioning systems, smart thermostats, high efficiency

²¹ PG&E’s Annual Budget is based on the 2019 ABAL and serves as an estimate for 2020 budgets. The 2020 budgets will not be finalized until the 2020 ABAL is submitted in September 2019.

²² This budget reflects PG&E’s best estimate of the Advanced Home Upgrade program.

			furnaces, LED lighting (A-lamps, BR/R/MR/PAR lamps, globes and candelabras), low flow showerheads and faucet aerators, tier 2 smart power-strips, duct sealing, attic insulation and building leakage reduction.
Residential Energy Fitness Program (PGE21002)	Residential	\$14,890,537	Energy education, smart thermostat, smart power strips, HVAC tune-up, duct test & seal, lighting, and water saver measures.
Residential Energy Efficiency (PGE21002)	Residential	\$7,880,656	Electric Heat-Pump Water Heaters Smart Thermostats
Residential New Construction (PGE21005)	Residential	\$6,826,666	Advanced Envelope Measures
Residential HVAC (PGE21006)	Residential	\$3,913,021	Assessment and coil cleaning Refrigerant increase, TXV Refrigerant increase Refrigerant decrease, TXV Refrigerant decrease Motor replacement Fan Delay install Smart thermostats
California New Homes Multifamily (PGE21007)	Residential	\$2,036,064	Windows, water heating, insulation, space heating and cooling equipment, solar water heating.
Enhance Time Delay Relay (PGE21008)	Residential	\$8,295,796	Multifamily space heating and cooling, HVAC tune ups, smart thermostats, blower motor replacement, fan delay.
Direct Install for Manufactured and Mobile Homes (PGE21009)	Residential	\$6,566,064	Assessment, education, faucet aerators, low flow showerheads, refrigerant charge adjustment, brushless blower motor retrofit, efficient fan control switch, smart thermostat, duct test and seal, and duct replacement.
Energy Savings Assistance (PGE_ESA)	Residential	\$185,123,470	Measures Include: Enhanced Energy education, refrigerator, water heater, insulation, weatherproofing, LEDs, caulking, low-flow shower heads.
Commercial Calculated (PGE21011)	Commercial	\$23,262,758	Various including Lighting, Refrigeration, HVAC, etc. ²³
Commercial Deemed (PGE21012)	Commercial	\$19,367,904	Various Lighting, Refrigeration, HVAC, Food Service, Water Heating, etc. ²⁴
Commercial HVAC (PGE21015)	Commercial	\$10,626,958	HVAC
East Bay (PGE211009)	Commercial	\$6,129,105	Lighting, Refrigeration, HVAC controls

²³ A detailed description of eligibility and project requirements can be found on PG&E's website under "Custom Retrofit."

²⁴ A detailed description of eligibility and project requirements can be found on PG&E's website under "Product Rebates."

Marin (PGE211013)	Commercial	\$1,271,550	Lighting, Refrigeration, HVAC controls
Napa (PGE211015)	Commercial	\$557,007	Lighting, Refrigeration, HVAC controls
San Mateo (PGE211019)	Commercial	\$2,279,756	Lighting, Refrigeration, HVAC controls
Sonoma (PGE211022)	Commercial	\$3,762,183	Lighting, Refrigeration, HVAC controls
Silicon Valley (PGE211023)	Commercial	\$1,756,500	Lighting, Refrigeration, HVAC controls
San Francisco (PGE211024)	Commercial	\$6,315,049	Lighting, Refrigeration, HVAC controls
Solano (PGE211029)	Commercial	\$1,480,725	Lighting, Refrigeration, HVAC controls
Energy Smart Grocer (PGE21018)	Commercial	\$6,672,373	Lighting, Refrigeration, HVAC, Food service
Healthcare (PGE210123)	Commercial	\$2,244,672	Lighting, Refrigeration, HVAC
Hospitality (PGE210143)	Commercial	\$12,626,882	Lighting, Refrigeration, HVAC, Food service
Building Codes Advocacy (PGE21051)	Cross Cutting	\$4,331,109	N/A
Compliance Improvement (PGE21053)	Cross Cutting	\$4,044,129	N/A
Reach Codes (PGE21054)	Cross Cutting	\$604,747	N/A

For more information on PG&E's portfolio of programs, please see *Pacific Gas and Electric Company's 2018 Energy Efficiency Annual Report*.²⁵ More information on PG&E's EE programs can also be found on the California Energy Data and Reporting System (CEDARS) website.²⁶

²⁵ To access the annual report, please go to <http://eestats.cpuc.ca.gov/Views/Documents.aspx>. Select "Annual" under "Report Categories," then "PGE" under "Utility." The file is titled "PGE.AnnualNarrative.2018.1.pdf."

²⁶ To access this information, please go to <https://cedars.sound-data.com> and then select "Programs."

**PG&E Gas and Electric
Advice Submittal List
General Order 96-B, Section IV**

AT&T	Downey & Brand	Pioneer Community Energy
Albion Power Company	East Bay Community Energy	Praxair
Alcantar & Kahl LLP	Ellison Schneider & Harris LLP	Regulatory & Cogeneration Service, Inc.
	Energy Management Service	SCD Energy Solutions
Alta Power Group, LLC	Engineers and Scientists of California	
Anderson & Poole	Evaluation + Strategy for Social Innovation	SCE
	GenOn Energy, Inc.	SDG&E and SoCalGas
Atlas ReFuel	Goodin, MacBride, Squeri, Schlotz & Ritchie	
BART	Green Charge Networks	SPURR
	Green Power Institute	San Francisco Water Power and Sewer
Barkovich & Yap, Inc.	Hanna & Morton	Seattle City Light
P.C. CalCom Solar	ICF	Sempra Utilities
California Cotton Ginners & Growers Assn	International Power Technology	Southern California Edison Company
California Energy Commission	Intestate Gas Services, Inc.	Southern California Gas Company
California Public Utilities Commission	Kelly Group	Spark Energy
California State Association of Counties	Ken Bohn Consulting	Sun Light & Power
Calpine	Keyes & Fox LLP	Sunshine Design
	Leviton Manufacturing Co., Inc. Linde	Tecogen, Inc.
Cameron-Daniel, P.C.	Los Angeles County Integrated Waste Management Task Force	TerraVerde Renewable Partners
Casner, Steve	Los Angeles Dept of Water & Power	Tiger Natural Gas, Inc.
Cenergy Power	MRW & Associates	
Center for Biological Diversity	Manatt Phelps Phillips	TransCanada
City of Palo Alto	Marin Energy Authority	Troutman Sanders LLP
	McKenzie & Associates	Utility Cost Management
City of San Jose	Modesto Irrigation District	Utility Power Solutions
Clean Power Research	Morgan Stanley	Utility Specialists
Coast Economic Consulting	NLine Energy, Inc.	
Commercial Energy	NRG Solar	Verizon
County of Tehama - Department of Public Works		Water and Energy Consulting
Crossborder Energy	Office of Ratepayer Advocates	Wellhead Electric Company
Crown Road Energy, LLC	OnGrid Solar	Western Manufactured Housing Communities Association (WMA)
Davis Wright Tremaine LLP	Pacific Gas and Electric Company	Yep Energy
Day Carter Murphy	Peninsula Clean Energy	
Dept of General Services		
Don Pickett & Associates, Inc.		
Douglass & Liddell		