

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA



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Order Instituting Rulemaking to  
Investigate and Design Clean  
Energy Financing Options for  
Electricity and Natural Gas  
Customers.

Rulemaking 20-08-022  
(Filed August 27, 2020)

**THE LOCAL GOVERNMENT SUSTAINABLE ENERGY COALITION'S PROPOSAL  
TO PILOT A DECARBONIZATION RATE**

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## **LGSEC Clean Financing Proposal**

### **Clean Financing Decarbonization Incentive Rate**

#### **PART I: Overall goals and principles**

1. Describe what this program is seeking to achieve, including which market barrier(s) is being addressed through the program.

California faces a conundrum. It wants to radically reduce its greenhouse gas emissions (GHG), principally by replacing fossil fuels used in transportation and buildings with renewable energy. Yet the state's electricity prices are among the country's highest and still rising. Pacific Gas and Electric customers pay roughly 80 percent more per kilowatt-hour (kWh) than the national average, Southern California Edison (SCE) charges 45 percent more, while San Diego Gas and Electric's clients shell-out double the coast-to-coast norm. Even low-income Californians whose rates are subsidized pay more than the typical American.<sup>1</sup>

To convince the large numbers of households necessary to make a difference to switch, electricity needs to be cost competitive with – and preferably significantly cheaper than – gasoline and natural gas, without counting on temporary fuel price escalations caused by a European war.

One way to untangle this knot is to offer customers who trade their natural gas-, fossil methane-, or propane-powered heating, ventilation and air conditioning (HVAC) or other appliances for electric models a discounted rate on the incremental (additional) electricity consumed. The rate could also be offered to Californians who retire their gasoline or diesel powered automobile in favor of an electric vehicle (EV) as a means to accelerate adoption of zero emission vehicles.

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<sup>1</sup> CPUC, "Affordability Phase 3 En Banc," <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/affordability>, February 28-March 1, 2022.

2. Provide a description of the proposed financing program, including a description of the expected benefits and costs of the program.

The Local Government Sustainable Energy Coalition (LGSEC), in collaboration with Santa Barbara Clean Energy (SBCE), proposes that a decarbonization incentive rate be created by the investor-owned utilities (IOUs), which would enable customers who switch HVAC or other appliances from natural gas, fossil methane, or propane to electricity to pay a discounted price on the incremental electricity consumed. The rate could also be offered to customers who trade in use of a fossil or diesel fueled automobile for an EV.

Santa Barbara Clean Energy is especially motivated to pursue this initiative as its default electrical service offering is 100% Carbon Free.

LGSEC/SBCE further propose that the California Public Utilities Commission (CPUC) fully fund a pilot project to examine key rate characteristics, associated measure installation (including project labor, materials, and operational fees), and important metrics, such as determining the best methods to estimate incremental electricity use fostered by specific fuel switching interventions. Alternatively, the pilot could be funded using the tariff on-bill cost-recovery model. Once this low cost pilot is completed, the incentive rate can be finetuned and adopted by the IOUs, thereby catalyzing private capital to take advantage of the lower rate to decarbonize homes and businesses.

The **decarbonization incentive rate** (DIR) is based on the same principles as the Economic Development Rate (EDR) tariff. Most importantly, load created by converting from fossil fuels represents new load that has only recently—if at all—been included in electricity resource and grid planning. None of this load should incur legacy costs for past generation investments or procurement nor for previous distribution costs. Most significantly, this principle means that these new loads would be exempt from the power cost indifference adjustment (PCIA) stranded asset charge to recover legacy generation costs. Community Choice Aggregators (CCA), for example, would not have to pass on PCIA charges to load that is DIR-eligible.

The CPUC ruled in 2007 that non-bypassable charges (NBCs), such as for public purpose

programs, California Alternative Rates for Energy (CARE) discount funding, Department of Water Resources Bonds, and nuclear decommissioning, must be recovered in full in discounted tariffs such as the EDR rate. This proposal follows that direction and includes these charges, except the PCIA as discussed above.

Costs for incremental service are best represented by the marginal costs developed by the utilities and other parties either in their General Rate Case (GRC) Phase II cases or in the CPUC's Avoided Cost Calculator. Since the EDR is developed using analysis from the GRC, the proposed DIR is illustrated here using SCE's 2021 GRC Phase II information as a preliminary estimate of what such a rate might look like.

A more detailed analysis, as LGSEC recommends the CPUC order the IOUs develop in this proceeding, would likely arrive at a somewhat different set of rates, but the relationships should be similar. In creating the rate, the IOUs should include seasonal, tier, and time of use marginal cost differences.

For SCE, the current average delivery rate that includes distribution, transmission and NBCs is 9.03 cents per kilowatt-hour (kWh). For residential customers the average is 12.58 cents. The system-wide marginal cost for distribution is 4.57 cents per kilowatt-hour<sup>2</sup>; 6.82 cents per kWh for residential customers. Including transmission and NBCs, the system average rate component would be 7.02 cents per kWh, or 22% less. The residential component would be 8.41 cents or 33% less.<sup>3</sup>

The generation component similarly would be discounted. SCE's average bundled generation rate is 8.59 cents per kWh and 9.87 cents for residential customers. The rates derived using marginal costs is 5.93 cents for the system average and 6.81 cents for residential, or 31% less. For CCA customers, the PCIA would be waived on the incremental portion of the load. Each CCA would calculate its marginal generation cost as it sees fit.

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<sup>2</sup> Excluding transmission and NBCs,

<sup>3</sup> Tiered rates pose a significant barrier to electrification and would cause the effective discount to be greater than estimated herein. The estimates above were based on measuring against the average electricity rate but added demand would be charged at the much higher Tier 2 rate. The decarb allowance could be introduced at a new Tier 0 below the current Tier 1.

For bundled customers, the average rate would go from 17.62 cents per kWh to 12.95 cents, or 26.5% less. Residential rates would decrease from 22.44 cents to 15.22 cents, or 32.2% less.

Incremental loads eligible for the discounted decarb rate would be calculated based on projected energy use for the appropriate application.<sup>4</sup> For appliances and HVAC systems, Southern California Gas offers line extension allowances for installing gas services based on appliance-specific estimated consumption (e.g., water heating, cooking, space conditioning).<sup>5</sup> Data employed for those calculations could be converted to equivalent electricity use, with an incremental use credit on a ratepayer's bill. An alternative approach to determine incremental electricity use would be to rely on the California Energy Commission's Title 24 building efficiency<sup>6</sup> and Title 20 appliance standard assumptions, adjusted by climate zone.<sup>7</sup>

LGSEC recommends that the Commission examine each of these potential methods through a pilot project implemented by SBCE, as detailed herein.

For EVs, the credit would be based on the average annual vehicle miles traveled in a designated region (e.g., county, city or zip code) as calculated by the California Air Resources Board for use in its EMFAC air quality model or from the Bureau of Automotive Repair (BAR) Smog Check odometer records, and the average fleet fuel consumption converted to electricity. For a car traveling 12,000 miles per year that would equate to 4,150 kWh or 345 kWh per month.

3. Describe with specificity how this proposal meets each of the nine goals of the CPUC's Environmental and Social Justice Action (ESJ) Plan. If it is unable to meet any of the nine goals, the proposal must explain why.

1. Consistently integrate equity and access considerations throughout CPUC proceedings

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<sup>4</sup> Remaining electricity use after accounting for incremental consumption would be charged at the current otherwise applicable tariff (OAT).

<sup>5</sup> SCG, Rule No. 20 Gas Main Extensions, <https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/20.pdf>, retrieved March 2022.

<sup>6</sup><https://www.energy.ca.gov/rules-and-regulations/building-energy-efficiency/manufacture-certificate-building-equipment>; <https://www.energy.ca.gov/rules-and-regulations/appliance-efficiency-regulations-title-20>

<sup>7</sup><https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards>;

and other efforts. The proposal would reduce the cost of fuel switching, including for communities that face equity issues. The proposed pilot includes a number of equity-related features to be evaluated, including provision of income qualified additional measure rebates; any requirement pilot cost share waived for income qualified homes; multi-lingual “tiger team” to encourage increased uptake of measures; minimum of 30% pilot participation allocation to CARE customers

2. Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health. In addition, under the proposed pilot SBCE would package available incentives associated with air quality and public health improvements as a means to reduce measure costs to customers. Likewise, a measure scorecard would be created that allocates priority funding to measures that enhance air quality and public health

3. Strive to improve access to high-quality water, communications, and transportation services for ESJ communities. Not immediately applicable, though if the DIR pilot is successful, it could be expanded to include EVs.

4. Increase climate resiliency in ESJ communities. See number 1 above.

5. Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the CPUC's decision-making process and benefit from CPUC programs. This is a core SBCE mission, which is pursued through all its programs.

6. Enhance enforcement to ensure safety and consumer protection for ESJ communities. This would not directly be addressed by the proposal. However, SBCE will look for opportunities to sponsor workforce and contracting trainings and certifications, with measures installed by program graduates, thereby enhancing safe and trustworthy service provision to ESJ communities.

The pilot would build on other financing programs, which may include assignment of

responsibility for participant recruitment and project scope development to an independent Program Operator that is not financially motivated to maximize sales; requiring installers to be fully licensed and bonded and all project installations to be fully permitted; establishing warranty requirements for equipment, parts, and labor; incorporating a limited performance guarantee to assure that actual metered energy savings are aligned with predictions; offering annual equipment service agreements to optimize equipment performance and avoid premature failures

Taken together, these protections would effectively minimize opportunities for fraud and unfair business practices that have plagued other clean energy financing approaches. Going further, they make clean energy investments accessible to a population of customers that can ill afford to take on any additional financial risks.

7. Promote high road career paths and economic opportunity for residents of ESJ communities. See above. Increasing access to measures through an attractive rate would create cascading employment impacts and economic opportunities, particularly as linked with associated workforce training and referral programs.

The pilot would include a local area contractor requirement; collaboration with trade organizations, local schools and apprenticeship programs to create training opportunities and value add.

8. Improve training and staff development related to ESJ issues within the CPUC's jurisdiction. See above. SBCE implementation will reinforce associated training and staff development related to ESJ issues.

9. Monitor the CPUC's ESJ efforts to evaluate how they are achieving their objectives. LGSEC/SBCE's capacity to engage in this monitor, which is already ongoing, would be enhanced through the rate program.



## **PART II: Financing program requirements**

### ***Financial product description and program development***

1. Describe the financing mechanism and/or proposed financial product offered through the program.

### **APPLICABILITY**

1. The Rate Schedule would be applicable to electric service to customers who meet the eligibility criteria specified in Section Participant Eligibility.
2. The decarbonization incentive rate (DIR) concept is described above. For purposes of the pilot SCE should calculate a specific rate based on this concept, including consideration of tiered rates, with the decarb allowance introduced at a new Tier 0 below the current Tier 1.

### **TERRITORY**

For purposes of the pilot the territory would be limited to geography serviced by SBCE, with a goal of that rate ultimately being offered in any geographic area served by a CCA and/or Regional Energy Network (REN).

### **DEFINITIONS**

The definitions of capitalized terms are either defined in this Rate Schedule, in Electric Rule 1 Definitions, or in the DIR, as defined below. Unless otherwise stated, all references to “Customer” in this Rate Schedule refers to SCBE customers who have elected to participate in the DIR pilot.

1. **Clean Energy Measures (CEMs):** Improvements allowable under the DIR, as identified through advice letters submitted by SBCE and approved by the CPUC.
2. **Owner Agreement:** A written agreement between the Customer and SBCE to maintain in place any CEMs installed under this schedule.

3. **Participation Agreement:** A written agreement between the Customer and SBCE to install CEMs at a Customer Premise. The named person(s) on the Participation Agreement must also be the named person(s) on the associated SBCE or investor-owned utility (IOU).

## **RATES**

All charges and provisions of the Customer's otherwise applicable tariffs shall apply.

Customers receiving service under this Schedule will be charged the applicable rates under the tariff that is most beneficial to them.

## **SPECIAL CONDITIONS**

1. **Participant Eligibility.** Eligibility is subject to the following conditions:
  - a. Customers in rented or leased units or facilities may participate with the written consent of the property owner.
  - b. Customer must have maintained an active utility account for the previous 24 months and had service at the Premise to be retrofitted for least 12 months
  - c. Customers must voluntarily opt to receive program services.
  - d. Program services and installations may be completed once
  - e. The Customer at the site agrees to program terms, including responsibilities to operate installed products and associated systems to effectively achieve desired fuel switching; to operate and maintain the products in safe working condition; to notify the program of failed products or products requiring repair for damage not caused by the Customer or their invited guests; and
  - f. SBCE or its designated agent operating the program has verified that Customer-

requested program CEMs can be safely installed at the site and perform to effectively deliver fuel switching consistent with program requirements and Customer reported and observed site conditions.

2. **Ownership:** If the Customer is not the building owner, the building owner must sign an Owner Agreement, agreeing to contribute any applicable copayment; not to remove or damage the measures; to maintain them; and to provide notice of the benefits and obligations associated with the measures at the location to the next owner or Customer before the sale or rental of the property.

3. **Estimated Load Under DIR:** Incremental loads eligible for the discounted decarb rate would be calculated based on projected energy use for the appropriate application. For appliances and HVAC systems, Southern California Gas offers line extension allowances for installing gas services based on appliance-specific estimated consumption (e.g., water heating, cooking, space conditioning).<sup>8</sup> Data employed for those calculations could be converted to equivalent electricity use, with incremental use credited on the participating ratepayer's bill. An alternative approach to determine incremental electricity use would be to rely on the California Energy Commission's Title 24 building efficiency<sup>9</sup> and Title 20 appliance standard assumptions, adjusted by climate zone.<sup>10</sup>

Methods used to estimate load will be fully evaluated after measures have been installed to determine their accuracy.

4. **Approved Program Operator:** SBCE may operate the program directly with its own staff resources or hire a Program Operator to implement it.

5. **Quality Assurance:** When the measures are completed, the installer(s) will be paid by

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<sup>8</sup> SCG, Rule No. 20 Gas Main Extensions, <https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/20.pdf>, retrieved March 2022.

<sup>9</sup><https://www.energy.ca.gov/rules-and-regulations/building-energy-efficiency/manufacture-certificate-building-equipment>; <https://www.energy.ca.gov/rules-and-regulations/appliance-efficiency-regulations-title-20>

<sup>10</sup><https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards>.

SBCE following on-site or telephone inspection and approval of the installation by SBCE or its Program Operator.

**6. Adjustments to the Program Service Charge to Incorporate Available Incentives:**

SBCE will actively strive to reduce the measure costs, particularly to advance equity goals.

- a. For owner-occupied homes and facilities, any available incentives will first be applied to reduce or eliminate project installation costs and a Customer's copay requirement.
- b. For tenant-occupied homes and facilities, any available financial incentives shall first be applied to zero out any tenant copayment requirement.

**7. Repairs:** If SBCE determines that the installed measure(s) are no longer functioning as intended and that the Customer, or building owner, if different, did not damage or fail to maintain the measures in place, SBCE will repair or replace them. If SBCE determines the Customer, or building owner if different, did damage or fail to maintain the measure(s), it will seek to recover all costs associated with the installation.

**8. Evaluation.** The owner must agree as part of the Participant Agreement (if the owner is the Customer) or Owners Agreement to fully cooperate with all measurement and evaluation activities, including associated with collecting metered data.

**9. Other Applicable Terms.** Nothing in this rate schedule limits a Customer's ability to participate in California Alternate Rates for Energy (CARE), Family Electric Rate Assistance, Arrearage Management Plan, or another program for which the Customer would otherwise be eligible.

2. Is there any precedent for a program of this type, and if so, what are the lessons learned from previous and similar programs? Please include any applicable program results from those other programs, such as forecast and actual participation by targeted customer groups and describe, to the extent possible.

California has adopted electricity rate discounts previously to incentivize beneficial choices, such as retaining and expanding businesses in-state,<sup>11</sup> and converting agricultural pump engines from diesel to electricity to improve Central Valley air quality.<sup>12</sup>

EDR offers a reduction to enterprises that are considering leaving, moving to or expanding in the state. The rate floor is calculated as the marginal cost of service for distribution and generation plus NBCs. For Southern California Edison, the current standard EDR discount is 12%; 30% in designated enhanced zones.<sup>13</sup>

AG-ICE tariff, offered from 2006 to 2014, provided a discounted line extension cost and limited the associated rate escalation to 1.5% a year for 10 years to match forecasted diesel fuel prices.[4] The program led to the conversion of 2,000 pump engines in 2006-2007 with commensurate improvements in regional air quality and GHG emission reductions.<sup>14</sup>

3. Describe if and how this program will attract private capital in entirety or in addition to using public funds

- c. If so, what portion of the program would be covered by private capital when the program launches?

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<sup>11</sup> California Public Utilities Commission, Decision 96-08-025. Subsequent decisions have renewed and modified the economic development rate (EDR) for the utilities individually and collectively.

<sup>12</sup> D.05-06-016, creating the AG-ICE tariff for Pacific Gas & Electric and Southern California Edison; PG&E, Schedule AG-ICE—Agricultural Internal Combustion Engine Conversion Incentive Rate.

<sup>13</sup> SCE, Schedules EDR-E, EDR-A and EDR-R.

<sup>14</sup> EDR and AG-ICE were approved by the Commission in separate utility applications. The mobile home park utility system conversion program was first initiated by a Western Mobile Home Association petition by and then converted into a rulemaking, with significant revenue requirement implications.

Assuming the pilot leads to successful launch of a DIR, it is likely that third-parties would be induced to offer private capital to fund fuel-switching measures, which could be financed by the resulting energy savings.

- d. Does the program intend to ultimately transition to 100% private capital at a specific milestone? Why or why not?

Post-pilot, decarbonization under the rate should ultimately be comprehensively paid for through private capital. The pilot's purpose is to fully vet the rate and ancillary elements (e.g., incremental load measured) and demonstrate its cost effectiveness to induce fuel switching. Once more widely offered the rate's savings potential will act to catalyze third-parties to offer fuel switching services.

### ***Customer protections***

1. What are the potential financial, economic or other risks to the participating customer in this program and what customer protections does this proposal provide to mitigate customer/participant risk?

While the rate is designed to be lower cost than otherwise available electricity tariffs, and will likely be significantly less expensive than the fossil fuel being replaced, it's possible, though quite unlikely, that fossil fuel prices could drop below even the discounted rate.

- a. Describe any penalties that may be imposed if the customer does not repay the loan (such as credit reporting, asset forfeiture, utility disconnection). N/A
- b. Describe any non-financial terms and conditions customers must satisfy to stay in compliance with the program.

Customers must agree to allow SBCE to monitor their electricity, including access to direct monitoring and measurement of installed devices.

2. What processes will be included to ensure that customers understand and can shoulder the full financial burden of participating in this proposed financing program? N/A
3. How will the repayment obligation transfer if the participating customer vacates a property they lease or own? How will repayment obligations be communicated to any new tenants or owners? N/A
4. Describe the customer outreach component of the program. Will community-based organizations or groups support and facilitate customer outreach to ensure all participating customers are appropriately made aware of their obligations, and if so, how?

Santa Barbara Clean Energy is operated by the City of Santa Barbara, which has robust community engagement practices and strong partnerships. SBCE plans to leverage existing relationships with local energy, environmental, and social justice advocacy groups to educate and recruit participants for the pilot. Additionally, SBCE will take advantage of its membership in the Santa Barbara County Regional Climate Collaborative, a network of regional local governments, community benefit organizations, and local business interests, to amplify engagement.

The City contracts with the County of Santa Barbara's Office of Education to be supported by their Promotores program, sophisticated Spanish-language advocacy training program that educates community ambassadors to engage with Spanish-speaking community members on significant issues, including clean energy programs and associated requirements.

SBCE staff members will be thoroughly trained in how the program works and how to ensure that all participants are fully aware of commitments and obligations. SBCE sees this as a partnership with community members, who are also our customers, and will implement the pilot in a way that creates significant community benefits.

### **PART III: Program design and delivery details**

What sector(s) will this program target (i.e., residential (Single Family/Multifamily), commercial, industrial, agricultural, public, disadvantaged, and hard-to-reach)?

#### ***Targeted Customer Sectors***

This program will target single-family customers, including those located in disadvantaged communities, with at least 30% of pilot participants consisting of ratepayers eligible for the CARE rate.

#### ***Customer Eligibility***

The DIR is open to all customers regardless of debt, income, credit score, or renter status.

Eligibility requirements for pilot program participation include:

1. Single family residential customers receiving electric service at a location with a meter.
2. Customer must have maintained an active utility account for the previous 24 months and had service at the premises to be retrofitted for least 12 months.
3. Renters may participate in the program as long as the building owner agrees to permit the program sponsor to install upgrades that replace fossil fueled appliances with electrical units in the building. The owner will be required to maintain the upgrades (and not damage them).
4. Eligible measure installation is confirmed.
5. Customer must be in good payment standing from when the customer's program application is approved through the funding of the investment. A customer's payment standing will be determined according to a Payment History Screening, which may be based upon the existence of any 24-hour disconnection notices in the last 12 months. If the Customer does not pass the payment screening, an appeal may be submitted to the program through a utility Account Representative.



Customer engagement efforts will seek to identify customers who (a) experience high energy bills; and (b) data analytics point to super high natural gas usage associated with space and/or water heating. Customers with elevated energy use will be recruited to participate in the pilot program given the likelihood of better economic return and environmental benefits for that project. The program will focus on eligible high energy users in the top 10 to 25% of usage. Equipment that is nearing the end of its useful life also offers attractive planned replacement opportunities.

Additional electricity use caused by the fuel switching will be tracking through a longitudinal analysis of consumption, as bolstered by site, appliance-specific, data collection.

### ***Eligible Technologies***

LGSEC/SBCE proposes that the CPUC fully fund the DIR pilot, including all project installation costs and measures and interventions. However, if preferred, on-bill financing could be linked with the DIR as a means to pay for fuel switching. At a minimum, eligible technologies will include conversion of gas space heating and water heating end uses to high-performance electric alternatives, with a pilot goal of implementing 300 such conversions. Implemented technologies should be controllable to minimize loads during peak periods.

If the pilot is successful the DIR rate, in combination with TOB and other efficiency initiatives, could be offered universally by the state's IOUs, with a wider set of technologies eligible to participate in the rate. On-bill financing (OBF) is a mechanism that allows utility customers to pay for the cost of an electrical upgrade, currently limited to energy efficiency, which is repaid through a fixed monthly installment on the utility bills.

Customer energy and emission savings calculations will be based on the measure's installation cost and life cycle savings estimates, which will be evaluated through the pilot.

### **Table 9. Technology Components of Proposed Program Measure Package**

<b>Technology</b>	<b>Rationale</b>	<b>Equipment to be Replaced</b>	<b>Funding Source</b>
Heat Pump, minimum 10 HSPF (2.9 COP), 18 SEER	Significant source of residential GHG emissions; specify the most cost-effective efficiency level commercially available.	Natural Gas Furnace, FAU, or similar	CPUC and/or TOB
Heat Pump Water Heater, 50 or 80 gal., minimum 3.1 COP, with Internet-enabled controls	Significant source of residential GHG emissions; specify the most cost-effective efficiency level commercially available.	Natural Gas Water Heater	CPUC and/or TOB
Service panel upgrade, as needed, smart panel (Span, Square D Energy Center, or equivalent)	Pre-condition for whole-house electrification		CPUC and/or TOB

### ***Combining Financing and Incentives***

The Pilot will adhere to the Commission’s four overarching guiding principles for incentive layering, as articulated in D.21-11-002, issued on November 9, 2021:

1. Ease of participation

All single-family residential customers will be eligible, subject to pilot program criteria. Equity goals will be achieved through allocating at least 30% of pilot participation to CARE customers. Eligibility will be conditional upon participation in a TOB installation of a space and/or water heating electrification measure.

2. Complementary incentives

For owner-occupied homes, all available incentives will be offered along with the DIR-linked measures as means to provide comprehensive services.

3. Non-duplicative attribution of program benefits

GHG benefits will be attributed to the City of Santa Barbara (Santa Barbara Clean Energy).

4. Ongoing coordination between program administrators and implementers

The Pilot will seek to leverage extensive community relationships achieved by being a City operated CCA to facilitate measure and pilot implementation. SBCE staff will provide guidance and technical expertise to ensure all achievable and complementary incentives are realized and stacked appropriately.

## **Part IV: Costs and Benefits**

This proposed pilot will implement 300 electrification measures to convert space and/or water heating from natural gas to electricity over a two-year period.

### ***Program Budget***

The following table shows an itemized program budget, including capital requirements, start-up, risk mitigation, and operating requirements.

### **Program Budget**

<b>Line Item</b>	<b>Explanatory Notes</b>	<b>Budget Amount</b>
Project Capital Investment		\$3,735,226
Incentives	These funds may be available through TECH incentives, previously budgeted public purpose charge funds; including tax credits. If not, they are requested from the CPUC.	\$1,264,000
<b>Total Capital Requirement</b>		<b>\$4,999,226</b>
<b>Start-up costs</b>	<b>Billing system and program IT setup, legal and other costs</b>	<b>\$100,000</b>
Measure effectiveness reserves	5% of measure costs	\$123,298
<b>Total Risk Mitigation</b>		<b>\$123,298</b>
Administration	10% of program costs	\$100,600
Marketing and outreach	6% of program costs	\$60,300
Implementation		\$855,250
M&V	In-kind contribution from Santa Barbara Clean Energy	\$100,000
<b>Total Operating Costs</b>		<b>\$1,116,150</b>

<b>Total Program Budget</b>	<b>Capital + Startup + Risk Management + Operating</b>	<b>\$6,338,674</b>
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Funding sources for the budgeted line items are proposed as shown in the table below.

### Proposed Funding Sources

<b>Line Item</b>	<b>Budget Amount</b>	<b>Explanatory Notes</b>
Project Capital Investment	\$3,735,226	Ratepayers: public purpose charge funds
Incentives	\$1,264,000	This assumes TECH incentives, previously budgeted public purpose charge funds; possible state & federal funds, including tax credits are available which is an unknown at this time
Start-up costs	\$100,000	CPUC
Risk Mitigation	\$123,298	CPUC
Program operating costs (partial)	\$250,000	Santa Barbara Clean Energy Operating Funds
Program operating costs (balance)	\$866,150	CPUC

<b>Summary of Funding Sources</b>	<b>Total Dollar Amount</b>
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CPUC (Ratepayers: public purpose charge funds)	\$4,824,674
Incentives (if available)	\$1,264,000
Santa Barbara Clean Energy Operating Funds	\$250,000
<b>Total</b>	<b>\$6,338,674</b>

### *Forecasted Benefits*

The benefit analysis was developed from a hypothetical scenario of 300 retrofits of single-family homes involving replacement of furnaces, air conditioners, and water heaters with heat pumps and heat pump water heaters. In practice, the program expects to service a range of projects with varying scopes of work, investment requirements, and project benefits.

### **Expected Lifecycle Program Benefits<sup>15</sup>**

<b>Benefit</b>	<b>Heat Pump</b>	<b>HPWH</b>	<b>Total</b>
GHG reductions (mt eCO <sub>2</sub> )	11,000	2,275	13,275
Electricity savings (MWh)	-15,000	-2,750	-17,750
Gas savings (MTherms)	2,300	500	2,800

<sup>15</sup> Rough estimates. Actual benefits are likely to be higher because SBCE defaults customers to 100% Carbon Free.

Customer bill savings	\$2,922,150	\$223,965	\$3,146,120
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### ***Metrics and Key Performance Indicators***

The DIR pilot’s primary purpose is to “kick the tires” on the rate, so that it can then be successfully adopted more widely, inducing private sector capital in service of decarbonization.

Program success will be measured by a number of KPIs and metrics, including:

- Whether the pilot successfully demonstrated that the rate could induce fuel switching benefits;
- The pilot’s success in reducing fossil fuel use and customer bills; and
- How the DIR rate and ancillary measurement and other criteria can best be configured to serve its purpose, or whether it should be closed.

Specifically, the following are the baseline KPIs that the pilot will look to measure:

#### **Affordability:**

- Ability of pilot measures to keep customer cost neutral (or save money) on monthly electricity bills.
- Customer benefits demonstrated and quantified so that they can be leveraged to attract third party capital.
- Ability of capital stack to successfully offset a variety of project configurations.
- Projected annual and lifetime utility bill savings (using meter-based data whenever appropriate and feasible).

#### **Maximum Impact, Uptake, Reduced Complexity:**

- Ability of granular customer data to be used to estimate customer uptake or measure interest.
- Number of high gas users converted to electric space heating and cooling.

- Number of TOB/DIR participants, level of interest, ease of pilot enrollment.
- Market share for eligible technologies.
- Cost per metric ton of avoided GHG emissions (using meter-based data whenever appropriate and feasible).

**Minimizing Risk:**

- Customer energy bills remain net neutral.

**Equity and Inclusion (based on the equity indicators identified in Goal 9 of the Environmental and Social Justice Action Plan):**

- Number of Spanish-speaking customers engaged and enrolled in the pilot.
- Number of CARE households served.
- Number and percentage of workers involved in implementation that are disadvantaged or otherwise underrepresented.
- Expected first-year energy, GHG, and utility bill savings for equity-targeted participants.
- Number of residential equity-targeted households receiving upgrades that are expected to improve home comfort, safety, and health outcomes.
- Health and safety issues abated for equity-targeted households.
- Number of residential equity-targeted households that could not be served due to the need for additional home repairs.
- Customer comprehension of program offers and satisfaction with program outcomes.
- Effectiveness of marketing and outreach campaigns based on engagement metrics.

**Local Clean Energy and Climate Goals**

- Number of pilot participants in Santa Barbara Clean Energy's 100% Green service offering.<sup>16</sup>
- Number of GHG emissions reductions achieved per dollar invested
- Number of TOU peak kWh reduced or added
- Synergy with ancillary CCA programs, such as Resource Adequacy and demand-

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<sup>16</sup> 100% Carbon Free, this offering is SBCE's default product and 98% of customers remain in this tier level



response.

Additionally, the Commission decision<sup>17</sup> directs staff and the program evaluator to consider a number of possible additional metrics including (1) market share data (i.e., demographic factors) for technology adoption, (2) customer outreach and customer satisfaction, benchmarked relative to customer awareness and satisfaction of customer incentive and direct install programs; and (3) contractor performance, as measured by program quality control outcomes. The Program will incorporate this guidance into its pilot tracking and reporting activities, process evaluation, and measurement and verification plans.

### ***Schedule and Process for Tracking and Evaluating KPIs***

Data collection protocols for tracking and reporting KPIs will be created during pilot development and updated and reported upon on an ongoing basis. Evaluation of KPI outcomes relative to pre-established benchmarks will occur annually at each anniversary of pilot launch, at which point the program will be evaluated for success, reconfiguration and further deployment.

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Respectfully submitted,

/s/ Steven Moss

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<sup>17</sup> CPUC Proceeding R.19-01-011, Decision D.20-03-027, adopted March 26, 2020. See: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M330/K031/330031291.PDF>