

Proceeding: A.22-03-
Exhibit No.: BAYREN-02
Date: March 4, 2022
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BAYREN

PORTFOLIO PLAN 2024-2027

TESTIMONY

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1 **CHAPTER 1. PORTFOLIO SUMMARY (J. BERG)**

2 As one of the state’s four Regional Energy Networks (RENs), the Bay Area Regional
3 Energy Network (BayREN) is uniquely positioned to support local action to meet state goals. Our
4 organizational structure ensures that our programs reflect the complex needs of the Bay Area’s
5 racially, linguistically, and socio-economically diverse nine counties and 109 cities—the fourth
6 largest metropolitan area in the country. Our connection to the Association of Bay Area
7 Governments (ABAG) and the Metropolitan Transportation Commission (MTC) enables us to
8 inform regional planning and leverage other regional resources to support partnership,
9 collaboration, and technological and policy innovation within our region. Our continued
10 collaboration with our seven Bay Area Community Choice Aggregators (CCAs) ensures that each
11 is informed of ongoing programs, potential overlap, and opportunities to layer resources to achieve
12 more comprehensive building upgrades. This regional structure also ensures that BayREN is
13 directly connected to, and learning from, local government and community-based stakeholders
14 throughout the region.

15 Since its inception, BayREN has been addressing the three areas indicated by D.12-11-015
16 in the formation and implementation of programs. The REN programs and organization have been
17 an important complement to the investor-owned utility (IOU) programs and have demonstrated
18 how a mission-driven entity can address the most challenging barriers to energy efficiency. The
19 REN’s requirement to fill gaps, address hard to reach customer audiences, and provide programs
20 that other program administrators will not, is essential to ensure that all Californians have access
21 to affordable energy efficiency solutions.

22 In this Portfolio Application, the proposed programs and strategies comply with these
23 criteria with an increased focus on equity and market support offerings, as envisioned by the

1 California Public Utilities Commission (CPUC). The proposed programs take a regional approach
2 by targeting populations that speak languages other than English, populations in disadvantaged
3 communities, and homes, businesses and workers that struggle economically and are less likely to
4 take energy-efficient actions.

5 BayREN’s budget distribution between the segments reflects the following evolutions in
6 our programming: 1) a greater focus on equity, 2) increased support for local governments based
7 on local needs, and 3) timely response to quickly evolving Bay Area and state policy trends and
8 goals regarding building electrification and climate resilience. These improvements in our
9 approach and program offerings reflect our commitment to engaging with and listening to our
10 stakeholders, partnering with other regional agencies and CCAs, and leveraging resources to best
11 serve the local governments, businesses, and residents in our territory.

12 The four-year portfolio budget request for existing programs is largely consistent with our
13 approved Bi-Annual Energy Efficiency Program and Portfolio Budget Request (BBAL) for
14 program years 2022 and 2023. The budget for existing programs reflects an increase of seven
15 percent (\$1.8 million) in 2024 due primarily to increased incentive funding for the Multifamily
16 and Green Labeling programs that are experiencing continued increased participation. The
17 portfolio budget increase is to fund two new sectors and four new programs, all of which are in
18 the equity and market support segments.

19 Below we provide an overview of our proposed strategies to deliver our intended outcomes.
20 We also describe the key metrics that we will use to document these outcomes.

21 **I. KEY METRICS AND OUTCOMES**

22 BayREN is committed to achieving energy savings and reducing greenhouse gas emissions
23 (GHG) in alignment with California’s ambitious energy and climate goals and strives to do both
24 while achieving co-benefits that support energy efficiency (EE) market development and the

1 communities we serve. BayREN is also committed to using our regional reach and unique structure
2 to advance equity within our organization and throughout the larger Bay Area. BayREN will use
3 six integrated and interrelated Portfolio Strategies (PS) that guide our portfolio, sector, and
4 segmentation approaches and build a foundation to achieve portfolio outcomes. All the strategies
5 support and are aligned with each other, as well as with BayREN’s organizational and individual
6 program goals. Below we describe portfolio outcomes and highlights the key metrics that will
7 measure our success and enable us to course correct as needed to ensure our programs and
8 resources are as effective as possible. We also provide all the detailed metrics, which bring together
9 the CPUC directed REN value metrics, core metrics, and the California Energy Efficiency
10 Coordinating Committee (CAEECC) suggested metrics. Our detailed metrics can be found in
11 Exhibit 03, Appendix B.

12 The sector chapters align with the overall Portfolio Strategies, and detail how each strategy
13 will be achieved through specific programmatic activities and goals.

14 **A. PS 1. Activate and engage key stakeholders and Environmental and**
15 **Social Justice (ESJ) communities in the development and delivery**
16 **of programs.**

17 BayREN understands the importance of ensuring that our programs, resources, and
18 technical assistance reflects the needs of the stakeholders and communities we serve. BayREN
19 will prioritize activating and engaging stakeholders and ESJ communities in the development and
20 delivery of programs to help advance more equitable outcomes regionwide. BayREN plans to
21 measure our success through our partnerships and engagements with the communities that we
22 serve. BayREN is working to establish reliable and consistent channels to receive feedback from
23 groups representing underserved communities in the Residential Sector. Similarly, the BayREN
24 Business Program is partnering with each of our nine county members to activate county business
25 resources and engage community-based organizations and other trusted third parties to engage

1 with small and medium businesses (SMB) and expand customer participation. BayREN
2 partnerships will include public program collaborations with a focus on increased energy savings
3 and co-benefits, new relationships, collaboration with private firms working in clean energy.
4 BayREN’s partnerships will focus on increasing the number of organizations willing to employ
5 young people in skilled positions, and partnerships with water utilities in the Water Upgrades \$ave
6 program to provide access to water and energy savings.

7 **B. PS 2. Address systemic barriers to EE and electrification, especially**
8 **for and in collaboration with, those who disproportionately face**
9 **energy burdens, climate impacts, and are underrepresented in**
10 **policy and decision-making.**

11 Through an extensive strategic planning process in 2021, BayREN developed an additive
12 definition of equity to help guide our organizational and programmatic goals.¹ The portfolio
13 strategy reflects this new definition and provides direction for our program leads and member
14 agencies to ensure that we realize our equity goals. BayREN will track our success increasing
15 participation from underserved SMB, multifamily, and single-family populations such as low to
16 moderate income households, non-English speaking households and renters. Importantly,
17 BayREN’s strategy in the Residential Sector will be to address significant barriers including
18 upfront cost, language and split incentives that have previously made it difficult for these

¹ “For BayREN, equity means addressing systemic barriers to energy efficiency and electrification, especially for, and in collaboration with, equity priority communities and those who disproportionately face energy burdens, climate impacts, and are underrepresented in policy and decision making.” Exhibit 01, Appendix A at 9. In 2021, ABAG and MTC replaced the term “Communities of Concern” with “Equity Priority Communities”, as the former generated negative connotations and was perceived as demeaning. These communities are determined based on census tracts, and eight demographic factors including race and income. ABAG and MTC use this framework for regional planning and programing. For the Business Plan and this Application, BayREN is using ESJ communities rather than Equity Priority Communities to better align with the CPUC guidance provided in D.21-05-031. There is clear overlap and similarities with the definitions of ESJ communities and Equity Priority Communities.

1 stakeholders to participate. Additionally, BayREN’s new workforce program, Climate Careers,
2 will track progress toward increasing youth participation from ESJ communities (based on the
3 CPUC’s ESJ communities policy framework). Youth participants will earn living wages and infuse
4 new talent into a diminishing workforce, which will also help support our Residential Sector goals.
5 BayREN will use outreach to make the connection between EE and co-benefits that are important
6 to underserved and ESJ communities, including health, resilience, housing quality, and
7 affordability.

8 **C. PS 3. Provide technical assistance, access to resources, and**
9 **actionable data to improve decision making, resulting in building**
10 **upgrades and long-term energy savings.**

11 To realize both our energy and equity goals, BayREN is committed to providing high
12 quality technical assistance, access to resources, and meaningful data to improve decision making
13 and enable expanded building upgrades and long-term energy savings. BayREN’s structure,
14 regional reach, and long-standing relationships with our nine member agencies provide us with
15 insight on how critical this type of assistance is for local government staff to make significant
16 progress on their own ambitious energy and climate goals. Specifically, BayREN will track success
17 in efforts to support local governments so that they can make full use of EE products and services
18 available through BayREN and through other local, regional, and statewide programs. Meeting
19 both local and state climate and energy goals will require local governments to advance the
20 deployment of technologies and new policies needed to achieve building decarbonization.
21 BayREN understands this challenge and opportunity and is proposing new Public Sector programs
22 specifically focused on supporting local governments in advancing these technologies and
23 providing regional leadership to expand local government energy policy knowledge and networks,
24 support municipal demonstration projects, and assist jurisdictions in adopting and implementing
25 advanced energy policies and reach codes. Within the Residential Sector, BayREN will track

1 efforts to expand the regional Home Energy Score program to both grow the number of scores and
2 the base of active Assessors. The Home Energy Score is a critical tool for real estate professionals
3 and homeowners as it provides data that can improve and assist decision making while also raising
4 awareness about the benefits of building decarbonization.

5 **D. PS 4. Provide targeted and relevant training and support to**
6 **improve effectiveness and build capacity.**

7 The success of BayREN’s Portfolio Strategies requires a trained and effective private and
8 public sector workforce to support the expansion of EE and building decarbonization. Therefore,
9 BayREN’s fourth Portfolio Strategy focuses on providing targeted and relevant training to build
10 this capacity and improve overall effectiveness of our programs. BayREN will track training,
11 support, and increases in knowledge for targeted stakeholders across our sectors and segments who
12 play a key role in raising general awareness about the benefits of EE and building electrification,
13 and who serve traditionally underserved communities. Specifically, BayREN will increase the
14 number and capacity of EE and electrification contractors who serve non-English speaking
15 residential customers in order to break down barriers for participation in these communities.
16 BayREN will also focus on training real estate professionals (i.e., realtors, appraisers, lenders, and
17 underwriters) on the benefits and valuation of EE and electrification home assets, as well as focus
18 on increasing local government building department staff’s knowledge of and ability to enforce
19 Energy Codes and apply best practices across the region, which is a widespread issue for building
20 department staff due to a lack of capacity and competing priorities. Finally, through the new
21 BayREN Climate Careers program, BayREN will increase the number of youth from ESJ
22 communities participating in the clean economy workforce to build capacity and meet growing
23 demand for both energy efficiency and building electrification projects.

1 **E. PS 5. Enhance the design and delivery of incentives and financing**
2 **to remove barriers and ensure more customers can upgrade their**
3 **buildings and produce energy savings.**

4 BayREN’s fifth strategy highlights the need to enhance the design and delivery of
5 incentives and financing to remove cost barriers to ensure more customers can upgrade their
6 buildings and produce energy savings. BayREN will track the success of this strategy by the energy
7 savings that we deliver. This includes increasing the number of SMBs who achieve deeper energy
8 savings through an easily navigable pay-for-performance (P4P) program with no up-front cost for
9 participants. The P4P program will be served by a competitive, diverse market of capable
10 aggregators to ensure that participants have the benefit of choice while still ensuring that incentives
11 are fair, predictable, and directly address cost barriers to participation. In the Residential Sector,
12 BayREN’s new moderate income tiered rebate is designed to increase the percentage of
13 participants from moderate income households and encourage a longer-term approach for greater
14 energy savings. Providing improved incentives and financing will also support BayREN’s goal of
15 increasing participation of currently underserved multifamily ownership and building types and
16 buildings located in equity priority geographies to deliver energy savings.

17 **F. PS 6. Develop innovative, equitable, regional-scaled offerings that**
18 **enable customers to layer EE with other climate-based funding and**
19 **resource programs to address the climate crisis.**

20 BayREN’s sixth strategy seeks to leverage our regional reach and unique organizational
21 structure to develop and advance innovative solutions, share best practices, and ensure local
22 government perspectives help inform state energy policy. In the Residential Sector, BayREN will
23 test and refine innovative approaches to build a robust regional residential decarbonization market
24 through the Home+, Multifamily, and Green Labeling programs. BayREN will also develop
25 innovative approaches to attract underserved borrowers that have difficulty securing traditional
26 financing due to small project size or the split incentive for multifamily residents and property

1 owners. Additionally, through the Water Upgrades \$ave program, BayREN will increase water
2 customer access to EE benefits through scalable water utility investment in customer-side water
3 conservation. In addition, BayREN is proposing new programs, including the BayREN Refrigerant
4 Replacement program (BRRR) which will support the removal of the highest Global Warming
5 Potential (GWP) refrigerants, and two new Public Sector programs that will support local
6 governments in their efforts to advance the deployment of technologies and strategies needed to
7 achieve building decarbonization goals.

8 **II. PORTFOLIO STRATEGIES (N. BARBA; L. CHU)**

9 **A. Savings Forecasting and Quantification Methods**

10 BayREN’s portfolio includes several programs with quantifiable energy savings: a
11 Commercial Sector program targeting small and medium-sized businesses, a Residential Sector
12 program for moderate-income single-family households, and a Residential Sector program for
13 small (<100 unit) or owner-occupied multifamily buildings. BayREN proposes a strategy that uses
14 a diverse mix of new and existing methods for forecasting and quantifying savings from its 2024-
15 2027 portfolio, such as normalized metered energy consumption (NMEC), energy modeling and
16 measure packages derived from the eTRM. These methods are described below.

17 **Normalized Metered Energy Consumption (NMEC):** In the commercial FLEXmarket
18 program, aggregators receive incentive payments for saving end use customers energy at the meter.
19 Total Project Value is based on the delivered metered load shape and level of savings in the first
20 12 months of project operation, multiplied by the hourly Program Avoided Costs for the useful life
21 of the project, adjusted for free ridership, and the CPUC discount rate. The Program Avoided Costs
22 are based on the CPUC Avoided Cost Calculator multiplied by a factor assigned by the program
23 as funds allow to serve Market Rate or hard-to-reach customers. The minimum load shape value
24 floor for any project is the CPUC Database for Energy Efficiency Resources (DEER) load shape

1 associated with the primary measure or measure mix. NMEC savings calculations are determined
2 using open-source CalTRACK methods in full compliance with the Population NMEC rulebook.

3 BayREN Business will also have population-based NMEC savings, in which metered
4 savings are tied to compensation. This innovative approach to pay-for-performance (P4P)
5 incentivizes aggregators, contractors, and implementers to ensure persistent energy savings and
6 quality installation. BayREN’s NMEC program designs will further incentivize projects that
7 deliver savings for businesses designated as hard-to-reach, disadvantaged communities,
8 underserved, and ESJ communities.

9 **Measure Packages:** In the Single Family and Multifamily programs, for those measures
10 that have active measure packages within the eTRM, the measure packages are used as the basis
11 of savings calculations.

12 **Energy Simulation Model:** In Multifamily projects for which there are measure
13 opportunities that are not represented in the eTRM, and for which there are no approved work
14 papers, those measures are modeled in the full version of EnergyPro Non-Res Performance or in
15 EnergyPro Lite.

16 **Spreadsheet Calculations:** For Multifamily, in the rare situation in which savings
17 opportunities are identified for which none of the above methods can be used to calculate savings,
18 spreadsheet calculations are performed based on industry standard engineering principals.
19 Supporting documentation, such as specific sections of ASHRAE Fundamentals, Energy
20 Management Handbook, case studies, and other widely used industry resources are included with
21 the calculations.

1 **B. Strategy for Incorporating Low Global Warming Potential (Low-**
2 **GWP) Refrigerants**

3 BayREN is proposing a new program within the Commercial Sector, BayREN Refrigerant
4 Replacement program (BRRR).² The goals of the program are two-fold: to remove harmful GWP
5 refrigerants from SMBs, and to increase the affordability and availability for food-service
6 establishments to maintain, retrofit or replace refrigerant systems to ensure reduced leakages,
7 unnecessary costs and reduced GHGs. The BRRR program seeks to replace high-GWP refrigerants
8 with moderate and low-GWP refrigerants while optimizing performance of each refrigeration
9 system, via tune-ups, improved maintenance, and component replacement. Even though each
10 system is small, in aggregate their refrigerant leaks have an outsized impact on GHG emissions.
11 The BRRR program provides direct-install refrigeration services to food-service SMB.

12 The BRRR program will also help build the market for moderate GWP refrigerants and
13 low GWP natural refrigeration systems. In addition to alignment with California climate policy,
14 the program will also improve the economic viability of SMBs by reducing their utility and
15 maintenance costs, and reduce the incidence of repair/replacement of equipment and associated
16 lost product by more proactively maintaining refrigeration equipment. It cannot be understated
17 how severe the financial impact of the COVID-19 pandemic has been on SMBs; the BRRR
18 program benefits will help maintain the economic viability of SMBs.

19 **C. Strategies for Spurring Innovation**

20 BayREN proposes to continue filling gaps in the wider CPUC EE portfolio while scaling
21 successful programs in the sectors that BayREN serves. Innovation comes in two forms: process
22 innovation and impact innovation. For process innovation, BayREN is leveraging resources

² This program is discussed in detail below under the Commercial Sector.

1 outside of the CPUC to drive adoption of programs. For example, the Water Upgrades Save
2 program has created on-bill financing (OBF) delivered through public agency water authorities,
3 with capital from a source other than energy utility ratepayers, and will scale to additional agencies
4 in this program cycle. Across all BayREN sectors, our strategies seek to leverage regional
5 collaboration to use local programs (workforce), available funding (ABAG, Bay Area Air Quality
6 Management District), and multiple outreach channels to reach DACs in our service area. For
7 impact innovation, our programs are designed to use EE funding to achieve state zero net energy
8 (ZNE) goals by connecting policy, codes and standards, and the latest engineering and technology
9 advancements in each program sector. For example, our Residential Sector proposes to include
10 demand flexibility analysis, the newly authorized Market Access Program, as well as the delivery
11 of market support services to ensure code enforcement, workforce, and direct install programs all
12 align under a ZNE goal in DACs.

13 **D. Strategies for Market Intervention and Energy Efficiency Adoption**

14 As described in the Business Plan, Exhibit 01, BayREN proposes a suite of downstream
15 programs that include both incentives and direct install intervention strategies. The target market
16 participants are primarily disadvantaged, low-income, youth populations, SMBs, and public sector
17 agencies. Delivery methods include customer facing programs administered by BayREN staff,
18 with a portion implemented by internal staff, and a portion implemented by competitive third-party
19 contracts. Energy efficiency adoption strategies include marketing, education and outreach,
20 technical assistance, customer and practitioner incentives, and market support activities for
21 technical training and capacity building among identified stakeholders.

1 **III. APPLICATION SUMMARY TABLES (R. JACOBY; N. BARBA)**

2 **A. Annual Budget Request**

3 BayREN proposes a total portfolio and EMV budget for 2024-2027 of approximately \$162
4 million, broken down on an annual basis to \$38 million in 2024 and increasing to \$42 million in
5 2027. Sector totals are outlined in the table below.

6 **Table 1. Sector Total Annual Budgets**

	2024	2025	2026	2027	2024-2027 Portfolio Application
Residential	\$19,254,406	\$19,391,731	\$19,523,892	\$19,666,408	\$77,836,437
Commercial	\$8,332,751	\$9,643,750	\$9,704,682	\$9,770,550	\$37,451,733
Public	\$2,107,341	\$2,475,793	\$2,886,653	\$3,145,763	\$10,615,550
Cross-Cutting	\$4,898,120	\$5,402,041	\$5,446,622	\$5,697,911	\$21,246,694
Codes & Standards	\$1,984,954	\$2,008,191	\$2,065,581	\$2,096,431	\$8,155,157
Total Budget (excluding EMV)	\$36,577,572	\$38,723,506	\$39,627,430	\$40,377,063	\$155,305,571
PA EMV	\$419,118	\$443,707	\$454,064	\$462,654	\$1,779,543
CPUC EMV	\$1,104,947	\$1,169,773	\$1,197,079	\$1,219,724	\$4,691,523
Total Budget (including EMV)	\$38,101,637	\$40,336,986	\$41,278,573	\$42,059,441	\$161,776,637

7

1

B. Distribution of Budget across Segments and Sectors

2

Table 2. Budget Distribution across Sectors and Segments

Market Segment	Resource Acquisition	Market Support	Equity	Codes and Standards	Total 4 Year Budget Allocation
Residential Sector		<i>Green Labeling</i> \$7,385,951	<i>Single Family (Home+)</i> \$35,272,751 <i>Bay Area Multifamily Building Enhancements (BAMBE)</i> \$35,177,735		\$77,836,437 (50%)
Commercial Sector	<i>BayREN Business</i> \$18,952,573		<i>BayREN Refrigerant Replacement (BRRR)</i> \$18,499,160		\$37,451,733 (24%)
Public Sector		<i>Integrated Energy Services (IES)</i> \$4,228,707 <i>Targeted Decarbonization Resources (TDR)</i> \$6,386,843			\$10,615,550 (7%)
Cross-Cutting Sector		<i>Water Upgrades Save</i> \$8,434,138	<i>Climate Careers</i> \$12,812,556	<i>Codes and Standards</i> \$8,155,157	\$29,401,851 (19%)
Total*	\$18,952,573 (12%)	\$26,435,639 (17%)	\$101,762,202 (66%)	\$8,155,157 (5%)	\$155,305,571 (100%)

3

1 **C. Projected Sector-Level and Portfolio-Level Cost Effectiveness**

2 BayREN’s forecasted portfolio Total Resource Cost (TRC) and forecasted Portfolio
 3 Administrator Cost (PAC) are detailed in the table below.

4 **Table 3. Forecasted TRC and PAC**

Sector	PY 2024		PY 2025		PY 2026		PY 2027	
	Forecast TRC	Forecast PAC	Forecast TRC	Forecast PAC	Forecast TRC	Forecast PAC	Forecast TRC	Forecast PAC
Residential	0.14	0.13	0.15	0.14	0.15	0.14	0.16	0.15
Commercial	0.48	0.57	0.47	0.55	0.47	0.55	0.47	0.54
Public	0	0	0	0	0	0	0	0
WE&T	0	0	0	0	0	0	0	0
Codes and Standards	0	0	0	0	0	0	0	0
Portfolio	0.19	0.19	0.20	0.20	0.19	0.20	0.19	0.19

5

6 **D. Resource Acquisition Segment Cost Effectiveness**

7 **Table 4. Resource Acquisition Segment Cost Effectiveness**

	PY 2024		PY 2025		PY 2026		PY 2027	
	Forecast TRC	Forecast PAC	Forecast TRC	Forecast PAC	Forecast TRC	Forecast PAC	Forecast TRC	Forecast PAC
Commercial Program	0.82	1.12	0.82	1.10	0.82	1.08	0.82	1.06

8

1 **E. Total System Benefit (TSB) and Savings**

2 BayREN’s forecasted portfolio Total System Benefits (TSB) are detailed in the table
3 below.

4 **Table 5. Forecasted Portfolio TSB**

Sector	Forecasted Portfolio Total System Benefits (TSB)							
	PY 2024	PY 2025	PY 2026	PY 2027	PY 2028	PY 2029	PY 2030	PY 2031
Residential	1,964,605	2,015,901	2,041,532	2,193,635	2,368,899	2,551,391	2,747,077	2,953,264
Commercial	4,723,456	5,350,679	5,324,273	5,241,225	5,282,282	5,286,234	5,346,343	5,427,850
Public	0	0	0	0	0	0	0	0
WE&T	0	0	0	0	0	0	0	0
Codes and Standards	0	0	0	0	0	0	0	0
Portfolio	6,688,061	7,366,580	7,365,805	7,434,860	7,651,181	7,837,625	8,093,420	8,381,114

5
6 CPUC Decision Adopting Energy Efficiency Goals For 2022-2032 ³ set goals for the large
7 IOUs including TSB goals. It also allowed non-IOU PAs to update their TSB goals via budget
8 advice letters, portfolio applications, or mid-cycle advice letters. The TSB forecast above will
9 serve as BayREN’s TSB goal for the 2024-2027 cycle. Since D.21-09-037 does not set TSB goals
10 for non-IOU PAs, a comparison between projected and adopted TSB goals is not applicable.

³ D.21-09-037 at 29, FOF # 9.

1 **CHAPTER 2. FORECAST METHODOLOGY (J. BERG; R. JACOBY)**

2 **I. DEMONSTRATION OF REASONABLENESS**

3 As directed by the CPUC in D.21-05-031, zero-based budgeting was used to develop the
4 overall portfolio and sector budgets. The tables below show the breakdown of the budgets based
5 on portfolio segmentation and sector.

6 **Table 6. Budget by Portfolio Segment and Sector (Resource Acquisition)**

Resource Acquisition Portfolio Segment (2024-2027)					
	Administration	Implementation	Marketing	Incentives	Total
Commercial	\$904,966	\$5,244,409	\$1,303,198	\$11,500,000	\$18,952,573
Resource Acquisition Total	\$904,966	\$5,244,409	\$1,303,198	\$11,500,000	\$18,952,573

7
8 **Table 7. Budget by Portfolio Segment and Sector (Equity)**

Equity Portfolio Segment (2024-2027)					
	Administration	Implementation	Marketing	Incentives	Total
Residential	\$3,324,072	\$19,071,457	\$8,054,957	\$40,000,000	\$70,450,486
Commercial	\$797,208	\$5,220,571	\$981,381	\$11,500,000	\$18,499,160
WE&T	\$1,656,196	\$9,557,889	\$1,598,471	\$0	\$12,812,556
Equity Total	\$5,777,476	\$33,849,917	\$10,634,809	\$51,500,000	\$101,762,202

1 **Table 8. Budget by Portfolio Segment and Sector (Market Support)**

Market Support Portfolio Segment (2024-2027)					
	Administration	Implementation	Marketing	Incentives	Total
Residential	\$468,368	\$3,153,958	\$1,213,625	\$2,550,000	\$7,385,951
Public	\$1,850,312	\$6,668,351	\$869,089	\$1,227,798	\$10,615,550
Finance	\$828,994	\$4,922,714	\$2,682,430	\$0	\$8,434,138
Market Support Total	\$3,147,674	\$14,745,023	\$4,765,144	\$3,777,798	\$26,435,639

2

3 **Table 9. Budget by Portfolio Segment and Sector (Overall)**

Overall Portfolio (2024-2027)					
	Administration	Implementation	Marketing	Incentives	Total
Residential	\$3,792,440	\$22,225,415	\$9,268,582	\$42,550,000	\$77,836,437
Commercial	\$1,702,174	\$10,464,980	\$2,284,579	\$23,000,000	\$37,451,733
Public	\$1,850,312	\$6,668,351	\$869,089	\$1,227,798	\$10,615,550
WE&T	\$1,656,196	\$9,557,889	\$1,598,471	\$0	\$12,812,556
Finance	\$828,994	\$4,922,714	\$2,682,430	\$0	\$8,434,138
Codes & Standards	\$1,061,637	\$7,093,520	\$0	\$0	\$8,155,157
Portfolio Total	\$10,891,753	\$60,932,869	\$16,703,151	\$66,777,798	\$155,305,571

4

5 The annual budgets are based on the labor and non-labor costs by budget category and
6 functional area for each program for each BayREN member agency. Because every member
7 agency has actively participated in BayREN since its inception in 2013, a historical basis was used
8 to determine an estimated number of hours for each employee, then adjustments were incorporated
9 to account for changes in proposed program design, new programs, staffing capacity, and
10 anticipated public agency priorities over the portfolio application period. BayREN is implemented
11 by public agencies for which staff cost information is publicly accessible and approved through
12 labor agreements and public board(s) who approve labor rates. Member agencies have provided

1 fully-loaded staff cost information, apportioned by program and functional area, for each employee
2 anticipated to work on BayREN during this period. The labor costs, included in Exhibit 03,
3 Appendix C, reflect time charged directly to BayREN by “in-house” staff working at a BayREN
4 member agency. While the proposed labor costs are consistent with previous years, they include
5 the addition of several staff necessary to implement the proposed new programs, and to intertwine
6 BayREN programs more deeply into various jurisdictional priorities.

7 Non-labor costs, representing \$122 million (79%) of the total portfolio application budget
8 have been similarly itemized and are primarily incentives, which average \$17 million (43% of the
9 proposed budget) annually during the four-year period, which is consistent with our overall
10 approved incentive budget in the 2018-2023 Business Plan. BayREN has enhanced the typical
11 incentive program model with customer-focused technical assistance, innovative financing,
12 marketing and outreach, and capacity building services that improve the uptake, customer
13 satisfaction, and overall effectiveness of our programs. This has resulted in more than 60,000
14 housing units being upgraded, increasingly through electrification pathways in our residential
15 programs. Our collaborative efforts with the CCAs in our region have increased, resulting in the
16 layering of incentives and other program elements that ultimately benefit customers. BayREN’s
17 unique scale and structure enable us to leverage local government levers which amplify the value
18 received by the state and ratepayers, as well as by program participants.

19 The CPUC has repeatedly acknowledged the difficulty in REN portfolios achieving cost
20 effectiveness as historically measured. This difficulty is exacerbated in the market support and
21 equity market segments, which comprise 83% of the programs proposed in BayREN’s portfolio.
22 The proposed budget—and the portfolio segment breakdown—is based on supporting deeper
23 energy savings and GHG reductions which requires breaking down barriers and filling gaps for

1 individuals and businesses who have historically not been able to or willing to participate in utility
2 EE programs. While some efforts have been made by utilities to reach these historically
3 underserved populations and overcome these barriers, continued pressure on the IOUs to improve
4 cost-effectiveness and meet increased annual kWh savings goals has seen more emphasis from
5 IOU programs on targeted markets that have abundant and scalable cost-effective savings
6 potential. The result has been less emphasis on hard-to-reach markets that have plenty of savings
7 opportunities, but where potential participants have limited ability to cost share, and the savings
8 opportunities are smaller per customer. BayREN’s portfolio fills this gap by focusing on providing
9 EE services to these traditionally hard-to-reach markets. Recognizing these difficulties, BayREN
10 proposed Value Metrics in 2020 to better track the unique value BayREN provides to the region
11 and to the state.

12 **II. PROGRAM MODIFICATIONS FROM 2023 PORTFOLIO (J.** 13 **BERG)**

14 EM&V activities and program performance from 2023 may result in program
15 modifications to some of the existing programs but are not anticipated to be significant. Tactics
16 will be piloted in the 2022 and 2023 program years with the aim of more expansive activities upon
17 approval of this application. These pilots are discussed below in the sector chapters.

**III. PORTFOLIO ADMINISTRATION VS PROGRAM
IMPLEMENTATION COSTS (R. JACOBY)**

The table below⁴ provides a breakdown of Portfolio Administration and Program Implementation Costs for 2024-2027.

Table 10. Portfolio Administration and Program Implementation Costs

	2024	2025	2026	2027	2024-2027 Portfolio Application
Program Implementation	\$33,994,225	\$36,037,880	\$36,858,090	\$37,523,623	\$144,413,818 (93%)
Portfolio Administration	\$2,583,347	\$2,685,626	\$2,769,340	\$2,853,440	\$10,891,753 (7%)
Portfolio total (w/o EMV)	\$36,577,572	\$38,723,506	\$39,627,430	\$40,377,063	\$155,305,571

⁴ As directed in D.21-05-031 at 32-33.

1 **CHAPTER 3. SEGMENTATION STRATEGY (J. BERG)**

2 BayREN has programs in all segments, but as anticipated, the majority of the portfolio is
3 devoted to Equity and Market Support segments. The portfolio segmentation proposal leverages
4 BayREN’s strength as a local government organization by primarily implementing Equity and
5 Market Support programs that offer co-benefits of driving and enabling energy savings, as well as
6 a targeted Resource Acquisition program that delivers savings while staying true to the mission of
7 a REN. The programs also meet the three CPUC-directed criteria for REN programs.

8 RENs have not been held to a cost effectiveness standard because the programs must work
9 within these criteria and focus in large part on addressing hard-to-reach and underserved market
10 segments. BayREN recognizes that getting to deeper energy savings requires breaking down
11 barriers and filling gaps for the market and for individuals and businesses who have historically
12 not been able to or willing to participate in utility EE programs. These barriers⁵ include a range of
13 persistent challenges such as lack of capacity, lack of information and access to programs,
14 inequitable program design, affordability challenges, and linguistic isolation, to name a few. At
15 the same time, BayREN is focused on meaningful action to address the climate crisis, and reducing
16 emissions related to energy. As such, each program in the equity and market support areas will
17 have an energy savings element. The BayREN Business program, the only Resource Acquisition
18 program, will deliver cost effective savings to participating SMBs.

19 The proposed portfolio segmentation must be viewed in the context of the BayREN
20 territory, comprising the nine Bay Area counties and 109 cities, which is the fourth largest

⁵ See e.g., California Energy Commission, Commission Final Report, Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities at 3-4.

1 metropolitan area in the country. The region is geographically, socio-economically, and racially
2 diverse. The Bay Area has the following characteristics, challenges, and opportunities⁶:

3 • **Language**

4 160 different languages are spoken throughout the Bay Area region. Nearly one in ten
5 households do not speak English well or at all and face linguistic isolation, and many more
6 households consist of immigrants who are more comfortable in their native languages.

7 • **Disadvantaged Communities (DACs)**

8 There are nearly one million people in the Bay Area who are located in disadvantaged
9 communities in the most environmentally impacted areas—specifically within the top 25%
10 or higher tiers.

11 • **Housing Affordability**

12 The Bay Area has one of the highest costs of living in the country and faces a housing
13 affordability crisis. The median price of a home is over \$1 million, rising from \$250,000
14 in 1997, while the median household income has remained flat when adjusted for inflation.
15 Over 2.2 million people in the Bay Area are defined as having a high housing cost burden
16 because they pay over 50% of their income for housing.

17 • **Financially Fragile Small and Medium Businesses (SMBs)**

18 While strict shelter-in-place mandates related to the COVID-19 pandemic have largely
19 been lifted in the region, many SMBs have still not reopened. Even with local, state, and
20 national efforts directed towards this sector, the return to normalcy has been slow and
21 uneven, and most SMBs remain financially fragile and vulnerable to the slightest disruption
22 in the economic system. SMB decision-makers have many competing priorities, including

⁶ <https://bayareaequityatlas.org/>

1 rising energy and maintenance costs, supply-chain issues, staffing shortages, and
2 implementing ever-changing local health mandates, all while striving to maintain their core
3 business.

4 • **Workers and Low-wage Jobs**

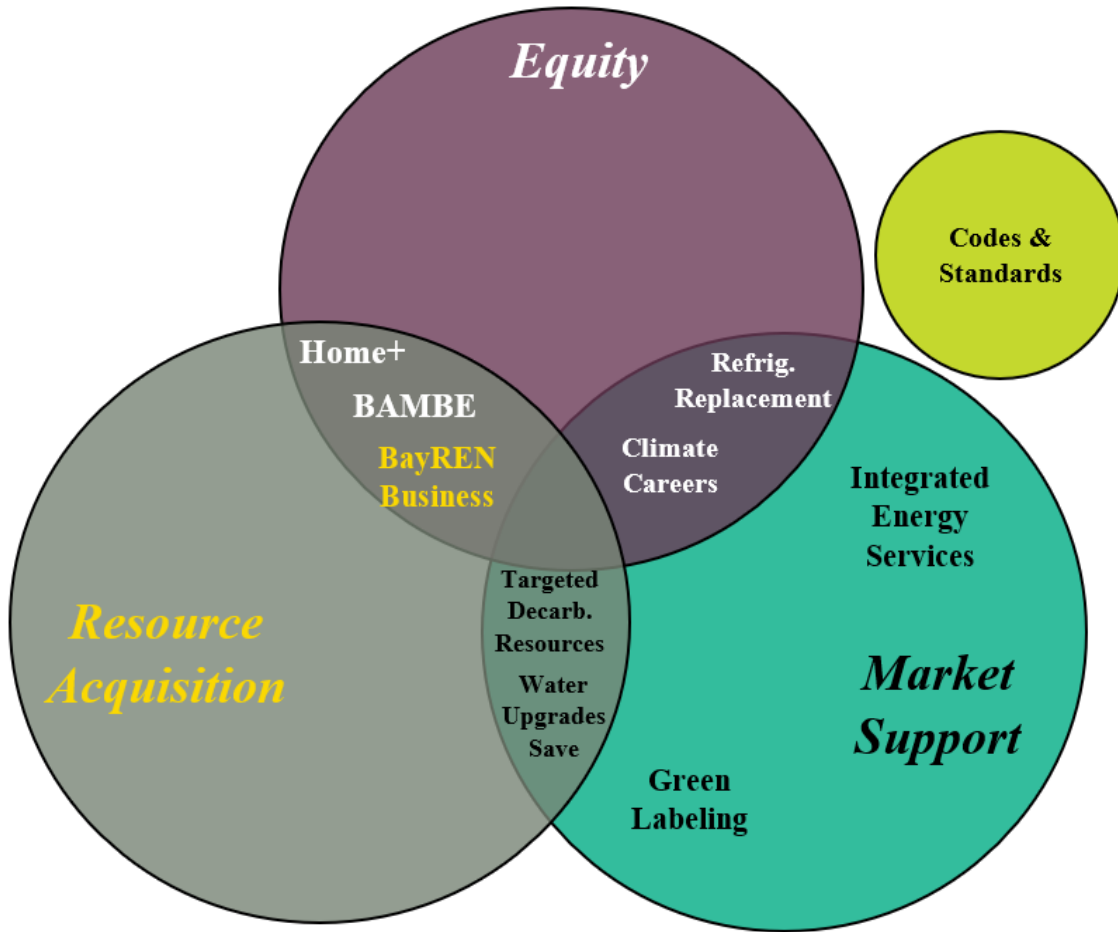
5 40% of all Bay Area jobs are considered low-wage jobs—one of the highest among similar
6 areas nationally—and the gap between high and low paying jobs is growing.

7 Accordingly, many of BayREN’s efforts are focused on targeting populations that speak
8 languages other than English, populations in DACs, and homes, businesses and workers that
9 struggle economically and are less likely to take EE actions. In addition to considering the local
10 context, BayREN’s distribution of programs also considers local needs. BayREN held multiple
11 forums with stakeholders to better understand local needs to inform the portfolio design. This
12 feedback also was considered when developing the distribution of budget across segments.

13 The portfolio segmentation is illustrated in Figure 1 below and depicts the region’s
14 overlapping needs and how BayREN addresses them. Four BayREN programs are categorized as
15 Market Support (green), four as Equity programs (maroon), and one as a Resource Acquisition
16 program (grey). Codes & Standards is shown in a separate circle given that it is excluded from the
17 portfolio segmentation requirement.⁷

⁷ D.21-05-005 at 16.

1 **Figure 1. BayREN Segmentation Strategy**



3 BayREN’s portfolio offers primarily Market Support and Equity programs, as is expected
4 of REN PAs. Many of the proposed 10 programs are also designed to leverage BayREN’s direct
5 connection to local governments and address local community needs that intersect multiple areas.
6 BayREN’s 2019 Process Evaluation calls out BayREN’s connection to local governments and
7 local jurisdictions as a core strength because this enables BayREN to account for the very different
8 needs of the 109 Bay Area jurisdictions when designing programs. This connection also enables
9 BayREN to leverage local resources and integrate EE programs with local efforts to support a
10 multitude of local climate goals.

1 Finally, BayREN’s efforts within each segment are also directly aligned with BayREN’s
 2 overall Portfolio Strategies, reflected in the table below.

3 **Table 11. Summary of Portfolio Strategies by Segment***

	Resource Acquisition	Codes and Standards	Market Support	Equity Segment
PS 1. Activate and engage key stakeholders and environmental and social justice (ESJ) communities in the development and delivery of programs.		✓		✓
PS 2. Address systemic barriers to energy efficiency and electrification, especially for, and in collaboration with, those who disproportionately face energy burdens, climate impacts, and are underrepresented in policy and decision-making.	(✓)			✓
PS 3. Provide technical assistance, access to resources, and actionable data to improve decision making resulting in building upgrades and long-term energy savings.	(✓)	✓	✓	
PS 4. Provide targeted and relevant training and support to improve effectiveness and build capacity.		✓	✓	(✓)
PS 5. Enhance the design and delivery of incentives and financing to remove barriers and ensure more customers can upgrade their buildings and produce energy savings.	✓			(✓)
PS 6. Develop innovative, equitable, regional-scaled offerings that enable customers to layer energy efficiency with other climate-based funding and resource programs to address the climate crisis.			✓	
* “✓” in parenthesis (✓) indicates a secondary strategy for the segment that is not discussed or prioritized in this chapter but is referenced in the sector specific sections. Only the primary strategies - shown by ✓ - for the segment are discussed herein.				

4

1 **I. STRATEGIES DRIVING DISTRIBUTION OF BUDGET AMONG**
2 **SEGMENTS**

3 BayREN’s distribution of budget among segments is based on: (1) CPUC guidance, (2) a
4 desire to support deeper energy savings and GHG reductions, which is both a state and local
5 priority, and (3) the Bay Area’s local context and needs.

6 In D.12-11-015 and again in D.21-05-031, the CPUC acknowledged that REN PAs have
7 different considerations given the types or programs that they have been directed to offer. The
8 foundational language from the CPUC regarding RENs informs the types of programs that
9 BayREN seeks to provide and provides some direction to the distribution of budget among the
10 segments.

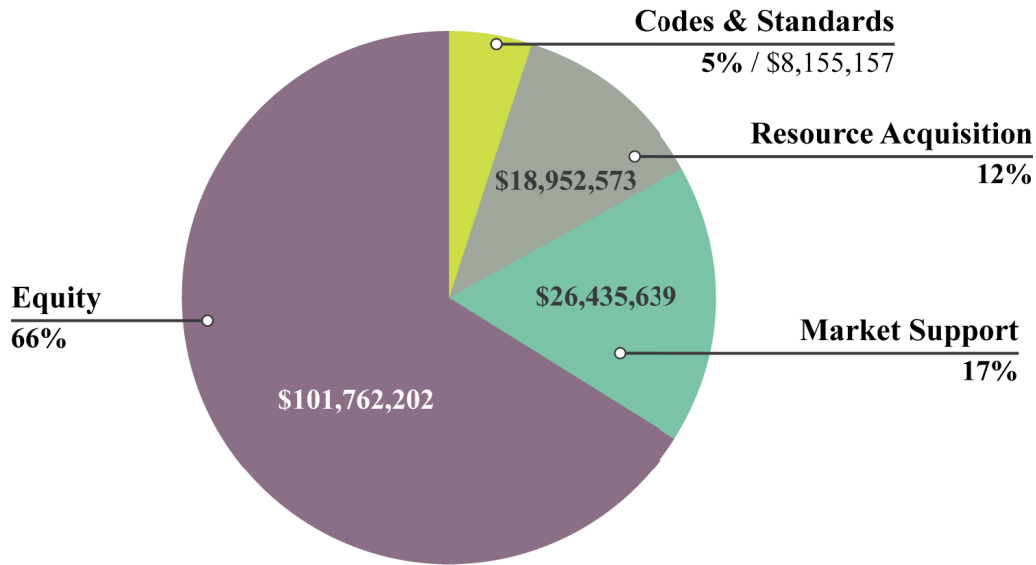
11 The budget request for existing programs is largely consistent with our approved BBAL
12 for program years 2022 and 2023 and our four-year portfolio program budget reflects an increase
13 of 7% (\$1.8 million) in 2024 due primarily to increased incentive funding for the Multifamily and
14 Green Labeling programs due to the continued increased uptake in these programs. Our portfolio
15 application also proposes the inclusion of two new sectors and four new programs— totaling \$9.1
16 million in 2024—all proposed in either the Equity or Market Support segments. The four-year
17 budget allocation also reflects a significant increase in focus on advancing equity through EE and
18 building decarbonization with 66% of our four-year program budget committed to equity
19 programs.

1 **Table 12. Distribution of Budget by Segment**

Sector	Resource Acquisition	Market Support	Equity	Codes and Standards	4 Year Budget Allocation
Residential		Green Labeling \$7,385,951 (28%)	Single Family (Home+) \$35,272,751 (35%) Bay Area Multifamily Building Enhancements (BAMBE) \$35,177,735 (34%)		\$77,836,437 (50%)
Commercial	BayREN Business \$18,952,573 (100%)		BayREN Refrigerant Replacement (BRRR) \$18,499,160 (18%)		\$37,451,733 (24%)
Public		Integrated Energy Services (IES) \$4,228,707 (16%) Targeted Decarbonization Resources \$6,386,843 (24%)			\$10,615,550 (7%)
Cross-Cutting		Water Upgrades Save \$8,434,138 (32%)	Climate Careers \$12,812,556 (13%)	Codes and Standards \$8,155,157 (100%)	\$29,401,851 (19%)
Total	\$18,952,573 (12%)	\$26,435,639 (17%)	\$101,762,202 (66%)	\$8,155,157 (5%)	\$155,305,571 (100%)

2

1 **Figure 2. Budget by Portfolio Segment (2024-2027)**
 Budget by Portfolio Segment (2024-2027)



2 **Table 13. Portfolio Application Budget by Market Segment and Program**

Market Segment	New/Existing	Program	Portfolio Application Budget
Equity	Existing	Single Family	\$35,272,751
Equity	Existing	Multifamily	\$35,177,735
Equity	New	Business Refrigerant Replacement	\$18,499,160
Equity	New	Climate Careers	\$12,812,556
Market Support	Existing	Water Upgrades \$ave	\$8,434,138
Market Support	Existing	Green Labeling	\$7,385,951
Market Support	New	Targeted Decarbonization Services	\$6,386,843
Market Support	New	Integrated Energy Services	\$4,228,707
Resource Acquisition	Existing	Business	\$18,952,573
Codes & Standards	Existing	Codes & Standards	\$8,155,157

1 **Table 14. Portfolio Application and Business Plan Requested Budget**

	2024-2027 Portfolio Application	2024-2031 Business Plan
Portfolio Administration	\$10,891,753 (7%)	\$22,887,729 (7%)
Program Implementation	\$144,413,818 (93%)	\$302,164,636 (93%)
PA EM&V	\$1,779,543	\$3,724,558
CPUC EM&V	\$4,691,523	\$9,819,291
Total Requested Budget	\$161,776,637	\$338,596,214

2

3 BayREN’s distribution of budget among segments is based on a desire to support deeper
 4 energy savings and GHG reductions which requires breaking down barriers and filling gaps for
 5 individuals and businesses who have historically not been able to or willing to participate in utility
 6 EE programs. Given CPUC guidance, the desire to support deeper energy savings and GHG
 7 reductions, and the Bay Area’s local context and needs, BayREN’s distribution of budget among
 8 segments reflects the following evolutions in our programming: 1) a greater focus on equity, 2)
 9 increased support for local governments based on local needs, and 3) timely response to quickly
 10 evolving Bay Area and state policy trends and goals regarding building electrification and climate
 11 resilience.

12 **A. Greater Focus on Equity**

13 In 2021, BayREN commenced an extensive strategic planning process that readily aligns
 14 with the guidance for the new Business Plans as well as the Portfolio Segmentation. Overlaying
 15 the future planning is the vision: “By 2025, BayREN’s organization, resources and programs will

1 evolve to more intentionally integrate equity, while filling gaps and addressing barriers to energy
2 efficiency and electrification, as an essential part of meeting state climate and energy goals.”⁸

3 While “equity” programs have been defined in D.21-05-031 and the objectives and metrics
4 were further refined by CAEECC, BayREN has its own additive definition: “For BayREN, equity
5 means addressing systemic barriers to energy efficiency and electrification, especially for, and in
6 collaboration with equity priority communities and those who disproportionately face energy
7 burdens, climate impacts, and are underrepresented in policy and decision-making.”⁹ BayREN’s
8 equity principles will be incorporated into the program design and outreach strategies even for
9 programs that are not deemed to be in the equity segment.

10 **B. Increased Support for Local Governments Based on Local Needs**

11 BayREN programs have evolved to adapt to the markets and customers which by CPUC
12 directive are difficult to serve. From an increased focus on hard-to-reach markets, to
13 responsiveness to COVID-19 pandemic impacts, programs have evolved to best assist local
14 communities. These challenges, combined with ever growing responsibilities to reduce GHG
15 emissions and build community resilience to climate impacts, make it increasingly difficult for
16 local governments to respond, let alone be proactive, to diverse community needs. BayREN plays
17 a critical role as a regional provider of EE programs and resources for local governments.
18 BayREN’s Codes & Standards program will continue to provide resources and support, technical
19 assistance, and policy guidance, while our new Public Sector programs will focus on expanding

⁸ BayREN Exhibit 01, Appendix A at 6.

⁹ BayREN Exhibit 01, Appendix A at 9.

1 these resources to help meet local energy and resilience goals. The program modifications and new
2 programs were developed based on stakeholder feedback.¹⁰

3 In 2020 BayREN provided critical educational resources for local governments through
4 additional support for the California Climate & Energy Collaborative (CCEC). CCEC activities
5 fill the gaps left by the elimination of half of the PG&E Local Government Partnerships in the Bay
6 Area as well as the sunseting by the IOUs of the Statewide Energy Efficiency Collaborative
7 (SEEC). These efforts align with both CPUC directives and the recommendations from the
8 BayREN 2019 Process Evaluation regarding providing support to local jurisdictions.

9 **C. Timely Response to Local Needs and Bay Area and California**
10 **Policy Trends and Goals**

11 As California continues to invest in and design a pathway for a decarbonized state,
12 BayREN has integrated multiple strategies to fill gaps in the CPUC EE portfolio. While continuing
13 successful programs, BayREN proposes new programs and modifications to existing programs to
14 expand its reach to DACs and at-risk youth populations, as well as integrate demand-side
15 management (DSM) strategies that help prepare the local building stock to fully decarbonize.

16 BayREN is proposing two new sectors and four new programs designed to respond to
17 quickly evolving energy and equity goals and climate policy trends at the local and state level.
18 Two new Public Sector programs will expand BayREN’s current offerings to ensure that local
19 government staff have the support and technical assistance needed to develop effective local
20 policies to both help meet local and state energy and emission reduction goals and better prepare
21 communities for climate impacts with a focus on our most vulnerable populations.

¹⁰ See Stakeholder Engagement section below.

1 The Integrated Energy Services program and the Targeted Decarbonization Services
2 program seek to expand demand for high impact integrated building upgrades and support market
3 development for decarbonization equipment and technologies through demonstrations of
4 successful decarbonization projects. This type of support is critical for under-resourced local
5 governments and enables local jurisdictions to benefit from BayREN’s regional reach and
6 expertise by creating platforms for exchanging knowledge and providing high-value, consistent,
7 and no-cost technical assistance across the Bay Area.

8 The new Workforce Education and Training program, Climate Careers, is an equity
9 program that seeks to fill gaps in the market and respond directly to the need to both grow the
10 residential EE and electrification workforce and to provide high road jobs for low-income youth
11 to meet statewide energy goals and support local economic development. Climate Careers will
12 focus on training and employing youth from low-income households to earn income by providing
13 residential EE services, learn and practice foundational skills, and be introduced to clean economy
14 careers.

15 The new BayREN Refrigerant Replacement program (BRRR), also an equity program,
16 seeks to reduce high Global Warming Potential (GWP) and Ozone Depletion Potential (ODP)
17 refrigerants, a state priority. BRRR will serve the Bay Area’s food service sector exclusively,
18 performing refrigerant changeouts to small restaurants, bars, grocery and convenience stores, and
19 food-storage warehouses. BRRR will also integrate, as-needed, repairs to refrigeration systems to
20 prevent future refrigerant leaks and optimize performance. In addition to alignment with California
21 climate policy, the program will also improve the economic viability of SMBs, one of the sectors
22 hardest hit by the impacts of the ongoing COVID-19 pandemic, by reducing utility and

1 maintenance costs and reducing the incidence of repair/replacement of equipment and associated
2 lost product by more proactively maintaining refrigeration equipment.

3 BayREN’s portfolio embraces actions to address the climate crisis and reduce emissions
4 related to energy to support local jurisdictions, residents, and businesses in meeting statewide
5 climate goals. The programs in the Equity and Market Support areas are intended to contribute to
6 energy savings (or GHG reductions) in either the short or long-term. The BayREN Business
7 program, the only Resource Acquisition program, will deliver cost effective savings. BAMBE and
8 Home+, while focused primarily on equity populations, will also directly contribute energy
9 savings, as will the Targeted Decarbonization projects within the Public Sector. The other five
10 programs will indirectly support energy savings and/or GHG reductions.

11 **II. RESOURCE ACQUISITION (J. BERG; R. JACOBY; L. CHU)**

12 **A. Preliminary Distribution of Resource Acquisition Budget**

13 BayREN’s budget for the Resource Acquisition program, and the preliminary distribution
14 for 2024-2027, is shown in the table below. Compared to Program Year 2023, BayREN proposes
15 an increase in 2024 of approximately \$0.3 million for its Resource Acquisition budget to fund the
16 BayREN Business program. As shown below, an annual increase is included for this program over
17 the portfolio application period primarily driven by increases in the program’s incentives budget.

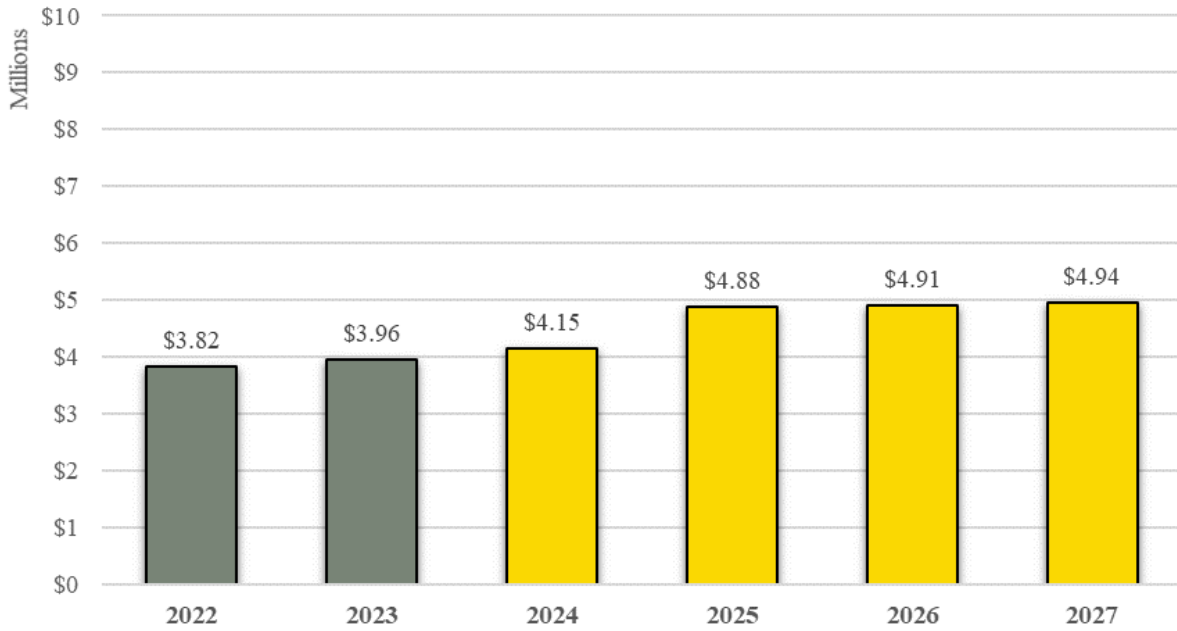
18 **Table 15. Resource Acquisition by Sector**

Resource Acquisition by Sector	Program	4 Year Budget Allocation
Commercial	BayREN Business	\$18,952,573 (12%)

19

1 **Figure 3. Approved and Proposed Annual Budget, Resource Acquisition**

Approved and Proposed Annual Budget, Resource Acquisition



2

3

B. Resource Acquisition Strategies, Goals, and Outcomes

4

The primary strategy for the BayREN Business Resource Acquisition program is (PS 5) to enhance the design and delivery of incentives and financing to remove barriers and ensure more customers can upgrade their buildings and produce energy savings. Several of BayREN’s other programs, though not categorized as Resource Acquisition, were previously considered resource programs and will continue to directly contribute energy savings.¹¹

9

While the BayREN Business program has several program-level goals (discussed in the sector chapter), the primary purpose of this program is delivering energy savings.

10

¹¹ These programs, Home+ and BAMBE, are both in the Residential Sector and are discussed in that section below.

1 **C. Projected Resource Acquisition Annual Metrics**

2 BayREN Business focuses on implementing interventions designed to help SMB
3 customers understand and manage their long-term energy usage. The program provides EE
4 equipment and controls with no upfront cost, a prerequisite for many SMBs that have and continue
5 to be severely impacted by the COVID-19 pandemic. Each project is completely financed through
6 measured and verified energy savings and rebates. The BayREN Business program is a Resource
7 Acquisition program as it offers comprehensive, performance-based energy savings and
8 operational co-benefits under terms that are simple and attractive to SMB owners, with little or no
9 capital investment requirements on the part of participating customers. By targeting both higher
10 and lower energy users, more SMBs are able to upgrade their buildings and achieve energy
11 savings. This method overcomes the common obstacles of lack of time, money, and expertise to
12 accomplish EE improvements.

13 The key outcomes that will be measured and tracked include:

- 14 ● Energy savings (both kWh and therms, annual and lifetime)
- 15 ● Demand savings
- 16 ● TSB
- 17 ● Savings as a percent of sector use
- 18 ● CO2-equivalent of net annual kWh savings
- 19 ● Lifecycle energy savings as a fraction of total project consumption
- 20 ● TRC and PAC levelized costs by kWh, kW and therm

21 Program metrics, including value metrics, are shown in BayREN Exhibit 03, Appendix B.

22 **D. Resource Acquisition Coordination**

23 The growing number of program offerings in the region is a rich opportunity to increase
24 Commercial Sector penetration rates. Each program has a target group within the sector, along

1 with specific EE measures. Since no single program serves the entire Commercial Sector, the key
2 to increasing penetration rates is efficient and effective coordination among programs and between
3 PAs.

4 The BayREN Building Performance Advisor (BPA) is the ideal agent to coordinate with a
5 multitude of programs serving the Commercial Sector. As a concierge, the BayREN BPA directs
6 interested participants to the appropriate programs based on their needs. In this capacity, the
7 BayREN BPA generates leads not only for BayREN’s Business and BRRR programs, but also for
8 third party and other PAs’ programs and financing.

9 Beyond regular check-in meetings, ongoing coordination with CCAs, PG&E, and regional
10 SMB and third-party implementers will be incorporated into the implementation plans and Joint
11 Cooperation Memo (JCM), as required by the CPUC. (See below section on Portfolio
12 Coordination.)

13 **III. CODES AND STANDARDS (K. KRISTIANSSON; J. BERG; R.**
14 **JACOBY)**

15 BayREN’s Codes and Standards (C&S) program is a cross-cutting program that supports
16 other programs within the portfolio. While the C&S program is not required to fit into one of the
17 three segments identified by the CPUC,¹² it has program elements that support all three portfolio
18 segments. BayREN’s C&S program contributes to market support through training of local
19 building officials on energy codes to ensure better compliance and greater efficiencies with
20 permitting processes, and through training of contractors on new energy technologies to help
21 ensure their work is code compliant. It supports the Resource Acquisition segment through
22 increasing compliance with and enforcement of state and local energy codes to ensure that the

¹² D.21-05-005 at 16: “C&S Programs will remain separate” from categorization.

1 modeled energy savings in the codes are achieved in practice. The program addresses equity by
 2 increasing compliance with energy codes in new and existing residential buildings to help ensure
 3 that all residents receive the benefits of a safe, efficient, and legally permitted living space.

4 **A. Preliminary Distribution of Codes and Standards Budget**

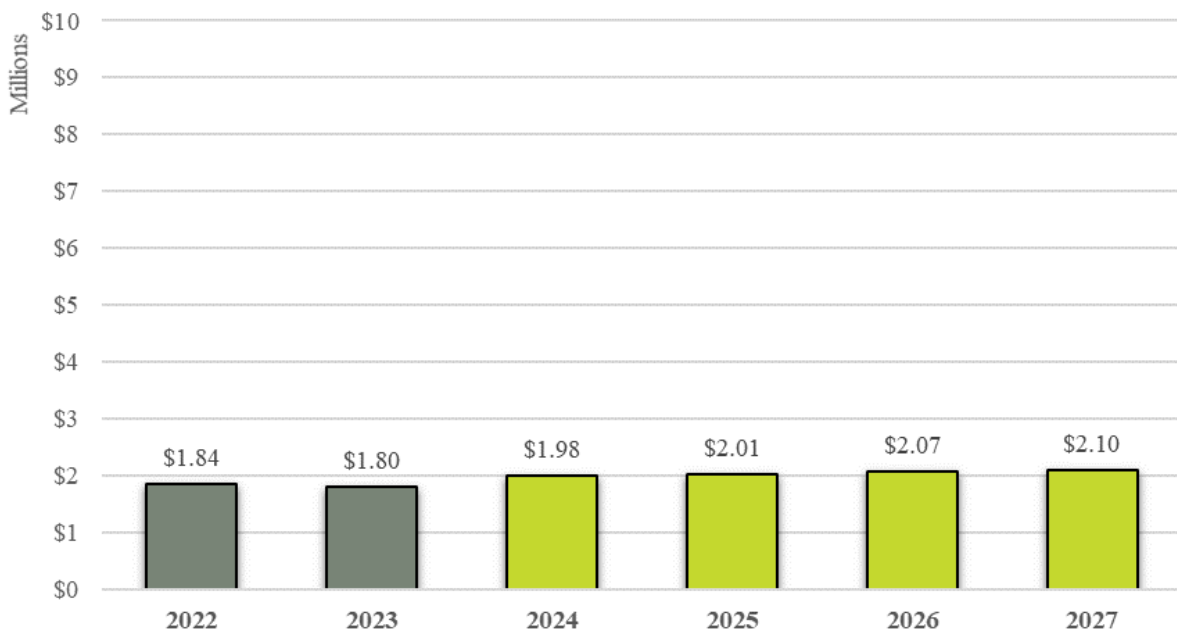
5 Compared to 2023, BayREN proposes a net increase in 2024 of approximately \$0.2 million
 6 for its Codes & Standards program. As shown below, a modest annual increase is included for this
 7 program over the portfolio application period, rising from \$1.9 million in 2024, to \$2.1 million in
 8 2027 to support an increase in activities.

9 **Table 16. Preliminary Codes & Standards Budget by Sector**

Codes and Standards by Sector	Program	4 Year Budget Allocation
Cross-cutting	Codes and Standards	\$8,155,157 (5%)

10
 11 **Figure 4. Approved and Proposed Annual Budget, Codes & Standards**

Approved and Proposed Annual Budget, Codes & Standards



12

1 **B. Codes and Standards Strategies, Goals, and Outcomes**

2 BayREN’s Codes & Standards program strategies include:

3 PS 4. Providing targeted and relevant training and workforce support to improve
4 effectiveness and build capacity.

5 PS 3. Providing technical assistance, access to resources, and actionable data to improve
6 decision making resulting in building upgrades and long-term energy savings.

7 PS 1. Engaging key stakeholders and ESJ communities in the development and delivery of
8 programs.

9 BayREN’s segment-related goals include supporting energy-saving market activities while
10 also helping support energy savings for all communities. (Program specific goals can be found in
11 the Codes and Standards Chapter.)

12 **C. Projected Codes and Standards Annual Metrics**

13 The C&S-specific annual portfolio and sector level metrics for BayREN’s C&S Program
14 include:

- 15 ● The number of LGs that use BayREN trainings, guides and tools to improve code
16 compliance
- 17 ● The number of LG staff knowledgeable of energy code requirements and best practices
18 for code compliance
- 19 ● The number of LG staff receiving policy assistance and expand energy policy
20 knowledge and/ or networks that enable future energy policy work
- 21 ● The number of reach codes supported by BayREN (counted within the statewide
22 metric for reach codes)

23 Program metrics, including value metrics, are shown in BayREN Exhibit 03, Appendix B.

1 **D. Codes and Standards Coordination**

2 Collaboration with Bay Area local governments is one of the C&S program’s foundational
3 strategies along with coordination with other stakeholders. In the BayREN territory, PG&E is
4 another PA that implements its own as well as the statewide C&S programs. In addition to the
5 annual JCM that BayREN and PG&E are required to file each year, the BayREN and PG&E C&S
6 staff hold monthly coordination calls and maintain a highly collaborative working relationship that
7 has resulted in filling gaps, sharing resources, and supporting Bay Area local government staff.
8 For example, BayREN and PG&E have jointly developed and offered training, drafted model reach
9 code language, and hosted C&S stakeholder events.

10 BayREN also coordinates with the seven CCAs in the Bay Area. Staff from several CCAs
11 participate in BayREN’s reach code working group calls. BayREN has provided reach code
12 information to and coordinated efforts with Peninsula Clean Energy, Silicon Valley Clean Energy,
13 and East Bay Community Energy. These CCAs have all leveraged BayREN’s reach code training
14 for jurisdictions in their territories with adopted reach codes.

15 BayREN coordinates with other REN C&S programs as well. The Tri-County REN (3C-
16 REN) is currently the only other REN with an operating C&S program, although the CPUC has
17 approved a C&S program for the new Inland Regional Energy Network (I-REN).

18 The BayREN and 3C-REN C&S programs share trainers and have agreed to leverage each
19 other's training curricula. At its inception, 3C-REN offered a number of BayREN-developed
20 trainings, and BayREN has since used 3C-REN trainings as a base for new BayREN training
21 offerings, a collaboration that saves ratepayer dollars. BayREN has also coordinated with 3C-REN
22 on other activities, including developing comments for CEC and CPUC proceedings.

1 **IV. MARKET SUPPORT (C. CONE; E. ALVAREZ; K.**
2 **KRISTIANSSON; M. SUTTER)**

3 Market support programs are “programs with a primary objective of supporting the long-
4 term success of the EE market by educating customers, training contractors, building partnerships,
5 or moving beneficial technologies towards greater cost-effectiveness.”¹³ Specifically, as described
6 by the Market Support Metric Working Group (MSMWG),¹⁴ Market Support programs should
7 “[s]upport[...]the long-term success of the energy efficiency (EE) market”.¹⁵

8 **A. Preliminary Distribution of Market Support Budget**

9 17% of the BayREN portfolio is proposed as Market Support. The programs are: Green
10 Labeling, Integrated Energy Services, Targeted Decarbonization Resources and Water Upgrades
11 \$ave. The preliminary distribution for 2024-2027 is shown in the table below. Compared to 2023,
12 BayREN proposes a net increase in 2024 of approximately \$0.8 million for its existing Water
13 Upgrades \$ave and Green Labeling programs, and for two new programs, an increase of
14 approximately \$2.1 million for the Targeted Decarbonization Services (\$1.1 million) and
15 Integrated Energy Services (\$1.0 million) programs. As shown below, a modest annual increase is
16 included for each of these four programs over the portfolio application period. Beginning in 2025,
17 the Targeted Decarbonization Services program anticipates offering decarbonization incentives—
18 initially \$0.2 million, rising to \$0.5 million annually in 2026 and 2027, resulting in the overall

¹³ D.21-05-031 at 14.

¹⁴The CPUC directed the California Energy Efficiency Coordinating Circle (CAEECC) to form a working group to develop and vet new reporting metrics for the market support category that will be considered alongside the program administrators’ portfolio applications. D.21-05-031 at 84, OP # 14.

¹⁵ See BayREN Exhibit -03, Appendix D, MSMWG Final Report at 13.

1 proposed Market Support budget increases annually from \$5.8 million in 2024 to \$7.3 million in
 2 2027.

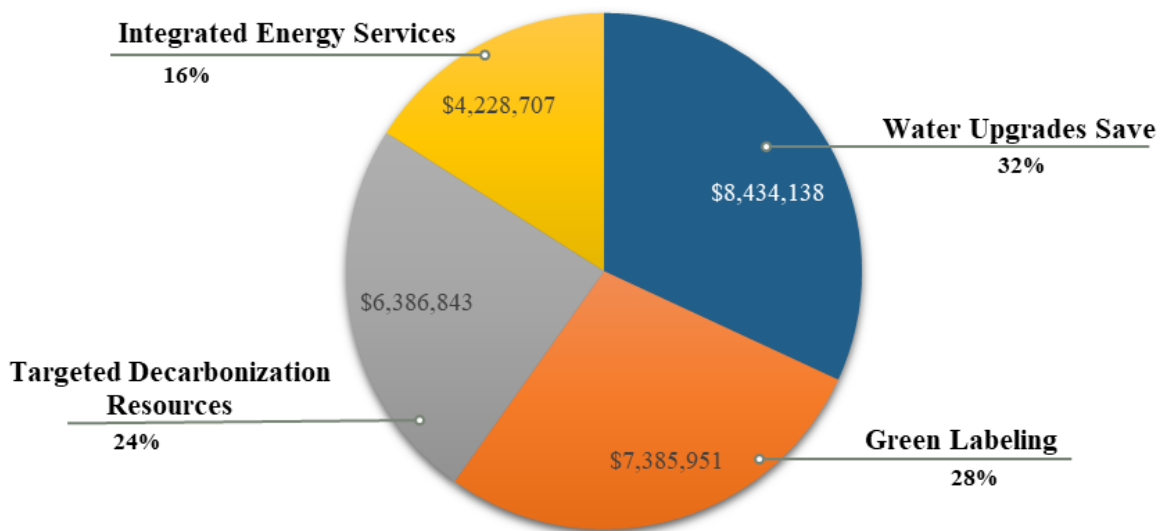
3 **Table 17. Preliminary Market Support Budget by Sector**

Market Support by Sector	Program	4 Year Budget Allocation
Residential	Green Labeling	\$7,385,951 (28%)
Cross-cutting	Water Upgrades \$ave	\$8,434,138 (32%)
Public	Integrated Energy Services (IES)	\$4,228,707 (16%)
	Targeted Decarbonization Resources (TDS)	\$6,386,843 (24%)
Total		\$26,435,639 (17%)

4

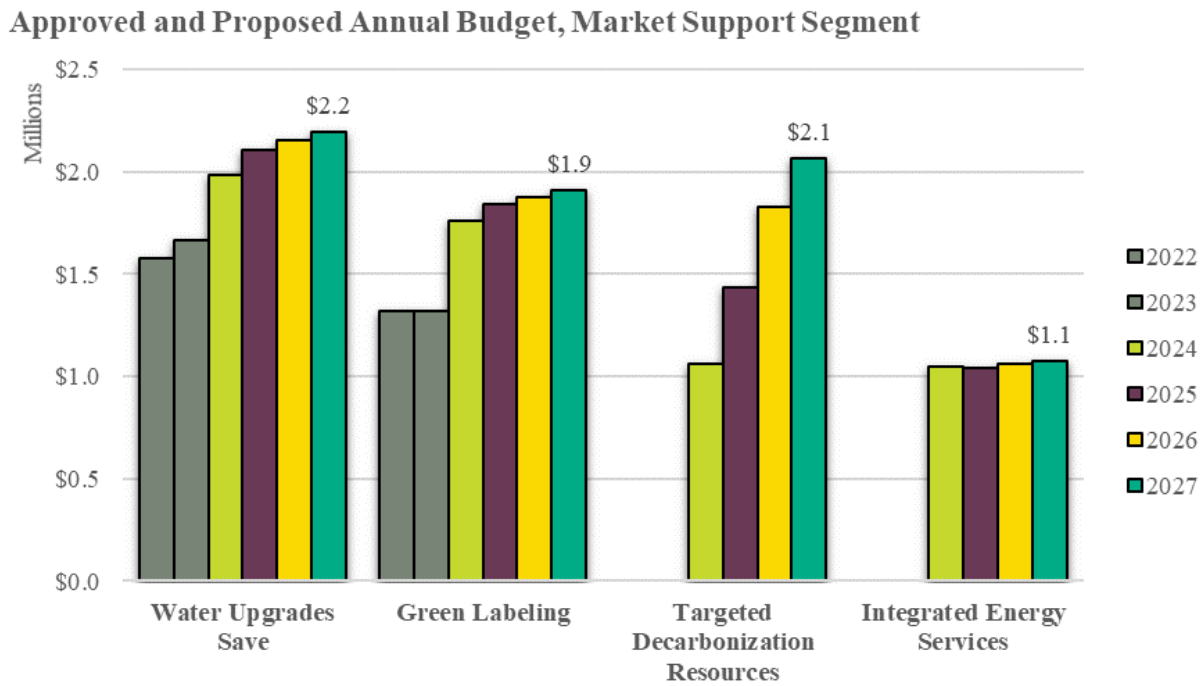
5 **Figure 5. Proposed Portfolio Application Budget, Market Support Segment**

Proposed Portfolio Application Budget, Market Support Segment



6

1 **Figure 6. Approved and Proposed Annual Budget, Market Support Segment**



2

3 **B. Market Support Strategies, Goals, and Outcomes**

4 BayREN’s Market Support strategies align with the Portfolio Strategies, including (PS 4)
 5 provide targeted and relevant training and support to improve effectiveness and build capacity,
 6 (PS 3) provide technical assistance, access to resources, and actionable data to improve decision
 7 making, resulting in building upgrades and long-term energy savings, and (PS 6) develop
 8 innovative, equitable, regional-scaled offerings that enable customers to layer EE with other
 9 climate-based funding and resource programs to address the climate crisis.

10 BayREN’s Market Support programs are designed with the goal of meeting select Market
 11 Support Metrics Working Group (MSMWG) stated sub-objectives for Market Support programs:¹⁶

¹⁶ BayREN Exhibit 03, Appendix E. The bracketed items below are taken from the WSMWG report.

- 1 • **Demand**
- 2 Build, enable, and maintain demand for energy efficient products, and services in all
- 3 sectors and industries to ensure interest in, knowledge of benefits of, or awareness of how
- 4 to obtain EE products and/or services. [Activity e.g., educating customers, building
- 5 demand]
- 6 • **Supply**
- 7 Build, enable, and maintain supply chains to increase the capability and motivation of
- 8 market actors to supply energy efficient products, and/or services and to increase the
- 9 ability, capability, and motivation of market actors to perform/ensure quality installations
- 10 that optimize EE savings. [Activity e.g., training contractors]
- 11 • **Partnerships**
- 12 Build, enable, and maintain partnerships with consumers, governments, advocates,
- 13 contractors, suppliers, manufacturers, community-based organizations and/or other entities
- 14 to obtain delivery and/or funding efficiencies for EE products, and/or services and added
- 15 value for partners. [Activity e.g., building partnerships]
- 16 • **Innovation and Accessibility**
- 17 Build, enable, and maintain innovation and accessibility in technology, approaches, and
- 18 services development to increase value of, decrease costs of, increase EE of, and/or

1 increase scale of and/or access to emerging or existing energy efficient products, and/or
2 services. [Activity e.g., moving beneficial technologies towards greater cost effectiveness]

3 • **Access to Capital**

4 Build, enable, and maintain greater, broader, and/or more equitable access to capital and
5 program coordination to increase affordability of and investment in energy efficient
6 projects, products, or services. [Activity e.g., access to capital]

7
8 The proposed outcomes for BayREN’s Market Support programs that align with these sub-
9 objectives are described below.

10 ***1. Projected Market Support Annual Metrics***

11 BayREN’s Market Support metrics are consistent with the direction provided from the
12 MSMWG and measure the five identified sub-objectives. The metrics that align with those
13 requested by the CAEECC are described below. BayREN also details all of our metrics, including
14 our BayREN value metrics, in BayREN Exhibit-03 - Appendix B, Tabs 17, 18.1 and 18.2. Program
15 by program metrics are listed in the program cards.

16 ***2. Projected Program-Level Performance Metrics***

17 The program-level performance metrics are described below and the detailed metrics are
18 listed in each program card, attached collectively in Appendix A. In addition, these programs also
19 include value metrics.

20 **a. Green Labeling (Residential Sector)**

21 The Green Labeling program offers two primary services: (1) training Bay Area assessors
22 to perform a U.S. Department of Energy (DOE) Home Energy Score and offering a rebate for each
23 score performed, and (2) providing continuing education for realtors, appraisers, and lenders to
24 increase their ability to understand, market and evaluate energy efficient and green homes. Because

1 the value of EE in homes is unclear to most residents¹⁷ standardized energy asset ratings for
2 residential (and non-residential) buildings, like Home Energy Score, are needed. A standard energy
3 asset rating is best accomplished regionally to minimize a patchwork of programs and availability.
4 BayREN has assisted local governments that have mandated Home Energy Scores into local
5 ordinances.¹⁸ The program level metrics measure the outcomes specific to the Market Support
6 segment, including:

- 7 • Increasing the **demand** for EE as measured by the number of single-family
8 homeowners and renters who have obtained EE products/services (Home Energy
9 Score).
- 10 • Increasing **supply** as measured by the number of real estate professionals trained about
11 EE and their level of knowledge of EE products and services.
- 12 • Supporting **innovation and accessibility** of technologies, approaches, and services as
13 measured by setting up the processes to provide ongoing delivery of Home Energy
14 Score for the public and other regional mechanisms to make EE transparent.

15 **b. Integrated Energy Services (Public Sector)**

16 Both of BayREN's new Public Sector programs fall into the Market Support segment. The
17 Integrated Energy Services program is a technical assistance program that works with local
18 governments that are owners of municipal buildings and helps them to plan and implement energy

¹⁷ “It is not obvious to many homeowners that deep energy efficiency retrofits can create multiple benefits including bill savings and better air quality, or what options are available to them to pursue deep retrofits.” CEC 2019 California Energy Efficiency Action Plan at 24.

¹⁸ See Berkeley Building Emissions Savings Ordinance and Piedmont Existing Building Reach Code. Both jurisdictions have mandated a Home Energy Score either at time of sale, major renovation, or other qualifying event. Through the Codes and Standards Program, assistance was provided to the local governments as they developed their local ordinances.

1 improvements in public buildings. Local governments should lead by example, and “[public]
2 buildings play a unique role in showcasing energy efficiency possibilities while saving on
3 operating costs.”¹⁹ The program level metrics measure the outcomes specific to the Market Support
4 segment, which include:

- 5 • Increasing the **demand** for EE as measured by the number of Bay Area local
6 governments receiving EE products or services through the public programs.

7 **c. Targeted Decarbonization Resources (Public Sector)**

8 The Targeted Decarbonization Resources program also focuses on local government
9 owners of municipal buildings. Many jurisdictions in the BayREN territory lack capacity to hire
10 staff focused on EE or other GHG reduction improvements,²⁰ and they also lack the necessary
11 capital to actually make the improvements. As a regional collaborator, BayREN has the ability to
12 leverage other funding sources—and provide services—to further local GHG emission reduction
13 goals. The program level metrics measure the outcomes specific to the Market Support segment,
14 including:

- 15 • Increasing the **demand** for EE of Bay Area local governments taking action to install
16 decarbonization EE products or services through the public programs.
- 17 • Increasing **innovation and accessibility** as measured by the number of
18 decarbonization projects supported.

¹⁹ CEC 2019 California Energy Efficiency Action Plan, at 38.

²⁰ Indeed, this is a challenge across the state. CEC 2019 California Energy Efficiency Action Plan at 39.

1 **d. Water Upgrades \$ave (Cross-Cutting)**

2 The Water Upgrades \$ave program supports the long-term success of the EE market by
3 creating an easy process to obtain energy and water savings without using CPUC funds as
4 incentives or to pay for the equipment or installation. The on-bill tariff (water bill only) service
5 enables water customers to pay for their efficiency upgrades from resulting water and energy bill
6 savings. The program delivers its accessible customer service in partnership with Bay Area water
7 utilities, BayREN county members, and BayREN’s parent agency and capital provider, ABAG.
8 This approach provides a unique platform to leverage local water utility resources and private
9 capital to deliver enhanced value to the CPUC EE portfolio.

10 BayREN Water Upgrades \$ave supports the market as demonstrated by:

- 11 ● Using **partnerships** to obtain delivery and/or funding efficiencies as measured by the
12 number and type of partnerships created and the number of EE customers or market
13 actors reached through the partner communications or the partner networks.
- 14 ● Enabling **access to capital** as measured by the dollar value of all projects paid through
15 the program funding mechanism (i.e., the water on-bill tariff).

16 **C. Market Support Coordination**

17 While there are different implementers for the programs, the program leads and the county
18 member agencies are all part of the BayREN organization allowing for organic coordination. The
19 reporting for all BayREN programs is done by a single third party that creates economies of scale
20 in program management by sharing program management templates, data collection, and reporting
21 strategies across all Market Support programs.

22 **D. Interaction with Market Transformation Activities**

23 The Market Support Metric Working Group report acknowledges the need to form a
24 collaborative approach between the Market Transformation Administrator (MTA) and EE PAs.

1 Further, it describes the conceptual distinctions between Market Transformation (MT) and Market
2 Support (MS) where MT projects target reducing barriers to specific technologies while MS
3 provides cross-cutting support of the EE market. MT projects seek to change and disrupt the market
4 while MS programs seek to support existing or anticipated market needs. Lastly, MT is intended
5 to be phased out after achieving a sustainable market while the market may need ongoing support
6 from MS programs.

7 BayREN will review the technologies being addressed by the MT Initiative and coordinate
8 efforts where there is overlap to reduce (or eliminate) any duplication as needed.

9 **V. EQUITY (J. MITCHELL-JACKSON; C. MARY-DAUPHIN; J.**
10 **LIANG; W. BROWN; L. CHU)**

11 Equity programs are “programs with a primary purpose of providing energy efficiency to
12 hard-to-reach or underserved customers and disadvantaged communities in advancement of the
13 Commission’s Environmental and Social Justice (ESJ) Action Plan; Improving access to energy
14 efficiency for ESJ communities, as defined in the ESJ Action Plan, may provide quality of life
15 improvements and more affordable utility bills, consistent with Goals 1, 2, and 5 in the ESJ Action
16 Plan.”²¹

17 The Equity programs align with PS 1, PS 2, PS 4 and PS 5. Equity is also embedded
18 throughout all BayREN programs. As part of the Strategic Plan, BayREN developed an equity
19 framework and equity discussion guide to develop, embed, and measure equity goals. The
20 framework sets clear targets across a variety of desired equity outcomes.

21 BayREN, as an organization, supports equity by:

²¹ D.21-05-031 at 14-15.

- 1 ● Consideration of six equity areas when making programmatic and operational
2 decisions;²²
- 3 ● Supporting local government priorities to provide for equity-priority audiences in their
4 communities;
- 5 ● Building a path for participation and enhanced engagement of ESJ and underserved
6 communities;
- 7 ● Improving communications to targeted audiences with an ESJ lens; and
- 8 ● Continuing to expand engagement with community-based organizations (CBOs) that
9 serve ESJ and underserved communities.

10 While four programs are in the Equity segment, all of BayREN’s programs aim to
11 incorporate equity (per BayREN’s Strategic Plan) in their design and operation. BayREN’s
12 programs also seek to support the objectives proposed by the Equity Metrics Working Group
13 (EMWG),²³ specifically, to reach “hard-to-reach, disadvantaged, and/or underserved individuals,
14 households, businesses, and communities; address disparities in access to energy efficiency
15 programs and workforce opportunities; promote resilience, health, comfort, safety, energy
16 affordability, and/or energy savings; and reduce energy-related greenhouse gas and criteria
17 pollutant emissions.”²⁴

²² The consideration areas are: accessibility, accountability, affordability, just transition, community vibrance and health. See BayREN Exhibit 01, Appendix A at 11.

²³ The CPUC directed the California Energy Efficiency Coordinating Circle (CAEECC) to form a working group to develop and vet new reporting metrics for the equity category that will be considered alongside the program administrators’ portfolio applications. D.21-05-031 at 84, OP # 14.

²⁴ BayREN Exhibit 03, Appendix D at 15.

A. Preliminary Distribution of Equity Budget

BayREN’s budget for Equity programs, and the preliminary distribution for 2024-2027, is shown in the table below. BayREN’s Equity programs include: BAMBE, BRRR, Climate Careers and Home+. Compared to 2023, BayREN proposes an increase in 2024 of approximately \$0.6 million for its existing Single Family and Multifamily programs due to a consistent uptake in program participation. For the new programs, an initial budget of approximately \$7.0 million for BRRR (\$4.1 million) and Climate Careers (\$2.9 million) is proposed. As shown below, funding from Home+ will enable continued program implementation and expansion of outreach to non-English speaking contractors and other pilot activities to increase the reach of the program to underserved communities. A modest annual increase is proposed for each of these four programs over the portfolio application period. The proposed equity budget increases annually from \$24.6 million in 2024 to \$26.1 million in 2027.

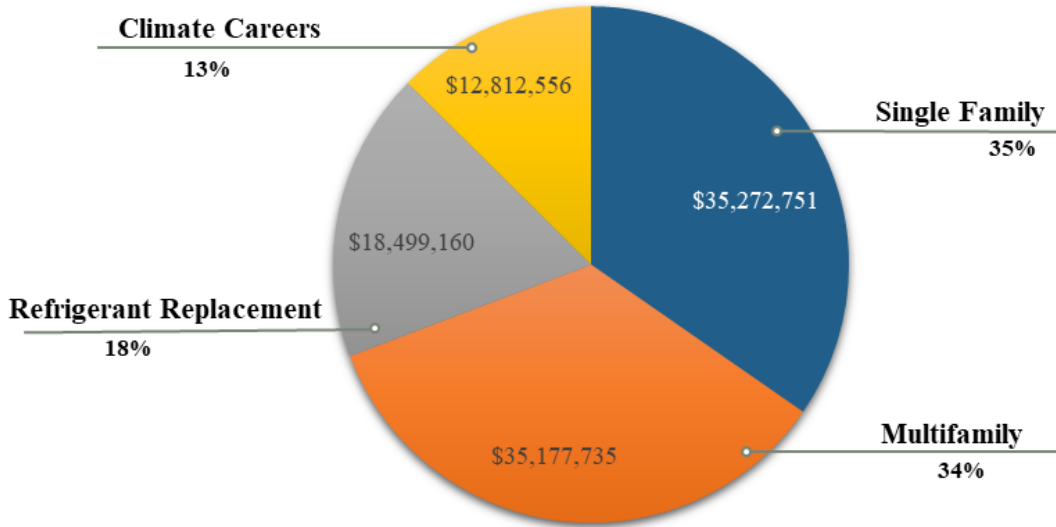
Table 18. Preliminary Equity Budget by Sector

Equity by Sector	Program	4 Year Budget Allocation
Residential	Single Family (Home+)	\$35,272,751 (35%)
	Bay Area Multifamily Building Enhancements (BAMBE)	\$35,177,735 (34%)
Commercial	BayREN Refrigerant Replacement (BRRR)	\$18,499,160 (18%)
Cross-cutting	Climate Careers	\$12,812,556 (13%)
Total		\$101,762,202 (66%)

14

1 **Figure 7. Proposed Portfolio Application Budget, Equity Segment**

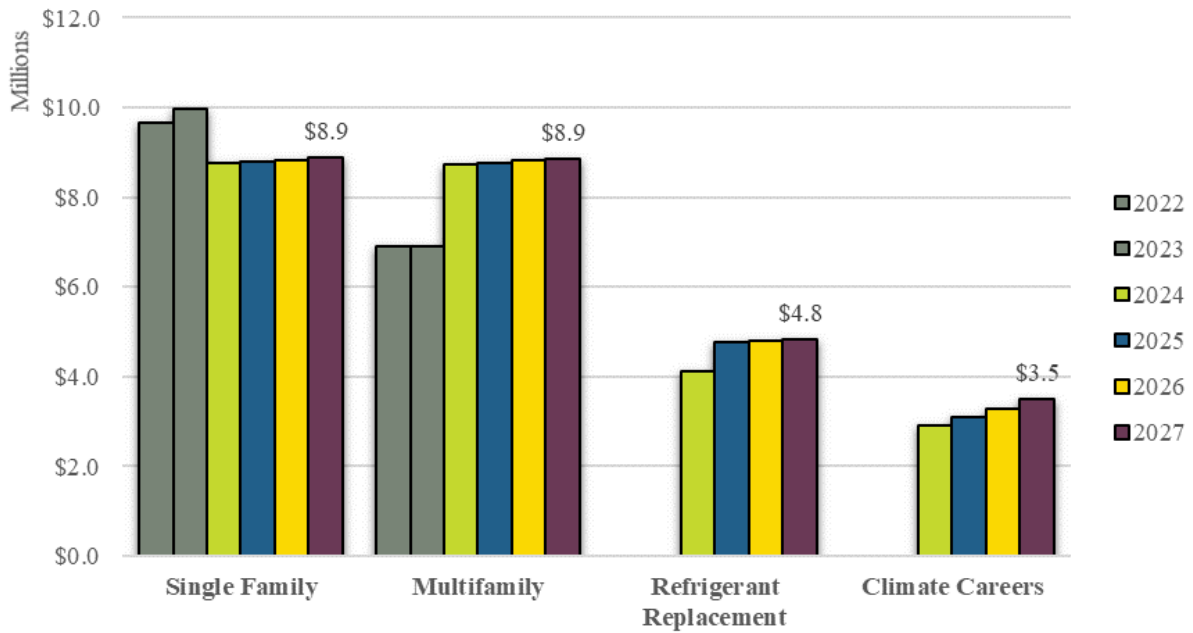
Proposed Portfolio Application Budget, Equity Segment



2

3 **Figure 8. Approved and Proposed Annual Budget, Equity Segment**

Approved and Proposed Annual Budget, Equity Segment



4

1 **B. Equity Strategies, Goals, and Outcomes**

2 BayREN’s key Equity Portfolio Strategies include PS 1: Activate and engage key
3 stakeholders and ESJ communities in the development and delivery of programs, and PS 2:
4 Address systemic barriers to EE and electrification, especially for, and in collaboration with, those
5 who disproportionately face energy burdens, climate impacts, and are underrepresented in policy
6 and decision-making.

7 BayREN’s Equity programs are designed with the goal of meeting the EMWG stated sub-
8 objective for Equity segment programs, specifically: “For hard-to-reach, disadvantaged, and/or
9 underserved individuals, households, businesses, and communities: address disparities in access
10 to energy efficiency programs and workforce opportunities; promote resilience, health, comfort,
11 safety, energy affordability, and/or energy savings; and reduce energy-related greenhouse gas and
12 criteria pollutant emissions.”²⁵

13 The proposed outcomes for BayREN’s Equity programs align with the objective above and
14 are described in the metrics sections below.

15 ***1. Projected Equity Annual Metrics***

16 BayREN’s Equity Metrics are aligned with the direction provided from the EMWG.
17 Specifically, these include metrics to measure the items identified by the EMWG. Many of these
18 are indicators, not metrics, in alignment with the EMWG report recommendations. The metrics
19 that align with those requested by CAEECC are described below. BayREN also provides details
20 for all of our metrics, including our BayREN value metrics, in BayREN Exhibit-03 - Appendix B,
21 Tabs 17, 18.1 and 18.2. Program by program metrics are listed in the program cards.

²⁵ See BayREN Exhibit-03, Appendix C at 15.

1 **2. Projected Program-Level Performance Metrics**

2 The program-level performance metrics are described below and the detailed metrics are
3 listed in each program card, attached collectively as Appendix A. Each program also has value
4 metrics that are reported on an annual basis.

5 **a. BAMBE (Residential Sector/Multifamily)**

6 The Bay Area Multifamily Building Enhancements (BAMBE) program targets small,
7 affordable (deed restricted and/or naturally occurring) multifamily (MF) buildings in DACs. It
8 prioritizes tenant savings through targeting criteria. The program provides no cost technical
9 assistance and rebates to incentivize multifamily property owners to make EE improvements. It
10 partners with other agencies and funding sources to offer a more holistic program that provides
11 energy savings *and* other benefits that may be of higher importance to communities served,
12 including health, resilience, and housing quality and affordability. BAMBE is designed to serve
13 disadvantaged communities and underserved populations that lack access to other EE programs.
14 The program level metrics measure the outcomes specific to the Equity segment, which include:

- 15 ● **Addressing inequities in access** to energy efficiency programs as measured by the
16 number of DAC and underserved MF buildings and tenants participating (or served
17 by the program).
- 18 ● **Delivering energy and bill savings to ESJ communities**, measured by energy and
19 bill saving benefits for both MF building owners and tenants.
- 20 ● **Promoting non-energy benefits for ESJ communities** as measured through the
21 health, comfort and safety measurements among MF tenants.
- 22 ● **Engaging underserved stakeholders** as measured through a description of
23 engagement with key stakeholders.

1 **b. Home+ (Residential Sector/Single Family)**

2 The Home+ Single Family program targets underserved households such as low-to-
3 moderate income households (who lack capital), renters (who lack opportunities due to split-
4 incentive barriers), and households and contractors in which English is not the primary language
5 spoken (e.g. there is a lack of information and trusted channels). The program provides a variety
6 of service offerings to Bay Area single family homeowners and renters including rebates for
7 qualifying measures, an online energy evaluation, no-cost EE kits, in-home education, and direct
8 install services. The program conducts homeowner outreach in Spanish and Chinese and is
9 working to add more languages. Home+ is also offering sign-on bonuses to minority, women-
10 owned businesses, and contractors that offer services in another language. The Green House Call
11 offering is also part of Home+, which trains and employs local low-income youth as Energy
12 Specialists to provide residential EE services.²⁶ The program level metrics measure the outcomes
13 specific to the Equity segment, which include:

- 14 ● **Addressing inequities in access** to EE programs as measured by the number of DAC
15 and underserved single family households participating or served by the program,
16 specifically targeting low-to-moderate income households (who lack capital), renters
17 (who lack opportunities due to split-incentive barriers), and households where English
18 is not the primary language spoken (who lack information and trusted channels).
- 19 ● **Delivering energy and bill savings to ESJ communities** as measured by energy and
20 bill saving benefits for both MF and SF households.
- 21 ● **Promoting non-energy benefits for ESJ communities**, as measured through health,
22 comfort and safety measurements.

²⁶ This offering is also discussed in the Climate Careers chapter.

- 1 • **Engaging underserved stakeholders** as measured through a description of
2 engagement with key stakeholders.

3 **c. Climate Careers (Cross-Cutting Sector/Workforce,**
4 **Education and Training)**

5 This program offers low-income and disadvantaged youth training and job opportunities.
6 It targets renters, seniors, low to low-moderate income households, non-native English speakers,
7 and populations that live in ESJ communities through the services provided by those trained youth
8 through Green House Calls. Specifically, the Climate Careers program brings low-income and
9 disadvantaged youth that are disconnected from school and work into the green economy and
10 provides them with a path to full-time employment while also providing EE upgrades to
11 underserved communities. There are multiple benefits from creating EE and clean economy
12 training and employment programs. Youth unemployment numbers are at an all-time high in the
13 Bay Area, the clean economy and contractors within it are experiencing a labor shortage, and
14 disadvantaged and under-resourced populations are statistically more inclined to hold low-wage
15 jobs. Through the creation and implementation of training and employment programs that are
16 centered around underserved populations, participants will be able to build skills and open
17 pathways towards stable employment. Relationships with strategic partners (described further in
18 the sector chapter) will be critical in this endeavor and convening a wide range of partners will
19 ensure equitable access to quality jobs for those populations that have been historically
20 disconnected. The program level metrics measure the outcomes specific to the Equity segment,
21 which include:

- 22 • **Addressing inequities in access** to EE programs as measured by the number of
23 workers trained (e.g., youth or individuals from ESJ communities) and the number of

1 underserved populations reached through Green House Calls along with the energy
2 bill savings, and non-energy benefits that they receive.

- 3 • **Promoting non-energy benefits for ESJ communities** as measured through
4 economic and job benefits for those trained (including measurements of high-road
5 opportunities in ESJ communities).
- 6 • **Engaging relevant community-targeted groups** such as partnerships with food
7 banks, community-based organizations, schools, nonprofits, youth-serving
8 organizations, and social services agencies to recruit youth into the workforce
9 elements of Green House Call and to provide leads for new clients to receive a Green
10 House Call, as measured through a description of engagement with key stakeholders.

11 **d. BRRR (Commercial Sector)**

12 BRRR specifically targets micro and small businesses with refrigeration systems that are
13 not typically eligible for measures beyond lighting. These micro and small businesses have
14 historically low participation rates. BayREN will use a direct install approach to replace high GWP
15 refrigerants with lower-GWP refrigerants in small refrigeration systems, commonly found in
16 convenience stores and sit-down restaurants. The program level metrics measure the outcomes
17 specific to the Equity segment, which include:

- 18 • **Addressing inequities in access** to EE programs as measured by the number of
19 underserved micro and small-sized businesses participating (or served by the
20 program).
- 21 • **Delivering energy and bill savings to ESJ communities** as measured by energy and
22 bill saving benefits that accrue from more energy efficient and better maintained
23 refrigeration systems.

- **Promoting non-energy benefits for ESJ communities** as measured through economic benefits from the elimination of spoiled refrigerated products when the refrigeration system unexpectedly fails, as well as a reduction in capital costs caused by refrigeration equipment failures.

C. Equity Support Coordination

The Climate Careers and Single Family (Home+) programs are intertwined through the Green House Calls offering which is part of both programs. Participating contractors in the Home+ program are experiencing staff shortages and many are of retirement age. The Climate Careers program is designed in part to cross-walk with the other BayREN programs—especially Single Family and Green Labeling—for youth internship and job placement.

Staff for the Single Family and Multifamily programs work closely together and seek opportunities to better serve the Residential sector. For example, rental property units are often overlooked in energy upgrades, especially 1–4 unit properties, due to the requirement that the property owner must give authorization. Many renters are interested in making these improvements yet are unable to convince the property owner or property manager to undertake a project due to the lack of financial incentives to do so (split incentives). BayREN will broadly engage property management organizations and rental property owners to identify opportunities where an upgrade may be mutually beneficial, such as replacement of appliances at end of life, unit turnover upgrades, and during general remodeling and renovation. The Single Family program will explore how the lessons learned from the Multifamily program can be applied for the 1-4 unit rental property sector and consider integrating elements that have made it successful, such as enhanced technical assistance, financing referrals, and enrollment coordination with partner programs. This may allow for a more seamless transition between the two programs and allow for coordinated outreach opportunities to the property owners and managers.

1 **CHAPTER 4. SECTOR STRATEGY (J. BERG)**

2 **I. STRATEGIES DRIVING DISTRIBUTION OF BUDGET AMONG**
3 **SECTORS**

4 Over 65.5% of the portfolio segmentation and budget is proposed as Equity (3 sectors/4
5 programs), 17% in Market Support (3 sectors/4 programs), 12.2% Resource Acquisition (one
6 program) and 5.3 % Codes and Standards. This is consistent with the CPUC’s stated expectations
7 for REN PAs.²⁷ While BayREN will closely monitor program performance during the business
8 plan period and modify the programs as necessary, the portfolio segment breakdown is anticipated
9 to remain the same.

10 BayREN’s distribution of budgets among segments is based on: (1) CPUC guidance, (2) a
11 desire to support deeper energy savings and GHG emission reductions at the state and local level,
12 and (3) the Bay Area’s local context and needs.

13 Since its inception, BayREN has been addressing the three areas indicated by D.12-11-015
14 in the formation and implementation of programs. The REN programs and organization have been
15 an important complement to the IOU programs and have demonstrated what a mission-driven
16 entity can do to address some of the most challenging barriers in EE. The REN’s requirement to
17 fill gaps, address hard-to-reach audiences, or provide programs that other PAs will not, is essential
18 to ensuring that all Californians have access to affordable EE solutions. Again in D.21-05-031, the
19 CPUC acknowledged that REN PAs have different considerations given the types or programs that
20 they have been directed to offer. The foundational language from the CPUC regarding RENs
21 informs the types of programs that BayREN seeks to provide and provides some direction to the
22 distribution of budget among the segments.

²⁷ D.21-05-031 at 23.

1 BayREN’s distribution of budget between the segments reflects the following evolutions
2 in our programming: 1) a greater focus on equity, 2) increased support for local governments based
3 on local needs, and 3) timely response to quickly evolving Bay Area and state policy trends and
4 goals regarding building electrification and climate resilience. These improvements in our
5 approach and program offerings reflect our commitment to engaging with and listening to our
6 stakeholders and effectively partnering with other regional agencies and our seven Bay Area CCAs
7 to leverage resources and best serve the local governments, businesses, and residents in the region.

8 The budget request for existing programs is largely consistent with our approved BBAL
9 for program years 2022 and 2023 and our four-year portfolio program budget reflects an increase
10 of 7% (\$1.8 million) in 2024 due primarily to increased incentive funding for the Multifamily and
11 Green Labeling programs due to the continued increased uptake in these programs. Our portfolio
12 application also proposes the inclusion of two new sectors and four new programs— totaling \$9.1
13 million in 2024—all proposed in either the Equity and Market Support segments.

14 **A. Description of Sectors BayREN Proposes to Serve**

15 BayREN proposes a continuation of the existing portfolio that serves the Residential,
16 Commercial, Codes & Standards, and Cross-Cutting (Water Upgrades \$ave program) sectors.
17 BayREN proposes programs in two new sectors: Public and Cross-Cutting (Workforce, Education
18 and Training).

19 **B. Preliminary Distribution of Budget Among Sectors for 2024-2027**

20 As seen in the table below, the majority of the proposed budget is contained in the
21 Residential sector (a significant amount of which is for incentives), followed by Commercial,
22 Cross-Cutting and Public. Given that the BayREN portfolio is 65.5% Equity segment focused, our
23 programs focus on improving the buildings where people live—in single and multifamily
24 residences. At the same time, since the most recent Potential and Goals Study forecasts 95% of the

1 residential energy savings coming from BRO measures, BayREN is filling an important gap by
 2 addressing capital improvements in these buildings. The Commercial and Cross-Cutting sector
 3 budgets follow the relative proportion of past program success. Lastly, the Public Sector, a new
 4 sector for BayREN, comprises 7% of the budget in 2024-27 and will demonstrate its success before
 5 further program scaling efforts are considered.

6 **Table 19. Preliminary Distribution of Budget Among Sectors**

	2024-2027 Portfolio Application	Percent of Portfolio Program Costs
Residential	\$77,836,437	50%
Commercial	\$37,451,733	24%
Public	\$10,615,550	7%
Cross-Cutting	\$21,246,694	14%
Codes & Standards	\$8,155,157	5%

7

8 For each sector, BayREN has organized the sections into the sector vision, followed by the
 9 required program details.

10 **II. COMMERCIAL SECTOR (L. CHU)**

11 **A. Commercial Sector Overview**

12 **1. Sector Vision**

13 Enable decision-makers for small and medium businesses to increase engagement in EE
 14 behaviors, upgrades, and equipment maintenance as a matter of regular practice.

15 **2. Program(s) Overview**

16 There are two programs within the Commercial Sector: BayREN Business—a resource
 17 normalized metered energy consumption²⁸ (NMEC) program, and the BayREN Refrigerant

²⁸ NMEC is a measurement and verification approach that is applied to metered interval data to establish quantifiable energy savings from energy efficiency retrofits.

1 Replacement program (BRRR)—in the Equity segment. Together, the programs will overcome
2 persistent inequities and barriers to EE in underserved small and medium business (SMB)
3 populations, achieve deeper energy savings, expand the types and quality of EE aggregators²⁹
4 serving the market, and deploying innovative solutions to meet local and state goals. BayREN’s
5 Commercial sector programs are specifically designed to fill gaps by serving SMB populations
6 with measures and approaches that typically do not reach these populations.

7 Program(s) Description

8 BayREN Business will continue to deliver energy savings through a pay-for-performance
9 (P4P)³⁰ approach,³¹ and refined measurement and verification methods. Notably, the P4P approach
10 offers various financing, sometimes with little to no upfront cost for SMB participants, to install
11 comprehensive EE equipment and a broad list of efficiency measures. The P4P approach also
12 ensures ratepayer funds are protected from non-existent savings. BayREN’s Business program was
13 among the first programs in the U.S.³² to deploy population-based NMEC to serve the SMB

²⁹ Aggregators are companies in the FLEXmarket that provide technologies and services to program participants with project submittals to the FLEXMarket for payment of incentives by BayREN Business.

³⁰ Often referred to as “pay-for-performance” or “P4P,” the normalized metered energy consumption (“NMEC”) approach directs program incentives to implementers (also referred to as aggregators) and ties incentives directly to performance-based outcomes. By linking an ESCO’s compensation to metered performance, an ESCO is motivated to acquire customers and finance projects with big savings and big returns. Also, ratepayers are protected from paying for non-existent energy savings. NMEC is ideal for business owners who are paying high energy costs but lack the time, capital, and know-how to deal with it.

³¹ In alignment with AB 802, SB 350, AB 793.

³² Project SENSEI of The Institute for European Energy and Climate Policy highlighted BayREN Business innovation in its 6/2020 report, “Experience and Lessons Learned from Pay-for-Performance (“P4P”) pilots for Energy Efficiency.” Project SENSEI aims at fostering innovative schemes for financing energy efficiency in the European Union (EU), looking in

1 populations. Re-launched in April 2020 after setbacks resulting from the COVID-19 pandemic,
2 BayREN’s Business program is integrating into the Recurve Analytics Demand FLEXMarket
3 (FLEXMarket). BayREN Business FLEXMarket will actively recruit SMB participants and
4 aggregators throughout the region.

5 BayREN’s new BRRR program provides direct-install refrigeration services to food
6 service SMBs, such as restaurants, bars, grocery and convenience stores. BRRR’s goals are to
7 reduce high Global Warming Potential (GWP) and Ozone Depletion Potential (ODP) refrigerants,
8 replace defective refrigerant system components, such as compressors, fan motors, coils and
9 refrigerant lines and valves, and raise awareness about the importance of routine equipment
10 maintenance.

11 Both programs will be supported by the BayREN Building Performance Advisor (BPA).
12 Modeled after the successful Energy Advisor service in the BayREN Home+ offering, the BPA is
13 an energy concierge who provides a range of services including EE recommendations, program
14 and contractor referrals, technical assistance, and project management services. Specifically, the
15 BPA will assist SMB decision-makers with reviewing and understanding proposals from BayREN
16 Business aggregators and BRRR refrigeration contractors. The BPA will also assist with recruiting
17 and onboarding Minority Business Enterprises (MBE) and other types of qualified aggregators to
18 the BayREN Business FLEXMarket to serve the SMB sector.

19 **3. BayREN Uniqueness and Value**

20 BayREN’s Commercial sector programs are filling program gaps in two ways. Past SMB
21 programs mostly focused on lighting and basic refrigeration measures. The P4P approach

particular at international experiences with P4P programs/schemes. Full report here:
<https://zenodo.org/record/3887823#.XuCT6EX7Suk>

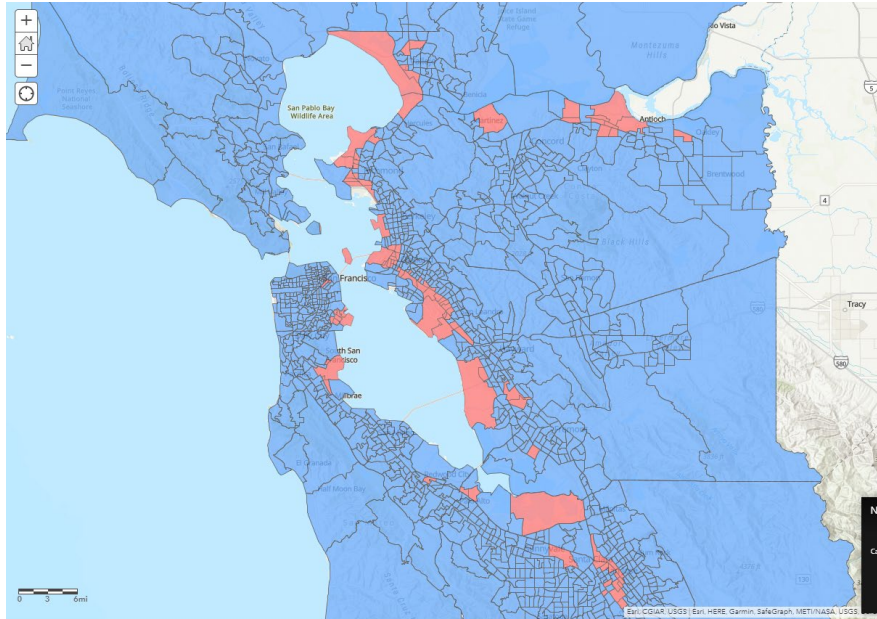
1 encourages maximum energy savings from a holistic set of EE measures that are otherwise not
2 available through IOU program offerings³³. BayREN’s Business program is a portfolio-based P4P
3 program serving a market sector that is not served by energy service companies (ESCO),
4 aggregators, or third-party programs using a P4P approach. Meanwhile, BRRR supports SMB
5 customers typically receiving limited refrigeration measures and services. The current suite of IOU
6 refrigeration measures and services are limited because resulting energy savings are low. For
7 example, deemed refrigeration measures for businesses with less than 20,000 sq-ft are currently
8 limited to anti-sweat controllers, display cases, and ultra-low temperature freezers.³⁴ BRRR
9 focuses on small refrigeration systems that regulations do not require to be fixed (and thus are
10 unlikely to be fixed), yet pose high GHG risks. Prior programs did not address refrigerant system
11 component upgrades due to the lack of deemed workpapers and the cost of requiring custom
12 engineering calculations to assess savings opportunities and then incentivize.

13 BayREN Commercial sector programs are designed to overcome long standing and
14 COVID-19 pandemic related challenges to the SMB sector, and promote comprehensive, market-
15 based solutions, deep energy and GHG emission reductions, and long-term energy and
16 maintenance goals. The programs have diversified strategies that recognize that the SMB market
17 is diverse and there is no one-size-fits all solution. Particular focus will be on hard-to-reach
18 businesses, businesses located in DACs, and underserved businesses. DACs in Bay Area counties
19 are highlighted in red below.

³³ Comments from stakeholders who work directly with SMBs highlighted a need to provide more comprehensive programs and services to SMBs given their limited time and capacity to engage (BayREN Commercial Program Listening Session, 9/13/21).

³⁴ https://www.pge.com/pge_global/common/pdfs/save-energy-money/business-solutions-and-rebates/product-rebatesbusiness-rebate-catalog.pdf#page=22 at 18-20.

1 **Figure 9. DACs in Bay Area Counties**



2
3 Market barriers to serving the SMB sector are well documented by EE industry leaders
4 such as ACEEE³⁵ and the US National Laboratories.³⁶ The COVID-19 pandemic has worsened
5 the challenges this sector faces, and the impacts are especially acute in minority-owned
6 businesses³⁷. The table below describes key sector challenges and opportunities. BayREN’s
7 Commercial sector programs are designed to address problematic inequities and persistent
8 challenges and fill program gaps.

³⁵ <https://www.aceee.org/sites/default/files/publications/researchreports/u1607.pdf>

³⁶ <https://www.nrel.gov/docs/fy14osti/57776.pdf> and <https://emp.lbl.gov/sites/all/files/lbnl-38059.pdf>

³⁷ In San Francisco’s SMB sector, “more than 50% of Black and Latinx businesses had missed lease and other payments, laying bare struggles and structural inequities in access to resources for historically oppressed communities. More Latinx businesses have also missed loan payments compared to other races.” Impact of COVID on Small Businesses in San Francisco” San Francisco Office of Small Business and San Francisco State University, 5/28/2021, P.5 https://sfosb.org/sites/default/files/documents/SBC/Covid%20Impact%20Final%20Report%20with%20Survey_May%2028%202021.pdf

1 **4. Table – Challenges/Opportunities/REN Criteria**

2 **Table 20. Commercial Sector Challenges and Opportunities and REN Criteria**

<p>Challenges</p>	<ul style="list-style-type: none"> ● The COVID-19 pandemic has caused some SMB to be financially fragile. They are struggling with competing priorities, including managing present situations and ensuring continuity. ● From program administration and implementation perspectives, the classic “split-incentive” conundrum remains persistent and prevalent, particularly in leased spaces. ● SMB decision-makers have limited access to capital and tailored offerings to complete comprehensive projects and maintain savings over time. ● The majority of business owners and managers lack time, resources, and know-how to update, or even maintain their businesses’ systems. ● The majority of business owners and managers wait for their mechanical equipment to break before investing in replacements. They are not advised to invest in preventive maintenance when it comes to their businesses’ heating, cooling, hot water, and refrigeration systems. ● Many SMB decision-makers perceive their refrigeration systems as complex and expensive. Therefore, many of them suffer from deferred maintenance, refrigerant leaks, and are susceptible to unexpected failures.
<p>Opportunities</p>	<ul style="list-style-type: none"> ● Coordinating with the BayREN member agencies to expand and extend engagement with local business organizations, economic development departments to attract more SMB customers. ● Coordinating with local jurisdictions with benchmarking and audit ordinances, such as San Francisco and Berkeley, to conduct outreach to small and medium commercial buildings owners. ● Enticing SMB decision-makers who have limited access to capital, time and knowledge with no-upfront-cost projects, comprehensive technical assistance and project management, and reduced overhead expenses. ● Enticing SMB decision-makers who are challenged by the complexity and expenses of refrigeration systems with preemptive maintenance, low- or no-cost refrigeration system upgrades. ● Educating SMB decision-makers on the value of refrigeration system maintenance and simple things they can do to make a big impact. ● Establishing a highly targeted program that aims to replace harmful refrigerants with more environmentally-friendly alternatives. ● Develop a competitive, diverse market of capable aggregators, particularly small business, ESCO, and MBE aggregators, serving SMBs through thoughtful program and incentive designs. ● Aligning BayREN program efforts with additional funding opportunities from the clean energy investments in the California state budget, as well as other state and federal agencies.

Gaps Filled by BayREN or Other REN Criteria	<ul style="list-style-type: none"> ● Acquisition of small- and medium-sized customers is time consuming and resource intensive and therefore the SMB market has been underserved by ESCO based programs, typically offered by IOUs. ● The small and HTR businesses offer lower site-level energy savings and GHG emissions reduction opportunities that are inadequate to justify the transaction costs associated with measures beyond lighting (such as refrigeration system retrofits).
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B. Program Details: BayREN Business

3

1. Program Introduction

4

The sector’s “Challenges and Opportunities” inform the goals, objectives, and strategies described in the tables below. Achieving the goals and objectives will realize the Commercial sector vision of enabling SMB decision-makers to increase engagement in EE behaviors, upgrades, and equipment maintenance as a matter of regular practice.

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2. *Table - Goals, Objectives, Strategies*

Table 21. Goals, Objectives, Strategies (BayREN Business)

Goals	Objectives	Strategies
1. Increase the number of SMB who participate in energy efficiency programs and achieve deeper energy savings through the P4P program.	Increase the number of SMB participating in BayREN Business FLEXMarket 10% annually, and refer all leads that are imperfect for P4P to appropriate third-party SMB programs.	PS 5. Enhance the design and delivery of incentives and financing to remove barriers and ensure more customers can upgrade their buildings and produce energy savings.
2. Develop a competitive, diverse market of capable aggregators serving SMBs.	Recruit new, capable aggregators that offer comprehensive, performance-based energy savings and operational co-benefits under terms that are simple and attractive to SMB owners, with little or no capital investment requirements on the part of participating customers.	PS 5. Enhance the design and delivery of incentives and financing to remove barriers and ensure more customers can upgrade their buildings and produce energy savings.
3. Increase the number of businesses in and operated by ESJ communities who participate in the program.	Activate county business resources, community-based organizations and other trusted third parties to engage with ESJ communities and facilitate customer acquisition.	PS 2. Address systemic barriers to energy efficiency and electrification, especially for, and in collaboration with, those who disproportionately face energy burdens, climate impacts, and are underrepresented in policy and decision-making. PS 1. Activate and engage key stakeholders and environmental and social justice (ESJ) communities in the development and delivery of programs.

3. *Discussion of Goals*

a. Goal 1: Increase the number of SMBs who participate in EE programs and achieve deeper energy savings through the P4P program

BayREN’s Business program is a solution for SMBs looking for either comprehensive projects or specialized solutions to improve their operations. During this unprecedented time, the

1 SMB sector needs more resources—and options—to complement their COVID-19 pandemic
2 recovery efforts. To that end, BayREN’s Business program, acting through the FLEXMarket, will
3 provide an array of efficiency services and financing that can be tailored to individual SMB needs.
4 Concurrently, the BayREN Business FLEXMarket gives access to capable aggregators—including
5 companies that have traditionally avoided IOU program solicitations because of complex
6 requirements and “winner-take-all” competitive risks—to join the EE market. BayREN Business
7 FLEXMarket will increase the number of SMB participants and achieve deeper energy savings by
8 first opening the market to more qualified aggregators and then matching SMB participants with
9 the aggregators offering the best fitting services to meet their needs.

10 The BayREN Business FLEXMarket broadens efficiency offerings to the SMB sector.
11 Since the FLEXMarket has the capacity to accommodate aggregators with a broad set of measure
12 offerings, SMB participants have the ability to pursue projects that suit their specific needs and
13 energy savings goals. For example, does your restaurant struggle to keep the cooking area cool
14 and well ventilated? BayREN Business FLEXMarket can help you with that. Are you a boutique
15 winemaker tired of paying for high utility costs to power your operation? BayREN Business
16 FLEXMarket has an aggregator to serve you. To increase the number of SMB participants and
17 achieve deeper savings, BayREN Business puts the focus squarely on their needs.

18 Shifting underperformance risks away from SMB participants—and ratepayers—increases
19 program participation. Under the BayREN Business FLEXMarket, the aggregators assume the
20 resulting risks should projected energy savings fail to materialize. Since FLEXMarket aggregators
21 are rewarded on a performance basis, they are properly incentivized to recommend efficiency
22 measures that are in the interest of the businesses and ratepayers. By aggregating across a portfolio
23 of projects, these aggregators can mobilize capital to fund these projects and manage risks in a

1 way that individual SMB could not. Under the terms of BayREN Business FLEXMarket, the
2 aggregators are responsible for sustaining energy savings after project completion, thereby
3 reducing the performance risk to the SMB participants. Further, since aggregator compensation is
4 tied to performance, the risk to ratepayers of paying for non-existent savings is also mitigated.
5 Aggregators assume the risk which gives SMB participants the necessary assurance to undertake
6 EE projects.

7 BayREN Business FLEXMarket opens up the EE market to nontraditional aggregators who
8 offer strong customer value propositions, but are unable or unwilling to participate in traditional
9 IOU programs. Many of these are small businesses themselves—undergoing some of the same
10 challenges as businesses on Main Street, but also have resolve, experience, and know-how. They
11 are capable of developing comprehensive projects that suit their customers’ needs. Some bring EE
12 as a service and energy services performance contracts to the SMB sector. These ESCO
13 aggregators will help their customers procure energy savings and facility improvements in ways
14 that reduce performance risks, address capital constraints, bridge gaps between capital and
15 operating budgets, and maintain healthy balance sheets. BayREN Business FLEXMarket gives
16 these ESCO aggregators the access they need to build their niches within the SMB sector.

17 BayREN Business will fully integrate into the FLEXMarket by mid-2022. The transition
18 will be seamless because both operate a P4P model that deploys the CalTRACK platform for
19 calculating NMEC-based savings. The P4P approach enables aggregators to bring their technical
20 expertise that SMB decision-makers lack to evaluate opportunities involving complex systems.
21 Under this structure, the traditional deemed measure list tied to workpapers is expanded to include
22 any measure that can deliver combined benefits to both the customer and the grid on a metered
23 basis. Measures that react to demand responses, automatic ramp-down during peaks, and remote

1 energy optimization and management are all accessible to SMB participants under this approach.
2 Aggregators are free to develop and bring their unique business models and technologies to the
3 SMB sector, without complex program rules and deemed outcomes.

4 The P4P model tied to NMEC savings gives BayREN the flexibility to adjust incentive and
5 bonus levels. Beside match-making business needs and aggregators, BayREN Business
6 FLEXMarket will also right-size incentive and bonus levels for the desired outcomes. Whether it's
7 net peak demand reduction or expanding services to hard-to-reach businesses, BayREN Business
8 has convenient levers to make an impact.

9 SMB participants are supported through the process by the Building Performance Advisor
10 (BPA). Additionally, to overcome the persistent challenges of lacking time and expertise, the
11 BayREN BPA will offer critical assistance through the entire project, helping to determine
12 program eligibility, aggregator referrals, assistance with reviewing proposals and specifications,
13 and assistance with installation coordination. Upon completion, the BPA will conduct quality
14 assurance, process rebate application and payments, and resolve any outstanding issues.

15 **b. Goal 2: Develop a competitive market of capable**
16 **aggregators serving SMBs**

17 To increase the number of SMB participants and achieve deeper energy savings (Goal 1),
18 a competitive market of capable aggregators must be available to serve. BayREN Business will
19 take affirmative steps to increase both the diversity of aggregators in the FlexMarket and the
20 quality of their offers to SMB participants. Currently, the FLEXMarket has more than 30
21 aggregators, with about 20 serving commercial customers. While these aggregators offer an
22 impressive array of energy services and target a spectrum of business niches, a few gaps still
23 remain. Within the commercial serving pool, only a few aggregators offer comprehensive retrofits
24 to the SMB sector. Even fewer focus on serving disadvantaged communities, qualify themselves

1 as small businesses within the BayREN service territory, or self-identify as a minority business
2 enterprise (MBE).

3 While the FLEXMarket pays all aggregators on a performance basis, few aggregators offer
4 their customers a performance guarantee comparable to the one they give to ratepayers. Few
5 FLEXMarket aggregators are ESCOs. Only one or two would qualify as an ESCO in the sense that
6 the National Association of Energy Services Companies (NAESCO) uses the term: “The main
7 differentiator between ESCO and other energy efficiency contractors is the **guarantee of energy**
8 **savings** which is specified as part of the terms of an energy savings performance contract.”³⁸ These
9 gaps offer an opportunity for BayREN Business to strategically recruit new, capable aggregators
10 to achieve deeper market penetration and energy savings. Accordingly, BayREN Business, in close
11 collaboration with Recurve, will recruit and develop a competitive market of three distinct types
12 of aggregators—ESCO, SMB, and MBE—who are capable of offering strong value propositions
13 to SMB participants.

14 BayREN Business will seek out ESCO aggregators that can offer strong customer value
15 propositions, grounded in their capabilities around financing, risk management, technical
16 expertise, and experience. Their strong financial underpinnings likely allows them to offer flexible
17 financing, resulting in low or no-upfront project cost to SMB participants. Well-managed and
18 funded ESCO aggregators can often help their clients convert capital costs to operating costs,
19 manage performance risks, and finance energy upgrades off balance sheet when needed. BayREN
20 Business will seek out ESCO aggregators who can serve the SMB market to mobilize capital in a
21 way that individual SMB could not. In addition to serving the SMB sector, these ESCO aggregators
22 should be capable of performing comprehensive retrofits, ranging from lighting to HVAC controls,

³⁸ See “What is an ESCO?” at <https://www.naesco.org/what-is-an-esco>

1 resulting in deeper energy savings and increased utility savings for SMB participants. BayREN
2 will also offer technical assistance to existing aggregators that wish to expand their service
3 offerings to include energy savings performance contracts. Support services might include
4 technical assistance with risk analysis, matchmaking with capital providers and risk management
5 specialists, and other assistance as needed.

6 BayREN Business also sees an opportunity to recruit aggregators that are small businesses
7 themselves. These SMB aggregators bring specialized projects to the SMB sector. They should be
8 supported and integrated into the energy programs to benefit the EE industry and expand the
9 diversity of service offerings to customers. Not unlike small businesses on Main Street, SMB
10 aggregators may lack the resources to complete paperwork and will have questions about the
11 program. To lower the barrier of entry, the BayREN BPA will provide hands-on support and assist
12 with programmatic issues. The BPA will also highlight new aggregators to potential participants,
13 giving them a credible boost in customer acquisition.

14 SMB aggregators are also particularly prone to cash-flow constraints. Waiting a full year
15 for performance-based incentives would undermine their ability to finance future projects.
16 Therefore, to get cash quickly back into the aggregators, BayREN Business will provide the first
17 performance-based incentive 3 months after project completion, and make quarterly payments
18 thereafter for 2 years. Ratepayer protection remains in place since incentive payments are entirely
19 tied to performance.

20 In support of BayREN Business's equity goal of serving hard-to-reach businesses and those
21 in DACs, BayREN Business will actively recruit MBE aggregators. The Bay Area's hard-to-reach
22 businesses are leased, have less than 10 employees, and/or their primary language isn't English,

1 and/or they are located in DAC.³⁹ Many of these businesses are minority operated and owned. A
2 wealth of sociology research⁴⁰ has shown that people are more strongly influenced by other people
3 that they like, and that they tend to like people who share similar experiences and backgrounds as
4 them. Thus, BayREN Business efforts to diversify the aggregator pool should improve service
5 delivery to these segments. BayREN Business will support MBE market entry via the same BPA
6 services and pricing structures that are offered to SMB aggregators.

7 To encourage new entrants, BayREN Business will pay a premium across the board for
8 new aggregators that join the BayREN Business FLEXMarket. Specifically, bonus incentives will
9 be paid for the first 25 projects. Boosting incentive levels lowers financial risks to aggregators and
10 their cost of entry into the BayREN Business FLEXMarket. To increase interest in the hard-to-
11 reach sector among aggregators, BayREN Business FLEXMarket will also pay a bonus incentive
12 for projects completed in HTR businesses—a “HTR kicker.” Together, these incentives are
13 compelling reasons for prospective aggregators to focus on serving HTR and DAC businesses.

14 BayREN Business will completely integrate into the FLEXMarket by mid-2022. In
15 preparation, program staff and Recurve staff are dedicating resources to the recruitment and
16 engagement of aggregators. To that end, they will establish annual objectives to recruit and
17 integrate capable SMB-focused ESCO, SMB, and MBE aggregators. These efforts are expected to
18 translate into both greater customer participation and more energy savings per project.

³⁹ CPUC Decision “D.”18-05-041 at 175, COL # 27.

⁴⁰ See, for example, Dr. Robert B. Cialdini’s ground-breaking book *Influence: The Psychology of Persuasion* (1984, Harper Collins Publishers)

1 **c. Goal 3: Increase the number of participating**
2 **businesses in and operated by ESJ communities who**
3 **participate in the program**

4 A persistent challenge in the SMB sector is that acquisition of SMB participants is time
5 consuming and resource intensive. The transaction costs associated with acquiring these customers
6 often outstrips the potential economic benefits. This challenge is particularly acute for P4P
7 programs because the aggregators assume the full risk of low project savings.

8 As described in Goal 2, BayREN Business FLEXMarket will tailor incentives to prioritize
9 projects categorized as HTR, particularly businesses located in DACs. Implementers delivering
10 projects in these categories will receive an additional “HTR kicker” incentive on top of any eligible
11 peak savings kicker.⁴¹

12 BayREN will leverage its unique relationships with local and county governments to help
13 aggregators reduce customer acquisition costs. Local governments—like BayREN member
14 agencies—are viewed as trusted messengers. Research has shown that messages sent from local
15 governments find an immediate and positive reception from the recipients and SMB decision-
16 makers tend to pay attention to communications from their local governments and view the
17 messages as credible and trustworthy.⁴² Thus, BayREN’s local government partners are ideally
18 equipped to drive actions.

19 BayREN will activate local government and county business resources and community-
20 based organizations as “credible messengers” to engage their commercial communities and
21 facilitate customer acquisition. Outbound messages will focus on opportunities to reduce costs and

⁴¹ The kicker incentive will be calculated to produce a TRC cost effectiveness ratio of 0.80.

⁴² ACEEE, “The Promise and Potential of Comprehensive Commercial Building Retrofit Programs”, May 2014.

1 improve business operations via EE investments and will direct leads to the BayREN BPA, who
2 can refer them to the short list of BayREN Business FLEXMarket aggregators with service
3 offerings that are most responsive to the customer’s needs. This function helps SMB participants
4 understand the biggest energy savings opportunities, while also providing high quality leads for
5 the aggregators and reducing their customer acquisition costs.

6 **C. Program Details: BayREN Refrigerant Replacement Program**
7 **(BRRR)**

8 ***1. Program Introduction***

9 To reduce GHG emissions from existing refrigeration systems, the BRRR program will
10 replace high GWP refrigerants with environmentally friendly alternatives at low to no cost to
11 program participants. BRRR will serve the Bay Area’s food-service sector exclusively, performing
12 refrigerant changeouts to smalll restaurants, bars, grocery and convenience stores, and food-
13 storage warehouses. BRRR will also integrate as-need repairs to refrigeration systems to prevent
14 future refrigerant leaks and optimize performance.

2. *Table – Goals, Objectives, Strategies*

Table 22. Goals, Objectives, Strategies (BRRR)

Goals	Objectives	Strategies
1. Remove the highest GWP refrigerants from the SMB food-service establishments.	Increase the affordability and availability for food service establishments to replace high-GWP refrigerants with lower-GWP refrigerants while optimizing performance of each refrigerated system, via tune-ups, improved maintenance, and component replacement.	PS 6. Develop innovative, equitable, regional-scaled offerings that enable customers to layer energy efficiency with other climate-based funding and resource programs to address the climate crisis.
2. Increase the number of businesses in and operated by ESJ communities who participate in the program.	Activate county business resources and other trusted third parties to engage with ESJ communities and facilitate customer acquisition.	PS 2. Address systemic barriers to energy efficiency and electrification, especially for, and in collaboration with, those who disproportionately face energy burdens, climate impacts, and are underrepresented in policy and decision-making.

3. *Discussion of Goals*

a. **Goal 1: Remove the highest-GWP refrigerants from SMB food-service establishments**

Refrigerants are a potent source of GHG emissions and have the potential to deplete the ozone if released into the atmosphere. Given the harmful effects of refrigerants, state policy and regulations prioritize safe removal. The California Air Resources Board (CARB) mandates refrigeration systems with capacity of greater than 50 pounds to follow strict leak detection and maintenance guidelines, yet there are no guidelines for smaller systems. The refrigeration systems for the BRRR focus may have leaks and other defects that can go unnoticed for months causing harmful climate impacts as well as financial impacts to the business owner due to food spoilage. Many of the BayREN target businesses have older systems that use high GWP refrigerants that have high global warming and ozone depleting potential. The BRRR program seeks to fill the gaps

1 in both regulations and existing program offerings with a focus on small refrigeration systems
2 commonly found in the food service sector, such as grocery and convenience stores, bars, and
3 restaurants.

4 The primary objective of BRRR is to replace high-GWP refrigerants with moderate and
5 low-GWP refrigerants while optimizing performance of each refrigerated system, via tune-ups,
6 improved maintenance, and component replacement. Even though each system is small, together
7 in aggregate, their refrigerant leaks have an outsized impact on GHG emissions.

8 The BRRR program provides direct-install refrigeration services to food service SMBs.
9 The BRRR program’s goal is to reduce high-GWP and ODP refrigerants and replace defective
10 refrigeration system components, and at the same time, help build the market for moderate GWP
11 refrigerants and low GWP natural refrigeration systems. In addition to alignment with California
12 climate policy, the program will also improve the economic viability of SMBs by reducing utility
13 and maintenance costs and reduce the incidence of energy repair/replacement of equipment and
14 associated lost product by more proactively maintaining refrigeration equipment.

15 **b. Goal 2: Increase the number of businesses in and**
16 **operated by ESJ communities who participate in the**
17 **SMB program**

18 Within the SMB sector, the food-service industry has recently experienced the wildest
19 swing in energy usage. During shelter-in-place orders, some food-service markets increased
20 energy use, while energy use plummeted for hotels and dine-in restaurants. As the BayREN region
21 has re-opened, energy consumption in the food-service industry is trending upward.

22 The most energy intensive system—and most critical for food service operations—is the
23 refrigeration system. Still, refrigeration systems are often neglected by business owners and
24 managers as the systems and its components are viewed as complex and expensive. Typically,
25 preventative maintenance is deferred and repairs are made only when absolutely necessary.

1 Consequently, refrigerant leaks often go undetected until the systems no longer cool. Older
2 equipment contains refrigerants that are potent sources of GHG emissions and have been either
3 banned or significantly regulated.⁴³ As discussed in the preceding section, the refrigeration
4 systems in small and medium grocery stores, convenience stores, restaurants, and bars, are smaller
5 and are therefore outside of the regulatory requirements, yet many likely contain the banned
6 harmful refrigerants. Although these systems are small, together they make a big impact, not only
7 to the climate but also on business viability.

8 While local government partnerships had previously served SMBs, the measures were
9 limited primarily to lighting and an ever-decreasing menu of refrigeration upgrades. Due to the
10 high cost of component upgrades (that would have required custom engineering calculations to
11 assess savings opportunities and then incentivize), specialized refrigeration measures like
12 condenser and evaporator coils, thermostatic valves, and etc. were rarely qualified measures in
13 prior programs.

14 SMB refrigeration systems would benefit from ratepayer investments. Sustained
15 refrigerant leaks cause harm to the environment and system underperformance also poses harm to
16 the businesses and their inventory. Based on lessons learned from prior local government
17 programs, EE upgrades to refrigeration systems must be paired with preventive maintenance to
18 achieve long-term energy savings and reduced repair costs for businesses. In a recent refrigeration
19 pilot,⁴⁴ staff found that refrigeration contractors declined EE retrofits such as upgrading

⁴³ The US EPA banned the import and production of R11 in 1995 and extended the prohibition to R22 in 2020. The California Air Resources Board requires refrigeration systems with a capacity greater than 50-lbs to follow strict leak detection and maintenance guidelines.

⁴⁴ Funded by ratepayers and the Bay Area Air Quality Management District, from 2016-2020, the pilot “Keep It Tuned” provided direct-install retrofit and equipment monitoring services to San Francisco’s small food-service businesses.

1 compressor motors, if the systems show evidence of deferred maintenance and neglect, due to the
2 potential liability risks.

3 Although refrigeration maintenance is essential, it is very challenging for the targeted SMB
4 owners and managers. Their limited time, misconceptions about lifetime equipment costs, and a
5 lack of awareness and technical knowledge on refrigeration systems result in neglected—and
6 eventually broken—refrigeration systems. Even with a longer list of rebate-eligible measures
7 available, contractors performing the upgrades expressed reservations about retrofitting poorly
8 maintained systems.

9 BRRR is designed based on lessons learned from other grants and programs. Most recently,
10 the BAAQMD awarded a grant to the San Francisco Department of Environment to implement a
11 pilot called “Keep It Tuned.” The goals were to address the issue of deferred maintenance through
12 education and awareness, learn about the barriers SMB face in maintaining their refrigeration
13 systems, and upgrade to energy efficient systems. Through “Keep It Tuned” it also became clear
14 that existing resource programs were missing a huge opportunity to track and claim GHG
15 emissions reductions—those associated with the replacement of high GWP refrigerants with lower
16 GWP options. BayREN’s BRRR program seeks to address these gaps while also realizing the
17 potential for significant GHG reductions.

18 **D. Categorization by Segment**

19 *1. Categorization Summary*

20 **BayREN Business** is a Resource Acquisition program. This program focuses on
21 implementing interventions designed to help SMB participants understand and manage their long-
22 term energy usage. The program provides EE equipment and controls with no upfront cost, a
23 prerequisite for many SMBs that have—and continue to be—severely impacted by the COVID-19
24 pandemic. Each program is 100% financed through measured and verified energy savings and

1 rebates. BayREN Business is categorized as a Resource Acquisition program as it is designed to
2 provide cost-effective avoided cost benefits to the energy system.

3 **BayREN Refrigerant Replacement program** is an equity program that will serve micro
4 and small-sized businesses using the traditional direct-install approach. High GWP-refrigerants
5 will be replaced with lower GWP refrigerants in small refrigeration systems, commonly found in
6 convenient stores and sit-down restaurants. Additionally, BRRR will install components of
7 refrigeration systems as needed and refer and encourage SMB participants to secure annual
8 maintenance contracts for these systems. BRRR targets underserved businesses who have
9 refrigeration systems (e.g., micro and small businesses) that have historically low participation
10 rates and previous efforts to engage have proven difficult.

11 ***2. Program Coordination***

12 The increasing number of programs offerings in the region represent a rich opportunity to
13 increase the sector penetration rate. Each program has a target group within the sector, along with
14 specific EE measures. Therefore, there isn't a single program that can serve the entire sector.
15 Rather, the approach to increasing penetration rate is the ability to coordinate efficiently and
16 effectively.

17 The BayREN BPA is the ideal agent to coordinate with a multitude of programs serving
18 the sector. As the concierge, the BayREN BPA directs interested participants to the appropriate
19 programs based on their needs. In this capacity, the BayREN BPA would generate leads not only
20 for BayREN Business and the BRRR Program, but also third-party and other PAs' programs and
21 financing.

22 Beyond regular check-in meetings, ongoing coordination with CCAs, PG&E, and regional
23 SMB and third-party implementers will be incorporated into the implementation plans and the

1 Joint Cooperation Memos (JCMs), as required by the CPUC. (See below section on Portfolio
2 Coordination.)

3 Program Card is included in Appendix A.

4 **III. CROSS-CUTTING SECTOR (C. CONE; K. KRISTIANSSEN; W.**
5 **BROWN)**

6 **A. Cross-cutting Sector Overview**

7 **1. Sector Vision**

8 Provide a connected suite of offerings to local governments to increase the development,
9 adoption, implementation, and enforcement of state and local energy codes and policies

10 **2. Program(s) Overview**

11 There are three separate and distinct programs within the Cross-Cutting sector: Codes and
12 Standards, Workforce, Education and Training, and Water Upgrades \$ave. Details for each
13 program are provided below.

14 BayREN’s Codes and Standards (C&S) program currently supports Bay Area local
15 governments to more effectively and efficiently develop and implement state and local energy
16 codes and policies.⁴⁵ One aim of the C&S program is to increase the knowledge that local
17 government building department staff have of the California Energy Code and relevant reach
18 codes, and to improve their ability to enforce these codes by sharing best practices and providing
19 resources. In addition, the program supports and enables local government staff efforts to develop
20 and adopt local energy policies and reach codes through a variety of mechanisms. Finally, the C&S
21 program works to connect local and state efforts, so that local staff are aware of work occurring at
22 the state level, and state staff are aware of challenges and opportunities at the local level.

⁴⁵ The BayREN Codes & Standards program’s decarbonization efforts directly align with SB 1477 and AB 3232.

1 **3. Program(s) Description**

2 BayREN’s Codes and Standards program works in two areas: code compliance and energy
3 policy. For code compliance, the current program offers training and resources to local building
4 departments to aid them in enforcing and complying with the Energy Code. Resources include
5 technical assistance sheets and electronic tools for building department staff, as well as permit
6 guides and electronic tools for applicants. The C&S program also works in the local and state
7 energy policy arenas, providing support for local government staff relative to development,
8 adoption, and implementation of reach codes and other energy policies. This support includes
9 regular policy calls for local government staff, quarterly Regional Forums and other events,
10 templates, and other resources.

11 Building on the existing program, BayREN proposes to continue and refine the C&S
12 program to better address the challenges and opportunities prioritized below, and to further
13 BayREN’s portfolio goals, particularly related to building decarbonization and the importance of
14 EE as one of the tools needed to achieve decarbonization goals.

15 **4. BayREN Uniqueness and Value**

16 BayREN’s training and resources fill gaps in the PG&E and the Statewide C&S program
17 offerings, providing more local and tailored offerings⁴⁶ to Bay Area building officials and other
18 local government staff. In addition, BayREN focuses on providing shorter, more focused training
19 that can be provided within a building department’s regularly scheduled staff meeting.⁴⁷ As

⁴⁶ For example, BayREN provided customized training on locally adopted reach codes to eight Bay Area jurisdictions in 2021.

⁴⁷ Respondents to the 2021 BayREN Survey of Bay Area Building Department staff noted that the complexity of the Energy Code is the biggest barrier to code compliance, closely followed by department staffing limitations. BayREN’s efforts to make our training as concise and convenient as possible speak directly to this need.

1 acknowledged by the CPUC, “local governments are responsible for building code compliance,
2 and IOUs are limited to somewhat arms-length interactions with these efforts.”⁴⁸ In terms of
3 energy policies and reach codes, the Bay Area is a leader in reach code development, with over a
4 third of Bay Area jurisdictions adopting reach codes in the 2019 code cycle. BayREN closely
5 partners with the IOU reach code team to ensure that cost-effectiveness studies are prepared that
6 meet the needs of Bay Area local governments, and also provides additional resources and
7 opportunities for local government staff to learn from experts, including each other.

8 Since BayREN is led by local government staff, we have direct insights into local
9 government needs and effective tactics. As a result, BayREN continues to be uniquely qualified to
10 help Bay Area jurisdictions improve code compliance and develop effective and innovative energy
11 policies and reach codes, thereby resulting in both additional energy savings and reduced carbon
12 emissions.

⁴⁸ D.12-11-015 at 42.

1

5. Table - Challenges/Opportunities/REN Criteria

2

Table 23. Codes & Standards Challenges and Opportunities

<p>Challenges</p>	<ul style="list-style-type: none"> ● The Energy Code is complex, with multiple manuals and forms, such that local government staff find it difficult to understand and enforce. ● Compliance with the Energy Code will be a key element for the state to reach its decarbonization and greenhouse gas reduction goals. ● Building departments prioritize fire protection and life safety issues, which may not leave much time to enforce energy measures. ● Some types of projects have low permitting rates, making enforcement difficult. ● Development and adoption of reach codes and energy policies often include complex technical, procedural, and legal issues. ● Reach codes for existing buildings are essential for building decarbonization while also being particularly challenging in terms of equity impacts and political priorities. ● Local government staff often lack resources for expertise and technical support. ● There is a disconnect between code development and code enforcement. ● As future code cycles include new forms, or even new sections related to demand flexibility and indoor air quality, permitting agencies require continuous education.
<p>Opportunities</p>	<ul style="list-style-type: none"> ● Adopted codes and standards set the norms and expectations for construction and achieving market transformation. ● When enforced, codes and standards are powerful ways to achieve energy goals and building decarbonization. ● Expediting permitting for decarbonization equipment can encourage adoption. ● Codes and standards are required to be cost effective to the consumer and therefore can save them money as well as reducing energy use and carbon emissions. ● Local reach codes and energy codes provide opportunities to test requirements for later inclusion in the state code.
<p>Gaps Filled by BayREN or Other REN Criteria</p>	<ul style="list-style-type: none"> ● BayREN’s compliance tools and services, and training and workshops all fill gaps and complement PG&E’s compliance improvement activities. While PG&E prepares comprehensive tools that serve all stakeholders, BayREN focuses on key and specific areas of interest to local governments. Stakeholder engagement and policy support are conducted from a regional and local perspective and add a unique value to local governments alongside PG&E’s activities.

1 **B. Program Details: Codes and Standards Program**

2 ***1. Program Introduction***

3 BayREN proposes to continue to focus on serving local government staff through
4 its C&S program, by supporting local code development and code compliance. This work will be
5 carried out through activities such as those listed here:

- 6 ● Trainings for Bay Area building officials and relevant stakeholders
- 7 ● Resources for building department staff, including electronic tools
- 8 ● Resources for applicants, including electronic tools
- 9 ● Quarterly regional forums and other events
- 10 ● Local government reach code and policy working group calls
- 11 ● Templates, tools, and resources for energy policies and reach codes

12 In addition, the C&S program often tests various approaches and tools through small trials
13 with the intention to scale efforts when appropriate.

14 ***2. Table – Goals, Objectives, and Strategies***

15 The table below shows the C&S sector specific goals and objectives, and strategies (in
16 alignment with the Portfolio Strategies), with additional detail below.

1 **Table 24. Codes & Standards Goals, Objectives, and Strategies**

Goals	Objectives	Strategies
1. Increase local government building department staff’s knowledge of and ability to enforce the Energy Code and apply best practices across the region.	Local government staff have the knowledge and best practices for code enforcement and institutionalize use of BayREN guides and tools to increase code compliance. Identify and test innovative solutions to inform program design and/or create new activities.	PS 4. Provide targeted and relevant training and workforce support to improve effectiveness and build capacity.
2. Expand local government energy policy knowledge and networks; support municipal demonstration projects to illustrate the feasibility of policy and reach codes; assist jurisdictions to adopt and implement energy policies and reach codes.	Support and enable local government staff with adoption, implementation, and enforcement of local energy policies and codes. Identify and test innovative solutions to inform program design and/or create new activities.	PS 3. Provide technical assistance, access to resources, and actionable data to improve decision making resulting in building upgrades and long-term energy savings.
3. Provide the local government perspective to help inform state policy.	Build relationships and communication channels with stakeholders and act as a bridge between state and local governments and others as appropriate.	PS 1. Activate and engage key stakeholders and environmental and social justice (ESJ) communities in the development and delivery of programs.

2

3

3. Discussion of Goals, Objectives, and Strategies

4

a. Goal 1: Increase local government building department staff’s knowledge of and ability to enforce the Energy Code and apply best practices across the region

5

6

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8

BayREN proposes to continue to focus on providing training primarily for local

9

government building department staff, who are responsible for enforcing all aspects of the

10

California Building Code (Title 24), including the Energy Code (Part 6) and local reach codes and

1 ordinances. Enforcement of both state and local codes is an essential part of building
2 decarbonization, since improved code compliance, particularly of decarbonization measures, will
3 be necessary to meet the state’s GHG reduction goals. Poor quality installation of heating and air
4 conditioning equipment can lead to the loss of 30-40% of the energy savings benefits of EE
5 improvements and can also compromise indoor air quality, comfort, and potentially health and
6 safety.⁴⁹ As new electrification technologies come into the market, building department staff will
7 need additional training on the code and other requirements associated with these new
8 technologies.

9 Training for building department staff is critical given the complexity of the Energy Code,
10 which is structured differently from other Parts of Title 24, includes both a prescriptive and a
11 performance path, and relies on a large number of specialized forms to ensure compliance. As a
12 result, the Energy Code is seen as complex and difficult to understand, even by many of those
13 responsible for enforcing it.⁵⁰ In addition, many Bay Area building departments are understaffed,
14 and when time is short, they prioritize enforcement of Building Code requirements that are both
15 easier to understand and directly related to immediate health and safety.

16 BayREN’s Codes & Standards Program will continue to address these barriers by
17 providing training and resources that meet building department staff where they are and recognize
18 the constraints they operate under. The Codes trainings are updated as the energy code and other
19 state and local policies change in order to minimize the disconnect between policy makers and

⁴⁹ CEC Draft 2021 Integrated Energy Policy Report, at 36.

⁵⁰ A BayREN survey of Bay Area building departments in 2021 found that code complexity was one of the most common barriers cited relative to enforcement of the Energy Code. Respondents mentioned that the compliance forms are convoluted and difficult to navigate and also mentioned the continual updates to the code as a challenge.

1 those responsible for enforcement. BayREN developed the first training related to Heat Pump
2 Water Heaters (HPWH) in 2018 as many Bay Area jurisdictions began adopting reach codes
3 requiring their use, and has provided tailored versions of that training to both local government
4 staff and contractors. Another new training offered for the first time in late 2021 focused on
5 electrification of low-rise residential buildings. Since the 2022 Energy Code will require either
6 HPWHs or Heat Pump Space Conditioning for new low rise residential buildings in the Bay Area
7 starting in 2023, BayREN is planning to develop a Heat Pump Space Conditioning course early in
8 2022. BayREN’s Codes Program will continue to be responsive to policy changes and develop
9 training for Bay Area building departments on new technologies and code provisions.⁵¹

10 BayREN trainings are usually 60-90 minutes. This length allows trainings to be provided
11 during department staff meetings or in a “lunch and learn” format, and also complements Energy
12 Code Ace’s trainings and resources⁵², which are typically longer and more comprehensive. When
13 appropriate, BayREN will continue to look for opportunities to partner with the statewide Codes
14 & Standards team to develop and provide training on a couple of specialized topics, as has been
15 done in the past program cycle.

16 All BayREN trainings will continue to be approved by the International Code Council to
17 provide continuing education units, often needed by permit technicians, plans examiners, and

⁵¹ Ongoing training of building officials is a critical complement to other state efforts to improve quality installation standards, especially with the anticipated increase in the adoption of heat pump technologies. “Consistent quality and code-compliant installation is essential to accomplishing the full value of the expected energy savings...and thus to accomplish the state’s commitment to achieve carbon-neutrality.” CEC Draft 2021 Integrated Energy Policy Report at 39.

⁵² This is a “one-stop” shop for tools, training and resources to help with compliance of Title 24, relating to the energy code and appliance standards. The tool is funded by the Statewide program and is viewable at <https://energycodeace.com/>.

1 building inspectors to maintain their certifications. BayREN’s trainings recognize the constraints
2 on local governments staff and are oriented towards helping them learn best practices for
3 enforcement.

4 Complementing its trainings, BayREN C&S will continue to provide resources for building
5 department staff, such as electronic tools and technical assistance sheets, and for project applicants,
6 such as permit guides and the ePermit Tool.⁵³ In a survey of Bay Area building departments
7 conducted in 2021, over 90% of those who used these resources rated them positively and over
8 80% who had not used them indicated that they would likely be useful. These resources often
9 complement BayREN’s trainings and will be expanded moving forward to cover new technologies
10 as appropriate, potentially including heat pump HVAC equipment or grid-responsive/flexible
11 demand appliances, and related code requirements.

12 BayREN’s Codes and Standards Program is also currently partnering with the TECH
13 program⁵⁴ on their Permitting Pilot.⁵⁵ As part of that effort, BayREN and TECH are working with
14 local government staff and other stakeholders to develop resources and processes to improve and
15 expedite permitting for heat pump technologies. Long permitting times and high permit fees,
16 especially in comparison to permits for more established technologies, can pose a barrier to
17 adoption of heat pump technologies which are essential for building decarbonization. By educating

⁵³ The ePermit Tool is an online tool for applicants that provides guidance on code requirements, draft language for permit applicants and more (available at <https://www.bayren.org/applicant-tools-guides/epermit-tool/>.)

⁵⁴ The Technology and Equipment for Clean Housing (TECH) was created by SB 1477 and is meant to drive market transformation in key building and appliances technologies that will drive down GHG emissions in the state.

⁵⁵ Information about the Permitting Pilot can be found online at: <https://energy-solution.com/tech-permitting-pilot/>.

1 building department staff and developing resources to support their permitting efforts, this barrier
2 can be removed.

3 All these efforts support the recommendations set forth in the 2021 Integrated Energy
4 Policy Report (IEPR), and in some cases BayREN and local governments are ahead of state efforts.
5 For example, BayREN’s ePermit and compliance tools are both testing different approaches for
6 using “technology to improve and streamline the permitting process”⁵⁶ and “implementing
7 strategies that simplify, automate, digitize, and otherwise make the permitting, compliance, and
8 documentation process easier and less expensive for the user”.⁵⁷ BayREN’s permit guides,
9 technical assistance sheets, trainings, and work with the TECH Permitting Pilot are all aimed
10 towards helping and encouraging building departments to “simplify permitting and inspection for
11 heating and air-conditioning system replacement installations”⁵⁸ and for other technologies.

12 In both its code compliance work and its policy work (discussed under Goal 2 below),
13 BayREN conducts small in-program trials of approaches and tools. One common approach is to
14 develop and offer an activity in a jurisdiction or group of jurisdictions to see the benefits and
15 opportunities for improvement. For example, BayREN has funded the use of an e-permit tool to
16 improve code compliance in a few jurisdictions and worked with the developer to identify the
17 upgrades needed to make the tool more widely available. BayREN proposes to continue
18 conducting these small trials of tools and approaches.

19 With better trained and knowledgeable building department staff who have localized
20 resources at their disposal, permitting and energy code compliance will improve, leading to lower

⁵⁶ CEC Draft 2021 Integrated Energy Policy Report at 157.

⁵⁷ CEC Draft 2021 Integrated Energy Policy Report at 158.

⁵⁸ Id.

1 energy use and reduced greenhouse gas emissions. These efforts are essential to meeting climate
2 and building decarbonization goals at both the state and local levels.

3 **b. Goal 2: Expand local government energy policy**
4 **knowledge and networks, support municipal**
5 **demonstration projects to illustrate the feasibility of**
6 **policy and reach codes, and assist jurisdictions to**
7 **adopt and implement energy policies and reach codes**

8 Local energy policies and reach codes have the potential to create higher energy savings
9 and to test code requirements that can later be incorporated into the state code. Developing these
10 reach codes and policies, however, requires expertise with technical and legal issues. For example,
11 developing reach codes involves understanding cost-effectiveness studies, state requirements for
12 reach codes, and federal preemption. Many Bay Area jurisdictions are actively working on reach
13 codes, benchmarking ordinances, procurement policies, and other types of energy policies.⁵⁹ Local
14 government staff need assistance assessing options, understanding the legal and procedural
15 requirements involved, and determining what resources are available. BayREN will continue to
16 work directly with local government staff to support the development and adoption of energy
17 policies and reach codes by increasing their knowledge, providing technical support and resources,
18 and connecting them to other sources of information and support. Tactics will continue to include
19 quarterly Regional Forums, the local government reach code and policy working group, website
20 resources, technical assistance, and similar activities as needed and identified by local
21 governments.

22 BayREN provides information to local government staff through our quarterly Regional
23 Forums. These Forums often focus on energy policies or reach code topics, although some also

⁵⁹ For example, over 40 Bay Area jurisdictions have passed reach codes in the 2019 code cycle, and more are considering both new construction reach codes and codes affecting existing buildings.

1 cover code compliance. Recent topics have included “Moving towards 2022: What Will the New
2 Energy Code Mean for Reach Codes?” and “Decarbonizing Bay Area Homes: Homeowner and
3 Policymaker Perspectives.” Regional Forums are opportunities for BayREN to provide
4 information, resources, and different perspectives to local government staff and other stakeholders
5 on issues of interest. Recordings and presentations are provided on our website following each
6 Forum, so this information also serves as a long-term resource. Forums allow local governments
7 to share their experiences and learn from other local government staff, both formally and
8 informally. BayREN proposes to continue the Regional Forums and will cover topics timely to the
9 latest code cycle, local government efforts, and other relevant topics.

10 BayREN Codes & Standards also proposes to continue to provide technical support to Bay
11 Area local governments, particularly related to energy policies and reach codes. The support will
12 be provided by BayREN staff or expert consultants depending on the needs and through resources
13 posted on our website. BayREN also provides support through our local government reach code
14 and policy working group, where staff can connect with peers from other jurisdictions working on
15 similar issues. The group meets every other month, and are open to all local government staff.

16 BayREN will also continue with its Municipal Zero Net Energy/Zero Net Carbon technical
17 assistance, which provides no-cost engineering assistance to local governments interested in
18 converting one or more buildings to zero net energy (ZNE) or zero net carbon (ZNC).⁶⁰ This
19 support helps local governments demonstrate the feasibility of ZNE and ZNC approaches and
20 encourages the adoption of ZNE/ZNC building policies. A number of Bay Area local governments

⁶⁰ If the Public Sector Integrated Energy Services Program proposed is approved, that would incorporate, scale up, and supersede this Municipal ZNE/ZNC Technical Assistance offering, which would no longer be offered through the BayREN Codes and Standards program. Any changes would be made via a PIP addendum.

1 have adopted policies requiring their building portfolios to be carbon neutral by a certain date.
2 This program can assist them in decarbonizing their buildings by providing an initial analysis and
3 recommendations customized to their specific needs.

4 All of BayREN’s policy efforts are consistent with and supportive of the recommendations
5 of the 2021 Integrated Energy Policy Report, and in some cases, BayREN and local governments
6 are ahead of state efforts. BayREN provides significant support for reach code efforts. Over a third
7 of Bay Area jurisdictions have adopted reach codes in the 2019 Energy Code cycle, many of which
8 require all-electric new construction. These efforts will help pave the way for the CEC’s efforts to
9 “shift further toward efficient electric end uses in the 2025 Energy Code” and support the CEC,
10 CPUC, and CARB’s efforts “to decarbonize remaining end uses in new buildings”⁶¹ by
11 demonstrating the feasibility of efficient electric construction and related government mandates.
12 Through its policy work, BayREN collaborates with the CEC, other state agencies, and with Bay
13 Area local governments “to support and advance GHG reduction planning and implementation”.⁶²

14 As mentioned above in the discussion of Goal 1, BayREN conducts small in-program pilots
15 of approaches and tools in its code compliance and policy work. For example, the City of San
16 Francisco led an effort to develop an energy targeting and benchmarking tool for use in their
17 municipal buildings; the tool can now be used by jurisdictions across the region. Marin County
18 has been tracking the impact of reach code adoption using permit data for the unincorporated
19 county and now Home Energy Rating System (HERS) data for the entire county. This data
20 provides insights into energy budget and performance in relation to the energy code. BayREN also
21 recently developed a policy calculator which local governments can use to assess the energy saving

⁶¹ CEC Draft 2021 Integrated Energy Policy Report at 156.

⁶² CEC Draft 2021 Integrated Energy Policy Report at 158.

1 and greenhouse gas reduction potential of different energy-related and building decarbonization
2 policies for their jurisdictions.⁶³ These and similar efforts provide a scalable way to work through
3 issues and develop resources locally, then make them available for more widespread use. BayREN
4 proposes to continue conducting these small trials of tools and approaches.

5 **c. Goal 3: Provide the local government perspective to**
6 **help inform state policy**

7 As a regional organization, BayREN coordinates and collaborates with stakeholders
8 throughout the Bay Area, particularly local governments. Local government staff are responsible
9 for designing, adopting, implementing, and enforcing local energy policies and codes, as well as
10 enforcing state energy codes. Yet many local government staff do not have time to engage with
11 codes and standards efforts at the state level or to remain informed about related work at the local
12 or regional level. This is particularly acute with smaller jurisdictions who lack the staff and
13 resources to effectively engage in energy code compliance rulemakings and associated activities.

14 BayREN is composed of local government staff and as such is uniquely positioned to
15 understand these constraints and work effectively with other local government staff throughout the
16 region. The Regional Forums and policy working groups are examples of how BayREN works
17 with local governments to both provide information and to offer venues for knowledge sharing.
18 BayREN has monthly meetings with the CEC where BayREN staff can learn about topics of
19 interest to local governments and share local government challenges and concerns with CEC staff.
20 BayREN works to bridge the gap between local governments, the state, and other stakeholders by

⁶³ The BayREN Policy Calculator and the associated User Guide can be accessed online at:
<https://www.bayrencodes.org/services-resources/energy-policies-and-reach-codes/existing-building-approaches/>.

1 bringing local government perspectives to various efforts and informing local government staff
2 about those efforts.

3 **4. Categorization by Segment**

4 **a. Categorization Summary**

5 Codes & Standards Programs are separate from the segmentation requirements.⁶⁴
6 However, BayREN’s C&S program is a cross-cutting program that supports other BayREN
7 programs and has elements that support all three segments:

- 8 • Market Support, through training of local building officials on the energy code to
9 ensure compliance and greater efficiencies with permitting, and training of contractors
10 on new technologies to help ensure their work is code compliant;
- 11 Resource Acquisition, as increasing compliance with and enforcement of state and
12 local energy codes ensures that energy savings in the codes are achieved in practice,
13 and
- 14 • Equity, as increasing energy code compliance helps to ensure all residents receive the
15 benefits of safe, legal and code-compliant construction.

16 A more detailed discussion is provided in the Segmentation Strategy section above.

17 **b. Program and Portfolio Coordination**

18 Collaboration with Bay Area local governments and other stakeholders is one of the Codes
19 and Standards program’s foundational strategies. In the BayREN territory, PG&E is another
20 program administrator that implements its own and the statewide codes and standards programs.
21 In addition to the annual Joint Cooperation Memo that BayREN and PG&E are required to file
22 each year, the Codes and Standards staff from both BayREN and PG&E hold monthly coordination

⁶⁴ D.21-05-005 at 16: “C&S Programs will remain separate” from categorization.

1 calls and have an exceptionally collaborative relationship that has resulted in filling gaps, finding
2 opportunities to work together, share resources and overall support for Bay Area local government
3 staff. For example, BayREN and PG&E have developed and offered trainings together, have
4 worked on model reach code language together, and have held reach code events together.

5 BayREN also coordinates with the seven CCAs operating in the Bay Area. Staff from
6 several CCAs attend BayREN’s reach code working group calls, and BayREN has provided reach
7 code information to and coordinated efforts with PCE, SVCE, and EBCE. These CCAs have
8 leveraged BayREN’s reach code training for jurisdictions in their territories that have adopted
9 reach codes. BayREN is also coordinating with SVCE on the TECH Permitting Pilot program.

10 BayREN Codes and Standards staff regularly work with other regional agencies, including
11 ABAG, MTC, and BAAQMD. For example, BayREN is coordinating with ABAG to provide
12 energy conservation and building decarbonization information to local governments that are
13 working on housing element updates through ABAG’s Housing Element County Collaboratives.
14 BayREN also provided input to BAAQMD staff as they have been developing potential updates
15 to Rules 9-4 and 9-6, which could have significant impacts on building decarbonization.

16 BayREN coordinates with other REN codes and standards programs as well. The Tri-
17 County REN (3C-REN) is currently the only other REN with an operating codes and standards
18 program, although the CPUC has approved a codes program for the new I-REN. SoCalREN is also
19 considering proposing a codes program. The BayREN and 3C-REN codes programs share trainers
20 and have agreed to leverage each other’s training curriculums. When it first started operating, 3C-
21 REN offered a number of BayREN-developed trainings, and BayREN has since used 3C-REN
22 trainings as a base for new BayREN training offerings, saving ratepayer dollars. BayREN has also
23 coordinated with 3C-REN on other activities, including developing comments for CEC and CPUC

1 proceedings. We anticipate continuing this partnership and also working with other approved REN
2 codes programs as they begin operations.

3 The Codes and Standards Program is a cross-cutting program which also supports and
4 works with other BayREN programs. For example, when BayREN’s Home+ program began
5 offering incentives for heat pump water heaters, a trainer for the Codes and Standards program
6 was able to create a version of the HPWH training specifically for contractors. This training is now
7 regularly offered to Home+ contractors and other interested contractors throughout the region to
8 complement the HPWH training for building department staff.

9 Program card can be found in Appendix A.

10 **C. Program Details: Water Upgrades \$ave Program**

11 ***1. Sector Vision for Water Upgrades \$ave***

12 Expand the BayREN water-energy efficiency program throughout the region.

13 ***2. Program(s) Overview***

14 As an existing program designed to deliver multiple customer and system benefits within
15 CPUC’s ground-breaking water/energy nexus initiative, the Water Upgrades \$ave program allows
16 water customers to install efficiency upgrades with little-to-no upfront cost using an on-bill charge
17 that is significantly lower than the estimated savings. Participants “pay as they save,” using a
18 portion of their savings to pay for the project over time with a charge on their water bill. While
19 this program design has been used in different parts of the country, BayREN’s offering is unique
20 in the Bay Area.

1 **3. Program(s) Description**

2 Known as inclusive financing,⁶⁵ tariff on-bill⁶⁶ is designed to remove common market
3 barriers to participation with little-to-no upfront cost, no credit check, new debt, or lien, and the
4 ability for renters and property owners to participate. Tariff on-bill is not a consumer loan like the
5 PG&E Energy Efficiency Financing Program. Instead, tariff on-bill uses the water utility’s rate
6 setting authority to establish the project installation and on-bill charge as a feature of the water
7 service. The program provides indoor and outdoor efficiency services that help single family,
8 multifamily, and small/medium commercial water customers save water and the energy needed to
9 pump, treat, and heat that water (i.e., on-site/embedded energy).

10 Launched in 2021, the regional program currently has two Partner Utilities. The first
11 Partner Utility, the City of Sebastopol, Sonoma County, began serving water customers in late
12 May, and, as of December 2021, completed forty-two single family projects that will save over
13 200,000 gallons annually. The second Partner Utility, the City of Cloverdale, Sonoma County,
14 enrolled in late 2021 and will launch customer services in early 2022. The regional program is
15 based on three pilots: Windsor Efficiency PAYS[®] (2012), Green Hayward PAYS[®] (2015), and
16 East Bay Municipal Utility District’s WaterSmart On-Bill Program (2016), whose lessons learned
17 and advice informed the regional program design.

18 Of the 94 Bay Area water utilities, 77 are municipal utilities that serve 75 percent of the
19 Bay Area’s single family and multifamily customers. Forty of these municipal utilities have

⁶⁵ “What is inclusive financing for energy efficiency, and why are some of the largest states in the country calling for it now?” American Council for an Energy-Efficient Economy (ACEEE) 2018 Summer Session.

⁶⁶ This type of financing is also deemed a model for supporting building decarbonization. See CEC 2021 Draft 2021 Integrated Energy Policy Report at 94-96.

1 water/sewer rates and housing stock that present a prime opportunity for the program. The
2 cumulative 2027 enrollment goal is 20 utilities.

3 Water Upgrades \$ave is not a consumer loan or rebate; it provides capital to facilitate water
4 utility investment in customer-side projects using the utility’s rate-setting authority to recover the
5 investment with an on-bill charge. BayREN’s capital provider, ABAG, pays for “services
6 rendered” to install upgrades using a turnkey project service. ABAG is fully repaid over time when
7 the utility uses its existing collection practices to collect the on-bill charge at participating meters
8 and returns funds back to ABAG. This capital finance system is designed to grow to match
9 customer demand.

10 That ability to grow with customer demand is important because urban water use has been
11 identified as a prime candidate to deliver reductions in both on-site energy use for water heating
12 and embedded energy required for water and wastewater delivery and treatment.⁶⁷

13 Statewide water-related energy use is estimated to comprise 20 percent of electricity and
14 30 percent of natural gas demand from business and residential customers.⁶⁸ Recent research
15 demonstrates the cost effectiveness of energy savings acquired through water conservation is
16 comparable to traditional energy-only efficiency programs.⁶⁹ In addition, the current effort to
17 update the CPUC Water-Energy Calculator (W-E Calculator 2.0) offers an improved tool for
18 estimating water-related energy savings.

⁶⁷ The Future of California’s Water-Energy Nexus. Pacific Institute/Next 10. September 2021.

⁶⁸ “Energy and Water use in California are Interconnected.” Public Policy Institute of California. October 2016.

⁶⁹ “The cost-effectiveness of energy savings through water conservation: a utility-scale assessment.” Edward S Spang et al 2020 Environ. Res. Lett. 15 114031

1 Water Upgrades \$ave expands water utility capacity to significantly reduce urban water
2 and associated energy use while protecting threatened water supplies in accordance with state
3 water policy. Unlike most programs that primarily serve property owners, the program fills a large
4 gap in both the efficiency and water program market because it reaches renters, who often cannot
5 afford the upfront cost of upgrades but are also burdened with increased energy and water utility
6 costs.

7 **4. BayREN Uniqueness and Value**

8 Water Upgrades \$ave is strongly aligned with the REN criteria as it (1) fills a gap in the
9 Bay Area market by providing water/energy efficiency services to eligible households that do not
10 qualify for low-income direct install programs and do not have the discretionary income to
11 participate in rebate programs; (2) provides an innovative program model that expands utility
12 investment in customer-side water/energy efficiency and the ability to scale; and (3) serves
13 traditionally hard to reach customers, such as moderate-income households and renters.

14 Following the historic 2012–2016 drought, the state launched an ambitious policy to “make
15 water conservation a California way of life.” The 2018 decision initiated a multi-year transition to
16 a water-budget approach in which utilities and their customers must adhere to specific state targets
17 for water use. At the same time, a comprehensive 2020 tree-ring study confirmed the state is in a
18 decades-long megadrought, noting “the period from 2000 to 2018 was the driest 19-year span since
19 the late 1500s and the second driest since 800 CE.”⁷⁰ The real-world effect of that finding is
20 reflected in Governor Newsom’s October 19, 2021 Drought Emergency Declaration.⁷¹ The move

⁷⁰ “Large contribution from anthropogenic warming to an emerging North American megadrought.” Williams et al., *Science* 368 at 314–318 (2020).

⁷¹ “Governor Newsom Expands Drought Emergency Statewide, Urges Californians to Redouble Water Conservation Efforts.” Office of Governor Gavin Newsom, press release, October 19,

1 to a water-budget approach and the severity of megadrought impacts, such as wildfires and water
 2 shortages, highlight the need to increase the state’s water efficiency. BayREN Water Upgrades
 3 \$ave expands water utilities’ ability to meet these challenges and capture the opportunities of urban
 4 water efficiency, as summarized below.

5 **5. Table – Challenges/Opportunities/REN Criteria**

6 **Table 25. Water Upgrades \$ave Challenges and Opportunities**

Challenges	<ul style="list-style-type: none"> ● Despite code changes, most existing buildings have inefficient fixtures that waste energy and water. ● Many customers cannot afford the upfront cost or obtain financing for an efficiency project. ● Renters cannot typically participate in efficiency programs. ● Participation in rebate programs is limited by the available rebate funding.
Opportunities	<ul style="list-style-type: none"> ● Urban water efficiency is emerging as a significant means to reduce GHG emissions from onsite and embedded energy.⁷² ● The California drought requires a comprehensive, “conservation as a way of life” approach. ● Cost-neutral tariff on-bill allows capital to scale to meet market demand.
Gaps Filled by BayREN or Other REN Criteria	<ul style="list-style-type: none"> ● Fills a gap by providing water/energy efficiency services to eligible households that do not qualify for low-income direct install programs and do not have the discretionary income to participate in rebate programs. ● Provides an innovative program model that expands utility investment in customer-side water/energy efficiency and has the ability to scale.

7

2021. Viewable at <https://www.gov.ca.gov/2021/10/19/governor-newsom-expands-drought-emergency-statewide-urges-californians-to-redouble-water-conservation-efforts/>.

⁷² The Future of California’s Water-Energy Nexus. Pacific Institute/Next 10. September 2021

1 **6. Program Details: Water Upgrades Save**

2 **a. Program Introduction**

3 To expand water utility capacity for customer-side efficiency, Water Upgrades \$ave is
4 designed to scale water tariff on-bill financing to build, enable, and maintain broader and/or more
5 equitable access to capital and coordinated program services. This will make investments in energy
6 efficiency projects, products, or services addressing the water-energy nexus more affordable. The
7 program provides a strong equity benefit because it serves moderate-income households, and both
8 renters, and property owners.

9 **b. Table - Goals, Objectives, Strategies**

10 **Table 26. Goals, Objectives, Strategies (Water Upgrades \$ave)**

Goals	Objectives	Strategies
1. Increase water customer access to energy efficiency benefits through scalable utility investment in customer-side water conservation.	Effectively scale offerings to serve the Bay Area region with water/energy efficient upgrades.	PS 6. Develop innovative, equitable regional-scaled offerings that enable customers to layer energy efficiency with other climate-based funding and resource programs to address the climate crisis.
2. Acquire non-ratepayer capital sources that can grow to meet the volume of projects completed in Partner Utility programs.		
3. Expand the number of Partner Utilities.		PS 1. Activate and engage key stakeholders and environmental and social justice (ESJ) communities in the development and delivery of programs.

11

1 **7. Discussion of Goals, Objectives, and Strategies**

2 **a. Goal 1: Increase water customer access to energy**
3 **efficiency benefits through scalable utility investment**
4 **in customer-side water conservation**

5 When the customer is engaged and has signed the Participant Agreement, they are assured
6 there will be little-to-no upfront payment—no new debt, no credit check, and no lien. They will
7 pay only while they are a utility customer at the project location and, if they move, the next
8 customer assumes the continued utility bill savings and any remaining on-bill charge. If an upgrade
9 fails, it is repaired or the on-bill charge ends.

10 The program provides a turnkey project installation service coordinated with Partner
11 Utilities to make it easy for customers to participate. The customer receives a Water Upgrades
12 \$ave invitation from the Partner Utility and schedules a free onsite assessment. The program’s
13 Water Specialist inspects the existing water fixtures, verifies estimated savings, helps with upgrade
14 selection and contractor scheduling, and facilitates Participant Agreement signing. The Program
15 Contractor installs the approved upgrades. The Water Specialist conducts a quality control
16 inspection and tells the water utility the project is complete. The water utility begins the on-bill
17 charge and repays ABAG. Finally, the customer immediately receives a portion of their savings as
18 soon as the upgrades are installed.

19 Water Upgrades \$ave serves renters and property owners and helps local governments,
20 residents, and businesses pursue upgrades required by building code changes, time-of-sale
21 requirements, and water-use regulations.

1 Water Upgrades \$ave provides water utilities with the following benefits that expand their
2 conservation capacity:

- 3 ● The tariff on-bill or inclusive financing model ensures customers can participate
4 regardless of their financial status
- 5 ● The program’s “80 percent rule” requires the on-bill charge be no more than 80 percent
6 of the total estimated savings over 80 percent of the useful life of the product, thereby
7 ensuring the customer receives a portion of their savings right away
- 8 ● The utility can readily invest in customer-side efficiency to support reliable water
9 supply for all water customers
- 10 ● Water Upgrades \$ave provides turnkey capital and project installation services,
11 freeing up utility budget and staff for traditional conservation efforts
- 12 ● The program complements and can be layered with existing water conservation
13 programs, such as rebates
- 14 ● Water Upgrades \$ave also develops new offerings that align with emerging state water
15 policy issues, such as outdoor water conservation, small/medium commercial, and
16 leak detection and repair

17 To prepare for utility outreach, BayREN analyzed the market potential for cost-effective
18 water conservation projects at 94 Bay Area water utilities in the multifamily and single-family
19 sectors. The analysis considered governance of the utility, number of multifamily units and single-
20 family homes served, water, sewer, and energy rates, and cost of project installations. It showed
21 81 percent of Bay Area utilities have characteristics ranging from highly favorable to moderately
22 favorable for program participation.

1 resulting water and energy bill savings. The program delivers its accessible customer service in
2 partnership with Bay Area water utilities, BayREN County members, and BayREN’s parent
3 agency and capital provider, ABAG. This provides a unique platform to leverage local water utility
4 resources and private capital to deliver enhanced value to the CPUC EE portfolio. A more detailed
5 discussion is provided in the Segmentation Strategies section, above.

6 **b. Program and Portfolio Coordination**

7 As a cross-cutting Market Support program, BayREN Water Upgrades \$ave serves
8 customers in the BayREN Residential and Commercial sectors with indoor and outdoor upgrades.
9 Internally within BayREN, the program coordinates with the BayREN Single Family, Multifamily,
10 and Commercial programs. Externally, Water Upgrades \$ave collaborates with water wholesalers
11 and regional conservation organizations to align efforts and identify ways to combine efficiency
12 services to increase customer benefits.

13 While delivering customer services, Water Upgrades \$ave provides customers with
14 additional information on EE programs applicable to their property type. For water customers
15 enrolled in California Alternative Rates for Energy (CARE)/Family Electric Rate Assistance
16 (FERA) programs, Water Upgrades \$ave refers them to Energy Savings Assistance (ESA)
17 programs that provide direct install services for comparable indoor water efficiency upgrades. This
18 addresses an oft cited problem of customers struggling to understand and select the right program
19 option for their needs.

20 Program Card is included in Appendix A.

1 **D. Program Details: Workforce, Education and Training**

2 **1. Workforce, Education and Training Overview**

3 **a. Sector Vision**

4 Establish a viable and robust career pathway for youth, particularly those in ESJ
5 communities, in EE and climate work.

6 **b. Program(s) Overview**

7 The 100 percent decarbonization and electrification of California’s existing and new
8 buildings by 2045 is a lofty and necessary goal on the pathway to carbon neutrality, but in order
9 to achieve this goal there must be a trained and locally available workforce that is skilled and able
10 to fill the approximately 64,000 to 104,000 clean-economy jobs that would result from this state-
11 wide endeavor.⁷⁵ And, as these clean-economy jobs are being created, it is socially imperative that
12 opportunity and access for people living in ESJ communities, and coming from low-income
13 households, are able to be a part of California’s carbon neutrality journey through active training,
14 upskilling, and employment in this burgeoning workforce⁷⁶—and that the jobs available are
15 accessible and high road.⁷⁷

⁷⁵ Jones, Betony, Jason Karpman, Molly Chlebnikow, and Alexis Goggans. 2019. California Building Decarbonization Workforce Needs and Recommendations. UCLA Luskin Center for Innovation. https://innovation.luskin.ucla.edu/wpcontent/uploads/2019/11/California_Building_Decarbonization.pdf. Cited in CEC 2021 Integrated Energy Policy Report at 55.

⁷⁶ Presentation of Julia Hatton, “Rising Sun Center for Opportunity”. July 13, 2021, IEPR Commissioner Workshop on Building Decarbonization, Session 3: Decarbonization and Workforce. <https://efiling.energy.ca.gov/getdocuments.aspx?tn=238826>. Rising Sun Center for Opportunity, a local nonprofit organization, is BayREN’s partner on this program.

⁷⁷ The California Workforce Development Board (CWDB) defines high employers – and therefore their jobs – as “firms that compete based on quality of product and service achieved through innovation and investment in human capital, and can thus generate family-supporting jobs where workers have agency and voice.” <https://cwdb.ca.gov/initiatives/high-road-training-partnerships/>

1 Recognizing the need to “help industry, workers, and communities transition to economic
2 and labor-market changes related to statewide greenhouse gas emission reduction goals” Assembly
3 Bill 398 (E. Garcia, Chapter 135, Statutes of 2017) required that the California Workforce
4 Development Board (CWDB) present a report to the Legislature outlining strategies to ensure an
5 equitable and effective transition. The report, prepared by the UC Berkeley Labor Center,
6 recommends that funding for training programs should prioritize “comprehensive training that
7 prepares workers for careers, rather than niche programs that train on one particular “green” skill
8 or “green” technology that may become outdated as technology advances.”⁷⁸ Given California’s
9 focus on decarbonizing existing residential building stock as a key strategy for achieving statewide
10 goals,⁷⁹ it will be critical that these training programs improve the Residential Sector job quality
11 to achieve both climate resilience and economic equity, simultaneously.

12 **c. Program(s) Description**

13 The BayREN Workforce Education and Training (WE&T) program seeks to address these
14 needs and fill gaps in the market with Climate Careers, a youth workforce development program
15 that focuses on youth from low-income households, and an emphasis on opportunity youth.⁸⁰⁸¹
16 The Climate Careers program is a unique social enterprise that trains and employs young people,
17 ages 15-24, to provide residential EE services, learn and practice foundation career skills, and

⁷⁸ <https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf>

⁷⁹ 2019 California Energy Efficiency Action Plan: <https://www.energy.ca.gov/programs-and-topics/programs/energy-efficiency-existing-buildings>

⁸⁰ Opportunity youth are young people who are between the ages of 16 to 24 and are disconnected from school and work– <https://youth.gov/youth-topics/opportunity-youth>.

⁸¹ This program expands the Green House Calls program, implemented by Rising Sun, that has been a central part of the Home+ program since 2018.

1 provide them with paid experience in and exposure to clean economy careers. The program builds
2 on and raises up the inherent strengths of each young person through a three-stage process: Earn
3 and Learn, Post Programmatic Pathways, and Future Placement. Together, these stages not only
4 provide participants with training, upskilling, paid work experiences, and a world of work
5 exposure, but also provide the launching pad into meaningful career tracks. BayREN’s Climate
6 Careers program offers opportunities to youth for personal autonomy, positive relationships with
7 peers and adults, and a sense of meaning and purpose, all of which build personal resilience. This
8 program is also in direct alignment with Revised Goal 7 of the CPUC ESJ Action Plan as it
9 promotes high road career paths and economic opportunities for residents of ESJ communities.⁸²

10 **d. BayREN Uniqueness and Value**

11 As a workforce program focusing on youth in low-income communities, BayREN has
12 established a scalable pathway to grow cross-cutting and equity programs in the region. The
13 program is also leveraging connections to amplify BayREN funding, by working with local
14 partners to support the development of the Bay Area High Road Training Partnership⁸³ (HRTP)
15 for the emerging residential building decarbonization industry to create a collaborative structure
16 to ensure that the industry and workforce are prepared to meet demand while prioritizing equity,
17 job quality, and job access. Led by Rising Sun Center for Opportunity and Inclusive Economics,
18 learnings from the Bay Area HRTP effort will inform BayREN’s Climate Careers program and
19 ensure that the program incorporates best practices and leverages new private sector and labor
20 partnerships developed through the HRTP.

⁸² See <https://www.cpuc.ca.gov/esjactionplan/> at 22.

⁸³ <https://risingsunopp.org/wp-content/uploads/Rising-Sun-HRTP-Press-Release.pdf>

e. **Table – Challenges/Opportunities/REN Criteria**

While there are challenges in the market, there are also a significant number of opportunities that form the foundation of this program.

Table 27. Workforce, Education and Training Challenges and Opportunities

<p>Challenges</p>	<ul style="list-style-type: none"> ● There is a labor shortage due to a workforce that is aging out and retiring, has low paying wages, non-benefited packages, and lacks clear pathways for upward mobility, particularly in the EE and clean economy sectors. ● The perceived value of working in construction and other skilled trades is low, reducing the number of individuals who are interested in entering this field and for those who are interested, understanding of how to access these trades is limited and pathways for entry can be complicated. ● The perceived barriers to gaining employment in the clean economy are keeping young people from pursuing careers in these industries, even entry level positions and understanding of what constitutes a “clean economy” career may be limited.
<p>Opportunities</p>	<ul style="list-style-type: none"> ● Create opportunities for youth from low-income households and ESJ communities to become a part of the solution through job training, early employment opportunities, and career exposure. ● Develop accessible, targeted career and academic pathways for youth populations who have been underserved, creating upward mobility and opportunity that will have a positive impact in their day-to-day life and community. ● Create real world work experiences in targeted public and private sectors that allow youth participants to explore the wide variety of career options in climate-related fields, helping them build their resumes and the future workforce. ● Support and incentivize high road career pathways, labor standards, and job quality within clean economy careers, particularly in the Residential sector.
<p>Gaps Filled by BayREN or Other REN Criteria</p>	<ul style="list-style-type: none"> ● Youth unemployment in the Bay Area is more than double the rate for adults and negatively impacts young peoples’ lives. ● Unemployment is even more pronounced among youth of color and this program aims to fill the skills and employment gaps experienced by many in these communities through the development of a trained and locally available workforce, prioritizing ESJ communities, and persons from low-income households.

5

1 **2. Program Details: Workforce Education and Training**
2 **Program**

3 **a. Program Introduction**

4 BayREN’s newly proposed WE&T program, Climate Careers, offers an integrated, cross-
5 sector model. The program simultaneously serves as a direct install EE program, as well as an
6 outreach and customer acquisition mechanism⁸⁴—performed by youth participants who can most
7 benefit from job training, exposure, and access. It creates opportunities for youth from low-income
8 households and ESJ communities to gain real world work experiences in targeted sectors and
9 specifically addresses Bay Area youth unemployment, particularly among youth of color, while
10 building a future EE and clean economy workforce. The Climate Careers program is designed to
11 meet youth where they are—a key strategy outlined by the Aspen Institute for workforce programs
12 geared towards youth— by providing near term employment opportunities and simultaneously
13 offering longer-term career planning and skill building resources⁸⁵.

⁸⁴ This BayREN Workforce program coordinates with the BayREN Residential Sector to provide job training opportunities via the Home+ program offering.

⁸⁵ <https://www.aspeninstitute.org/publications/now-jobs-young-adult-workforce-programming/>

1

2

b. Table – Goals, Objectives, Strategies

3

Table 28. Goals, Objectives, Strategies (WE&T)

Goals	Objectives	Strategies
1. Serve youth from communities that align with the CPUC ESJ communities, increase the number of young clean economy employees earning livable wages and infusing new talent into a diminishing workforce in the clean economy and energy efficiency work sphere.	Create EE and clean economy training and employment programs with employers that prioritize disadvantaged and disconnected youth populations, ages 15- 24 years old.	PS 1. Activate and engage key stakeholders and environmental and social justice (ESJ) communities in the development and delivery of programs.
2. Increase the number of organizations willing to employ young people in skilled positions through partnerships with private clean energy firms working in the space.	Create career pathways in the world of EE and the clean economy that prioritize the training, upskilling, and employment of youth from disadvantaged households.	PS 2. Address systemic barriers to energy efficiency and electrification, especially for, and in collaboration with, those who disproportionately face energy burdens, climate impacts, and are underrepresented in policy and decision-making. PS 4. Provide targeted and relevant training and support to improve effectiveness and build capacity.

4

5

3. Discussion of Goals, Objectives, and Strategies

6

a. Goal 1: Serve youth from communities that align with CPUC ESJ communities and increase the number of clean economy employees earning living wages and infusing new talent into a diminishing workforce in the clean economy and EE work sphere

7

8

9

10

11

Energy efficiency and clean economy training and employment programs simultaneously

12

address multiple challenges: youth unemployment numbers, which are at an all-time high in the

13

Bay Area, the clean economy and contractors within it experiencing a labor shortage, and

1 disadvantaged and disconnected youth⁸⁶ populations who are statistically more likely to hold jobs
2 that offer wages that are neither family-sustaining nor stable. Through the creation and
3 implementation of training and employment programs that are centered around disadvantaged and
4 disconnected populations, participants will be able to build skill sets and pathways towards stable
5 employment and out of poverty. Through training, case management, and job placement support,
6 participants who enter these programs with barriers to employment will gain the skills they need
7 to begin their careers. Participants will receive real life, first-hand career experiences in positions
8 that are in high demand, such as: contractors, researchers, educators, event coordinators, outreach
9 associates, troubleshooters, and marketers—all within climate-related fields. One of the main
10 objectives of the program is to create career pathways in EE and the clean economy that prioritize
11 the training, upskilling, and employment of youth from disadvantaged households. Relationships
12 with strategic partners and employers will be critical in this endeavor and convening a wide range
13 of partners will ensure equitable access to quality jobs for those populations that have been
14 historically disconnected and underserved.

15 Youth unemployment in the Bay Area is almost double⁸⁷ the rate for adults and negatively
16 impacts young peoples' lives. Unemployment is even more pronounced among youth of color.
17 Creating career pathways for program participants from disadvantaged households will positively
18 impact two priority needs at once, with a lens focused on equity: 1) infusing new talent into a
19 diminishing workforce in the clean economy and EE work sphere, 2) providing career pathways

⁸⁶ This is defined as a group of young people (14- 24 y/o) that are unemployed, not enrolled in any form of school, and who may be homeless, in foster care, or somehow involved in the justice system. <https://nifa.usda.gov/sites/default/files/resource/disconnected-youth-fact-sheet-2017-08-11.pdf>

⁸⁷ <https://www.labormarketinfo.edd.ca.gov/data/Top-Statistics.html#URAG>

1 and 3) opportunities for youth from disadvantaged households that will increase career readiness
2 and upward mobility, and address youth unemployment in the hardest hit populations. With an
3 emphasis on career pathways in the clean economy, participants will be skilled and trained in a
4 growing and necessary sector in California’s workforce that will invest in their future and help to
5 break cycles of poverty and increase employment rates.

6 Indeed, as recognized in the CPUC’s ESJ Action Plan, version 2.0: “ESJ communities’
7 economic well-being, and advancing economic equity in California, will require more of the CPUC
8 [and by extension ratepayer funded programs]—than the conventional approach of simply
9 promoting job training or skill acquisition.” As such, Goal 7 “was updated to “better reflect the
10 imperatives of quality and access in both employment and training, and further promote the high
11 road principles of equity, sustainability, and job quality”.⁸⁸ For economic equity to be achieved,
12 the jobs available must be accessible to entry-level workers and must be high road positions, offer
13 things such as good wages, benefits, upward mobility, worker voice and safety, and stability on
14 which people can thrive. When we make green jobs good jobs, we have the opportunity to address
15 both economic equity and climate resilience simultaneously.

16 The program begins with outreach and recruitment of youth program participants. Using
17 grassroots and traditional recruitment models, program staff partner with community
18 organizations, schools, nonprofits, youth-serving organizations, and social services agencies to
19 recruit youth into the Climate Careers program, prioritizing youth from low-income households
20 and priority and ESJ communities.

21 Once identified, participants will navigate through the three stages of the program:

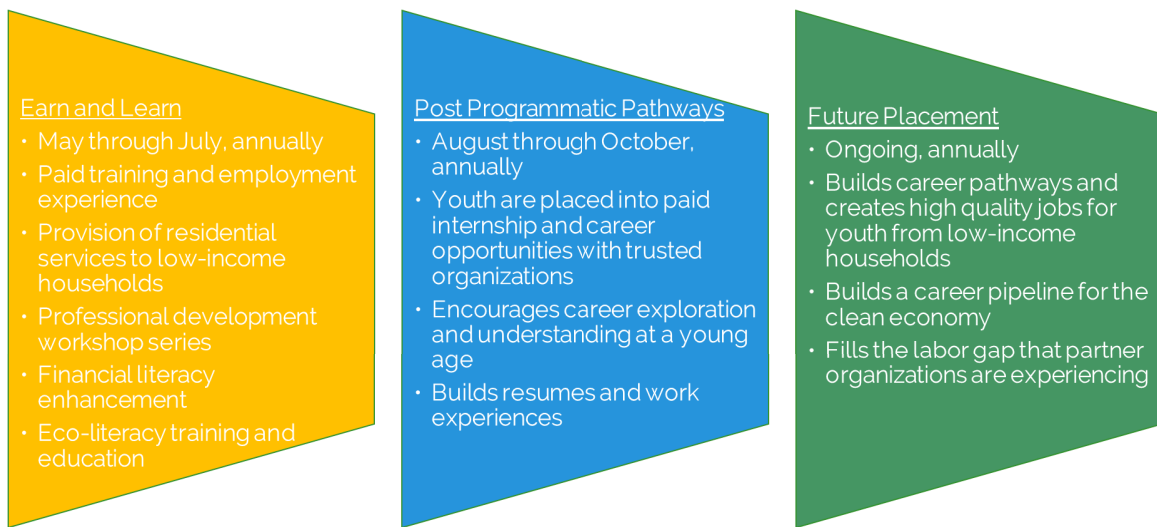
⁸⁸ ESJ Action Plan, Version 2 Draft, at 18.

- 1 1) **Earn and Learn:** BayREN’s WE&T program begins with the Climate Careers paid
2 training and employment experience. The curriculum includes all of the necessary skills
3 required to provide the Green House Call service, a direct install EE offering that is part of
4 the BayREN Home+ Single Family Residential program and provides soft skills training,
5 installation training, teamwork, customer service, time management and more. During the
6 Earn and Learn component, youth participants gain additional career and workforce
7 exposure through career panels, design challenges, environmental justice training, and
8 professional development workshops covering topics like resume writing, mock
9 interviews, cover letters, networking, and financial management. The intent is to build the
10 participant’s skills and prepare them for the second stage of the program.
- 11 2) **Post Programmatic Pathways:** The program continues with the Climate Careers paid
12 internship program, in which youth participants who complete the Earn and Learn
13 component are placed into a paid internship experience with a secondary and additional
14 climate-related employer (a program partner) that enables participants to gain real life,
15 first-hand career experience in positions such as: contractors, researchers, educators, event
16 coordinators, outreach associates, troubleshooters, and marketers. This opportunity is
17 designed to allow youth to explore the wide variety of career options in climate-related
18 fields and help them build their resumes and prepare our future workforce for success.
- 19 3) **Future Placement:** The program will then culminate with the placement of eligible
20 participants into full time employment opportunities with the partner agencies they interned
21 with, when applicable and appropriate. The intent is to transition as many young persons
22 as possible out of the Climate Careers program and into full time employment with the
23 very same partners who have already established working relationships with these

1 participants, and enhanced their skill sets and job readiness through the internship program.
2 The program will also increase the number of individuals with the needed soft skills and
3 fundamentals required for long and successful careers in sectors experiencing a labor
4 shortage.

5 **Figure 10. Climate Career Program Phases**

Climate Careers Program



6

7

8

b. Goal 2: Increase the number of organizations willing to employ young people in skilled positions

9

10 A significant value of BayREN as a collaboration of all nine counties and ABAG is the
11 opportunity to expand internship and workforce opportunities through the connections the
12 members have to their communities. These relationships will be leveraged for both participant
13 recruitment and internships and job placement.

14 With an increased focus on equity in the private sector, this program provides an
15 opportunity for clean energy firms to “walk the walk”. Through the creation of formal partnerships,
in which BayREN and the Climate Careers program place paid, but no cost to the firm, interns into

1 a local employment opportunity, firms will be empowered to engage with, train, and best prepare
2 young professionals for the firm’s unique work needs without taking on the full risk of a new hire.
3 This ensures that youth who are otherwise disconnected from the social capital that would allow
4 them entry into this segment of the world of work, are able to access this segment, and grow their
5 professional presence over the next 30+ years of their career in climate-related fields. In addition
6 to this, the program will be creating a direct hiring and/ or recruiting line with ESJ communities,
7 the very same populations who have been hit first and worst with the inequitable brunt of climate
8 change.

9 Finally, opportunities for placement are presented in several other BayREN programs,
10 particularly the contractor driven Home+ program, where the majority of participating contractors
11 are short staffed and have been actively trying to hire all levels of staff from administrative support
12 all the way to trained contractors.

13 **4. Categorization by Segment**

14 **a. Categorization Summary**

15 This is an Equity program because the primary purpose is to offer workforce development
16 and green job opportunities to low-income youth, particularly from ESJ communities.⁸⁹ Climate
17 Careers trains and employs local low-income youth as Energy Specialists to provide basic
18 residential EE services, called Green House Calls, in their own communities. The youth
19 employment experience begins with paid training that continues throughout the program. The
20 curriculum includes installation training, soft skills training (teamwork, customer service, time
21 management), career panels, design challenges, and an environmental justice curriculum. By
22 targeting low-income participants, and youth who come from disadvantaged communities and

⁸⁹ This program also supports SB 350.

1 households, the program directly tackles youth unemployment in the Bay Area and builds
2 resources and social capital which begin tearing down the pillars that preserve racial and
3 socioeconomic inequities. A more detailed discussion is provided in the Segmentation Strategy
4 section, above.

5 **b. Program and Portfolio Coordination**

6 As this is a new sector, BayREN met with PG&E and MCE prior to the development of
7 this application. While both PAs offer workforce programs, they are different *and* complementary
8 to Climate Careers. Specifically, MCE’s WE&T program focuses on electrification training,
9 mentoring, and partnering with local workforce development partners, including Rising Sun’s
10 Opportunity Build program that prepares *adults* experiencing employment barriers for careers in
11 union construction.⁹⁰ PG&E will continue to offer courses and training at their energy centers with
12 an increased focus on electrification and decarbonization topics. The program staff will coordinate
13 regularly as is the practice with all three PAs in the Bay Area.

14 BayREN’s WE&T program has the ability to crosscut different relevant sectors within the
15 BayREN portfolio during the “Earn and Learn” stage when youth are conducting the in-home
16 residential Green House Call service. Examples of this are the promotion of the Home+ program,
17 or Home Energy Score, to Green House Call recipients in which the youth are generating warm
18 leads and hand-offs to the appropriate PA. The “Post Programmatic Pathways” stage can be
19 tailored to serve a myriad of different career pathways in the other BayREN sectors as all are
20 experiencing labor shortages (such as residential contractors, building departments, SMBs, and
21 local governments), while simultaneously building a competent workforce and supporting long-

⁹⁰ This Rising Sun program is distinct from Climate Careers.

1 term workforce needs by training bright, interested young people for related careers during the
2 culminating “Future Placement” phase.

3 Program Card is included in Appendix A.

4 **IV. PUBLIC SECTOR (K. KRISTIANSOON)**

5 **A. Public Sector Overview**

6 **1. Sector Vision**

7 Local governments will be able to reach their energy goals, including reducing energy use
8 and global warming emissions for their own facilities and Community Resilience Centers, and
9 demonstrate successful approaches that could be applied to other sectors.

10 **2. Program(s) Overview**

11 BayREN is proposing two programs in the Public Sector to support the long-term success
12 of the EE market. One is the Integrated Energy Services (IES) program, which seeks to build,
13 enable, and maintain demand for high-impact, integrated building energy upgrades and operations.
14 The program proposes to satisfy the unique energy and resilience goals of each participating
15 agency⁹¹ by coordinating existing and emerging programs addressing EE, demand response,
16 distributed energy resources, and more, and providing supplemental services to fill gaps in
17 transforming public agency buildings and infrastructure. The second proposed program is the
18 Targeted Decarbonization Services (TDS) program, which will build the market for
19 decarbonization equipment and technologies and demonstrate the feasibility of decarbonization in

⁹¹ For example, agencies often have several goals related to the energy systems in their buildings, including minimizing energy costs, reducing or eliminating carbon emissions, improving resilience, and providing electric vehicle charging. BayREN’s program would consider all of these goals together so that local governments can approach reaching the goals in a coordinated and integrated way.

1 Roadmapping service will offer energy assessments of designated and potential Community
2 Resilience Centers and technical assistance for energy system improvements.

3 The TDS program addresses the need to employ advanced technologies and strategies to
4 support state and local climate goals. The program consists of two services: Decarbonization
5 Showcase and Decarbonization Education and Financing.

6 The Decarbonization Showcase service will enroll buildings to pilot and demonstrate
7 approaches to building decarbonization and will collect and share real-world data.⁹⁴ The Showcase
8 service will provide technical and financial support for the development of selected projects.⁹⁵
9 Data will be collected throughout the design, construction, and operations of the buildings and be
10 shared across the public agencies in the BayREN territory, with the intent of scaling the approaches
11 across the region. This information will be shared through case studies, peer network calls, and
12 webinars. The case studies are targeted for local governments that have been affected by PSPS
13 events, extreme weather events, and agencies that have and/or are considering decarbonization
14 policies. The Showcase data will also be used to assess existing metrics and develop new ones as
15 appropriate to communicate the full range of impacts that can result from building decarbonization
16 activities.

17 The TDS program will also include a Decarbonization Education and Financing service,
18 which will engage local government staff to familiarize them with daily operations and the long-

⁹⁴ These demonstration projects will also help with the implementation of the Energy Roadmaps as they showcase high-impact integrated solutions.

⁹⁵ Projects will be selected based on cost and feasibility, as well as to provide a variety of case studies, with priority given to buildings that primarily serve ESJ communities due to either their geography or function. Projects will be mainly retrofits and renovations, although new projects may also be considered.

1 term maintenance and outlook of decarbonization equipment⁹⁶ and educate them about strategies
2 for monetizing improvements to secure financing. The service will also analyze all available
3 funding and financing mechanisms to help agencies overcome financial barriers to
4 decarbonization.

5 **4. BayREN Uniqueness and Value**

6 These proposed programs and services address needs in the Public Sector that are not being
7 fully met through other programs. Public agency staff have limited time, resources, and budgets to
8 analyze, design and construct projects outside of routine capital improvements, let alone navigate
9 complicated technology assessments and incentive processes. Although there are programs
10 available in the Bay Area,⁹⁷ local government staff find it difficult to identify those which can best
11 assist them with desired projects. In addition, most programs are limited in scope,⁹⁸ while local
12 governments have a wide variety of goals that could all affect the energy systems of their facilities.
13 Furthermore, local government staff have a need for information about decarbonization
14 technologies, as well as strategies to address the higher upfront costs of many of these types of
15 equipment.⁹⁹ The suite of services under the IES program and TDS program addresses these gaps.

⁹⁶ Local government stakeholders expressed concern that lack of capacity and in-house expertise limits their knowledge of decarbonization technologies and highlighted a need for expert assistance to navigate and evaluate technology options (Marin County Clean Energy Partnership Meeting 9/2/21).

⁹⁷ See BayREN's ["Resource Guide for Reducing Energy Use and Carbon Emissions from Municipal Buildings"](#) for a complete list of technical assistance and funding programs available to local governments in the Bay Area.

⁹⁸ For example, PG&E's third-party Public Energy Efficiency Program (Willdan's G/K-12 Program) only addresses energy efficiency, not demand response or distributed energy resources. The SGIP Program provides funding for battery equipment and installation only (and is currently adding a funding stream aimed solely at heat pump water heaters), and several Bay Area CCAs provide funding for only electrification projects.

⁹⁹ Stakeholders who work for Sonoma County jurisdictions expressed interest in BayREN investigating new financing models to address higher up-front costs associated with

1 BayREN as an organization of local governments is uniquely positioned to carry out this
 2 work for fellow agencies. The proposed BayREN Public Sector programs will respond to the
 3 challenges and opportunities identified through our stakeholder engagement process and research,
 4 which are presented in the table below.

5 **5. Table – Challenges/Opportunities/REN Criteria**

6 **Table 29. Public Sector Challenges and Opportunities**

Challenges	<ul style="list-style-type: none"> ● Local government goals and objectives often require approaches that span siloed program offerings. ● Agencies need assistance comprehending and accessing existing and emerging programs, which are often fragmented by technology or geography. ● Local government staff are unfamiliar with the performance, reliability and economic impacts of decarbonization technologies. ● Advanced decarbonization technologies often have high upfront costs and long payback times which make it difficult for local governments to gain approval for the investment. ● Real-world data and project-specific analyses are needed to address risks and make projects feasible.
Opportunities	<ul style="list-style-type: none"> ● Most Bay Area local governments are committed to aggressive climate action. ● Local governments are high-profile property owners with significant portfolios of buildings. ● Due to electricity grid reliability issues, public agencies are increasingly seeking opportunities to improve building resilience in the event of a disaster or power shutoffs. ● In alignment with state and local decarbonization policy, public agencies are looking to lead by example with building decarbonization projects.
Gaps Filled by BayREN or Other REN Criteria	<ul style="list-style-type: none"> ● Information about current and evolving technical assistance, funding, and financing options is confusing to many local government staff, who need assistance finding the best options for their projects, particularly projects that address multiple energy goals.

decarbonization technologies (Sonoma County Regional Climate Protection Authority Members and Partners Meeting, 9/27/21).

	<ul style="list-style-type: none">● Existing programs are limited in scope and do not address the wide variety of goals and needs that impact the energy systems within public facilities.● Local governments have a need for tailored information about decarbonization technologies, as well as ways to address the higher upfront costs of many of these types of equipment.
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B. Program Details: Integrated Energy Services Program (IES)

3

BayREN’s proposed two Public Sector programs will serve local governments and special districts (but would not serve state or federal buildings or school districts). These two programs are discussed below.

6

1. Program Introduction

7

The Integrated Energy Services program focuses on overcoming silos in program offerings to facilitate integrated approaches to energy improvements by coordinating existing and emerging programs and providing supplemental services to fill gaps. The program includes two subprograms: 1) an Energy Concierge service that provides an objective single point of contact to assist local government staff with finding and accessing technical and financial assistance for energy-related building improvements, and 2) an Energy Roadmapping service that provides technical support and assistance to help local governments develop comprehensive and actionable paths forward for improving their facilities to meet their energy goals.

14

2. *Table - Goals, Objectives, Strategies*

Table 30. Goals, Objectives, Strategies (IES)

Goals	Objectives	Strategies
1. Support local governments so that they can make full use of energy efficiency products and services to achieve their energy goals for public facilities and Community Resilience Centers.	<p>Enable local governments to access the information and existing resources they need to implement projects.</p> <p>Ensure local governments have the knowledge and support they need to develop and implement projects to improve building energy systems.</p>	PS 3. Provide technical assistance, access to resources, and actionable data to improve decision making, resulting in building upgrades and long-term energy savings.

3. *Discussion of Goals*

a. **Goal 1: Support local governments so that they can make full use of EE products and services to achieve their energy goals for public facilities and Community Resilience Centers**

The Integrated Energy Services (IES) Program focuses on overcoming silos in program offerings to facilitate integrated approaches to energy improvements by coordinating existing and emerging programs and providing supplemental services to fill gaps. Local governments have a variety of related energy goals for their buildings that transcend individual technologies and programs and require integrated solutions involving efficiency, fuel-substitution, demand flexibility, thermal and electric storage, grid-integration, microgrids/back-up generation, low-GHG refrigerants, fleet charging, and other climate action and resiliency related measures. The IES program is intended to help local governments plan for and achieve all of their energy goals in a comprehensive and logical way. The program consists of two services described below.

The BayREN Energy Concierge service will enable local governments to obtain the information and existing resources they need by providing an objective central single point of contact to help locate and access the best options for their particular projects. The incentive and

1 financing options available to local governments are rapidly changing and are confusing to public
2 agencies trying to understand the offerings and eligibility requirements. The Energy Concierge
3 will maintain a database with up-to-date information about regional and state offerings in
4 coordination with existing PAs and other agencies. Local governments can call the Concierge
5 service, which will determine the types of assistance (financial and technical) that would best work
6 for a project and assist staff with the application process. This could involve carrying out phone
7 and site assessments as needed.¹⁰⁰

8 The BayREN Energy Roadmapping service will ensure that local governments have the
9 resources and support they need to develop and implement projects to improve the energy systems
10 of their buildings. The program will offer local jurisdictions technical support resulting in a
11 comprehensive and integrated “roadmap” detailing strategies that support improving their
12 buildings from current conditions to specified targets in alignment with their agency's energy
13 goals. Local governments are responsible for maintaining a diverse portfolio of buildings and often
14 have multiple goals for those buildings, such as reducing energy use and costs, achieving
15 aggressive GHG reductions, and accommodating infrastructure for electric vehicle charging.
16 Although all of these goals relate to the energy systems of the buildings, meeting the goals often
17 requires sophisticated engineering and analysis that accounts for diverse factors, yet most local
18 governments lack the resources to carry out these tasks. In addition, many existing programs focus
19 on one limited area rather than looking at energy systems holistically. BayREN’s Energy
20 Roadmapping service will address these challenges by providing specific technical and

¹⁰⁰ This service will refer local governments to other PA’s programs as appropriate, thereby improving the cost-effectiveness of ratepayer programs and directly supporting the Market Support segment sub objective of building, enabling, and maintaining demand for energy efficient products, and services. See BayREN Exhibit 03, Appendix E.

1 engineering analysis and high-level planning as well as some project-level implementation
2 support. Work will include assisting agencies as appropriate to integrate their energy goals into
3 the processes which drive institutional decisions and funding related to construction, retrofit, and
4 maintenance of their public buildings.¹⁰¹

5 Services will be provided for a range of projects, from simple, single-facility solutions to
6 complex, portfolio-level plans, and for all phases, including new construction and retrofits. The
7 service will prioritize public facilities that serve ESJ communities due to either geography or
8 function. In addition, the Energy Roadmapping service will also support the development of
9 Community Resilience Centers (CRCs) by providing comprehensive energy assessments and
10 technical assistance for the buildings identified by local agencies as potential or designated CRCs.
11 Having a reliable and efficient energy system in place will be essential for CRCs to provide
12 services needed to respond to climate change related events and stressors such as wildfires,
13 extreme heat, air quality events, power outages and floods, as well as other types of natural
14 disasters. BayREN will also direct these projects to relevant incentives and rebates, and will work
15 closely with the seven Bay Area CCAs and other regional agencies including the BAAQMD,
16 ABAG and MTC to improve access to and provide coordinated offerings for these projects.

17 **C. Program Details: Targeted Decarbonization Services Program**

18 ***1. Program Introduction***

19 The Targeted Decarbonization Services program focuses on filling gaps in current program
20 offerings specifically related to decarbonization. The program includes two subprograms: a
21 Decarbonization Showcase that will work with local governments to carry out a suite of

¹⁰¹ For example, this could include creating a policy related to equipment replacement and ensuring that policy is reflected in Capital Improvement Plans and other local funding documents, where such a policy could be necessary to reach climate action goals.

1 decarbonization improvements in order to collect data that can be used to develop case studies and
 2 revised metrics, and a Decarbonization Education and Financing service that educates local
 3 government staff about decarbonization-related building improvements and also addresses the cost
 4 of these improvements. These subprograms are intended to help scale the implementation of
 5 building decarbonization.

6 **2. Table – Goals, Objectives, Strategies**

7 **Table 31. Goals, Objectives, Strategies (TDS)**

Goals	Objectives	Strategies
1. Support local governments in efforts to advance the deployment of technologies and strategies needed in order to achieve building decarbonization.	Enable local governments to access the information and existing resources they need to implement projects. Ensure local governments have the knowledge and support they need to develop and implement projects to improve the energy systems of their buildings. Improve the financial viability of advanced decarbonization technologies.	PS 3. Provide technical assistance, access to resources, and actionable data to improve decision making, resulting in building upgrades and long-term energy savings. PS 6. Develop innovative, equitable, regional-scaled offerings that enable customers to layer EE with other climate-based funding and resource programs to address the climate crisis.

8
 9 **3. Discussion of Goals**

10 **a. Goal 1. Support local governments in efforts to**
 11 **advance the deployment of technologies and**
 12 **strategies needed in order to achieve building**
 13 **decarbonization**

14 This program assists local governments with decarbonization of public buildings in order
 15 to build the market for related technologies and demonstrate the feasibility of reducing or
 16 eliminating carbon emissions from buildings. While serving the Public Sector directly, these
 17 projects can also inform private sector building improvements.

1 Local governments face two related barriers related to decarbonization technologies for
2 public buildings. First, staff are often less familiar with the equipment,¹⁰² from daily operations to
3 long-term maintenance needs and expectations and lifecycle costs, emissions analyses, and other
4 key information is often not available. Project development staff are typically reluctant to commit
5 to alternative building strategies such as decarbonization without solid evidence supporting the
6 proposed changes and often have a preference for equipment that they are familiar with and have
7 used before.¹⁰³ Second, local government capital improvement plans and facility operations
8 budgets are generally siloed and underfunded, in part because of competition for funds with other
9 local needs such as fire, police, and sanitation. With limited funds, there is pressure to minimize
10 both first costs and operating costs. As a result, the incremental cost of electric technologies, the
11 cost of new circuits or infrastructure improvements, and the higher cost of electricity relative to
12 gas pose challenges. These higher costs and increased complexity, together with lack of familiarity
13 with this equipment, present significant barriers to public adoption of many decarbonization
14 technologies.

15 The TDS program consists of two services. The Decarbonization Showcase service will
16 enroll buildings to pilot and demonstrate how buildings can reduce or eliminate carbon emissions
17 and will collect and share real-world data¹⁰⁴ to scale these approaches to other public facilities.

¹⁰² Public facilities staff are more likely to be generalists, since they are responsible for a diverse set of buildings and equipment. Unlike private sector property management personnel, they are often not trained as specialists in the equipment they maintain.

¹⁰³ Stakeholders who work for Santa Clara County jurisdictions expressed a need for case studies that capture operation and maintenance costs on an annual basis to better support the implementation of decarbonization technologies in municipal buildings (Santa Clara County Members and Agencies Working Group meeting, 9/27/21).

¹⁰⁴ These demonstration projects may also help with the implementation of the Energy Roadmaps as they showcase integrated solutions.

1 The Showcase service will provide funding for decarbonization technologies together with
2 technical and other assistance as needed for project implementation, prioritizing those that serve
3 ESJ communities. BayREN will then collect detailed information on design, costs, and
4 performance in order to produce shareable case studies that will allow local governments to better
5 understand the risks and benefits of such projects. Relatedly, BayREN will develop and test
6 appropriate metrics for these types of projects that local government staff and others can use when
7 presenting decarbonization alternatives to decision-makers.

8 The Decarbonization Training and Financing service will provide education for local
9 government staff about decarbonization technologies and financing, and also begin to address the
10 higher cost of these technologies. Many efficient electric technologies¹⁰⁵ are in the early- to mid-
11 commercialization technology phases of market adoption, currently only being implemented by
12 innovators and early adopters at non-competitive price points. In order to reach full deployment
13 and dissemination of technologies and codification of their use, and consequently bring down the
14 cost of the technology, education and financial support are both needed. This service will work to
15 provide needed information to local government staff about decarbonization technologies, from
16 daily operations to long-term maintenance and outlook, so that they are comfortable transitioning
17 to these newer technologies. The service will also document and provide information on incentives
18 and funding for decarbonization technologies, seek additional non-ratepayer funding, and design
19 and test effective incentive structures to promote widespread adoption of these technologies, which
20 could potentially lead to the identification of a new Resource Acquisition program that will more
21 effectively serve the emerging needs of the Public Sector.

¹⁰⁵ Such as central heat pump water heaters and air-to-water heat pumps, for example.

1 **D. Categorization by Segment**

2 **1. Categorization Summary**

3 Both of BayREN’s new Public Sector programs fall into the Market Support segment. The
4 IES program is a technical assistance program that works with local governments and helps them
5 to plan and implement energy improvements in public buildings and Community Resilience
6 Centers. Indeed, local governments should lead by example, and “[public] buildings play a unique
7 role in showcasing energy efficiency possibilities while saving on operating costs.”¹⁰⁶

8 This program addresses the Market Support objective of supporting the long-term success
9 of the EE market by increasing the demand for EE by increasing the knowledge among local
10 governments regarding EE options and benefits.

11 The TDS program seeks to unlock the potential for innovative technology to support state
12 and local GHG goals. Many jurisdictions in the BayREN territory lack capacity to hire staff
13 focused on EE or other GHG reduction improvements¹⁰⁷ and they also lack the necessary capital
14 to make the improvements. As a regional collaborator, BayREN has the ability to leverage other
15 funding sources—and provide services—to further local GHG emission reduction goals.

16 **2. Program and Portfolio Coordination**

17 The BayREN Plan will serve to integrate program offerings, accounting for differences in
18 eligibility requirements and services by geography and application. BayREN will coordinate with
19 other PAs through the Joint Cooperation Memo and will also coordinate directly with others

¹⁰⁶ CEC 2019 California Energy Efficiency Action Plan at 38.

¹⁰⁷ Indeed, this is a challenge across the state. See CEC 2019 California Energy Efficiency Action Plan at 39.

1 working in this sector, as set forth in the section on Portfolio Coordination below. BayREN
2 anticipates working with at least the following parties to coordinate on the Public Sector programs:

- 3 ● PG&E
- 4 ● Willdan G/K-12 program and other 3rd party implementers as appropriate
- 5 ● Bay Area CCAs
- 6 ● Bay Area Local Government Partnerships

7 The Public Sector programs will share experiences and lessons learned with BayREN’s
8 Codes and Standards programs, and Workforce Education and Training programs so that they may
9 incorporate new strategies into their offerings.

10 Program Card is included in Appendix A.

11 **V. RESIDENTIAL SECTOR (J. LIANG; E. ALVAREZ; C. MARY-**
12 **DAUPHIN)**

13 **A. Residential Sector Overview**

14 ***1. Sector Vision***

15 Provide an affordable and feasible pathway for underserved and ESJ communities to
16 benefit from ratepayer programs, rebates, and financing to make homes more energy efficient,
17 healthier, and resilient.

18 ***2. Program(s) Overview***

19 There are three programs within the Residential Sector: (1) Home+, an Equity program
20 for single family homeowners and renters that targets underserved households, (2) Bay Area
21 Multifamily Building Enhancements (BAMBE), an Equity program that targets affordable
22 multifamily properties and provides technical assistance and a flat per unit rebate if measures that
23 result in a minimum of 15 percent of energy savings, and (3) Green Labeling, a Market Support
24 program that trains Bay Area assessors to perform a United States Department of Energy (DOE)

1 Home Energy Score¹⁰⁸ and offers a rebate for each score, and continuing education for realtors,
2 appraisers, and lenders to increase their ability to understand, market and evaluate energy efficient
3 and green homes.

4 As directed by the CPUC,¹⁰⁹ RENs target hard-to-reach markets and segments where the
5 IOUs cannot or will not develop programs. The BayREN residential programs that are being
6 proposed in the Equity segment, (i.e., Home+ and BAMBE), target single family and multifamily
7 properties in underserved¹¹⁰ communities and are designed to overcome current barriers¹¹¹ to
8 efficiency and electrification in existing buildings. BayREN’s Market Support program (Green
9 Labeling), works to overcome the fact that the value of EE in homes is unclear to most residents.¹¹²
10 Standardized energy asset ratings for residential (and non-residential) buildings, like Home Energy
11 Score, are needed. Furthermore, educating real estate professionals about the benefits of green
12 home attributes will lead to an increased understanding and likely promotion of green homes.

13 The BayREN Residential sector will continue to focus on moving the market toward whole
14 building deep retrofits for single family and multifamily properties with a stronger and more
15 proactive approach to reaching equity priority geographies. Although many of the core program

¹⁰⁸ <https://www.energy.gov/eere/buildings/articles/home-energy-score>

¹⁰⁹ Several of these populations, including multi-family and low- to moderate-income residential, as well as small commercial, were identified by the CPUC in D.12-11-015 at 17 as “needing all the help they can get to achieve successful energy efficiency savings.”

¹¹⁰ For purposes of this sector, underserved communities includes audiences that may be difficult to serve with ratepayer programs, including moderate income and English as a second language households, and independent owners of small, naturally occurring affordable properties.

¹¹¹ CEC. 2019 California Energy Efficiency Action Plan. 19-IEPR-06 at 24 and 28.

¹¹² “It is not obvious to many homeowners that deep energy efficiency retrofits can create multiple benefits including bill savings and better air quality, or what options are available to them to pursue deep retrofits.” CEC 2019 California Energy Efficiency Action Plan at 24.

1 components such as providing technical assistance, access to contractors, rebates, and financing
2 will remain largely unchanged, the goals and implementation associated with the programs will be
3 more holistic and people-centered, prioritizing measures and communities that will experience
4 significant equity, health, and resilience impacts¹¹³.

5 The residential programs and tactics are consistent with recent CEC recommendations¹¹⁴
6 to focus on existing buildings in order to meet the state decarbonization goals, and that the
7 CPUC¹¹⁵ should prioritize and fund decarbonization retrofits and supporting resources in low-
8 income and disadvantaged communities. Efforts should include active engagement, seeking input
9 on best practices, developing programs to meet the needs of low-income and disadvantaged
10 communities, conducting targeted outreach and engagement to educate these communities on
11 available programs, and streamlining the application process.¹¹⁶

12 ***3. Program Description: Single Family***

13 The Home+ program is an a la carte rebate program that takes a customer journey approach.
14 That is, the objective is to allow the homeowner to implement measures by a participating
15 contractor as time and resources allow and support and engage them throughout their journey, with
16 the ultimate goal being greater energy savings, lower utility bills, and other co-benefits associated
17 with EE upgrades. The Home Energy Advisors, a team of BPI trained professionals that act as a
18 concierge, seek to find the right program for the caller and either provide a referral to another

¹¹³ Ibid footnote 4, p11. These principles align with the guiding principles and goals of the CEC Action Plan.

¹¹⁴ CEC. 2021 SB 100 Joint Agency Report. March 15, 2021 at 29.

¹¹⁵ Through proceeding (R.18-07-006), the CPUC aims to better understand and define affordability for residential utility customers within California.

¹¹⁶ Ibid at 155.

1 relevant program, or provide guidance throughout the upgrade process if the homeowners
2 participate in Home+. The Energy Advisors also stay engaged with the program participants to
3 support the customer journey.

4 The Single Family program focus is on assisting underserved communities to access EE
5 and electrification resources. One aspect of the underserved audience is moderate income
6 households that do not qualify for income qualified weatherization programs¹¹⁷ up to the moderate-
7 income level¹¹⁸ per household by county designated by the California Department of Housing and
8 Community Development.¹¹⁹ A second aspect of underserved communities are households that
9 primarily speak a language other than English. BayREN uses data mining platforms and
10 geographic information systems (GIS) to identify households that may fall under one or both of
11 these two criteria. We use this data to guide our outreach and inform these particular households
12 about the direct install, rebates, and referrals that the Single Family program offers. Additionally,
13 we have built relationships with community based organizations (CBOs) and media outlets that
14 serve communities that speak a language other than English to promote direct installations of
15 energy saving equipment, rebates, and referrals to programs that offer no-cost weatherization.

16 BayREN will continue to expand the participating contractor base through reliable methods
17 of outreach through local government communications but also build partnerships with the
18 manufacturer and distributors as well as local building trade associations. We will also prioritize

¹¹⁷ <https://www.csd.ca.gov/Pages/LIHEAP-Income-Eligibility.aspx>

¹¹⁸ BayREN incorporated input from a listening session with cross-sector stakeholders when developing a revised definition of moderate income for the Home+ program (BayREN New Ideas for Residential Listening Session, 9/16/21).

¹¹⁹ <https://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits/docs/income-limits-2021.pdf>

1 training and onboarding contractors that provide services in languages other than English as many
2 communities are often unable to access services and incentives otherwise.

3 The Green House Call program, which trains and employs local low-income youth as
4 Energy Specialists to provide a residential EE service called the Green House Call (GHC), works
5 in concert with Home+. ¹²⁰ GHCs are provided either in person or virtually and consist of a whole
6 home assessment, direct install of energy and water saving devices, customer education, promotion
7 of additional efficiency services, and lead generation and customer acquisition for programs such
8 as the Home+ program.

9 ***4. Program Description: Green Labeling***

10 The Green Labeling program promotes two major activities: real estate professional
11 training and the proliferation of the DOE Home Energy Score. The real estate professional
12 engagement consists of a series of training on EE and green homes aimed at real estate agents,
13 appraisers, underwriters, and lenders. These stakeholders are key to integrating EE, demand
14 flexibility, and zero net energy (ZNE) strategies into the real estate transaction. ¹²¹ Trainings cover
15 topics such as appraising a home with energy efficient features, strategies for homes to reach ZNE
16 and how electrification affects real estate transactions, and available EE mortgage products.

17 The Home Energy Score component of the Green Labeling program targets contractors,
18 home inspectors, raters, and other building professionals to conduct home assessments and
19 produce the Home Energy Score Report. Home Energy Score is a national program and is an asset

¹²⁰ The Green House Calls is part of Climate Careers discussed in the Cross-Cutting Sector chapter.

¹²¹ Realtors who participated in BayREN Green Labeling trainings noted how important it is for them to feel knowledgeable in front of their clients when communicating this information and appreciated BayREN making these training sessions as short and focused as possible (BayREN Realtor Focus Group, 9/20/21).

1 rating of the home’s EE features which produces a score from 1 to 10 (with 10 being the most
2 efficient), allowing for a comparison between homes. The Home Energy Score Report within
3 Green Labeling includes the score, estimated utility bills, energy consumption, and GHG
4 emissions, as well as custom recommendations to improve EE and referrals to the BayREN Home+
5 program. As a Market Support program, assessors are eligible for a small rebate for each score
6 performed to increase awareness and adoption of Green Labeling.

7 ***5. Program Description: Multifamily***

8 The BayREN Multifamily program provides no cost technical assistance, rebates, and
9 targeted outreach to multifamily property owners to promote whole building upgrades.
10 Participating property owners receive customized, accessible, and streamlined no-cost technical
11 assistance and a simple yet flexible per unit rebate for meeting minimum scope requirements.
12 These interventions are designed to lower barriers to pursuing multi-measure¹²² upgrades and have
13 been proven successful. The program was nationally recognized by the American Council for an
14 Energy Efficient Economy (ACEEE) with an Exemplary Program Award¹²³ because of its
15 flexibility, customer-facing simplicity, and customized delivery. Such aspects have allowed the
16 program to serve over 45,000 multifamily units throughout the Bay Area since 2013.

17 The program is building off of its experience and success to steadily pivot toward
18 introducing components intended to better reach and prioritize underserved geographies,

¹²² The 2021 Potential and Goals Study shows the highest end uses for low-income savings (Figure ES-4. Low Income Savings by End Use) is plug load appliances, followed by HVAC, with lighting, water heating and envelope as the remaining end uses.
<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M409/K230/409230558.pdf>

¹²³ The New Leaders of the Pack: ACEEE’s Fourth National Review of Exemplary Energy Efficiency Programs Seth Nowak, Martin Kushler, and Patti Witte January 2019 Report U1901
<https://www.aceee.org/sites/default/files/publications/researchreports/u1901.pdf>

1 ownership profiles, and building types. In 2020, the program established criteria that prioritizes
2 projects considered underserved, including deed restricted and naturally occurring affordable
3 properties having less than 100 units, properties located in disadvantaged communities (DACs),
4 and those with a resident ownership structure, such as Home Ownership Associations (HOAs). In
5 2021, 93% of the program’s projects met one or more of these criteria. As an Equity program,
6 BayREN’s Multifamily program will continue to move in this direction through deepening
7 partnerships, working with community-based organizations, and offering incentive structures
8 intended to support prioritized communities and participant types.

9 The program also focuses on advancing GHG emission reductions through building
10 electrification. Through a partnership and grant funding from BAAQMD, the program
11 implemented an electrification pilot that preceded the CPUC’s release of the Decision Modifying
12 the Energy Efficiency Three prong test Related to Fuel Substitution in 2019. The pilot led to the
13 relatively early launch of an electrification subprogram, which has provided lessons learned and
14 shared,¹²⁴ to be integrated into future program design. The current electrification subprogram
15 works with property owners to develop a scope of work that has no gas-to-gas conversions, reduces
16 building emissions by an estimated .25 MTCO₂ per unit, and provides incentive kickers for
17 electrification measures. Going forward, the program will focus on engaging prioritized audiences
18 on the non-energy benefits of electrification,¹²⁵ developing right-sized incentive levels (which will

¹²⁴ AEA, Nick Dirr & Sheetal Chitnis (2020). Multifamily Clean Heating Pilot: Summary of Project-level Analysis and Findings & Accelerating Electrification of California’s Multifamily Buildings: Policy Considerations and Technical Guidelines, StopWaste & Association for Energy Affordability https://www.stopwaste.org/sites/default/files/MF%20Electrification%20Readiness%20Report_FINAL.pdf

¹²⁵ BayREN incorporated input from health stakeholders to better communicate the non-energy benefits of electrification, such as health benefits and noted that buildings need to play a larger

1 need to consider additional funding sources available in 2024), and pairing electrification measures
2 with technology, information, and traditional EE measures to optimize their results.

3 **6. BayREN Uniqueness and Value**

4 The BayREN Residential programs are meeting and at times exceeding incentive disbursed
5 goals and much of these funds are distributed to underserved and hard-to-reach market segments
6 such as moderate income single family households who are ineligible for income qualified
7 weatherization programs but do not have disposable income to finance improvements, or renters
8 in all types of residential properties as they lack the ability to make these improvements even when
9 the rental units are in need of EE upgrades. BayREN will focus on addressing barriers to
10 implementation for these target audiences through interventions within the program design as well
11 as leveraging incentives and financing mechanisms from partnering organizations.

12 The Green Labeling program tests the Home Energy Score as an innovative solution to
13 increase consumer awareness of home EE, leading to the normalization of energy assessments
14 before major home renovations and during real estate transactions. Standardized building energy
15 ratings for residential (and non-residential) buildings, like Home Energy Score, are needed. While
16 the Home Energy Score is a national program, the customization of the BayREN offering with the
17 development of the Electrification Checklist is innovative and fills a gap in the market by
18 implementing an identified strategy to help meet stated goals.¹²⁶

role in mitigating health impacts related to climate change as extreme weather events become more frequent and severe. (BayREN Health and Energy Efficiency Listening Session 9/20/21).

¹²⁶ “The CEC Existing Building Action Plan calls for standardized energy asset ratings for residential buildings. Asset rating is defined as a method of quantifying the efficiency potential of a building, independent of the number of occupants and their behavioral choices. CEC 2019 California Energy Efficiency Action Plan at A-38.

1 BayREN’s nationally recognized¹²⁷ Multifamily program’s primary objective aligns with
2 the unique role of RENs to serve hard-to-reach and underserved communities and multifamily
3 property types, including deed restricted and naturally occurring affordable small properties. This
4 will be accomplished through partnerships, deepening community engagement, and developing
5 innovative financing, with a program design model and outreach & engagement models that are
6 holistic and relevant to targeted audiences. The program’s customer-facing program design and
7 outreach will focus on EE, but also other benefits such as health, resilience, equity, and emission
8 reductions,¹²⁸ with the goal of reaching people and project opportunities that do not identify with
9 traditional EE program design, delivery, or messaging.

10 BayREN’s Multifamily program also proposes to launch a pilot offering that is designed
11 to increase access to financing for underserved projects and property types. By offering direct
12 financing, the program will make funding available for smaller-dollar projects and electrification
13 measures (such as conversions from natural gas-powered to Heat Pump Water Heaters and space
14 heating), both of which are largely unattractive to providers of traditional financing.

¹²⁷ ACEEE recognized this program in 2019 with the Exemplary Program Award, calling out the program model’s success in part due to the use of local government trusted messengers to increase participation, and the program’s simplicity and concierge-like service tailored to each property’s specific needs and priorities. The report is viewable at:
<https://www.aceee.org/sites/default/files/publications/researchreports/u1901.pdf>

¹²⁸ Energy efficiency programs result in not only energy savings, but also result in indoor air pollution reductions. Indeed, indoor air pollution from gas stove combustion in kitchens, for example, is a public health issue that is largely unregulated in the US and is often more polluted than outdoor air. U.S. Environmental Protection Agency. 2020. The Inside Story” A Guide to Indoor Air Quality. <https://www.epa.gov/indoor-air-quality-iaq/inside-story-guide-indoor-air-quality>. Cited in the CEC Draft 2021 Integrated Energy Policy Report at 17.

1

7. Table – Challenges/Opportunities/REN Criteria

2

Table 32. Residential Sector Challenges and Opportunities

<p>Challenges</p>	<ul style="list-style-type: none"> ● There is a gap in proven approaches to effectively serve the various complex and diverse communities in the Bay Area. ● Existing single-family homes remain inefficient and costly to serve through EE programs. ● Incentives for hard-to-reach and non-income qualified programs are not robust enough to tackle the individual EE issues of households. ● Qualifications to access EE programs shift, and are often too restrictive; many disadvantaged populations remain underserved. ● Property owners are typically not motivated by current programs to implement EE measures and for renters there are barriers for more comprehensive upgrades due to the split incentive. ● Contractors are not as engaged due to lower profit margin for moderate income households. ● Real estate professionals lack information about the attributes of an energy efficient and green home. ● Homeowners often do not have knowledge about the energy performance of their homes.
<p>Opportunities</p>	<ul style="list-style-type: none"> ● Demonstrate how electrification and decarbonization measures can transform the home into a healthier, more comfortable, and safer environment, while remaining affordable and demonstrating utility bill savings. ● Pilot innovative solutions to transform the market and address EE in the Residential Sector, considering specific community needs and opportunities. ● Become a leader in the decarbonization space by providing easy to use rebates and connecting with other decarbonization efforts within the Bay Area. ● Increase participation in EE programs and adoption of energy efficiency measures among ESJ communities and DACs. ● Increase the degree of demand flexibility in the Residential Sector to meet summer grid reliability needs. ● Educate real estate professionals about the value of a green and efficient home. ● Provide transparency to homeowners about the energy performance of their home and provide actionable information about how to make it more efficient

Gaps Filled by BayREN or Other REN Criteria	<ul style="list-style-type: none"> • The Green Labeling program is piloting an innovative and scalable solution in single family buildings: the Home Energy Score as a green label that encourages EE retrofit investments and provides homeowners with more information on the energy asset of their home • BayREN is the sole implementer within the region and real estate training topics are vetted and coordinated with PG&E to ensure there are no duplications • The Single Family fills a gap in the Bay Area single family market with the focus on middle income households representing 34% of the region and the program engages with community organizations and media that are trusted messengers in communities that primarily speak a non-English language to conduct culturally relevant outreach and enroll contractors that can provide services in other languages • The Multifamily program focuses on affordable and small property types that have more comprehensive scopes of work and need more personal attention and assistance to participate in EE programs and methods to reach these underserved populations and building profiles include partnering with organizations and communities and centering relevant co-benefits such as health, equity, resilience and emissions reduction in program design and delivery • The Multifamily program is piloting an innovative and scalable financing solution intended to enable in-unit and electrification measures in multifamily buildings
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2 The Residential Sector accounts for 6.1% of all of California’s GHG emissions, yet PAs
3 have historically found this sector challenging to serve given the high level of customer support
4 required with low energy savings in more temperate climate zones and the difficulty in meeting
5 traditional cost-effectiveness standards. To meet SB 350 goals of doubling EE¹²⁹ in existing
6 buildings by 2030, major changes in equipment installed is necessary, particularly space and
7 heating.¹³⁰ Existing buildings also present many challenges for building decarbonization,
8 especially when compared to newly constructed properties, yet they also offer significant

¹²⁹ SB 350 mandates a doubling of energy efficiency in existing buildings to achieve the state goals of 40% reduction in emissions by 2030 and 80% reduction by 2050. Text is viewable at https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350.

¹³⁰ CARB. 2020-2019 GHG Inventory webpage. <https://ww2.arb.ca.gov/ghg-inventory-data>, cited in CEC 2021 Draft Integrated Energy Policy Report at 62.

1 environmental and health benefits.¹³¹ In order to adequately address residential emissions, the state
2 cannot rely solely on shallow energy savings strategies for existing residential buildings,¹³² or new
3 construction policies and updates to the building code.

4 The sector’s “Challenges and Opportunities” inform the goals, objectives, and strategies
5 described in the tables and programs discussed below.

6 **B. Program Details: Single Family Program**

7 ***1. Program Introduction***

8 The objective of BayREN’s Single Family program is to assist property owners of 1–4 unit
9 buildings in realizing energy savings through improvements to their home, with a special focus on
10 underserved populations. Though the offerings of the program are available to all, outreach has
11 and will be focused on moderate income households and communities that speak languages other
12 than English. Accordingly, this requires developing partnerships and devoting resources to
13 identifying barriers and subsequent solutions for participation. However, this greater effort will
14 not only result in a more equitable transition to an efficient and electrified future but may also be
15 key to a quick and sustainable growth in project volume due to the spread through networks with
16 high connectivity.

¹³¹ “While retrofits to existing buildings offer the greatest potential for emission reductions, they also face more barriers, such as scheduling around occupant presence, equipment installation requirements, upfront costs, space constraints, structural issues, and building upgrade requirements for a construction permit.” CEC Draft 2021 Integrated Energy Policy Report at 6.

¹³² The 2021 CPUC Potential and Goals Study shows that the 2024 statewide residential EE potential consists of 95% BRO measures, which leaves a gap in the market to create significant savings in each dwelling unit.

1

2

2. Table – Goals, Objectives, Strategies – Single Family

3

Table 33. Goals, Objectives, Strategies (Single Family)

Goals	Objectives	Strategies
1. Increase the number of customers from moderate income households and encourage a long-term approach for greater energy savings.	Establish budget-optimized EE packages that make upgrades affordable and equitable in support of moderate-income homeowners and renters, and other communities that have been historically underserved.	PS 2. Address systemic barriers to EE and electrification, especially for, and in collaboration with, those who disproportionately face energy burdens, climate impacts, and are underrepresented in policy and decision-making. PS 5. Enhance the design and delivery of incentives and financing to remove barriers and ensure more customers can upgrade their buildings and produce energy savings.
2. Establish a reliable and consistent channel to receive input and continuous feedback from groups representing underserved communities.	Establish long-term relationships and trust with communities served to unlock new EE and electrification potential by identifying needs, goals, and barriers that intersect with the delivery of EE programs.	PS 1. Activate and engage key stakeholders and environmental and social justice (ESJ) communities in the development and delivery of programs.
3. Increase the number and capacity of EE and electrification contractors who serve non-English speaking customers.	Build the workforce necessary for the market, particularly for communities who prefer to receive services in languages other than English. Support businesses that create green and well-paying jobs, including those who work with youth and vocational programs.	PS 4. Provide targeted and relevant training and support to improve effectiveness and build capacity.
4. Pilot and refine innovative approaches to build a robust regional residential decarbonization market.	Connect residential rebate and financing programs with other potential funding sources to accelerate the decarbonization of existing residential buildings in a way that is centered in equitable access and delivery.	PS 6. Develop innovative, equitable, regional-scaled offerings that enable customers to layer EE with other climate-based funding and resource programs to address the climate crisis.

1 **3. Discussion of Goals**

2 **a. Goal 1: Increase the number of customers from**
3 **moderate income households and encourage a long-**
4 **term approach for greater energy savings**

5 The Home+ program is designed to serve all households in the Bay Area but focuses on a
6 significant customer segment gap of moderate income households that are not eligible for income
7 qualified weatherization programs¹³³ and fall within the moderate-income level per household by
8 county as designated by the California Department of Housing and Community Development.¹³⁴
9 This market segment is unable to access the no-cost weatherization services from the income
10 qualified programs but often do not have enough disposable income to afford the upfront cost for
11 a full package of efficiency upgrades that are the typical design of a residential EE program. The
12 program is designed to meet the customer where they are by offering an a la carte rebate that allows
13 moderate income homeowners to achieve deep energy savings over time by providing incentives
14 for upgrades at the appropriate time. The objective is to allow the homeowner to implement
15 measures as time and resources allow and support and engage them throughout their journey in
16 this phased approach.

17 The BayREN member counties will continue to target this segment through queries of data
18 mining systems that can identify individual households that meet the moderate-income criteria as
19 well as broadly targeting cities and zip codes that consist primarily of this audience. BayREN will
20 also connect with other community organizations that provide education and services to moderate

¹³³ California Department of Community Services & Development, “2021 LIHEAP Income Eligibility” <https://www.csd.ca.gov/Pages/LIHEAP-Income-Eligibility.aspx>

¹³⁴ Department of Housing and Community Development, “Revised State Income Limits for 2021” <https://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits/docs/income-limits-2021.pdf>

1 income households such as Housing and Urban Development Approved Housing Counseling
2 Agencies that organize pre-purchase homebuyer education workshops and home repair and home
3 repair and rehabilitation programs such as Habitat for Humanity and Rebuilding Together.

4 Finally, the Green House Call program will target cities and zip codes with greater
5 concentrations of moderate-income households and their customer survey will identify specific
6 customers that fall into this categorization. The Home Energy Advisors also support this long-term
7 approach by providing personalized follow up and continuing engagement to homeowners
8 notifying them when there are new programs or developments.

9 BayREN will also pilot options in the program design to potentially augment rebates for
10 moderate income households. In program years 2022 and 2023, BayREN will pilot an increased
11 rebate for certain energy bill positive measures for moderate income homeowners who do not
12 qualify for income qualified programs. By layering incentives and collaborating with other
13 program implementers including several CCAs, BayREN seeks to decrease administrative
14 burdens, develop integrated marketing, with a goal of providing seamless coordination from low-
15 income programs¹³⁵ to households who still need some financial assistance. This will facilitate
16 greater coordination between all partners and also reduce the complexity for homeowners
17 throughout the region. With this pilot, greater energy savings will be realized with a more
18 expansive scope of work.

19 Rental property units are often overlooked in energy upgrades, especially 1–4 unit
20 properties, due to the requirement that the property owner must give authorization. Many renters
21 are interested in making these improvements but are unable to convince the property owner or
22 property manager to undertake a project due to the lack of financial incentive when they do not

¹³⁵ Low-income programs include LIHEAP, ESA and CCA programs.

1 pay for energy bills. BayREN will engage property management organizations and rental property
2 owners *en masse* to identify opportunities where an upgrade may be mutually beneficial, such as
3 replacement for appliances at end of life, unit turnover upgrades, and general remodeling and
4 renovation triggers. The Single Family program will explore how the lessons learned from the
5 Multifamily program can be applied for the 1–4-unit rental property sector and consider integrating
6 elements that have made it successful such as enhanced technical assistance, financing referrals,
7 and enrollment coordination with partner programs.

8 **b. Goal 2: Establish a reliable and consistent channel to**
9 **receive input and continuous feedback from groups**
10 **representing underserved communities**

11 The Single Family program has sought to drive demand for EE and electrification measures
12 by leveraging trusted messengers, primarily through outreach conducted through the BayREN
13 member agencies, leveraging their credibility and legitimacy. However, this outreach model is
14 often not as effective for certain populations who do not typically respond to government
15 communications, do not communicate primarily in English, or even trust government entities. In
16 order to more effectively serve these underserved communities, BayREN will focus on building
17 relationships with community-based organizations (CBOs) and media outlets that specifically
18 serve those communities, and other credible sources.¹³⁶ These partnerships will also help us
19 identify culturally relevant messages that emphasize particularly resonant values that may be a
20 stronger motivator for action such as health and safety, resilience, and comfort.

¹³⁶ This goal is in direct alignment with CPUC ESJ Action Plan, Goal 5, revised objective 5.2 at 21: Continue to Emphasize Engagement with CBOs: Deepen relationships and network connections with community-based organizations.

1 learn of rebate programs through their contractor, engaging and supporting a diverse and robust
2 contractor workforce for single family homes is critical. This is particularly true in communities
3 that primarily speak a language other than English as most trainings are only available in English.

4 BayREN will address this gap by focused outreach to these communities through trusted
5 messengers such as CBOs, in language media such as Telemundo, and local governments. Through
6 this engagement, BayREN will identify and address obstacles for contractors to participate in
7 programs, especially for businesses that serve hard-to-reach populations. BayREN will also engage
8 with manufacturers, distributors, and retailers to develop a better understanding of supply chain
9 issues and considerations in order to inform and adjust region-wide strategies.

10 In order to meet anticipated demand for home upgrades, BayREN will also need to connect
11 contractors to a skilled workforce to increase the capacity for projects. This includes both a need
12 for increased staff to complete projects but also support industries such as raters to complete rebate
13 paperwork and knowledgeable service electricians for necessary improvements to allow for
14 electrification. The program will connect participating contractors to workforce development
15 organizations and training programs in order to communicate the need for the particular skills that
16 will be necessary for this industry. This will facilitate the creation of several career pathways that
17 can lead to placement with employers based on the particular skills and interests of job seekers.

18 BayREN's Green House Call program will continue to be an important part of Home+.
19 This program not only provides a residential EE service, but is also an entry point for young, low-
20 income and/or bilingual people into the EE and electrification sector. The Green House Call is
21 available to any resident, however outreach is prioritized and focused on hard-to-reach and

nearly all of them reported staffing shortages at all levels from front office support to skilled labor.

1 underserved customers in low-to-moderate income and ESJ communities. As part of the Climate
2 Careers program, BayREN will focus on creating pathways to careers for the Energy Specialists
3 in this program to participating contractors who have expressed an urgent need for workers to meet
4 the high demand that they already encounter.

5 **d. Goal 4: Pilot and refine innovative approaches to**
6 **build a robust regional residential decarbonization**
7 **market**

8 One of the long-term objectives of Home+ is to encourage increased market adoption of
9 EE and electrification products and practices. With several state and local initiatives launching to
10 encourage electrification, BayREN will play a role in facilitating coordination among different
11 regional agencies, local governments and other program implementers acknowledging the
12 importance of one cohesive message about the different incentives and other program benefits.
13 Currently, this includes layering rebates available through local CCA programs and the statewide
14 TECH initiative. As these programs evolve or sunset and new programs launch, it is imperative
15 that the messaging to both the contractors and the general public is unified to amplify marketing
16 and outreach in the marketplace. As a rebate program administrator, BayREN will also focus on
17 streamlining the contractor enrollment process as well as the rebate submission process to reduce
18 transaction costs.

19 Once these systems are in place, BayREN will leverage the credibility of our local agencies
20 to generate demand for decarbonization measures in conjunction with the CCAs and statewide
21 programs along with advocacy groups such as the Building Decarbonization Coalition, Switch is
22 On campaign. BayREN will also work with the same partners to conduct outreach to contractors
23 that can offer these services and enroll them to ensure there is a sufficient workforce to meet the
24 demand. As mentioned in Goal 3, this is especially important in communities where English is not
25 the primary language and training and outreach of contractors have historically lagged behind.

geographies to deliver energy savings.		underrepresented in policy and decision-making. PS 5. Enhance the design and delivery of incentives and financing to remove barriers and ensure more customers can upgrade their buildings and produce energy savings.
2. Develop partnerships to expand program offerings in addition to energy savings and to add co-benefits.	Cross-leverage non-energy efficiency resources and expertise to enable reaching underserved populations with more relevant offerings.	PS 1. Activate and engage key stakeholders and environmental and social justice (ESJ) communities in the development and delivery of programs.
3. Establish consistent channels to receive input and continuous feedback from groups representing underserved communities.	Establish long-term relationships and trust with communities served to unlock new EE potential by identifying needs, goals, and barriers that intersect with the delivery of EE programs.	PS 1. Activate and engage key stakeholders and environmental and social justice (ESJ) communities in the development and delivery of programs.
4. Establish marketing, outreach, and program support materials and activities that demonstrate the connection of EE to co-benefits that are important to underserved communities, including health, resilience, housing quality, and affordability.	Build greater understanding and knowledge about how EE can meet broader community goals and address critical needs.	PS 3. Provide technical assistance, access to resources, and actionable data to improve decision making resulting in building upgrades and long-term energy savings.
5. Test and refine innovative approaches to build robust regional residential decarbonization market target audiences.	Connect residential rebate and financing programs with other potential funding sources to accelerate the decarbonization of existing residential buildings in a way that is centered in equitable access and delivery.	PS 6. Develop innovative, equitable, regional-scaled offerings that enable customers to layer EE with other climate-based funding and resource programs to address the climate crisis.
6. Test and refine innovative approaches to financing EE upgrade and borrower types that have difficulty securing traditional financing due to small size of project or the split incentive.	Support the development of a scalable financing model that is viable for small projects, electrification measures and in-unit work in multifamily buildings.	PS 6. Develop innovative, equitable, regional-scaled offerings that enable customers to layer EE with other climate-based funding and resource programs to address the climate crisis.

1 **3. Discussion of Goals**

2 **a. Goal 1: Increase the participation of underserved**
3 **ownership types, building types, and buildings**
4 **located in equity priority geographies to deliver**
5 **energy savings**

6 As an Equity program, BayREN Multifamily aims to increase the number and depth of EE
7 projects in underserved communities. By working with public and nonprofit partners in the region,
8 the program hopes to learn more about the goals and concerns of these prioritized communities
9 and cooperatively determine the highest and best use of EE measures in addressing those goals
10 and concerns. The current program model’s flexibility and customization has helped it to
11 successfully operate in an already challenging and complicated sector. The program will build
12 upon and scale its current model to provide even broader access, and deeper EE work that has
13 health, equity, and resilience benefits. Partnership and collaboration processes will be employed
14 to identify the measures that have the most benefit to communities. Measures that reduce air
15 infiltration such as air sealing and envelope measures¹³⁹ that reduce indoor nitrous oxide (NOx)
16 air concentrations such as natural gas to electric conversions for appliances, induction cooktops,
17 HPWHs, and adequate ventilation have the potential to improve indoor air quality and health—
18 especially for vulnerable populations.¹⁴⁰ The program will prioritize such measures initially and
19 will work with stakeholders to refine the list of prioritized measures.

¹³⁹ Hayes, S., C. Kubes, and C. Gerbode. 2020. Making Health Count: Monetizing the Health Benefits of In-Home Services Delivered by Energy Efficiency Programs. Washington, DC: American Council for an Energy-Efficient Economy. www.aceee.org/researchreport/h2001

¹⁴⁰ Equitable Building Electrification A Framework for Powering Resilient Communities, Greenlining Institute and Energy Efficiency for All, http://greenlining.org/wp-content/uploads/2019/09/Greenlining_EquitableElectrification_Report_2019_WEB.pdf

1 In 2022, BayREN was one of five local governments in the nation that was selected by
2 ACEEE to receive technical assistance through the Energy Equity for Renter’s Initiative that seeks
3 to address some of the challenges that renters face with high energy burdens and difficulty in
4 making energy savings improvements. The goal of the initiative is to protect the climate, reduce
5 energy costs, and preserve affordable neighborhoods by tackling the challenge of energy waste in
6 rental housing.¹⁴¹ Acknowledging that BAMBE promotes electrification of existing buildings and
7 seeks to incorporate renter protections into both voluntary programs and mandatory policies to
8 ensure that all residents have access to healthy housing conditions and are not faced with higher
9 energy costs, rent increases, or displacement as a result of energy-related upgrades to their
10 buildings, ACEEE will conduct and share research on how existing multifamily retrofit programs
11 and policies across the country are protecting tenants to help guide equitable building
12 decarbonization strategies across the Bay Area. Lessons learned from these efforts will be
13 incorporated into the program as appropriate.

14 **b. Goal 2: Develop partnerships to expand program**
15 **offerings in addition to energy savings and to add co-**
16 **benefits**

17 As acknowledged in the Low-Income Barriers study,¹⁴² unrecognized non-energy benefits
18 are a barrier to accessing EE for low-income customers. Low income and underserved populations
19 are often faced with needs and priorities related to their well-being, safety, health, livelihood, and
20 comfort that are likely perceived as much more urgent than EE needs. To enable a more holistic

¹⁴¹ <https://www.aceee.org/energy-equity-for-renters>

¹⁴² Scavo, Jordan, Suzanne Korosec, Esteban Guerrero, Bill Pennington, and Pamela Doughman. 2016. Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-income Customers and Small Business Contracting Opportunities in Disadvantaged Communities. California Energy Commission. Publication Number: CEC-300-2016-009-CMF.

1 program that addresses many of these non-energy concerns (in addition to EE), partnerships will
2 be sought out to inform program design and delivery and procure additional technical and
3 monetary resources.

4 The program will build upon successful partnerships with various agencies and nonprofit
5 entities to enable the mobilization of complementary resources to improve the health and resilience
6 of underserved populations and multifamily building types by using holistic outreach, assessment,
7 and implementation approaches. Several such partnerships have already been established and will
8 continue to be built upon during program years 2022 and 2023. Lessons learned will inform
9 Program Implementation Plan modifications for 2024. Existing partnerships include:

10 ***The Bay Area Healthy Homes Initiative (BAHHI)***

11 The Bay Area Healthy Homes Initiative (BAHHI) is a partnership that includes BAMBE,
12 Home+, the Alameda County Asthma Start program, Contra Costa Health Services, and
13 BAAQMD. The various partners are working together to leverage expertise and resources in a way
14 that prioritizes the benefit of people struggling with asthma and/or living close to sources of
15 significant transportation related air pollution. By working together, the partnership is able to
16 provide a more robust, one-stop-shop approach to managing asthma triggers that includes
17 measures ranging from mattress covers and greener cleaning products to envelope improvement
18 and electrification of appliances.

19 ***The Sonoma Clean Power Partnership***

20 Building electrification is a key objective for both BayREN and Bay Area CCAs.
21 Restrictions associated with ratepayer EE dollars prohibit incentivizing electrical upgrades, yet
22 panel upgrades and associated costs present a significant barrier to the acceleration of building
23 decarbonization. Sonoma Clean Power (SCP) has as priorities both electrification and serving

1 multifamily properties. SCP provides electrical panel upgrade incentives through BAMBE’s clean
2 heating pathway, allowing both entities to overcome barriers in ways that they could not have
3 otherwise done alone.

4 ***Bay Area Air Quality Management District Multifamily Electric Vehicle Pilot***

5 The BAAQMD Electric Vehicle Pilot layers electric vehicle technical assistance onto
6 BAMBE. Multifamily properties are underrepresented in programs that incentivize the installation
7 of electric vehicle charging infrastructure, due to issues such as split incentives and parking access.
8 BAAQMD seeks to address these barriers to market adoption through this partnership. The pilot
9 will deliver BAAQMD funded technical assistance to twenty properties and incentive application
10 assistance to four properties located within AB 617 communities. Lessons learned from this pilot
11 will help inform future program design for BAAQMD electrical vehicle grants.

12 **c. Goal 3: Establish consistent channels to receive input**
13 **and continuous feedback from groups representing**
14 **underserved¹⁴³**

15 Over the last several years, the industry has started to recognize that successful program
16 design includes a process for co-creating strategies with intended participants—especially when
17 trying to target populations that have been underserved and traditionally left out of decision-
18 making.¹⁴⁴ Since the needs of prospective participants are continually evolving, the program
19 intends to develop relationships with stakeholders that permit real-time flow of feedback and
20 suggestions, and make program tweaks as appropriate.

¹⁴³ This goal is in direct alignment with CPUC ESJ Action Plan, Goal 5, revised objective 5.2 at 21: Continue to Emphasize Engagement with CBOs: Deepen relationships and network connections with community-based organizations.

¹⁴⁴ Dewey, A., J. Mah, and B. Howard. 2021. Ready to Go: State and Local Efforts Advancing Energy Efficiency. Washington, DC: American Council for an Energy-Efficient Economy. www.aceee.org/toolkit/2021/11/ready-go-state-and-local-efforts-advancing-energyefficiency

1 In order to enable real-time feedback and suggestions from participants, and consistent
2 with Goal 5 of the CPUC’s ESJ Action Plan, the program will acknowledge and integrate the
3 expertise of communities served in several ways: 1) by establishing structures that encourage input
4 and continuous feedback from groups representing program stakeholders and target audiences, 2)
5 by regularly engaging with CBOs, tenant groups, and industry groups all of whom have valuable
6 expertise that can help ensure the program evolves with the needs and goals of the beneficiaries,
7 and, 3). by expanding activities aimed at establishing, building, and maintaining relationships with
8 relevant community groups and organizations. While all of these tactics will be important, there
9 will be a particular focus on CBO engagement as by definition, they have deep roots in the
10 communities they serve, are trusted by their communities, and have experience navigating
11 sensitivities.

12 When connecting with groups of constituents where characteristics such as language,
13 suspicion of utilities and large structures, and disinvestment in education and technology have
14 been perceived as barriers and have led to lower rates of program adoption, the program will
15 consider partnering with CBOs that are trusted by their communities and have experience
16 navigating sensitivities that PAs have struggled with in the past. The program will pilot, test, and
17 develop streamlined flexible methods for procuring and compensating CBOs to partner with
18 program and county local outreach staff.

19 Another avenue for authentically connecting with and building relationships with
20 multifamily residents is through program implementation. The program will test and develop
21 innovative program design components that allow for a bi-directional exchange of knowledge and
22 expertise between program implementers and program participants. Outreach events, for example,
23 will evolve beyond the model where program representatives speak to attendees solely about

1 program features and enrollment processes. Instead, outreach events will take the form of
2 discussions so that they can be used as opportunities to gather information needed to ensure
3 programs are in alignment with the needs of prospective participants.

4 **d. Goal 4: Establish marketing, outreach, and program**
5 **support materials and activities that demonstrate the**
6 **connection of EE to co-benefits¹⁴⁵ that are important**
7 **to underserved communities, including health,**
8 **resilience, housing quality, and affordability**

9 While saving energy remains an important goal for many Bay Area residents and building
10 owners and is a key goal of the program, when competing with urgent and vital needs relating to
11 health, resilience, and housing quality and affordability, EE is often not a top priority for people
12 living in underserved communities. To address this issue, the program will increase the
13 prominence of EE co-benefits in program marketing, engagement, and participant-facing design
14 components in order to elevate the intersection of program offerings and their potential to address
15 communities’ health, equity, and resilience related goals and concerns.

16 Working collaboratively with communities that are facing issues related to these core
17 benefits is one way the program will learn more about the issues and the conditions that have
18 perpetuated them. Consistent with strategy PS 1, the program will work with CBOs specializing
19 in health, equity, and resilience to determine how to best apply programs toward improving the
20 conditions that matter most to targeted communities and property types.

¹⁴⁵ As used in this document, “co-benefits” is interchangeable with Non-Energy Benefits (“NEBs”), which according to CPUC staff “are benefits associated with and attributable to utility demand-side programs beyond direct energy savings.” From, Addressing Non-Energy Benefits in the Cost-Effectiveness Framework, prepared by CPUC Energy Division staff, based on research provided by Ed Vine of the California Institute for Energy and the Environment, https://library.cee1.org/system/files/library/9734/CEE_EvalNEBCostEffect.pdf

1 As a collaboration of local government agencies, BayREN is well-positioned to work with
2 local government departments focusing on these core benefits in their communities. Program staff
3 will support BayREN county staff in making connections with public health, housing, and building
4 departments.

5 **e. Goal 5: Test and refine innovative approaches to**
6 **build a robust regional residential decarbonization**
7 **market for target audiences**

8 Building electrification is a key component of California’s carbon free future and
9 addressing climate change. The transition from natural gas to electric appliances is currently
10 prohibitive to a large portion of the population due to a host of barriers including cost, insufficient
11 electrical infrastructure, heat pump appliance back-logs, and lack of contractor know-how and
12 comfort with the technology.¹⁴⁶ BAMBE will continue to seek ways to design programs that help
13 the market to overcome these barriers.

14 Often initiatives that promote new and emerging technologies focus on early adopters and
15 assume that the rest of the population will benefit from the lessons learned, only to find that the
16 lessons learned from early adopters do not apply to the broader population. Taking an early adopter
17 approach to electrification could be detrimental to underserved and ESJ communities because in
18 addition to losing out on the health, resilience, and safety benefits associated with electrification,
19 they would also be left with the costs of stranded natural gas infrastructure. Through layering
20 resources, and right-sizing incentives and technical assistance, the program will develop
21 approaches to electrification that make underserved communities the “early adopters.” Using

¹⁴⁶ Findings & Accelerating Electrification of California’s Multifamily Buildings: Policy Considerations and Technical Guidelines, StopWaste & Association for Energy Affordability https://www.stopwaste.org/sites/default/files/MF%20Electrification%20Readiness%20Report_FI_NAL.pdf

1 lessons learned from BAMBE’s Clean Heating Pathway—an electrification subprogram launched
2 in 2020—BayREN’s Multifamily program will integrate electrification into its main program
3 offering. Scopes of work that include no gas-to-gas measures will be eligible for emissions
4 reduction “kickers” for electrification measures if the total scope of work leads to estimated
5 emission reductions of at least .25 metric tonnes of carbon dioxide per residential unit. To ensure
6 that underserved communities can participate, the program will continue to seek out additional
7 funds to layer with incentives, as done in the past through partnerships with BAAQMD, and SCP.
8 The program will also continue to pair electrification upgrades with education, technology, and
9 more traditional measures that increase the efficiency of these measures, as well as the payback of
10 the total project.

11 **f. Goal 6: Test and refine innovative approaches to**
12 **financing EE upgrade and borrower types that have**
13 **difficulty securing financing due to small size of**
14 **project or the split incentive**

15 BayREN’s Multifamily program will develop a revolving loan offering that will target
16 hard-to-finance measures, amounts, and building ownership entity types. As an improvement to
17 BayREN’s previous financing offering, the Bay Area Multifamily Capital Advance Program, this
18 iteration will be piloted using solely program capital. Funds from the loan pool would be used to
19 issue incentivized financing for projects with out-of-pocket costs of between \$5,000 and \$50,000.
20 A study conducted by BayREN in 2019 found that capital constraints are more of a barrier for
21 small-dollar projects, partially because traditional financing providers cannot justify the
22 administrative costs of smaller loans.¹⁴⁷ The financing offering intends to overcome this barrier by

¹⁴⁷ Multifamily Small-Project Financing Program Market Research Study December 2019 Report prepared for: The Bay Area Regional Energy Network (BayREN) CALMAC STUDY ID BAR0005.01

1 utilizing a revolving loan model to offer financing to help cover the out-of-pocket costs for small
2 rebate program projects. The program plans to make the product available for all properties
3 initially, but ultimately aims to fill gaps in the market for other financing products. BayREN will
4 also design an efficient loan application, approval, and funding process.

5 **D. Program Details: Green Labeling Program**

6 **1. Program Introduction**

7 The primary objective of the Green Labeling program is to increase awareness and
8 transparency of residential energy information, thereby being a driver of energy efficient
9 investments that lead to energy savings in single-family homes and will likely expand to
10 multifamily buildings in subsequent years. The value of EE in homes is unclear to most
11 residents.¹⁴⁸ Building labeling protocols allow property owners, buyers, renters, lenders, and other
12 actors in real estate transactions to better understand how a building with EE and other green
13 features, including healthy and low-carbon building materials and solar plus storage, compares to
14 non--upgraded buildings. Providing information on the EE of homes before major decision-
15 making opportunities, such as buying, selling, leasing, or renovating a property, enhances
16 consumer protections and addresses systemic inequities in the real estate sector. A 2016 ACEEE
17 study found that while low-income families paid less overall on utility bills, they paid more per
18 square foot compared to other income levels.¹⁴⁹ In 2011, 5.5% of low-income customers in

http://www.calmac.org/publications/AEG_Report_to_BayREN_on_MF_Financing_Issues_FIN_AL.pdf

¹⁴⁸ “It is not obvious to many homeowners that deep energy efficiency retrofits can create multiple benefits including bill savings and better air quality, or what options are available to them to pursue deep retrofits.” CEC 2019 California Energy Efficiency Action Plan at 24.

¹⁴⁹ Drehobl, Ariel, and Lauren Ross. “Lifting the High Energy Burden in America’s Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities.”

1 California had their utilities disconnected for non-payment. Of those, over half owed less than
2 \$315. The ACEEE study also highlights a 2012 report stating that paying utility bills was the
3 number one reason individuals took out a payday loan. These findings reinforce that low energy
4 consumption may be a reflection of the inability to pay bills and not from living in an energy
5 efficient home. Additionally, it is recognized that this burden falls heaviest in communities that
6 have historically been excluded from access to home ownership and therefore may not have the
7 ability to make needed improvements to the home. An asset evaluation, such as the Home Energy
8 Score, can help tease out efficiency that is the result of the home itself versus behavioral, which
9 can therefore help guide homeowners to make more informed purchase, rental, and upgrade
10 decisions.

American Council for an Energy Efficient Economy,
www.aceee.org/sites/default/files/publications/researchreports/u1602.pdf.

2. *Table - Goals, Objectives, Strategies*

Table 35. Goals, Objectives, Strategies (Green Labeling Program)

Goals	Objectives	Strategies
1. Expand regional Home Energy Score program, including growing the number of scores and Assessor base.	Leverage knowledge and transparency of residential EE to spur upgrades, inform program design, and communicate progress. Support businesses that create green and well-paying jobs.	PS 3. Provide technical assistance, access to resources, and actionable data to improve decision making resulting in building upgrades and long-term energy savings.
2. Test and refine innovative approaches to include electrification and decarbonization in green labeling.	Incorporate evaluation for electrification potential in home labeling to train Assessors on installation requirements, educate homeowners on new technologies, and prime the market for decarbonization.	PS 6. Develop innovative, equitable, regional-scaled offerings that enable customers to layer EE with other climate-based funding and resource programs to address the climate crisis.
3. Train real estate professionals (i.e., realtors, appraisers, lenders, and underwriters) on the benefits and valuation of EE and electrification home assets.	Real estate professionals become BayREN stakeholders and can discuss with clients EE and electrification values, features, and upgrade options.	PS 4. Provide targeted and relevant training and support to improve effectiveness and build capacity.

3. *Discussion of Goals*

a. **Goal 1: Expand regional Home Energy Score program, including growing the number of scores and Assessor base**

The Green Labeling program tests the Home Energy Score as an innovative solution to increase consumer awareness of home EE, leading to the normalization of energy assessments before major home renovations and during real estate transactions. The Home Energy Score is a national program and rates a home’s EE features on a scale of 1 to 10 (with 10 being the most efficient). The Score is normalized across the U.S. housing stock so that a 5 is the average home nationwide, which allows for a comparison between homes. The Home Energy Score Report includes the score, estimated utility bills, energy consumption, and GHG emissions, as well as

1 custom recommendations to improve EE and referrals to the BayREN Home+ program.
2 Standardized energy asset ratings for residential (and non-residential) buildings, like Home Energy
3 Score, are needed. This program fills a gap in the market, implements an identified strategy to help
4 meet stated goals, and supports the market.¹⁵⁰ This is an appropriate program for BayREN as a
5 standard energy asset rating is best done regionally. Continuing to score homes in the Bay Area
6 will further transform the marketplace.

7 While a voluntary program, the Bay Area Home Energy Score program is the largest in
8 California and won a 2020 DOE HES Partner Innovation Award for successfully scaling a
9 voluntary program.¹⁵¹ In 2021, the program doubled its goal for the number of scores.¹⁵² While
10 successful, the scores are more common in certain Bay Area counties than others, largely relating
11 to population density and availability of local Assessors. The Green Labeling program proposes
12 to scale its activities through targeted recruitment of Assessors who fill gaps in the current pool,

¹⁵⁰ “The CEC Existing Building Action Plan calls for standardized energy asset ratings for residential buildings. Asset rating is defined as a method of quantifying the efficiency potential of a building, independent of the number of occupants and their behavioral choices. CEC 2019 California Energy Efficiency Action Plan at A-38.

¹⁵¹ A map of Home Energy Scores conducted through BayREN can be found at www.greenbuildingregistry.com/ and searching for “Bay Area”.

¹⁵² Jurisdictions outside of the BayREN territory have expressed interest in joining this program. With increased interest and a significant uptake in Scores, BayREN is testing this program for statewide expansion, as encouraged by the Commission in D.18-05-041 at 82, COL # 21. If this regional program continues with its success and regional partners are identified throughout the state and after discussion with the other program administrators and CAEECC, BayREN will file a Tier 2 Advice Letter proposing Home Energy Score be elevated to a statewide program with BayREN as the lead administrator. This is consistent with D.21-05-031 at 78, COL # 33: “Tier 2 advice letter filings should continue to be required from program administrators who are opening...[programs including] situations where a regional or local program is being elevated to a statewide program.”

1 including those who can provide services in multiple languages and to those who are located or do
2 business within the counties where the demand for scores has been lower.

3 One strategy to accomplish this goal is to scale efforts of working with local government
4 staff on reach codes. To date, BayREN has assisted local governments that have mandated Home
5 Energy Scores in local ordinances.¹⁵³ This has included policy language development, recruitment
6 of local Assessors, and the quality assurance/quality control of scores. The Home Energy Score
7 has become a useful mechanism for addressing the GHG emissions of existing buildings, including
8 mandating a score at time of sale so home buyers can use the score to compare homes (similar to
9 a home or pest inspection) or as part of an existing building reach code. The Green Labeling
10 program will continue to provide support for jurisdictions who may wish to pursue an ordinance
11 that references Home Energy Score. This work will have the dual benefit of expanding the number
12 of scores and opportunities for Assessors.

13 While primarily serving a market support role, the BayREN Green Labeling program will
14 expand to advance equity as well. BayREN will evaluate opportunities to incorporate diversity,
15 equity, and inclusion into all trainings. Additionally, BayREN is exploring partnerships with low-
16 income single-family programs (such as the Low-Income Weatherization Program or lead
17 abatement programs) to provide no-cost Home Energy Scores before and after upgrades have been
18 done. To advance equity, there will also be a focus on new strategies to better serve single family
19 renters.

¹⁵³ See Berkeley Building Emissions Savings Ordinance and Piedmont Existing Building Reach Code. Both jurisdictions have mandated a Home Energy Score either at time of sale, major renovation, or other qualifying event. Through the BayREN Codes and Standards Program, assistance was provided to the local governments as they developed their local ordinances.

1 **b. Goal 2: Test and refine innovative approaches to**
2 **include electrification and decarbonization in green**
3 **labeling**

4 While the Home Energy Score does collect information about existing water heaters and
5 furnaces, it is generally focused on EE and building envelope upgrades and not on decarbonization.
6 For example, the formula for producing a score relies more on insulation, window types, and
7 appliance efficiency than the appliance fuel type (natural gas vs. electric). High-efficiency electric
8 appliances such as heat pumps should receive a higher score due to their increased efficiency over
9 natural gas or electric resistance models, but not because they contribute to fewer GHG emissions
10 (depending on the electricity mix). Similarly, on the score recommendations, there is no preference
11 given for high-efficient heat pump appliances. However, BayREN has been working for years to
12 influence the decarbonization of homes, including encouraging Assessors to only make natural gas
13 recommendations in emergency change-outs (while there are supply chain issues) and developing
14 the Electrification Checklist.

15 The Electrification Checklist was launched as a part of the Green Labeling program in
16 August 2020 as a means to support state and local goals to decarbonize and electrify buildings.
17 The Electrification Checklist is used concurrently with the Home Energy Score assessment to
18 collect additional data points to determine which gas-to-electric recommendations may be
19 appropriate for each home. The BayREN Green Labeling program is the first in the country to
20 incorporate such a checklist. BayREN has been coordinating with DOE to explore how this
21 innovative approach to electrification evaluation may influence the national Home Energy Score
22 program and set a precedent for other jurisdictions throughout the country.

1 **a. Single Family Program (Home+)**

2 Home+ is an Equity program that targets underserved households such as low-to-moderate
3 income households (who lack capital), renters (who lack opportunities due to split-incentive
4 barriers), and households and contractors where the primary language spoken is other than English
5 (who lack information and trusted channels). The program provides a variety of service offerings
6 to Bay Area single family homeowners and renters including rebates for qualifying measures, an
7 online energy evaluation, no-cost EE kits, in-home education, and direct install services. The
8 program has homeowner outreach in Spanish and Chinese and is working to expand to more
9 languages. The Green House Call offering is also part of Home+, which trains and employs local
10 low-income youth as Energy Specialists to provide a residential EE service.

11 **b. Multifamily Program (BAMBE)**

12 The BAMBE program is proposed in the Equity segment. The program prioritizes small,
13 affordable (deed restricted and/or naturally occurring) multifamily buildings in DACs and the
14 program also looks for scopes of work that prioritize tenant savings through targeting criteria. This
15 program provides no cost technical assistance and rebates to incentivize multifamily property
16 owners to make EE improvements and seeks to establish partnerships with other agencies and
17 funding sources to offer a more holistic program that provides energy savings and other benefits
18 that may be of higher importance to communities served, including health, resilience, and housing
19 quality and affordability.

20 Additionally, increased focus will be on working in collaboration with underserved
21 communities, building partnerships with CBOs and public agencies, and implementing the
22 program in a way that provides opportunities for participants representing these communities to
23 contribute to program design and implementation. With this feedback and collaboration, BayREN

1 will be better able to develop engagement, technical assistance, incentives, and financing models
2 that more effectively serve the targeted multifamily property types.

3 **c. Green Labeling**

4 The Green Labeling program is a Market Support program, as it seeks to build an
5 innovative solution to increase knowledge and make EE information a transparent and normalized
6 part of the home buying and renovation processes.

7 The Green Labeling program supports the long-term success of the EE market as it
8 provides strategies to build, enable, and maintain demand for energy efficient products, and
9 services in all sectors and industries to ensure interest in, knowledge of benefits, or awareness of
10 how to obtain EE products and/or services. It does this by testing and scaling the Home Energy
11 Score as an innovative labeling product that helps improve the awareness, incorporation, and
12 valuation of EE and green features in residential real estate transactions and home improvement
13 decisions.

14 The Green Labeling program also supports strategies to build, enable, and maintain supply
15 chains to increase the capability and motivation of market actors to supply energy efficient
16 products, and/or services and to increase the ability, capability, and motivation of market actors to
17 perform/ensure quality installations that optimize EE savings. It accomplishes this through
18 expanding the EE workforce by enrolling and supporting Home Energy Score Assessors.
19 Assessors are not only trained on the Home Energy Score, but also on other BayREN program
20 offerings and opportunities to get involved, and on evaluating homes for their electrification and
21 decarbonization potential.

1 **2. Program and Portfolio Coordination**

2 **a. Coordination within Residential Sector**

3 As both the Home+ and Green Labeling programs serve primarily the single-family market,
4 coordination is regular and ongoing. Program leads coordinate on messaging and how to encourage
5 participation in both programs. Energy Advisors are trained on the Home Energy Score and when
6 it is an appropriate fit for a customer who contacts them. When conducting direct outreach to single
7 family homeowners, both Home+ rebates and the Home Energy Score are presented, including at
8 workshops and webinars, and in mailings and other collateral.

9 The Home Energy Score report provides custom recommendations that align with available
10 Home+ rebates. Additionally, several Home Energy Score Assessors under the Green Labeling
11 program are also participating contractors in the Home+ program, allowing one professional to
12 offer both services to participants.

13 The Single Family and Multifamily programs also coordinate as both offerings are
14 available to property owners. The 1–4-unit rental property has also been identified as a gap as it is
15 not eligible for the BAMBE program and property owners have been reluctant to participate due
16 to the split incentive. The programs will continue to explore options for creating a more integrated
17 experience for navigating the two processes. This may also present more opportunities to
18 coordinate outreach efforts since many apartment owners and property manager association
19 membership span both categories.

20 The residential programs also coordinate within the BayREN portfolio and there are areas
21 ripe for collaboration. A few examples from prior program years are provided to illustrate the
22 many collaborative intra-portfolio opportunities.

23 Two local jurisdictions have ordinances that under certain circumstances require a Home
24 Energy Score. While the Green Labeling program promotes Home Energy Score in a voluntary

1 setting, the program coordinates with the BayREN Codes & Standards program where there is
2 interest in passing a mandatory requirement that incorporates Home Energy Score. BayREN
3 currently provides the quality assurance/quality control (required by the DOE) for scores in
4 jurisdictions in the Bay Area where Home Energy Score is part of the code.

5 The Single Family program will also work in coordination with the Codes and Standards
6 program, particularly in the development of reach codes for existing homes, training of building
7 officials, and the development of recommendations for permitting with regards to measures that
8 receive rebates. The program will identify the major obstacles local building professionals
9 encounter at the building permit counter and develop recommendations for policies and practices
10 that can reduce the transaction costs for making upgrades.

11 Lastly, the program will need to work with local governments to clear obstacles to and
12 support the development of local ordinances to encourage clean technology adoption. Currently,
13 the permit process has been a significant barrier for adoption of electrification technologies. The
14 Single Family program will coordinate with the Codes and Standards program and the statewide
15 TECH Permit Pilot Initiative to identify best practices. The program will then work to help
16 jurisdictions implement recommendations and develop policies that incentivize the installation of
17 these measures.

18 As the Water Upgrades \$ave program enrolls utility clients that offer the service available
19 to residential customers, the Multifamily and Single Family programs will work collaboratively
20 on outreach and messaging, enabling participants to layer various streams of funding and
21 implement deeper, multi-faceted scopes of work.

22 Coordination with other PAs and program implementers will continue in both formal (i.e.,
23 the annual Joint Cooperation Memos with PG&E and MCE), and more informal processes.

1 market and interface with manufacturers, distributors, and retailers on a larger scale due to the
2 greater geographical reach.¹⁵⁶

3 A more detailed discussion is provided in the Portfolio Coordination section below.

4 Program Cards are included in Appendix A.

¹⁵⁶ The most common electrification measure in the Home+ program and in our territory is a Heat Pump Water Heater. The CEC opines that the success of decarbonization depends on the scale in which heat pumps can be introduced. Currently, they represent only a small amount of the existing stock and are not a customer's first choice. One reason is the lower availability of heat pumps in box stores and through contractors. CEC Draft 2021 Integrated Energy Policy Report at 82. These tactics seek to address this barrier to market adoption.

1 **CHAPTER 5. PORTFOLIO MANAGEMENT (J. BERG)**

2 **I. OVERVIEW**

3 BayREN brings together local government representatives from each of the nine Bay Area
4 counties to design and implement EE programs. The system of governance is based on a holacracy
5 model that allows for greater flexibility and more cohesion among the members. This structure
6 allows BayREN to accommodate local needs, which may vary across the diverse region. Further,
7 holacracy allows for member agencies to have input into BayREN decisions including program
8 and portfolio design, budgets, and marketing.

9 The BayREN Coordinating Circle is made of the lead representative for each member
10 agency and ABAG. The Coordinating Circle meets once a month (with every other month held in
11 person with locations rotating across the region) to coordinate BayREN activities. The meetings
12 are an opportunity for the administrative team and program leads to provide updates on program
13 performance, regulatory updates, budget review, portfolio strategy, coordination with CCAs,
14 outreach tracking, etc. The members learn from each other and share best practices. The
15 Coordinating Circle is directly involved in BayREN activities and ensures that the portfolio is on
16 track, the budget is managed, and that we are effective and responsible stewards of ratepayer funds.

17 Each BayREN program has a lead that is elected to the role by the Coordinating Circle. To
18 be considered, the program leads have established that they have the capacity to manage the
19 program on behalf of the whole region, since it is the lead’s responsibility to manage the program
20 priorities, staff, and program budget. The program leads have a host of responsibilities relating to
21 the regional implementation of the program including budget and contract management, adapting
22 to changes in the market or other events that may result in revising outreach tactics, regulatory
23 changes, and working with each county agency on appropriate outreach activities for the particular
24 jurisdiction. Each program has a “program circle” that is a subcommittee that meets at least once

1 a month to discuss program performance, coordination with PG&E and MCE, problems that may
2 arise, and other program specific topics.

3 This governance structure has worked well for BayREN as an organization. Importantly,
4 the regular meetings with all of the member agencies allow for a constant flow of information and
5 feedback that ensures that the portfolio is on track, the budget is managed, and the region is well
6 served.

7 **II. STRATEGIES TO OPTIMIZE PORTFOLIO AND MANAGE RISK**

8 In addition to the organizational structure and regular BayREN meetings, all member
9 agencies are public, and serve Boards that are made up of elected officials. BayREN contracts,
10 portfolio expansion, etc. must be approved by the respective Boards, i.e., the ABAG Executive
11 Board, or the BayREN member agency Board of Supervisors, County Councils, etc., in open
12 meetings that are subject to the Brown Act. Further, as government agencies, there are additional
13 requirements imposed on us to allow for greater transparency than IOUs and third parties that are
14 not governed by these same rules. The inherent requirements of BayREN as a public agency PA
15 and the oversight of elected Boards, allows for an additional layer of control that serves to reduce
16 the risk of our activities.

17 **A. Approach to Use of Goals and Metrics for Portfolio Optimization**

18 For each program, there is a Program Implementation Plan (PIP) and numerous metrics
19 including compliance, value, Equity and Market Support metrics. There are established platforms
20 and reporting protocols to ensure timely CPUC reporting and program performance oversight. The
21 program leads regularly review program uptake, budget spend rates particularly for the incentive
22 programs, and if the program is on track to meet its goals. For programs that are not on track,
23 BayREN's structure allows for flexibility to make a change to the program in furtherance of
24 meeting the performance goals. For established programs, BayREN will work with program

1 implementers to forecast goals and metrics based on the best available historic program metrics.
2 For example, some programs have seasonal uptake and linear tracking of goals may not be
3 reasonable. For new programs, BayREN will work with program staff to establish program
4 performance metrics to track milestones on program startup and transition to focus on program
5 savings and uptake metrics once in full operation.

6 **B. Plans and Procedures for Staying “On-Target”**

7 Through formal CPUC reporting, as well as regular BayREN meetings, invoice review,
8 and administrative oversight there is a sufficient structure in place to review program performance
9 and course correct if the program is not on target. On a quarterly and/or annual basis, BayREN PA
10 staff will revisit the Portfolio Plan program sections, as well as PIPs to evaluate the qualitative
11 barriers to program success and develop strategies to address program update and success if
12 applicable.

13 **C. Approach to Risk Management**

14 As local governments, BayREN member agencies have a unique relationship with our
15 communities. We are seen as trusted messengers which is one reason for the success of our
16 programs and outreach strategies. In addition to implementing EE programs, BayREN staff are
17 also on the front lines when our communities are faced with wildfires, COVID-19, power outages,
18 etc. We must be flexible, both in how we design and implement our programs and our priorities to
19 respond to the needs of our constituents.

20 In March 2020, the Bay Area was placed on a sudden and complete shelter-in-place order
21 due to the COVID-19 pandemic. BayREN was able to quickly pivot our activities by moving them
22 online, providing professional resources to our participating contractors that were suddenly unable
23 to work, and otherwise engaging our workforce and residents. The majority of our programs met

1 the annual goals and were an example of how BayREN is able to adapt to unpredictable events
2 such as a once in a generation pandemic.

3 BayREN staff are often on the front lines helping communities in times of crisis. One
4 positive element of this unique relationship is the ability to layer our EE work with providing
5 assistance to residents and businesses. For example, staff from the County of Marin paired their
6 communications about rental assistance with information about EE and BayREN programs.

7 **III. APPROACH TO FLEXIBLE PORTFOLIO MANAGEMENT**

8 BayREN incorporates herein the “Overview” discussion, above. In addition to program
9 leads, BayREN has third party implementers for each program. The program and regional leads
10 that manage the third-party contracts oversee progress toward goals and performance and are
11 responsible for overseeing the implementers performance and making any necessary adjustments
12 in scope, budget, or selection of implementers. Based on past portfolio administration, BayREN
13 acknowledges that not all program metrics and indicators follow a linear tracking pattern. Certain
14 interventions typically occur in summer as opposed to winter seasons, and a ‘straight-line’ tracking
15 of program success will not be the only evaluation method. BayREN will continuously work with
16 EM&V stakeholders to adopt process and impact evaluation recommendations.

17 **IV. PLANNED PROCEDURES AND THRESHOLDS FOR COURSE** 18 **CORRECTION**

19 BayREN proposes to use six sigma inspired course correction decision trees and
20 deployment review procedures to manage course correction. Strategies start with identifying
21 whether outcomes were achieved, whether the implementation plans were followed, how well
22 procedures were documented, and cause analysis of unexpected outcomes. Once causes are
23 identified, BayREN will work with the stakeholders to implement a course correction plan and
24 increase meeting frequencies and documentation necessary, as well as additional capacity support

1 that may be needed to result in the desired program outcomes. If the team mutually decides that
2 the course cannot be corrected, BayREN will go through a go/no-go process to determine if a
3 revised PIP and/or implementers are required to meet its portfolio and sector goals.

4 **V. THIRD-PARTY PROGRAMS (J. BERG; E. ALVAREZ)**

5 A third-party program is defined as a program that is proposed, designed, implemented,
6 and delivered by non-utility personnel under contract with a utility program administrator.¹⁵⁷ The
7 CPUC has directed that 60% of the utility portfolios be outsourced to third-parties; however, this
8 requirement was not extended to non-IOU PAs.¹⁵⁸

9 **A. Statewide Programs**

10 BayREN does not currently lead any statewide programs, although as a PA, does have the
11 authority to do so.¹⁵⁹ BayREN's regional Home Energy Score program is being tested for statewide
12 expansion, as encouraged by the CPUC in D.18-05-041.¹⁶⁰ Should this regional pilot continue to
13 be successful, regional partners are identified across the state and after discussion with the other
14 PAs and CAEECC, BayREN will file a Tier 2 Advice Letter proposing Home Energy Score be
15 elevated to a statewide program with BayREN as the lead PA.¹⁶¹

¹⁵⁷ D. 16-08-019 at 111, OP # 10.

¹⁵⁸ D. 16-08-019 at 111, OP # 10.

¹⁵⁹ D.16-08-019 at 102, COL # 40.

¹⁶⁰ D.18-05-041 at 82, OP # 21.

¹⁶¹ D.21-05-031 at 78, COL # 33: "Tier 2 advice letter filings should continue to be required from program administrators who are opening...[programs including] situations where a regional or local program is being elevated to a statewide program."

1 **B. Contract Management and Mitigation of Risk from Portfolio**
2 **Diversity**

3 The procurement policies for BayREN contracts held by ABAG are governed by strict
4 agency policies. All ABAG contracts above \$200,000 must be approved by the ABAG Executive
5 Board (composed of elected officials from the Bay Area) and thereafter go through an extensive
6 internal review by staff from the procurement, legal, executive, and finance sections of the agency.
7 For contracts below \$200,000, the ABAG Executive Director has been vested by the Executive
8 Board with the authority to execute the contracts, but these contracts still follow the same stringent
9 internal review.

10 BayREN member agencies—all of whom are public agencies—that enter into contracts
11 with ABAG or third-party vendors for BayREN activities also have their contracts approved by
12 their respective governing board of elected officials. As public agencies, all are subject to the
13 Brown Act,¹⁶² ensuring that all BayREN procurement and contracting by its nature is open and
14 transparent. Indeed, this level of transparency is one reason the non-IOU PAs are exempt from the
15 Procurement Review Group and CPUC staff approval for contracts requirements.¹⁶³

16 As with all activities, ABAG/MTC procurement and contracting is embedded in the agency
17 Equity Platform. The agency defines equity as “inclusion into a Bay Area where everyone can
18 participate, prosper, and reach their full potential.”¹⁶⁴ One of the goals of the platform is to
19 “increase opportunity for those people most affected by exclusion,” which has informed the
20 procurement policies. Consistent with this goal, MTC has a Disadvantaged Business Enterprise
21 Program (DBE) that seeks to level the playing field for small businesses that have less working

¹⁶² CA Gov C § 53950 et. seq.

¹⁶³ D.18-01-004 at 31-32, COL # 8, # 11.

¹⁶⁴ Viewable at <https://mtc.ca.gov/about-mtc/what-mtc/equity-platform>.

1 capital, and a Small Business Enterprise (SBE) program that is aimed at using the power of public
2 money to help provide economic opportunity for residents and businesses. The SBE and DBE
3 Program information is included in every procurement and is promoted during each Proposer’s
4 Conference. Agency staff also participate in local and regional organizations and working groups
5 to educate firms about these programs. In each agency issued procurement, additional points are
6 given to proposers that qualify for one or both of these programs. BayREN has been successful in
7 attracting small and women owned businesses; these firms represent the majority of contracts for
8 BayREN services.

9 **VI. PORTFOLIO COORDINATION**

10 One of the strengths of BayREN is the collaborative relationships with the other PAs,
11 CCAs and local governments, that result in more holistic and impactful offerings for our shared
12 customers.¹⁶⁵ While there are formal requirements that govern some elements of BayREN’s
13 coordination with PG&E and MCE, BayREN also coordinates with the six CCAs that launched
14 after BayREN was formed. BayREN’s emphasis on working together has evolved and is now
15 central to BayREN strategy, operations, outreach, and program design. As discussed below,
16 BayREN has existing partnerships and engagements and will also form new collaborations with
17 other stakeholder groups to gather input, find opportunities for working together, and minimize
18 customer confusion, in alignment with PS 1.

¹⁶⁵ This is consistent with the Commission’s view of RENs: “RENs also have the unique opportunity to be able to leverage not only multiple local government entities into a single program delivery channel, but they also may be able to utilize funding from multiple sources to deliver more comprehensive and holistic funding from multiple sources to deliver more comprehensive and holistic programs, especially for hard-to-reach customers.” D. 19-12-021 at 8.

1 **A. Coordination with Other Program Administrators**

2 BayREN’s role in the EE portfolio is distinct from CCAs, IOUs and third-party
3 implementers and reflects the unique capabilities we bring as local governments to the delivery of
4 EE.¹⁶⁶ Each PA in the BayREN territory complements each other’s portfolio, encourages
5 innovation, and ensures that all ratepayers are served. This is consistent with CPUC policy that
6 “[a]s long as program administrators and implementers are addressing different aspects of the
7 energy efficiency marketplace, and/or coordinating their efforts in the same geographic area, some
8 overlap may be fine or even positive, especially if the individual entities coordinate their offerings
9 and their outreach to customers.”¹⁶⁷ Indeed, when the RENs were first approved, the CPUC
10 acknowledged that “[a]ll consumers will be well served if there is close coordination and
11 cooperation between the RENs and the utilities to ensure seamless program offerings and avoid
12 customer confusion.”¹⁶⁸

13 In approving PG&E and BayREN’s Energy Efficiency Business Plans for 2018-2023, the
14 CPUC directed the IOUs and RENs to file annual Joint Cooperation Memos (JCMs) to help ensure
15 the proposed activities complement and not duplicate each other, and that the RENs otherwise
16 comply with D.12-11-015.¹⁶⁹ Since 2019, BayREN and PG&E have submitted an annual JCM that
17 describes EE programs the PA anticipates offering in the nine Bay Area counties (the shared
18 service area), how the proposed activities will be complementary, and details how BayREN’s

¹⁶⁶ D.19-12-021 at 18.

¹⁶⁷ D.19-12-021 at 25.

¹⁶⁸ D.12-11-015 at 9.

¹⁶⁹ D. 18-05-041 at 178, COL # 47.

1 proposed activities comply with the criteria for REN activities.¹⁷⁰ Commencing in 2020, BayREN
2 has filed an annual JCM with MCE.¹⁷¹

3 While the JCM is required, BayREN has used the negotiations as a process to work with
4 the other PAs to ensure that not only are we not duplicating activities, but also that our collective
5 efforts are best serving our shared residents.

6 In addition to the engagement in preparation for the development of the JCM, BayREN
7 program managers have regular meetings with their counterparts at PG&E and MCE, typically
8 once a month. Program updates are provided to ensure there are no duplicative efforts. BayREN's
9 Energy Advisor service strives to find a program that is the best fit for the caller and therefore
10 provides a significant number of referrals to non-BayREN programs. Similarly, if a PA has plans
11 to do a mailer or new advertising campaign, this is known in advance so that the Energy Advisor,
12 contractors, program staff, etc. are aware and can refer callers accordingly. This will be the same
13 practice for the proposed Energy Concierge (Public Sector) and the Building Performance Advisor
14 (BayREN Business-Commercial Sector).

15 These regular meetings not only ensure that there is no duplication of activities, but has
16 also resulted in finding opportunities for collaborations. For example, after hearing about the
17 BAMBE program through a county mailer and then subsequently attending a webinar, an owner
18 of an eight-unit property in Marin County expressed interest in participating in the program. The
19 property primarily serves low to moderate income tenants. While working with the property owner,
20 BayREN staff learned that two of the units had participants that used Housing Choice Vouchers

¹⁷⁰ D.12-11-015, at 17.

¹⁷¹ In D.19-12-021 at 84, COL # 7 and # 8, the requirement for RENs to negotiate JCMs with program administrators with shared territory was expanded to include CCAs. MCE is the only CCA in BayREN's territory that is a Program Administrator.

1 (Section 8), making the units qualified for the MCE LIFT program. With the combined programs,
2 a more expansive scope of work was completed including in-unit measures, resulting in greater
3 energy savings, reduced utility bills by one-third and tenants benefiting from greater comfort and
4 better indoor air quality.

5 Another example is in Codes & Standards. BayREN’s program provides training and
6 resources that meet building department staff where they are and recognize the constraints they
7 operate under. PG&E’s (and the Statewide Codes and Standards) Energy Code Ace provides
8 excellent in-depth training and resources, and BayREN does not try to duplicate these. Instead,
9 BayREN complements these by providing shorter, more focused materials and training for those
10 who may need a refresher or who simply don’t have the time for an in-depth training. BayREN
11 and Energy Code Ace have also partnered to develop and provide training on a couple of
12 specialized topics that are of particular interest to Bay Area building departments.¹⁷²

13 The regular coordination with PG&E and MCE helps to ensure the goal of more holistic
14 programs and a greater reach to Bay Area markets. For a more detailed discussion on how each
15 sector and program coordinates with other PAs, please see the above Sector Strategies, Sector-
16 Specific Coordination section.

17 **B. Coordination with Other Demand-Side Programs**

18 BayREN—on the regional, program, and county level—has regular meetings with the
19 CCAs in our territory.¹⁷³ As local governments, we share the same constituents and our respective

¹⁷² While not in a shared territory, BayREN also collaborates with 3C-REN and provides them with curriculum for their Codes and Standards program. As beneficiaries of ratepayer funds, BayREN and 3C-REN have regular meetings and ensure that there is no “reinventing the wheel” especially for trainings.

¹⁷³ There are seven CCAs in the Bay Area, and one in at least part of each county.

1 Boards are also composed of elected officials, many of whom sit on the Boards of the CCA, county
2 and/or ABAG. Because BayREN is an existing implementer, many CCAs have found it logical
3 and easy to layer onto BayREN programs. Some examples include:

- 4 • Sonoma Clean Power (SCP) provided funding to provide information about its electric
5 vehicle program to our Multifamily program customers.
- 6 • Peninsula Clean Energy (PCE) provides an additional incentive to its customers that
7 participate in BayREN Home+ and install Heat Pump Water Heaters (HPWH).
- 8 • East Bay Community Energy (EBCE) funded the Home+ implementer to work with
9 BayREN participating contractors in Alameda County to determine if there were
10 incremental savings from Home+ projects.

11 As CCAs expand their program offerings, the collaboration will become even more critical
12 to ensure that efforts are not duplicated and our shared customers have a seamless program
13 experience. With the precedent of working positively together with PG&E and MCE, BayREN is
14 confident that the process will be productive. As provided below, BayREN will create a new CCA–
15 BayREN advisory committee as discussed below.

16 The “BayREN is Electrifying the Bay Area” campaign, launched shortly after changes to
17 the three-prong test,¹⁷⁴ expanded our program offerings with electrification measures in our
18 residential programs, promoted the benefits of electrification with marketing materials and
19 developed training for building officials on permitting and the proper installation of the
20 technologies. Being early adopters of electrification on the portfolio level, we successfully applied
21 for funding from the Bay Area Air Quality Management District (BAAQMD) to design a

¹⁷⁴ D.19-08-009 revised the requirements for fuel substitution measures in energy efficiency programs thereby removing a large program barrier.

1 midstream, contractor-facing program for promotion of Heat Pump Water Heaters (HPWH) across
2 the nine counties. The BAAQMD funding created the program; incentives were provided directly
3 by the partner CCAs¹⁷⁵ and BayREN residential program incentives were provided to the residents
4 as long as the contractor participated in both programs. The program engaged all levels of the
5 market—from manufacturers and distributors, to contractors, and to the end users/customers—
6 with the mission of transforming the HPWH market by focusing on installation contractors and
7 residential customers who are replacing unitary gas heaters with a HPWH. Energy Solutions was
8 the program provider, implementing outreach and administering incentives. Energy Solutions is
9 also the implementer of the TECH Clean California program. Having an existing relationship with
10 the implementer has allowed them to quickly leverage BayREN activities. Specifically, TECH
11 incentives have been added on to BayREN incentives for certain electrification measures in
12 Home+ and BayREN and TECH staff work together on-boarding contractors and rebate processing
13 and cross-promotion of the different efforts and are working on (non-PII) data sharing so that
14 trends can be tracked and learned from in our region.

15 Home+ emphasis on contractor recruitment, and the Climate Careers program will also
16 help with the success of the TECH Clean California program since as a region, there is a need to
17 increase the number of workers with knowledge and skills to install and promote electrification
18 measures. Indeed, incentive layering and cross-promoting and collaborating with all market actors
19 will be the key for reaching the goals related to building decarbonization¹⁷⁶ and BayREN's
20 collaborative processes will continue.

¹⁷⁵ The partner CCAs are MCE, EBCE and Silicon Valley Power; CleanPowerSF will be joining.

¹⁷⁶ CEC Draft 2021 Integrated Energy Policy Report at 98: “Incentive layering will be key for whole-building decarbonization...[The CPUC] has articulated that [w]henver possible, stacking or layering incentives upstream with a single point of contact will streamline the process for participants.” citing CPUC. Workshop on Incentive Layering for Building Decarbonization (July

1 As discussed, BayREN seeks to overcome the barriers that currently exist that limit the
2 scalability needed for realizing the state’s goals of decarbonization. The permit process is a
3 significant barrier for adoption of electrification technologies. BayREN’s Single Family program
4 will coordinate with the Codes and Standards program and the statewide TECH Permit Pilot
5 Initiative to identify best practices. The program will then work to help jurisdictions implement
6 recommendations for increased EE upgrades and develop policies that incentivize the installation
7 of these measures.

8 With the launch of the statewide TECH Incentives for HPWHs and heat pumps for space
9 conditioning, BayREN has and will continue to coordinate on communications with contractors,
10 rebate processing, and public communications to reduce confusion throughout the region. BayREN
11 already coordinates with the TECH implementer and recognizes the opportunity to influence the
12 market and interface with manufacturers, distributors, and retailers on a larger scale due to the
13 greater geographical reach.

14 BayREN’s Codes & Standards Program is currently partnering with the TECH program on
15 their Permitting Pilot Program to work with local governments and other stakeholders to develop
16 resources and processes aimed at expediting permitting for heat pump technologies. Lessons
17 learned from this pilot will be used by the TECH implementer in trying to overcome some of the
18 barriers that exist across the state relating to permitting.

19 In D.19-12-021, the CPUC approved the Market Transformation Framework, including
20 that the role be assumed by a single statewide administrator will be able to conduct truly statewide
21 activities on behalf of the CPUC and in coordination with other EE entities beyond just investor-

2020). <https://www.cpuc.ca.gov/about-cpuc/divisions/energy-division/building-decarbonization/workshop-on-incentive-layering-for-building-decarbonization>.

1 owned utilities.”¹⁷⁷ While the solicitation process was recently completed, the Market
2 Transformation Administrator activities have yet to commence. The CAEECC Market Support
3 Metrics Working Group developed a recommendation on the distinction between market support
4 vs. market transformation objectives¹⁷⁸ that align with how BayREN intends to coordinate with
5 the statewide activities. Specifically, the EE market will benefit most from a collaborative
6 approach between the Market Transformation Administrator and the EE PAs. BayREN supports
7 and will adopt the guidance offered by the working group, including ongoing and significant
8 collaboration among administrators and stakeholders, breaking down of silos, and mutual
9 consideration of conceptual differences when designing market support programs and identifying
10 market transformation initiatives.¹⁷⁹

11 In the sector chapters above, there is a detailed discussion of how BayREN coordinates
12 with all program implementers.

13 **C. Stakeholder Engagement in the Development of this Application**

14 BayREN engaged multiple stakeholders to help inform the Business Plan strategies and
15 program design. Through a series of approximately 15 meetings and listening sessions, BayREN
16 gathered input on key barriers to implementing EE and advancing building decarbonization across
17 building types and jurisdictions. These discussions also covered issues such as how to advance

¹⁷⁷ D.19-12-021 at 55.

¹⁷⁸ The Market Support Metric Working Group report acknowledges the need to form a collaborative approach between the Market Transformation Administrator (MTA) and EE program administrators. Further, it describes the conceptual distinctions between Market Transformation (MT) and Market Support (MS) where MT projects target reducing barriers to specific technologies while MS provides cross-cutting support of the EE market. MT projects seek to change and disrupt the market while MS programs seek to support existing or anticipated market needs. Lastly, MT is intended to be phased out after achieving a sustainable market while the market may need ongoing support from MS programs. BayREN-03 - Appendix E, at 21

¹⁷⁹ BayREN-03 - Appendix E at 21.

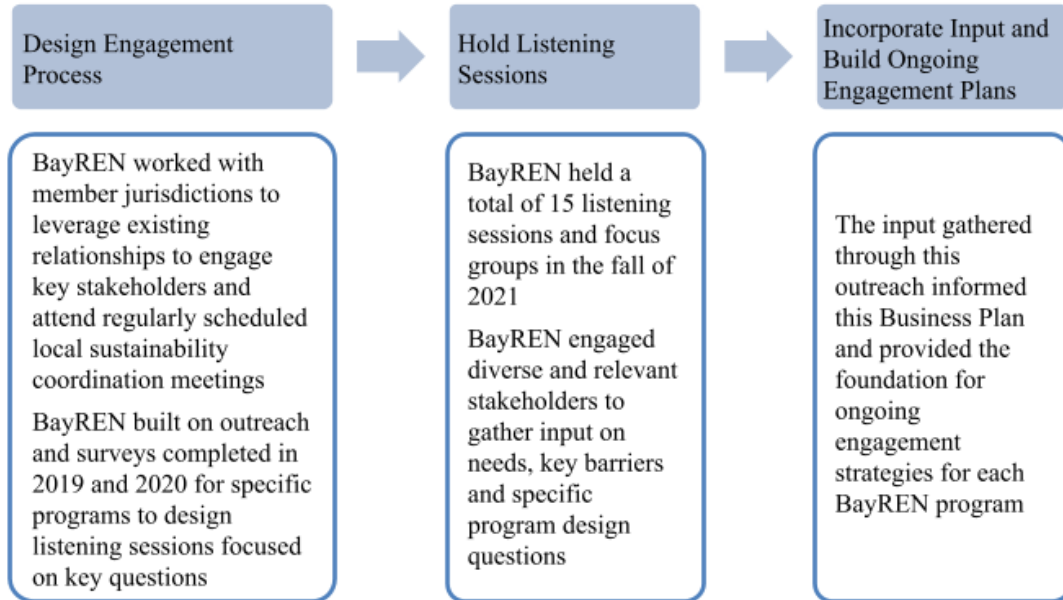
1 community health, equity, and resilience through energy upgrades and focused on how BayREN
2 could better work at the intersection of energy and these issues to leverage other existing programs
3 and support specific local goals. As part of this effort, BayREN staff attended local sustainability
4 coordination meetings in multiple counties where local government staff and community partners
5 provided valuable insight on specific priorities and barriers to advancing equity, EE, and building
6 electrification. Stakeholders engaged included:

- 7 ● City and county staff working on energy, climate, and housing policy and planning
- 8 ● County and state public health stakeholders working at the intersection of climate and
9 health
- 10 ● Low-income program providers
- 11 ● Representatives from CBOs advancing health, environmental and economic equity,
12 and building workforce efforts in the Bay Area
- 13 ● Program staff from Bay Area CCAs
- 14 ● Green Business program providers and staff
- 15 ● Small Business Utility Advocates
- 16 ● Bay Area Realtors who have participated in Green Labeling training

17 BayREN’s engagement approach is illustrated as follows:¹⁸⁰

¹⁸⁰ Previous surveys and outreach included BayREN’s 2019 Process Evaluation and a 2021 survey of Building Department staff for the Codes & Standards program.

1 **Figure 11. BayREN's Engagement Approach**



2

3 Stakeholders provided valuable input on the various roles that BayREN can play to support
4 their efforts and outlined key needs below to address barriers to implementing EE and building
5 decarbonization in the Bay Area.

6 ***1. There is a Need for Regional Leadership, Guidance and***
7 ***Advocacy to Address Common Challenges***

8 Stakeholders suggested that BayREN use its regional scale to directly address common
9 challenges that local governments and CCAs are not well positioned to address on their own.
10 Participants suggested that BayREN should convene diverse Bay Area stakeholders and lead
11 conversations to understand what specific EE and building decarbonization challenges should be
12 addressed at the regional, local, and state level. These discussions should help identify ideal roles
13 for local governments and other stakeholders to reduce duplication, leverage scarce resources, and
14 expedite action.

1 **2. *Building Strategic Partnerships to Develop a More Holistic***
2 ***Approach Will Improve Outcomes and Advance Equity***

3 Strategic partnerships could enable BayREN programs to become part of a more holistic
4 approach to building decarbonization that is focused on improving community health, resilience,
5 and mitigating the risks associated with ongoing climate related stressors like wildfire and extreme
6 heat. Stakeholders called out the need to layer and leverage multiple funding sources in order to
7 advance equity and meet the needs of underserved populations. Stakeholders suggested BayREN
8 consider partnering with CBOs, CCAs and regional agencies to scale impact, improve outcomes,
9 and create a seamless and positive experience for the most vulnerable and hard to reach
10 communities.

11 **3. *BayREN Programs and Resources Should Align with***
12 ***Community Needs and Priorities – Cost is not the Only Barrier***
13 ***to Address***

14 BayREN resources and programs need to be designed to address specific barriers beyond
15 cost for the target audiences. Much of the building stock that is most in need of EE upgrades is
16 also in need of environmental remediation which can severely limit BayREN’s ability to serve the
17 populations who live and work in these buildings. Stakeholders noted that if basic needs for
18 healthy, comfortable, and affordable housing are not met first, EE and electrification will continue
19 to not be a top priority for underserved and hard-to-reach communities. If these basic needs can be
20 addressed through strategic partnerships, then BayREN can focus on increasing awareness of the
21 benefits of efficiency and electrification and implementing strategies to address workforce, supply
22 chain, permitting, and cost barriers.

23 In addition to these key takeaways, BayREN received valuable input that was
24 communicated to all BayREN program leads and county representatives to inform the program
25 strategies and activities outlined in both the Business Plan and Portfolio Application. It must be

1 noted, however, that a common challenge that was presented is that some of the requests by
 2 stakeholders were for activities that cannot be undertaken with ratepayer funds. The summary
 3 below details the stakeholder engagement meetings and listening sessions that took place, a
 4 summary of what was discussed, and key takeaways that BayREN has incorporated into our
 5 Portfolio Application and Business Plan program and sector strategies.¹⁸¹

6 **a. Marin Clean Energy Partnership Meeting (9/2/2021)**

7 **Table 36. Stakeholder Engagement Key Takeaways - Marin Clean Energy Partnership**

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
Sustainability staff for Marin County and cities and program staff at MCE	City sustainability staff provided input on how BayREN could best help them overcome key barriers to advancing building decarbonization. Lack of capacity and expertise within local governments, local pushback, and lack of awareness of the benefits of energy upgrades were called out as the primary challenges Marin city and county staff are experiencing. Participants expressed a need for a third-party expert to help make the case for mandatory measures and support for coordination both between local governments, CBOs, and the developer community. Participants felt that BayREN is well positioned to provide technical assistance and expertise as well as coordination support.	BayREN’s new Public Sector Integrated Energy Services (IES) and Targeted Decarbonization Services (TDS) programs are designed to address lack of capacity at the local government level by providing an Energy Concierge, targeted technical assistance, and helping staff navigate and make use of the variety of existing energy programs available. The TDS program will also enroll buildings to pilot and demonstrate approaches to building decarbonization and will collect and share real-world data to support local governments in communicating the benefits of these new technologies. BayREN will also analyze all available funding and financing mechanisms to help agencies overcome financial barriers to decarbonization which could lead to the creation of a resource acquisition program. The TDS program will prioritize buildings located in ESJ communities.

8

¹⁸¹ In the sector chapters, reference is made to some of the incorporated feedback into the proposed programs.

b. Solano Economic Development Corporation Board Meeting (9/9/2021)

Table 37. Stakeholder Engagement Key Takeaways - Solano Economic Development Corporation

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
Solano Economic Development Corporation board members and staff	Shared information on BayREN programs with specific focus on our resources for small and medium sized businesses. Participants shared initial ideas for how to successfully engage small businesses including creating an app for businesses to input their data to immediately understand how much energy and cost savings they would achieve through participation in the BayREN Business program. Participants also recommended creating a symbol that businesses could use to promote their participation in the program to consumers.	BayREN is incorporating a Pay for Performance model explanation and commitment timeline into all program marketing materials to improve clarity and address concerns about this length of commitment for small and medium sized businesses. BayREN will continue to work with the Solano County BayREN Representative to conduct outreach to local small and medium sized businesses and will invite all listening session participants to provide additional ongoing feedback.

c. BayREN Commercial Sector Listening Session (9/13/2021)

Table 38. Stakeholder Engagement Key Takeaways - BayREN Commercial Sector

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
Green Business Program staff from multiple counties	Discussed opportunities to align and leverage BayREN resources and County Green Business programs to benefit small businesses region wide. Participants identified a need to provide more assistance to small businesses to understand which programs are best suited to their needs given their limited time and capacity to engage. Participants also noted that BayREN should ensure that	BayREN is incorporating a Pay for Performance model explanation and commitment timeline into all program marketing materials to improve clarity and address concerns about this length of commitment for small and medium sized businesses. BayREN will continue to work with BayREN County Representatives to conduct outreach to existing Green Business and will invite all listening session participants to provide additional ongoing feedback.

	small businesses understand the pay for performance model and the benefits it provides as this is a new concept for most business owners, even if they are a certified Green Business.	BayREN will designate a point of contact for Green Business Program staff to direct prospective Green Business candidates to for more information about the EE measures that will help them qualify for certification.
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**d. BayREN Residential Sector Listening Session
(9/16/2021)**

Table 39. Stakeholder Engagement Key Takeaways - BayREN Residential Sector

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
Program staff LIWP providers, OhmConnect, Home Energy Analytics, SunWork, SunShares, Rising Sun Center for Opportunity, MCE, SJCE, Habitat GSF	BayREN staff shared information on a new proposed tiered rebate for moderate income households and asked for input on program design and outreach strategies. Participants noted that, for moderate income households, any upfront cost can be a barrier to moving forward with energy upgrades. This is often due to a lack of awareness about the benefits of EE and/or lack of desire to learn about these benefits. Additionally, environmental remediation needs and other non-energy home repairs are in high demand for moderate-income homeowners and renters and these needs often take priority regardless of available rebates for energy upgrades.	BayREN is exploring how to partner with organizations like Habitat GSF to understand how we can leverage available resources to better serve low to moderate income households based on their priority needs. BayREN is also considering how these partnerships could help to expand the number of knowledgeable and participating contractors. BayREN incorporated participant feedback from this listening session when developing a revised definition of moderate income and income verification process for the Home+ program. BayREN’s goal is to better serve all Bay Area moderate income residents and reduce or eliminate any administrative burden that income verification could create.

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e. BayREN Health and Energy Efficiency Listening Session (9/20/21)

Table 40. Stakeholder Engagement Key Takeaways - BayREN Health and Energy Efficiency

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
<p>County Public Health staff, CA Office of Health Equity, Asian Pacific Environmental Network (APEN), Healthy Buildings Research (consultant)</p>	<p>Many health stakeholders saw an opportunity for BayREN to help local governments and community partners make the connection between EE and electrification and adaptation and resilience both to improve outcomes and to position local governments to leverage BayREN’s funding with other funding streams. This more holistic approach would not only improve outcomes but would better enable local government to serve the most vulnerable communities by leveraging multiple programs and funding streams to achieve energy and non-energy related goals that contribute to resilience and health. Participants noted that buildings need to play an even bigger role in mitigating negative health impacts related to climate change as extreme weather events become more frequent and severe. Many of the populations that county health departments are trying to serve require environmental remediation assistance before they can do anything to improve the EE of their homes. Participants also felt that BayREN is well positioned as a regional entity to help coordinate efforts across county health departments and other partners.</p>	<p>BayREN will develop marketing, outreach, and program support materials that demonstrate the connection between EE and co-benefits that are important to underserved communities including health, resilience, housing quality and affordability. BayREN’s multifamily program plans to continue to partner and pilot new initiatives aimed at developing more holistic approaches to building upgrades that improve health outcomes, quality of life and EE. Specifically, the Multifamily program plans to work directly with the Bay Area Air Quality Management District (BAAQMD) to support property managers in applying for grant funding through their Charge Program to install EV charging infrastructure at specific affordable Multifamily properties to help improve resilience and increase access to charging infrastructure for residents.</p>

1 **f. BayREN Realtor Focus Group (9/20/2021)**

2 **Table 41. Stakeholder Engagement Key Takeaways - BayREN Realtor**

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
Bay Area Realtors who have participated in a BayREN Green Labeling program training	Participants expressed appreciation for BayREN Green Labeling program offerings and noted that the training they attended were informative but highlighted that the amount of information can be overwhelming. They highlighted how important it is for them to feel knowledgeable in front of their clients and asked for shorter, more focused training on specific issues that are priorities for their clients. They also asked for more guidance on the steps to complete a Home Energy Score and strategies to promote this resource to both homeowners and prospective buyers.	BayREN will continue to offer National Association of Realtor green designation training and will adjust existing training/develop new training to continue building partnerships with the real estate community and options for deeper learning. Potential offerings include shorter training offered in a series and a newsletter with information on videos, rebates, and additional information that real estate professionals may share with clients. Some of these new trainings and partnerships will be piloted in 2022 and 2023.

3 **g. BayREN and MCE Listening Session (9/21/2021)**

4 **Table 42. Stakeholder Engagement Key Takeaways - BayREN and MCE**

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
MCE Program Staff, BayREN Program Leads and County representatives from MCE counties	Discussed how BayREN and MCE can continue to collaborate and leverage each other's programs to expand impact and better serve local communities.	BayREN and MCE will convene program staff quarterly to communicate program changes and update each other on challenges and opportunities experienced in program outreach. MCE staff will also be invited to attend BayREN's CCA Partnership Group which will meet quarterly.

h. Alameda County Alameda County StopWaste
City/County Staff Technical Advisory Group
(9/21/2021)

Table 43. Stakeholder Engagement Key Takeaways - Alameda County StopWaste City/County Staff Technical Advisory Group

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
City and county sustainability staff in Alameda County and StopWaste program staff	<p>Participants highlighted the need to assess and examine priority roles for local governments in advancing building decarbonization. BayREN was called out as a regional agency that is well positioned to convene local governments, facilitate this conversation, and provide guidance and recommendations. Meeting participants also identified key barriers and potential solutions to electrifying existing buildings including developing resources geared towards upgrading older homes, creating incentives for landlords to install energy upgrades in a very tight housing market and interventions to prevent emergency repairs that make it difficult to install HPWHs.</p> <p>Participants also suggested that BayREN could help advance equity in their communities by considering how to eliminate up-front costs for electrification upgrades for low-income and underserved populations, creating new financing tools and incentives for income qualified homeowners and landlords, supporting regional workforce development for contactors by partnering with unions and supporting studies on the impacts of electrification upgrades on gentrification and the Bay Area housing market.</p>	<p>BayREN’s new CCA Partnership Group, made up of representatives from all member agencies and all seven Bay Area CCAs, will assess and examine priority roles for local and regional governments and CCAs and community partners in advancing building decarbonization.</p> <p>BayREN’s new Public Sector Targeted Decarbonization Services (TDS) program will enroll buildings to pilot and demonstrate approaches to building decarbonization and will collect and share real-world data to support local governments in communicating the benefits of these new technologies. BayREN will also analyze all available funding and financing mechanisms to help agencies overcome financial barriers to decarbonization which could lead to the creation of a resource acquisition program. BayREN’s TDS program will give priority to buildings that serve ESJ communities.</p>

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i. **Santa Clara Member Agency Working Group (run by SVCE) (9/27/2021)**

Table 44. Stakeholder Engagement Key Takeaways - Santa Clara Member Agency Working Group

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
City and county sustainability staff in Santa Clara County and SVCE program staff	Participants identified key opportunities for BayREN to help them advance building decarbonization and equity including development of feasibility assessments tied to carbon neutrality goals to identify appropriate timescales for this work, guidance, resources, and coordination to advance equity through EE and building decarbonization. Participants also highlighted the need to develop new strategies to focus funding in ESJ communities to ensure benefits are not only reaching privileged early adopters.	BayREN’s new Public Sector Integrated Energy Services (IES) and Targeted Decarbonization Services (TDS) programs are designed to address lack of capacity at the local government level by providing an Energy Concierge, targeted technical assistance and helping staff navigate and make use of the variety of existing energy programs available. The TDS program will also enroll buildings to pilot and demonstrate approaches to building decarbonization and will collect and share real-world data to support local governments in communicating the benefits of these new technologies. BayREN will also analyze all available funding and financing mechanisms to help agencies overcome financial barriers to decarbonization which could lead to the creation of a resource acquisition program. BayREN’s TDS program will give priority to buildings that serve ESJ communities.

j. **Sonoma Regional Climate Protection Authority (RCPA) Members and Partners Meeting (9/27/2021)**

Table 45. Stakeholder Engagement Key Takeaways - Sonoma RCPA Members and Partners Meeting

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
Sonoma County and city sustainability and planning staff,	Participants highlighted key opportunities to scale electrification and EE upgrades including providing	BayREN’s new Public Sector Integrated Energy Services (IES) and Targeted Decarbonization Services (TDS) programs are designed to

<p>Sonoma Clean Power staff</p>	<p>comprehensive services to homeowners, supporting participating contractors to help them understand all of the programs available to them, and developing on-bill financing for electrification and EE for renters and homeowners that is tied to the utility account and not the building owner (like the Water Upgrades \$ave program model). For multifamily buildings, participants encouraged BayREN to look to out-of-state examples of bulk purchasing programs as successful models.</p>	<p>address lack of capacity at the local government level by providing an Energy Concierge, targeted technical assistance, and helping staff navigate and make use of the variety of existing energy programs available. The TDS program will also enroll buildings to pilot and demonstrate approaches to building decarbonization and will collect and share real-world data to support local governments in communicating the benefits of these new technologies. BayREN will also analyze all available funding and financing mechanisms to help agencies overcome financial barriers to decarbonization which could lead to the creation of a resource acquisition program. The TDS program will prioritize buildings located in ESJ communities.</p>
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k. San Mateo Regionally Integrated Climate Action Planning Suite (RICAPS) meeting (9/28/2021)

Table 46. Stakeholder Engagement Key Takeaways - San Mateo RICAPS

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
<p>San Mateo County and city sustainability staff, Peninsula Clean Energy staff, other community sustainability stakeholders</p>	<p>Participants shared ideas for how BayREN could successfully scale EE and decarbonization including regional, focused marketing campaigns, providing incentives for electric appliances that make them competitive with gas, development of a turnkey program to provide “bridge” equipment to address the extra time needed to secure all electric appliances and bulk purchasing to reduce electrification costs for residential appliances. To advance equity, participants suggested looking to out-of-state programs for renters and low to moderate income populations to identify and incorporate best practices.</p>	<p>BayREN is exploring how to partner with organizations like Habitat GSF to understand how we can leverage available resources to better serve low to moderate income households based on their priority needs. BayREN is also considering how these partnerships could help to expand the number of knowledgeable and participating contractors.</p>

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**I. BayREN and Bay Area CCA Listening Session
(9/29/2021)**

Table 47. Stakeholder Engagement Key Takeaways - BayREN and Bay Area CCAs

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
BayREN Program Leads, Program staff from EBCE, SJCE, PCE, SVCE, SCP	Participants called out the need to identify ideal roles for CCAs and for BayREN to effectively and efficiently advance common goals and the need for BayREN and CCAs to have a more unified “voice” to simplify program offerings and make it easier for target audiences to navigate available resources. CCA staff noted that BayREN is well positioned as a regional agency to both help think through what initiatives should be pursued and coordinated at a regional level and to potentially lead these efforts.	BayREN’s new CCA Partnership Group, made up of representatives from all member agencies and all seven Bay Area CCAs, will assess and examine priority roles for local and regional governments and CCAs and community partners in advancing building decarbonization. This group will also consider how to develop and reflect more unified messaging in both BayREN and CCA marketing and communications materials.

**m. BayREN Community Resilience Center (CRC)
Listening Sessions (11/2/2021 and 12/8/2021)**

Table 48. Stakeholder Engagement Key Takeaways - BayREN CRC

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
City and county sustainability and planning staff from multiple counties, ABAG staff	Participants provided BayREN with information on their planning processes and goals related to community resilience hubs. Many local governments are in early planning stages and looking for both planning and implementation support. Participants also noted that it has been difficult to identify comprehensive funding sources for resilience hubs and expressed interest in BayREN providing regional support for coordination among agencies to better position the region to secure funding.	BayREN incorporated many of the suggestions received in these listening sessions into our new Public Sector offerings which provide targeted technical assistance and funding guidance for buildings that local governments designate as Community Resilience Centers (CRCs). BayREN will continue to work closely with ABAG and other regional agencies to leverage existing funding to design and implement pilot projects in 2022 and 2023 that will inform the implementation of BayREN’s support for CRCs.

n. Survey of Bay Area Building Department Staff

Table 49. Stakeholder Engagement Key Takeaways - Bay Area Building Department Staff

Attendees/ Participants	Summary of Discussion and Input	How BayREN is Incorporating This Feedback
Building Department staff from 53 jurisdictions responded	Respondents noted the complexity of the Energy Code as the biggest barrier to code compliance, followed by contractor training and building department staffing limitations. Building departments noted significant reliance on third party plan checkers and building inspectors. Online permit application, plan submittal, and plan review are common, with several software platforms in use. Training, assistance sheets for staff, and permit guides for applicants were all rated positively. Small building departments appear to be less likely to participate in BayREN offerings.	The Codes & Standards Program will be starting to tailor its activities and offerings to address the survey findings starting in 2022 and will continue that work into the new business plan cycle. Planned activities include building relationships with third party firms, exploring potential software improvements with common platforms, focusing training on simplifying Energy Code requirements, and identifying ways to engage with small building departments.

BayREN plans to continue to actively engage key stakeholders to ensure that our programs are effective, equitable, and able to meet evolving community needs while providing a bridge between local action and state climate and energy goals. BayREN’s ongoing stakeholder engagement efforts will help to inform program design, outreach, and tracking in ways that lead to better quality of services for program participants. To complement the work of BayREN’s Regional Advisory Groups, each program lead will establish a stakeholder engagement plan that outlines who their key stakeholders are, why they should be engaged, and desired outcomes, strategies, and tactics. The plan will also identify any additional capacity needs that program leads identify in order to carry out the plan.

1 **CHAPTER 7. COST AND COST RECOVERY (J. BERG; R. JACOBY)**

2 **I. SUMMARY OF COSTS AT PORTFOLIO LEVEL**

3 **Table 50. Portfolio-Level Cost Summary**

Sector	Resource Acquisition	Market Support	Equity	Codes and Standards
Residential		Green Labeling	Single Family BAMBE	
Commercial	BayREN Business		BayREN Refrigerant Replacement	
Cross-Cutting		Water Upgrades \$ave	Climate Careers	Codes and Standards
Public		Integrated Energy Services (IES) Targeted Decarbonization Services (TDS)		
4 Year Budget Allocation	\$18,952,573 (12%)	\$26,435,639 (17%)	\$101,762,202 (66%)	\$8,155,157 (5%)

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5 **II. BAYREN’S APPROACH TO CLASSIFICATION OF UNSPENT FUNDS (J. BERG)**

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7 BayREN will track all expenditures on an annual basis. Incentives will be paid in the
8 calendar year that the project is complete. As new guidance is provided by the CPUC regarding
9 the categorization of unspent and committed funds, processes will be updated accordingly.

APPENDIX A – PROGRAM CARDS

Program Name: BayREN Multifamily Building Enhancements (BAMBE)	
Program ID: BAYREN02	
Existing	
Portfolio Segment Equity	Implementation Party BayREN
Applicable Sector Residential	Market Sub-Sector Residential (Multifamily)
Sector Challenge <ul style="list-style-type: none"> • There is a gap in proven approaches to effectively serve the various complex and diverse communities in the Bay Area. • Qualifications to access energy efficiency programs shift, and are often too restrictive; many disadvantaged populations remain underserved. • Property owners are typically not motivated by current programs to implement energy efficiency measures and for renters there are barriers for more comprehensive upgrades due to the split incentive. 	Sector Opportunity <ul style="list-style-type: none"> • Demonstrate how electrification and decarbonization measures can transform the home into a healthier, more comfortable, and safer environment, while remaining affordable and demonstrating utility bill savings. • Pilot innovative solutions to transform the market and address energy efficiency in the residential sector, considering specific community needs and opportunities. • Become a leader in the decarbonization space by providing easy to use rebates and connecting with other decarbonization efforts within the Bay Area. • Increase participation in energy efficiency programs and adoption of energy efficiency measures among Environmental Social Justice and Disadvantaged Communities. • Increase the degree of demand flexibility in the residential sector to meet summer grid reliability needs.
Known Equity Concerns in the Selected Markets Because of the split incentive, opportunities to improve the health, resilience, and efficiency of multifamily communities are often ignored. The majority of single mom, Black, Hispanic, and native Hawaiian and Pacific Islanders in the state of California are renters.	Proposed Solutions to Equity Concerns Deep community engagement and establishment of continuous feedback loops will inform program delivery and design modifications and lead to innovative and effective strategies for improving the living conditions of underserved and disadvantaged communities and those living in underserved building types (small non-corporate owned, and naturally occurring affordable).
Program Description The BayREN Multifamily program provides no cost technical assistance, rebates, and targeted outreach to multifamily property owners to promote whole building upgrades. Participating property owners receive customized, accessible, and streamlined no-cost technical assistance and a simple yet flexible per unit rebate for meeting minimum scope requirements.	
<i>[Continued on following page.]</i>	

Program Name: BayREN Multifamily Building Enhancements (BAMBE)

Program Description (Continued)

These interventions are designed to lower barriers to pursuing multi-measure upgrades, and have been proven successful. Such aspects have allowed the program to serve over 45,000 multifamily units throughout the Bay Area since 2013.

The program is building off of its experience and success to steadily pivot toward introducing components intended to better reach and prioritize underserved geographies, ownership profiles, and building types. The program prioritizes projects considered underserved, including deed restricted and naturally occurring affordable, properties having less than 100 units, properties located in Disadvantaged Communities, and those with a resident ownership structure, such as Home Ownership Associations.

The program also focuses on advancing GHG emissions reductions through building electrification. The current electrification subprogram works with property owners to develop a scope of work that has no gas-to-gas conversions, reduces building emissions by an estimated .25 MTCO₂ per unit, and provides incentive kickers for electrification measures. Going forward, the program will focus on engaging prioritized audiences on the non-energy benefits of electrification, developing right-sized incentive levels (which will need to consider additional funding sources available in 2024), and pairing electrification measures with technology, information, and traditional energy efficiency measures to optimize their results.

Intervention Strategy

By providing no-cost technical assistance, the program eliminates a substantial participation barrier that occurs early in the participation process - finding, hiring, and engaging an assessor. Providing technical assistance is an on-ramp for prospective participants that would not otherwise have the expertise or bandwidth to take on comprehensive projects.

Program Metrics

Please see Appendix B, Tabs 18-1 and 18-2 for a list of all 13 metrics and indicators.

Select metrics/indicators include:

- Total # of underserved MF buildings with projects served by Equity program
- Expected bill savings for underserved customers
- Energy and non-energy benefits for underserved customers

Description of delivery workforce including necessary scale and its risks

N/A

Market Actors necessary for success

- Community Based Organizations
- BayREN counties
- Public Health Agencies
- Industry Organizations (tenant groups and property owner groups)
- Program Administrators
- CCAs

Solicitation Strategy

Existing program

Transition Plan

Not applicable

Expected Program Life

2024 - On going

Short Term Plan

Increase the participation of underserved geographies, ownership types, and property types using program-provided technical

[Continued on following page.]

Program Name: BayREN Multifamily Building Enhancements (BAMBE)	
	<p>Short Term Plan (Continued)</p> <p>assistance, and an incentive structure that encourages energy efficiency measures with non-energy benefits related to health, equity, emissions reduction, and resilience.</p>
<p>Cost Effectiveness TRC</p> <ul style="list-style-type: none"> ● 2024: 0.18 ● 2025: 0.18 ● 2026: 0.19 ● 2027: 0.20 ● 2028: 0.21 ● 2029: 0.22 ● 2030: 0.22 ● 2031: 0.23 	<p>Long Term Outlook</p> <p>Underserved building owners, building types, and communities will have healthier, more efficient & resilient buildings, with lower energy bills due to participation in the program.</p>
<p>Proposed Annual Budgets for 2024-2027</p> <p>2024: \$8,725,147 2025: \$8,770,838 2026: \$8,816,575 2027: \$8,865,175</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031</p> <p>None anticipated</p>
<p>Implementation Plan: https://cedars.sound-data.com/documents/download/2477/main/</p>	

Program Name: BayREN Business**Program ID: BAYREN06****Existing****Portfolio Segment**

Resource Acquisition

Implementation Party

BayREN

Applicable Sector

Commercial

Market Sub-Sector

Commercial

Sector Challenge

- The COVID-19 pandemic has caused some SMB to be *financially fragile*. They are struggling with competing priorities, including managing present situations and ensuring continuity.
- From program administration and implementation perspectives, the classic “split-incentive” conundrum remains persistent and prevalent, particularly in leased spaces.
- SMB decision-makers have limited access to capital and tailored offerings to complete comprehensive projects and maintain savings over time.
- The majority of business owners and managers lack time, resources, and know-how to update, or even maintain their businesses’ systems.
- The majority of business owners and managers wait for their mechanical equipment to break before investing in replacements. They are not advised to invest in preventive maintenance when it comes to their businesses’ heating, cooling, hot water, and refrigeration systems.
- Many SMB decision-makers perceive their refrigeration systems as complex and expensive. Therefore, many of them suffer from deferred maintenance, refrigerant leaks, and are susceptible to unexpected failures.

Sector Opportunity

- Coordinating with the BayREN member agencies to expand and extend engagement with local business organizations, economic development departments to attract more SMB customers.
- Coordinating with local jurisdictions with benchmarking and audit ordinances, such as San Francisco and Berkeley, to conduct outreach to small and medium commercial buildings owners.
- Enticing SMB decision-makers who have limited access to capital, time and knowledge with no-upfront-cost projects, comprehensive technical assistance and project management, and reduced overhead expenses.
- Enticing SMB decision-makers who are challenged by the complexity and expenses of refrigeration systems with preemptive maintenance, low- or no-cost refrigeration system upgrades.
- Educating SMB decision-makers on the value of refrigeration system maintenance and simple things they can do to make a big impact.
- Establishing a highly-targeted program that aims to replace harmful refrigerants with more environmentally-friendly alternatives.
- Develop a competitive, diverse market of capable aggregators, particularly small business, ESCO, and MBE aggregators, serving SMBs through thoughtful program and incentive designs.
- Aligning BayREN program efforts with additional funding opportunities from the clean energy investments in the California State budget, as well as other state and federal agencies.

Program Name: BayREN Business	
Known Equity Concerns in the Selected Markets Acquisition of small- and medium-sized customers is time consuming and resource intensive and therefore the SMB market has been underserved.	Proposed Solutions to Concerns <ul style="list-style-type: none"> • Use BayREN member counties to raise awareness of the Program and to facilitate introductions to aggregators and energy service companies. • Give additional incentives to aggregators and energy service companies for projects in the hard-to-reach SMB sector.
Program Description BayREN Business will continue to deliver energy savings through a pay-for-performance (P4P) approach, and refined measurement and verification methods. Notably, the P4P approach offers various financing, sometimes at little to no upfront cost for SMB participants to install comprehensive energy efficiency equipment and a broad list of efficiency measures. The P4P approach also ensures ratepayer funds are protected from non-existent savings. BayREN Business was among the first programs in the U.S. to deploy population-based normalized metered energy consumption to serve SMB. Re-launched in April 2020 after setbacks resulting from the pandemic, BayREN Business is integrating into the Recurve Analytics Demand FLEXMarket (FLEXMarket). BayREN Business FLEXMarket will actively recruit SMB participants and aggregators throughout the region.	
Intervention Strategy Downstream – BayREN Business will utilize counties and CBO to engage the SMB sector.	Program Metrics Please see Appendix B, Tabs 17, 18.1, and 18.2 for a list of all metrics for this program. Select metrics for this resource acquisition program include: <ul style="list-style-type: none"> • TSB • kWh savings • therm savings
High-level description of delivery workforce including necessary scale and its risks N/A	
Market Actors necessary for success (The partners to make it happen) <ul style="list-style-type: none"> • ESCOs • Recurve’s FLEXMarket • BayREN Member Agencies 	
Solicitation Strategy Existing Program	Transition Plan Not applicable
Expected Program Life 2024 - on going	Short Term Plan Participate in the FLEXMarket; sign-on new ESCOs to build a robust project stream.
Cost Effectiveness TRC: 0.82 (all years)	Long Term Outlook Achieve 7% penetration rate
Proposed Annual Budgets for 2024-2027 2024: \$4,223,632 2025: \$4,878,705 2026: \$4,908,911 2027: \$4,941,325	Anticipated directional and scale changes in budget for years 2028-2031
Implementation Plan: https://cedars.sound-data.com/documents/download/2485/main/	

Program Name: BayREN Refrigerant Replacement Program (BRRR)	
Program ID: BAYREN10 New Program: Yes	
Portfolio Segment Equity	Implementation Party BayREN
Applicable Sector Commercial	Market Sub-Sector Commercial
Sector Challenge <ul style="list-style-type: none"> ● The COVID-19 pandemic has caused some SMB to be <i>financially fragile</i>. They are struggling with competing priorities, including managing present situations and ensuring continuity. ● From program administration and implementation perspectives, the classic “split-incentive” conundrum remains persistent and prevalent, particularly in leased spaces. ● The majority of business owners and managers lack time, resources, and know-how to update, or even maintain their businesses’ systems. ● The majority of business owners and managers wait for their mechanical equipment to break before investing in replacements. They are not advised to invest in preventive maintenance when it comes to their businesses’ refrigeration systems. ● Many SMB decision-makers perceive their refrigeration systems as complex and expensive. Therefore, many of them suffer from deferred maintenance, refrigerant leaks, and are susceptible to unexpected failures. 	Sector Opportunity <ul style="list-style-type: none"> ● Coordinating with the BayREN member agencies to expand and extend engagement with local business organizations, economic development departments to attract more SMB customers. ● Coordinating with local jurisdictions with benchmarking and audit ordinances, such as San Francisco and Berkeley, to conduct outreach to small and medium commercial buildings owners. ● Enticing SMB decision-makers who have limited access to capital, time and knowledge with no-upfront-cost projects, comprehensive technical assistance and project management, and reduced overhead expenses. ● Enticing SMB decision-makers who are challenged by the complexity and expenses of refrigeration systems with preemptive maintenance, low- or no-cost refrigeration system upgrades. ● Educating SMB decision-makers on the value of refrigeration system maintenance and simple things they can do to make a big impact. ● Establishing a highly-targeted program that aims to replace harmful refrigerants with more environmentally-friendly alternatives. ● Develop a competitive, diverse market of capable aggregators, particularly small business, ESCO, and MBE aggregators, serving SMBs through thoughtful program and incentive designs. <p style="text-align: right;"><i>[Continued on following page.]</i></p>

Program Name: BayREN Refrigerant Replacement Program (BRRR)	
	<p>Sector Opportunity (Continued)</p> <ul style="list-style-type: none"> ● Aligning BayREN program efforts with additional funding opportunities from the clean energy investments in the California State budget, as well as other state and federal agencies
<p>Known Equity Concerns in the Selected Markets</p> <p>A high percentage of business owners speak English as a second language and rent their spaces, with commercial leases being notoriously unpredictable. Acquisition of small- and medium-sized customers is time consuming and resource intensive and therefore the SMB market has been underserved by ESCO based programs, typically offered by IOUs.</p> <p>BayREN Commercial Sector programs are designed to overcome long standing <i>and</i> pandemic related challenges to the SMB sector, and promote comprehensive, market-based solutions, deep energy and GHG emission reductions, and long-term energy and maintenance goals. The programs have diversified strategies that recognize that the SMB market is diverse and there is no one-size-fits all solution. Particular focus will be on hard-to-reach businesses, businesses located in disadvantaged communities, and underserved businesses.</p>	<p>Proposed Solutions to Equity Concerns</p> <p>Provide a package of no and low cost measures to customers, including tune-ups and repairs that will immediately reduce utility costs, improve refrigerated system reliability, and reduce GHG emissions. Provide a “concierge” high touch support through the Building Performance Advisor.</p>
<p>Program Description</p> <p>The primary objective of BRRR is to replace high-GWP refrigerants with moderate and low-GWP refrigerants while optimizing performance of each refrigerated system, via tune-ups, improved maintenance, and component replacement. Even though each system is small, together in aggregate, their refrigerant leaks have an outsized impact on GHG emissions. The BRRR program provides direct-install refrigeration services to food service SMB. The BRRR program’s goal is to reduce high-GWP and ODP refrigerants and replace defective refrigeration system components, and at the same time, help build the market for moderate GWP refrigerants and low GWP natural refrigeration systems. In addition to alignment with California climate policy, the program will also improve the economic viability of SMBs by reducing their utility and maintenance costs, and reduce the incidence of energy repair/replacement of equipment and associated lost product by more proactively maintaining refrigeration equipment.</p>	
<p>Intervention Strategy</p> <p>The program will work directly with business owners to evaluate opportunity, scope and price projects, and arrange installation of measures.</p>	<p>Program Metrics</p> <p>Please see Appendix B, Tab 18-1 for a list of all 7 metrics and indicators. <i>[Continued on following page.]</i></p>

Program Name: BayREN Refrigerant Replacement Program (BRRR)	
	<p>Program Metrics (Continued)</p> <p>Select metrics/indicators include:</p> <ul style="list-style-type: none"> ● Total # of underserved SMB customers served by Equity program ● Expected bill savings for underserved customers ● Non-energy benefits for underserved customers
<p>High-level description of delivery workforce including necessary scale and its risks</p> <p>N/A</p>	
<p>Market Actors necessary for success</p> <ul style="list-style-type: none"> ● Bay Area refrigeration contractors ● Customer trade groups ● CBO ● Existing local government partnerships 	
<p>Solicitation Strategy</p> <p>RFP for implementer in Q1 2014</p>	<p>Transition Plan</p> <p>Not applicable</p>
<p>Expected Program Life</p> <p>2024 - On going</p>	<p>Short Term Plan</p> <p>Ramp up program</p>
<p>Cost Effectiveness</p> <p>TRC: 0</p>	<p>Long Term Outlook</p> <p>With continued outreach, support, and regional recovery from the COVID-19 pandemic, increased program uptake anticipated.</p>
<p>Proposed Annual Budgets for 2024-2027</p> <p>2024: \$4,109,119</p> <p>2025: \$4,765,045</p> <p>2026: \$4,795,771</p> <p>2027: \$4,829,225</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031</p> <p>The budget will increase slightly.</p>
<p>Implementation Plan: https://cedars.sound-data.com/documents/download/2486/main/</p>	

Program Name: BayREN Codes & Standards Program	
Program ID: BAYREN03 Existing	
Portfolio Segment Not Applicable	Implementation Party BayREN
Applicable Sector Codes & Standards	Market Sub-Sector Codes & Standards
Sector Challenge <ul style="list-style-type: none"> • The Energy Code is complex, with multiple manuals and forms, such that local government staff find it difficult to understand and enforce • Compliance with the Energy Code will be a key element for the State to reach its decarbonization and greenhouse gas reduction goals • Building departments prioritize fire protection and life safety issues, which may not leave much time to enforce energy measures • Some types of projects have low permitting rates, making enforcement difficult • Development and adoption of reach codes and energy policies often include complex technical, procedural, and legal issues • Reach codes for existing buildings are essential for building decarbonization while also being particularly challenging in terms of equity impacts and political priorities • Local government staff often lack resources for expertise and technical support • There is a disconnect between code development and code enforcement • As future code cycles include new forms, or even new sections related to demand flexibility and indoor air quality, permitting agencies require continuous education 	Sector Opportunity <ul style="list-style-type: none"> • Adopted codes and standards set the norms and expectations for construction and achieving market transformation • When enforced, codes and standards are powerful ways to achieve energy goals and building decarbonization • Expediting permitting for decarbonization equipment can encourage adoption • Codes and standards are required to be cost effective to the consumer and therefore can save them money as well as reducing energy use and carbon emissions • Local reach codes and energy codes provide opportunities to test requirements for later inclusion in the state code
Known Equity Concerns in the Selected Markets Permitted, code compliant work can be more expensive, creating a cost burden. Without universal code compliance, the health benefits and operational cost savings from the Energy Code will not be available to all.	Proposed Solutions to Equity Concerns Work to inform local government staff of these issues and support efforts towards universal code compliance while mitigating cost burden impacts.

Program Name: BayREN Codes & Standards Program	
Program Description	
<p>The Program works in two areas: code compliance and energy policy. For code compliance, the current Program offers training and resources to local building departments to aid them in enforcing and complying with the Energy Code. Resources include technical assistance sheets and electronic tools for building department staff, as well as permit guides and electronic tools for applicants. The Codes and Standards Program also works in the local and state energy policy arenas, providing support for local government staff relative to development, adoption, and implementation of reach codes and other energy policies. This support includes regular policy calls for local government staff, quarterly Regional Forums and other events, templates and other resources. The program will have a greater emphasis on building decarbonization and the importance of energy efficiency as one of the tools needed to achieve decarbonization goals.</p>	
Intervention Strategy <ol style="list-style-type: none"> 1. Provide training and support for building departments 2. Provide policy support for local government staff 3. Conduct small in-program trials 4. Coordinate and collaborate with key stakeholders 	Program Metrics <p>Please see Appendix B, Tab 18-2 for a list of all nine metrics and indicators.</p> <p>Select metrics include:</p> <ul style="list-style-type: none"> ● Number of local governments directly engaged in REN code compliance activities ● Number of City or County local government jurisdictions receiving energy policy assistance
High-level description of delivery workforce including necessary scale and its risks: Not applicable	
Market Actors necessary for success <ul style="list-style-type: none"> ● Local governments 	
Solicitation Strategy Existing program	Transition Plan Not applicable
Expected Program Life 2024 - On going	Short Term Plan Continue providing support for development, adoption, compliance, and enforcement of effective state and local energy codes and policies.
Cost Effectiveness TRC: 0	Long Term Outlook The program will adjust as needed to better support both state and local goals related to energy, including energy efficiency, climate action, and resilience.
Proposed Annual Budgets for 2024-2027 2024: \$1,984,954 2025: \$2,008,191 2026: \$2,065,581 2027: \$2,096,431	Anticipated directional and scale changes in budget for years 2028-2031 The budget will increase slightly.
Implementation Plan: https://cedars.sound-data.com/documents/download/2478/main/	

Program Name: Green Labeling Program	
Program ID: BayREN07 Existing	
Portfolio Segment Market Support	Implementation Party BayREN
Applicable Sector Residential	Market Sub-Sector Residential
Sector Challenge <ul style="list-style-type: none"> • The energy performance of a single family home is often not readily apparent to the homeowner and renter. • The value of energy efficiency is not typically clear to homeowners, renters, or real estate professionals. • Most real estate professionals do not understand the value of an efficiency and/or electric home. 	Sector Opportunity <ul style="list-style-type: none"> • Demonstrate how electrification and decarbonization measures can transform the home into a healthier, more comfortable, and safer environment, while remaining affordable and demonstrating utility bill savings. • Pilot innovative solutions to transform the market and address energy efficiency in the residential sector, considering specific community needs and opportunities. • Become a leader in the decarbonization space by providing easy to use rebates and connecting with other decarbonization efforts within the Bay Area. • Increase participation in energy efficiency programs and adoption of energy efficiency measures among Environmental Social Justice and Disadvantaged Communities. • Increase the degree of demand flexibility in the residential sector to meet summer grid reliability needs.
Known Equity Concerns in the Selected Markets Moderate income households often lack the capital to finance improvements. Need to focus outreach and develop programs to target primarily Equity Priority Communities.	Proposed Solutions to Equity Concerns Build relationships with the communities served by the residential sector program and establish an ongoing feedback loop to co-create and evolve programmatic offerings. Partner with low-income upgrade programs to provide labels. Build a skilled workforce with language capability to serve the various diverse communities in the Bay Area.
Program Description The program promotes two major activities: real estate professional training and the proliferation of the DOE Home Energy Score. The real estate professional engagement consists of a series of trainings on energy efficiency and green homes aimed at real estate agents, appraisers, underwriters, and lenders.	
<i>[Continued on following page.]</i>	

Program Name: Green Labeling Program	
Program Description (Continued)	
<p>These stakeholders are key to integrating energy efficiency, demand flexibility and ZNE strategies into the real estate transaction. Trainings cover topics such as appraising a home with energy efficient features, strategies for homes to reach zero net energy and how electrification affects real estate transactions, and available energy efficiency mortgage products.</p> <p>The Home Energy Score component of the Green Labeling program targets contractors, home inspectors, raters, and other building professionals to conduct home assessments and produce the Home Energy Score. Home Energy Score is a national program and is an asset rating of the home's energy efficiency features which produces a score from 1 to 10 (with 10 being the most efficient). The Score therefore allows for a comparison between homes. The Home Energy Score Report within Green Labeling includes the score, estimated utility bills, energy consumption, and greenhouse gas emissions, as well as custom recommendations to improve energy efficiency and referrals to the BayREN Home+ program.</p>	
<p>Intervention Strategy</p> <p>Provide actionable information and data to inform energy upgrades.</p> <p>Promote Home Energy Score and provide rebates to increase knowledge and transparency, leading to upgrades.</p> <p>Energy advisors provide information on Home Energy Score to homeowners looking to begin energy efficiency improvements.</p> <p>Realtors discuss energy efficiency and electrification with clients, appraisers can properly value energy features, and underwriters/lenders can incorporate into mortgage/loan products.</p>	<p>Program Metrics</p> <p>Please see Appendix B, Tab 18-2 for a list of all three metrics and indicators.</p> <p>Select metrics include:</p> <ul style="list-style-type: none"> ● Count of customers receiving a Home Energy Score ● Sum of the number of Green Certified and trained professionals
High-level description of delivery workforce including necessary scale and its risks	
N/A	
Market Actors necessary for success	
<ul style="list-style-type: none"> ● Home Energy Score Assessors ● Local Associations of Realtors ● Workforce Development Organizations ● Local Government ● BayREN counties 	
Solicitation Strategy	Transition Plan
Existing Program	N/A
Expected Program Life	Short Term Plan
2024 - On going	<p>Continue supporting the DOE's Home Energy Score, including workforce expansion and providing rebates, as a means to label homes and increase transparency.</p> <p><i>[Continued on following page.]</i></p>

Program Name: Green Labeling Program	
	<p>Short Term Plan (Continued)</p> <p>Build upon existing successes with real estate trainings by continuing core training offerings and creating new offerings based upon stakeholder feedback.</p>
<p>Cost Effectiveness</p> <p>TRC: 0</p>	<p>Long Term Outlook</p> <p>Labeling is incorporated into the real estate and energy retrofit processes to the extent where rebates are unnecessary.</p> <p>Energy efficiency is incorporated into home buying and selling along with existing disclosures.</p>
<p>Proposed Annual Budgets for 2024-2027</p> <p>2024: \$1,760,702</p> <p>2025: \$1,840,129</p> <p>2026: \$1,872,991</p> <p>2027: \$1,912,129</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031</p> <p>None anticipated</p>
<p>Implementation Plan: https://cedars.sound-data.com/documents/download/2480/main/</p>	

Program Name: Integrated Energy Services Program	
Program ID: BAYREN11 New Program: Yes	
Portfolio Segment Market Support	Implementation Party BayREN
Applicable Sector Public	Market Sub-Sector Public
Sector Challenge <ul style="list-style-type: none"> ● Local government goals and objectives often require approaches that span siloed program offerings ● Agencies need assistance comprehending and accessing existing and emerging programs, which are often fragmented by technology or geography ● Local government staff are unfamiliar with the performance, reliability and economic impacts of decarbonization technologies ● Advanced decarbonization technologies often have high upfront costs and long payback times which make it difficult for local governments to gain approval for the investment ● Real-world data and project-specific analyses are needed to address risks and make projects feasible 	Sector Opportunity <ul style="list-style-type: none"> ● Most Bay Area local governments are committed to aggressive climate action ● Local governments are high-profile property owners with significant portfolios of buildings ● Due to electricity grid reliability issues, public agencies are increasingly seeking opportunities to improve building resilience in the event of a disaster or power shutoffs ● In alignment with state and local decarbonization policy, public agencies are looking to lead by example with building decarbonization projects.
Known Equity Concerns in the Selected Markets: Public facilities are intended to serve all residents, particularly those who may be disproportionately affected by changes and disruptions to the energy system	Proposed Solutions to Equity Concerns Providing technical assistance services to support integrated energy solutions for public buildings will benefit these residents.
Program Description This program addresses local governments’ need to find integrated solutions to achieve their energy goals. The program consists of two main services: Energy Concierge and Energy Roadmapping. The Energy Concierge service will provide an objective central single point of contact to help local governments find and access the appropriate technical assistance, financing, and incentive options for their public facilities projects. The Energy Roadmapping service will work with local government agencies and provide technical and engineering assistance to develop “roadmaps” for improving their buildings to meet their unique energy goals. In addition, the Roadmapping service will offer energy assessments of designated and potential Community Resilience Centers and technical assistance for energy system improvements.	
Intervention Strategy The program will help local governments access the information and existing resources they need to implement projects in pursuit of their goals, <i>[Continued on following page.]</i>	Program Metrics Please see Appendix B, Tabs 18-2 and 17 for a list of all eight metrics and indicators. <i>[Continued on following page.]</i>

Program Name: Integrated Energy Services Program	
<p>Intervention Strategy (Continued)</p> <p>provide strategic solutions to implementing complex projects that integrate multiple technologies and funding mechanisms and support implementation of innovative decarbonization solutions</p>	<p>Program Metrics (Continued)</p> <p>Select metrics include:</p> <ul style="list-style-type: none"> ● Count of calls in which the Energy Concierge provides referrals or other assistance to help local governments make full use of EE products and services ● Counts of Energy Roadmaps provided to a local government to help local governments make full use of EE products and services
<p>Description of delivery workforce including necessary scale and its risks</p> <p>Workforce requirements include local government sustainability and resilience staff, public works engineers and project managers, design teams and other Program Administrators. The main risk is that budget constraints could reduce the size of the workforce and lower the priority of energy projects.</p>	
<p>Market Actors necessary for success</p> <ul style="list-style-type: none"> ● Other Program Administrators ● BayREN counties 	
<p>Solicitation Strategy</p> <p>Not applicable – PA implemented</p>	<p>Transition Plan</p> <p>Not applicable</p>
<p>Expected Program Life</p> <p>2024 - On going</p>	<p>Short Term Plan</p> <p>Coordinate with other PAs during Q1-Q2 2024; launch services in Q2-Q3 2024</p>
<p>Cost Effectiveness</p> <p>TRC: 0</p>	<p>Long Term Outlook</p> <p>Accelerate implementation of decarbonization projects and increase participation in other programs serving the public sector</p>
<p>Proposed Annual Budgets for 2024-2027</p> <p>2024: \$1,046,965 2025: \$1,043,257 2026: \$1,060,491 2027: \$1,077,994</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031</p> <p>Budget is expected to remain similar to 2027 year budget or increase slightly</p>
<p>Implementation Plan: https://cedars.sound-data.com/documents/download/2483/main/</p>	

Program Name: Single Family Residential - Home+	
Program ID: BayREN08 Existing	
Portfolio Segment Equity	Implementation Party BayREN
Applicable Sector Residential	Market Sub-Sector Residential (Single Family)
Sector Challenge <ul style="list-style-type: none"> • There is a gap in proven approaches to effectively serve the various complex and diverse communities in the Bay Area. • Existing single-family homes remain inefficient and costly to serve through energy efficiency programs. • Incentives for hard-to-reach and non-income qualified programs are not robust enough to tackle the individual energy efficiency issues of households. • Qualifications to access energy efficiency programs shift, and are often too restrictive; many disadvantaged populations remain underserved. • Property owners are typically not motivated by current programs to implement energy efficiency measures and for renters there are barriers for more comprehensive upgrades due to the split incentive. • Contractors are not as engaged due to lower profit margin for moderate income households 	Sector Opportunity <ul style="list-style-type: none"> • Demonstrate how electrification and decarbonization measures can transform the home into a healthier, more comfortable, and safer environment, while remaining affordable and demonstrating utility bill savings. • Pilot innovative solutions to transform the market and address energy efficiency in the residential sector, considering specific community needs and opportunities. • Become a leader in the decarbonization space by providing easy to use rebates and connecting with other decarbonization efforts within the Bay Area. • Increase participation in energy efficiency programs and adoption of energy efficiency measures among Environmental Social Justice and Disadvantaged Communities. • Increase the degree of demand flexibility in the residential sector to meet summer grid reliability needs.
Known Equity Concerns in the Selected Markets Moderate income households often lack the capital to finance improvements. Outreach is also primarily focused on English speaking populations both for the residents and the contractors.	Proposed Solutions to Equity Concerns <ul style="list-style-type: none"> • Increased engagement with in language media and CBOs • Moderate income tiered rebate to provide more financial support
Program Description The Home+ program is an a la carte rebate program that takes a customer journey approach. That is, the objective is to allow the homeowner to implement measures by a participating contractor as time and resources allow and support and engage them throughout their journey, with the ultimate goal being greater energy savings, lower utility bills, and other co-benefits associated with energy efficiency upgrades. The Home Energy Advisors, a team of BPI trained professionals that act as a concierge, seek to find the right program for the caller and either provide a referral to another relevant program, or provide guidance throughout the upgrade process if the homeowners participate in Home+. The Energy Advisors also stay engaged with the program participants to support the customer journey. <i>[Continued on following page.]</i>	

Program Name: Single Family Residential - Home+

Program Description (Continued)

The Single Family program focus is on assisting underserved communities access energy efficiency and electrification resources. One aspect of the underserved audience is moderate income households that do not qualify for income qualified weatherization programs up to the moderate-income level per household by county designated by the California Department of Housing and Community Development.

The Green House Call program element trains and employs local low-income youth as Energy Specialists to provide a residential energy efficiency service, called the Green House Call (GHC), works in concert with Home+. GHCs are provided either in person or virtually and consist of a whole home assessment, direct install of energy and water saving devices, customer education, promotion of additional efficiency services, and potential lead generation for programs such as the BayREN Home+ program.

Home+ also focuses on contractor outreach, particularly to non-English speaking and small firms.

Intervention Strategy

The program will address specific barriers to adoption with a focus on underserved populations. For the moderate income household, this will be accomplished through providing the technical guidance and referrals for financial incentives and resources that can help address the upfront costs of an upgrade. For communities that primarily speak a non-English language, the program will engage with trusted community based organizations to develop and provide culturally relevant outreach. As demand for upgrades grows, the program will also focus on expanding the list of participating contractors through outreach from local governments and the supply chain as well as growing existing participating contractor capacity through connections to relevant workforce development and training programs.

Program Metrics

Please see Appendix B, Tabs 18-1 and 18-2 for a list of all 15 metrics and indicators.

Select metrics/indicators include:

- Total # of underserved single family households with projects served by Equity program
- Expected bill savings for underserved customers
- Energy and non-energy benefits for underserved customers

High-level description of delivery workforce including necessary scale and its risks

Workforce requirements include contractors and associated support industries such as raters and electricians. With greater demand expected due to marketing and increased incentives from partners, the participating contractor base needs to expand quickly to meet the demand, especially those who can provide services in non-English languages. Additional workforce needed are program support professionals such as Energy Advisors, rebate processors and training providers. Although there is no concern in general for this particular workforce, there are specific needs for providers in languages other than English.

Market Actors necessary for success

- Contractors
- Workforce Development Organizations
- Community Based Organizations
- Local Government

Program Name: Single Family Residential - Home+	
Solicitation Strategy Existing Program	Transition Plan Not applicable
Expected Program Life 2024 - On going	Short Term Plan Develop specific solutions to overcome obstacles faced by target audience through increased incentives, engagement with ethnic media and community partners and development of a skilled workforce and contractor base.
Cost Effectiveness TRC <ul style="list-style-type: none"> ● 2024: 0.15 ● 2025: 0.15 ● 2026: 0.15 ● 2027: 0.16 ● 2028: 0.17 ● 2029: 0.18 ● 2030: 0.19 ● 2031: 0.21 	Long Term Outlook Market maturation so that rebates can be reduced or eliminated. Adoption of measures in non-English speaking communities and rental properties is commensurate with overall uptake.
Proposed Annual Budgets for 2024-2027 2024: \$8,768,557 2025: \$8,780,764 2026: \$8,834,326 2027: \$8,889,104	Anticipated directional and scale changes in budget for years 2028-2031 None anticipated
Implementation Plan: https://cedars.sound-data.com/documents/download/2475/main/	

Program Name: Targeted Decarbonization Resources Program	
Program ID: BAYREN12 New Program: Yes	
Portfolio Segment Market Support	Implementation Party BayREN
Applicable Sector Public	Market Sub-Sector Public
Sector Challenge <ul style="list-style-type: none"> Local government goals and objectives often require approaches that span siloed program offerings Agencies need assistance comprehending and accessing existing and emerging programs, which are often fragmented by technology or geography Local government staff are unfamiliar with the performance, reliability and economic impacts of decarbonization technologies Advanced decarbonization technologies often have high upfront costs and long payback times which make it difficult for local governments to gain approval for the investment Real-world data and project-specific analyses are needed to address risks and make projects feasible 	Sector Opportunity <ul style="list-style-type: none"> Most Bay Area local governments are committed to aggressive climate action Local governments are high-profile property owners with significant portfolios of buildings Due to electricity grid reliability issues, public agencies are increasingly seeking opportunities to improve building resilience in the event of a disaster or power shutoffs In alignment with state and local decarbonization policy, public agencies are looking to lead by example with building decarbonization projects.
Known Equity Concerns in the Selected Markets Public facilities are intended to serve all residents, particularly those who may be disproportionately affected by changes and disruptions to the energy system	Proposed Solutions to Equity Concerns Prioritizing Disadvantaged communities for the incentives component of this program will help address this concern
Program Description <p>The program consists of two services: Decarbonization Showcase and Decarbonization Education and Financing.</p> <p>The Decarbonization Showcase service will enroll buildings to pilot and demonstrate approaches to building decarbonization and will collect and share real-world data. The Showcase service will provide technical and financial support for the development of selected projects. Data will be collected throughout the design, construction and operations of the buildings and be shared across the public agencies in the BayREN services area, with the intent of scaling the approaches across the region. This information will be shared through case studies, peer network calls and webinars. The case studies are targeted for local governments that have been affected by PSPS events, extreme weather events, and agencies that have and/or are considering decarbonization policies.</p> <p><i>[Continued on following page.]</i></p>	

Program Name: Targeted Decarbonization Resources Program	
Program Description (Continued) The Decarbonization Education and Financing service will engage local government staff to familiarize them with daily operations and the long-term maintenance and outlook of decarbonization equipment and educate them about strategies for monetizing improvements to secure financing. The service will also explore financing alternatives, including leveraging additional funding sources, and provide information about financing as well as testing potential incentives to overcome barriers to decarbonization, which could lead to the creation of a resource acquisition program.	
Intervention Strategy The program will combine education related to efficient decarbonization technologies with testing of incentive structures in order to increase uptake of these technologies and increase the incentives offered.	Program Metrics Please see Appendix B, Tabs 18-2 and 17 for a list of all nine metrics and indicators. Select metrics include: <ul style="list-style-type: none"> Count of staff within a local government (and LG consultants) with whom the program provides information on decarbonization technologies and financing options. Count of completed decarbonization showcases Count of completed projects where LGs plan and implement decarbonization improvements in public buildings
Description of delivery workforce including necessary scale and its risks Workforce requirements include local government sustainability and resilience staff, public works engineers and project managers, facilities managers, design teams and other Program Administrators.	
Market Actors necessary for success <ul style="list-style-type: none"> Other Program Administrators and public agencies BayREN member agencies 	
Solicitation Strategy BayREN will conduct a formal RFP for technical implementers	Transition Plan Not applicable
Expected Program Life 2024 - On going	Short Term Plan Coordinate with other PAs during Q1 2024; release RFP in Q2 2024; launch services in Q3-Q4 2024
Cost Effectiveness TRC: 0	Long Term Outlook Increased uptake of efficient decarbonization technologies by public agencies and increased incentive offerings available to them.

Program Name: Targeted Decarbonization Resources Program

Proposed Annual Budgets for 2024-2027

2024: \$1,060,376

2025: \$1,432,536

2026: \$1,826,162

2027: \$2,067,769

Anticipated directional and scale changes in budget for years 2028-2031

Budget is expected to remain similar to 2027 year budget or increase slightly, although more significant changes could be possible depending on outcomes and whether the program transitions to the resource acquisition segment.

Implementation Plan: <https://cedars.sound-data.com/documents/download/2487/main/>

Program Name: Water Upgrades Save	
Program ID: BAYREN04 Existing	
Portfolio Segment: Market Support	Implementation Party: BayREN
Applicable Sector: Cross-Cutting	Market Sub-Sector: Finance
Sector Challenge: <ul style="list-style-type: none"> • Despite code changes, most existing buildings have inefficient fixtures that waste energy and water. • Many customers cannot afford an upfront cost or obtain financing for an efficiency project. • Renters cannot typically participate in efficiency programs. • Participation in rebate programs is limited by the available rebate funding. 	Sector Opportunity: <ul style="list-style-type: none"> • Urban water efficiency is emerging as a significant means to reduce GHG emissions from onsite and embedded energy. • The California drought requires a comprehensive, “conservation as a way of life” approach. • Cost-neutral tariff on-bill allows capital to scale to meet market demand.
Known Equity Concerns in the Selected Markets: <ul style="list-style-type: none"> • Fills a gap by providing water/energy efficiency services to eligible households that do not qualify for low-income direct install programs and do not have the discretionary income to participate in rebate programs • Provides an innovative program model that expands utility investment in customer-side water/energy efficiency • Serves traditionally hard to reach customers, such as renters 	Proposed Solutions to Equity Concerns: <ul style="list-style-type: none"> • Renters can participate with landlord approval. • All customers can participate with little-to-no upfront cost using their utility bill savings to pay for project cost over time with the on-bill charge. • Program collateral will be available in English and Spanish.
Program Description: <p>The program establishes a tariff on-bill mechanism in partnership with Bay Area municipal water utilities to enable their water customers to install eligible water and energy efficiency upgrades with little-to-no up-front cost — using a utility-approved on-bill charge that is significantly lower than the estimated savings.</p> <p>The establishment of this new mechanism within the water utility facilitates water-heating and embedded energy savings from water customers, while investing in these actions outside of the current CPUC energy efficiency budget. Through the tariff on-bill model, the program also reaches local difficult to serve populations, such as Homeowner Associations, multifamily buildings without capital for projects, moderate income homes, and eventually small and medium businesses.</p>	

Program Name: Water Upgrades Save	
<p>Intervention Strategy: Develop innovative, equitable regional-scaled offerings that enable customers to layer energy efficiency with other climate-based funding and resource programs to address the climate crisis.</p>	<p>Program Metrics: Please see Appendix B, Tabs 18-2 and 17 for a list of all 11 metrics and indicators.</p> <p>Select metrics include:</p> <ul style="list-style-type: none"> Count of water utility partners signed up to enable broader participation in EE/water savings program from water utility customers
<p>High-level description of delivery workforce including necessary scale and its risks: Workforce requirements include contractors who agree to deliver and be paid for program services in accordance with program protocols. Program will enlist contractors from around the Bay Area, as needed, to serve new Partner Utilities. The risk of finding qualified contractors as the program grows is low because the services needed are standard and widely available.</p>	
<p>Market Actors necessary for success:</p> <ul style="list-style-type: none"> Customers Building owners Association of Bay Area Governments Bay Area Regional Energy Network Municipal Water Utilities Plumbing and landscaping contractors Water efficient product manufacturers Local government champions and community ambassadors 	
<p>Solicitation Strategy: Third Party Solicited for Program Operator services</p>	<p>Transition Plan: Not applicable</p>
<p>Expected Program Life: Business Plan Years</p>	<p>Short Term Plan Enroll three municipal water utilities per year.</p>
<p>Cost Effectiveness TRC: 0</p>	<p>Long Term Outlook Enroll 30 percent of municipal water utilities in the San Francisco Bay Area.</p>
<p>Proposed Annual Budgets for 2024-2027: 2024: \$1,981,352 2025: \$2,105,635 2026: \$2,151,430 2027: \$2,195,721</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031: Persistent extraordinary drought conditions are driving stronger state water policy and customer demand for efficiency services. Urban water efficiency is key to reducing greenhouse gas emissions from water-heating and embedded energy. Anticipate demand for services will continue to grow for the foreseeable future.</p>
<p>Implementation Plan: https://cedars.sound-data.com/documents/download/2476/main/</p>	

Program Name: Climate Careers Program	
Program ID: BAYREN09 New Program: Yes	
Portfolio Segment Equity	Implementation Party Rising Sun Center for Opportunity
Applicable Sector Cross-Cutting	Market Sub-Sector Workforce Education & Training
Sector Challenge <ul style="list-style-type: none"> • There is a labor shortage due to a workforce that is aging out and retiring, has low paying wages, non-benefited packages, and lacks clear pathways for upward mobility, particularly in the energy efficiency and clean economy sectors • The perceived value of working in construction and other skilled trades is low, reducing the number of individuals who are interested in entering this field; for those who are interested, understanding of how to access these trades is limited and pathways for entry can be complicated • The perceived barriers to gaining employment in the clean economy are keeping young people from pursuing careers in these industries, even entry level positions; understanding of what constitutes a “clean economy” career may be limited 	Sector Opportunity <ul style="list-style-type: none"> • Create opportunities for youth from low-income households and equity priority communities to become a part of the solution through job training, early employment opportunities, and career exposure • Develop accessible, targeted career and academic pathways for youth populations who have been underserved, creating upward mobility and opportunity that will have a positive impact in their day to day life and community • Create real world work experiences in targeted public and private sectors that allow youth participants to explore the wide variety of career options in climate-related fields, helping them build their resumes and the future workforce • Support and incentivize high road career pathways, labor standards, and job quality within clean economy careers, particularly in the residential sector
Known Equity Concerns in the Selected Markets <ul style="list-style-type: none"> • Members of marginalized communities disproportionately hold low wage positions, perpetuating poverty. • Geographic and mobility constraints of low-income communities often exclude participants from job training opportunities or even employment. <p><i>[Continued on following page.]</i></p>	Proposed Solutions to Equity Concerns <ul style="list-style-type: none"> • Subsidize positions with BayREN contractors and energy efficiency employers to enable disadvantaged residents to access family sustaining wages in the clean economy. • Provide on-the-job training opportunities for disadvantaged youth to both decrease unemployment and create the skilled workforce contractors need. • Create local training and employment facilities throughout the BayREN region and provide transportation subsidies to increase trainee and employer engagement and grow workforces.

Program Name: Climate Careers Program

Known Equity Concerns in the Selected Markets (Continued)

- Youth who live in low-income households and/ or non-English speaking households lack access to the resources, social capital, and other privileges held by advantaged households, preserving racial and socioeconomic inequities.
- Youth unemployment in the Bay Area is more than double the rate for adults and negatively impacts young people’s lives. Unemployment is even more pronounced among youth of color.

Program Description

The BayREN Workforce Education and Training program expands on the existing Green House Calls effort within the Home+ program and seeks to fill gaps in the market with Climate Careers, a youth workforce development program that focuses on youth from low-income households, and an emphasis on opportunity youth. The Climate Careers program is a unique social enterprise that trains and employs young people, ages 15 -24, to provide residential energy efficiency services, learn and practice foundation career skills, and provide them with paid experience in and exposure to clean economy careers. The program builds on and raises up the inherent strengths of each young person through a three stage process: Earn and Learn, Post Programmatic Pathways, and Future Placement. Together, these stages not only provide participants with training, upskilling, paid work experiences, and world of work exposure, but also provide the launching pad into meaningful career tracks. The Climate Careers program offers opportunities to youth for personal autonomy, positive relationships with peers and adults, and a sense of meaning and purpose, all of which build personal resilience. This program is also in direct alignment with Revised Goal 7 of the CPUC Environmental and Social Justice (ESJ) Action Plan as it promotes high road career paths and economic opportunities for residents of ESJ communities.

Intervention Strategy

Provide targeted and relevant training and workforce support to improve effectiveness and build capacity.

Program Metrics

Please see Appendix B, Tabs 18-1 and 18-2 for a list of all six metrics and indicators.

Select metrics include:

- Number of underserved youth workers trained as Energy Specialist (as a first step towards gaining clean economy career skills and job readiness)
-

High-level description of delivery workforce including necessary scale and its risks

Not applicable

Program Name: Climate Careers Program	
<p>Market Actors necessary for success</p> <ul style="list-style-type: none"> • BayREN County leads • BayREN Participating Contractors • School districts • County school boards • Community colleges and higher education institutions • City governments • Community based organizations, including community serving programs and youth serving organizations • Regional employers (clean economy workforce emphasized) 	
<p>Solicitation Strategy Not applicable</p>	<p>Transition Plan Not applicable</p>
<p>Expected Program Life 2024 - On going</p>	<p>Short Term Plan The Climate Careers program will serve as a pilot program in 2022 and 2023, with interested graduates of Green House Calls, establishing our post Earn and Learn programmatic network of internship and job placement organizations aligned with the clean economy and with positions that have clear advancement pathways, benefits, and pay family sustaining wages.</p>
<p>Cost Effectiveness TRC: 0</p>	<p>Long Term Outlook The Climate Careers program will serve as 1) a direct install program for priority residents throughout the 9 county Bay Area providing needed energy efficiency services to households, 2) serve as a customer acquisition and outreach mechanism for the Home+ program, evolving the Green House Call service to best suit the needs of Home+, 3) serve as an energy efficiency and clean economy workforce development and employment program for low-income youth, 4) prioritizing diversity in the workforce, increase the number of youth engaged on an annual basis and provide full time job opportunities for youth who have</p> <p>Long Term Outlook (Continued) completed the Climate Careers program and are looking to gain real world job experiences in the clean economy, with an emphasis on jobs that have clear advancement pathways, benefits, and pay family sustaining wages.</p>
<p>Proposed Annual Budgets for 2024-2027 2024: \$2,916,768 2025: \$3,098,406 2026: \$3,295,192 2027: \$3,502,190</p>	<p>Anticipated directional and scale changes in budget for years 2028-2031 The direction of both the Climate Careers program will remain fluid and responsive to the needs of the market and the community. <i>[Continued on following page.]</i></p>

Program Name: Climate Careers Program

Anticipated directional and scale changes in budget for years 2028-2031 (Continued)

The direction will be dictated through analysis of community, resource, and workforce needs as indicated by the market. Scale and shift in the budget will be determined by the needs of the program and adjustments to Bay Area and market wide costs.

Implementation Plan: <https://cedars.sound-data.com/documents/download/2514/main/>