



September 1, 2020

California Public Utilities Commission  
Energy Division Tariff Unit  
505 Van Ness Ave.  
Fourth Floor  
San Francisco, CA 94102-3298  
**Advice Letter 16-E**

(BayREN ID #941)

**Subject:**

BayREN 2021 Annual Energy Efficiency Program and Portfolio Budget Request

**Purpose**

The purpose of this advice filing is to seek approval for the 2021 Annual Energy Efficiency Program and Portfolio Budget request for the San Francisco Bay Area Regional Energy Network (“BayREN”).

The BayREN is a collaboration of the nine counties that make up the San Francisco Bay Area. Led by the Association of Bay Area Governments<sup>1</sup>, BayREN implements effective energy saving programs on a regional level and draws on the expertise, experience, and proven track record of Bay Area local governments to develop and administer successful climate, resource, and sustainability programs. Since its inception, BayREN has been addressing the three areas indicated by the California Public Utilities Commission (“Commission” or “CPUC”) Decision 12-11-015 in the formation and implementation of programs: filling gaps that the investor-owned utilities (“IOUs”) are not serving; developing programs for hard-to-reach markets; and piloting new approaches to programs that have the potential to scale and offer innovative avenues to energy savings.

The BayREN 2019 Process Evaluation<sup>2</sup> was completed in 2020. The recommendations in the report will continue to be incorporated into programmatic and operational changes in 2021, including expanding connections to local jurisdictions. BayREN will continue to make California’s policy objectives of reducing Greenhouse Gas Emissions and increasing energy savings practical at the local level by conducting activities within BayREN’s three value pillars (see discussion in the metrics session below).

**Background**

In D.14-10-046, the Commission approved the Rolling Portfolio funding, and provided that 2015 is “year zero” insofar as we are leaving 2015 programs and funding in place until the earlier of when we provide superseding direction, or 2025.”<sup>3</sup> In D.16-08-019: “[E]xisting approved activities [of the RENs] may

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<sup>1</sup> On July 1, 2017 ABAG underwent a staff consolidation with the Metropolitan Transportation Commission (MTC). ABAG and its Executive Board continue to exist and to implement programs, such as BayREN.

<sup>2</sup> BayREN 2019 Process Evaluation, prepared by Grounded Research and Consulting, March 1, 2020, viewable at <https://www.bayren.org/reports>.

<sup>3</sup> D.14-10-046 at page 31.

have ongoing funding that was previously approved.”<sup>4</sup> In D.18-05-041, BayREN’s Business Plan and Budgets for the term of the Rolling Portfolio was approved with slight modifications.

D.15-10-028 established that on the first business day in September, each PA will file a Tier 2 advice letter for continued collection of Energy Efficiency (EE) funding from ratepayers. This filing, which envisions ministerial review, is intended to formalize the Program Administrator’s annualized budget which shall remain in place until superseded by Commission or Commission Staff action on the new budget.<sup>5</sup>

As directed by D.18-05-041 and additional guidance provided by Commission staff, BayREN has submitted via CEDARS-FM the 2021 BayREN Budget Filing Detail Report; the confirmation receipt is attached hereto as Attachment A.

## **Discussion**

### **1. BayREN 2021 Budget Request**

BayREN requests a total portfolio and Evaluation, Measurement and Verification (“EM&V”) budget of \$24,171,613. This represents a slight increase in the 2021 approved budget; the reasons for the increase are described below. The change in budget is proposed to come from prior years’ unspent funds. The Commission has provided staff the authority to approve this request since BayREN’s overall budget request is well within the rolling portfolio cap, and is less than 20 percent of unspent funds from previous years.<sup>6</sup> The budget breakdown by sector and the energy savings is provided in Table 1. **Note to CAEECC stakeholders:** the unspent funds amount is very preliminary and will be updated prior to submission of this Advice Letter.

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<sup>4</sup> D.16-08-019 at page 10.

<sup>5</sup> D.15-10-028, at pages 59-60.

<sup>6</sup> In D.18-05-041, the Commission provided that the overall amount of funding through 2025, as reflected in the business plans, essentially serves as a cap on program administrators’ total spending for the business plan period. In adopting such a cap on overall spending, the Commission expressly allowed staff discretion to dispose of a PA’s portfolio budget request that exceeds the corresponding annual funding amount included in its business plan, plus unspent funds from previous years in the business plan period, through the ABAL review process. D.18-05-041, at page 132. Specific to RENs, the forecasted budget must not exceed the annual budget in the approved business plan for the program year for which the ABAL requests budget authority, plus any unspent funds from previous years in the business plan period, by more than 20 percent. D.18-05-041, at page 134.

**Table 1: BayREN 2021 Budget and Savings (Net)<sup>7</sup>**

<b>Sector</b>	<b>Program Year 2021 Budget</b>	<b>Forecast GWh</b>	<b>Forecast kW</b>	<b>Forecast MM therms</b>
Residential	\$16,722,252	7.77	224	0.13
Commercial	\$3,692,226	5.11	672	0.02
Industrial				
Agriculture				
Emerging Tech				
Public				
Codes and Standards	\$1,973,650	n/a	n/a	n/a
WE&T				
Water Energy Nexus	\$1,473,420	n/a	n/a	n/a
Finance				
OBF Loan Pool				
<b>Subtotal</b>	<b>\$23,911,548</b>	<b>12.88</b>	<b>896</b>	<b>0.15</b>
<b>BayREN EM&amp;V</b>	<b>\$260,065</b>			
<b>Total BayREN 2021 Spending Budget</b>	<b>\$24,171,613</b>			
<b>Uncommitted and Unspent Carryover Balance</b>	<b>\$8,297,267</b>			
<b>Total BayREN 2021 Budget Recovery Request</b>	<b>\$15,874,346</b>			
<b>Authorized 2021 Budget Cap (D.18-05-041)</b>	<b>\$23,215,583</b>			
<b>Forecast 2021 TRC</b>		<b>0.33</b>		
<b>Forecast 2021 PAC</b>		<b>0.41</b>		
<b>Forecast 2021 RIM</b>		<b>0.41</b>		

## 2. Discussion of Proposed Program and Portfolio Changes and COVID-19 Impacts

The COVID-19 pandemic brought immediate and significant impact to Bay Area residents and businesses. While our in person activities were abruptly halted, BayREN activities quickly pivoted to online efforts including contractor, real estate and business department trainings and virtual energy efficiency virtual audits. BayREN developed a three phased approach to our COVID-19 response. In March 2020, we were in the “Triage” phase wherein we developed health and safety protocols, virtual workforce education and training and the developed virtual assessment capacity. As restrictions were partially lifted, we shifted into the “Post-Shelter-in-Place – Evolve and Adapt” phase wherein we tweaked our programs to offer financial stimulus to our contractors and small businesses, revised the incentive structure for our multifamily program, and continued to offer online and targeted trainings. In 2021 and beyond we anticipate moving to the “Rebuild” phase with a focus on capacity building and economic support for the workforce and Bay Area communities, revisiting our programs’ structures, continued and increased online and in person training and expanded Decarbonization initiatives. This phase aligns with the refiling of the business plan.

<sup>7</sup> Values provided in Table 1 (and all subsequent Tables) are without the 5% market effects.

Currently, BayREN anticipates meeting budget and project goals despite the COVID-19 impacts. Marketing and outreach activities quickly pivoted to online, the incentive kickers and redesigned incentive structures have been well received by the market and we are currently seeing an uptick in our programs as restrictions have been lifted.

BayREN programs will remain largely the same in 2021, but will build on the “BayREN is electrifying the Bay Area” campaign that was launched in 2020 following the *Decision Modifying the Energy Efficiency Three-Prong Test Related to Fuel Substitution*.<sup>8</sup> Electrification efforts were implemented throughout the portfolio including new electrification measures with a mix of incentives, marketing and education services, cross-promotion of companion programs and financing. These efforts have allowed for significant collaboration with the Community Choice Aggregators (CCAs) in our territory and have also positioned BayREN for new funding sources resulting in more comprehensive program offerings. In 2020, BayREN developed new trainings for building officials on heat pump water heaters and will continue to expand these trainings in 2021. While BayREN’s electrification activities have been well received, they have resulted in a decreased TRC, for reasons discussed below.

As the impacts of COVID-19 become more apparent, BayREN will continue to be flexible and tweak programs as needed to best serve our residents, businesses, local governments, and other stakeholders.

#### Multifamily (BAMBE)

Starting in 2020 BayREN launched a decarbonization pathway, which serves multifamily projects with scopes of work that include electrification measures and provides additional incentives. BayREN also started prioritizing populations for which it has been difficult to obtain savings. In response to the COVID-19 pandemic, the program began offering to phase incentive payments to accommodate projects with cash flow concerns.

BayREN is requesting a \$600,000 increase in incentives from the 2021 Business Plan budget. The program initially intended to begin scaling down its incentive amount in 2020, anticipating advancements in energy efficiency market drivers, policies, and program options. Since these advancements have not materialized, and since the sector is expecting to see dwindling cash reserves because of the impacts of COVID-19, the program has decided against decreasing its incentive levels in 2021. Unspent funds from the Codes and Standards program will allow for this increase in budget.

Given the slight delay in projects due to Shelter-in-Place and other COVID-19 impacts, it is anticipated that some incentives will be committed in 2020 but will not be paid until the beginning of 2021 due to the delays. There are currently 8 large projects, totaling 1,942 units initially slated to complete in 2020 that are now expected to complete in 2021. This amounts to \$1,456,500 in committed incentives.

#### Single Family (Home+)

The Home+ program focuses on lower-to-middle income<sup>9</sup> homeowners and renters in the Bay Area, a population that is consistently underserved in ratepayer energy efficiency programs throughout the state. The program was designed to expand the reach of participants by allowing renters (representing one third of the target market) to participate.

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<sup>8</sup> D.19-08-009.

<sup>9</sup> Households with annual income range of \$48,000 – 125,000

In 2020, the Home+ program was revised to include decarbonization measures made possible with the Commission's decision allowing for fuel substitution.<sup>10</sup> Four new rebate mixes are now offered and are intended to provide a pathway for existing homes to become all-electric in accordance with state goals. Home+ is now offering direct to consumer rebates (for induction cooktop/ranges and heat pump clothes dryers). In 2021, BayREN will seek to establish better partnerships with retail outlets in coordination with other statewide activities.

Several Bay Area CCAs have started to offer rebates for converting from gas water heaters to heat pump water heaters. The Home+ program has increased coordination with the various CCAs to encourage a seamless experience for the homeowner through streamlined rebate processing and coordinated outreach to plumbing contractors and homeowners. This coordination will continue in 2021 as will efforts to collaborate with the CCAs and determine ways to leverage each other's programs.

Focus has turned to increased efforts to enroll more contractors in order to engender long-term, sustainable growth of the program. This has been accomplished through the virtualization of required onboarding webinars, increased engagement with building trade associations and the establishment of contractor introductory webinars promoted through county mailings. All contractors have also been required to attend a COVID-19 safety webinar so that future marketing can emphasize the contractor as a reliable, vetted option. While these efforts were necessitated by the COVID-19 pandemic and the immediate impact on Home+ participating contractors, due to the success of these activities as measured by contractor feedback as well as an increased number of new contractors into the program, these activities will be continued in 2021.

BayREN will continue to offer the direct install of basic energy efficiency measures component of the program which is targeted specifically at households that have historically low program participation. These measures are installed with youth trained through our partner Rising Sun Center for Opportunity, via the "Green House Calls" offering. Due to COVID-19, Green House calls in 2020 were done contact-free. It is too early to say when in 2021 in person visits will commence.

### Commercial

Continuing in 2021, the BayREN Small-and-Medium (SMB) Commercial Pay-for-Performance Program ("the Program") will help SMB owners and entrepreneurs in the Bay Area recover from the COVID-19 pandemic which has caused long-term impacts that vary from business to business. Some businesses may rebound quickly, some may experience prolonged changes or permanently close months down the road, and others may be forced to close in the near term. As such, the Program intends to sustain three adjustments made in 2020 designed to address the impacts from the pandemic.

Within the BayREN portfolio, this program had the biggest impact from COVID-19 since it was just launching at the time of Shelter-in-Place, and this market has been among the hardest hit economically. Consistent with the BayREN three stage approach to COVID-19, changes were made to the Program in 2020 to better accommodate the new environment and the significant hardship on this market. One change was to implement a scaled increase in the incentive structure. A scaled approach to increasing incentives is advantageous to the program implementer and Participants because the Program will pay a premium for the initial group of projects. This significantly improves the program implementer's cash-flow and reduces risk from poor performance in the future. For the Program Participants, the energy efficiency outcomes will improve their cash-flow by reducing their utility and operating costs. This scaled approach is also advantageous to the Program because it "right-sizes" the incentive level according

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<sup>10</sup> D.19-08-009.

to the precariousness of the sector. Lastly, it supports fast deployment of energy efficiency projects to meet 2020 energy savings goals.

The Program will rely on data gathered from the program implementer, county governments, Bay Area economic development offices and other sources to determine if the temporary incentive increases in 2020 should continue into 2021. If the data and resulting trends indicate that increased incentives are needed to increase project adoption, and supplement the SMB recovery efforts, the Program will develop a new incentive schedule in 2021.

Health and safety were priorities in 2020 and will continue to be in 2021. In alignment with the Bay Area's revised Shelter-in-Place order, the Program has accommodated the return of all construction activities on participant sites. In order to ensure safety and health, the Program will continue to provide a summary of health protocols to program participants. This summary builds upon, and is in addition to, county and state guidelines and requirements related to construction activities during the order.

In 2021, the Program will sustain the M&V Plan developed and adopted in 2020. As a result of the effects of the pandemic, the Program revised its M&V Plan to reflect new realities. Due to prolonged shut down and decreases in service capacities of many businesses, the Program could no longer reliably use the past twelve billing months as a baseline period to measure performance of the energy efficiency retrofits in the "performance monitoring period". Therefore, instead of comparing the participant's energy efficiency performance with its past, the Program will compare the participant's performance with similar businesses that are non-Program Participants. That is, the Program switched from a participant-only M&V plan to that of "comparison groups". Under advisement and consultation from the Program's M&V Provider and based on the CPUC's NMEC Rulebook, the Program deployed this new M&V strategy. The pandemic created new and unforeseen challenges, but the new M&V strategy ensures ratepayer funds are not paid for non-existent energy savings.

#### Water Upgrade \$ave Program

Water Upgrades \$ave (formerly known as the Water Bill Savings Program) is a collaboration of BayREN and the Association of Bay Area Governments (ABAG) to help Bay Area residents and businesses upgrade their properties to be more water efficient using an on-bill financing offer through their local water utility. It aligns with the CPUC's Water-Energy Nexus initiative. This financing program is based on the Pay-As-You Save® (PAYS®) model: Water utility customers install eligible efficiency improvements with no up-front cost — and repay project costs with a monthly on-bill charge that is significantly lower than the estimated savings — so they begin saving right away.

In 2020, the Program anticipates completing the regional expansion of the program including: Finalizing Master Agreement packet "approval to form," aligning the Program with SB 564 — Water Bill Savings Act (2017), onboarding the Program Operator, onboarding one to two Program Contractors, setting up the ABAG financing service processes, establishing Program brand and marketing plan, designing Customer Relationship Management (CRM) strategy, and starting outreach to water utilities. In May 2020, the Sebastopol City Council voted to enroll in Water Upgrades \$ave as its first Partner Utility.

2021 Program goals include: Operationalize custom CRM platform, initiate targeted customer marketing activities throughout the region, begin serving water utility customers in Q1, implement a utility enrollment campaign, enroll one to two additional water utilities (five total by the end of the second year of field services), establish a scalable financing service plan, institute the small/medium business services offer, and monitor activities and refine as needed. The Program will leverage ABAG funding to finance customer-side project installation costs.

## Codes & Standards

BayREN's Codes & Standards program will be continuing and improving its efforts to build knowledge and understanding of energy code compliance and energy policy at the local government level, and to offer resources supporting local government staff.

In 2021 we will be integrating online trainings into our trainings program. In 2020, we began offering our trainings online as a result of the coronavirus pandemic. Once it is safe to hold in-person classes meetings again, we plan to develop and offer a mix of in-person and online training events, drawing on the strengths of both formats, as well as ensuring that personal comfort levels may be accommodated. We will also be coordinating with 3C-REN's Codes and Standard Program in terms of online trainings and continuing to develop ways to leverage each other's efforts (and ratepayer dollars) to benefit both of our regions.

BayREN will be continuing to offer resources to support local governments with enforcement of the California Energy Code, including permit guides based on the 2019 Energy Code. In 2021, we also anticipate offering expanded services via our CodeCycle pilot project, which will be expanding both its software to cover additional topics and also its geographic coverage.

Our policy work will also continue in 2021, with continued support of local governments in adopting and implementing reach codes and other energy policies. This will include providing information and resources on policies that could help local governments with climate action planning and decarbonization efforts. We also anticipate following statewide 2022 Energy Code proposals, providing comments when appropriate, and also helping local government staff to provide input. We will continue to provide a mechanism for local governments to provide feedback to the California Energy Commission on the Code changes.

## Green Labeling

The number of Home Energy Score rebates has significantly increased since the program launch in 2018. A small increase in the implementation budget is requested in order to comply with the U.S. Department of Energy's QA/QC requirements. This budget is also requested to allow the Green Labeling program to continue to respond to the needs and goals of the Bay Area, including the incorporation of electrification data and training, homeowner feedback, and database improvements. To ensure equitable distribution throughout the region as well as to keep up with demand, the program will offer more "green realtor" trainings in 2021.

### **3. Strategies for Increased Cost-effectiveness**

Given BayREN's directive to focus on filling gaps, piloting different or unique approaches that have the potential to scale and/or targeting hard-to-reach customers, we are not held to a particular cost-effectiveness threshold. This was reaffirmed in D.19-12-021: "Because RENs are designed to fill gaps and serve hard-to-reach customers, and because their portfolios are smaller, their program offerings are likely to be naturally less cost-effective than the larger portfolios of the utilities."<sup>11</sup>

BayREN has three resource programs and for all, strives to increase cost-effectiveness. However, our piloting of unique activities (consistent with the Commission criteria for the RENs) that cannot be

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<sup>11</sup> D.19-12-021, Finding of Fact 10, page 82.

undertaken by other program administrators given cost-effective limitations, can hamper these efforts. Strategies for increasing the cost effectiveness of these resource programs in 2021 are:

### Single Family

As a result of moving the Home+ Program's focus towards fuel-substitution measures and the re-forecasted measure mix for 2021, BayREN is realizing a lower than anticipated TRC. This is due to several factors:

- Over time, the aging of the existing measure mix has seen significant reductions in TRC cost benefit calculations. For example, as requirements for duct sealing has become more stringent with Title 24 requiring lower leakage rates year-to-year, Programs are forced to increase minimum requirements. This increases the cost of the measure while lowering the savings at the same time, resulting in the lower TRC.
- Fuel substitution measures, while allowed by the new "two-prong test", are still using TRC calculation methods that do not take into consideration all of the benefits from switching to cleaner and renewable energy sources.
- The Home+ Program maintains a focus towards hard-to-reach and middle-income communities. These communities would face greater difficulty in making energy efficiency improvements to homes were the program to implement increased expectations for efficiency measures in an attempt to improve TRC. For example, feedback from our Trade Allies has shown that increasing the gas furnace measure efficiency requirement for the Program from  $\geq 95\%$  AFUE to  $\geq 98\%$  would increase the cost to the customer by potentially thousands of dollars on an already costly improvement to the home. This extensive increase in cost, with only a marginal increase in efficiency and TRC, would have the negative side effect of excluding many of the customers who BayREN seeks to reach.

The program offers deemed measures that have a range of cost-effectiveness. The lowest cost measures are offered through the mail-in kits and the direct install Green House Call activity, maximizing the number of homes receiving these energy saving measures. In 2021, efforts will be focused on promoting these offerings while also marketing home upgrade measures with deeper energy savings which include water heaters and smart thermostats.

### Multifamily

Starting in 2020 BayREN launched a decarbonization pathway, which serves multifamily projects with scopes of work that include electrification measures and provides additional incentives. BayREN will continue to expand this offering into 2021 and beyond. BayREN also started prioritizing populations for which it has been difficult to obtain savings. In response to the COVID-19 pandemic, the program began offering to phase incentive payments to accommodate projects with cash flow concerns. Our long-term strategy will be to communicate marketability and non-energy benefits to participants in order to build market awareness around energy efficiency and electrification as we prepare to transition away from rebates. Additionally, ongoing coordination with other Bay Area Multifamily Program Administrators is designed to support the efficient use of ratepayer funds.

### Commercial

In 2021, the Program will continue to keep its eye on cost-effectiveness. The pay-for-performance nature of the incentive structure and the rigorous measurement and verification processes that ensue equipment



installation already ensure that ratepayer funds are not paying for non-existent savings. The pandemic has made many SMBs concentrate on core competencies, rather than upgrades. As a result, should data and trends continue to indicate a dramatic economic down-turn in the SMB sector, sustaining high levels of incentives – paying a premium for energy efficiency – may be required. At the same time, with an eye on cost-effectiveness, the Program will continue to implement a stepped, metered approach to increasing incentives in 2021.

#### 4. Budget Changes

BayREN seeks a modest increase in the 2021 Business Plan budget as follows:

- Multifamily: BayREN is requesting a \$600,000 increase in incentives than in the 2021 Business Plan budget. The program initially intended to begin scaling down its incentive amount in 2020, anticipating advancements in energy efficiency market drivers, policies, and program options. Since these advancements have not materialized, and since the sector is expecting to see dwindling cash reserves because of the impacts of COVID-19, the program has decided against decreasing its incentive levels in 2021.
- Water Upgrades Save: 2021 budget adjustments include additional funds to: Complete CRM customization and necessary tie-ins to partner systems (i.e., ABAG, BayREN, utilities), expand utility enrollment activities, plan and implement contractor recruitment by sub region (dividing Bay Area into four quadrants) in which there are active or enrolling utilities, engage communications consultant to create effective utility messaging and Program team enrollment performance, monitor/support ABAG financing service processes, and create long-term plan for scalable ABAG financing service funding (e.g., bond funding as cited in SB 564). The scope of tasks was greater than had been envisioned when submitting the Business Plan budget.
- Increased Local Government Support. These activities will fill the gaps left by the elimination of half of the PG&E Local Government Partnerships in our territory, as well as the sun setting by the Investor Owned Utilities of the Statewide Energy Efficiency Collaborative. These efforts align with both Commission directives<sup>12</sup> and the recommendations from the Process Evaluation regarding providing support to local jurisdictions.
- Business Plan Development. The recent *Assigned Commissioner and Administrative Law Judges' Amended Scoping Ruling Addressing Impacts of COVID-19* directed all Program Administrators to file new Business Plans to incorporate new Commission policy and the impacts of COVID-19 on portfolios. Through this process, BayREN will need additional support that had not been envisioned at the time of the filing the Business Plan Budget. BayREN may also propose new program areas to better serve typically underrepresented markets and to fill gaps in the market.

#### 5. Metrics

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<sup>12</sup>“We also agree with the numerous parties who pointed out in their comments that the importance of the RENs may increase as budgets and roles for LGPs are shrinking within the utility portfolios for multiple reasons.” D.19-12-021, page 18. “The Commission should make special provision for the role of local governments and the energy efficiency landscape either through RENs or LGPs, as appropriate and desired by individual local government entities.” D.19-12-021, Conclusion of Law 4, page 84.

As directed in D.18-05-041 Ordering Paragraph 9, the metrics, targets and indicators for BayREN's portfolio and for the specific programs, were filed on May 15, 2020 along with BayREN's 2019 Annual Energy Efficiency Report.

D.18-05-041 allows program administrators to propose in annual advice letter filings new or modified metrics or indicators.<sup>13</sup> Specific to certain existing metrics and indicators for Codes and Standards, BayREN – together with the Tri-County Regional Energy Network<sup>14</sup> - requests modifications and additions as provided in redline/track changes in Attachment A. (Attached as Attachment A-1 for clarity is the proposed changes together with the reasoning for the changes and additions.)

**Note to CAEECC:** BayREN is working with the Energy Division about effecting these changes to existing metrics.

BayREN also proposes new “value metrics” as directed by the Commission and CPUC staff, that the RENs “state their desired outcome from activities that fill gaps of other program administrators [...] and propose savings goals and metrics associated with their unique value, as well as a methodology for measuring progress toward their metrics.”<sup>15</sup> These proposed value metrics have been presented to CPUC staff, the Evaluation, Measurement & Verification (EMV) PCG, CPUC EMV consultants, and were posted to the public PDA for comment. The proposed metrics are attached as Attachment B.<sup>16</sup>

The proposed value metrics must be understood in the context of the BayREN value constructs or value pillars described in the 2019 BayREN Process Evaluation. Specifically, BayREN makes the State's policy objectives (i.e., reducing GHG emissions and increasing energy savings) practical at a local level by conducting activities within three overarching categories (also referred to as BayREN's value pillars):

1. BayREN builds human and organizational infrastructure<sup>17</sup> within local jurisdictions so that Bay Area communities are better able to save energy and reduce greenhouse gas emissions. BayREN is suited to serve in this capacity because of the member's connections to local jurisdictions and their understanding of what is needed by local governments and their communities.
2. BayREN obtains energy savings locally while also supporting local difficult to serve (LDTS)18 populations. Local governments have a deep understanding of the needs of their communities. Based

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<sup>13</sup> D.18-05-041, Ordering Paragraph 9, page 184.

<sup>14</sup> The Tri-County REN (3C-REN), representing the counties of San Luis Obispo, Santa Barbara and Ventura, also has a Codes and Standards program. Whenever possible, BayREN and 3C-REN collaborate including the sharing of training materials.

<sup>15</sup> D.19-12-021, pages 30-31.

<sup>16</sup> All of BayREN's IPs are being updated with new Logic Models which represent the key outcomes for the programs. The program outcomes form the building blocks of the value pillars (described above). The measurement of these outcomes are the value metrics identified in Attachment B. For the overview and further discussion on the value metrics, please see the document entitled “Overview of BayREN Value Metrics” viewable at <https://www.bayren.org/reports>.

<sup>17</sup> The CPUC uses the term capacity building, which is similar to “building human and organizational infrastructure.” BayREN uses this alternative term since we have been unable to identify a specific CPUC definition for capacity building, and therefore are unable to identify whether or not these activities align. Note that the utilities have conducted some capacity building activities in prior years under their local government partnerships, but these activities are currently limited (and are constrained by IOU directives).

<sup>18</sup> The term “underserved” is similar in nature to the phrase “local difficult to serve populations” used in this document. The term “underserved,” may ultimately be defined by the CPUC and the ultimate definition may or may not align with the populations that are difficult to serve in BayREN's region. As such, BayREN uses an alternative term, local difficult to serve, to specifically define Bay Area populations that have been defined as underserved by the Bay Area local government members.

on the member's (i.e., local government's) assessment of the needs in their communities, they have identified populations that need additional support and they are designing program activities to better target these populations.

3. BayREN tests innovative solutions that have the potential to help local jurisdictions increase energy savings and reduce greenhouse gas emissions. The innovative solutions tested by BayREN have bubbled up from discussions with local governments and thus represent local needs. These innovative solutions are wholly designed and implemented by the BayREN members, which are themselves local governments, to fill gaps that the members (local governments) feel exist.

The value metrics provided in Attachment B are measurements (within the three value pillars) that demonstrate BayREN's impacts helping to reduce GHG emissions and increase energy savings. These are focused measurements, intended to directly speak to the value that BayREN provides to the State. Indicators (that is, values without specific targets) are provided for the first reporting year (2021). Whether or not we will select targets for these indicators for future years will be revisited after the first year of collecting data and a baseline is established.

## **6. Program Implementation Plans/Implementation Plans**

BayREN has uploaded to CEDARS revised redlined and clean versions of the Implementation Plans (IPs) for all programs. There are new logic models for each program; the other changes are relatively minor and include the 2021 program budgets.

### **Protest**

Anyone may protest this Advice Letter. The Protest must state the grounds upon which it is based. The Protest must be made in writing and received by the Commission within 20 days of the date this Advice Letter was filed with the Commission, or September 23, 2020. There is no restriction on who may file a protest. The address for mailing or delivering a protest to the Commission is:

Public Utilities Commission  
CPUC Energy Division  
Attention: Tariff Unit  
505 Van Ness Avenue  
San Francisco, CA 94102

Copies of the protest should also be sent via e-mail to the attention of the Energy Division at [EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov). It is also requested that a copy of the protest be sent by email to address shown below on the same date it is mailed or delivered to the Commission.

Jennifer K. Berg  
Assistant Director - Energy Programs  
Association of Bay Area Governments  
375 Beale Street  
7<sup>th</sup> Floor  
San Francisco, CA 94105  
[JBerg@bayareametro.gov](mailto:JBerg@bayareametro.gov)

## REN Codes and Standards Metrics – Draft Changes

Metric/ Indicator	REN C+S Reporting Item	Type and Reason for Change
Metric	<del>The percentage increase in closed permits for building projects triggering energy code compliance within participating jurisdictions</del>	<b>Remove</b> because data collection is difficult and burdensome and even when collected would not effectively show progress toward our goals since energy code compliance is not information that is collected in a permit application
Indicator	<del>Number and percent of jurisdictions</del> <b>organizations</b> with staff participating in an Energy Policy Forum	<b>Update</b> broadens beyond jurisdictions, reflecting total number of organizations participating in forums across all sectors and includes different stakeholders
Indicator	<del>Number and</del> Percent of jurisdictions with staff participating in an Energy Policy Forum	<b>Minor update;</b> maintains focus on jurisdictions by reporting % of jurisdictions participating in forums
Indicator	<b>Total number of attendees participating in an Energy Policy Forum</b>	<b>New</b> reporting item; indicates overall participation in forums which produces opportunities to build relationships and collaborate among energy actors
Indicator	<del>Number of organizations directly engaged in Codes &amp; Standards activities and percent of jurisdictions receiving Energy Policy technical assistance.</del>	<b>Update</b> broadens beyond policy technical assistance to reflect <u>full reach</u> of <u>all</u> REN Codes & Standards activities, ie to include the private sector and other stakeholders and beyond jurisdictions
Indicator	<del>Number and</del> Percent of jurisdictions <b>directly engaged in Codes &amp; Standards activities receiving Energy Policy technical assistance.</b>	<b>Update</b> maintains focus on jurisdictions but broadens beyond policy technical assistance
Indicator	<del>Buildings receiving enhanced code compliance support and delivering compliance data to program evaluators</del>	<b>Minor update</b> the RENs are obligated to provide data to evaluators when requested; therefore, this seems unnecessary

### Summary of Revised REN C+S Metrics

- Number of local government reach codes implemented (joint IOU and REN metric) – *no changes so not listed above*
- Number of organizations and percent of jurisdictions with staff participating in a Forum, and total attendees
- Number of organizations and percent of jurisdictions directly engaged in REN C+S activities
- Number of buildings receiving enhanced code compliance support

## Attachment B to the 2021 BayREN ABAL Proposed Value Metrics

Below are the proposed value metrics and indicators, broken down by Value Pillar, as well as some discussion that provides context and explanation.

### Value Metrics and/or Indicators by Value Pillar

This section presents BayREN’s proposed value metrics and indicators that support the overall goal of saving energy and reducing GHG emissions. Note that we are proposing indicators (that is, values without specific targets) for the first reporting year (2021). Whether or not BayREN would select targets for future years will be revisited after the first year of collecting data, that is, once a baseline is established.

All of the tables below attempt to provide both quantitative counts (in the second to last column) along with the additional details of the information that BayREN will collect to provide context to the quantitative value. Each row below directly relates to the logic models.

### Pillar 1 Metrics: Building Human and Organizational Infrastructure

**Table 1. Draft Value Metrics and/or Indicators – Building Organizational Infrastructure**

<b>Program</b>	<b>Infrastructure Building Block(s)</b>	<b>Indicator</b> (will not change in the Annual Report)	<b>Annual Accomplishments Quantitative Value</b> (actual numbers in the Annual Report)	<b>Details and Additional Information to Provide Context to the Quantitative Value</b>
<i>Organizational Infrastructure</i>				
<b>Codes</b>	Jurisdictions adopt and implement energy policies and reach codes	Number of jurisdictions that adopt and implement reach codes or energy policies	# Jurisdictions that adopt and implement reach codes or energy policies (with description)	BayREN will include a description of the type of reach codes and energy policies adopted to give context to the number.
<b>Codes</b>	Local Governments (LGs) institutionalize the use of BayREN guides and tools for code compliance	Number of jurisdictions that use BayREN guides and tools for code compliance	# Jurisdictions that use BayREN guides and tools	This would include jurisdictions using permit guides, CodeCycle and ePermit tools, and other tools and guides  Institutionalized indicates that it has become part of the normal process. Evaluation activities could follow up to determine this (via survey/observation), as desired. Annual proxy metric is “use.”
<b>Water Energy Nexus</b>	Water utilities offer on-bill mechanism	Number of water utilities offering programs with BayREN on-bill mechanism	# water utilities offering programs with BayREN on-bill mechanism	This would be a cumulative value  Note that customers are also in the outputs to track but this metric measures the building of the infrastructure across jurisdictions.
<b>Water Energy Nexus</b>	Regional fund to support water/energy projects	Amount of regional funds and description of long-term funding plan	\$ Million in funding and milestones reached (see Innovative Solutions section)	This would include a description, as well  BayREN will also track allocated funds (see output tracked) but this metric was developed to measure the infrastructure.
<b>Green Labeling</b>	Regional mechanism(s) to make home energy assets transparent at	Description of tools (e.g., HEScore, MLS green fields, public databases	Milestones reached (see information under	This will emerge and potentially change as the innovative solution develops, but the final endpoint will include

<b>Program</b>	<b>Infrastructure Building Block(s)</b>	<b>Indicator</b> (will not change in the Annual Report)	<b>Annual Accomplishments Quantitative Value</b> (actual numbers in the Annual Report)	<b>Details and Additional Information to Provide Context to the Quantitative Value</b>
	the time of sale (e.g., green label(s) and/or public database(s))	for making scores transparent, etc.) and use of these tools	Innovative Solutions)	organizational infrastructure such as databases or green fields that make energy assets at a site more transparent at the time of sale.

Notes: Start to track cumulative as of 2020 wherever possible.

**Table 2. Draft Value Metrics and/or Indicators – Building Human Infrastructure**

<b>Program</b>	<b>Infrastructure Building Blocks</b>	<b>Indicator</b>	<b>Annual Accomplishments (Quantitative Value)</b>	<b>Details and Additional Information to Provide Context to the Quantitative Value</b>
<i>Human Infrastructure</i>				
<b>Codes</b>	LG staff knowledgeable of energy code requirements and best practices for code compliance  <i>(110 jurisdictions)</i>	Number of jurisdictions with staff who note an increase in knowledge (including understanding of best practices for code compliance)	# Jurisdictions with staff who attend energy code training  # and % of local government staff attendees who increased knowledge of energy code requirements and best practices for code compliance*	This would be collected from counts of jurisdictions with training and surveys that are given at the end of each training. These post-training surveys are already administered at the end of each course. Note that they examine the increase in knowledge (comparing pre and post but the survey is administered once to reduce burden on the class/respondent). The questions asked align with the indicator here.*
<b>Codes</b>	LG staff expand energy policy knowledge and/or networks that enable future energy policy work	Number of jurisdictions with LG staff who indicate an increase in energy policy knowledge  Number of jurisdictions with LG staff who indicate forum expanded their energy efficiency networks (helping to build relationships that will enable future energy policy work)	# Jurisdictions with staff attending forum  # and % of respondents indicating increase in energy policy knowledge*  # and % of respondents indicating that they expanded their networks in a way that can enable future energy policy work*	The number of jurisdictions with staff and the percentage of all respondents indicating increased energy policy knowledge and/or expanded networks (collected from post-event survey) will be used as a proxy for the indicator. These post-training surveys are already administered. The questions asked align with the indicators here.*
<b>Green Labeling</b>	Local realtors and appraisers green certified	Number of realtors and appraisers certified (e.g., National Green Certified Real Estate Professionals)	# realtors and appraisers certified	Local realtors and appraisers take a test and receive a green certification or designation from a national organization
<b>Green Labeling</b>	Local lenders trained and knowledgeable of EE financing options	Number of local lenders trained who report an increase in knowledge about EE financing options	# local lenders trained  % reporting increase in knowledge*	This would be collected from counts of lenders attending training and surveys that are given at the end of each training.*
<b>Single-Family</b>	Local contractors proficient with decarb measures	Number of contractors who have performed 3+ projects of decarbonization measures	# Contractors with 3+ projects	Contractors will be reported by both individuals and companies.  3 is the minimum to be considered active in program. Report by type of measure installed

*Notes: Start to track cumulative as of 2020. While we focus on building human infrastructure within specific groups described in the table above, these programs also build knowledge among private sector building professionals and others. Where possible, this will also be tracked or evaluated; however, this is outside of the Value Metrics listed here. \*The surveys and survey questions are available but are not included here.*

Pillar 2 Metrics: Obtaining Energy Savings in Local Difficult to Serve (LDTs) Populations

A significant part of the intention behind the BayREN Business Plan is to create better access to energy efficiency programs for all ratepayers, particularly within those local population that have been difficult to serve with past programs (i.e., audiences that have various barriers to taking energy efficient actions). The value metrics and/or indicators below describe the local difficult to serve populations targeted by BayREN programs, the number served within the populations, as well as the net annual savings associated within those populations.

**Table 3. Draft Value Metrics and/or Indicators – Obtaining Energy Savings by Supporting Local Difficult to Serve (LDTs) Populations**

Program	LDTs Building Blocks	Metric/Indicator Unit	Annual Accomplishments (Quantitative Value)	Details and Additional Information to Provide Context to the Quantitative Value
Single-Family	SFMI households served  <i>(1,879,492 total SF households, or HH) (725,000 SFMI HH)</i>	SFMI households (HH)	# participating HH (e.g., 5,000 in PY20)	Report both All and # of LDTs (i.e., SFMI)  For annual, report exceeded / did not meet annual goal.
Single-Family	SFMI energy savings	Annual Net First Year Savings kWh kW Therms	# kWh # kW # Therms	Report all savings and savings from LDTs (i.e., SFMI). Also present as percentage of savings goals.
Multifamily	MF sites served	Small and/or owner-occupied buildings*	# participating buildings	Report both All and # of LDTs (e.g., small and owner occupied).
Multifamily	MF tenants (units) served  <i>(1,431,478 total MF units)</i>	Small and/or owner-occupied tenant units*	# participating tenant units	Report both All and # of LDTs (e.g., small and owner occupied)  For annual, report exceeded / did not meet annual goal.
Multifamily	MF energy savings in MF units and common areas	Annual Net Savings kWh kW Therms	# kWh # kW # Therms	Report all and savings from LDTs* (e.g., small and owner occupied). Also present as percentage of savings goals.
Commercial	SMB customers served (All, HTR and DAC)  <i>(61,926 total SMB Customers) (11,000 total DAC SMB Customers)</i>	SMB customers	# participating customers	Report for All, HTR and DAC. Include microloans in count of customers served.  For annual, report exceeded / did not meet annual goal.
Commercial	SMB energy savings (All, HTR and DAC)	Annual Net Savings kWh kW Therms	# kWh # kW # Therms	Report All, HTR, and DAC as a percentage of savings goals.
<b>Water Energy Nexus</b>	Will also track customers and savings in the categories above.			

Notes: Details by county will be in a separate table. Start to track cumulative as of 2020 as this will show the overarching value over time when compared to the population. \*The full description of LDTs is found under the introduction to the MF program and all would be included in the metric counts and savings.



Pillar 3 Metrics: Testing Innovative Solutions

BayREN is designing innovative solutions to explore new program delivery mechanisms and measures of the future, enabling PAs to achieve deeper savings and transform markets. The BayREN pilots are limited in scope and duration so that results are available in a specified time frame. The duration and description of each pilot is listed below.

Metrics for this area, “testing innovative solutions,” are very different than those for a typical program, which may look at numbers reached and/or energy savings. While there is no specific CPUC guidance on metrics for this REN directive, two existing CPUC documents provide some insights. Specifically, the Emerging Technologies Protocol and the more recent work on a Market Transformation Framework provide a starting point.

In 2006, California created the Emerging Technologies (ET) protocol<sup>1</sup> because of the absence of specific energy/demand goals and the longer lead time required to introduce new solutions directly into the market. The protocol is flexible and while there is a minimum level of evaluation rigor, stakeholders are still informed about whether the effort is on track to achieve longer-term objectives. Portions of the protocol are helpful to consider when measuring BayREN efforts within this value pillar. Most relevant is “investigating the underlying concepts and developing models to advance understanding of some aspect of a program, project or phenomenon.” That is, laying out the theory of change and having a model of where change may occur is important in determining appropriate metrics for this BayREN value pillar. Note that each of the innovative solutions below is supported by a program theory and logic model, found in the program documents and also described briefly below.

More recently (2019), California adopted a stage gate approach for the development and deployment of efforts that seek to transform a market. Within the Adopted Market Transformation (MT) Framework (D.19-12-021), stage gates “describe critical decision-making points and expected activities at each stage” and define a process that is “designed to reduce and manage the risk inherent in undertaking market transformation initiatives.” The MT framework describes the development phase (a phase that includes a pilot effort that moves through two stage gates) as including “identification of a market adoption baseline, creation of a logic model, and establishment of progress metrics” as well as defining success criteria for the pilot effort.<sup>2</sup> These stages are measured by milestones. Similarly, for each of the four pilots, BayREN has developed milestones to measure progress towards the pilot’s goal or end point. Tables 4-7 below describe these four pilot efforts.

The BayREN Multifamily program is developing a ZNC/Clean heating pathway that will be able to be scaled to the full BayREN region or beyond. The specific plan and timeframe to move a successful pilot program to a larger scalable effort is described below.

**Table 4. Draft Milestones for the Innovative Solution – ZNC/Clean Heating Pathway Innovative Solution**

<i>Description and theory</i>	
<b>Description of the solution and why it is believed that this solution is needed</b>	The Clean Heating Pathway provides financial incentives to encourage multifamily property owners and/or managers to replace natural gas measures with electric measures (e.g., heat pump water heaters) because they are unlikely to do it on their own since the GHG reductions accrue to the state and not to the property owner. This solution is needed in order to accelerate adoption, develop workforce and bring down the cost of gas-to-electric installations.
<b>Theory of what will occur over time</b>	As the market adjusts to reflect the health, resiliency, and grid benefits of electrification, existing projects will show that that installation of decarbonization measures provide

<sup>1</sup> California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professionals. April 2006

<sup>2</sup> The MT framework includes seven stages and three phases. Phase 1 (concept development) has two stages, Phase 2 (program development) has two stages, and Phase 3 (market deployment) has three stages. The framework includes multiple deliverables for each stage. For example, stage 3 (strategy development) includes market characterization studies, pilot testing plans that include evaluation plans and success criteria. We do not include information on all phases and stages as they are not as relevant for BayREN consideration.

<b>based on the pilot intervention</b>	benefits in multifamily buildings (and costs are in line with other measures), and property owners will become willing to install decarbonization measures.	
<i>BY YEAR</i>	<i>Milestone(s)</i>	<i>Accomplishments</i>
<b>Pre-Program (2019)</b>	BAAQMD funding (for DAC pilot) to get a head start on the challenges of implementing a BayREN program	Was reported in 2019 Annual Report*
<b>First year (2020)</b>	Build on lessons learned from 2019 to roll out a decarbonization pathway that offers supplemental incentives for decarb heating technologies	Will be reported in 2020 Annual Report
<b>Expected 2021 accomplishment(s)</b>	Program expands to offer multiple decarb measures in a broader population (e.g., 1,250 units with pathway measures installed <i>cumulative</i> )	Will be reported in 2021 Annual Report
	<p>Program aligns with local and state agencies and utilities offer electrification &amp; controls incentives to promote clean, resilient housing (e.g., Program incorporates demand controls measures on heat pump technology where incentives are available)</p> <p><b>Mid-pilot evaluation effort to assess implementation and share lessons learned</b></p>	
<b>Expected 2022 accomplishment(s)</b>	<p>Clean Heating Pathway project units exceed Traditional Pathway project units</p> <p>Traditional incentives begin to be phased out for general MF population for gas-to-gas upgrades with feasible electric options</p> <p>Integration of demand control measure requirements/Controls required on heat pump water heater and HVAC equipment where cost effective</p> <p>Electrification Incentive adders re-evaluated and reset as needed</p>	Will be reported in 2022 Annual Report
<i>Endpoint</i>		
<b>Endpoint (roughly 3 years out)</b>	ZNC/ Clean Heating Pathway ready to scale	

\*2019 Annual Report described - Launched a BAAQMD pilot in DAC communities. From the more than 520 properties that have participated in BAMBE and the stakeholder relationships developed over 6 years, the program has gained valuable insight into how to evolve and intensify the role that the multifamily market plays in helping California meet its energy efficiency and decarbonization goals. See Annual Report for additional details.

The BayREN Commercial program is developing a SMB P4P model that will be able to be scaled to the full BayREN region or beyond. The specific plan and timeframe to move a successful pilot program to a larger scalable effort is described below.

**Table 5. Draft Milestones for the Innovative Solution - SMB P4P Model (Endpoint/Yellow Shape in Logic Model)**

<i>Description and theory</i>		
<b>Description of the solution and why it is believed that this solution is needed</b>	<p>The P4P innovative solution provides small and medium business customers (SMBs) with the ability to obtain energy savings for a lower upfront cost. It gives SMB customers a flexible solution that shields the customer (and ratepayers) from paying for expected savings that fail to materialize. A P4P design encourages maximizing savings from a wholistic set of measures.</p> <p>A solution like this is needed because SMB customers have thin financial margins and/or do not view energy efficiency as an investment in their business. Local governments are able to come up with innovative solutions to meet local needs.</p>	
<b>Theory of what will occur over time based on the pilot intervention</b>	<p>Sharing information on lessons learned from P4P program implementation in the SMB segment will improve BayREN's P4P program and enable new programs to be launched outside of BayREN. Note that BayREN's efforts should be one of a number of pilots to determine best practices.</p> <p>SMB customers will become comfortable with obtaining energy savings from a P4P program design, which will lead to SMB customers being served more easily each year.</p>	
<i>BY YEAR</i>	<i>Milestone(s)</i>	<i>Accomplishments</i>
<b>First year (2019)</b>	<p>Solicitations for program implementer and allies</p> <p>Execution of agreements with BayREN member and other counties and development of county-specific marketing strategies</p> <p>Creation of program systems and tools (e.g., calculators and platforms)</p>	Was reported in 2019 Annual Report*
<b>Expected 2020 accomplishment(s)</b>	<p>Launch the program</p> <p>Install measures for initial projects</p> <p>Establish peer-to-peer information sharing system</p>	Will be reported in 2020 Annual Report
<b>Expected 2021 accomplishment(s)</b>	<p>Expand number of projects while adjusting P4P model to make measurement and verification more accurate and reliable (to help program scale)</p> <p>Share information though peer-to-peer information sharing system</p>	Will be reported in 2022 Annual Report
<b>Expected 2022-2023 accomplishment(s)</b>	<p>Expand number of projects while adjusting P4P model to make measurement and verification more accurate and reliable (to help program scale)</p> <p>Improve data flow mechanism(s) to allow BayREN P4P model to be more reliable, secure and consistent (to help program scale)</p> <p><b>Mid-pilot evaluation effort to assess implementation</b></p>	Will be reported in 2022 and 2023 Annual Reports

Share information through peer-to-peer information sharing system

*Endpoint*

**End point (roughly 5 years out)** SMB P4P program model ready to scale

\*2019 Annual Report described - Successfully completed two (2) Request for Proposals Solicitations: one for Implementer and the other for Program Ally. Executed agreement between SF Environment and Mission Asset Fund for the Microloan subprogram. Engaged the nine BayREN counties to develop the Program’s marketing strategy and finalized the marketing collateral. Established and initialized programmatic systems, such as database set up, meter-measurement and verification, and incentive calculation systems for a smooth launch in 2020. Started the process to request smart meter data from PG&E and CCAs to automate the targeting and pre-qualification process. Reviewed and vetted the program’s energy savings calculator tools. Updated the Implementation Plan and Program Manual. See Annual Report for additional details.

The BayREN Water Energy Nexus program is developing an on-water-bill mechanism to support water and energy saving actions. This is a new implementation mechanism that does not rely on energy or water<sup>3</sup> ratepayer dollars to obtain both energy and water savings. The program will be able to be used regionally (and possibly beyond) to meet new state water goals for 2022-2025. The specific plan and timeframe to move a successful pilot program to a larger scalable effort is described below.

**Table 6. Draft Milestones for the Testing of Innovative Solution – Water Energy Nexus Program**

<i>Description and theory</i>		
<b>Description of the solution and why it is believed that this solution is needed</b>	<p>BayREN’s Water Energy Nexus program will create a regional project financing service and a new mechanism (on-water-bill) for obtaining water-related energy savings that does not rely on energy-ratepayer dollars.</p> <p>New proactive state and local water goals (for 2023-2027) will create an opportunity for additional water/energy savings from customer-side water efficiency projects. Water utilities will need new programs to reach these goals yet can be constrained in terms of incentives they can put in place. As such, there is an opportunity for a regional solution that can reduce water use while saving energy.</p> <p>Water utilities will participate because it helps their customers install water efficiency improvements with no up-front cost — using a utility-approved on-bill charge that is significantly lower than the estimated savings — so the customer begins saving right away.</p>	
<b>Theory of what will occur over time based on the pilot intervention</b>	Water utilities will support water savings (that also save energy) using an on-water-bill financing mechanism that does not rely on CPUC- or water utility–funded customer rebates because utilities want to help their customers and be ready for stricter state goals.	
<b>Starting year/date/status</b>	<p>Began in 2012 with 1 pilot and expanding to 3 pilots by 2016</p> <p>Regional effort started ramping up in 2019</p> <p>Status: 2020 Regional design phase</p>	
<b>BY YEAR</b>	<b>Milestone(s)</b>	<b>Accomplishments</b>
<b>Pre-2019</b>	Pilot in communities (three pilot efforts)	See process evaluation of pilots for details
<b>First year (2019) for regional effort</b>	<p>Lay the foundation for regional program</p> <p>Funding mechanism set</p>	Was reported in 2019 Annual Report*

<sup>3</sup> The program facilitates upgrades using customer investment (through payment of their on-bill charge) rather than using CPUC funds used to pay a rebate.

<b>Expected 2020 accomplishment(s)</b>	<p>Endpoint #1:</p> <p>Program design and processes established (e.g., ABAG legal “approves to form” the Master Agreement packet. Program hires and trains Program Operator. Program completes branding/marketing plan for customer and utility enrollment. Program Operator contracts and trains Program Contractors. Program begins CRM platform operation. Program aligns services with Partner Utility state water conservation targets.)</p> <p>Two (2) water utilities offer on-bill programs to their customers.</p>	Will be reported in 2020 Annual Report
	<p>Endpoint #2:</p> <p>Program provides initial project- and measure-level data reporting to initiate discussions with CPUC and stakeholders regarding savings protocols for this program</p>	Will be reported in 2020 Annual Report
<b>Expected 2021-2022 accomplishment(s)</b>	<p>Endpoint #1:</p> <p>Program design and processes expanded based on second year accomplishments and Partner Utility state water conservation targets. Program expanded to offer services to small/medium commercial customers.</p> <p>Eight (8) water utilities offer on-bill programs to their customers (<i>i.e., program enrolls six (6) additional Partner Utilities and begins customer service delivery.</i>)</p> <p>Program develops long-term scalable funding plan with ABAG and secures additional ABAG funding, as needed</p>	Will be reported in 2021-2022 Annual Reports
	<p>Endpoint #2:</p> <p>Establish feedback loop with CPUC-designated lead(s) to gather input and feedback on project- and measure-level benefits and costs not currently eligible for CPUC resource claims.</p>	Will be reported in 2021-2022 Annual Reports
<b>Expected 2023-2024 accomplishment(s)</b>	<p><b>General: Mid-point evaluation effort to assess implementation and share lessons learned</b></p>	
	<p>Endpoint #1:</p> <p>Sixteen (16) water utilities offer on-bill programs to their customers (<i>i.e., eight (8) additional Partner Utilities begin customer service delivery.</i>)</p> <p>Program secures additional ABAG funding, as needed.</p> <p>Program analyzes self-supporting capacity tied to project volume.</p>	Will be reported in 2023-2024 Annual Reports
	<p>Endpoint #2:</p> <p>Updated reporting by Water Energy Nexus program per CPUC input and feedback (e.g., Adjust program reporting protocols in accordance with CPUC input and feedback.)</p>	Will be reported in 2023-2024 Annual Reports

<b>Expected 2025 accomplishment(s)</b>	Endpoint #1: Twenty (20) water utilities offer on-bill programs to their customers  Program secures additional ABAG funding, as needed. Program analyzes self-supporting capacity tied to project volume.	Will be reported in 2025 Annual Report
	Endpoint #2:  Water Energy Nexus Program reports energy and water program metrics data based on agreed-upon protocols	Will be reported in 2025 Annual Report

<i>Endpoint (s)</i>	
<b>Endpoint #1</b>	Water Energy Nexus Program used regionally (and possibly beyond) to meet State water goals
<b>Endpoint #2</b>	Water Energy Nexus Program able to report energy and water program metrics data using agreed-upon protocols

\*2019 Annual Report described - Secured an initial \$1 million fund for project financing in partnership with the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission. Obtained ABAG Executive Board approval to execute Water Upgrades \$ave Master Agreements with Partner Municipal Water Utilities. Drafted and engaged stakeholder review of the Master Agreement and nine Exhibits outlining the contractual roles/responsibilities for all Program partners in preparation for “approval to form” by the ABAG/BayREN legal team. Ensured all Program documents are compliant with Senate Bill 564 — Water Bill Savings Act (2017) and applicable state codes. Initiated Customer Relationship Management platform to design activities to provide automated and consistent flow of program information between Program Partners. Initiated a branding and market strategy process for customer and utility enrollment. Engaged existing Pilot Utility partners (Windsor, Hayward and EBMUD) and City of Sebastopol on preliminary interest in joining as Partner Utilities for Water Upgrades \$ave. See Annual Report for additional details.

The BayREN Green Labeling program is developing regional mechanisms to make energy assets transparent at the time of sale. The specific plan and timeframe to move a successful pilot program to a larger scalable effort is described below.

**Table 7. Draft Milestones for the Testing of Innovative Solution - Regional Mechanism(s) to Make Energy Assets Transparent at Time of Sale**

<i>Description and theory</i>		
<b>Description of the solution and why it is believed that this solution is needed</b>	The program supports mechanisms such as a home energy assessment that is both a score and a label and the infrastructure to get the information to customers. Homes are labeled to make energy assets transparent and valued at the time of sale because purchasers and real estate professionals do not value energy efficient investments. This infrastructure within local communities encourages energy efficient investments at a critical moment—the time of a home’s sale.	
<b>Theory of what will occur over time based on the pilot intervention</b>	When there is information about energy assets of homes at the time of sale, it influences decisions and is valued. Realtors and buyers view homes with higher scores (i.e., are more efficient) as having a higher value. Homes with lower scores also provide value, in that the buyer has more knowledge about potential upgrades and utilities bills going into the sale versus a home with no label.	
	If homes are scored and the scores are visible at the time of sale, (i.e., the process is institutionalized and becomes a normal process), the value of an efficient homes will be higher and buyers will be more informed, as they are with pest and home inspections.	
<i>BY YEAR</i>	<i>Milestone(s)</i>	<i>Accomplishments</i>
<b>First year (2019) for regional effort</b>	Explore integrated and aligned green labeling and other opportunities (e.g., creation of a public registry of all scored homes and explore the connection to the MLS) to increase awareness and information transparency, and to support and increase savings in the single family programs.  Increase participation in \$200 rebate program for Scores outside of City of Berkeley.  Increase the number of Assessors recruited into program.  Expand real estate professional knowledge of energy efficiency and BayREN programs.	Was reported in 2019 Annual Report*
<b>Expected 2020 accomplishment(s)</b>	Increase transparency by obtaining more post-improvement scores by providing a kicker incentive for re-scores.  Establish home inspector delivery channel by working with home inspectors and realtors to enroll more inspectors in the program and increase scores at the time of sale.  Expand access and availability of real estate education through virtual trainings.	Will be reported in 2020 Annual Report
<b>Expected 2021-2022 accomplishment(s)</b>	<b>Mid-pilot evaluation effort to assess implementation and share lessons learned</b>  Explore ways to step down incentives, such as by incorporating into assessor business model or identifying other funding sources.	Will be reported in 2021 and 2022 Annual Reports

Diversify assessor types so that scores can happen at various intervention points (i.e. time of sale, before a major renovation, or when a homeowner would like more energy information on their home).

Increase the number of publicly available scores and reports.

Expand trainings for appraisers and lenders, so that EE is valued differently in the real estate process

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*Endpoint*

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**End point (roughly four years)**      Regional mechanism(s) to make energy assets transparent at the time of sale (are institutionalized and ultimately change the valuation of homes)

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\*2019 Annual Report described - **Home Energy Score:** Explored use of HEScore to help make energy use of a home transparent at time of sale. 2,449 Scores were performed across all 9 counties (258 of which were BESO Scores); Provided 2,082 rebates, totaling \$416,950 in incentives. Successfully enrolled 19 Assessors, with 51 active Assessors in 2019. **Green Real Estate Trainings:** Provided five different types of training, as well as mentoring, to reach nearly all parties to a real estate transaction, including realtors, appraisers, and lenders: Provided four National Association of Realtors (NAR) Green Designation Trainings to 85 professionals. Led two Certified Green Real Estate Professional (CGREP) courses and certified 9 professionals. Provided one Certified Green Lender Professional (CGLP) Trainings to 3 professionals. Provided two Accredited Green Appraiser (AGA) Trainings to 40 professionals. See Annual Report for more details.