

Central Coast Community Energy

FY 21-22 Energy Programs 30 – 60% Design Package

Executive Summary

In FY 21 -22, CCCE staff will administer six programs recommended by the AHC including:

- Light-Duty Electric Vehicle and Private Charging Program
- Light-Duty Electric Vehicle Public Charging Program
- Energy Education, Workforce Development, and Innovation Grant Program
- Residential Electrification Program
- Agriculture Electrification Program
- Battery Energy Storage Program

Some of these programs will be expansions of and improvements upon existing successful programs that will be launched by staff early in FY 21 – 22. Others will be brand new offerings that will require 3rd party vendor(s) to support program design and implementation and will be launched later in FY 21 - 22.

In addition, while not included in this document, staff will engage with consultants to conduct research, planning, and design work in the following areas:

- Medium and Heavy-Duty Electric Vehicles and Infrastructure
- Residential and Commercial Demand Response
- Commercial Electrification

These efforts will position CCCE for success and, if advisable, to administer programs in these areas in the future.

FY 21 – 22 Energy Programs	FY 21 – 22 Research, Planning, and Design
Light-Duty Electric Vehicle and Private Charging Program	Medium and Heavy-Duty Electric Vehicles and Infrastructure
Light-Duty Electric Vehicle Public Charging Program	Residential and Commercial Demand Response
Energy Education, Workforce Development, and Innovation Grant Program	Commercial Electrification
Residential Electrification Program	
Agriculture Electrification Program	
Battery Energy Storage Pilot Program	

Introduction

The purpose of this document is to provide a public reference for preliminary design details for the energy program concepts recommended by the Ad Hoc Committee (AHC) and approved by the Community Advisory Council. This document serves as the basis of the programs that will be administered by Central Coast Community Energy (CCCE) staff in FY 21 – 22.

CCCE welcomes feedback from the community including customers, member agencies, and community-based organizations. This document will be posted on our website until **Wednesday, July 14th** and those interested in submitting formal feedback are encouraged to do so via email to: **Programs@3ce.org**. Staff will review and post formal responses to questions and concerns on CCCE's website.

The AHC's recommendations and the details contained in this design package are the result and culmination of a nine-month phased program design across CCCE's service area. This process included community surveys, stakeholder engagement, six public workshops including two in Spanish, extensive quantitative and qualitative analysis, and the formation of a five member AHC dedicated to evaluating, selecting, and recommending program design concepts. The AHC met thirty times and worked collaboratively with staff to winnow down hundreds of program concepts to its final ranked "shortlist" of recommendations.

FY 21 – 22 Energy Programs

Light-Duty Electric Vehicle and Private Charging Program

Program purpose

The Light-Duty Electric Vehicle and Private Charging Program is intended to reduce GHG emissions from light-duty vehicles and increase market penetration of electric vehicle (EVs) by providing CCCE customers with rebates to purchase EVs and install Level 2 EV service equipment (a.k.a Electric Vehicle Supply Equipment or EVSE) at their homes or workplaces.

Description

CCCE has identified a critical need for additional light-duty vehicle EV incentives to increase local and regional EV adoption rates in order to meet State and regional climate action goals. The Light-Duty Electric Vehicle and Private Charging Program will offer rebates to CCCE customers who purchase or lease an EV. The program will offer incentives to both residential and non-residential customers for new and used Battery Electric Vehicles (BEVs), as well as electric motorcycles and electric bikes (E-Bikes). Higher incentive amounts will be available to income-qualified customers to promote greater adoption rates in disadvantaged communities.

Additionally, this program will provide CCCE customers with rebate after a completed purchase and installation of Level 2 EV Chargers. Program will be offered to residential, commercial, and member agency customers and includes an additional rebate for time and material costs associated with the EVSE installation.

The FY 21 - 22 Light-Duty Electric Vehicle and Private Charging Program will build off of the previous years' Electrify Your Ride and Charge Your Ride Programs. Design modification recommendations may include the following:

- Combining Electrify Your Ride and Charge Your Ride Programs into a single comprehensive program, under Electrify Your Ride.
- Increasing both the overall and incentive budget.
- Modifying vehicle eligibility requirements.
- Removing rebates for Plug-in Hybrid Electric Vehicles (PHEV) and Hydrogen Fuel Cell Vehicles.
- Adding rebates for electric bikes.
- Modifying rebate amounts to better complement other regional and state incentives.
- Modifying eligibility standards for income qualified applicants to allow more customers to qualify.
- Including individual and household income cap for residential customers.
- Increasing marketing and outreach efforts, particularly to underserved customers and communities.
- Integrating a purchase guidance program, particularly for low-income residents and those who speak English as a second language.
- Integrating a CCCE Board, Council, and Staff EV Ambassador component.
- Increasing focus on member agency and commercial fleets, as well as workplace charging.
- Integrating technical assistance, particularly for multi-unit dwellings, to support project development.
- Integrating new and used car dealer outreach and education.
- Operating the program year-round to increase participation and to enable member agencies and commercial customers to be able to budget more easily and anticipate funding in future years.

Desired Results

- Provide CCCE customers with local rebate incentive options that are stackable with other EV incentive program offerings
- Accelerate adoption of EVs in CCCE service area
- Drive further EV adoption in low-income communities
- Provide fleet operators with electrification opportunities
- Increase workplace charging
- Offer enhanced rebates to low-income customers and residents in underserved and disadvantaged communities

- Address charge and range “anxiety” for EV owners or prospective EV owners
- Provide rebates to customers to help address additional electrical work often associated with installing EV chargers
- Provide streamlined incentive process for customers

Impact Analysis

- **Environmental**
 - GHE Emissions Reductions: 7.4 MT CO₂(e) per passenger Internal Combustion Engine vehicle replaced (average).
 - Avoided criteria pollutant emissions including nitrogen oxides (NO_x), hydrocarbons, and volatile organic compounds (VOCs).
- **Economic**
 - Provides economic stimulus for residential, commercial, and public agency customers.
 - Increases local EV sales of both used and new vehicles, as well as e-bikes.
 - Increase EV charger installations throughout CCCE service area, bringing additional business to local installers.
- **Social Equity**
 - Enhanced incentives for income qualified applicants provide significant economic stimulus to choose EV over other vehicle options - up to \$15,000² combined with other state incentives.
 - Provide income qualified residents and affordable housing owners with enhanced incentives to build EVSE.

Incentive Budget and Allocation Targets

The recommended incentive budget for this program in FY 21 - 22 is \$2,000,000 - \$2,500,000. Budget recommendations for this program are subject to change.

Target Market and Customer Eligibility

- Target Market:
 - Residential Customers
 - Commercial Customers
 - Public/Member Agency Customers
- General Eligibility Guidelines:
 - Applicant must have installed at least one Level 2 EVSE.
 - Level 2 EVSE must be network-capable in order to receive rebates.
- Income Qualified Customer Eligibility Guidelines:
 - The income qualification threshold for Electric Vehicles and EVSE incentives is 400% of Federal Poverty Level.
 - The income qualification threshold for e-Bikes is 200% of Federal Poverty Level.

Communication and Outreach Needs

This program envisions leveraging CCCE internal marketing and outreach support. Needs will range from the development of digital and paper collateral, use of videos and social media, mass mailers, newsletters and email campaigns, earned media and PR, radio ads, and presentations and webinars.

The program also envisions leveraging the efforts of electrification education grantees and community partners who will be performing general community and consumer education and outreach in support of transportation electrification.

CCCE Program Integration

Several opportunities exist for integrating the existing Electrify Your Ride Program with current and future CCCE programs to enhance participation and impact. These include workforce development and training provided from education grants and demand response programs.

Additionally, this program is designed to be stacked with the following existing and future external electric vehicle programs:

- Clean Vehicle Rebate Project
- CA Clean Fuel Reward
- Clean Vehicle Assistance Program
- To Be Determined Monterey Bay Air Resources District EV Incentive Program

Integration w/ Energy Efficiency Programs from Partners

N/A

Acceptance Criteria

- Program funds will be made available to any eligible customer on a first come, first serve basis and applications will be approved in the order of which they are received.

Constraints

Known external risks or constraints to the program include:

- Disproportionate number of non-income qualified applicants.
- Demands a high number of staff hours to administer high volume of rebates.
- Difficult to perform income verification if threshold higher than CARE/FERA or LIHEAP standards.
- Cannot provide incentives accessible directly to tenants (split incentive).

Implementation Model and Resource Requirements

It is anticipated that this program will be administered and implemented largely by CCCE staff. Key opportunities for grant awardees, community-based organizations, and/or a 3rd party vendor to enhance program reach and utilization include:

- Increased and targeted community and consumer education and outreach in support of transportation electrification, especially to low- and mid-income residents and disadvantaged communities.

- Integrate a purchase guidance program, particularly for low-income residents and those who speak English as a second language.
- Integrate technical assistance, particularly for multi-unit dwellings, to support project development.
- New and used car dealer outreach and education.

Light-Duty Electric Vehicle Public Charging Program

Program Purpose

The purpose of the Light-Duty Electric Vehicle Public Charging Program is to increase adoption of light-duty electric vehicles by expanding and strengthening EVSE (electric vehicle supply equipment) charging infrastructure throughout CCCE's service area.

Description

EVSE infrastructure buildout is a key barrier to the widespread adoption of EVs throughout the California Central Coast. To address this barrier, CCCE's EV Infrastructure Program is proposed to be a combination of two projects: the California Electric Vehicle Incentive Project - South Central Coast Incentive Project (SCCIP) and a similar project in the northern (tri-county) portion of the CCCE service area. CALeVIP - SCCIP will combine state and local funds, in addition to CCCE program funds, to incentivize direct current fast charger dual standard (DCFS) and Level 2 charging installations at publicly accessible sites in San Luis Obispo and Santa Barbara Counties. Similar funding opportunities will be made available by CCCE for the counties of Monterey, Santa Benito, and Santa Cruz. The Program will have a particular focus on addressing barriers to EV infrastructure in disadvantaged (DAC) and Low-Income Communities (LIC) by allocating at least 50% of program funds to projects located in DAC or LICs.

The FY 21/22 Light-Duty Electric Vehicle Public Charging Program builds off of previous program experience. Between FY 19/20 - FY 20/21, CCCE offered CALeVIP - Central Coast Incentive Project (CCIP) to customers in Monterey, Santa Benito, and Santa Cruz counties. In July of FY 20/21, CCCE will launch CALeVIP - SCCIP - a three-year program serving customers in San Luis Obispo and Santa Barbara counties.

Desired Results

- Increase the number of publicly available DCFC and Level 2 EVSE throughout Central Coast Region.
- Address EVSE "gaps" for critical transportation/commerce corridors and tourist destinations.
- Leverage local funds with state funds to maximize investment into EV Infrastructure.

Impact Analysis

- **Environmental**
 - Indirectly reduces GHG emissions and other criteria pollutants (i.e. NOx, VOCs, etc.) emitted by passenger vehicles by increasing adoption of EVs.

- **Economic**
 - Financial opportunity for local businesses and public agencies
 - Investment stimulus for EVSE infrastructure
 - Increases electricity load revenue for CCCE
 - Generates traffic and potential patrons to destinations by using EVSE as an attraction mechanism to pull in EV drivers needing to recharge
- **Social Equity**
 - Provides investment for public EVSE infrastructure in DAC and LIC throughout the Central Coast.

Incentive Budget and Allocation Targets

The recommended incentive budget for this program in FY 21 - 22 is \$2,000,000 - \$2,500,000 for this Program to support public EV infrastructure build-out across the entire service area. Budget recommendations for this program are subject to change. Additional funds are anticipated to be committed/encumbered beyond the 2021-2022 fiscal year. CCCE intends to commit \$1,750,000 over the next three fiscal years for CALeVIP – SCCIP.

50% of all available incentive funds will be dedicated to DACs and LICs.

Target Market and Customer Eligibility

Any organization or property owner that controls publicly accessible vehicle parking areas that can accommodate EVSE can apply. This may include local businesses, public agencies, and multifamily housing owners.

Communication and Outreach Needs

This program envisions leveraging CCCE internal marketing and outreach support complimented by some targeted marketing effort provided by Center for Sustainable Energy. Needs will range from the development of digital and paper collateral, use of videos and social media, mass mailers, newsletters and email campaigns, earned media and PR, radio ads, and presentations and webinars.

The program also envisions leveraging the efforts of electrification education grantees and community partners who will be performing general community and consumer education and outreach in support of transportation electrification.

CCCE Program Integration

Public agencies and non-residential customers can couple Electrify Your Ride incentives funds with EV infrastructure incentive funds for comprehensive fleet electrification projects, as long as EVSE is made accessible to the public.

Integration w/ Energy Efficiency Programs from Partners

N/A

Acceptance Criteria

- EV infrastructure program funds will be made available to any eligible customer on a first come, first serve basis and applications will be approved in the order of which they are received.
- Must be CALeVIP-approved DCFS or Level 2 EVSE technology (i.e. charger must be on CALeVIP pre-approved EVSE eligibility list).
- EVSE must be network connected and meet minimum technical requirements according to CALeVIP guidelines.
- For DCFC charger or DCFC/L2 combo projects, charger(s) must be installed and operational within 15 months of the funds reserved date (date signifies application eligibility, rebate funds are officially reserved).
- For Level 2-only projects, charging station(s) must be installed and operational within 9 months of the funds reserved date (date signifies application eligibility and when rebate funds are officially reserved).

Constraints

Known external risks or constraints to the program include:

- CALeVIP-SCCIP funding is available only for San Luis Obispo and Santa Barbara Counties, additional program design consideration needed for Monterey, San Benito, and Santa Cruz Counties.
- Individual applications can take several months to process depending on project complexity.
- Incentives from programs that are considered stackable may be used to cover EV charger installation project costs not covered by CCCE's project, but in no case can stacking of incentives exceed actual charger purchase and installation costs. Only by meeting all Project requirements will an application be eligible for incentives.

Implementation Model and Resource Requirements

The Passenger EV Infrastructure Program will utilize the Center for Sustainable Energy (CSE) as its 3rd party vendor for implementing SCCIP and will integrate some or all of the following non-marketing and non-incentive resources:

- Planning and Research - market characterization and assessment of existing conditions and opportunities and needs of EV infrastructure throughout the Central Coast Region.
- Design - program design support.
- Technical Assistance - support provided to property owners or managers in support of project development.
- Online Application Portal - development and configuration of incentive processing website.
- Implementation – managing the day-to-day operation of the program including processing applications and incentives.
- Evaluation - monitoring and evaluation program performance according to pre-established metrics and KPIs captured in contract.

Energy Education, Workforce Development, and Innovation Grant Program

Program purpose

The purpose of the Energy Education, Workforce Development, and Innovation Grant (Grant) Program is to fund and support energy education, outreach, workforce development, and innovation projects. Funded projects are intended to advance CCCE's GHG emissions reduction goals and address barriers to building and transportation electrification, energy resiliency, as well as bridge gaps in workforce training and development.

Description:

This Grant program aims to develop the local workforce and increase public knowledge of the benefits of renewable energy, battery storage, building electrification, EVs, energy efficiency, and the electrical grid system. Projects under this grant program would be implemented by third parties and be funded partly or completely by CCCE's Grant Program.

The FY 21 - 22 Grant Program will build off of the previous years' Electrification Education Grant Program. Design modification recommendations include the following:

- Increasing the program budget and individual grant amounts to better support community and workforce needs and goals.
- Broadening the scope to include more energy-related proposals, such as battery storage, energy efficiency, and the electrical grid system.
- Providing a mechanism to accept community innovation grant proposals to be submitted to CCCE on a rolling basis from public agencies and community-based organizations.
- Integrating with and better supporting existing and future CCCE programs.
- Integrating with and leveraging similar programmatic efforts and resources from other regional and state partners.
- Supporting proposals for electrification lending libraries, such as induction cooktop programs.

Desired Results

CCCE anticipates funding between 5 – 10 projects under this grant. This program will fund education projects aimed at the general public, as well education/training for trade or industry workforce.

Impact Analysis Summary

- **Environmental**
 - The programs funded through this grant would indirectly support GHG emissions reductions by increasing awareness of electrification, energy efficiency, clean energy, and energy storage.

- This program will also provide training to building and design professionals to design and install GHG emissions reducing equipment and appliances.
- **Economic**
 - The Grant program will be structured to provide workforce development opportunities that will bring new skills to the Central Coast's workforce. This can have an impact on job growth in the energy and sustainability fields throughout the region while promoting local business development.
- **Social Equity**
 - Grant proposals that aim educational and workforce development opportunities at low-income customers and disadvantaged communities will be prioritized under this program.

Incentive Budget and Allocation Targets

The recommended incentive budget for this program in FY 21 - 22 is \$1,500,000 - \$2,000,000. Budget recommendations for this program are subject to change. Additional consideration is required to determine whether the total budget amount will be separated into discrete budgets for education, workforce development, and innovation project grants.

Target Market and Customer Eligibility

Any organization involved in community education and outreach, or workforce training and development is welcome to apply, including community-based organization, for-profit businesses, or public agencies. Work performed under the grant needs to be aimed at CCCE enrolled communities.

Communication and Outreach Needs

This program would be marketed to the public education sector as well as community-based organizations and member agencies engaged in education and outreach or workforce training and development. It would require outreach and communication with stakeholders and the public. CCCE may solicit applications for the program in which case the website will need to be updated with messaging and a link to the application. Additional outreach and communication directed at workforce development stakeholders is essential to spread awareness about grant opportunities.

CCCE Program Integration

CCCE welcomes grant applications that can provide support, spread awareness, and increase participation in any or all of CCCE suite of energy programs.

Integration w/ Energy Efficiency Programs from Partners

Grants funded under this program are encouraged to leverage other complimentary energy efficiency programs offered PG&E and SCE. Likewise, all building professionals can be referred to 3C-REN's Workforce Education & Training (aka Building Performance Training) and Codes & Standards (aka Energy Code Connect) programs.

Acceptance Criteria

It is anticipated that grant applications will be scored on the following criteria topics:

- Problem Scope – e.g. How well does the proposal address CCCE’s JPA goals to reduce GHG emissions, advance electrification, and stimulate the local economy?
- Program/project reach – e.g. How many people within the CCCE service area will the proposal directly educate? How many people will receive workforce development training?
- Program Goals and Objectives – e.g. Does the proposal outlay specific, measurable, achievable, relevant, and time-bound goals?
- Program Feasibility – e.g. Does the proposal offer a well-developed timeline, evaluation plan, schedule and budget that is likely to achieve the envisioned outcomes?

Constraints

Known external risks or constraints to the program include:

- Grant awardees canceling funded projects due to loss of other external funding sources.
- Risks associated with poor attendance for voluntary participation.
- Improper endorsements of products or businesses.
- High level of administration to manage each grant award.

Implementation Model and Resource Requirements

It is anticipated that the Electrification Education Grant Program will be administered and implemented by CCCE staff. Grant applications will be approved and funded on a competitive basis. CCCE will execute separate grant agreements for each awardee that will outline the specific terms of each grant (e.g. scope of work, deliverables, payment terms etc.). Grant funds will be administered on a reimbursement basis, per the terms of each grant agreement.

Residential Electrification Program (Existing Buildings)

Program Purpose

The intent of the Residential Electrification Program is to decarbonize existing residential buildings in the CCCE service area by helping customers switch out fossil-fuel water heating, space heating, and cooking appliances and equipment with high efficiency electric appliances and equipment.

Description

The Residential Electrification Program will provide single-family and multi-family home and building owners and renters with a comprehensive and flexible offering to help them navigate the challenges and complexities inherent to electrifying various end uses in existing residential buildings. Customer facing program services may include incentives, technical assistance, direct installation, an online marketplace, and 3rd party financing. Integrating smart, grid-connected controls where possible can also facilitate value for customers and CCCE through demand response and load shaving and shifting.

Due to a predominately coastal and temperate climate, heating water is the single highest use of natural gas and propane in residential buildings in CCCE's service area, followed by space heating. Heating water, therefore, is also the largest share of annual fuel costs making the payback for customers on the incremental cost for high efficiency HPWHs generally more attractive as compared to heat pump HVAC solutions. As a result, helping customers switch from fossil-fuel water heaters to heat pump water heaters (HPWHs) will be a critical focus for this program. Heat pump space conditioning is also a cost-effective fuel switching opportunity for CCCE customers in inland areas where cooling loads are significantly higher. Other potential residential fuel switching opportunities cooking and laundry.

Providing incentives to help reduce upfront costs of HPWHs, however, has proven insufficient for many other HPWH programs in California due to other challenges including the need for additional and often unanticipated electrical work. As a result, another critical focus will be helping customers assess and, if necessary, upgrade or replace their electrical service panels and perform any associated electrical work including the installation and wiring of dedicated circuits, conduit, receptacles, etc. By doing so, customers will also be better able to charge an electric vehicle, and electrify other residential end uses including space conditioning, cooking, and laundry.

Traditional residential water heaters have a relatively short useful life and experience a high rate of inventory turnover that presents frequent opportunities for market interventions and transformation. However, water heaters are often replaced at burnout presenting less than ideal conditions for programs to influence consumer decision making. While HPWHs are purchased from contractors/installers via wholesale distributors and directly from retail stores, more are currently purchased from and installed by contractors/installers. As a result, this program's current design envisions a midstream rebate model whereby incentives will be provided on a reimbursement basis to qualified contractors upon successful completion of work.

This program also contemplates:

- Collaborating and partnering with supply side actors including manufacturers, distributors, installers/contractors, 3C-REN, IOUs, CCAs, and others to build regionally-scaled, volume-based pricing – and therefore greater market demand for contractors, price certainty for customers, and clarity regarding market size, customer base, and penetration rates for all partners - to drive down upfront materials and labor costs.
- Stacking programs and incentives to help lower equipment and installation costs for participating customers. Significant opportunities already exist to do this with 3C-REN, SGIP, PG&E, SCE, and more on the horizon through TECH and federal funding.
- Integrating energy efficiency services and programs from other providers
- Integrating and providing 3rd party financing
- Utilizing a “single point of contact” to facilitate the customer journey and integrate program incentives and financing.
- Utilizing and/or starting w/ established trade pros/allies to demonstrate success and to help drive market competition among contractors.

- Integrating workforce education and training to help recruit and train contractors/installers to sell, install, and maintain HPWHs.
- Providing free HPWHs to participating contractors.
- Offering enhanced services and incentives for underserved and income-qualified customers.
- Integrating with Time of Use (TOU) rates and a future CCCE residential demand response program through network-capable residential equipment and appliances.
- Developing “Consumer Buyer’s Guides” for HPWHs
- Developing a consumer-facing Electrification Video
- Partnering with other providers who have aligned missions and resources including RENs, IOUs, 3rd party implementers, trade associations, workforce development boards, and other CBOs.

For a similar program model, see the [Heat Pump Water Heater \(HPWH\) Incentive for Contractors](#) from Marin Clean Energy, East Bay Community Energy, and BAYREN

Desired Results

The results of this program are predicated on the implementation model utilized, the number and type of measures offered, and the incentive levels offered to customers. Working with a 3rd party vendor, the Residential Electrification Program aims to replace between 250 – 500 fossil-fuel based water heaters with HPWHs in Yr. 1 with higher goals in subsequent years.

Impact Analysis Summary

- **Environmental**
 - Water heating holds the highest potential for emissions reductions.
 - For both water heating and space heating, switching fuel from natural gas to high efficiency electric heat pump achieves the highest levels of emissions reductions.
 - Two fuel switching scenarios showed a decrease in both emissions and customer utility cost: 1. switching from propane to a high-efficiency Air Source Heat Pumps (ASHP) and 2. Switching from any other fuel source to Heat Pump Water Heaters (HPWH).
 - Electric Resistance Water Heaters (ERWH) and low-efficiency ASHP both showed an increase cost to customers and marginal benefits due to the higher electricity usage, overall costs, and net emissions reduction.
 - Switching away from propane to electricity versus switching from natural gas to electricity will result in greater per unit emissions reductions because of propane’s fuel chemistry, albeit with a smaller target market.
- **Economic**
 - In a study done for 3C-REN for Ventura, Santa Barbara, and Ventura counties¹, it was determined that 53,000 water heaters will need to be replaced in the next five years, that the revenue potential from switching to HPWHs ranges from \$160,000,000 to \$460,000,000.

- It has been estimated that switching to a HPWH may save the average family between \$1,400 - \$4,000 over the lifetime of the unit (or approximately (\$100 - \$290/yr.).
- Building electrification presents thousands of building professionals on the Central Coast, including design professionals and contractors/installers, with a tremendous opportunity to grow their businesses, differentiate their services, and become more profitable.
- **Social Equity**
 - The elimination of combustion sources in home appliances and equipment directly contributes to occupant health and safety benefits, particularly improved indoor air quality from eliminating NOx and CO. Historically, low-income residents and communities of color have had less access to and participated less in energy programs, and due to significant upfront costs are likely to switch more slowly from fossil-fuel to electric appliances. Programs that target, offer higher incentives to, and provide additional support to low-income customers will be disproportionately beneficial to the health and safety, as well as the economic well-being of low-income customers.
 - Additional research and analysis may be beneficial, if not necessary, in the future.

Incentive Budget and Allocation Targets

The incentive budget for this program is predicated on the implementation model utilized, the number and type of measures offered, and the incentive levels offered to customers. The recommended incentive budget for this program in FY 21 - 22 is \$1,500,000 - \$2,000,000. Budget recommendations for this program are subject to change.

Target Market and Customer Eligibility

The Residential Electrification Program will target single-family and multi-family homeowners and renters (with fossil-fuel appliances and equipment). However, due to the primary way in which HPWHs (as well as heat pump space conditioning equipment) are purchased and installed, this program will also target contractors and installation professionals, as well as wholesale distributors and supply houses.

The customer participating in the program must be an active and current CCCE residential customer in good standing. Only equipment and appliances that are switched from fossil fuels to all-electric will be eligible.

Communication and Outreach Needs

This program envisions leveraging CCCE internal marketing and outreach support complimented by some targeted marketing effort provided by a 3rd party implementer. Needs will range from the development of digital and paper collateral, use of videos and social media, mass mailers, newsletters and email campaigns, earned media and PR, radio ads, and presentations and webinars.

The program also envisions leveraging the efforts of electrification education grantees and community partners who will be performing general community and consumer education and outreach in support of building electrification.

CCCE Program Integration

Several opportunities exist for integrating the Residential Electrification Program with current and future CCCE programs to enhance participation and impact. These include workforce development and training provided from education grants, EV charging, and demand response, and resiliency programs.

Integration w/ Energy Efficiency Programs from Partners

Electrification is always more beneficial to customers if coupled with energy efficiency, especially for space conditioning applications. CCCE customers shall be encouraged to participate in, and provided information related to complimentary energy efficiency programs offered by other organizations in the CCCE service area, like 3C-REN's Multi-Family and Single-Family Direct Install Programs (aka Home Energy Savings) for Hard-to-Reach customers. Likewise, all building professionals can be referred to 3C-REN's Workforce Education & Training (aka Building Performance Training) and Codes & Standards (aka Energy Code Connect) programs.

Low-income customers will be encouraged to participate in, and provided information related to complimentary programs offered by Central Coast Energy Services, Community Action Partnership of San Luis Obispo County, and CommUnify – including the Energy Savings Assistance Program, Low-Income Heating Assistance Program, and more.

Acceptance Criteria

Proof of purchase and installation will be required. This will be a first come first serve program with geographical thresholds.

Constraints

Known external risks or constraints to the program include:

- Electrifying existing residential buildings is challenging, and even more so in low-income, underserved, and disadvantaged communities.
- Significant gaps and barriers exist related to consumer education and outreach, workforce education and training, and the wholesale and retail supply chains.

Implementation Model and Resource Requirements

The Residential Electrification Program anticipates using 3rd party vendor and/or consultant support and leveraging some or all of the following non-marketing and non-incentive resources:

- Planning and Research - market characterization and assessment of existing conditions and opportunities and needs of residential buildings in service area.
- Design - program design support related to contractor interface, education and training, recruitment, certification and qualification.

- IT/Software - online customer and contractor facing storefront/marketplace and engagement platform.
- Technical Assistance - support provided to single-family and multi-family home and building owners and renters to assess existing conditions, identify opportunities, and provide recommendations and technical assistance in support of project development.
- Workforce Education & Training – integrated to help recruit and train contractors/installers to sell, install, and maintain HPWHs. This could involve a partnership with HPWH manufacturers and training providers.
- Installation - direct installation of electrification measures as a key feature and option available to customers of this program.
- Implementation – managing the day-to-day operation of the program including processing applications and incentives, providing technical assistance, managing installation services, running a marketplace, recruiting and training contractors, providing QA/QC, and performing program evaluation.
- Evaluation - monitoring and evaluation program performance according to pre-established metrics and KPIs captured in contract.

Agriculture Electrification Program

Program Purpose

This program aims to reduce greenhouse gas emissions related to fossil fuel powered equipment in the agriculture (Ag) Sector.

Description

This program provides rebates to the Ag customers for replacement of fossil fuel powered equipment with new electric equipment including farm tools, irrigation pumps, vehicles, and other equipment.

CCCE will accomplish this by providing incentives to eligible Ag customers who engage in equipment electrification projects. Incentives will be provided “downstream” to the customer and will continue to be administered and implemented by CCCE programs staff.

This is an existing CCCE program that has been offered for two years and has been over-subscribed each year. It is proposed to be implemented again in FY 21/22 with the following changes and considerations for the next iteration:

- Increasing overall budget and incentive budget; enhancing incentives for certain equipment types that exhibit higher GHG impact or other economic and social benefits. CCCE will consider providing rebates for electric service upgrades and increasing incentives for customers who can prove small to medium business status.
- Allowing customers that may not be on an approved Ag rate, but directly support the Ag sector to apply for incentives.
- Providing technical assistance to encourage more customers to electrify their equipment.

- Expanding the scope of this equipment replacement program to include Medium to Heavy duty farm vehicles and associated EVSE.
- Promoting and/or offering enhanced incentives for network-capable equipment with the potential for participation in future CCCE commercial demand response program.

Desired Results

The first two iterations (FY 19 - 20 & FY 20 - 21) of the Ag Electrification program were over-subscribed and have or will fund their fully budgeted amount of \$160,000 and \$400,000, respectively. For FY 21- 22 CCCE hopes to increase the scale of the program further while also addressing the gap in applications from small and medium farming operations.

Impact Analysis Summary

- **Environmental**
 - Ag electrification projects yield high estimated GHG reductions (as well as particulate matter) when compared to other electrification project types.
 - Estimated GHG reduction calculations show a program total of ~2,700 Mt CO₂ per year in ongoing reduced emissions.
- **Economic**
 - Incentives support up to 80% of total project cost, not to exceed \$20,000. Historically, CCCE incentives have covered an average of 55% of the total cost of customer projects.
 - Ag electrification presents farm equipment suppliers and ag contractors on the Central Coast with an opportunity to grow their businesses and differentiate their product and service lines.
 - Electrification projects increase electricity consumption and thereby increase CCCE revenue from electricity sales. Second round applications show a potential increase of over \$150,000 per year in CCCE revenue (using AG4B rates).
- **Social Equity**
 - Over 85% of the applications received in the FY 20/21 Ag Electrification Program indicate that the equipment being replaced operates in close proximity to people who are working. People who work in agricultural fields provide an essential service to local communities. These projects may serve to improve air quality for field workers and related workers.
 - CCCE seeks to support projects especially at small and medium farming operations. CCCE recognizes that a large percentage of applications have historically come from larger customers who are more financially able to complete projects without CCCE incentives/support.

Incentive Budget and Allocation Targets

The recommended incentive budget for this program in FY 21 - 22 is \$650,000 - \$850,000. Budget recommendations for this program are subject to change.

Target Market and Customer Eligibility

Commercial CCCE customers on Ag rates that utilize agricultural equipment powered by fossil fuels. Replacement of older equipment may yield more significant emissions reductions of both GHGs and particulates.

Customer Eligibility:

- Must be a current CCCE customer in good standing.
- Commercial agriculture business or business directly supporting the ag industry.

Communication and Outreach Needs

Key stakeholder groups include Ag associations (farm bureau, vintners association, etc.), equipment manufacturers and suppliers, chambers of commerce, farm worker associations, air resource control districts, etc. Outreach will be conducted with key stakeholder groups in order to gather input and perspective which will further inform program design.

This program envisions leveraging CCCE internal marketing and outreach support complimented by some targeted marketing effort provided by a 3rd party implementer. Needs will range from the development of bi-lingual digital and paper collateral, use of videos and social media, mass mailers, newsletters and email campaigns, earned media and PR, radio ads, and presentations and webinars.

CCCE Program Integration

Certain customer projects may be good candidates for Demand Response or DER Management programs that CCCE may implement in future years.

Integration w/ Energy Efficiency Programs from Partners

CCCE may encourage applicants to participate in additional existing Ag efficiency/electrification programs offered by IOUs or other state agencies, for example the Advanced Pumping Efficiency Program offered by PG&E or USDA RCD programs. CCCE may also refer applicants to existing free energy audit services, for example the one being offered by San Jose State University.

Acceptance Criteria

Projects are scored based on the following criteria:

- GHG reductions
- Customer cost impact
- Added load and revenue to CCCE
- Customer type i.e. small medium farm, hard to reach

Constraints

Known external risks or constraints to the program include:

- Long interconnection wait times significantly delay projects that involve the establishment of a new service agreement with PG&E.
- Supply chain issues due to the COVID-19 pandemic.

- Hard to reach customers who might not apply due to communication barriers.

Implementation Model and Resource Requirements

The program will be administered and implemented by CCCE staff. Unless technical assistance is provided to customers via a 3rd party vendor, no additional resources beyond staff time, marketing, and incentives are currently anticipated.

Battery Storage Pilot Program

Program purpose

The proposed purpose of this pilot program is to support development and utilization of behind the meter (BTM) battery resources to provide energy services especially “resiliency” in the CCCE service area. *Resilience* is the ability of people or things to recover quickly from difficulty. In this case, *resilience* refers to the ability of customer critical energy load to *ride-through* a utility grid outage.

Description

In recent years, climate change has triggered an increase in the frequency and intensity of extreme weather events impacting the California Central Coast. These catastrophic events often disrupt the Central Coast’s electrical grid, causing prolonged power outages and inflicting hardships on CCCE customers. In an effort to adapt to the worsening climate crisis, an increase in distributed energy resources (DER), including BTM battery resources, are necessary to increase energy resiliency and grid reliability.

The proposed program is new and does not build on existing CCCE program implementation. Additional program evaluation is required to determine the best-fit program model to meet the needs of CCCE and its customers. This includes further analysis on grid enhancement and resiliency benefits, potential customer savings, value added to the CCCE energy portfolio, and potential future Resource Adequacy (RA) value. Depending on the selected model for delivery, this program may also leverage both Self Generation Incentive Program (SGIP) and the federal Investment tax credit (ITC), where appropriate.

Program implementation could include the following:

- Distributed PPA: Partnership with program manager and Energy, Procurement, and Construction (EPC) firm. Several models to be reviewed.
- Direct Incentive: Provide incentive to customer for installing BESS
- Customer Lead Generation to one or more EPCs: Release an RFQ and select a vendor, simple partnership to cull customer data and facilitate lead generation, warm hand-off.
- Payment for participation load shifting/shaping: Establish an “in house” program providing incentives for CCCE desired load shift/shape and requiring CCCE (or 3rd party) to analyze meter data. Program design would detail appropriate compensation structure.

Desired Results

Staff and stakeholders have identified that supporting resilience as well as cost savings and grid benefits through deployment of BESS is beneficial and warranted. However, this program concept is not sufficiently detailed to provide recommended results at this time.

Impact Analysis Summary

- **Environmental:**
 - An initial GHG emissions reduction study was performed by staff showing likely GHG reductions depending on timing and source of charging and discharging of stored energy.
 - BESS contain rare earth metals, liquids, metals and plastics and consume energy (station energy).
- **Economic:**
 - Further design and analysis of this pilot program is required to understand the net economic impacts of this proposed program.
- **Social Equity:**
 - CCCE is interested in workforce development opportunities and providing enhanced incentives and additional technical support for income qualified customers. Part of the focus of this effort is specifically to provide additional support to medical baseline, low-income customers, and DAC residents, as well as business entities driving local economic opportunities.

Incentive Budget and Allocation Targets

Upon further refinement of program design and desired results, staff will generate an incentive and overall budget recommendation.

Target Market and Customer Eligibility

Specific target customer groups or classes include medical baseline, low-income customers, disadvantaged communities (DACs) and businesses providing critical services and jobs locally. Customer energy usage and load profiles may be incorporated into the target market analysis. CCCE would like to ensure fair and equitable access to Program offerings.

Communication and Outreach Needs

The proposed program would leverage the suite of communication and outreach tools available to CCCE Programs through the CCCE Communications and Outreach Department. This program may also leverage third party partner marketing and outreach. Outreach may include website development, targeted customer segment outreach, radio and television, flyers, posters, direct email and direct telephone, webinars, etc.

CCCE Program Integration

This program, because it involves charging, storage and release (dispatch) of energy to the grid, may integrate with the Power Services department. This program may also be independent of other CCCE departments. The program could interact with the following programs in the Programs Department portfolio:

- EV programs: both EVs and Charging infrastructure (vehicle to grid integration)
- Ag Electrification: with battery based projects
- Electric bus: utilizing bus batteries when available (vehicle to grid integration)
- DR: Load shift and load shed opportunities within the rules of applicable programs

Integration w/ Energy Efficiency Programs from Partners

TBD

Acceptance Criteria

At this stage of program development, acceptance criteria are not established. Customer participant selection may be first come first served or may be determined through other means such as load profiles, medical baseline rate, CARE/FERA status, NAICS code, etc.

Constraints

Known external risks or constraints to the program include:

- Battery storage systems are complicated and require professional installation to ensure safety.
- Projects are subject to regulatory requirements, as determined by city or county building standards and codes.
- Larger projects may require a high degree of engineering and design by EPCs, significantly increasing project costs.
- Useful lifespan and manufacturer warranties are limited (around 10 years) on current existing battery technology, reducing ROI potential.
- Supply chain shortages and challenges.

Implementation Model and Resource Requirements

The Battery Storage Program anticipates using 3rd party vendor and/or consultant support and leveraging some or all of the following non-marketing and non-incentive resources:

- Planning: CCCE may require a 3rd party partner(s) to understand market potential, and adequately plan for implementation as the design, installation, settlement, operation, and maintenance of BESS operations is not currently within CCCE capability. However, in the case of a simple incentive, limited planning is required.
- Design – CCCE will look to similar battery storage programs or seek to partner with existing successful programs.
- IT/Software: TBD based on implementation model. Minimum would be participant mapping and load tracking using existing capabilities.
- Technical Assistance: TBD based on implementation model.
- Implementation – managing the day-to-day operation of the program including supporting customer enrollment, providing technical assistance, providing QA/QC, and performing program evaluation and reporting.
- Evaluation – monitoring and evaluation of program performance according to pre-established metrics and KPIs captured in contract.