

Improving Solar PV Results through Collaborative Procurement

Webinar Transcript

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Introduction

Slide 1: Improving Solar PV Results through Collaborative Procurement

Blaine Collison: Good afternoon, everybody, or good morning depending on your time zone, my name is Blaine Collison, I'm the director of the EPA's Green Power Partnership, welcome to our August webinar. Today we want to talk about improving solar PV results through collaborative procurement.

Slide 2: Webinar Logistics

Blaine Collison: And quick word about webinar logistics, we have a Q&A function here, available on the control panel and I encourage you all to use that during the course of the session. You can submit questions in real-time to me, the organizer, to a specific panelist, and we will both use those questions for the Q&A session at the end of the presentation and also respond to some of those in real-time as we go along. And to minimize the control panel, you can click on the button on the top left of the toolbar.

Slide 3: Today's Presentations & Podcast

Blaine Collison: Today's presentation will in fact be recorded – a transcript will be available along with the recording, both on the Green Power Partnership website. We got actually a whole portfolio of webinars available there, and they make great vacation listening for any of you getting ready to go out for the little August break. And they're also available on iTunes or as an RSS feed, if you can sign up to get those at the link that is shown below.

Slide 4: EPA's Green Power Partnership

Blaine Collison: OK, so the Green Power Partnership; we are a voluntary EPA program. The objective is to reduce greenhouse gas emissions by increasing the use of green power among U.S. commercial and institutional organizations. We sit on the same piece of the EPA as the Energy Star program. We are a voluntary program, as I said. That's probably the key-piece of our – of our approach.

Slide 5: Partnership Offerings & Benefits

Blaine Collison: And we do a couple of things. We provide technical assistance for companies and organizations looking at green power, what the issues are, and we provide a recognition platform for those organizations that go ahead and begin to utilize green power. We've got more than 1,200 partners at the moment. It's an incredible list.

I encourage you all to come take a look at the list. The partner list is on our site. It's a remarkable mix, and runs from the Fortune One to Wal-Mart down to very small entrepreneurial start-ups, public, private. We have almost 100 colleges and universities from around the country. We have more than 100 state and local government entities

participating; for-profits, non-profits, big, small. It's an amazing group; all of which – all of them are doing just tremendous things with green power.

Just a quick summary of what we do and what we offer to the market; first and foremost, definition of eligible renewables, what constitutes green power and metrics for how much is enough. It's an incredibly crowded landscape of corporate and environmental claims and we are trying to establish a framework for understanding what actually constitutes minimum credible performance and what constitutes leadership.

We have a green power locator tool on our site that organizations can use to actually come find sources of green power and vendors of green power; detailed purchasing guidance; marketing and communications support. The environmental impact calculator is incredibly helpful for partners that are looking to communicate what they're doing in metrics that their stakeholders will understand.

You can see the guide to purchasing green powers there in the upper right of the screen. That's our soup to nuts guide to the issues that are involved here. It's hot off the update press, and again, makes a great vacation reading.

If folks do only a couple of things after the webinar today, please come to our site and take a look a look at our top partner list. The National Top 50 is a ranked list of the 50 largest users of green power in the nation. We've just updated the list earlier this week, and they're incredible.

It's a who's who of doing green power. But it's a striking list of stakeholders; all of whom could have declared leadership and victory many thousands of megawatt hours ago in terms of green power, and all of whom are continuing to expand the boundaries of leadership in this space and in so doing are contributing dramatically to an increased utilization of green electricity in the American portfolio so really quite incredible.

The Green Power Leadership Awards are coming up. Those will be announced in October at the Renewable Energy Markets Conference in Portland. We know who the winners are and it's a really good list. Because we're an EPA program, we have a partner logo, you can see there at the bottom right. And that's available to all of our partners.

Slide 6: What is Green Power?

Blaine Collison: OK, a quick word on what constitutes green power; it is environmentally differentiated electricity from these technologies. We have very detailed guidance beyond this in some of our documentation about eligible resources. There are vintage requirements both for facilities and the actual generation. But this is a set of technologies that we're really talking about.

Slide 7: Green Power Procurement Options

Blaine Collison: And, of course, there are three basic procurement options for green power. We're going to be talking about on site today, putting generation technology on your own facilities. Bundled products there in the middle – these are – these are available from utilities and electricity markets around the country. And then RECs, right? And RECs continue to be the vast majority of both the compliance and voluntary green power markets. And just in the partnership, RECs are 70, 75 percent of our partners' total purchases.

Slide 8: How Much Green Power to Join?

Blaine Collison: We mentioned that there are benchmarks, thresholds for joining. These are the basic benchmarks. And one of the really interesting things about being in the partnership and watching our partners' behavior over time is that very, very few of our partners, a remarkably small percentage of that 1,200 are actually at the program minimum requirements. They may start there, but there is a consistent pattern of behavior from our partners of increasing the Green Power purchasing over time.

It's something for which I take full credit when its performance review time here at the EPA but it's not me. The – it appears that the value proposition is scalable, and that once companies and organizations get into this space, they like it. There's a fundamental resonance with stakeholders that is a very compelling source of organizational value, and so companies continue to increase their commitments.

Slide 9: Green Power Partners by Sector: Who's Buying & How Much?

Blaine Collison: This slide's pretty – it's a bunch of numbers but what I would really call your attention to as we look at the breakout of the partners and so where they fit in terms of sectors of the economy, it's not the public sectors that are leading the way; in fact, it's the private sectors.

Retail which is notable for operating on, generally, razor-thin margins is the most significant single sector in terms of total green power purchase. And we've – we have a number of notable retail partners that include Wal-Mart, and Cole, and Staples, and Whole Foods, and well, as you can see, now we have a total of 75 of them.

The Federal Government, you know, sort of – sort of middle of the pack there. Banking and financial services, higher education, right, it's a really interesting broadly participating set of stakeholders.

Slide 10: Want to Know More?

Blaine Collison: Couple of links here, at the end of the presentation, will all be available for download later. My contact information is here. Anthony Amato from Eastern Research Group is also available. ERG is a support contractor to the partnership and we are always available to answer any questions about the program and green power issues and the voluntary markets.

So with that, what I want to do is turn over the rights here to the crew from Silicon Valley, Ben Foster from Optony, and they've got a really interesting project underway out there that is a multi-jurisdiction joint procurement of photovoltaics. It's so interesting in fact that when I first read about it, I pick up the phone and started dialing around and found Rachel Massaro, who's joining us, and Ben, and had a series of conversations. And Ben has come to Washington a couple of times and we are in fact trying to pull off a similar procurement here in the Washington D.C. area and this looks like a really interesting model for helping achieve new levels of scale and cost compellingness nationwide in the PV space. So, with that, let me invite Ben and Rachel to take us away and tell us what's going on in Silicon Valley.

Joint Venture: Silicon Valley Network

Slide 1: Improving Solar Projects Through Collaboration

Rachel Massaro: Hey. Well, thank you very much, Blaine, for that introduction and thanks to the Green Power Partnership really for inviting us to join you in this webinar today. Just trying to change the slides here, one second.

Slide 2: Agenda

Rachel Massaro: So, I'm going to do a quick overview of the agenda. I'll start by giving a little bit of a project overview and an introduction to the regional initiative. And then, I'll pass it on to Ben Foster from Optony who's going to discuss the specifics of the collaborative efforts, on to Siva Darbhamulla from the County of Santa Clara, the lead agency on the procurement, to talk about the collaborative working structure and some perspectives from the lead agency. And then, we'll touch back on some of the lessons learned and best practices.

And I think we should have a good amount of time at the end for questions.

Slide 3: Speakers

Rachel Massaro: So, again, Blaine introduced us but my name is Rachel Massaro, I'm the associate director of Climate Initiatives at Joint Venture: Silicon Valley Network. Joint Venture is a non-profit public-private partnership based in San Jose, California. And we are an organization that is meant to enhance quality of life in Silicon Valley and promote economic development. And we do that, specifically, by bringing together the region's leaders to spotlight certain issues and work towards the solutions.

We have a variety of different focus areas. They include, disaster preparedness, cell phone coverage, education, work towards development, economic development, but one of the main focus areas right now is climate change. And the project we're talking about today is coming out of our Public Sector Climate Task Force which I'll go into in a little bit more detail.

Slide 4: Webinar Goals

Rachel Massaro: But first, let's just revisit the webinar goals really quickly here, to make sure that you're coming out of this webinar with what you came for, which is an idea of how to do this project – a project like this in your regions. So really, what we're going to be talking about is a case study that's replicable and scalable of a collaborative procurement of Solar Photovoltaic to reduce cost and, of course, to overcome some challenges using this collaborative approach.

So, you will learn about putting together a collaborative effort like this. Some of the structure and keys to success, challenges and how we dealt with them in our specific collaborative. And then, of course, strategies to implement elsewhere.

Slide 5: Silicon Valley Solar Project Overview

Rachel Massaro: So, moving on to an overview of the project. You can see on the map there, we are in the San Francisco Bay Area. We define Silicon Valley as San Mateo and Santa Clara Counties and parts of Santa Cruz and Southern Alameda Counties. And the jurisdictions I got together for this collaborative procurement, there were nine. It was led by the county of Santa Clara who did the research, the documents creation, including the solicitation and Power Purchase Agreement, as well as, led the procurement process.

And this project, so far, is the largest multi-jurisdictional collaborative procurement of renewable energy in the country. So, you might ask yourself, "How did it come about? What did we do to put this together?"

Slide 6: Regional Goals & Project Initiation

Rachel Massaro: Well, what we did is we launched it through Joint Venture's Public Sector Climate Task Force. The task force was created back in 2007. It is a group of 40 cities and counties, plus about eight or nine other public agencies in Silicon Valley. And we have members that are sustainability officers, environmental affairs coordinators, procurement officers, really, anything this public agency – any person they have that's closest to a sustainability officer. They come together every other month to share best practices, talk about challenges, and successes in their own agencies, but, also, they come together to do both procurement of green products and services. And all of the work that this group does is driven with the intention of trying to reduce Greenhouse Gas Emissions from public agency operation and also to share with one another about their Climate Protection Program.

So, in 2008, a few members of that Public Sector Climate Task Force got together with this idea, this very big idea of, "Why not do this together?" We all want renewable energy on our facilities, why not get together, leverage economies of scale, save time, money, effort, on behalf of the other participants?

So, in early 2009, we actually put out a questionnaire to our participants and asked them if they had an interest. And we actually received a very high level of interest. Out of 40 cities and counties; we had 24 that had initially indicated interest in this project. As I've said before, there are nine in the first phase, but we do intend for that to grow.

Slide 7: Challenges & Opportunities

Rachel Massaro: And we attribute this high level of interest to a variety of things. You know, first and foremost, there is the desire to go green, to install renewable energy technologies. But that desire is combined with some challenges that local government

agencies are facing in our region and that includes the high upfront cost associated with the purchase and installation of these technologies, the need to minimize transaction costs and, in general, a lack of understanding of the financial options and available incentives.

And also, something that we found out later was that many local government agencies have tried to do something similar to this but they had trouble developing successful agreements. So what we really tried to do was to ensure that the agreements were attractive to vendor, thereby, facilitating more competition and getting better prices for the participants.

So, the opportunities here for regional collaboration were really to leverage the existing structure of our Climate Protection Task Force and use that to create this coalition around Collaborative Procurement of Renewable Energy. We decided to go with the Power Purchase Agreement, third party financing so that we could deal with that challenge of the high upfront cost associated with the installation and purchase of these technologies.

So, in this collaborative effort, we could conserve funds, at the same time, also conserving staff time and other efforts that go into – doing a project like this. Also, we – there was an opportunity to standardize the procurement documents as well as the Power Purchase Agreement document that could be tailored to the public sector and those documents could then be made available to others elsewhere and accelerate the financing process and deployment through this aggregation of projects and, ultimately, serve as a model for expansion in our region and for other regions around the country.

Slide 8: Regional Benefits

Rachel Massaro: So some of the specific benefits of this method of collaboration in conjunction with the third party financing are conservation of capital and minimization of upfront cost; a reduction of greenhouse gas emissions from local government operations which is one of the, as I said, the major goals of the Climate Protection Task Force; decrease our dependence on fossil fuels; provide a reliable cost of electricity over the 20-year term; decrease the cost by leveraging economies of scale; expected discounts or decrease in cost of five to 20 percent; provide access to technical expertise; share resources and minimize redundancy; promote the use of local technologies, resources, and businesses; stimulate the creation of local clean tech jobs; and, of course, the greatest benefit here really is just a sheer number of installations in the greater Silicon Valley area.

Slide 9: Environmental Impact

Rachel Massaro: So, you might ask yourself then, "What is the environmental impact with this focus on greenhouse gas emissions?" As I said before, the initial phase of the project is nine jurisdictions working together. It's expected to break ground in 2010 and be completed by 2011. These nine jurisdictions and 70 solar sites have a total of over 14 megawatts of power generation potential which is the environmental equivalent of planting 2,800 acres of trees.

It would produce enough power for 2,700 California homes, increased per capita installed solar by eight watts per person in Santa Clara County. The electricity consumption would actually be completely offset for more than 10 of our locations. And this project, the collaborative is expected to generate more than \$70 million in local economic activity and more than 300 jobs.

Now, phase two of the project, we're hoping to have more public agencies join on. As I said, there were quite a few that were initially interested in the project but only nine were able put their sites into the first collaborative round.

So, in phase two, which will be beginning in late 2010, it's a little bit difficult to know without knowing how many participants or how many sites and what sizes they will be. But we expect it to greatly extend the environmental benefit. So, with that said, I'm going to pass this on now to Ben Foster from Optony who will be talking about the model of regional collaboration as well as project bundling and going to some example sites. So, here you go, Ben.

Optony

Slide 10: Silicon Valley Regional Collaboration Model

Ben Foster: Thanks, Rachel. And hello to everyone. Optony, just as a quick background, provides solar advisory services across the entire life cycle of solar projects to government and commercial entities in the U.S. and in China. And what we've constructed here for this model as a way to demonstrate how it's possible outside of the Silicon Valley region is an overview of the collaboration model that has evolved into a successful example.

At the heart of this, you'll see the lead agency, Santa Clara County, and the eight other agencies in phase I that are driving this forward. There's the buyers of the system of the Renewable Energy and they're the ones that will, in the end, make sure that that impact is reached that Rachel has described in terms of goals across the region.

One of the primary success factors for the model is the enabling role that Joint Venture has been playing in bringing together all of the different stakeholders whether it's the agencies that are involved in this process or the ones that have been considered or that are looking at future phases. It also includes the elected officials in those different agencies or cities and counties, the community, and broadly any other players related to the private sector system; integrators, Power Purchase Agreement providers, and others.

And supporting this from the bottom of the chart is of course that private sector itself whether it's any of those different areas, the integrators, technology providers, PPA investors, and of course the related supporting services, where the jobs will be created, where the implementation will happen across all of the different projects and making sure that there is projects success at the end of this effort.

Slide 11: Strategic Bundling Approach

Ben Foster: One other additional success factor is bringing in the external project – solar project expertise to make sure that – as this – as these projects evolve and get analyzed through the sites and the bundling and the procurement best practices that you take it into consideration from the beginning and all the way through to the end of the project's success.

Now, let's take a deeper look at the bundling approach from a strategic perspective. Now, with so many sites and participants, it is very important to strategically group or bundle these sites rather than lump them all together, because by putting them all together that is – it has been demonstrated to be an unsuccessful approach in many different jurisdictions around the country.

Starting with a thorough review of the individual site characteristics, looking at the type of facility, potential sizing issues, opportunities for different types of installations at a

specific site and other characteristics that might influence how they could be brought together. So, looking at those, at the site level including things like energy usage and then more broadly at the agency level. So are there jurisdictional requirements or goals within the different agencies that are participating?

And even at the state level, looking at where the incentive structures from the different utilities to help offset cost. Then taking that further to the actual bundling effort, is then grouping them by installation type. So is it a rooftop? Is it a ground-mount? Is it a carport? Are there multiple opportunities at that site?

The host facility, are there some unique characteristics of that host facility in terms of the size of the facility, type of use, location? And making sure ultimately that these bundles are attractive to qualified system integrators because that's really the gap that we are attempting to bridge here between the market that wants to provide these services at a competitive price and the availability of those sites. So, the end result of each bundle must be an economically beneficial group to both the integrators and the buyers for this to move forward successfully.

Also, through Joint Venture and others that have helped to reach out to the market itself, the local solar market, it's making sure that we take their information and capabilities and what are the great points for the economies of scale into consideration so that we don't have a bundle that's either too small which means that there won't be an economy of scale or maybe not the level of interest from the larger players, nor too big that might discourage some bidders because if it's an all or nothing award, there might be a lot of upfront investment of time without the possibility of getting any work out of that.

Slide 12: Site Bundle Descriptions

Ben Foster: Now, let's take a look at the individual bundles that have been created for this effort. There are a total of five bundles. The fifth bundle had to do with other types of systems including solar thermal fuel cells and wind turbines. The first four bundles all relate to solar PV.

Now, what we're looking here in the large systems was anything over 650 kilowatts in potential capacity at that site. Medium-sized bundles were between 160 and 650 kilowatts. The small-sized being under 160 kilowatts and they could be combined between rooftop and ground-mounted. It could be both at a single site that might be available where there'd be an attached carport next to a facility or it could be a major – it could be a larger scale system of either type that would fit.

And then the fourth bundle was the small-sized rooftop-only and this was designed not only to provide a consistency of the installation method, but also for regional players that may be primarily residential or smaller-scale installers to have a bundle that would be appropriate for them.

Now, we've seen actually validation through this because for each of these four bundles, we did get qualified bidders for them and they were not the same bidders on all four bundles. Although they could have provided bids for all four bundles, we have a different group in the large systems versus small and in-between whereas where we've seen other jurisdictions, city, counties that have tried to put all of these in one, they get, generally speaking, no qualified bidders through that process.

Slide 13: Example Sites

Ben Foster: Let's take a look at some of the example sites. The example sites are – we've provided two examples and these are actually special districts so these are not city or county. One is the Valley Transit Authority Bus Depot as well as the – an environmental center or waste transfer center. These are two examples of interesting sites where there is big potential for solar. We'll look at each one of them in a little bit more detail. But other site types were libraries, water treatment and pumping stations, the jail, community center, city hall, landfill, and parking garages among others. So, the only type that was not represented in terms of a host facility in this round were any schools.

Slide 14: Valley Transit Authority – Bus Depot

Ben Foster: So if we look a little bit deeper at the Valley Transit Authority, here's a unique space because there's a large amount of unused capacity during the daytime when the buses are out on their routes. But then at night time where they come into parks, this represents to a wide open space where they can actually reach more than 100 percent of the energy usage at that site.

It also represents a good site for solar because during the daytime, there's very low energy use. But at night time when they're doing maintenance on that site, they do have a higher energy use as the lights are on, the equipments are being used. So that happens to be a good energy usage pattern for solar system.

Slide 15: South Bayside Waste Management Agency

Ben Foster: An additional site example is the South Bayside Waste Management Agency in this transfer station. This is actually new construction, a replacement of an older facility where they had designed solar – designed the rooftop for solar integration, meaning both from a waste perspective and from a space usage. So you see on the – on the conceptual drawing that they've left room in between the skylight so they're able to do light harvesting, so they have natural daylight during the daytime but also left enough room for strips of solar panels in between those to max out that energy usage.

We will go ahead and now move on to the perspective from Siva Darbhamulla at the county about what is, from an agency's perspective, what are some of the nuts and bolts of this process and benefits from their perspective.

County of Santa Clara, CA

Slide 16: Agency Collaborative Working Structure

Siva Darbhamulla: Thank you, Ben. I'm Siva Darbhamulla, county of Santa Clara. I'm the project manager for this project. I jumped on this project pretty recently so I think both Rachel and Ben have given you a lot of background information on this project. They're pretty well-versed about this – the development of this project.

From my perspective, as a county employee and as a public agency rep, what we see as – typically, to do a procurement of this nature with so many local agencies enrolled, it requires tremendous amount of resources for coordinating all the efforts. And one of the things that we benefited from joint venture is they have become a catalyst in trying to communicate the need for this kind of a project in this area and also the interest that we wanted to promote in this area. So that was one of the things that we have taken advantage of and then started the whole program almost two and a half years ago.

Then, of course, as a public agency, we want to make sure that the agencies that want to participate would commit to it and would stick with the program and then go along with the entire program. So, what we have done is we asked the agencies to sign a memorandum of understanding and all the agencies have agreed to do so, so they can show their commitment to the program and the project. So we have developed an MOU and we do have samples if people want to – information on that, we can share that.

So we have actually the nine agencies that are – or eight agencies that are partnering with us at this time. They have already signed the MOU. So we do have a commitment to move forward with this program. As Ben already mentioned, this program has 70 sites with 14.4 megawatts capacity, generation possibility. We have an RFP that we put together and we have to do it in two phases. So we did it as a step one and step two phases.

Before we could get to the point of putting an RFP outside to the vendors and the bidders, we needed to make sure that we will have a program that is practical and that can be implemented. So, one of the things that, as a county, that we have recommended to all the agencies and county has taken the lead to do it early on is to do an initial assessment of all the sites without recognizing how much we can generate in a particular site and how we can strategize this procurement process. It would have been very difficult to bundle some of these projects in such a way that we get the benefit out of the vendors really responding to it and competing for it.

So we did initial site assessments. We used consulting firms. Of course, Optony is one of the consulting firms that helped us do the strategy, putting the bundles together. And it tremendously helped because one of the county's goal was to promote as much business as possible to the local community rather than having a single vendor provide the entire program. So, what we really liked in this process is the bundling that actually generated a lot of interest. We received 22 responses early on for our pre-qualifications status –

stage, and two of the firms really did not want to do the PPA programs or they did not respond to the RFP – to the intent of the RFP. So other than that, all the 20 firms that submitted the pre-qualifications got pre-qualified.

And we are in the step two processes right now that we received the cost proposals and then we are in the middle of doing the selection out of those. And we did receive cost proposals from nine vendors. So that kind of shows the effort that went into – in doing the tight assessment, doing the bundling, and strategizing the procurement, how it evolved into a competitive process and also it yielded very good results.

One of the things as a public agency, of course, we deal with is we do have legal issues that we have to resolve and then we have political bodies that we need to get the buy-out from and the city managers who needs to be really living with these sites and the facilities. So we did do pretty pro-active coordination work and resolutions of different issues early on by communicating again with the facilitation of joint venture and we had a number of conference calls, number of meetings to resolve these issues so we can come up with a good program and also a practical program. As I mentioned, you can see the outcome of that. We did get quite a bit of response.

From the county's perspective, of course, county always – Santa Clara County has always been – taken a leadership role which you can recognize from this program because even though we are not really doing this just for the county, you still have to invest in the resources. We have a staff of three probably I would around 40 percent of their time is the amount of resources that we had put in the last two years to basically move this program forward. So the country was pretty, I would say, generous enough to invest its time and its resources and then have fast – move this forward with the leadership goal.

We have liked the program simply because if we went just as a county alone or only for country facilities, we will haven't gotten the bulk, volume discounts that we might generate from having a large program. So having a collaborative effort with so many agencies joined together with 70 sites and 14.4 megawatts of possible power capacity, we have definitely gotten some volume discounts in the pricing proposal we received.

Of course, county's interest is to have increased economic activity in the region and which we are already seeing based on the response we received because there are a number of – each of the team has different contractors involved, different installers involved, different maintenance and operations staff involved so that all kind of showing the promotion of the local economy.

Other agency perspective, I don't think we could have done cost effectively without this collaborative effort. Like I mentioned, we could not have gotten the volume discount and the bulk purchase capacity. And so we see this is as a much better outcome the way we have gone about it.

Slide 17: Agency Collaborative Procurement Benefits

Siva Darbhamulla: Now, on the benefits, I think they're pretty obvious. We have definitely had tremendous amount of competition and also we have seen the challenges being met much more proactively. And also, we have a tremendous amount of savings in time because as a group, we generated the documents that can be used pretty much everywhere with minor adjustments to the document. So we have developed a Power Purchase Agreement that all the agencies have looked into and then signed off to it. And then, we also had the memorandum of understanding that all agencies have looked into. So we have one document that takes care of everybody. So, there is a tremendous amount of time savings and also resources savings by county doing the whole program and then having others join us.

Project sector factors, I already mentioned to you. We had tremendous amount of response so I don't see anything more to add to that one. Market interest also – the preliminary review, we're looking like we're getting pretty good prices. So we will be coming up within three weeks with final selection of the vendors and then at the time, we will be able to publish the names of the vendors. And then we definitely have gotten volume pricing. With that, I'm going to turn it back to Ben for continuing the discussion. Ben?

Optony (cont.)

Slide 18: Lessons Learned

Ben Foster: Thanks, Siva. So, some of the lessons learned have been discussed in some of the – by both Siva and Rachel. One is the strategic bundling model that we've talked about has been validated by the bid responses. So, for those of you who are looking at moving together, it's important to look at those sites and see how you can bring them together in a way that makes sense from a market perspective and from the site and the site characteristics. So that's going to be important to get the best out of that effort and moving together.

One thing that's unique to the California market – but in other states where there are solar rebates and solar incentives that are on a declining scale which is the California Solar Initiative Program, it was important to move quickly because there has been a high level of solar activity across the state. And so, that's one thing to keep an eye on throughout this process. So what are the incentives, whether it's on a local basis or a state basis or even a federal or the ITC, Investment Tax Credit, as a grant status and others? So any of those rebates or other factors are important to keep an eye on throughout the process and communicate very proactively.

And that proactive regional leadership as well, whether it's through joint venture or the county or others, is really a great opportunity to bring everyone together and to show how working together on such an important global and national issue as climate change and independence from fossil fuels and others can really make a difference and to get that involvement, right? If more jurisdictions and agencies work together to get a better outcome, then the leadership helps drive that kind of activity.

In this particular case with the bundled approach and having the right volume of sites, we had interest from both the smaller regional players and the large national players for groups of sites that are interesting to them. And that strong interest and participation on their part is something that is part of that proactive outreach to the market.

So, we had a lot of publication of the RFP in national whether it's through the Green RFP website or it's from NRO through their NCPB hotline or through the EPA, through the actual Green Power Partnership Program and others so that everyone is aware of it. Because when we look at the overall solar industry, what's happening right now is that there are so many projects going on that if the project doesn't pop up on the radar, if somebody is a well-qualified System Integrator for Power Purchase Agreement providers, that they won't even know it exists or they won't think that it's maybe a project that they should participate in which then limits the field of the qualified vendors that you have access to.

Ongoing project management and outreach to all of them is very key to make sure that for all of the participating agencies, since they are relying on the expertise that is being provided and the guidance from the lead agency, that ongoing proactive outreach to them

is important so that they don't lose sight of the end-goals or they don't – maybe don't get disconnected from the effort.

Another thing that we learned is that there are alternative financing mechanisms. So Power Purchase Agreement works very well for this first phase which for other ones and depending on the availability of capital financing, bonds, other mechanisms that may be available in different regions of the country, it is important to look at what are those alternative financing mechanisms.

And phase two participants because of the success so far are already beginning to line up which indicates that leadership and the impact from this project is continued to be felt more and more broadly. So as you go to create excitement and support and interest in your region, you can see that it does have the impact that when it's successful and continues to move forward, it snowballs and it continues to grow.

Slide 19: Broad Application of Lessons

Ben Foster: So broadly applying these lessons is, first, best practices in the model document themselves, right, learning from other public agencies, learning from successful examples as well as avoiding pitfalls on those examples that haven't worked properly plus doing the due diligence with industry players and leaders to make sure that it's attractive to both the participants and the vendors. It's very key because we see in the ones that aren't successful either those agreements and model documents weigh too heavily on the buying agency or the buy-side or the vendor side, and then neither ones to participate if that's the case.

I mentioned the strategic bundling, leveraging the economies of scale, but also those other benefits around the transaction of the admin and best practices. Ultimately, the qualifications, competition, and reduction of the admin cost are major benefits as well as the economies of scale.

We had a mixed approach to the communication strategy though regional meetings that were sponsored by Joint Venture; a press release, and press conferences by the county, individual outreach by the different participating agencies, and even more broadly through the EPA, through the National Renewable Energy lab and others that are following this project. So that's very key as well as direct meetings, one-on-one with individual participants and key sponsors.

And we mentioned the vendor outreach so that there is broad awareness of the RFP release and the follow-up through any addendums and things that have come up subsequently. And one additional lesson that could be applied for others that are looking to this is the possibility of creating a virtual buying group, meaning without a formal MOU or memorandum of understanding that was put in place for these, it could be with or without that formal agreement but, basically, moving forward together with the same approach but not necessarily in one contracting bundle, so applying the best practices in getting the economies of scope and the economies of scale from everyone moving

together with the right approach, but not necessarily everyone having to move together as one contracting bundle.

Now with that, I'm going to turn it back over to Rachel who can talk about how to get started. So if this is something, a theme of interest and is an area that you might be pursuing, how do you take the next steps?

Joint Venture: Silicon Valley Network (cont.)

Slide 20: Getting Started

Rachel Massaro: Thank you, Ben. So we're really coming back to the point of this webinar which is how would you implement a project like this in your region. The first thing really is we would recommend that you leverage an existing group or coalition, regional-enabling organization – we're saying like Joint Venture, like the Public Sector Climate Task Force – and use that structure to form the collaborative.

Also, really, identify the leader early on. I think it's very important to identify both the leader, the way that, you know, the role that Santa Clara County played in this one, but also identify who would lead the collaborative the way that Joint Venture did here. Really, there are two roles there. One is more on the research, documentation, and procurement side; the other one is really on bringing together the participants, enabling them with resources, providing the communication to bring the messages across and kind of hold their hands throughout the process.

The next step really is to get a sense of the number of participants, the size of the project, the size of the collaborative, and the number of sites to get a feeling of how big your collaborative will be and also to examine what financing options might be best for that specific group. It's important to define your goals early and some of the metrics for success, to use best practices and resources from other projects such as this one.

I'd like to point out here that we do have the information and background about this project as well as all of the documentation, press releases, and information about the project on our website. That's www.jointventure.org/renewableenergyprocurement. And you can go there to get all of that information. Also, we will be updating it with more information as it comes in. Again, that's www.jointventure.org/renewableenergyprocurement.

The next thing I'd like to mention is you want to engage with regional or national solar industry players – that's very important – also, utilize independent experts to refine your plans and provide assessments and aid in the procurement. You'll want to bring the parties together to discuss some of the important success factors and really to provide education and resources, materials for them – particularly materials that they can then bring back to their own staff to communicate what this project is about and how it would help their agency or their organization move forward.

Then I would say, really, define your communication strategy and how you're going to share these resources. In this collaborative, we, as Ben mentioned, had a very mixed communication strategy and that was on purpose to make sure that the message got across to everybody. We used the regular task force meeting so the channel of communication also through conference calls and other meetings, special purpose meetings.

I think in some of these bulk projects and aggregate projects, it's easy to treat all of the participants in all of the sites as part of the bulk. You know, bulk emails, bulk meetings, bulk everything and I think it's really important to kind of take a step back and realize that the one-on-one communication really is necessary. So no matter how big your collaborative is, I would say keep that in mind, one-on-one communication, making sure that every participant feels like a valued participant of your collaborative so that, together, you can achieve something really great.

Slide 21: Special Thanks For Their Leadership & Support

Rachel Massaro: With that said, we'd like to end here really with a special thanks to a couple of people for their leadership and support. These people were so incredibly instrumental in getting this project started and have done an incredible amount of work to get us up to this point; Caroline Judy who's now at the County of Alameda, was with the County of Santa Clara; and Chris Schroeder with the City of Milpitas. And I will also like to add here (Seth Perry) who's my predecessor at Joint Venture, who is part of the initial working group on this project. So thank you very much. Also, a big thanks goes out to our leadership team on this project, to our task force members, who have championed it.

And for more information, you're welcome to contact us. And with that, I think we've reached the time for questions. So, I will hand it back over to you, Blaine.

Questions and Answer

Blaine Collison: Thank you very much, everybody. That was really great. And we've got a whole series of questions that have come in and so I'm just going to – just going to wait in here and invite you all to answer.

So, the first question is, "How do you address the individual concerns that the paybacks for solar takes too long?" I guess the first the question is, "Did that concern show up that the payback times were going to be prohibitive and maybe payback wasn't even the issue given a PPA model? But then can you comment on timeframes and participant sensitivity to timeframe?"

Siva Darbhamulla: Yes. This is Siva. I don't think payback was of a concern simply because it happened to be a Power Purchase Agreement. There is no capital outlay from each of the agencies. I mean, we will obviously see based on the proposals that we have – cost proposals that we have how beneficial it would be in terms of – for the agencies what kind of economic benefit they derive in terms of savings. So that needs to be seen yet. Ben, do you want to add some more to that?

Ben Foster: No, I think that's right. It's a – in the Power Purchase Agreement model which is part of the reason – a big part why that was evaluated as the right model is that those savings can accrue from either one potentially depending on the contract. So it's not really so much of an issue of payback period.

Siva Darbhamulla: Yes, a couple of years ago, county has done an independent rate of – I mean, return of investment analysis when we were trying to kind of embark on this, you know, program. At that time, obviously, it doesn't pencil out as well for public agencies and that's one of the reasons we could not independently go on and do procurement process. And this became a very attractive way of doing it and especially with the bulk volume of purchasing that we're doing plus the procurement method that we are using.

Blaine Collison: Excellent. OK. Thank you. On a related note, maintenance cost, I mean, given that we're in a PPA situation here, the maintenance is being taken care of by the providers, how are the maintenance costs getting distributed among the partners? Is it equally or is it tied to the specifics of each site and each municipality's total hosting commitment?

Siva Darbhamulla: The maintenance cost of the system itself is going to be done by the provider, the third party which is going to be installing and maintaining it. So, the agencies will not have any maintenance cost per se for the solar system. There are other, obviously, especially the related maintenance costs that would come. And at this time, we don't anticipate them to be any different from what we already do as public agencies.

Blaine Collison: Excellent. Thank you very much. Let's see. Do site owners have the ability to buy back the systems at the end of the PPA period?

Ben Foster: Right. At the end of the PPA period as well as at some defined intervals after a year – from year 10 on. There is a buy out option so that they can take ownership either at the end or at some pre-defined points within the Power Purchase Agreement term.

Siva Darbhamulla: And in the RFP, we have defined how that would happen. Also, we have the option of buying back at the end of 10 year, 15 year, and at the end of the term of 20 year.

Blaine Collison: OK, and duration of the PPAs and disposition of the RECs within those PPAs? Comments?

Ben Foster: Well, the PPA term is 20 years and the RECs – the interesting thing is the RFP specified the pricing both with and without REC so that as that contract gets finalized by each individual agency depending on the value that's associated with those RECs either directly from the Power Purchase Agreement or what alternatives maybe out there, that they could independently decide which of those options to take. So the RECs are included as well as price with outcome.

Blaine Collison: Interesting. OK. Let's see. What else do we have here? Is there a public education component at all that has been taught about, monitoring with displays on municipalities' websites, interfacing with schools, anything there?

Rachel Massaro: It's a neat idea. And I think that we should look into that. I mean, I think, ultimately, it will probably be up to each agency to decide what they want to do, but the idea of kind of working together to do something similar in each agency is intriguing. So, that's definitely something we will look at. In terms of schools, we do hope to include some school districts on the next phase of this project. It's to be determined, but a lot of school districts, particularly those in our area are very forward-thinking, really want to go green, really want to put renewable energy installations on their schools, and we're hoping to extend the opportunity to them.

Ben Foster: And I think with the website that Joint Venture has right now, as the project moves forward, is that we'll have the ability to easily build off of that some additional metrics and progress about the overall effort to demonstrate the regional impact.

Siva Darbhamulla: And I think we'll continue to do that. I think the Joint Venture website has been a pretty good tool at this point in time and we'll continue to do that so we can kind of have a single place where people can go and then see how the program is moving forward.

Blaine Collison: Excellent. Here's a question that has just come in. In addition to preliminary solar site assessments, were final assessments, structural engineering assessments provided before the RFP release or were those conducted by bidders as part of their proposals?

Siva Darbhamulla: We did actually hire a consulting firm to do structural analysis not in a very detailed level, but we did want to make sure that when we bid the project out, when we say you can install the solar on the roof, that the roof has got adequate capacity to do so simply because we wanted to make sure when we bundle these projects together, we wanted to know the capacity of generation of each site.

And if we do not really understand the structural capacities, then we won't be making too much of a guesswork at that point in time. And if during the bidder's analysis of the structure, it seems like it's not the right structure to install then we would lose in there. So we have invested money. Especially county has invested money and it recommended all the agencies that are participating also to invest money by hiring consultants to go through that site assessments including structure.

Ben Foster: And that's an important note on from a best practice perspective is they're providing that information upfront. One, for sites, to all of the potential bidders, it saves them a lot of time and effort that they would otherwise have to undertake to try to reduce risk or understand what's possible. So it's a great question and something that is an important factor.

Siva Darbhamulla: So there is some amount of resource investment required. I think all the agencies have recognized that. So they have subscribed to the fact that we need to invest little bit of money upfront. Try to get all these resolved early on so we get a better product in the end.

Blaine Collison: OK. Is there one master PPA here or is it a collection of PPAs either for the different municipalities or the different bidding tiers?

Siva Darbhamulla: So the way the RFP is structured right now, each site will have a PPA agreement even though there is a single template that will be used for all agencies in all sites. But each site will have an individual PPA agreement the way it is structured. But there are opportunities for agency by agency to maybe combine and then have a single PPA. That option is still not open at this point in time.

Ben Foster: And those – the templated PPA that was provided with the RFP was already pre-reviewed by each of the individual agencies and their comments, concerns were already integrated with the intent of trying to reduce any customization or changes to the final document. Of course, each agency has some of their own unique characteristics or requirements, but the intent is to try to reduce the variability for everyone's benefit.

Blaine Collison: Nice. And the – is the RFP template available up on the – on the Joint Venture site?

Rachel Massaro: It is. Yes, it's included in the RFP, the final solicitation documents. It's included at the end of that PDF.

Blaine Collison: Excellent. Will the – will a list of bidders on – under this RFP be made public?

Siva Darbhamulla: In short time. Right now, the county policy is not to disclose any of that information until the panel does the final selection. But once the final selection is done, all the information will be provided to – on Joint Venture's website. But if some agencies have a special interest to personally know about something, they can always get hold of me and then I can talk to them one on one.

Blaine Collison: Let's see. Is there any intention to monitor the degradation of the equipment that gets installed? And I guess maybe another way of saying that – my presumption is that within the PPA, there's a guaranteed output level, right, a performance level in the systems that the – that the vendors have to meet. Is that correct?

Ben Foster: That is correct. There is a performance guarantee within the PPA over time and of course that will be looked at as part of an annual review of the PPA agreement that might happen in individual agencies.

Blaine Collison: OK, shifting gears slightly, I think I know part of answer to this. Were consultants selected for the phase one process which is specifically the identification of sites? And if so, what was the cause?

Siva Darbhamulla: Good question. I don't have it the top of my head what were the costs. But Ben could tell me how much he is spending on my project.

Ben Foster: Yes. Well, consultants were used to bring in that external expertise across both the feasibility assessment as well as procurement going forward.

Siva Darbhamulla: Yes. And also, it's a little bit different for each region because, I mean, Bay Area is different when it comes to local economy and local costs and then so and so forth. So, I mean, I can give some numbers after I go back and look at it, but I don't know if that is going to apply to other regions of the U.S.

Blaine Collison: OK. So we had a question about volume discounts. Any sense of the percentage discounts that's being achieved via the bundling based on kilowatt production?

Ben Foster: Well...

Siva Darbhamulla: Go ahead.

Ben Foster: I don't think that right now we can share the details of the exact numbers. But some of the things to consider, one of the largest benefits is through competition, right? By having properly qualified vendors for that respondent, if they want to do this work because it's attractively packaged and we've reduced the risk by providing guidance on the power purchase agreement and on the site information, the question that was asked

earlier. So one of the primary benefits is by having well-qualified vendors that are part of that pool and that by itself creates a huge benefit from an attractiveness of the economics and pricing.

Siva Darbhamulla: Given that we have nine vendors who basically submitted the cost proposal responses for all the bundles, we definitely see a tremendous amount of competition. And I know we still have, according to the numbers, because we are – we just received the proposal so we don't have a definite answer to that question at this point in time.

Rachel Massaro: We can include though that the county did put out an RFI in November and the RFI and RFI results are also in the Joint Venture website to look at. And also a description of what we found. But the idea was that through economies of scale specifically in this type of – this kind of megawatt range that we're looking at for these projects, we were expecting to see a five percent discount just based on economies of scale.

Blaine Collison: Over and above the additional benefit that are in there?

Rachel Massaro: Exactly.

Blaine Collison: Or other competition and others...

Rachel Massaro: Expected through the RFI process.

Blaine Collison: Good. That's impressive. Here's a question about the result of having sort of multiple vendors perhaps selected and in play, is there any kind of issue in terms of coordinating design, installation practices, cooperation, over the lines of installation quality? Is that – has that been thought about or is that sort of addressed via the performance clauses in the contract? And, frankly, is this enterprise distributed enough across sites and jurisdictions anyway that standardization of design practice installation whatever is perhaps not an issue? Thoughts?

Siva Darbhamulla: Yes, we don't – we don't see that as an issue. And also, for each of – each of these bundles, it will be one vendor final selection – it would be. So whether I'm looking at one vendor who would be doing all the designs – and then in the requirement for the vendor, they do have to go through even though it's their system, it's their installation, they own the system, they still have to go through each of the agency's engineering department to make sure that they get their sign-off on those system installations.

Rachel Massaro: And also, we have been looking at a variety of different ways to help streamline the project delivery phase of this collaborative. We've looked at a couple of different options, but mostly what we're looking at is on the participant's side as oppose to the vendor's side. So really, what can we do to help the participants, those who would

be the onsite project managers for each jurisdiction – to streamline their processes through permitting and inspection, installation of these systems?

One thing we have done or will do actually tomorrow morning, we're partnering with San Jose's Solar America Cities program and the Silicon Valley Energy Watch Program to put on a workshop for the project delivery phase. And that will be a time to share best practices from other local agencies as well as the state of California who have implemented solar projects.

What they did to help make their project successful and then a time to, you know, question and answer session for those participants so that they kind of know what to expect and can help their projects move forward more quickly.

Blaine Collison: Interesting. OK. And then I have a pair of questions here, does the RFP give any value to local companies or installers?

Siva Darbhamulla: Yes, there is a point system that gives some additional points to the local firms.

Blaine Collison: OK. And then, are the sites required to have a roof inspection before being accepted or make repairs? I assume in fact that's part of what you're doing there in the initial triage is checking roof condition and suitability and that no sites with roof issues have been included into the RFPs. Yes?

Siva Darbhamulla: That is correct.

Blaine Collison: OK, good. Was there competitive biddings for consultant services on the front end?

Siva Darbhamulla: The County does not do bidding for consultant services. We do qualification based selection. So, we have done some amount of qualified – qualification based selection upfront. And then actually there's one more that's going out from the county for the implementation phase.

Blaine Collison: OK. Job creation, we've had job creation came up a couple of times in the bullet and we had a question or two about job creation. Ben, do you want to comment on the nature, number of jobs being created? Are these intermediate term jobs, short term, long term, permanent? What are the thoughts there?

Ben Foster: Great, thanks. Where you see a solar labor force impact model from DOE, that they had created to estimate conservatively with the number of jobs. So, the number that we had on an earlier slide, I think about 300 or more jobs will be created.

Approximately two thirds of those are a one year full time equivalent and the remaining third would be expected to be permanent. If all of the services and financing, et cetera, are related to local companies, then those would be local jobs. Certainly the installation,

labor, et cetera that's part of the initial phases – construction phases, those would largely be local or at least locally employed if not locally based jobs.

So, about two thirds for – during the construction phase for a one year equivalent and about one third being permanent through operations and maintenance and finance and accounting and the related services in support of a power purchase agreement.

Siva Darbhamulla: So I think again, the way we have seen the teams that responded, it's going to be both job creation regionally in a local perspective and also some national also.

Ben Foster: So, if we look at project or alike it's important for the public agencies specially if they are looking at jobs and tax benefits through payroll tax or other things that come back into the local economy and those jobs that are getting created in the economic activity. That should ultimately be part of that project ROI because although for the individual solar installation itself, there is a positive energy savings, and achievement of goals, long term the climate protection goals and greenhouse gas reduction goals, those jobs and the economic impact of those are certainly something important to factor in as well.

Blaine Collison: OK. I want to ask just a couple of more questions – I don't think we have time for all them, if we will address them all in the follow-up process. The question about carports, they are included here in the portfolio. Is there any negation of catching a rain water or say, irrigation needs as an additional cost justification, LEED points, thoughts about the – about any of that?

Siva Darbhamulla: Unfortunately we don't address that but we – for me, we welcome if the vendors want to come and propose some of those. But I don't think that Optony exclusively is looking into that aspect of that one.

Ben Foster: And of course at our area there's not a high rainfall as well. So, it has to be unique. You know, set of circumstances unlike some other areas in the country.

Blaine Collison: That must be nice.

Siva Darbhamulla: Yes, there is one thing we do see. This is just my personal belief and my personal, I would say, two cents of it, I think where the carports, you know, because we are in California we have so much sun, I do see deriving some secondary benefit of having cars being in a shade, you know.

Rachel Massaro: Absolutely.

Ben Foster: And for those who are fleet vehicles or others that might be parked during the daytime, there had been some recent studies that indicate that it does extend the lifetime of those vehicles because of the protection, the UV rays, like the paints and the interiors mostly.

Rachel Massaro: Less use of the air-conditioning when you start the car.

Ben Foster: Right, and less use of AC as well, yes.

Blaine Collison: So here's a question about scoping and to the size of collaboration. Can you comment on the size of a collaborative group that sort of best suited for these model? And is there a point either in terms of the sites or megawatt hours or jurisdictions below, which it doesn't make sense to collaborate?

And above which it's a lock and is there perhaps an upper end of this? Right? Is it possible to get so many stakeholders or sites involved that it becomes unwieldy? And I guess I will also throw in a question here about phase two which is, you know, you're about to go through 74 sites and 14 megawatts of capacity, what is phase two look like? Is it another step-up in scale? Has phase one captured 80 percent of the opportunity or is it just a gateway to a much, much bigger play?

Ben Foster: Let me address the bundling and then Rachel and Siva can talk about phase two. What we've seen on the sites is it's got to be more than five to 10 sites before, that are similar in some way before you can bundle those together for some positive impact. So, on the low end, I will say five to 10 sites that are of similar sizes and scope before you hit some of their volume discounts and some other competitive interest.

Having said that, these other benefits if that is a cross multiple jurisdiction where they get to all move forward together and save a lot of cost and make sure that the projects are successful. On the high end, we did – we did see that with the bundles that we created so far, there is a need to break those down. So, another – if you were to place, 20 or more sites into one big bundle, it really becomes very unwieldy for the market to respond. We've seen other examples at the city level, in cities around where they maybe put out 15 or 20 sites or more in one big bundle and haven't gotten any responses.

We've also seen, at a broader level for instance, the Hawaii Department of Transportation put out a bid recently this summer for about 25 sites across a number of different facilities and they had to break it down in a different way so bidders could bid on individual sites rather than collectively. So that takes away some of the ability to accomplish the goals they have.

So there is an upper limit, we think, to these sites in terms of the number as well as a lower. But general guidance, we would say from what we've seen so far, in the five to 10 on the low end and maybe 15 plus on the high end in terms of individual bundles, and that's why getting more together makes a lot of sense, but then making sure that they're as related as possible and they're broken down into manageable bundles from the bidder or from the market perspective is really important.

Because with the giant bundle, that offer is a lot about front effort and if that vendor potentially spends, you know, weeks and weeks developing those proposals just for all

these different sites and with only a small chance maybe of winning those because of the nature of the other participants in there, then that's a lot of effort that might discourage them from participating.

Rachel Massaro: I think that's a really important point to make. And going to the second part of your question, how big do we expect phase two to be? Well, excuse me, at this point, you know, we can really only estimate. We have some indication of who will be participating, but very conservative estimate here is five to six additional public agencies and 10 to 15 additional sites.

But like I said, that's a conservative estimate. We are also tentatively, you know, planning on rolling this out on a larger geographical scale. That wasn't part of the initial scope of work of this project, but part of the project to begin with when it was first thought up was to be a model for a larger geographical scale throughout the entire San Francisco Bay Area region. And so, we expect that should we do that, we will encounter some of these issues.

And I think likely, to what Ben was saying, if we have too many sites, too many similar sites, I think probably what ends up happening is breaking out into similar bundles; for instance, having two large system bundles or three medium-sized bundles, et cetera. So that's probably what would happen in order to make it more attractive for the vendors and also get the best deals for the participants.

Siva Darbhamulla: I think from the county's perspective, it all boils down to resources because I mean, like I mentioned, we do have to put some resources from the county as a lead agency. You know, as the group gets bigger, obviously, there is going to be more demand on the time for people to manage the program. So, I think it's – plus, we're trying this for the first time so we have yet to learn some lessons as to how best everything works and how things are moving along.

At this point in time, everything is moving very successfully. All agencies are very, very cooperative and everybody is kind of in sync with the whole program and the whole process. So it is moving, I would say, in a very, very positive direction.

Blaine Collison: Thank you. That's really interesting. So, let me – let me sort of connect a couple of dots. The access to California incentives has come up. Is there a – I assume that all these products are competing in the general pool of California incentives, right? There's not some sort of special carve-out for the Santa Clara procurement – to a procurement model. So it's not sort of a – its concept of pool of incentive funding.

Is it possible that a Bay Area region-wide procurement would be so wildly successful that it would – it would chew up a significant portion or all of the, I mean, I can't mention all. But is there an issue? So, looking at that potential scale given its intersection with the pool of state incentives that's available?

Ben Foster: Yes. And so looking at that, we did, in fact, through this effort have an impact on with the California Solar Initiative, we were at step seven and moving into step eight. So we – there was an impact when it got close to the end of that for this specific region. To put it in context, the step seven rebates represented approximately 60 megawatts worth of – in total capacity. And so this project with 14-plus megawatt actually does move the needle a bit for that.

So you could imagine who has a larger effort – 15 or 20 – then it would make up a significant chunk. But the important thing to note, a couple – one is that, yes, it's all competitive. There's no carve-out, unfortunately, for a project of this type and scope. And the other is because, certainly in California, it is a decreasing step-tiered approach. So, for the next phase, there is minimal to no expectation that there would be any California Solar Initiative funds available for that, so we're factoring that out. So in other parts of the country where there might not be any substantial additional incentive, then the model could still go full.

Siva Darbhamulla: Yes. I think on the practical side, you know, we only have so much real estate that we can use as public agencies to install the systems. So even though we have appetite for large systems, but we can't afford to get large systems unless the real estate promotes that. So it kind of – that kind of narrows it down too as to how much we can chew up in terms of the incentives.

Blaine Collison: Well, that's interesting. So there was a question that came in about – from a corporate perspective that most corporate facility leases are 15 years or less, and so a 20-year PPA financing timeline isn't going to work. And the other question – I wonder whether there were thoughts about that and, you know, in terms of getting sort of to the next pool of real estate, I presume it would be the commercial or corporate side, and so now I'm wondering whether it's possible to do a procurement to achieve some of the coordinated scale or benefits that you all have highlighted here while – and somehow drawing from both the commercial corporate and public sector side without running afoul of the different contracting requirements and complexities of those silos. Thoughts about that? This is not totally what we've been talking about, but thoughts?

Ben Foster: I think there's a key challenge there where because the contract and processes are so different between commercial and government agencies that it does make sense to look at those differently. Also the tax benefit, so even if that wasn't enough to make it, necessarily, to look at them in parallel, is the tax benefit. So whereas the Power Purchase Agreement allows the project developer to capture tax benefits and pass some of that on through to public agency, on a commercial entity, they can avail themselves directly to those tax benefits. And so there are different models outside of the Power Purchase Agreement like an equipment, like a solar equipment lease or others that are available. They may actually be more beneficial for commercial entities that still would benefit from moving together and leveraging a common approach and format and process but not necessarily trying to combine that with a public agency.

Siva Darbhamulla: Yes. I think – well, technically, I don't see why it can't be done. The only difference is, you know, the procurement methods for private sector are completely different and then they have their own way of doing their own economic analysis. So – but I can see the model being used there also if some private sectors wants to group together and do it. I don't see why that won't work. But it's more of a, I would say, a technical possibility, you know.

Blaine Collison: And I'm going to make these the last question because we're running way up against out time limit. Has there been any interest in looking at ownership models in the future versus PPAs? Or PPA really seem to have hit the sweet spot there in terms of first capital outlay of Winds and, you know, that's fine, mission accomplished, or are our folks – is there some silo of interest for actual outright ownership?

Siva Darbhamulla: Yes. County has been looking at – I can talk for the county. County, whenever we have funds available and then we can generate capital to do that, we definitely want to go and then pursue that as an approach. But this definitely provided us a mechanism where we could still meet our greenhouse gas emission reduction targets that we have to do, at the same time, not have a upfront capital outlay cost and then derive a project to make it work.

Blaine Collison: Excellent. Well, everybody, thank you so much for today's webinar. Siva, Ben, Rachel, outstanding presentations, incredibly informative. And you can see that we've been dealing with questions right up until the end here and my apologies to everyone that submitted a question and that we didn't have a chance to address. We will do that and get answers back out to you. Everyone on the session today will receive an exit poll from us.

Please, if you have just a couple of minuets, we're constantly striving to refine our gain here and make sure that we're delivering as much value as possible. We really appreciate any thoughts you can offer. And you will also have a chance to indicate whether you'd like us to share your contact information with our panelist today, so we could facilitate some downstream dialogue and collaboration. So, my thanks again to Ben, Siva, Rachel, outstanding. Thank you, everybody, for attending. Enjoy the rest of the summer. Call us anytime if we can be of service, and that's the webinar.

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