

Green Power Procurement
Webcast Transcript
May 28, 2008

Slide 1: The Green Power Procurement Webcast will start in a few minutes.

Operator: Ladies and gentlemen, thank you for standing by. Welcome to the EPA Green Power conference call. During the presentation, all participants will be in a listen only mode. If at any point during the call you need to reach an operator, please press *0. As a reminder, this conference is being recorded Wednesday May 28, 2008. I would now like to turn the conference over to Andrea Denny from EPA. Please go ahead ma'am.

Slide 2: Webcast Agenda

Andrea Denny: Thank you. Today we are having a conference call on green power procurement. I'm going to start off by just going over a few logistics of how to use Live Meeting and a very quick overview of our Municipal Clean Energy Environment Network at EPA. I know some of you have heard this presentation already, so I'll try and be brief, but it will be informative for those of you that are beginning this for the first time. Then Blaine Collison from the EPA is going to give you an overview of EPA's green power partnership program. And then we have two local government speakers. One from the City of Houston and one from the City of Bellingham, Washington, and we'll follow up with a Q& A session.

Slide 3: Live Meeting Logistics

Andrea Denny: Everyone participating in the call will be muted during the webcast to minimize background noise, but you will be able to submit questions and comments, and I'll show you how to do that in just a minute. We are recording this session and will make it available on our website in a few weeks. You can see the URL there. And if you have any questions or problems during the webcast, about the webcast itself, you can contact Nikhil Nadkarni at the email address and phone number you see on the screen.

Slide 4: View and Layout

Andrea Denny: In using Live Meeting, if you want to show the presentation full screen, you can hit F5 and that will take you to a full screen view, and if you hit F5 again, you will return to the Live Meeting console. If you close any of the smaller windows that you are not using, if you want to get them back... for example, if you close the question manager box and if you want to get it back to ask a question, you can go to View in the menu on the top left and Restore Default Layout.

Slide 5: Questions

Andrea Denny: To ask questions, you type the question in the Ask box which is circled on the slide you see on your screen; it's probably on the bottom right corner of your

screen. You can type your question and click Ask, and I do encourage you to submit questions during the Webcast. You don't need to wait to submit until the question and answer session at the end. You can submit them at any time during the webcast and we will collect them for the Q&A.

Slide 6: Program Overview

Andrea Denny: And that's the basics of live meeting, and I just wanted to very quickly talk about the Clean Energy Environment Municipal Network, which is an informational and peer exchange network, there is no formal membership to it. What we try and do is promote clean energy in local government and their communities. We focus on established, cost-effective best practices. We try and serve as a gateway to other existing EPA and federal resources as well as develop other new tools, resources, and guidance where we see gaps. We also try and facilitate peer to peer exchange through venues like these conference calls. You can see our URL on the screen. There's a lot more information on our website, and I encourage you to check it out.

Slide 7: Clean Energy Strategy Guide

Andrea Denny: One of the projects we're working on right now is the Clean Energy Strategy guide, which will cover 15 strategies in the 4 areas of energy efficiency, energy supply, transportation, and urban planning and design. And each of the strategies will cover benefits to different measures you can take, participants, mechanisms for implementation, information about costs, how to fund different projects, how the different measures interact with federal, regional, state programs, and we also have case studies of other regional or local governments who have benefit from different measures, and a lot of resources and references.

We have two drafts chapters that are available on our website already, and this webcast series is built around these chapters. Many of you may have already seen the Green Power Procurement chapter that was made available as a background document for this webcast. If you haven't, I encourage you to check it out; it's on our website. And we'll be completing additional chapters of the guide and posting them on our website throughout 2008.

Slide 8: Webcast Series

Andrea Denny: We did launch this webcast series this spring... today is the last of the spring calls and we'll take a break over the summer, because many people will hopefully be on vacation and then we'll pick them up again in September. We announce all of these calls on our Clean Energy listserv as well as on our website, and you can get information about how to sign up for that listserv on our website. There's also some other EPA webcasts I wanted to make people aware of; there's a Clean Energy Environmental Technical Forum call, those are monthly calls which are aimed at states, as opposed to these calls which are aimed at local governments, but of course there's some topical overlap... some of the state calls are applicable to locals, and some of the local calls are

applicable to states. And Energy Star also has a training center where they have a number of different types of training web casts available that are applicable to local governments.

Slide 9: Contacts

Andrea Denny: I'm Andrea Denny, my contact information is there. There is a woman who co-manages the program with me, Eva Wong, her contact information is there. And you can see our main website, as well as the direct link to our listserv.

And with that, I'm going to turn it over to our first speaker. Blaine Collison is a program manager with EPA's Green Power Partnership. He's responsible for the program's strategic partnership with green electricity users and green electricity suppliers. He's been with EPA since 1996, and in addition to his work on the Green Power Partnership, he's worked on a number of energy efficiency partnership programs at the agency. Before coming to EPA, Blaine was the associate director of the Sustainable Building Industry Council.

Blaine Collison: Hey, thank you Andrea.

Andrea: Just pull up your presentation, and we'll be good to go. You've got it? There you go.

Slide 10: Green Power: An Environmental Choice for Municipal Governments

Blaine Collison: I'm Blaine, another fed. Alright, okay, the way another said, I will try to lay out some overview and green power basics and get out of the way the city guys, who can actually speak implementation and putting this through a process and getting things going.

Slide 11: The Key Questions

Blaine Collison: So with that, here are the key questions that I hope to speak to by the time I get to the end of my slot here.

Why? We do still get the electricity-is-electricity gripe, why would I bother messing around with what's basically a commodity.

Product options and how do I do this... there are some different procurement possibilities out in the market, some of which are related to the product options and some of which are not. Supplies and opportunities, costs... costs is a big issue. There's some interesting answers, there. And of course, what can EPA do to be useful.

Slide 12: What is Green Power?

Blaine Collison: First off, a quick word on what is green power, and this is what it is here on the slide. It is environmentally-differentiated electricity. I can't even say that smoothly

no matter how many times I've done this. But it's basically solar, wind, biomass, geo, biogas, small hydro. It's worth nothing here just briefly that green power is a subset of renewable energy. Probably the example that brings this into clearest focus is large-scale hydro, like in the Northwest. While the electricity form that is definitely carbon-free and greenhouse gas-free, it is also not without environmental consequences, some of which are fairly significant. So green power is a very carefully defined subset of the larger supply source that really comes with no environmental disadvantage.

Slide 13: Green Power Benefits

Blaine Collison: There are several sets of benefits and different partners and local governments may be able to access different combinations of these benefits, may care about accessing different combinations of these benefits, and some of these may depend on the product selected or the technology.

Greenhouse gas emissions reductions, of course, are the first and foremost issue being addressed here. I'm in a climate change program, that's what we're doing in this part of EPA. So that's the key benefit we're chasing.

Energy price stability gets pretty interesting, there are some fixed price procurement options available in places in the market for green power that get the customer outside of being exposed to fossil fuel price volatility; that can get pretty interesting pretty quickly.

Economic development, this is local manufacturing jobs... some of the huge Spanish wind companies have come in and bought up US wind developers and have built new manufacturing facilities. Pennsylvania is one of the states that has made a fairly significant commitment to wind power and seen new manufacturing facilities built there. There's new manufacturing in Minnesota; Northern California, Silicon Valley is going through an explosion in solar PV manufacturing facilities trying to capitalize on some of the electrical engineering expertise that's in the valley there.

Landowner lease payments: particularly in rural areas, lot of wind farms, wind development, is taking place in coexistence with agriculture use, and for farmers that lease very small plots of land for turbines, in amongst to their fields, it provides a very compelling economic baseline and annuity. There get to be some interesting issues here and tie-ins.

Slide 14: Value for Local Governments?

Blaine Collison: In terms of local government, specifically, climate change is maybe the biggest, immediate, direct, and overarching benefit. One of the striking things about green power is how quickly it's deployable as an environmental strategy for an organization like a local government and how quickly it can be scaled up. I'm getting a little ahead of myself here... we've got 960-some partners that run the range from state and local governments to a small burrito bar in Albany to Fortune 500 corporations. And most of our partners have increased their green power purchases over time. And it's

remarkably easy to do that, which also means that it's remarkably easy for an organization to take a start that aligns with whatever its budget availability and bandwidth availability might suggest.

We'll talk about that in just a moment... the other thing that's really interesting about green power is how well it resonates with stakeholders. And I come out of a background of doing energy efficiency with ROI and RRR and even simple payback, and often times those numbers are really quite compelling. And having done that, I have yet to see to see anything in the environmental and organization world that resonates as quickly and as deeply with stakeholders, be they constituents, customers, employees, or suppliers, or vendors, or competitors, or whomever, as green power purchasing. But for whatever reason, people seem to get it, they like it. They like the notion of clean power, the like the notion of the cool wind turbines or the solar panels up on the roof, knowing that there isn't a huge source of emissions somewhere belching emissions. And these are certainly good hot button media issues, clean technology, domestic energy supply, new jobs, particularly in an election year, and a number of our partners are associating themselves with those benefits to pretty good reward. Of course there's some risk management here, again, to align yourself with a fixed price option; there is that hedge against stable fossil prices.

Slide 15: Buying Green Power – Product Options

Blaine Collison: Okay, quick word on product options. There are a couple of basic options, and I can get some of the work up from the bottom of the slide here.

On site. Putting solar panels on you roof, putting a wind turbine on your facility, basically something inside your fence line. That's terrific, lots of interesting options there. There's very interesting work that's happened on the solar financing side, in the last 12-18 months that shifts the risk and moves all the first cost, capital costs away from the electricity user and back to the solar vendors. We can chat about that, it may be interesting for many of you in your organizations.

The other two options are utility products, or green power electricity products, or RECs. It's worth a minute or two here, on this, and the next slide or two, some utilities have green power options, and some don't. I think about 50% of the total US population, is served by utilities that have green power options. They extend quite a range in terms of the technology that's underlying the offering. Some utilities are fairly heavy wind investors, some are in places where they don't have wind, you get a lot of biomass, or biogas, use renewable resources, there's some options there. RECs are pretty interesting; let's take a look at RECs in a little more detail.

Slide 16: REC Transaction Process

Blaine Collison: RECs are in fact almost exactly the same thing as the utility offering. When, if you imagine, so look at this slide here... what happens in a REC is that, there are two different things coming off that set of wind turbines that are in the upper right

corner. There's that stream of electrons which looks like any other stream of electrons on the market. Then there's the environmental aspects of RECs... renewable energy certificate. This is an explicit commoditization and valuation of environmental benefits and lack of pollution that is associated with that electron having been generated from the green power technology, the electron that's already been sold off into the grid. What a REC does, is allow the customer the complete and total flexibility to either, choose what the utility program has to offer, or perhaps there isn't a utility program, so the customer can go off into the open market, and say "Hey look, this matters to my organization, and I want to make an active and explicit procurement here, environmentally friendly electricity." By separating the REC out, the customer suddenly has the ability to go into the open market and get what they're after.

This is the way utility programs work, in essence. If you're in a utility territory, like we are here, my local utility here, PEPCO buys some output from a wind farm up in Southeastern Pennsylvania. If I sign up for PEPCO's green power offering, they're not in fact taking those wind electrons generated in Pennsylvania, tagging them, and then very carefully wheeling them through the grid to my house here in Washington, DC, making sure that I get wind only electrons. The wind electrons go into the grid, in Southeast Pennsylvania, they go wherever they go. They look like any other electrons.

Slide 17: Buying Green Power

Blaine Collison: So, RECs really provide a remarkable degree of flexibility in getting away from the typical supply constrained issues. Most of our 960-some partners, are in fact using RECs, for some or even all their purchasing.

Slide 18: REC Wholesale Pricing Data

So the other thing that is useful to look at with RECs is some of the pricing flexibility. This pricing data... you can probably read the fine print there at the bottom of the slide, this is a few years old.

The point is less that this is an accurate real-time, market capture of pricing data; as you might imagine, a number of vendors don't really like to share that data with anyone other than customers because it's competitive business information. This will give you sense of some of the variability and it's worth noting here, that there are options both in terms of technology and price and in terms of geography, and choosing one or more of those options may impact your ability to procure some of the other options... so what that ultimately looks like...

For instance we have partners in the program that say look, global warming, global problem, we're a multinational, we're a national company, we're a state company, we're a US company... we don't care so much about having RECs come from a facility in our own backyard that we drive past everyday, but we want the best options. So that maybe we can get California wind, or Western wind. We have other partners that say, look it's that important for us to have some kind of geographic tie-in, proximity to our

headquarters location, or distribution center in the state. So we want to try and get some RECs in the state, that's fine; we've had companies say, "Look, our CEO grew up in New England, and really likes New England, so we're going to have to make sure we get at least some new England solar, yeah, we know it's expensive, it doesn't matter... the value you drive to steer in our own internal architecture suggests that we need some of that." So lots of flexibility, and the RECs centers in marketplace are very happy to work with anyone who's interested in figuring out a source strategy that makes the most sense.

Slide 19: Price Premiums for Utility Green Power Products (cents/kWh)

Blaine Collison: Just a quick look here at some of the utility programs and price premiums, and demand curve over the last years, I guess the things I would call particular attention to there – because of the time – the decline over the average premium, and even the median premium, and the increase in the number of programs captured. Given the fossil price volatility of the last little while, wind, and renewables that are becoming more and more compelling, even because of straight up economics.

Slide 20: Green Power Partnership Overview

Blaine Collison: Quick look at the programs specifically. We are in the same family as Energy Star and Climate Leaders...

Voluntary program... when companies join, they have a year from the join date to make a qualifying green power purchase. More than 950 partners that are procuring more than 14.3 billion kWh of green power annually.

Slide 21: Partnership Offerings & Benefits

Blaine Collison: What do we do... we have two basic silos of values we try to provide. Technical front end, in terms of what kinds of green power are eligible, in fact we have a requirement about the age of the green power generating facilities that are eligible to serve our partners' purchases. Buying green power from a 100 year old hydroelectric facility, for instance, while there's some value there, perhaps, in terms of increasing the US supply of new green power generation, buying from a facility that's a 100 years old or 50 years or 20 years old doesn't get us anywhere down that path to having new green facilities, so in fact we require purchases from new facilities. We have a green power locator on our site, so that partners can see the green power options in their area and nationally. Purchasing guidance, we have benchmarks for how much. Our top 25 and top 10 lists are very interesting; I would encourage everyone... I guess I'm going to show everyone our top 10 state and local government lists. We do an annual awards process, which... the nomination period just opened yesterday. And of course we have the Green Power Partner logo. We spend a fair amount of time working with our partners to talk about their purchasing, to share their stakeholders that information so they can get some recognition.

Slide 22: Purchasing Requirements

Blaine Collison: Quickly, these are our purchasing requirements; it's a tiered scale based on total electric load. For the largest of the large electricity users in the country, our minimum purchase requirement is only 2% of load. And we don't have very many organizations that say, "Wow, that's really way too much. We just can't imagine how we're going to make that kind of commitment." Most of our partners want to increase their purchases over time.

Slide 23: Which Local Governments Buy?

Blaine Collison: A quick look at some of our local government partners, this comes from our top 10 local government list. It's updated quarterly. We are very pleased to have Houston here on the phone with us today to talk about what they've been up to. The Washington Suburban Sanitary Commission is a relatively new entrant. What's interesting about them is that they've made a 10-year fixed price wind power pickup agreement from a brand new facility here in our neck of the woods, in suburban DC. That's pretty interesting. They are thrilled with that, and in our estimate, they're going to save either 1 million or 10 million dollars... this is why I don't do my own taxes; I always get my zeroes in the wrong place... over the life of that contract. So that's pretty impressive. You can see it's quite a range, both of purchase sizes and city sizes, and it's all good. This program is really about rallying and leveraging the collective efforts of all of us to do some great things, and those ten purchases together turn into some really great stuff.

Slide 24: Sampling of Green Powered Local Government

Blaine Collison: Once again, I've jumped ahead of myself. WSSC there, 10 years, 20 million dollars savings. Bellingham is one of our Green Power Leadership Award winners; they've got a really interesting story, with a green power community. San Diego, another one of our partners, they've done an interesting mixed portfolio of hydro, landfill gas, and solar and have some very aggressive targets for what's going on out there.

Slide 25: Environmental Benefits of Local Government Partners' Purchases

Blaine Collison: Just a looking at our 80 current local government partners, we have in place now, those 80 partners are accounting for about 10% total program capture of green power purchasing annually. It's the equivalent of taking 205,000 passenger cars off the road, 2.6 million barrels of oil; again there's significant environmental impact available here, particularly as we start to aggregate our actions together.

Slide 26: EPA Green Power Communities

Blaine Collison: Communities, let me just do a quick word on communities, we are a commercial-institutional program; there are three full-time staffers at EPA working on the Green Power Partnership. So we had to make a choice that we wouldn't go after the residential customer. The Green Power Communities Campaign allows us to do that by

leveraging the good efforts of our partners. I'll let Bellingham explain more about this but simply throw out a teaser saying that this is a pretty interesting way for municipality to both make a green power purchase and to engage all of their stakeholders, commercial, institutional, and residential, in having a stake in that activity, and really leveraging the value of what's possible.

Slide 27: Green Power Community Sign

Blaine Collison: We've got a really cool street sign, to provide to our community partners. People seem to love taking their picture with that. We've got quite a portfolio of those photographs.

Slide 28: Boulder Green Power Community

Blaine Collison: Boulder is one of the first cities to do a Community with us and you can see there that their challenge resulted in capturing more than double their target participation.

Slide 29: EPA Green Power Communities

Blaine Collison: These are the current communities that we have. You'll probably notice very quickly that most of them are in fact from the Rocky Mountain, West, and Pacific Northwest, but we'll give a quick shoutout to Swarthmore, PA, I grew up not too far from there. It's an interesting mix of cities and towns, and we expect to double this list in the coming years.

Slide 30: Want to Know More?

Blaine Collison: I want to stop talking now and yield the floor. My contact information is here. Anthony Amato is one of our contractors who has done a lot of our specialized outreach for the state and local governments; he's on the call as well today. His contact information is here; either one of us would be thrilled to be of service going forward, and I see a couple of questions have come in; I would be happy to answer those during the Q&A but want to make sure I get out of the way and let Houston and Bellingham share their insights.

Andrea Denny: Great Blaine, thank you so much. And I hope some of your next green power communities are people who are on this call today. Let's actually take one or two questions for Blaine, and Lauren will queue those up for you, and if there's anything that's not answered, we can take it up in the broader Q&A session.

Blaine Collison: Sure.

Lauren Pederson: Okay, so the first question is, "Where can we get information on the new solar financing options that you had mentioned during your presentation?"

Blaine Collison: Yeah, that's a great question. Two ways: I can shoot a link to Andrea and she can fire it out to the network. You can also Google "solar service models", and you'll come to a fact sheet from the World Resources Institute, or WRI. If you Google solar services, you'll also come up with some vendors, or look at our Green Power Locator. What's interesting there is that those companies are looking for customers with good access to solar, flat roofs, institution, great creditworthiness ... right, cause they're looking to do a 10- to 15-year deal. Again, all the risk is shifted on to them, they design, spec, maintain, and install the system, the PV system, and you, the host, simply agree to buy the electricity at a fixed price schedule for the term of the contract, so that gets interesting pretty quickly.

Lauren Pederson: Okay, and the next question is, "Why is there such a price difference between average REC prices and the utility when picking a program?"

Blaine Collison: Yeah, that's a good question... a really interesting question. I think that part of it may have to do with institution culture, in that a lot of utilities in the US, until very recently, have all been regulated monopolies and so haven't had to compete for customers' business, and the REC market is a relatively new, relatively entrepreneurial market, and given that what they're selling is environmental attributes rather than, say, a piece of hardware, I think they're having to be fairly competitive and fairly creative. And maybe some economy of scale involved. It's an interesting question; I'd love to actually get the answer to that question from the utilities. One of the things that's worth noting is also that, increasingly, utility green power programs are using RECs themselves because it provides some of that same term flexibility and keeps utility companies to turn into wind developers.

Andrea Denny: Great, thanks Blaine, and people can continue to submit questions for Blaine, and, if we have time at the end, we'll come back to the unanswered questions, but I do want to make sure our other speakers have plenty of time.

Slide 31: City of Houston

Andrea Denny: So I do want to introduce Jedediah Greenfield. Jed is from the City of Houston, he's the environmental communications manager in the mayor's office, and his focus is to coordinate city efforts regarding outreach in public affairs and to develop outreach programs to promote energy efficiency and improve air quality. He's been with the city for two years and holds a Masters in Public Administration from the University of Houston... and you should have control now, take it away.

Jedediah Greenfield: Thank you very much. I just want to give a little brief background on what the City of Houston has done with the purchase of green power. I may not have answers to all of the technical questions; at the end, I will provide my email address and can take any questions you may have and field those to technicians and people that work directly on the contract to answer any of those.

Slide 32: Mayor's Office of Environmental Programming

Jedediah Greenfield: Let me just give a brief background into how we work here at the City of Houston. We don't have a centralized environmental department, but we have our mayor's office division that does environmental programming and we work with several operating departments. In this case, the result of working with our General Services division, who takes care of all city facilities, and, as part of that, takes care of power for those facilities.

Slide 33: Renewable Energy Procurement

Jedediah Greenfield: So we looked at... our last fiscal year, we spent approximately \$150 million on our electricity. And that was \$30 million over budget, so we looked at that and we're trying to figure out a strategy on what we can do to help mitigate that cost.

Slide 34: Renewable Energy Procurement

Jedediah Greenfield: Looking into that, we discovered that we needed to change our portfolio because of the problems with Hurricane Katrina and Rita. The price of natural gas went beyond what we were predicting, so that was the culprit of why we were coming up short in our budget projections. So we looked at diversifying that power portfolio so we weren't relying so much on the natural gas side of things, so we weren't being accustomed to these ebbs and flows within that. And so, being that, they gave us an opportunity to sort of look at green energy as a way to diversify and to look at options we have there.

Slide 35: Renewable Energy Procurement

Jedediah Greenfield: So in looking at what options were available to us, there was some research that was done; it was discovered that, it was thought of, that procuring wind energy as a renewable source would be beneficial for the city and both costs that we were coming on to.

Slide 36: Renewable Energy Procurement: Original Energy Contract (April 2004)

Jedediah Greenfield: This slide shows, this is our original energy contract we had at the City. We have about 4100 meters; we consume about 1.3 billion kWh per year. Our peak demand there is 240 MW; our average demand is about 160 MW. And this contract we had expired on June 30 of last year, so we looked, as that contract was expiring, what we could do to diversify and continue on with a new contract with our supplier.

Slide 37: Renewable Energy Procurement: Renewable Energy Strategy

Jedediah Greenfield: So what we had decided to do is to procure the wind energy; we approached city council and received approval to bring in up to 80 megawatts, over time, that wasn't all in one increment, but we have the council approval to go that far before we have to receive other approval. That's 50% of the city's total power load. And what was created was a negotiated structure that comprised third-party wholesalers that worked

with Reliant Energy, the Government Land Office here in the state of Texas, and the City of Houston to transact the long-term wind power deals.

Slide 38: Renewable Energy Procurement: Renewable Energy Strategy Cont.

Jedediah Greenfield: So our strategy was to purchase wind power in 10 MW increments, and each of those 10 MW increments would be over a period of five years. And these would be at the competitive wholesale price, so it actually resulted in a savings. So we purchased green power and also saved the taxpayers money in doing that because of what had happened previously with the market for natural gas. Broadening our portfolio to include wind into that has produced significant savings for the city and ultimately for our taxpayers.

Slide 39: Renewable Energy Procurement: Restructured Contract

Jedediah Greenfield: So the contract that we looked at, we extended the current contract that we had; that's allowed us to keep the competitive pricing within our old contract, and then we added some additional risk management tools that allowed us some flexibility in managing our exposure to the natural gas prices, with the addition of this wind power and then diversifying our electricity portfolio.

Slide 40: Renewable Energy Procurement

Jedediah Greenfield: So currently the city has procured 30 MW of wind energy; that's 20% of our current load. Because those are a contract over five years, the actual purchase over the next five years is 1.3 billion kWh of wind energy.

Slide 41: Renewable Energy Procurement (table)

Jedediah Greenfield: And as Blaine mentioned, from EPA, we're the second highest of local governments, and we use that partnership mainly a lot in our outreach to show that the City of Houston is doing our part in becoming green, but we're also able to show that this is a wise business move, that we're saving taxpayers dollars in the long run.

Slide 42: Renewable Energy Procurement

Jedediah Greenfield: In addition to that, we are now starting to look at solar panels, solar electricity to continue to diversify that portfolio. We have currently installed solar panels... this is a photo of our Code Enforcement building which house an up-and-coming green building resource center which the city has. In addition, we have solar panels on the City Hall Annex building, and those have just been installed and will soon be operational, and we will use those to continue to diversify that portfolio.

Slide 43: Renewable Energy Procurement

Jedediah Greenfield: So that's sort of a run through of what we did to come up with an option to help diversify what we were doing. If anyone has any questions that they would want some more additional details or further information, I would be happy to receive any of those questions by email and to get those to the appropriate people to get some more detailed answers.

Andrea Denny: Great, thanks Jed. Did we have any questions come in for Jed, or should we move on to our next local speaker?

Lauren Pederson: No, there weren't any questions.

Andrea Denny: Okay, if people think of questions – I know sometimes right at the end of the presentation there's something you want to ask about it – we might have moved on, but you can still ask and Jed will be on the line and we can come back to that.

So I did want to introduce our third speaker.

Slide 44: Bellingham Green Power Community Challenge

Andrea Denny: Benjamin Rupert is the Resource Conservation Management assistant for the city of Bellingham, Washington. In this position, Ben is responsible for overseeing the resource use of all municipal facilities owned or operated by the city. He tracks resources consumption and costs and oversees best management practices for city facilities. It's also his responsibility to fund and implement comprehensive resource conservation action plans that have a positive impact on the environment and the city's budget.

Ben Rupert: Okay, well thank you for that intro. First thing I want to do is just give you a bit of background on the city of Bellingham. We're a community of just over 76,000 people in Northwest Washington; we're about 90 miles north of Seattle and about 20 miles south of British Columbia, of the Canadian border. So we're on quite a different scale than Houston, although we have made a commitment to purchase 100% green power, on the municipal side. And, so, for municipal operations, we do purchase enough RECs, which is what Blaine alluded to RECs and a little bit about what they are. But we purchased enough RECs to offset our entire energy consumption, which is a really nice achievement for us; we're a smaller community, we have a correspondingly smaller budget, so it still has a bit of a fiscal impact. I'll detail a little bit more about that; I'm going to get into the slides here.

Slide 45: Overview

Ben Rupert: We kicked off our Green Power Community Challenge in 2006; it's a partnership between the City of Bellingham, Puget Sound Energy, who is our local utility, local electrical provider, and Sustainable Connection, which is a Bellingham-based non-profit business network. We were really fortunate to have the involvement of all three of these entities; Sustainable Connection, particularly as a local non-profit

business network, was helpful in providing a lot of community outreach and developing our program in the community.

The purpose of our program, of course, was to increase participation in Puget Sound Energy's Green Power Program locally. PSE's program has consistently been ranked one of the top 10 green power programs in the country. They do devote a lot of resources to the program, and, in 2007, Puget Sound Energy customers purchased 200,000 MWh of electricity from PSE and that's enough to power more than 20,000 homes. So that's a pretty significant achievement.

One interesting thing to note here, as Blaine mentioned, in the Pacific Northwest, about 60% of our electricity does come from large-scale hydro. Part of what we're trying to do is plan for the potential impacts of climate change. One of those potential impacts... as we lose snowpack... I guess, to give you a bit of scientific background, the North Cascades receives a large amount of snowfall each year, as some of you are probably aware. But you might not be aware that we receive most of that snowfall at a fairly or relatively high temperature, so if we get an increase of a couple of degrees, or less than that, or a slight increase, I should say, in temperature, that corresponds to potentially quite a bit less snowpack, and as we lose snowpack, we lose the natural ability to store water, which we use for hydro power, and if that snowfall turns to rain, one thing that happens is that the rain all falls at once in an event... instead of snow, which falls and then stays there, and, of course, melts slowly over the summer, and feeds into the rivers and provides us our hydro power. So our hydro power is potentially at risk due to climate change, so a lot of local utilities and citizens are concerned about what we can do to help offset some of our hydro consumption, although it is relatively clean from a greenhouse gas perspective.

So our initial goal was to bring 50 new businesses and 1,000 new residential customers into the Green Power Program. It was about an 8 month campaign, began in September of '06 and culminated in late April, on Earth Day of 2007.

Slide 46: Overview (continued)

Ben Rupert: So our projected result using those numbers, as we were developing this program, was to reduce our CO₂ emissions by about 6,500 metric tons per year. And we are a member of an organization called ICLEI. ICLEI is local governments for sustainability. And what they do is they help us to develop climate action plan, and they also have helped us quantify our greenhouse gas emissions, where they're coming from locally, and to give us strategies to trying to reduce those, and then quantify our results for any kind of strategies that we implement.

So we hope to reduce our greenhouse gas emissions by about 6,500 metric tons, and, if we are able to do that, the local utility company, Puget Sound Energy, stated that they would fund a renewable energy demonstration project in Bellingham. And part of our project was funded by a grant from the Northwest Clean Air Agency, which is a local agency in northwestern Washington, and also from Puget Sound Energy's Green Power

marketing budget. And we did get quite a bit of financial assistance from both of those entities.

Slide 47: Overview (Continued)

Ben Rupert: So our actual result was pretty astounding, and these numbers were calculated through ICLEI's Climate Action software, and they're standardized for grid power that we obtain in the Pacific Northwest. So we have estimated through ICLEI's software that we have reduced greenhouse gas emissions by 37,690 MT per year, which is a huge achievement and it's obviously about 6 times what we had hoped for. So that's very impressive. PSE actually, because we were able to do this, they funded two renewable energy demonstration projects in Bellingham. Both are solar... one is a solar demonstration project on our Environmental Learning Center, which is near the water in Bellingham, which is Puget Sound, and we have an Environmental Learning Center on the Sound. And we have real time generation stats from our solar project there, and we're implementing another one in our Depot Market Square, which is a public facility, gathering place, where we host our local farmers' markets, and we have other vendors and local business in that structure, in that facility, and we'll have another solar demonstration project there within the next month or so.

And we were able to bring in around 2,312 residential customers, 127 businesses, and 4 large volume accounts into the fold for purchasing green power during the challenge.

Slide 48: Our Strategy

Ben Rupert: Because we were able to do that, Puget Sound Energy actually dramatically reduced the overall cost of green power, so were able to get about 40% reduction in the price that we paid for each Renewable Energy Credit per Puget Sound Energy. And as Blaine had mentioned, one renewable energy credit, at least at the national or more macro level, is equal to one MWh. Puget Sound Energy sells their Renewable Energy Credits in blocks of 320 kWh... I won't go into the exact details of why they do that, but that's just their strategy.

Our strategy when we launched this campaign was to emphasize founding business partners. So we brought some larger businesses, really well-known local entities, into the development stage with the City of Bellingham, and actually working through Sustainable Connections, because they're a business network locally. And we really emphasized the fact that these businesses were founding partners, and their mission, and what we were hoping to do with the green power purchase, and what it could achieve, what the outcome would be as far as impact on greenhouse gas emissions.

So we were able to communicate the challenge through a wide variety of media. We did do some direct mailings... generally, the direct mailings were actually as a bill insert, so it wasn't an entire separate mailing, but Puget Sound Energy included a little flyer with their bills that detailed our green power challenge and what we hoped to do and how people could sign up. Print ads, of course, in local media, and did radio spots and local

cable, and advertisements for the challenge. So with a lot of grassroots organizing, the City of Bellingham was a big leader in this campaign, City of Bellingham, local government, and really wanted to be, because it's very important to the City to be a community leader and not just tucked away in our offices in City Hall... so we really got out there and got things moving, and were very successful, as the last couple of slides detailed, as we developed this program.

Slide 49: Our Strategy

Ben Rupert: So just a couple of things that I wanted to show... the flyers we actually had. This, it's a little too small to read, I apologize for that, but you can kind of see the gist of this poster, and what this was, was a promotional sign, and it did include, down kind of at the bottom, below this text, a tear-off, on-the-spot green power sign-up form, and that was provided by Puget Sound Energy. And essentially what it allowed the customer to do was to sign up on the spot for green power. There was a drop box located next to this sign, so people could sign up without having to mail anything back, without having to really be concerned about how they would buy green power. They were able to tear this sheet off and put it in the box and just include their name and address, all of their pertinent contact information, and the level to which they wanted to support green power. We found this to be highly successful, displayed by many local merchants and at community events. One of the main things we wanted to do was to make it easy for people to sign on and purchase green power.

Slide 50: Our Strategy

Ben Rupert: This is just an example of the bill insert. Puget Sound Energy, as they are very strong supporters of green power, and they have done a lot of investing in renewable energy technology regionally, in the Pacific Northwest, and really all of Washington, Eastern Washington as well. And so they were very happy we were championing this campaign and very eager to work with us on getting people to sign up.

Slide 51: Keeping Energy Dollars Local

Ben Rupert: Most of Puget Sound Energy's green tags for renewable energy are in Washington State, and all are in the Pacific Northwest. This is something that people in Bellingham have felt strongly about. Whatcom County has the state's first single-farm anaerobic digester, which is essentially for a large dairy operation. It digests the manure and turns the methane into electricity; generally uses the methane to burn, to fire a power plant. And then that methane is actually converted into CO₂; CO₂ is obviously something we're all trying to reduce, but it's also much less harmful and a much less significant greenhouse gas than methane. Methane is quite a bit worse, as greenhouse gases go. So we're happy about that; people in Bellingham are interested in supporting the local economy, the regional economy as well, and Puget Sound Energy has been supportive of those efforts, so it was a good program for people to get behind and rally towards.

Slide 52: Leading by Example

Ben Rupert: The reason we wanted to champion this Green Power community challenge as a municipality, at the city level, or one of the many reasons, was that we had adopted the Mayor's recommendation, the Mayor's Climate Challenge... the Mayor's Climate Challenge is something that was started actually by Mayor Greg Nickels of Seattle, very successful nationally. Bellingham was one of the first cities to sign on to the climate challenge, and, essentially, what it does is it ratifies the Kyoto Protocol requirements that most, a lot of, other countries internationally have signed on to, at the local level. The local government, we made the commitment to get our greenhouse gas emissions down below the 1990 levels by 2012, and we are actively trying to get there. Green power purchasing is one of the most significant and easiest-to-implement strategies we have, that we could come up with, to quickly achieve significant reduction in greenhouse gas emissions.

Investment by the city is 25 million kWh per year in renewable energy credits. Just at that municipal level, that's eliminated about 12,000 MT of CO₂ emissions. So for Houston, I'm not sure if they've actually calculated how well they've done, but they're a much larger scale than the City of Bellingham, I'm sure they've done a very good job of reducing their greenhouse gas emissions there, from their significant green power commitment.

Slide 53: Recycling Our Clean Energy Tax Dollars

Ben Rupert: The City of Bellingham also, this is an interesting thing, we collect a 6% utility tax, so increased spending on electricity increases the city's revenues. So this wasn't the leading reason the city was a supporter of this campaign, it is something that we need to factor into our cost-benefit analysis of green power as a municipality and our support of the program and the investment that we make in the program.

Western Washington University is a local university campus that's in Bellingham, and they made the commitment, a student-led initiative, made the commitment to purchase 100% green power for Western Washington University. Because of that significant achievement from the University, they've actually increase the city's revenues by approximately \$22,000 per year. Just the City's purchase alone, because we've decided to purchase 100% green power, increases revenues by about \$16,000 per year. And then the residential purchases all together increase revenues by about an additional \$13,000. So although these may not be staggering numbers on the national level, it still represents around, over \$50,000 that the City of Bellingham is making as a result of purchasing green power, and that's nothing to scoff at for us, we're not a huge area, not a huge city, so that's something we've definitely considered.

Slide 54: Funding Renewable Energy

Ben Rupert: Green power costs initially, and this is still the case, we estimated that our additional amount that we would have to budget as a municipality for green power would be about \$257,000. That would be the total increase to our utility bills for our municipal facilities. Because the Green Power Community Challenge was so successful, as I earlier

stated, PSE was able to extend the bulk rate for green power purchasing to the City of Bellingham; we spent about 40% less than that. The City actually spent, in 2007, only about \$150,000 additional on purchasing 100% green power in 2007. So that's not really a huge investment; that also doesn't factor in our increase in tax revenue, which I mentioned was about \$50,000, so the overall investment was closer to \$100,000 for the City, which isn't a small amount but because it was so successful and because we were leaders in this campaign, it was worthwhile and we were very happy to have gotten 100% green power for only \$100,000 additional; that's really a good number for us.

Slide 55: Achievements

Ben Rupert: So as Blaine also mentioned, we did get these attractive signs from the EPA. This is one of those, I think we got three from the EPA and we had a couple of others made, so we placed five of these Green Power Community signs at gateway points to the City of Bellingham. They are really nice, they detail that we do actually exceed the EPA's guidelines for being a renewable energy, green power community. Those are of course funded by the EPA, the EPA provides those. It really is a nice thing; Bellingham citizens are generally very concerned with sustainability and our environmentally sound practices, so we're very happy we have these signs at gateway points to our community. It really is a nice thing, it shows off the fact that we really are trying to make a difference even in a community that, arguably, is getting fairly clean power to begin with.

Slide 56: Thank You

Ben Rupert: So I guess that's about it for my presentation; my contact info is down at the bottom. I would invite any one to shoot me an email. You can see there's the city of Bellingham, on Puget Sound, with the Cascades in the background. So shoot me an email and I will answer any questions that you might have on how we championed this project.

Andrea Denny: Great, thanks so much Ben. Did we have any questions that came in during Ben's presentation?

Lauren Pederson: We just had one. Did you approach the nonprofit to help with the campaign, or did they come to you with the idea?

Ben Rupert: We actually work pretty closely with that particular nonprofit organization on community outreach and development, so we came to them with the idea. We work very closely with them, so we wouldn't have had to wait very long for them to want to get involved, but we did initially approach them, and they also wrote a grant to help them get some funding; it was actually a grant that the city provided. So they wrote a grant to the city, we supplied them with some money to help do the outreach of the campaign, so essentially they worked kind of as a private contractor on community outreach and development.

Andrea Denny: Great, thanks. And now I think we can open it up to any other questions that came in for any of the speakers.

Lauren Pederson: For Blaine, you mentioned that there are options for solar where the solar provider also provides the financing. Can you describe where in the United States this is available?

Blaine Collison: Sure, it is part of the solar services model, so what happens here is a solar provider will come in and say “Okay, look, I think given the local solar conditions and you, the prospective client’s load profile, operations, need, and the utility rate structure, and all the rest of it, that we can cost-effectively install a system here, and if you purchase the electricity from us at X rate over the following 10 years; that’s what we’re going to do.” Their system... and the client is on the hook only for purchasing the electricity. The solar vendor... they’re specifically taking care of all that first cost and installation.

Lauren Pederson: Okay, another question for you Blaine. How would you promote RECs or similar green purchasing programs in a municipality that may not pay for its electricity?

Blaine Collison: I saw that question; I’m really interested in learning a little bit more about municipalities that don’t pay for their own electricity. We actually get that question a fair amount from private enterprises that are in leased space where they aren’t responsible for the utility bills. My answer to those guys is, the cost is certainly embedded in your lease one way or another, and in fact, this is one of the things RECs are really good for, is enabling an organization, whether it’s a city or a private company, to take responsibility for improving the environmental performance of the energy that they’re using. Even if the municipality isn’t paying for it, they are certainly using it and requiring that electricity be generated and are responsible for the environmental impacts associated with that. We can provide a way to estimate utility load on a square foot basis, if part of the issue here is that municipality doesn’t pay, it doesn’t know what its consumption is.

Lauren Pederson: Okay, and another participant asked, they do a top 10 local government partners; are all 80 local governments listed somewhere?

Blaine Collison: Yes, thank you very much for asking that question. Our entire partner list is up on our webpage: epa.gov/greenpower. There’s a button the left side, on the nav bar, that says Partner List, it’ll bring up the full list, which is sortable by three or four different columns, one of which is organization type. So, yeah, everyone’s up there, lot of interesting players, lot of range.

Lauren Pederson: Okay, and then we have a question for Jed. Are the solar panel installations a way to produce RECs for Reliant Energy to sell, and does Houston sell those on the open market?

Blaine Collison: No, those are for on-site use, and the power we collect from that will be used for the facility that they’re on; there’s no REC involved with them.

Lauren Pederson: Okay, and that was all of the questions we had in the queue.

Andrea Denny: Okay, great, I did just want to remind everybody that all of the slides from the call today, as well as a recording of the presentation, and a transcript of the presentation will be available on our webcast website, and you saw the URL for that in the earlier slides. If you go to epa.gov/cleanenergy you can get to the state and local clean energy site; it's pretty easy to find once you're on that main clean energy site if you have the URL. But all of that should be up; it does take us a couple of weeks to get them posted, so please be patient. And we do have the background document – I mentioned the chapter on green power – available on our website as well. And that's another good place to find out more information about different options for purchasing green power and different case studies and examples of what other local governments have done. And I hope this has inspired you to buy green power in your own community and thank you very much. With that we can end the call.

END OF CALL