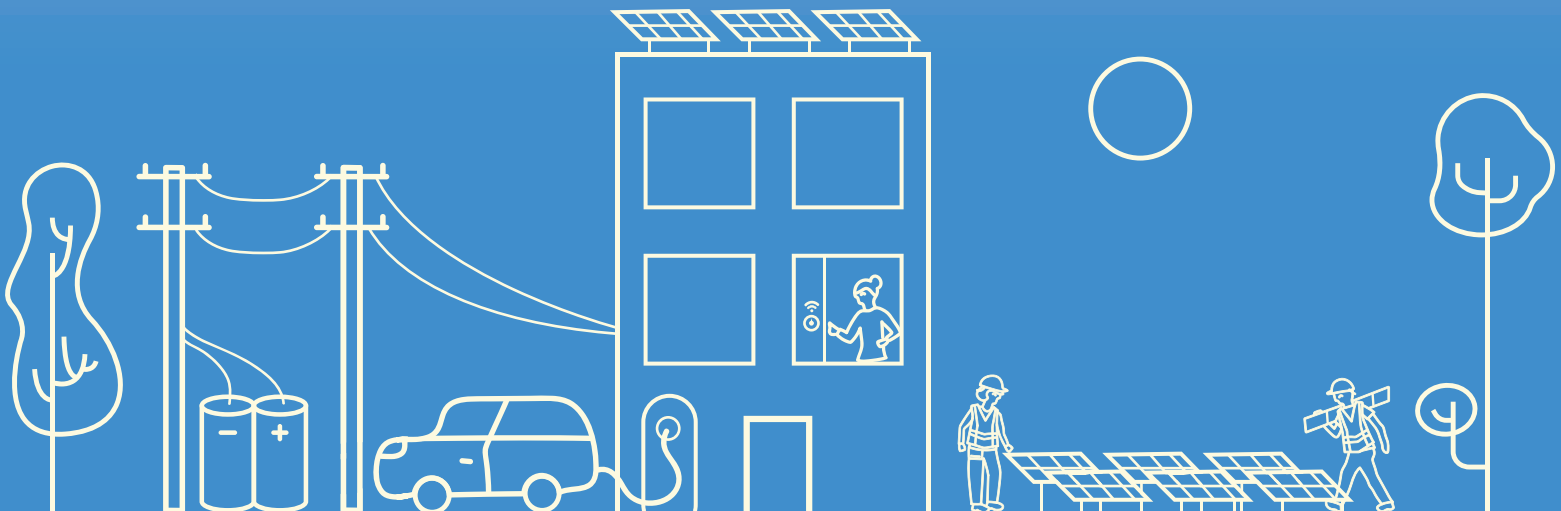




2020

Local Programs

for a Clean Energy Future



A photograph of two large white wind turbines in a field of tall grass. The sky is filled with dramatic, grey and white clouds, with some light breaking through. The turbines are positioned on a slight rise in the landscape.

Acknowledgements

Clean Power Alliance staff led the development of *Local Programs for a Clean Energy Future*, with the assistance of Arup North America, Ltd. and The Cadmus Group. The entire project team greatly appreciates the contributions and guidance from the CPA Board, our Community Advisory Committee and the many community members who provided invaluable feedback.

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Section 1

Introduction

What is Clean Power Alliance?

Clean Power Alliance (CPA) is Southern California's locally operated electricity provider (a Community Choice Aggregator, or CCA), offering clean renewable energy at competitive rates. Originally established in 2017 as a Joint Powers Authority, CPA now serves approximately three million people through approximately one million customer accounts across 32 communities in Los Angeles and Ventura Counties.

Figure 1: Map of Clean Power Alliance's service territory



How CPA service works

Clean Power Alliance purchases clean power from a variety of sources in California and the surrounding region, while Southern California Edison (SCE) delivers the power to customers through its existing infrastructure and remains responsible for customer billing and resolving electricity service issues. CPA customers can choose from Clean Power Alliance's three rate options, with the default rate chosen by each local community.

- **Lean Power** offers 36% - 40% renewable energy content at a 1-2% overall bill discount compared to SCE base rates.
- **Clean Power** offers 50% renewable energy content at a 0-1% overall bill discount compared to SCE base rates.
- **100% Green Power** offers 100% renewable energy content at a 7-9% overall bill premium compared to SCE base rates.

INTRODUCTION

Customers can switch among CPA rate options at any time. At the end of 2019, customers' rate selections closely mirrored their communities' default rate:

Table 1: Percent of customers served by each of CPA's three rate options as of December 2019

Rate Option	% of Customers
100% Green	29%
Clean	52%
Lean	19%
Total	100%
Customers on Financial Assistance Programs (CARE, FERA, Medical Baseline) ¹	27%

Governance and Leadership

Clean Power Alliance is governed by a Board of Directors comprised of local elected officials from each of its 32 member jurisdictions. Four standing committees support the Board in its decision-making process: Executive, Finance, Legislative & Regulatory, and Energy Planning & Resources. Additionally, Clean Power Alliance has a 15-member Community Advisory Committee of residential and business customers who advise the Board on programmatic actions that impact CPA customers and help educate and advocate for CPA as leaders in their local communities.

CPA operations are led by a growing team of over 30 employees who implement the Board's direction in all areas including procurement, rates, customer support, policy, and communications. CPA staff represents a diverse set of expertise and come from a variety of backgrounds including energy and clean technology, non-profit, local government, and private sectors.

¹ Customers on these rates located in communities that have chosen 100% Green as their default, receive 100% renewable energy at no additional cost, paying CPA exactly the same amount as they would otherwise pay SCE for its base rate.

Local Programs for a Clean Energy Future

What is a Local Program?

Local programs are products, services, or financial incentives offered by CPA to help CPA, its communities and its customers co-manage their relationship with the energy system. These programs can bring local benefits such as customer cost savings, economic and workforce development, improved air quality and public health, and more resilient communities. Local programs can also help CPA manage the risks associated with a rapidly decarbonizing grid and develop resources to continually innovate and deliver reductions in greenhouse gas emissions. Implemented successfully, local programs can provide benefits for both CPA and its customers.

Local Programs for a Clean Energy Future Vision

Robust local programs create an opportunity for customers to be an active part of the clean energy transition. *Local Programs for a Clean Energy Future* is an important step in what CPA envisions as an ongoing process to empower its communities to join CPA in creating a greener and safer electricity system. CPA was formed by local communities, for local communities, and this group of local programs reflects that conviction.

All of CPA's customers will be impacted by climate change in the coming years and programs will need to be accessible to all. CPA's initial areas of focus recognize that different people have different needs and that the organization needs to intentionally strive to serve those who have traditionally had difficulty accessing energy programs, including those living in Disadvantaged Communities, renters, and customers on fixed incomes. Above all, *Local Programs for a Clean Energy Future* provides vehicles for customers to more actively engage in CPA's founding mission to provide Los Angeles and Ventura communities with more choice and cleaner energy, and to do so affordably.

Development Process

Local programs must be carefully planned to ensure that they are helping customers equitably, that they are cost-effective for CPA, and that they deliver the community benefits that are part of their core purpose. CPA developed the *Local Programs for a Clean Energy Future* strategic plan to provide CPA with immediate direction for detailed program planning to develop assets for future program development, such as the program comparison tool described below. This nine-month process included:

- Compiling and refining a clear set of stakeholder priorities.
- Developing a Program Planning Comparison Tool to prioritize programs and aid in the future development, selection and refinement of local programs.
- Determining a list of seven local program concepts that CPA will pursue in the 2020 – 2025 time period.
- Choosing methods for delivering these programs and amplifying their impact.

Some of the local program concepts – Clean Back-Up Power for Essential Facilities, Public EV Charging, Community Solar – are already in various stages of implementation planning. Others are being piloted in the CPA Power Response program launched earlier this year and will be

refined based on lessons learned from the pilot. Still others will require more detailed program design, stakeholder engagement, and identification of internal and external funding sources.

Recommended Programs

Based on stakeholder priorities identified in the *Local Programs for a Clean Energy Future* development process as well as the quantitative analysis provided by the Program Planning Comparison Tool, the following seven programs most immediately meet CPA's goals and objectives:

1. **Clean Back-Up for Essential Facilities:** Installation of clean energy generation and storage at essential community facilities that can act as resilience hubs.
2. **Demand Response – Energy Storage:** Partnering with customers to utilize energy storage systems for demand response, reliability, and/or resiliency.
3. **Peak Management Pricing:** Incentives for commercial and public agency customers to reduce their energy consumption during periods of grid stress, elevated wholesale energy prices, and high greenhouse gas (GHG) emissions.
4. **Public EV Charging:** Incentives for publicly accessible electric vehicle chargers.
5. **Building Electrification Code Incentives:** Technical assistance and incentives for cities and counties to develop local building codes to encourage the electrification and decarbonization of the building sector.
6. **Community Solar:** Develop small-scale local generation projects in disadvantaged communities (DAC) that provide bill discounts to neighboring residents.
7. **100% Green Discount:** Provide low-income customers with bill discounts for renewable energy generated in disadvantaged communities.

These seven programs fall into three categories that each align with a critical component of CPA's mission: Resilience and Grid Management, Electrification, and Local Procurement. Together, they represent the aspects of the electricity landscape that CPA has the greatest control over and the areas its customers can most immediately benefit from.

Funding for Local Programs

Local programs require an investment of resources and funding for local programs must be balanced with other CPA fiscal priorities, including providing competitive rates and building and maintaining a healthy level of financial reserves. Investments in local programs may involve a one-time expenditure of resources that can be considered in CPA's annual budget process. Other investments may commit CPA to expending resources or incurring costs over a longer period of time (10 years or more), requiring evaluation of long-term fiscal impact. Similarly, benefits to CPA and its customers and communities may be immediate or long-term, and payback may be in the form of fiscal benefits and/or other important community benefits that are not easily monetized.

Given that CPA is still in its formative years and must prioritize fiscal stability, funding for local programs over the time period covered by this strategic plan will be limited; the programs that get the most funds will necessarily be those that provide high levels of community and customer benefits and those that provide positive return on investment (ROI) for CPA. To help bridge resource gaps for local programs, CPA may pursue outside funding when those

opportunities align with the priorities outlined in this strategic plan; however, CPA will be cautious about seeking funds that require the development of new administrative infrastructure or re-create programs that are already being adequately delivered by others, including investor-owned utilities (IOUs) or Regional Energy Networks.

CPA will take a similar approach to funding for local procurement, both as a subset of its local programs strategy and as a part of its overall procurement approach. As CPA transitions an increasing share of its energy procurement from short-term to long-term contracts, it will seek to procure local resources whenever possible. However, to help keep its renewable energy products affordable, CPA will be careful to identify local projects with multiple community benefits that justify any above-market energy costs.

Section 2

How We Got Here

The Process

To ensure that CPA's local programs are driven by the communities they serve, customers and stakeholders were consulted early and often in the development of this strategic plan. Stakeholder feedback was essential in shaping the categories in which CPA identified and grouped programs, and in the evaluation of each program.

Stakeholder Engagement Process and Results

The intention of the stakeholder engagement process was to uncover what stakeholders cared about most, and the challenges that stakeholders face that CPA can help mitigate or solve.

Over the course of two months, CPA conducted four goal-setting workshops across both Los Angeles County and Ventura counties, and conducted an on-line survey in English, Spanish and Chinese. CPA also interviewed 13 grass-roots organizations with on-the-ground experience dealing with environmental, labor, and environmental justice issues. CPA staff also regularly communicated with its largest business and public agency customers to understand their insights and needs.

Stakeholder Priorities:

1. Affordable clean energy
2. Job creation
3. Decarbonization
4. Increase accessibility and benefits for all
5. Local resiliency – community response to stresses
6. Grid resiliency – mitigating grid shutdowns
7. Public health

Each priority has an associated weighting that was determined from stakeholder input. These weightings give a sense of which priorities are most important, and were used to score programs in the Program Planning Comparison Tool (Step 3).


Step 1: Stakeholder Engagement

Conducted stakeholder outreach and engagement to create the list of stakeholder priorities. These priorities were used as the principle framework for determining how programs compare to one another to identify which programs would benefit CPA customers the most.


Step 2: Program Categorization

Identified focus areas for programs by consolidating and grouping the universe of potential programs into discrete program categories that align with stakeholder interests.

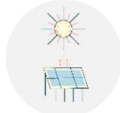
Final Program Categories



Resiliency & Grid Management
Demand response, solar paired with storage

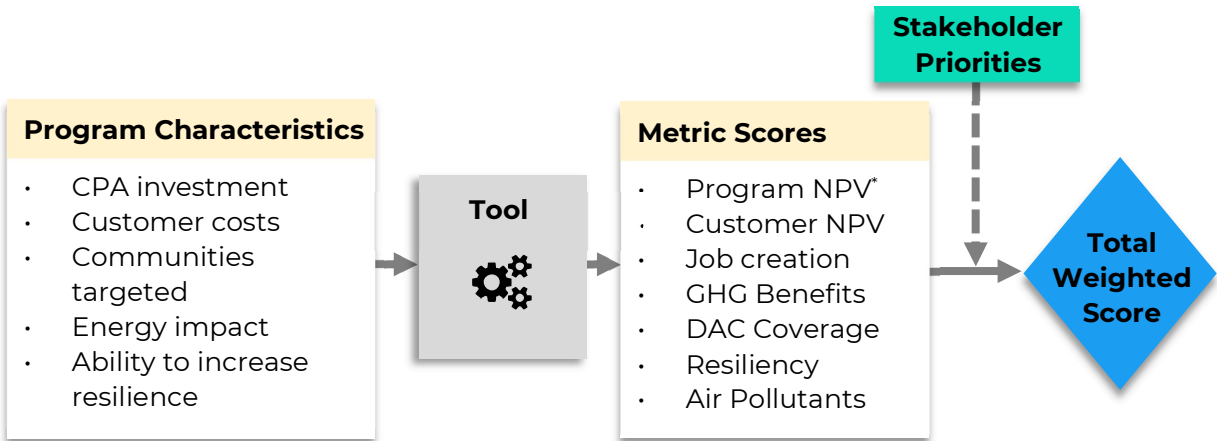


Electrification
Transportation and buildings



Local Procurement
Energy generation and resource adequacy aggregation

Program Planning Comparison Tool



Tool Workflow

Program characteristics (e.g. kWh of electricity saved) are inputted in the tool. The tool uses these to calculate a variety of metrics (e.g. tonnes of CO₂e saved), which is then normalized into a score out of 10 for each metric. The metric scores are then weighted against stakeholder priorities to output a single, overall weighted score.

Tool Capabilities

- Compare programs for prioritization
- Justify investment in a program by understanding its co-benefits
- Adjust a program to maximize co-benefits and cost effectiveness
- Updatable to changing circumstances and priorities

* NPV stands for net present value

Step 3: Program Planning Comparison Tool Development

Built a robust Program Planning Comparison Tool that evaluates and compares programs based on attributes such as program costs, costs to customers, and job creation.

Step 4: Program Evaluation

Filtered and pre-screened potential programs against stakeholder priorities to shortlist 11 programs. Using the tool, CPA evaluated and ranked the 11 programs.

Step 5: Final Local Programs

Of the 11 programs assessed in the tool, selected seven for implementation.

Program Evaluation

CPA used an existing universe of energy programs as the launching point for its local program offerings. After researching hundreds of programs, CPA created a consolidated list of ~30 discrete programs. These programs were then qualitatively scored against stakeholder priorities through a weighting process similar to that used in the comparison tool. The 11 programs that ranked highest or met specific CPA needs were then chosen for in-depth assessment.

CPA Power Response

During the development of this strategic plan, CPA was engaged in a parallel process to launch a 12-18 month distributed energy resources (DER) pilot program called CPA Power Response. Concepts and data from the pilot development process informed the broader *Local Programs for a Clean Energy Future* strategic planning effort, and lessons learned from CPA Power Response will be incorporated into CPA's future program deployment.

The pilot program incentivizes residential and commercial customers that have already made investments in DER to use those technologies to participate in demand response events during the evening peak hours (generally 4pm-9pm) when electricity is most expensive and most polluting. During up to five events per month, customers will be asked to modify their energy usage in order to relieve strain on the grid during periods of high demand. Customers can save money on their bills by using their DER technologies to reduce their load during high TOU pricing periods. Additionally, this aggregated load reduction can be used by CPA to obtain wholesale market revenues. Customers will receive enrollment incentives for signing up, as well as annual participation incentives that are dependent on customer event response. Higher incentives are available to customers located in disadvantaged communities or that are on low-income qualified rates (CARE/FERA) to broaden the program's reach.

The CPA Power Response pilot has three technology pillars:

1. **Smart Thermostats:** Participating residential and small business customers with smart thermostats are asked during events to raise their thermostat set point, collectively reducing HVAC load during periods of high demand.
2. **Electric Vehicle (EV) Chargers:** Available to commercial customers with at least three Level 2 EV chargers, this program asks participants to allow their EV chargers to operate at a reduced rate of charge during peak events.
3. **Battery Storage:** Available to any customer, residential or commercial, with a battery energy storage system, this program asks participants to discharge their battery during demand response events.

Power Response will help CPA test marketing and customer acquisition strategies, program design and implementation, and aggregation of demand response as a resource for wholesale and resource adequacy (RA) market participation.

In addition, CPA also set aside a portion of the pilot's incentive funds for direct installation rebates to help customers pay for the cost of a new battery storage system in exchange for participating in Power Response. This is CPA's first equipment rebate program. Funds will be awarded in two tranches to allow CPA time to recalibrate the rebate or refine the application process, if needed.

Two of CPA's Power Response programs, Public EV Charging and Demand Response – Energy Storage, overlap with the programs prioritized in the *Local Programs for a Clean Energy Future* strategic plan. The CPA Power Response program will explore how to create additional value streams from infrastructure that would be installed via the broader local programs efforts. The third CPA Power Response program component, Smart Thermostats, could be further developed into a broad-based program once CPA evaluates pilot program outcomes.

Section 3
**Clean Energy
for All**

Program Evaluation and Categorization

The stakeholder process generated extensive discussion about the role that CPA should play for its member communities and as a clean energy leader in the State. The programs shortlisted for evaluation in the Program Planning Comparison Tool represent the push and pull of this role, with programs that seek to address targeted CPA constituencies and others that reimagine energy procurement in California. These programs fell into three categories – resilience and grid management; electrification; and local procurement – that overlap with portions of the electricity system that CPA has greatest control over and the areas where CPA customers can most immediately benefit.

Resilience and Grid Management

Program 1: Clean Back-Up Power for Essential Facilities

Funding to install solar and storage at municipal facilities that can act as resilience hubs

Program 2: Demand Response – Energy Storage

Incentives for commercial facilities to utilize storage for demand response

Program 3: Peak Management Pricing

Incentivizes to reduce energy consumption during periods of grid stress

Program 4: Demand Response – Residential Thermostat

Incentives to utilize smart thermostats for demand response

Electrification

Program 5: Public EV Charging

Incentives for public electric vehicle chargers

Program 6: Building Electrification Code Incentives

Assistance and incentives to develop all-electric building codes

Program 7: All-Electric Post-Fire Rebuild

Incentives for all-electric rebuilds in fire-impacted areas

Program 8: Natural Gas Appliance Replacement

Incentives to displace fossil-fuel use in buildings

Local Procurement

Program 9, Community Solar

Local generation projects in DACs that provide bill discounts to neighboring residents

Program 10, 100% Green Discount

Bill discounts for low-income customers for local renewable energy

Program 11, Distributed Energy Request for Offers

Procure “front of the meter”² distributed energy resources locally in Los Angeles and Ventura counties

² Power sources that are connected directly to the transmission and distribution system and which serves multiple customers. This is usually contrasted with behind-the-meter systems that provides power on-site before passing through a meter.

As explained in *Section 2: How We Got Here*, these programs were selected through a quantitative and qualitative screening process that assessed the benefits of each program as well as who each program benefits. CPA wants to serve all customers with its suite of programs and throughout the stakeholder engagement process several groups were identified as historically having restricted access to local program offerings. For each program, CPA considered which group of customers would have access to the program’s benefits. See the table below for a summary of this accessibility analysis.

Table 2: Summary of target market and accessibility analysis

	Community Wide and/or CPA Member	Single Family	Multi-Family	Low Income and/or DACs	Commercial Customers
Clean Back-up Power for Essential Facilities	X				
Demand Response – Energy Storage		X	X	X	X
Peak Management Pricing	X				X
Demand Response – Residential Thermostat		X	X	X	
Public EV Charging Building	X		X	X	X
Electrification Code Incentives	X	X	X	X	X
All-Electric Post-Fire Rebuild		X			
Natural Gas Appliance Replacement		X		X	
Community Solar		X	X	X	
100% Green Discount		X	X	X	
Distributed Energy Request for Offers	X				

Prioritization of Programs

Each of the 11 programs were input into the tool to calculate its performance against a range of metrics on program benefits. The quantitative and qualitative assessment of each program’s benefits are included in the following pages along with further descriptions of each program.

Metrics in the tool were weighted based on stakeholder priorities to arrive at a total score and ranking for each program.

Table 3: Summary table of the total weighted scores of all programs

Rank	Program	Total Weighted Score	Selected?
1	Clean Back-Up Power for Essential Facilities	9.6	✓
2	Demand Response – Energy Storage	6.5	✓
3	Community Solar	5.6	✓
4	Public EV Charging	5.1	✓
5	100% Green Discount	4.1	✓
6	Building Electrification Code Incentives	3.9	✓
7	Demand Response – Residential Thermostat	3.4	✗
8	Distributed Energy Request for Offers	3.0	✗
9	All-Electric Post-Fire Rebuild	3.0	✗
10	Peak Management Pricing	2.6	✓
11	Natural Gas Appliance Replacement	2.2	✗

CPA ultimately chose to move forward with more than half of the programs evaluated. The programs that were not chosen, as described below, either ranked low on the tool, were duplicative of similar programs that were already available to CPA customers, or had extremely high costs.

The Demand Response – Residential Thermostat program envisioned providing incentives to commercial and residential customers to use smart thermostats in order to shift air conditioning usage to pre-cool spaces during low-energy rate times, rather than turning on during peak demand when rates are higher. However, there are many similar programs throughout the region, including one offered by SCE that increases the setpoint temperature of the air conditioning and turns off completely during peak times. It is also very similar to the CPA Power Response pilot program described earlier, which CPA is still in the process of evaluating. After the results of the CPA Power Response Pilot, CPA may consider expanding this program.

CPA launched a Distributed Energy Request for Offers in October 2019, which was open to front of the meter renewable energy and storage projects less than 10MW located in Los Angeles or Ventura counties. In order to increase the competitiveness of these smaller projects, CPA expanded the evaluation criteria, including extra points for resiliency benefits and unique

technologies. Despite these efforts, the projects that bid into the solicitation were three to five times more expensive than larger projects both inside and outside of Los Angeles and Ventura counties, and quantitative scoring by the local programs comparison tool indicated that in spite of additional benefits this program ranked relatively low compared to other programs that CPA could offer and at very high long-term costs. Therefore, this program was not chosen.

All-Electric Post-Fire Rebuild was envisioned to provide an incentive for homeowners to rebuild energy-efficient homes destroyed during Southern California recent, devastating wildfires. However, in late 2019, SCE launched the “Clean Energy and Resiliency (CLEAR) Rebuild Program,” which offers up to \$17,500 in incentives for energy-efficient new home construction projects in areas affected by the Woolsey, Hill, and Thomas fires. These incentives are also be available to CPA customers. CPA therefore decided it was not necessary to provide an additional incentive program for post-fire rebuilding.

Natural Gas Appliance Replacement was envisioned to offer incentives for businesses or homeowners to displace fossil-fuel powered equipment (e.g., water heating and space heating equipment) with efficient electric alternatives. However, the program ranked lowest on the tool of all programs evaluated, with a high upfront cost and low return on investment. It would also largely exclude renters, who often do not own the natural gas appliances that would need to be replaced but who pay the bills associated with them. CPA therefore decided to prioritize the electrification of the building sector through code changes rather than through appliance rebates.

Although the Peak Management Pricing program was ranked 10th in the tool, it is extremely accessible to many commercial customers, requires no material investment for the customer and has fairly low program administration costs. Therefore, CPA will go forward with the Peak Management Pricing program.



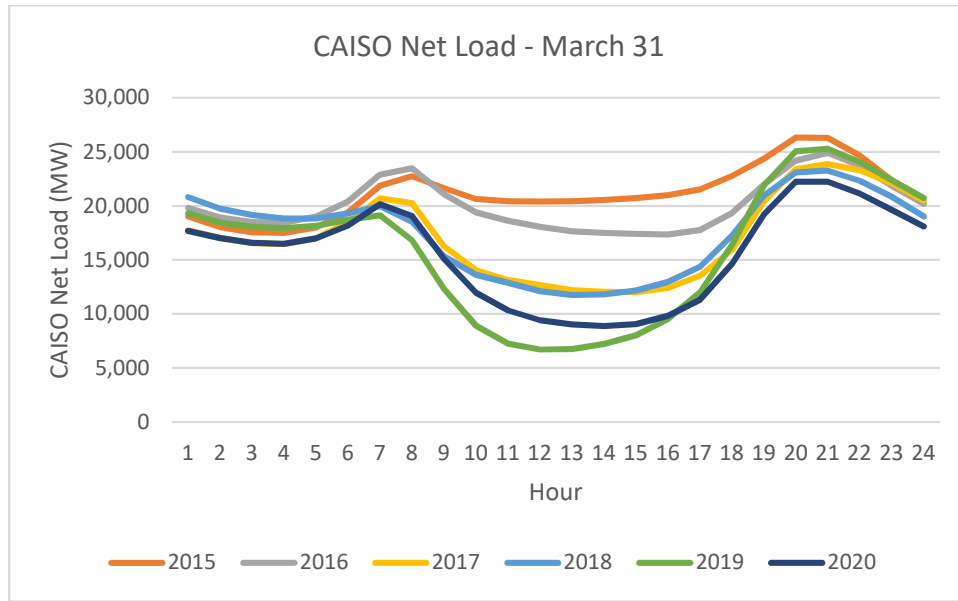
Resilience and Grid Management

Benefits of Resilience and Grid Management

Grid Management

In the last decade, the grid has changed dramatically. More and more solar power – which generates electricity during the day – has been added to the grid and will continue to grow as a significant generation resource for California. Although this clean and affordable solar power provides most of the electricity needs during the day, its energy generation falls to zero when the sun sets, and when net energy demand is the highest ('peak hours'). Energy demand on the grid peaks during the hours of 4 to 9 pm, when businesses are still operating but workers have started to return home and turn on appliances, heating and cooling systems, lights and plug-in devices. This means that the net load profile (total energy demand minus renewable supply) dips during the day when solar power is online and then rapidly increases when demand is high and solar power is offline.

Figure 2: Net load of California's grid throughout the day (i.e. the 'Duck Curve')



It can be orders-of-magnitude more expensive to procure and deliver energy during the peak hours of the day when demand is high and renewable resources are limited than at other times of the day, driving up CPA costs and customer utility bills. Additionally, during these peak hours, the grid often must rely on fossil-fuel “peaker” plants to meet the rapid increase in load, dramatically increasing localized air pollution and countering the decarbonization benefits of the solar added to the grid.

Therefore, it is not only important how much energy customers use, but also when they use it. To smooth out the net load curve, customers would ideally lower their peak usage from the peak hours of 4 to 9 pm, and/or shift it to midday when solar generation is ample and cheap. This process of altering usage in response to market signals is termed “demand response”. Demand response helps utilities manage the grid effectively, keep it cleaner, and reduce upward pressure on rates and bills.

Resilience

California has entered an unprecedented age of climate change contributing to extreme weather, destructive wildfires, and community vulnerability. The state, local governments, CCAs and others have launched efforts aimed at protecting California communities and vulnerable populations and preparing them for these ongoing emergencies. These include creating a more dynamic, distributed grid with real-time responsiveness and increased protections for the most vulnerable customers.

Investor-owned utilities have been given authority to enact more preventative grid shutdowns, or public safety power shutoffs (PSPS), to mitigate the risk of wildfires, creating a new layer of uncertainty for customers. Many communities throughout CPA’s service territory experienced these power shutoffs throughout 2019. CPA can help mitigate these disruptions locally through distributed energy resources and demand response, while seeking ways to make communities more resilient in the face of climate change, and the PSPS events and extreme heat that can come with it.

Program 1: Clean Back-Up Power for Essential Facilities

Overall Program Ranking: #1

Program Description:

CPA will partner with its member agencies to install solar and battery storage at one essential facility in each of CPA's 32 member jurisdictions. These solar and storage systems will provide community resilience by serving as clean backup power during PSPS events, natural disasters, or other outages, while also providing benefits to CPA during normal operation in the form of load shifting or wholesale demand response revenues.

Benefits to Clean Power Alliance Customers:

Installing solar paired storage at essential facilities with the capability to operate independently from the grid ("islanding") creates a multitude of benefits that extend beyond the site host to the community at large. Installing these systems at essential community facilities such as first responder stations, community/cooling centers, evacuation shelters, or municipal yards can provide benefits to the greater CPA customer base by continuing fundamental public safety operations during grid disruptions like PSPS events or other emergencies (wildfire, flood, earthquake). The systems can remain islanded for extended periods of time since they do not rely on the grid to recharge, and can eliminate local emissions associated with conventional diesel backup power generation.

This program also benefits CPA's member agencies by providing a chance for municipal staff to gain knowledge in the process of installing and hosting solar and storage systems.

Existing CCA or Utility Programs:

CCAs across the state are working to increase resiliency, and solar and storage are proving themselves to be a new and emerging part of that. The San Francisco Department of Emergency Management installed rooftop solar and storage at a local high school and designated it a Resiliency Site, where services can be provided during and in the aftermath of emergencies. Redwood Coast Energy Authority is working with various partners, including PG&E and the County of Humboldt, to build a 2.25 MW solar array and battery energy storage system at the California Redwood Coast-Humboldt County Airport that can island from the main grid so that the airport and adjacent Coast Guard facility can run fully on solar and batteries if there is a regional power outage.

Program Design Options:

- Collaborate with municipalities or counties that are receiving grants from state programs that have been created specifically for these centers. Collaborate with state and local Offices of Emergency Services.
- Pilot in high-fire prone communities before expanding to the full service territory.
- Install battery storage systems paired with solar generation as in-front-of the meter microgrids at sites in optimal grid locations to provide CPA with carbon-free energy storage capacity during normal grid conditions.
- Utilize California Solar Initiative (CSI) and Self-Generation Incentive Program (SGIP) funds to maximize installations.

Program 2: Demand Response – Energy Storage

Overall Program Ranking: #2

Program Description:

This program would offer incentives to commercial and non-residential customers for the installation of energy storage for load-shifting demand response and builds from the battery storage technology pillar and installation rebate funding portion of the Power Response DER pilot.³ Specific residential customers, like multifamily buildings, would also be included.

Benefits to Clean Power Alliance Customers:

Behind-the-meter storage benefits both the customer and the grid. Energy storage can be programmed to be optimized against time of use (TOU) energy pricing to help customers save money on their bills. Commercial customers in particular are often charged by their peak demand, and this typically represents 30 to 70% of their total energy bill. Reducing peak demands through energy storage can result in significant reductions in customers monthly payments, and helps CPA reduce customer costs overall by permanently reducing the amount of energy and resource adequacy that must be procured. Customers can go one step further by adding islanding capability to their system, creating a resilient facility that can continue operations during a grid shutdown. Energy storage can also be paired with solar generation, so that the battery is charged with solar energy, allowing it to operate in an islanded mode for an extended time. Providing incentives for customers to invest in these technologies complements existing funds such as SGIP and the Investment Tax Credit (ITC).

Often, even after designing a battery storage system to provide demand reduction or TOU management, batteries will have leftover capacity to participate in demand response events. Those customers can then receive incentives to participate in the CPA Power Response or other demand response programs.

Existing CCA or Utility Programs:

Several CCAs are exploring customer sited battery storage for demand response programs. Four CCAs (East Bay Clean Energy, Peninsula Clean Energy, Silicon Valley Power, and Silicon Valley Clean Energy) released a joint RFP in 2019 for a comprehensive offering to provide RA capacity with demand response through the development of customer-sited battery storage. Marin Clean Energy is also actively seeking to partner with providers to increase local resilience and support active peak load management through the deployment of up to 70 MWhs of customer sited dispatchable battery energy storage systems within their service territory. SCE's Capacity Bidding Program is also a demand response program, which CPA evaluated when designing its Power Response program.

Program Design Options:

- Add a bonus incentive for pairing with solar, another bonus incentive for islanding capability, and another bonus for customers located in DACs.
- Expand program to residential customers to address the steep rise in electricity demand in the evening times, with an additional incentive for CARE customers.

³ See CPA Power Response section on page 12

Program 3: Peak Management Pricing

Overall Program Ranking: #10

Program Description:

Peak Management Pricing (PMP) is a behavioral demand response program that offers businesses an opportunity to receive a bill discount for participating. In exchange, customers are asked to respond to elevated price signals during PMP events by reducing their consumption as much as possible. PMP events are triggered based on wholesale CAISO market prices, and typically occur on the hottest days of the summer when grid demand and wholesale prices are highest.

Customers receive a bill discount during the summer months (June-September) in the form of a credit based on their highest monthly on-peak demand, and a per-kilowatt-hour surcharge on top of their normal rate for energy consumed during on-peak hours (4 pm to 9 pm) on PMP event days. Participating customers are notified 24 hours in advance of a PMP event, allowing them to make plans to reduce or shift their load the following day. Customers also benefit from bill protection during their first year on PMP.

Benefits to Clean Power Alliance Customers:

Behavioral demand response programs like PMP provide customers that can shed or shift load during peak times with bill credits for participating, and do not require any commitment to respond during events. The program further benefits customers that have installed automated or distributed energy technology to manage their electricity demand throughout the day, providing additional return on these investments. Additionally, reduced demand during peak wholesale hours lowers CPA's overall cost of procuring energy. As the PMP program grows, those savings could become more significant, allowing that benefit to be passed on to customers.

Existing CCA or Utility Programs:

The IOUs all offer behavioral demand response rate programs but CCA customers cannot take advantage of these programs. CPA's PMP program was modeled after the SCE Critical Peak Pricing (CPP) program and is intended to provide a competitive offering for CPA customers. While CPP was already the default rate offering for certain large commercial customers, per CPUC direction SCE implemented default CPP in 2019 for small commercial and agricultural customers as well. CPA has not mirrored a default approach, and will instead use an opt-in model.

Program Design Options:

- Make PMP the default rate option for certain types of commercial customers.
- Engage in customer targeting for PMP enrollment based on individualized load shape analysis.
- Offer direct event dispatch for customers with automated load control systems.
- Become an educational resource for customers on load reduction strategies and technologies.



Building and Transportation **Electrification**

Benefits of Electrification

There are many benefits associated with the electrification of the transportation and building sectors. The common benefit in both sectors is decarbonization. With CPA's overall energy portfolio approximately 60% renewables and growing, its electricity supply is far cleaner than direct combustion of any fossil fuel. Through electrification measures, CPA has an opportunity to capitalize on this ever-greening grid while growing its revenue stream – essentially competing for market share not only with other electricity companies but with the oil and gas sectors as well.

CALIFORNIA END USE GREENHOUSE GAS EMISSIONS¹

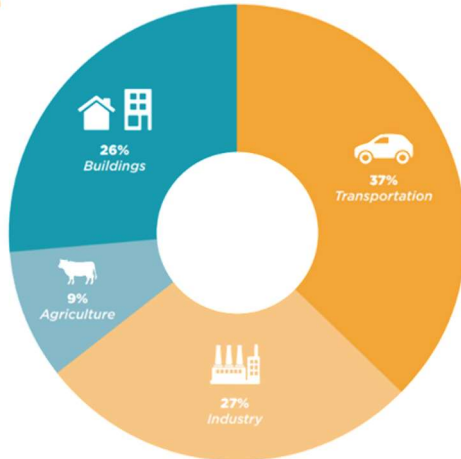


Figure 3: Emissions from building includes methane, electricity generation, fuel combustion and refrigerants²

Transport Electrification

The transportation sector is the largest source of California’s greenhouse gas (GHG) emissions. Electrifying passenger vehicles, freight, heavy duty and offers significant potential for accelerated decarbonization in alignment with State goals. Even with the national grid fuel mix, which is much dirtier than California’s, an electric vehicle reduces GHG emissions by more than half over its lifetime as compared to its combustion-powered alternative.⁵

In addition to its decarbonization potential, electric vehicles can help solve the inequity of air pollution exposure. Air pollution emitted from vehicles disproportionately affects people of color and low-income groups. On average, African American, Latino and Asian Californians are exposed to 42%, 39% and 21% higher levels of PM2.5 from vehicles than white Californians.⁶ With zero tailpipe emissions, electric vehicles can help lower local air pollution and mitigate the unequal effects of ground-level ozone and particulate matter pollution on marginalized groups.

Building Electrification

Electrifying the building sector will be an important part of meeting California’s climate goals. This must ultimately include both new construction and existing construction. In existing buildings, electrification is commonly focused on swapping out gas appliances for electric ones, like space and water heaters. In new construction, an all-electric building is typically cheaper to build than a mixed-fuel building, as builders save the cost of piping gas to the building. Additionally, eliminating direct combustion of fossil fuels in homes means cleaner indoor air. The operations of buildings, like the transportation sector, also has broader impacts on regional air pollution. Annually, half a million people across the globe die from the air pollution caused by the energy buildings consume.⁷ With a cleaner grid and buildings that capitalize on that grid, the health risk posed by building emissions can be lowered to ensure a healthier future for the region.

⁴ “A Roadmap to Decarbonize California Buildings.” *Building Decarbonization Coalition*, 2019, www.buildingdecarb.org/resources/a-roadmap-to-decarbonize-californias-buildings.

⁵ “Cleaner Cars from Cradle to Grave.” *Union of Concerned Scientists*, 2015, www.ucsusa.org/sites/default/files/attach/2015/11/Cleaner-Cars-from-Cradle-to-Grave-full-report.pdf.

⁶ Union of Concerned Scientists. *Inequitable Exposure to Air Pollution from Vehicles in California*. 2019, www.ucsusa.org/sites/default/files/attach/2019/02/cv-air-pollution-CA-web.pdf.

⁷ “Net Zero Carbon Buildings Declaration.” *C40*, www.c40.org/other/net-zero-carbon-buildings-declaration.

Program 5: Public EV Charging

Overall Program Ranking: #4

Program Description:

This program provides incentives to non-residential customers to install electric vehicle (EV) chargers that are available for public use. Modeled on successful EV charging programs like the California Electric Vehicle Infrastructure Project (CALeVIP), this program also assumes that greater incentive amounts are provided to customers located in disadvantaged communities.

Benefits to Clean Power Alliance Customers:

Electrifying light-duty vehicles, which account for almost three quarters of emissions in the State's transport sector, is essential in decarbonizing the transportation sector. However, the charging network is not being built at a rapid enough pace to meet current demand or stimulate future demand. In California, even when comparing households of similar income levels, renters are consistently and significantly less likely to own an electric vehicle. Publicly-available electric vehicle chargers are crucial to ensure equitable access to electric vehicles, and to build the long-term infrastructure needed to transition the passenger-vehicle transportation sector for improved air quality and decarbonization.

Public and workplace charging have key benefits to the grid and customer rates, in that they encourages use during the day, which is optimal for using excess solar generation. Therefore, public EV charging offers the potential to act as a sink to stabilize the grid during times of high solar generation, instead of exacerbating the already growing problem of unprecedented loads during the times of 4-9 pm.

Existing CCA or Utility Programs:

There are two key public EV charging programs that are accessible to CPA customers: the California Electric Vehicle Infrastructure Project (CALeVIP) and SCE's Charge Ready program. SCE's Charge Ready program primarily covered the cost of EV infrastructure up to 100% for customers in disadvantaged communities (DACs), 50% for multi-unit dwellings and 25% for all other types of customers. The program required a minimum of 10 ports per site and lowers that minimum to five for DAC customers. Similarly, CALeVIP's Southern California Incentive Project (SCIP) offers \$80,000 per DC fast charger (DCFC) or 80% of project costs for DAC customers, and \$40,000 to \$70,000 per DCFC for other applicants. Unlike SCE's Charge Ready program, SCIP does not offer incentives for any residential property including multi-family units. SCIP also offers rebates for the charger itself, not just the infrastructure. CPA could follow CALeVIP's model in program design to encourage day-use of EV chargers while still providing access to restricted groups like multi-family unit owners and renters.

Program Design Options:

- Collaborate with CALeVIP and local air resource boards to expand funding and expedite implementation of EV infrastructure incentives for CPA customers.
- Focus on public and workplace non-residential EV charging infrastructure.
- Integrate demand response and CPA's electric vehicle rate structure into incentives and outreach efforts.

Program 6: Building Electrification Code Incentives

Overall Program Ranking: #6

Program Description:

This program incentivizes municipalities to adopt local codes that require buildings to receive more of their power from electricity rather than natural gas. This can be done in various ways, either through changes to local building codes or through adoption of a “reach code” whereby a local city or county building department adopts standards that go above the minimum energy efficiency requirements of statewide building standards. Many local jurisdictions have utilized building or reach codes to accelerate building electrification in their communities by adopting local ordinances.

Benefits to Clean Power Alliance Customers:

Building electrification has been demonstrated to be highly effective in decarbonizing the building sector, while promoting improved public health. As a result, CPA communities will benefit from cleaner outdoor air quality and a reduction in GHG emissions associated with natural gas. Those that live, work, or frequent decarbonized buildings will also benefit from healthier indoor air quality and cost savings on their utility bills.

Existing CCA or Utility Programs:

Five CCAs – East Bay Community Energy, Marin Clean Energy, Sonoma Clean Power, Silicon Valley Clean Energy, and Peninsula Clean Energy – have been actively helping cities adopt building electrification reach codes in new construction. Silicon Valley Clean Energy (SVCE) and Peninsula Clean Energy (PCE) partnered to develop a Buildings Reach Code program that offers a \$10,000 incentive to municipalities in San Mateo County to adopt a reach code. The options they offer include a ‘Mostly Electric’ reach code, an ‘EV Infrastructure’ reach code, and a ‘Ban Natural Gas’ reach code. Seven cities engaged in the program have had their reach code approved; four of the seven are pursuing the ban natural gas option.

Program Design Options:

- Develop one or several model ordinances to streamline the process for municipalities.
- Provide funding to municipalities for the development and adoption process of a building electrification code.
- Hire a third-party consultant to provide technical assistance to municipalities that want to adopt a building electrification reach code.



Local Procurement

Benefits of Local Procurement

CPA buys over 11,000 gigawatts of energy every year on behalf of its customers. In 2019, approximately 60% of this energy was from renewable sources. Currently the majority of this renewable energy is purchased via short-term contracts from existing sources. But that is changing fast. By 2024, a significant share of CPA's renewable energy purchases will be via long-term contracts with projects that will be built exclusively for CPA and its customers.

Developing these projects locally - within Los Angeles and Ventura counties - has the potential to bring additional benefits, including job creation and economic development. However, these benefits come with a cost. In CPAs most recent renewable energy solicitation, the local, distributed renewable energy projects submitted were three to five times more expensive than the utility scale projects, which were mostly located outside of Los Angeles and Ventura counties. In addition, these generation-only projects do not necessarily deliver additional benefits such as customer cost savings, improved local air quality, or grid resiliency that other local programs may offer.

If CPA is to deliver on the number one stakeholder priority identified during this strategic planning process – making the 100% Green rate product more affordable – CPA will need to be judicious in applying additional resources to procurement of local energy resources that have above-market costs and ensure that such projects provide benefits that outweigh the economic benefit of procuring less expensive utility-scale energy from outside of CPA’s service territory.

The local energy procurement programs selected as part of this strategic plan do just that. Community Solar and the 100% Green Discount program bring economic development to underinvested communities at no above-market cost to CPA, while providing bill discounts to low-income customers. Meanwhile, the clean energy back-up power program for essential facilities will help CPA manage the grid and equip its member agencies with new tools to assist their residents during times of community stress.

Combined with planned purchases of local energy storage and some utility-scale options in Los Angeles and Ventura counties, CPA will be responsible for the development of over 175 MW of energy generation and storage capacity over the next five years, or approximately 7% of its total new renewable energy and storage purchases.

Table 4: CPA local procurement opportunities and associated power capacities

Local Procurement Opportunity	Capacity
Community Solar	3 MW
100% Green Discount	13 MW
2019 Reliability Request for Offers	100+ MW Local
2019 Request for Offers Utility Scale Track	50+ MW Local
Distributed Energy Request for Offers	2MW
Clean Back-Up Power for Essential Facilities	~10MW
Behind the Meter Resources	TBD

Program 9: Community Solar

Overall Program Ranking: **#3**

Program Description:

This program will allow CPA to develop 3.13 MW of solar projects in disadvantaged communities within its service territory and allocate the energy produced by those projects to customers within a five-mile radius. Customers enrolled in the program will receive 100% renewable energy at a 20% discount on their total electricity bill. Public or nonprofit sponsors of the Community Solar projects will also receive a 20% bill discount.

Benefits to Clean Power Alliance Customers:

The Community Solar program will reduce energy bills and make local, 100% renewable energy more affordable and accessible to the customers and communities that are often the most impacted by air pollution, climate change and economic inequities. Low-income customers enrolled in the program will receive a 20% bill discount in addition to their existing CARE or FERA discount. In addition to bill discounts, residents will benefit from local economic development and jobs created by the projects. Funding from the CPUC will cover the customer bill discount, the above-market procurement costs for the new renewable energy projects, staff administrative costs, and program marketing, education and evaluation. The source of the CPUC funds are proceeds from California's Greenhouse Gas Cap-and-Trade program as well as public purpose program funding contributed by all California ratepayers in territories served by IOUs.

Existing CCA or Utility Programs:

The CPUC has allocated a total of 41 MW of Community Solar capacity to IOUs and CCAs across the state. CPA is the first CCA to apply to implement this program and expects its application to be approved in mid-2020.

Program Design Options:

- Work with member agencies, other public agencies, nonprofits, and project developers to identify feasible and high-impact project sites.
- Combine solar generation with battery storage for demand response and resilience benefits.
- Partner with community-based organizations to promote customer awareness and enrollment in the program and in CARE, FERA and other energy- and cost-saving programs.
- Acquire unused program allocations from SCE or other CCAs in SCE's service territory.

Program 10: 100% Green Discount

Overall Program Ranking: #5

Program Description:

This program will allow CPA to develop up to 12.19 MW of renewable energy and allocate the energy produced by those projects to low-income customers living in disadvantaged communities (DACs) anywhere in CPA's service territory. As with the Community Solar program, customers will get a 20% bill discount on top of their existing CARE or FERA discount. The generating projects may be located in a DAC anywhere in CPA's or SCE's service territories.

Benefits to Clean Power Alliance Customers:

Like the Community Solar program, this program will reduce energy bills and make locally generated, 100% renewable energy more affordable and accessible to customers in DACs throughout CPA's service territory. Customers will receive a 20% bill discount in addition to their existing CARE or FERA discount. Funding from the CPUC will cover the customer bill discount, the above-market procurement costs for the new renewable energy projects, staff administrative costs, and program marketing, education and evaluation. The source of the CPUC funds are proceeds from California's Greenhouse Gas Cap-and-Trade program as well as public purpose program funding contributed by all California ratepayers in territories served by IOUs.

Existing CCA or Utility Programs:

The CPUC has allocated a total of 158 MW of capacity for the Disadvantaged Communities Green Tariff program to IOUs and CCAs across the state. CPA is the first CCA to apply to implement this program and expects its application to be approved in mid-2020.

Program Design Options:

- Combine renewable generation with battery storage for demand response and community resilience benefits.
- Partner with community-based organizations to promote customer awareness and enrollment in the program and in CARE, FERA and other energy- and cost-saving programs.
- Acquire unused program allocations from SCE or other CCAs in SCE's service territory.

Section 4
**Putting it
into Action**

Local Program Implementation and Delivery

As a nimble organization with the flexibility to respond to a dynamic market, CPA can take advantage of a variety of ways to implement its programs. Three basic options, described below, will be of most use to CPA in developing, launching, marketing, and administering its local programs. These options align with best practices learned from other utilities adapted to CPA's unique service model.

Delivery Option 1. CPA Administers the Local Program

Description: CPA staff administers program with consultant support as needed.

Program Delivery Concept: Where CCAs self-administer local programs, they are typically responsible for the entire process, including program planning and goal-setting, program and portfolio development, marketing and operations, vendor selection and oversight, and monitoring and reporting to any boards, commissions, or local authorities.

Advantages of self-delivery include the potential for customization of program messaging and broader marketing strategies, and the ability to educate customers about program benefits and best practices, especially those related to effective load management and cost reduction.

Larger CCAs like CPA may have an interest and demonstrated capability to manage programs that require more complex technical expertise to deliver. For example, CPA may be best suited for programs that target load management as a resource and/or that involve interactions with power suppliers.

Delivery Option 2. Third-Party Local Program Implementers

Description: CPA contracts a third-party to fully administer the program and periodically report to CPA on performance.

Program Delivery Concept: Ultimately, many local programs are implemented by specialists in the field who know how to plan for and deliver programs to customers.

Using third-parties, particularly with administratively-complicated incentive programs involving equipment installation, can allow CPA to focus on developing performance requirements and program target outcomes while leaving administration to those who have already invested in infrastructure and expertise.

In many instances, third-party program implementers can greatly improve the delivery of local programs by:

- Reducing the time-to-market for program launch and delivery;
- Increasing overall program cost-effectiveness and contracting synergies through the total volume of equipment purchasing;
- Leveraging the wealth of knowledge gained through prior program delivery experience throughout the state/nation; and
- Working collaboratively with other stakeholders, vendors, and "trade allies".

Delivery Option 3. Direct Equipment Install for Clean Energy Equipment

Description: CPA establishes a master services contract with one or more contractors who procure program-specified technology/hardware/software and directly manage the system/equipment that is installed.

Program Delivery Concept: Under this option, CPA would fund the direct installation of clean energy systems for targeted customers. This delivery mechanism would include both installation contracting and bulk purchasing that would lower project implementation costs, reduce the administrative burden on the customer side, and cost-effectively introduce new technologies and approaches into facilities owned and operated by member agencies or others.

With sufficient scale, these types of programs could create deeper partnerships between CPA and its member agencies particularly for local clean energy procurement.

Table 5: Implementation model for each of the 7 programs

Critical Facilities	Direct Install
Clean Back-Up Power for Essential Facilities	Direct Install
Demand Response – Energy Storage	Third Party
Peak Management Pricing	CPA Administered
Public EV Charging	Third Party
Building Electrification Code Incentives	CPA Administered
Community Solar	Direct Install/CPA Administered
100% Green Discount	CPA Administered

Methods for Amplifying and Extending the Reach of Local Programs for a Clean Energy Future

In addition to having a range of available local program delivery options, CPA also can take advantage of a variety of specific techniques and methods to improve awareness of and participation rates in the *Local Programs for a Clean Energy Future*. As funding for local programs grows, CPA will consider these strategies in the design of specific programs.

Strategy #1. Public Agency Set-Aside

Description: For non-residential programs, a portion of program funds or capacity could be set aside for CPA's member agencies to access without having to compete with the private sector for limited funds.

Program Delivery Concept: Within any mass-market program aimed at non-residential customers, CPA could carve out a specific percentage of program funding for members and/or public agencies. This would ensure that CPA's members have access to funds for projects without having to compete with other agencies, or with private sector customers seeking public funding of projects. These set-asides could also include funding boosts and/or alternative implementation criteria customized for member agencies.

Strategy #2. Innovation Fund

Description: This strategy could provide funding that member agencies, or groups of member agencies, would apply for to incentivize innovation and energy technologies through their own local programs or projects.

Program Delivery Concept: Once CPA has a significant local programs budget, it could make a portion of its local program budget available to member agencies, or a consortium of member agencies, on a competitive basis through an annual or bi-annual call for projects/programs. This would be like the "call-for-projects" mechanism used by a number of large regional entities in California or that are included in tax measures that fund infrastructure projects. The projects would have to fall within one of CPA's three local program categories (Resiliency and Grid Management, Electrification, or Local Procurement) and could be used as matching funds or for total program costs. CPA's Community Advisory Committee could be an ideal venue for vetting these kinds of proposals.

Strategy #3. Statewide Program Funding

Description: Use proceeds from statewide Public Purpose Programs, Public Goods Charges, or other statewide funding streams to subsidize existing CPA programs or launch new ones. This could also include new sources of funding, such as from a bond measure, that may be available to address COVID-19 recovery, resiliency, or climate and fire response planning.

Program Delivery Concept: Although CPA generally expects to utilize earned revenues to fund local programs, CPA is eligible to apply for statewide funds collected from all electricity customers.

Since 1998 all California electric ratepayers within an IOUs service territory have paid a non-bypassable fee or “public goods charge” to fund programs for energy efficiency, renewable energy development, and investment in research and development.

While CCAs can apply for and receive this program funding, CPA would need to generally follow complex rules, prior decisions/resolutions, and requirements around program design and budget. The additional management burden and program complexity added by the initial program design, approval, and evaluation needs to be considered. At this time, the only other CCAs that have chosen to become administrators for these funds are Marin Clean Energy and Lancaster Choice Energy.

In addition to potential CPUC funding, the state or federal government may make new funding available, through a stimulus package or otherwise, to help communities increase their resiliency against wildfires and hotter temperatures due to climate change, and to respond to the economic crises resulting from the COVID-19 global pandemic. Green jobs and green infrastructure could be a key part of the economic recovery strategy. This could include funding for many of the local programs in this plan, including batteries and/or microgrids at critical facilities, electric vehicle infrastructure, and community solar.

Given this context and in order to stay nimble and flexible throughout the 2020 to 2025 timeframe, CPA expects to limit applications for statewide funding to programs that meet certain criteria, such as:

- Programs that connect directly with CPA’s mission and the business model
- Programs that leverage other CPA activities
- Cases where CPA can reach particular customer segments more efficiently than other Program Administrators

Programs where CPA can effectively use research funds to test new concepts/technology and drive innovation.

Implementation Status

The rollout and implementation of any current and future programs will typically undergo four steps: Assessment; Design and Planning; Implementation; and Evaluation.

- **Assessment:** The assessment will include a review of the technical, economic and market feasibility of the program or product. It will try to answer questions such as the percentage of customers that CPA anticipates participating in the program, and the anticipated net present value of the program.
- **Design and Planning:** The design and planning phase will solidify the program goals and targets, and solidify how the program will be funded, delivered, and marketed.
- **Implementation:** The implementation stage will determine if the program will be implemented primarily through staff, outside consultants, contractors, or others. This step will also determine how CPA will track and determine success.
- **Evaluation:** The final step, evaluation, will look at how impactful the program was and identify changes and opportunities to make it more successful.

Given the importance of local programs to CPA’s mission, some of CPA’s proposed local programs are already at various stages of detailed program design and implementation via pilot programs. See below for current status.

Table 6: Implementation status for each of the 7 programs

Program	Implementation Status
Clean Back-Up Power for Essential Facilities	Design and Planning
Demand Response – Energy Storage	Evaluation of the Power Response pilot in 2020/2021; Design and Planning for expanded program
Peak Management Pricing	Completed Evaluation of 2019 pilot; beginning Implementation of expanded 2020 program
Public EV Charging	Design and Planning of 2021 Ventura County program; Assessment of Los Angeles County program
Building Electrification Code Incentives	Assessment
Community Solar	Awaiting approval from the CPUC to begin Implementation
100% Green Discount	Awaiting approval from the CPUC to begin Implementation

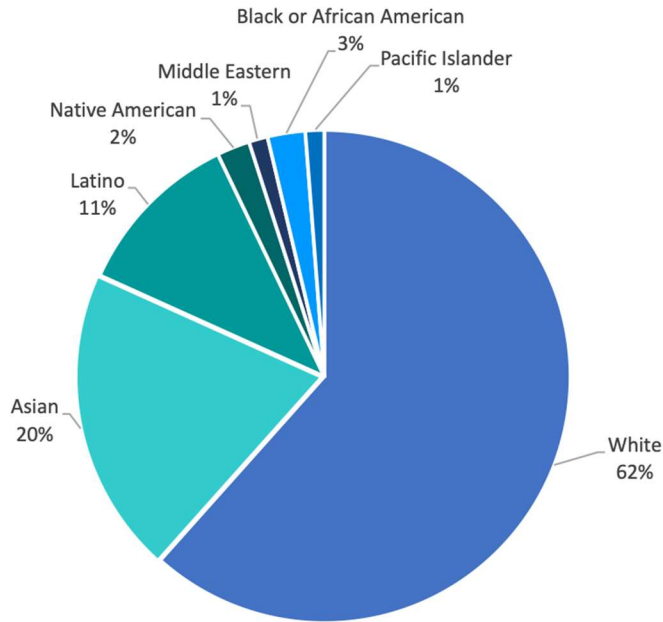


Appendices

Appendix A – Demographics of Survey Results

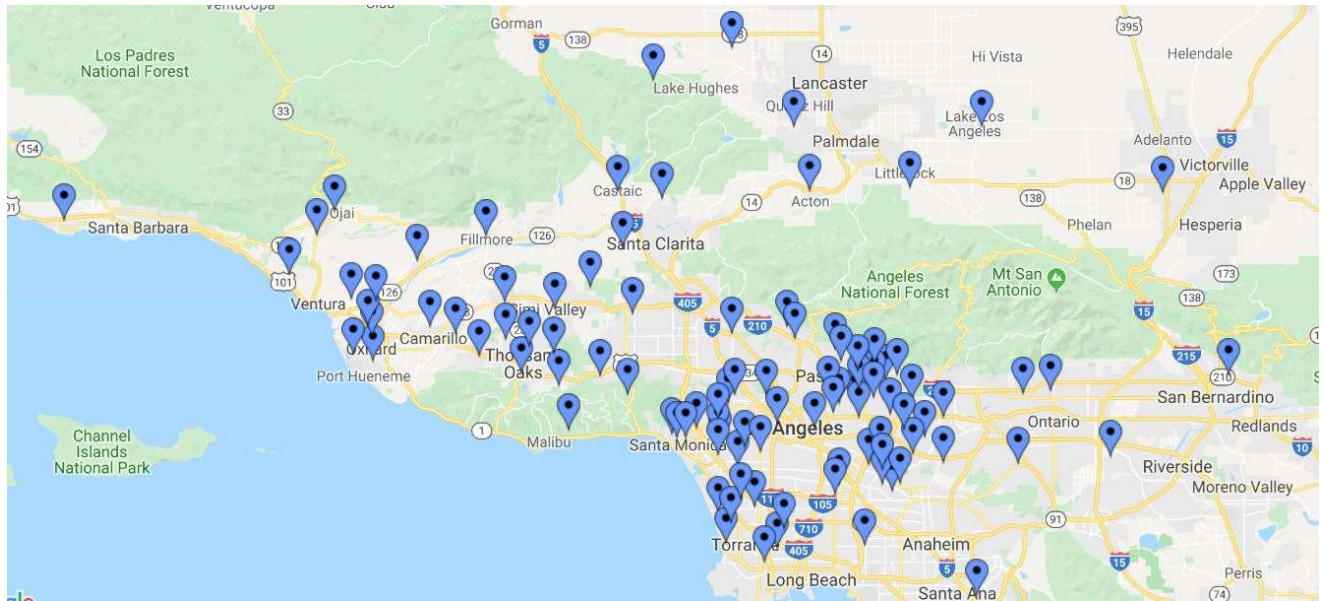
The survey administered by CPA garnered 317 responses in total, of which 281 were respondents to the English survey, 35 were respondents to the Chinese survey, and 1 was a respondent to the Spanish survey.

Figure A-1: Distribution of respondents by ethnicity



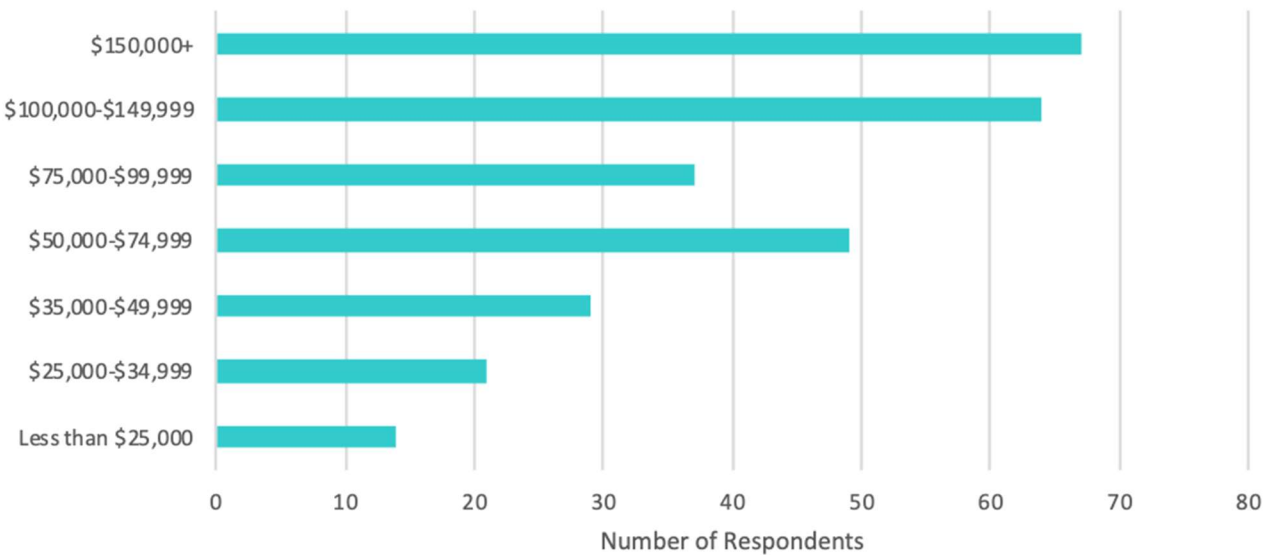
Although the Spanish survey had a low response rate, 11% of all survey respondents who answered optional demographic questions were Latino. 20% of respondents were Asian, and 62% were white. Black or African American, Pacific Islander, Middle Eastern and Native American respondents accounted for 1-3% of respondents who answered the demographic questions.

Figure A-2: Map of the zip-codes of survey respondents



As shown in Figure 2, the survey respondent pool covered Clean Power Alliance’s survey territory, with respondents from all across Ventura and Los Angeles counties. Survey respondents tended towards higher-income levels with 24% of respondents earning greater than \$150,000 annually. 5% of respondent households earn \$25,000 or less.

Figure A-3: Distribution of respondents by household income level



Appendix B – Existing Types of CCA and Utility Programs for Assessment

CPA used the existing universe of programs as a starting point for developing local programs. The hundreds of available programs that varied in terms of implementation (e.g. by targeted customer or mechanism of delivery) were consolidated into approximately 30 types of programs. These were qualitatively scored in a similar process to that used in the tool so as to prioritize the top programs for more in-depth assessment in the tool.

Energy efficiency programs were not analyzed in the tool, as many energy efficiency programs are already available to CPA customers through SCE and additional programs would have been duplicative.

Below are the program types that were considered for assessment in the tool.

Resilience and Grid Management

- Fund or subsidize solar and storage installation costs at critical facilities
- Offer incentives for customers to install solar
- Offer incentives for customers to install solar and storage combination
- Offer incentives for customers to install storage if the customer agrees to participate in demand response program
- Offer incentives for customers to use their own device (smart thermostat, water heater, storage etc.) for demand response
- Offer incentives for demand response behavioral change (Capacity Bidding, Critical Peak Pricing etc.)

Electrification

- Offer incentives for municipal or commercial customers to install public electric vehicle (EV) chargers
- Offer incentives for customers to install private EV chargers
- Offer incentives for customers to purchase or lease EVs
- Offer EV time-of-use rates
- Fund or subsidize municipal fleet vehicle replacement with EVs
- Offer incentives to replace fossil-fuel equipment and appliances with a renewable or electric alternative
- Offer incentives for customers impacted by fires to rebuild their homes as all-electric
- Allow customers to borrow a renewable or electric appliance that would displace a fossil-fuel based appliance
- Offer incentives for municipalities to develop electric building reach codes
- Organize all-electric building showcases for public engagement and education

- Organize electric vehicle test-drive events for public engagement and education

Local Procurement

- Offer a feed-in tariff (pay distributed energy system owners for the electricity they send to the grid)
- Contract small, local and clean distributed energy resources for renewable generation procurement
- Offer a discount on 100% renewable electricity rate for certain customers
- Fund the installation of a community solar project that offers discounted rates for participating customers

Energy Efficiency

- Contract a third-party to implement an energy efficiency program
- Provide free or discounted innovative energy efficiency technologies for customers to pilot technologies
- Provide a free energy assessment of a customer's home
- Provide a free energy efficiency kit (e.g. light bulbs)
- Offer financial payment plans to fund energy efficiency upgrades (e.g. PACE)

Other

- Offer technical assistance to municipalities for climate action planning
- Offer technical assistance to municipalities for City alternative-fuel vehicles readiness planning
- Install municipal solar-powered streetlights for public safety
- Offer grants to build community capacity to reduce wildfire risk
- Offer grants to community-based organizations to engage underrepresented communities

Appendix C – Local Program Planning Tool Result Tables for Programs

Table 7: Summary of Local Program Planning Comparison Tool Results for Program 1, Clean Back-Up Power for Essential Facilities

Program Metrics	Score
Feasibility	4
Program NPV	0
Customer NPV	10
Job Creation	10
Wage-Impact	6
DAC Population Need	4
DAC Populations Covered	10
Other Disadvantaged Communities	0
GHG (CO ₂) Benefits	10
Criteria Pollutants	10
Local Resiliency	6
Grid Resiliency	10
Total Weighted Score	9.6

Table 8: Local Program Planning Comparison Tool Results for Program 2, Demand Response – Energy Storage

Program Metrics	Score
Feasibility	4
Program NPV	10
Customer NPV	0
Job Creation	6
Wage-Impact	2
DAC Population Need	4
DAC Populations Covered	10
Other Disadvantaged Communities	0
GHG (CO ₂) Benefits	5
Criteria Pollutants	10
Local Resiliency	2
Grid Resiliency	10
Total Weighted Score	6.5

Table 9: Summary of Local Program Planning Comparison Tool Results for Program 3, Peak Management Pricing

Program Metrics	Score
Feasibility	4.5
Program NPV	3
Customer NPV	3
Job Creation	0
Wage-Impact	0
DAC Population Need	4
DAC Populations Covered	10
Other Disadvantaged Communities	0
GHG (CO ₂) Benefits	0
Criteria Pollutants	0
Local Resiliency	0
Grid Resiliency	10
Total Weighted Score	2.6

Table 10: Summary of Local Program Planning Comparison Tool Results for Program 4, Demand Response – Residential Thermostat

Program Metrics	Score
Feasibility	4.5
Program NPV	6
Customer NPV	1
Job Creation	0
Wage-Impact	0
DAC Population Need	4
DAC Populations Covered	10
Other Disadvantaged Communities	10
GHG (CO ₂) Benefits	0
Criteria Pollutants	0
Local Resiliency	2
Grid Resiliency	10
Total Weighted Score	3.4

Table 11: Summary of Local Program Planning Comparison Tool Results for Program 5, Public EV Charging

Program Metrics	Score
Feasibility	5
Program NPV	5
Customer NPV	6
Job Creation	3
Wage-Impact	5
DAC Population Need	4
DAC Populations Covered	10
Other Disadvantaged Communities	8
GHG (CO ₂) Benefits	6
Criteria Pollutants	3
Local Resiliency	0
Grid Resiliency	0
Total Weighted Score	5.1

Table 12: Summary of Local Program Planning Comparison Tool Results for Program 6, Building Electrification Code Incentives

Program Metrics	Score
Feasibility	3
Program NPV	8
Customer NPV	4
Job Creation	1
Wage-Impact	3
DAC Population Need	4
DAC Populations Covered	10
Other Disadvantaged Communities	5
GHG (CO ₂) Benefits	3
Criteria Pollutants	8
Local Resiliency	0
Grid Resiliency	0
Total Weighted Score	3.9

Table 13: Summary of Local Program Planning Comparison Tool Results for Program 7, All-Electric Post-Fire Rebuild

Program Metrics	Score
Feasibility	3.5
Program NPV	3
Customer NPV	7
Job Creation	6
Wage-Impact	3
DAC Population Need	3
DAC Populations Covered	0
Other Disadvantaged Communities	2
GHG (CO ₂) Benefits	2
Criteria Pollutants	4
Local Resiliency	0
Grid Resiliency	0
Total Weighted Score	3.0

Table 14: Summary of Local Program Planning Comparison Tool Results for Program 8, Natural Gas Appliance Replacement

Program Metrics	Score
Feasibility	4
Program NPV	5
Customer NPV	1
Job Creation	2
Wage-Impact	3
DAC Population Need	4
DAC Populations Covered	10
Other Disadvantaged Communities	2
GHG (CO ₂) Benefits	1
Criteria Pollutants	1
Local Resiliency	0
Grid Resiliency	0
Total Weighted Score	2.2

Table 15: Summary of Local Program Planning Comparison Tool Results for Program 9, Community Solar

Program Metrics	Score
Feasibility	5
Program NPV	8
Customer NPV	8
Job Creation	0
Wage-Impact	6
DAC Population Need	5
DAC Populations Covered	10
Other Disadvantaged Communities	6
GHG (CO ₂) Benefits	3
Criteria Pollutants	3
Local Resiliency	0
Grid Resiliency	10
Total Weighted Score	5.6

Table 16: Summary of Local Program Planning Comparison Tool Results for Program 10, 100% Green Discount

Program Metrics	Score
Feasibility	5
Program NPV	8
Customer NPV	8
Job Creation	0
Wage-Impact	2
DAC Population Need	4
DAC Populations Covered	10
Other Disadvantaged Communities	6
GHG (CO ₂) Benefits	2
Criteria Pollutants	3
Local Resiliency	0
Grid Resiliency	5
Total Weighted Score	4.1

Table 17: Summary of Local Program Planning Comparison Tool Results for Program 11, Distributed Energy Request for Offers

Program Metrics	Score
Feasibility	4.5
Program NPV	6
Customer NPV	3
Job Creation	0
Wage-Impact	6
DAC Population Need	4
DAC Populations Covered	10
Other Disadvantaged Communities	5
GHG (CO ₂) Benefits	0
Criteria Pollutants	0
Local Resiliency	0
Grid Resiliency	5
Total Weighted Score	3.0