Staff Report Item 5

TO: East Bay Community Energy Executive Committee

FROM: Nick Chaset, Chief Executive Officer

SUBJECT: **Bay Area Air Quality Management District Grant**

DATE: May 18, 2018

Background

On Friday May 11, EBCE submitted a joint application for a grant from the Bay Area Air Quality Management District with Peninsula Clean Energy. The grant is focused on putting studying models to support putting combined solar and battery energy systems onto "critical facilities," which provide emergency services during natural disasters. This "resilient solar" strategy will provide a cleaner source of backup energy than diesel generators, reduce air pollution through increased clean energy, and reduce operating costs for public agencies.

Attachment

A. Proposal

APPENDIX A

Climate Protection Grant Cover Sheet

I. Applicant

Name of Jurisdiction: East Bay Community Energy and Peninsula Clean Energy

Type of Public Agency: ☐Local government ☐Special District ☒Community Choice Energy

☐Other (specify)

Primary Contact Person: Taj Ait-Laoussine

Phone #: ( ) 925-579-1569

E-mail: taitlaoussine@ebce.org

II. Project

Project Title: Resilient Solar for Critical Facilities

Program Category: ☐Reducing GHGs from Existing Buildings ☑Fostering Innovative Strategies

Total Project Cost: $ $345,525

Funding Request: $ $300,000

Individual authorized to enter into a formal agreement with the Air District:

I authorize the submittal of this grant application and certify that all information is correct and accurately reflects the project scope, costs, timeline, and availability of funds.

Signature:

Print Name: Nick Chaset

Title: CEO

Date: May 11, 2018

May 11, 2018

Dear BAAQMD,

Please consider the attached proposal from East Bay Community Energy and Peninsula Clean Energy for your 2018 Climate Protection Grant Program, under the Innovative Strategy Grants category.

Our proposal focuses on putting combined solar and battery energy systems onto "critical facilities," which provide emergency services during natural disasters. This "resilient solar" strategy will provide a cleaner source of backup energy than diesel generators, reduce air pollution through increased clean energy, and reduce operating costs for public agencies.

We will leverage our roles as joint powers authorities for 31 city and two county governments to work with our sister agencies that manage critical facilities. We can offer our expertise on energy issues, unique data on electricity consumption, and ability to set favorable policies for distributed energy technologies. We will work with emergency planners at all levels of government to see how resilient solar technologies could meet their needs, analyze overall potential and specific facilities, research financing options, and organize strategies to reduce procurement costs.

Our goal is to not only succeed in deploying hundreds of resilient solar systems in our service territories, but to develop an innovative and replicable model that can be adopted by other government agencies in California and across the country. By making resilient solar a common part of preparedness, we can push clean energy technologies further into the mainstream, helping cut criteria and global warming emissions.

We hope you will consider the application favorably.

The current application was written in response to a specific opportunity to promote clean energy technology in a socially beneficial way, and in response to the funding opportunity. However, EBCE and PCE intend to be more than just electricity vendors for 900,000 customers in Alameda and San Mateo Counties.

Our goal is to be a platform for innovative ideas that transition our economy to a sustainable energy future. Many of these ideas involve using clean electricity to decarbonize other sectors

that have proven resistant to rapid change. BAAQMD has identified zero emission vehicles, smart/connected technologies, and lower emission industrial processes as key to reducing Bay Area carbon emissions. We look forward to serving as a partner with BAAQMD to deploy these and other disruptive technologies.

Yours in clean air,

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Resilient Solar on Critical Facilities

Proposal to the Bay Area Air Quality Management District
from East Bay Community Energy and Peninsula Clean Energy
for the 2018 Climate Protection Grant Program
under the Innovative Strategy Grants category

May 11, 2018

a. Summary of Project

Goals: Deploying solar and storage on critical facilities can cut GHGs and criteria pollutant emissions from diesel backup generators, illustrate the potential and capabilities of clean energy technologies, inspire the private sector to take action, create a model that can be replicated across the United States, and increase disaster preparedness and resiliency in the Bay Area.

Solar power is affordable now and rapidly growing in the Bay Area and across the country. Battery storage is becoming cost competitive, aided by state programs to accelerate deployment and the growth of electric vehicles.

Together, distributed solar and storage create "resilient solar." When the grid is functioning, resilient solar provides clean energy and energy services that reduce air pollution, lower customer costs, and improve grid reliability. If the grid goes down, it can provide backup energy, which is especially important for the "critical facilities" that provide services during emergencies, such as fire and police stations, call centers, and emergency shelters. Typically, diesel generators are used for backup power, creating pockets of air pollutants when these units are fired up, both during frequent testing and during a crisis. And unlike diesel generators, resilient solar has a financial payback, creating the opportunity of getting "resilience for free," as one report described it.

To take advantage of the newly economical solar and storage technologies, East Bay Community Energy (EBCE) and Peninsula Clean Energy (PCE) are seeking funding for a joint exercise to collaborate with partners in Alameda and San Mateo counties, research the potential for resilient solar systems on critical facilities, and to develop a financial model that results in affordable and widespread deployment.

Benefits:

- Critical facilities are numerous, creating a substantial market for solar and storage technologies and a substantial amount of clean energy.
- A successful model developed under this grant can be replicated by CCAs and public agencies across the state and the country.

- Critical facilities are high profile, creating a prominent platform for clean energy technologies.
- Resilient solar can displace diesel backup generators (BUGs) in many facilities, removing a source of local pollution and GHGs.
- Resilient solar can create value every day, by generating electricity and cutting demand charges. Diesel BUGs cannot; they are all cost and no benefit until needed in an emergency.
- Providing resilient energy proves that solar and storage are capable and powerful, a good public image that will help with sales to the public and other customers.
- Integrating electric vehicle charging stations into critical facilities gives added functionality during long grid outages by being able to power vehicles, plus the vehicles can serve as stationary energy sources through two-way vehicle-grid integration (VGI).
- There are already examples of resilient solar in Alameda and San Mateo Counties, previous research by San Francisco, and supportive policies at the state and federal level.

b. Strategic approach

To maximize the deployment of resilient solar on critical facilities in Alameda and San Mateo counties, EBCE and PCE will undertake the following tasks:

1. Develop a collaborative program with emergency planning and response agencies. Educate agency leads about resilient solar technologies, performance, and prices. Review their energy assurance plans and local hazard mitigation plans for opportunities to include resilient solar. Select consultants that can undertake research for the project.
2. Identify and catalog critical facilities in Alameda and San Mateo counties that have good potential for on-site solar power generation, high demand charges, on-site diesel backup generators, and potential for EV charging stations.
3. Screen sites for suitability using the Solar Resilient screening tool (solarresilient.org) developed for the City & County of San Francisco. Use detailed customer electricity consumption data to do a tailored financial analysis for each site.
4. Research financing options, including state and federal grant and loan programs, bond sales, third party ownership, and on-bill financing. Consider how changes to distributed energy policies and rate designs could help.
5. Work with agencies to identify priority facilities for deployment, develop standardized RFP materials, and assist in procurement by helping assess proposals. If possible, develop a standardized equipment package and a joint procurement strategy that can reduce costs. Vendors will do the installations.

6. Document the results of the project, including research, findings, lessons learned, and deployment results. Write reports, develop web materials, and other media.
7. Promote the project findings and resilient solar as a way to encourage others in the Bay Area and beyond to follow suit. EBCE and PCE will especially promote the program through the network of community choice aggregators to encourage replication across the state.

EBCE and PCE are already partners and partnerships, serving as joint powers authorities with 31 participating cities and two counties in all. As public entities we are in a good position to collaborate with sister agencies and others that provide emergency services and planning in Alameda and San Mateo Counties, including police and fire departments, call centers, clinics and hospitals, national guard and military, school districts, retirement homes and other shelters, city, county, and state government, and FEMA (whose regional headquarters is in the same building as EBCE).

Consultants will be selected through a competitive solicitation. Potential bidders include Gridscape Solutions, who did the Fremont fire station project; ARUP, which worked on the San Francisco/DOE analysis; the Clean Coalition, who are doing the Peninsula Advanced Energy Community project; and Tetra Tech and AECOM, who did the hazard mitigation plans for the two counties.

There are multiple examples in Alameda and San Mateo Counties that will help to educate stakeholders and share results.

- Three fire stations in Fremont were equipped with solar and storage microgrids in 2016 and 2017, with funding support from the California Energy Commission and the City of Fremont.
- The Santa Rita Jail in Dublin has a complete microgrid with solar, storage, backup generators, and more, installed by Chevron Energy Services.
- The Peninsula Advanced Energy Community in southern San Mateo County is studying a set of distributed energy issues, including "solar emergency microgrids" for critical facilities, including an elementary school used as a Red Cross shelter.
- The Berkeley Energy Assurance Transformation (BEAT) Project is working to install a solar and storage microgrid on and around City buildings.

Our goal is that this research and planning collaborative will lay the groundwork for dozens and eventually hundreds of resilient solar installations in the Bay Area.

Table of major deliverables and estimated completion dates

Task	Deliverables	Date
Establish program	Create collaborative program with emergency planning and response agencies. Educate agency leads. Review current plans for opportunities to include resilient solar. Select consultants.	August 2018 Convene series of meetings and workshops in September. Select consultants for research tasks by October.
Research on potential	Catalog and do first-pass assessment of facilities.	November
Site screening	Do detailed analysis of facilities.	December-January
Financing and rate design	Explore finance options. Review EBCE and PCE rate designs for efficacy.	February 2019
Deployment plan	Develop standard RFPs, assist with bid review, and help winning vendors as needed.	March - May
Document the results	Create reports, online materials, and other media.	June
Promotion	Disseminate findings to community, other agencies, and other CCAs.	June

Policy support and incentives

The project will be aided by a substantial amount of state and federal policy supports for solar and battery storage technologies. As electricity service providers, EBCE and PCE will also have some ability to craft policies and rate structures that enable resilient solar.

Public-sector customers are typically on a commercial rate design (tariff) that includes charges based on peak demand. Solar and storage can help reduce these demand charges, as well as displace energy purchases. Storage systems can also be used to provide demand response, charging and discharging in response to incentives from utilities. Moreover, EBCE and PCE are obliged to procure resources that provide a reserve margin, called resource adequacy (RA). RA requirements include local and flexible resources, which includes distributed storage, opening up another value stream in the form of incentives from EBCE and PCE. Using storage for local RA could displace conventional fossil-fueled plants, thus reducing emissions.

Commercial solar power is eligible for a 30 percent tax credit until 2020, after which it steps down to 10 percent. The public entities that own the critical facilities would need to partner with a private sector investor to monetize the tax credits. Schools have benefited from the state Prop 39 fund to finance energy efficiency improvements, including solar. Customers can take advantage of net metering to capture full value from the solar power. The California Energy Commission recently incorporated solar as a mandatory measure in the state building code, and has a goal of doing the same for commercial buildings by 2030.

Storage gets substantial policy and financial support from the state currently. Stationary batteries can be deployed in many configurations, on either side of the meter. Recent law

(AB2868) requires deployment of 500 MW of customer-sited storage. Customer-sited storage can cut demand charges paid by commercial customers. Those savings, aided by the CPUC's $500 million Self Generation Incentive Program (SGIP), make storage financially attractive for commercial customers.

The CPUC now directs 25 percent of the SGIP budget to an "equity fund" which gives preference to projects located in disadvantaged or low-income communities, as defined by state law, and where the customer is a local or state governmental agency, an educational institution, a non-profit organization, or a small business.

Like state solar funds did, the storage incentive program is ramping down on the expectation that batteries will become competitively viable. Combined battery and solar systems are beginning to be competitive with grid power in regions with high costs and favorable rate structures. Honolulu, for example, saw over 700 combined systems installed last year. Solar and storage are at the heart of zero net energy homes, the pathway for converting building energy systems away from natural gas to clean electricity.

Benefits

While the benefit of clean air and carbon free power are obvious, solar and storage can create a number of ancillary benefits that can be just as important.

One of the most important is energy resilience. Combining solar and storage at a facility can create a backup power system that can provide energy during extended grid outages. California has witnessed a number of calamities in recent years that have affected energy supplies, including wildfires, mudslides, and dam failures. The most prevalent and greatest danger is earthquakes.

In a 2014 report, Association of Bay Area Governments (ABAG) estimated that a magnitude 7.9 earthquake (comparable to the 1906 earthquake) could knock out electricity supplies for a week and natural gas supplies for up to six months. Providing power to critical facilities would be an important response to such a disaster.

The Bay Area is a good place to pilot resilient solar policies and programs, due to a very high awareness of natural disasters and strong support for clean energy. Until recently, PG&E's service territory was home to more than a quarter of all rooftop solar systems in the country. Many Bay Area cities participated in the CEC's voluntary Local Energy Assurance Plan (CALEAP) process, developing energy security plans. ABAG has been actively engaged on resilience and energy issues, including disaster mitigation planning and the creation of the Bay Area Regional Energy Network (BayREN), which has an $11 million budget to implement local energy efficiency programs. Community choice energy aggregators will soon dominate the region: Marin, Sonoma, San Francisco, East Bay, Peninsula, and Silicon Valley CCAs are either operating now or will be soon, providing a direct link with local governments.

The current proposal will build on research by the City of San Francisco. Under a $1.3 million grant from the US Department of Energy, San Francisco surveyed and mapped critical facilities, developed a software tool for sizing and estimating the cost and performance of solar and storage systems on specific buildings, and then selected a dozen facilities that could best serve the most vulnerable populations as resilience centers.

We would use their methodology and their assessment tools to do a similar analysis. San Francisco is struggling now to develop a way to finance deployment. Our project would also address that issue, with the added value of the services a CCA can offer (such as rate design and on-bill finance), and may partner with the SF Department of the Environment at that stage.

As shown by the San Francisco project, the resiliency benefits are arguably greatest in disadvantaged communities that may lack the resources to provide their own response to natural disasters. The elderly and disabled will be especially in need of services that rely on electricity, including shelter, air conditioning, medical equipment, and refrigeration for medicines. We will put a priority on sites in disadvantaged communities, using the CalEnviroScreen 3.0 tool and BAAQMD's designation of Community Air Risk Evaluation (CARE) communities.

c. Connection with Air District's goal and objectives

While the project does reduce GHG and criteria air emissions, it may have its greatest impact as an innovative role model that can be replicated statewide, nationally, and globally.

It touches on four BAAQMD goals:

- Reduce and eliminate health problems caused by air pollution.
- Achieve and maintain air quality standards for all criteria pollutants.
- Through incentives and partnerships, establish the Bay Area as a leading area for emissions reductions in mobile sources, land-use planning, innovative technology, and energy.
- Through educational programs and partnerships, engage all Bay Area residents to spare the air every day.

Goal: Air quality
As documented in Section D below, the GHG benefits of this program may be somewhat modest, but it will reduce local criteria pollutants from diesel generators and create larger indirect benefits.

While we have not assembled a complete catalog of critical facilities in Alameda and San Mateo counties (this would be task 2), a cursory sample shows that the number is substantial in Alameda and San Mateo counties, very large state-wide, and is replicated in every US state.

For example:

- Fire stations: There are approximately 100 fire stations in Alameda County and 57 in San Mateo County. California has 874 fire departments, while the US has over 27,000 departments with over 51,000 stations, according to FEMA.
- Police stations: There are over 500 law enforcement agencies in California, at every level of government plus schools and special districts (like BART).
- Emergency call centers: There are 21 call centers in Alameda county and 16 in San Mateo county (plus at least 26 more in the BAAQMD region).
- Schools and community centers often serve as officially designated emergency shelters. There are 435 public schools in Alameda County and 182 in San Mateo County.
- The Alameda County Hazard Mitigation Plan counts 230 critical facilities in unincorporated Alameda County, including 56 emergency response, 70 public utilities (like pump stations and communication towers), and 41 various government facilities. Cities and other jurisdictions within Alameda County do their own plans. The San Mateo counts 1184 critical facilities in total, including all cities. Both surveys count some critical facilities like bridges and dams that would not be addressed by resilient solar.

This cursory assessment needs further research to identify opportunities, but is enough to show that there is substantial potential. Adding resilient solar to 150 fire stations, for example, could result in 6 MW of solar capacity and 14 MWh of battery capacity, if the systems are comparable to resilient solar at the three Fremont fire stations mentioned earlier. Schools, jails, and other government buildings tend to be much larger than fire stations, with greater resilient solar potential.

Goal: Bay Area as leading area

The Bay Area is a world leader on clean energy technologies, like solar and storage. The examples of resilient solar deployment mentioned above are notable, but they are still few. Other regions have also shown an interest in energy resilience, especially Northeastern states in the wake of the extended outages from Superstorm Sandy. The long outage in Puerto Rico is inspiring many proposals for innovative resilient energy systems, though the weak financial condition of the island may preclude "building back better."

Still, no other region has put together a comprehensive strategy for deployment. Given California's leadership on clean energy technologies and the deep need for security in the face of natural disasters, the Bay Area should be the place to create such a model.

Once it has been developed and tested here, it can be replicated across the state, using the convenient vehicle of community choice aggregators with their close ties to local government. And because every community has critical facilities, it can be replicated nationally.

Goal: Engagement and education
As joint powers authorities of local governments, EBCE and PCE are in a good position to engage with public sector partners, and with our 900,000 customers. Deploying solar and storage to provide both everyday energy and emergency energy is a powerful way to express the value of clean energy technology.

Tasks 6 and 7 described above, documenting and promoting findings of the project, will be critical in reaching out to a wider audience, both in the Bay Area and beyond. We will also be able to document the projects through communications with our customers.

d. Potential for GHG Reduction

Deploying resilient solar on critical facilities would have direct and indirect benefits for reducing both GHGs and criteria pollutants. Direct benefits accrue from displacing grid power with solar power generation and reducing reliance on diesel backup generators. Battery storage, if used to reduce demand charges, can also reduce periods of peak demand, thus reducing the need for fossil-fueled peak generators.

Grid emissions
Because EBCE and PCE already offer very low-carbon power products, the value of displacing grid emissions will be small. Each offer a base product, Bright Choice or ECOplus, which is 85% carbon-free, with the balance coming from system power, which is largely natural gas. The opt-up choices, Brilliant 100 and ECO100, are carbon free.

So far, 14 of the 20 cities in San Mateo County have opted up their municipal accounts to ECO100, and five of 11 cities participating in EBCE have opted up their municipal accounts to Brilliant 100. However, school districts, housing authorities, and other non-profits may choose the less expensive options.

PG&E's 2016 emission rate was 294 pounds (133 kg or 0.133 MT) of CO2 per MWh. EBCE has not begun sales yet, but expects to have a similar or slightly cleaner mix than that in 2018 for Bright Source customers. PCE has a 2016 emission rate of 236 pounds CO2 per MWh, and is working toward being 100% GHG free by 2021 and sourcing all of their energy from California RPS eligible renewable energy by 2025.

For the above example of 150 fire stations, 6 MW of solar capacity would produce approximately 10,500 MWh per year. If they were Bright Source/ ECOplus customers, they would reduce CO2 emissions by about 1400 MTCO2 per year. Put in another way, each megawatt of deployed solar would result in about 233 MTCO2 reductions per year. The total quantity of reductions will hinge on the total number of facilities affected, both directly and indirectly.

The use of batteries to displace system peak demand could be a high value way to reduce carbon emissions, since peak periods are typically met with larger amounts of gas-fired and imported (partly gas and coal) power.

BUG emissions

For critical facilities, resilient solar can also reduce or eliminate the need for diesel-fueled backup generators (BUGs), a source of criteria pollutants and GHGs. While power outages are relatively rare, when they do occur BUGs can run for many hours, often in close proximity to people. BUGs are not subject to air limits when running during emergencies. Moreover, BUGs must be tested regularly to prove they are ready at all times.

For example, a recent BAAQMD permit application from a fire department for a 150 horsepower (about 90 kW) diesel generator listed nitrogen oxides (NOx), carbon monoxide (CO), precursor organic compounds (POC) from unburned diesel fuel, sulfur dioxide (SO2) and particulate matter (PM10) as expected emissions. The application requested 50 hours per year of operation for testing and maintenance, which would emit 44 pounds of NOx, 17 pounds of CO, and other pollutants from the EPA and CARB-approved generator. However, if running in an emergency situation the generator would produce 21 pounds of NOx per day, 8 pounds of CO, and smaller amounts of POC, PM10 and SO2.

While we have not yet surveyed the total potential for displacing BUGs, we assume that many critical facilities do have BUGs that could be completely or partly replaced by a resilient solar system. (Some facilities, like hospitals, are subject to state codes that require BUGs and that may have limited on-site potential for solar.) The assessment of facilities, performed in task 2 above, would include the potential for displacing diesel BUGs.

Indirect and Ancillary Air Quality Benefits

Since this proposal is being made under the Innovative Strategy Grants category, we believe the indirect and ancillary air quality benefits will be greater than the direct benefits.

The main indirect benefit will be in inspiring others to adopt resilient solar systems, thereby reaching a larger number of customers, especially those served by utilities in other regions that are not as clean as Bay Area CCA providers.

The ancillary benefits are key to the attractiveness of resilient solar. As mentioned above in section A, resilient solar can improve emergency preparedness, save money for public sector customers, improve public perception and sales of clean energy technologies, and spur investigations of additional resilient solar applications, like stoplights, streetlights, and cell phone transmitters.

e. Measuring success

The direct goals are to deploy resilient solar on critical facilities in Alameda and San Mateo counties, cut GHGs and criteria pollutant emissions from existing buildings, and increase disaster preparedness and resiliency in the Bay Area.

The indirect goals are to illustrate the potential and capabilities of clean energy technologies, inspire the private sector to take action, and create a model that can be replicated across the United States.

The success of the resilient solar project will be measured in both quantitative and qualitative ways, for both process *outputs* and *outcomes*.

For outputs, we will be able to measure the number of communities engaged, critical facilities identified and analyzed, total potential deployment of solar and storage, and the potential financial and emissions savings. Qualitative measures could include the degree of engagement by public agencies, the influence on hazard mitigation planning, and attitudes about clean energy technologies among participants.

For the outcomes, the most important quantitative measures will be the number of systems deployed, the total megawatts and megawatt-hours of solar and battery storage systems, the amount of reductions of GHGs and criteria pollutants, and the number of other CCAs and public agencies that adopt the analysis and strategies developed. The qualitative outcomes could include the impact on public perception of clean energy technologies, sales in the private sector, and awareness and adoption of resilient solar in other regions. And in both categories, the performance of the systems during grid outages in event of disaster.

Project Budget

We humbly request a grant of $300,000 from the Climate Protection Grant Program. An overview of major budget items follows, while details are in the attached spreadsheet.

The effort for the project exceeds the grant maximum amount. We are counting EBCE and PCE staff time, and other expenses, as in-kind contributions. We do not count the time of participants, such as emergency management agencies that will participate in workshops and meetings.

Salary

The project will include a total commitment of EBCE and PCE staff time of approximately 430 hours over the course of the project. The weighted average rate is $125 per hour (not including benefits and overhead), resulting in a total salary cost of $53,750. We count half of that as in-kind contribution, with a value of $26,875.

Staff and roles from East Bay Community Energy and Peninsula Clean Energy are listed in the table below.

EBCE	**PCE**	**Role**	**Combined hours**
Nick Chaset, CEO	Jan Pepper, CEO	General oversight, soliciting participation from public agencies, input on rate design	50
Dan Lieberman, Senior Manager, Account Services	Kirsten Andrews-Schwind, Communications and Outreach Manager or Michael Totah, Key Accounts Executive	Outreach to public agencies, input on rate design, promotion.	200
Taj Ait-Laoussine, Vice President, Technology and Data Analytics	Rafael Reyes, Director of Energy Programs	General oversight, input on rate design	140
Annie Henderson, Vice President, Marketing and Account Services	Leslie Brown, Manager of Customer Care	Input on rate design, promotion.	40
		TOTAL	430

Fringe/benefits and Indirect expenses / overhead

The fringe benefits rate is 30% and the indirect expense rate is 20%. We split these costs between the grant and an in-kind contribution.

Consultants/sub-contractors

The bulk of funds will be used to hire consultants to manage the project and do specific tasks.

Program manager: This person will be have primary responsibility for the success of the project. We budget 480 hours of time at $150 per hour, for a total cost of $72,000.

Specific tasks will be done by one or more consultants with engineering, financial, procurement, and communications expertise. We budget by task as follows:

- Task 2: inventory of facilities: 200 hours at $200 per hour = $40,000
- Task 3: screening facilities: 400 hours at $200 per hour = $80,000
- Task 4: finance options: 100 hours at $250 per hour = $25,000
- Task 5: RFP development and reviews: 80 hours at $250 per hour = $20,000
- Task 6 and 7: documentation and dissemination: 80 hours at $150 per hour = $12,000

Meetings

We include a small budget to cover meeting expenses, such as materials, telecom, audio-visual equipment, and refreshments. We expect 8 meetings with a total cost of $4000. Meeting facilities will be donated, worth an estimated in kind-contribution of $4000.

Materials design & production (including web)

The bulk of the funds will be used to document the findings of the project, including reports, fact sheets and case studies, photos and diagrams. We will develop materials to educate participants about resilient solar technologies, case studies, and costs. We will use online delivery for dissemination of materials.

Other expenses

We anticipate no other expenses.

Budget for BAAQMD Resilient Solar proposal

Timeline:	*Establish program*			*Research on potential*	*Site screening*	*Site screening*	*Financing and rate design*	*Deployment plan*			*Document the results and Promotion*	TOTAL HOURS	HOURLY RATE	TOTAL FUNDED BY GRANT	IN-KIND TOTAL
	August	September	October	November	December	January	February	March	April	May	June				
Salary															
EBCE Staff time	30	30	15	10	10	10	45	10	10	10	35	215	$ 125	$ 13,438	$ 13,438
PCE Staff time	30	30	15	10	10	10	45	10	10	10	35	215	$ 125	$ 13,438	$ 13,438
- Nick Chaset (CEO)	*5*	*5*	*5*				*10*					*25*	*$ 75*		
- Dan Lieberman	*20*	*20*	*5*	*5*	*5*	*5*	*5*	*5*	*5*	*5*	*20*	*100*	*$ 75*		
- Taj Ait-Loussaine	*5*	*5*	*5*	*5*	*5*	*5*	*20*	*5*	*5*	*5*	*5*	*70*	*$ 75*		
- Annie Henderson							*10*				*10*	*20*	*$ 75*		
- Jan Pepper	*5*	*5*	*5*				*10*					*25*			
- Kirsten												*0*			
- ?												*0*			
Fringe/benefits (30% of salary)													30%	$ 8,063	8062.5
Indirect expenses / overhead													20%	$ 5,375	$ 5,375
Consultants/sub-contractors															
- Program manager	40	40	40	40	40	40	40	40	40	40	80	480	$ 150	$ 72,000	
- Task 2: inventory of facilities				200								200	$ 200	$ 40,000	
- Task 3: screening facilities					200	200						400	$ 200	$ 80,000	
- Task 4: finance options							100					100	$ 250	$ 25,000	
- Task 5: RFP development and reviews								80				80	$ 250	$ 20,000	
- Task 6 and 7: documentation and dissemination											80	80	$ 150	$ 12,000	
Meeting expenses ($) - AV, telecom, materials, refreshments															
- Kickoff, workshops	$ 500	$ 500	$ 500											$ 1,500	
- Review of research				$ 500	$ 500									$ 1,000	
- Finance options						$ 500								$ 500	
- Finalize model RFP							$ 500							$ 500	
- Review bids										$ 500				$ 500	
In-kind contributions (such as meeting space)	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500			$ 500					$ 4,000
Materials design & production															
Labor	8									16		24	$ 100	$ 2,400	
Expenses (materials)	$ 250									$ 250	$ 3,000			$ 3,500	
In-kind staff effort (web posting, layout, etc.)										16		16	$ 125		$ 2,000
Other expenses														$ -	
												2,050		$ 299,213	$ 46,313

Total budget $ 345,525