

August 1, 2018

Advice 3999-G/5346-E

(Pacific Gas and Electric Company ID U 39 M)

Advice 10-E

(BayREN ID #941)

Public Utilities Commission of the State of California

Subject: PG&E and BayREN's 2019 Joint Cooperation Memo in Compliance with Decision 18-05-041, Ordering Paragraph 38

Pacific Gas and Electric Company (PG&E) hereby submits the 2019 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 county Bay Area (their shared service area) in 2019 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 filing may do so by letter sent via U.S. mail, facsimile or E-mail, no later than August 21, 2018, which is 20 days after the date of this filing. 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

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, August 31, 2018, which is 30 calendar days after the date of filing.

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

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY ENERGY UTILITY

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

Company name/CPUC Utility No. **Pacific Gas and Electric Company (ID U39 E)**

Utility type:

ELC GAS
 PLC HEAT WATER

Contact Person: Yvonne Yang

Phone #: (415) 973-2094

E-mail: QXY1@pge.com and PGETariffs@pge.com

EXPLANATION OF UTILITY TYPE

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

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: **3999-G/5346-E, et al.**

Tier: 2

Subject of AL: **PG&E and BayREN's 2019 Joint Cooperation Memo in Compliance with Decision 18-05-041, Ordering Paragraph 38**

Keywords (choose from CPUC listing): Compliance

AL filing type: Monthly Quarterly Annual One-Time Other _____

If AL filed 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: _____

Is AL requesting confidential treatment? If so, what information is the utility seeking confidential treatment for: No

Confidential information will be made available to those who have executed a nondisclosure agreement: N/A

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: _____

Resolution Required? Yes No

Requested effective date: **August 31, 2018**

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: N/A

Service affected and changes proposed: N/A

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

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

California Public Utilities Commission

Energy Division

EDTariffUnit

505 Van Ness Ave., 4th Flr.

San Francisco, CA 94102

E-mail: EDTariffUnit@cpuc.ca.gov

Pacific Gas and Electric Company

Attn: Erik Jacobson

Director, Regulatory Relations

c/o Megan Lawson

77 Beale Street, Mail Code B13U

P.O. Box 770000

San Francisco, CA 94177

E-mail: PGETariffs@pge.com

ATTACHMENT A

2019 JOINT COOPERATION MEMO PACIFIC GAS AND ELECTRIC COMPANY BAY AREA REGIONAL ENERGY NETWORK

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A. Overview

The 2019 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 for similar programs the two energy efficiency program administrators (PAs) intend to offer in their overlapping service areas in 2019.¹ The JCM also describes how BayREN's anticipated offerings satisfy the criteria for REN activities in California Public Utilities Commission (CPUC, Commission) Decision (D.) 12-11-015.²

The discussion in the 2019 JCM is organized around each program BayREN anticipates administering in 2019. 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 2019, including information on draft budgets and measure eligibility.

B. Residential – Single Family (BayREN 1001)

a. Summary of Program Differentiation

BayREN's proposed single-family program is designed to serve moderate income homeowners in the San Francisco Bay Area (Bay Area). Currently, PG&E's single-family programs in the Bay Area aim primarily to serve low income households as defined by the California Alternate Rates for Energy (CARE) program and market rate customers (Energy Upgrade California—Advanced Home Upgrade). According to HUD guidelines, a household of four with an annual income of \$60,000³ is considered very low income in the Bay Area. However, this household would be ineligible for the Energy Savings Assistance Program (ESA) which has an upper limit eligibility of \$48,600.

BayREN's single-family program intends to target 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 energy advisor⁴ to walk customers through the process step-by-step and local contractors to deliver energy savings to households. PG&E's programs in the BayREN territory focus mainly on market rate single family households. PG&E serves middle income customers through the Middle Income Direct Install (MIDI) program, but this program is not comparable to

¹ Please note that this memo includes preliminary budget forecasts for 2019 that are highly variable and will be finalized in the September 2019 Annual Budget Advice Letter.

² D.12-11-015, p. 17.

³ 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

⁴ Please note that PG&E also has a service called Energy Advisor but it is unrelated to the BayREN offering.

BayREN’s proposed program because it operates through the direct install delivery channel, largely focuses on hotter climate regions, and targets a lower income segment than the BayREN program. The most comparable PG&E program is the Advanced Home Upgrade program (see Table 1 below).

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

	BayREN	PG&E
Program Name	Middle Income Single-Family ⁵	Energy Upgrade California—Advanced Home Upgrade
Eligible Measures	<ul style="list-style-type: none"> Actual measures will be determined with the design of the program in coming months; however, they will likely be similar to the current mix in the Home Upgrade Program with the addition of more measures focused on kWh reduction. Single measures will be allowed Savings will be deemed per measure (to be updated in Implementation Plan) 	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
Estimated 2019 Budget⁶	\$8,800,000	\$10,707,759 ⁷
Target Audience	<ul style="list-style-type: none"> Moderate-income households (owners and/or renters)⁸ Specialty contractors 	<ul style="list-style-type: none"> Mainstream, market rate homeowners.
Resource/Non-Resource	Resource	Resource

⁵ Consumer facing program name has not yet been confirmed.

⁶ The budgets provided herein are estimates. Final 2019 budgets will be provided in the Annual Budget Advice Letter that will be filed on September 4, 2018.

⁷ This budget reflects PG&E’s best estimate of the Energy Upgrade California program, which includes Advanced Home Upgrade.

⁸ This is defined as an annual household income in the range of \$48,000 to \$125,000

b. Summary of BayREN Program Objectives

BayREN will discontinue the Home Upgrade Program in Q1 2019. The revised single-family residential program⁹ will focus on Bay Area middle income homeowners and renters,¹⁰ a population that is consistently underrepresented in ratepayer energy efficiency programs in our territory and across the state.¹¹ The actual program design will rely on the findings of the BayREN Single Family Moderate Income Market Characterization Study (scheduled to be complete by September 2018).

The key approach to this program is to fill the gap to meet the middle-income customer where they are and to offer incremental and affordable energy efficiency measures that are better aligned with their needs than available through current mainstream program offerings. One objective of the program, utilizing the Energy Advisors and local government staff outreach, is to get the homeowner on an incremental path, phasing new measures as they are feasible and education along the way.

Contractors are key to the program. BayREN will offer trainings on workforce standards (in conjunction with and coordination with the statewide Workforce Education and Training activities). As with BayREN's implementation of Home Upgrade, 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 Home Upgrade and the upcoming single family program is the Home Energy Advisor service. Advisors assist both homeowners and renters and maintain contact 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 has reached ZNE. The Advisors also assist contractors with understanding program requirements and when needed, help mediate issues that may arise with the property owner. Advisors will refer customers to complementary programs offered by utilities and other organizations and help customers understand their financing options. (Please see coordination section below)

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

c. Comparable and/or Equivalent PG&E Program – Advanced Home Upgrade

There is no equivalent PG&E program in the BayREN territory to the single-family program offered by BayREN. The most comparable program PG&E offers is the Advanced Home Upgrade program, which is a single family whole house program that

⁹ A Request for Proposal was released immediately following D.18-05-041. More detailed information about the modified program design will be submitted with the Implementation Plan.

¹⁰ Defined as an annual household income between \$48,000 - \$125,000.

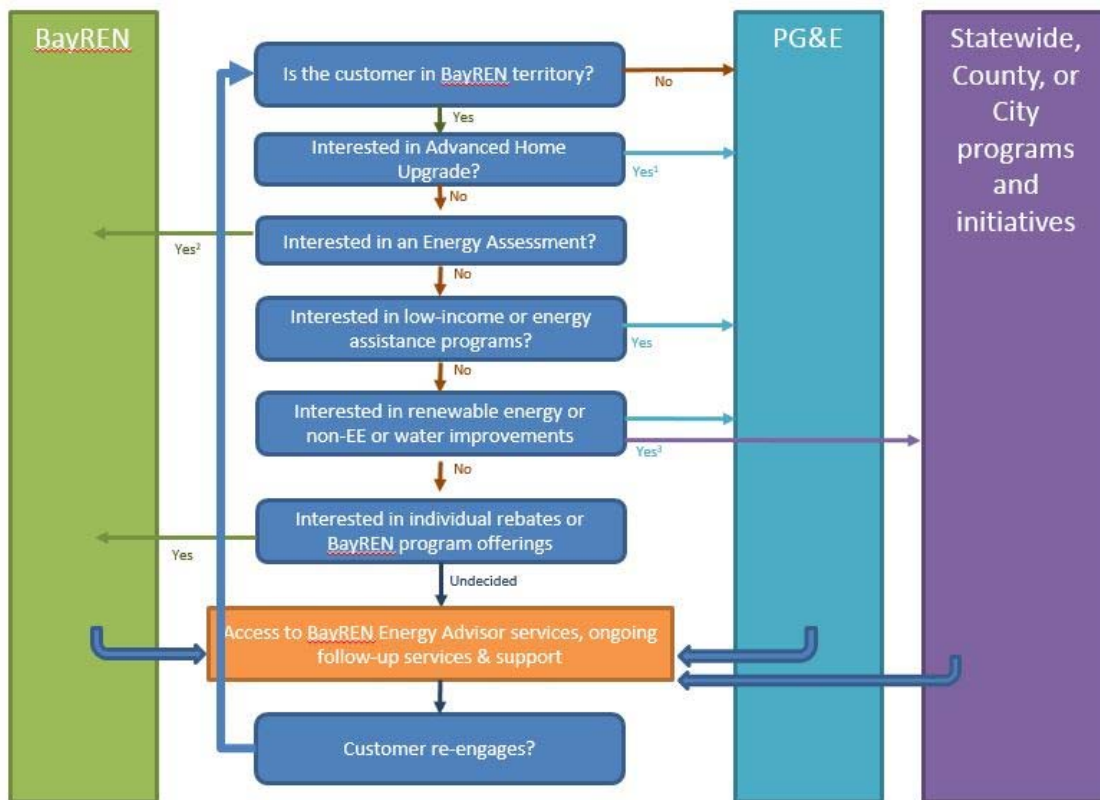
¹¹ M. Frank and S. Nowak, "Who's Participating and Who's Not? The Unintended Consequences of Untargeted Programs", American Council for an Energy-Efficient Economy, 2016.

targets market priced homes. There is a two-measure minimum and the savings are modeled and not deemed. EM&V studies have shown that program participants have higher incomes and the average project cost is \$17,471. Outreach to homeowners is done by third party implementers, with limited outreach to contractors. PG&E intends to shift this program in future years to a Pay for Performance model.

d. Coordination Protocol between Programs

The BayREN Energy Advisor will continue to direct callers that are interested in a whole home energy retrofit or otherwise may fit the criteria for PG&E’s Advanced Home Upgrade pathway. 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



Notes: (1) BayREN Energy Advisors will continue to support Advanced Home Upgrade Assessment customers with project support activities and remain a resource for customer questions, leveraging PG&E resources and staff as applicable (2) BayREN Energy Advisors will direct customers to Home Energy Score 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 has monthly check in calls with the PG&E single-family residential team. Standing agenda items include program updates, uptake, challenges, contractor issues, and marketing campaign plans. BayREN also attends monthly calls with Energy Division residential staff, PG&E, and all PAs to discuss issues of concern and to learn from each other.

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

e. Coordination between SW program(s)

BayREN’s residential program offering is not a statewide program. However, the new single-family residential program will be designed with maximum involvement of contractors, including offering trainings on workforce and installation standards (in conjunction with and coordination with the statewide Workforce Education and Training activities when available) and professional development.

f. 12-11-015 Compliance

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

Table 2: BayREN Single Family 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 middle-income market. They do not qualify for ESA or other programs available to income qualified low earning households ¹² , and the Advanced Home Upgrade. PG&E does not offer a down-stream program that is not direct install, that targets low-moderate income customers. 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	
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 almost all Bay Area properties from being considered hard-to-reach.

C. Residential – Green Labeling (BayREN 1003)

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 offers HES only to customers participating in the Advanced Home Upgrade pathway. BayREN fills the gap created by providing HES

¹² https://www.pge.com/en_US/residential/save-energy-money/help-paying-your-bill/energy-reduction-and-weatherization/energy-savings-assistance-program/energy-savings-assistance-program.page

to customers who do not receive one from PG&E, in addition to 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	Energy Upgrade California—Advanced Home Upgrade
Eligible Measures	N/A	N/A
Estimated 2019 Budget¹³	\$967,000 (includes a \$500,000 fund shift from Single Family incentives to Green Labeling incentives)	\$10,707,759 ¹⁴
Target Audience in 2019	<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 	<ul style="list-style-type: none"> • <u>Home Energy Score</u>: Advanced Home Upgrade pathway contractors
Resource or Non Resource	Non-Resource	Non-Resource

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 Home Energy Score 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 Home Energy Score.
- Offers a Home Energy Score 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 9-county Bay Area.

c. Comparable and/or Equivalent PG&E Program

PG&E offers the HES only through its Advanced Home Upgrade contractors who have elected to complete the HES assessor training. PG&E plans to issue a maximum of 400

¹³ The budgets provided herein are estimates. Final 2019 budgets will be provided in the Annual Budget Advice Letter that will be filed on September 4, 2018.

¹⁴ This budget reflects PG&E’s best estimate of the Energy Upgrade California program, which includes Advanced Home Upgrade and the Home Energy Score activities described in this memo. PG&E estimates Home Energy Score activities represent approximately \$723,000 of the budget for the Energy Upgrade California program.

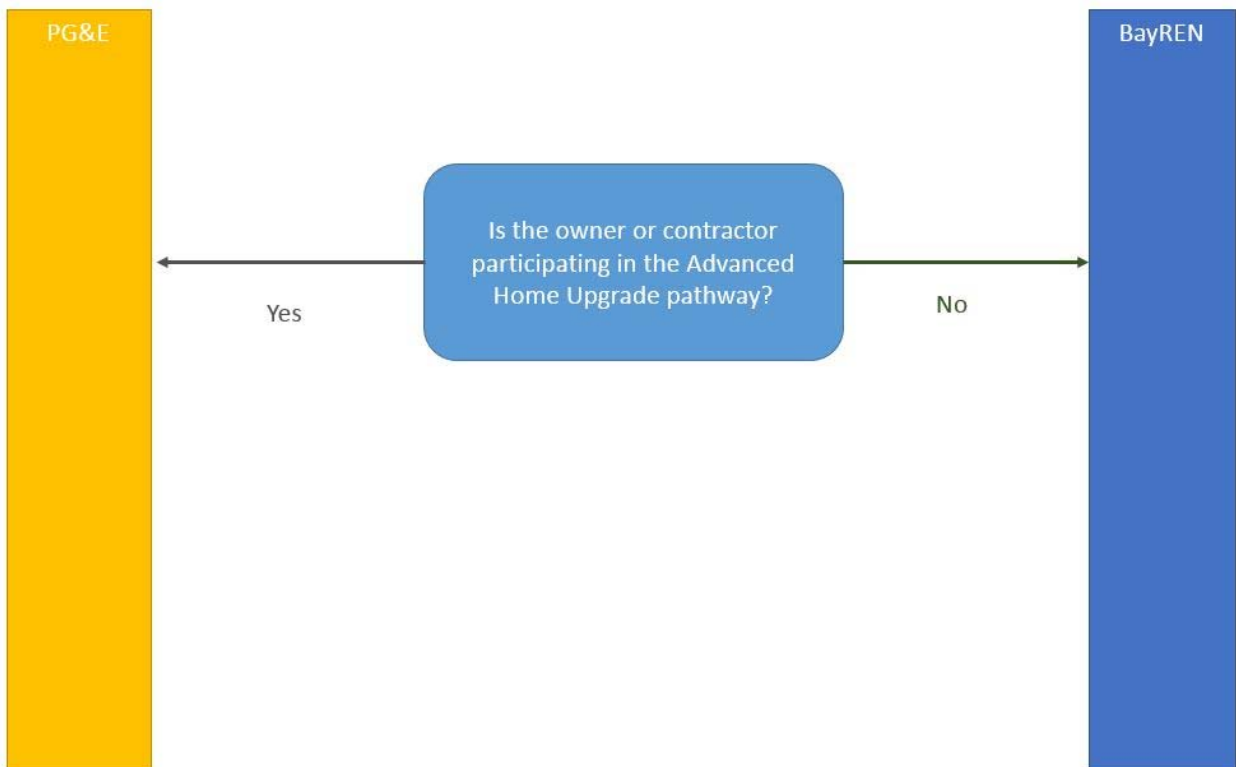
scores in its territory, and does not currently plan to offer residential real estate training in the Bay Area.

d. Coordination Protocol Between Programs

BayREN does not limit the type of customer or building professional that can participate in its HES program. PG&E restricts its program to Advanced Home Upgrade contractors and customers. As there is currently low homeowner awareness of energy efficient homes, there is benefit to both PG&E and BayREN promoting Home Energy Score through their respective channels (see Figure 2 below). BayREN and PG&E have coordinated on the training and recruitment of Advanced Home Upgrade contractors.

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 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 are aligned with these best practice recommendations and are complementary. PG&E will assist BayREN with promoting their offerings in the Bay Area.

Figure 2: Coordination Protocol for Home Energy Score



e. Coordination Between SW program (s) – N/A

f. 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
<p>1. Activities IOU cannot or does not intend to undertake</p>	<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 only offers Home Energy Score through its Advanced Home Upgrade Home pathway. Only Advanced Home Upgrade contractors are eligible to participate in their program, whereas BayREN enrolls home inspectors, and raters as well as contractors. • PG&E does not plan to offer real estate training in the nine-county Bay Area in 2019.
<p>2. Pilot activities where there is no IOU program offering and where there is potential for scalability</p>	<p>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.</p>
<p>3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap</p>	

D. Residential – Multifamily (BayREN 1002)

a. Summary of Program Differentiation

BayREN and PG&E both offer multifamily programs in the Bay Area; however, they target two different segments. BayREN focuses on smaller projects that achieve 5-20% energy savings on average. PG&E’s program focuses on properties that will achieve 20% 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
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
Estimated 2019 Budget¹⁵	\$7,190,000	\$7,500,000
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.
Resource/Non Resource	Resource	Resource

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 2019, to increase compatibility with PG&E, BayREN will create a pathway for rater-guided projects to participate in BAMBE, and will be working with PG&E to enable the use of EPL in PG&E's Multifamily Upgrade Program (MUP) for initial screening. This 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.

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 (five or more attached units) in the nine-county Bay Area that participates in either BAMBE or MUP. BayREN provides financial

¹⁵ The budgets provided herein are estimates. Final 2019 budgets will be provided in the Annual Budget Advice Letter that will be filed on September 4, 2018.

analysis and simple access to existing private-sector financing products for multifamily property owners participating in either BAMBE or MUP.

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

The 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. PG&E plans to modify program eligibility and the incentive structure in 2019 to align and complement BAMBE, with the goal of clarifying and streamlining program offerings in the Bay Area. MUP will adopt EPL (the simplified assessment tool used in BAMBE) instead of the current EnergyPro used to model projects. If a project shows 10-19% savings in EPL, it will enroll in BAMBE; if savings are 20% or higher, it will enroll in MUP, and 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.

The On-Bill Financing 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.

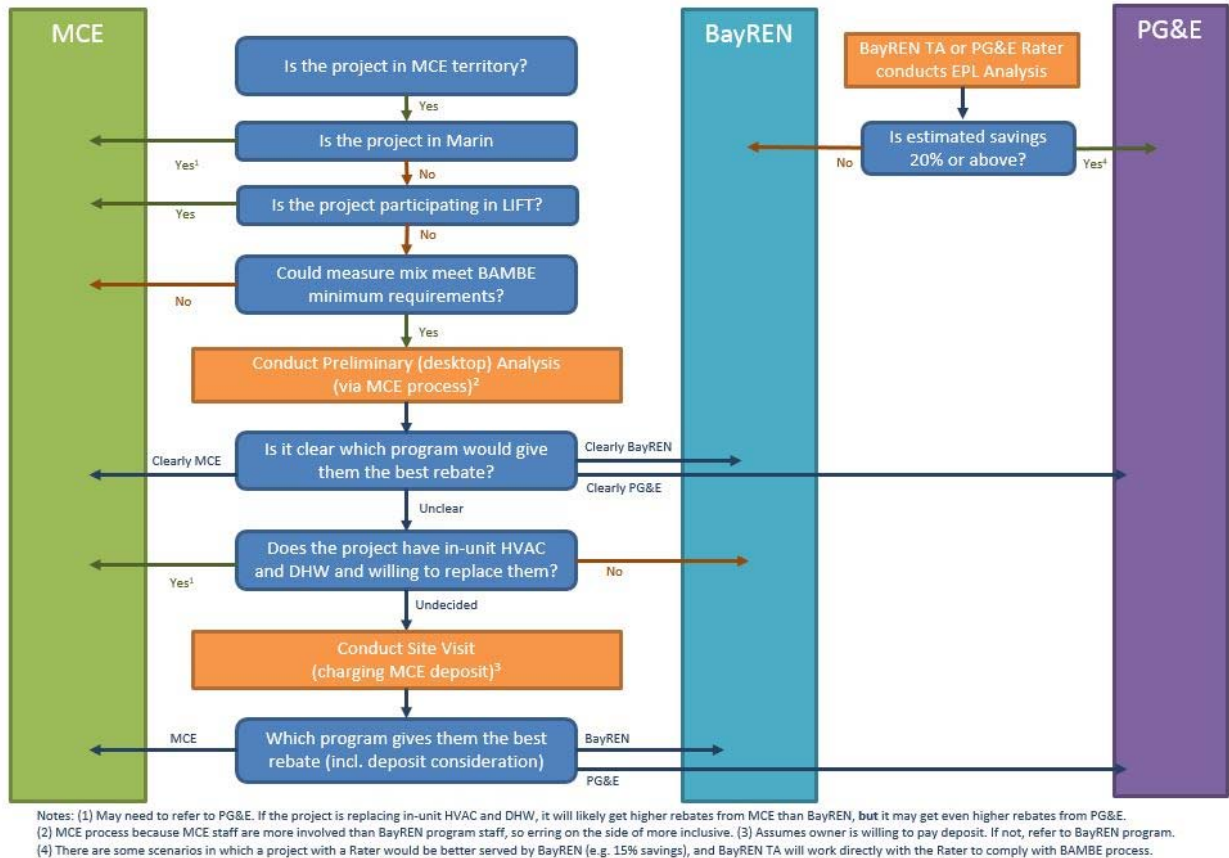
d. Coordination Protocol Between Programs

PG&E and BayREN 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 (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. Specifically, PG&E will adopt BayREN's simplified, lower cost assessment tool EnergyPro Lite as the program's modeling tool.
- 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's On-Bill Financing 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 programs, which includes how both PAs will coordinate with Marin Clean Energy’s (MCE) multi-family offerings.

Figure 3: Coordination Protocol for Multi-Family Programs



e. Coordination Between SW program (s)—N/A

f. 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.

Table6: BayREN Multifamily Program's Compliance with D.12-11-015

REN Criteria	BayREN Compliance
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<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 almost all 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 (BayREN2001)

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 (less than 50,000 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: 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. BayREN will also provide technical assistance regarding Commercial PACE financing programs, which is not provided by PG&E.

PG&E has several programs that serve small and medium (SMB) customers, including Regional Direct Install, the Hospitality, Healthcare, and Energy Smart Grocer programs, as well as 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 only finance offering is OBF.

Coordination with PG&E, as well as any Regional Direct Install 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).

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; • Chilled Water, Hot Water, and Steam Distribution Systems; • Chiller Plant Improvements; Electrical Peak Shaving/Load Shifting; • Electric Motors and Drives; Energy/Utility Distribution Systems; 	<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"> • Energy Related Process Improvements; • Lighting Improvements; • HVAC maintenance and replacement; • Appliance and Plug-Load Reductions; • Refrigeration & Food Service Equipment; • Water and Sewer Conservation Systems 	
Estimated 2019 Budget¹⁶	<p>\$2,772,000</p>	<ul style="list-style-type: none"> • Commercial Calculated: \$23,262,758 • Commercial Deemed: \$19,367,904 • Commercial HVAC: \$10,626,958 • East Bay Energy Watch: \$6,129,105 • Marin Energy Watch: \$1,271,550 • Napa Energy Watch: \$557,007 • San Mateo Energy Watch: \$2,279,756 • Sonoma Energy Watch: \$3,762,183 • Silicon Valley Energy Watch: \$1,756,500 • San Francisco Energy Watch: \$6,315,049 • Solano Energy Watch: \$1,480,725 • Energy Smart Grocer: \$6,672,373 • Healthcare: \$2,244,672 • Hospitality: \$12,626,882
Target Audience	<p>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</p>	<ul style="list-style-type: none"> • Regional DI for small and medium customers with annual peak demand under 200 kW (San Francisco Energy Watch has no size restrictions) • Hospitality/Hotels, 100 kw and chains • Medium grocers, 70kw, with multiplex refrigeration systems. • Healthcare facilities • Commercial HVAC • Deemed and calculated programs have no size or segment restrictions

¹⁶ The budgets provided herein are estimates. Final 2019 budgets will provided in the Annual Budget Advice Letter that will be filed on September 4, 2018.

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 existing 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. Qualifying commercial building owners will have access to Commercial Property Assessed Clean Energy (C-PACE) financing for larger capital-intensive retrofits and equipment replacement projects.

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 Direct Install

Regional Direct Install programs serve small and medium customers with annual peak demand below 200 kW (except for San Francisco Energy Watch that has no size restrictions). Through this offering, SMBs 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 partnerships.

ii. Hospitality Program

PG&E’s Hospitality program offers a comprehensive list of energy efficiency measures and services to hospitality customers with annual peak demand above 100 kW or 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 with annual peak demand above 70kW and those with multi-plex refrigeration systems. The subprogram provides

¹⁷ D.18-05-041, p. 28.

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 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 Retro-commissioning (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.

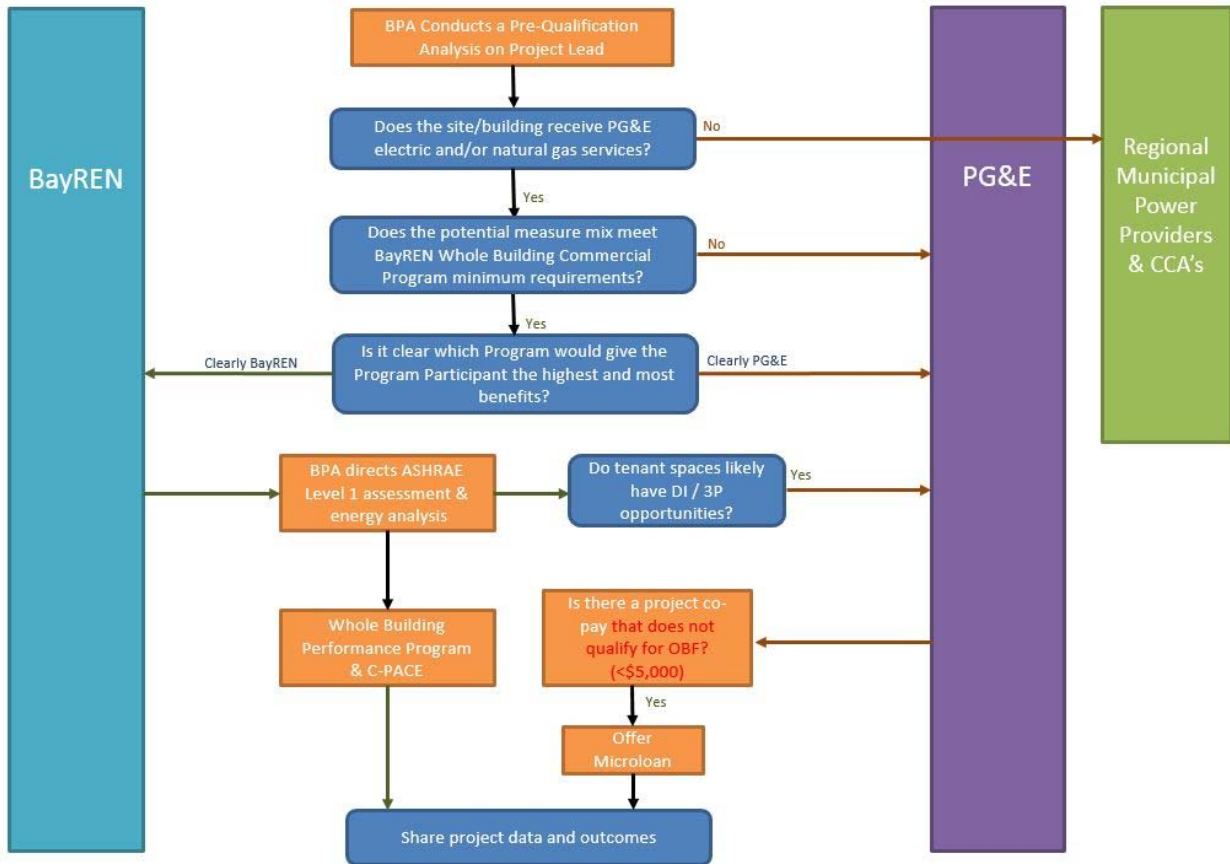
vii. Commercial HVAC Program

The commercial HVAC subprogram is comprised of 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 4: 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 will 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 process will be established.

BayREN will refer contractors to relevant classes and events at PG&E’s Pacific Energy Center. BayREN will maintain a list of PG&E Advanced Contractors on our website. BayREN accepts the completion of PG&E training courses for onboarding new contractors.

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. 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.

Table8: 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	
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	<p>There are no current PG&E offerings similar to the four activities of this program. BayREN provides more technical assistance, is targeted to SMBs, and no PA has an 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 (BayREN 3001)

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. PG&E as the statewide lead 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 region and to customize training, templates and approaches to codes and standards. PG&E and BayREN have and 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 San Francisco Bay Area local governments relative to codes and policies concerning energy efficiency, with three 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.

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

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 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 C&S 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 adoptions, 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. One, 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

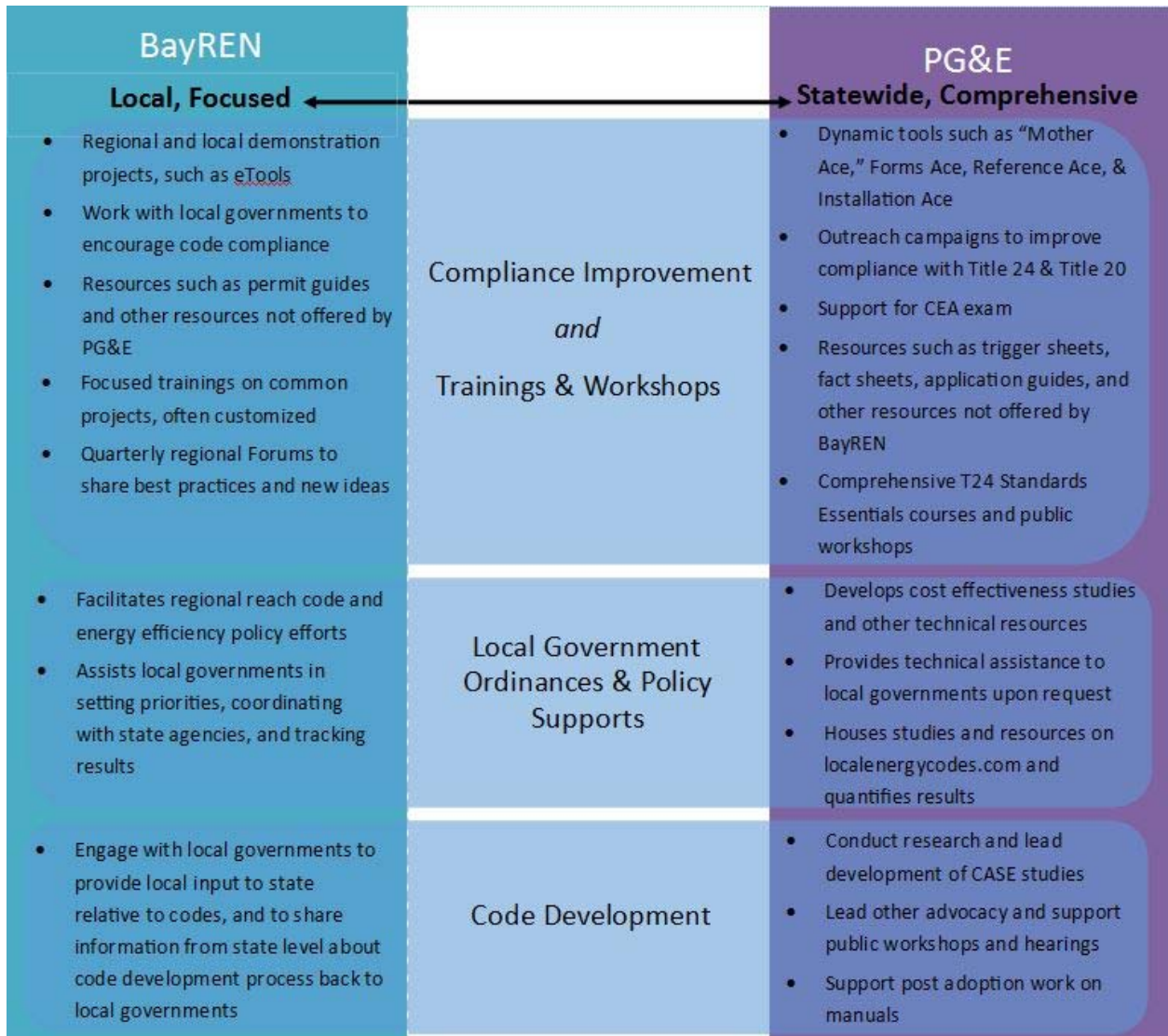
required CEC application and approval process. Additionally, the Reach Codes subprogram may provide technical support to facilitate ordinance implementation, including training for staff, or resources such as applicant handouts.

The Building Energy Codes Advocacy subprogram targets improvements to California's Building Energy Efficiency Standards (Title 24, Part 6) that are updated by the California Energy Commission (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 quarterly. To ensure there is no overlap of compliance improvement or reach code activities, additional coordination protocols have been developed (see Figure 5 below).

Figure 5: Coordination Protocol for Codes and Standards Programs



i. Compliance Improvement.

Each PA’s website is kept current with all 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 parties will provide, within a reasonable amount of time¹⁹, 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, as appropriate.

¹⁹ Reasonable time is defined as two weeks from the date of the communication.

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, and BayREN will continue to direct local governments to it as appropriate.

PG&E, in coordination with other IOUs, will continue to lead 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 regular 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.

f. 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 • BayRENs 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>	

G. Water Energy Nexus (BayREN4001)

a. Summary of Program Differentiation

Though PG&E offers water-saving measures through various programs, PG&E does not administer a similar program to BayREN’s Water Energy Nexus program.

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

	BayREN	PG&E
Program Name	Water Energy Nexus Program	N/A
Eligible Measures	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 underwrite or directly finance measure installation. Eligible measures will include, but may not be limited to: <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	\$944,000	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

The BayREN’s Water-Energy Nexus Program supports partner municipal water utilities (Partner Utilities) to encourage customer water efficiency while capturing additional energy savings (site and embedded energy in water) where possible. Program objectives for 2019 include:

- Provide Partner Utilities with model tariffs, on-bill program designs, and technical assistance to enable the installation of water and, depending upon the Partner Utility, energy improvements.²⁰

²⁰ 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.

- Expand these efforts to include a regional on-bill program model that centralizes administration under a Joint Powers Authority (JPA) that would allow:
 - Easier opt-in for utilities and their water customers.
 - Refinement and expansion of program services to better meet the needs of various customer classes, including affordable housing and small-to-medium commercial properties.
 - Greater access to capital aligned with different customer “asset classes” to pay for up-front project costs.
 - Better alignment with BayREN and PG&E energy efficiency programs (rebate, technical advising, and financing), and MCE when necessary, providing participating customers with more pathways to pursue water and energy property retrofits.

BayREN-supported on-bill programs allow Partner Utilities to offer participating customers the option to pay for program services and improvements through a monthly tariffed “efficiency charge,” which appears as a line item on their utility bill and is based on their metered use. These programs provide a tool to access underserved market sectors and increase participation in other programs, including those administered by both BayREN and other Program Administrators. In the short term, these efforts will be deployed for residential customers and in the midterm or long term, expanded to commercial and municipal customers as agreements are made possible with Partner Utilities. These programs will 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, greenhouse gas reductions, and water conservation targets. As a cross-cutting initiative, the BayREN’s Water-Energy Nexus work is coordinated with BayREN Residential and Commercial activities.

c. Comparable and/or Equivalent PG&E Program – N/A

d. Coordination Protocol Between Programs — N/A

e. Coordination Between SW Program (s) — N/A

f. 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	

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 (BayREN1001)	Energy Upgrade California (PGE21004)	XX	XX	
BayREN Green Labeling (BayREN1002)	Energy Upgrade California (PGE21004)	XX	XX	
BayREN BAMBE (Multifamily) ((BayREN1003)	Multifamily Upgrade Program (PGE21003)	XX	XX	
BayREN Commercial (BayREN2001)	<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 (BayREN 3001)	<ul style="list-style-type: none"> • Building Codes Advocacy (PGE21051) • Compliance Improvement (PGE21053) • Reach Codes (PGE21054) 	XX	XX	
BayREN Water Energy Nexus (BayREN 4001)	N/A	XX	XX	

APPENDIX B: BAYREN’S PORTFOLIO SUMMARY OF PROGRAMS OFFERED FOR 2019

REN Program Unique ID	Sector	Annual Budget	Eligible Measures
BayREN Single Family (BayREN1001)	Residential	\$8,880,000	Actual measures will be determined with the design of the program in coming months, however, they will likely be similar in the mix to the current Home Upgrade Program with the addition of more measures focused on the reduction of kWh. Single measures will be allowed. Savings will be deemed per measure. (This will be updated in the Implementation Plan)
BayREN Green Labeling (BayREN1002)	Residential	\$967,000	N/A
BayREN BAMBE (Multifamily) ((BayREN1003)	Residential	\$7,190,000	Envelope, HVAC, DHW, lighting, and appliance measures – requires multiple measures, targeting 15-20% savings
BayREN Commercial (BayREN2001)	Commercial	\$2,772,000	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 (BayREN 3001)	Cross Cutting	\$1,918,000	N/A
BayREN Water Energy Nexus (BayREN 4001)	Cross Cutting	\$944,000	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 underwrite or directly finance measure installation.

			<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. <p>Drought tolerant landscaping</p>
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APPENDIX C PG&E’S PORTFOLIO SUMMARY OF PROGRAMS OFFERED FOR 2019

IOU Program Unique ID	Sector	Annual Budget²¹	Eligible Measures
Multifamily Upgrade Program (PGE21003)	Residential	\$7,500,000	Envelope, HVAC, DHW, lighting, appliances, and cold-water measures – requires multiple measures, targeting >20% savings
Energy Upgrade California (PGE21004)	Residential	\$10,707,759	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
Commercial Calculated (PGE21011)	Commercial	\$23,262,758	Various including Lighting, Refrigeration, HVAC, etc. ²²
Commercial Deemed (PGE21012)	Commercial	\$19,367,904	Various Lighting, Refrigeration, HVAC, Food Service, Water Heating, etc. ²³
Commercial HVAC (PGE21015)	Commercial	\$10,626,958	HVAC
East Bay (PGE211009)	Commercial	\$6,129,105	Lighting, Refrigeration, HVAC controls
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

²¹ PG&E’s Annual Budget is based on the 2018 ABAL and serves as an estimate for 2019 budgets. The 2019 budgets will not be finalized until the ABAL is submitted in September 2018.

²² A detailed description of eligibility and project requirements can be found on PG&E’s website under “Custom Retrofit.”

²³ A detailed description of eligibility and project requirements can be found on PG&E’s website under “Product Rebates.”

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 2017 Energy Efficiency Annual Report*.²⁴ More information on all of PG&E’s programs can also be found on the California Energy Data and Reporting System (CEDARS) website.²⁵

²⁴ 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.2017.1.pdf.”

²⁵ To access this information, please go to <https://cedars.sound-data.com> and then select “Programs.”

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

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