

COMMUNITY WIND ACROSS AMERICA WEBINAR

September 15, 2010

Coordinator: Welcome and thank you for standing by. At this time all lines are in a listen only mode. During the question and answer session please press star 1 and you must record your name to ask a question.

Today's conference is being recorded. If you have any objections you may disconnect at this time. Now I'd like to turn the meeting over to Guy Nelson, Western Support Contractor. Sir, you may begin.

Guy Nelson: Thank you (Rudy) and welcome everybody to the Community Wind Across America Webinar and the slide that you should be seeing in front of you is just the description of what we're going to be going through including the welcome and acknowledgements.

Then we're going to be talking about community wind projects, some conferences that are going to be coming up that will help support the community wind project concept.

We'll be talking about financing and project development and then we'll be hearing from two utilities on their perspective on wind technology in general and community wind in particular.

And then we'll go to Q&A and the Q&A you can enter your questions by looking - if you look up at the top of the menu bar there's a Q&A, if you click on that and then type in your question and hit send we will get them and then we'll go through them.

Hopefully we'll have time to address all those questions. We'd like to acknowledge several organizations including some of the speakers that are on the program now.

Cascade Community Wind, the National Renewable Energy Laboratory, Southern California Public Power Authority, the US DOE Wind Power in America program, Western area power administration and Windustry.

Our agenda will be the welcome and introductions, then we're going to have Lisa Daniels with Windustry talk about community wind activities and we'll have Terry Meyer with Cascade Community Wind address financing and project development issues.

Then we'll hear from Robin Rego with Lakeview Light and Power and David Walden with SCPPA on their utility perspectives and then we'll go into the Q&A.

And with that I want to introduce our first speaker, Lisa Daniels. She is executive director and founder of Windustry and has been providing wind energy information and technical assistance to farmers, ranchers, elected officials, rural utilities and other interested parties since 1995.

Her current activities include contracts with the US Department of Energy and National Renewable Energy Laboratory. She's a founding member and on the board of directors for Women of Wind Energy and she was recognized in 2004 by the US Department of Energy Wind Power in America program and again in 2005 for her work with wind power in America's agriculture outreach team.

Lisa the floor is yours.

Lisa Daniels: Well thank you. I am ready to go. So Community Wind Across America is Windustry's brand new campaign that we are rolling out this year. Jumping right in, I just want to address some of the basic questions first, such as what is community power and community wind?

It's very simple and flexible and it can be any size project. Often the projects fit on the low voltage lines, low level voltage lines. But they don't have to, okay.

So it can be a project of any size. And the energy is used to offset your own use or it can be sold wholesale so it's on either side of the meter. The key goal with community power are local involvement, local investment and local ownership.

Also working to optimize local benefits. So it's projects that are built, they look just like any ordinary wind project, they smell just like any ordinary wind project, they sound like any other ordinary wind project.

But they have different goals in how they're set up. And in all of this I just want to talk a little bit about the benefits of distributed generation.

You know that's what most of these projects are, are distributed generation with local ownership. So this type of distributed generation can reduce stress on the electrical grid if the amount of distributed generation is well matched to the distributed load.

So we're seeing that there are many opportunities for this. Distributed generation always reduces the losses on the higher voltage transmission grid,

since the power does not have to be transmitted from large distant power plants.

Another benefit that we're seeing and it's emerging more and more as the studies are completed and conducted that the studies are showing that a combination of distributed generation and demand side management is effective in controlling distributed system loads which will reduce the overall system peak demand and reduce the system losses and save energy.

So we are seeing this in analytical studies that are performed by Lawrence Berkeley lab, different utilities, national renewable energy lab, also distributed wind generation, the one other benefit that we are seeing is that distributed wind generation can become an important source of cost effective zero carbon transportation fuel as the electric cars become more and more prevalent and as that technology develops and becomes more and more integrated into our society.

So there are huge benefits to getting more - you know getting a more distributed generation system going, more robust system going.

And the benefits of the community aspect of this generation include the economic benefits, the environmental, the same environmental benefits as any other renewable energy project and social benefits.

Social benefits are you know that it provides energy independence and national - it contributes to national security. I see that this was a slide that I used in a Minnesota presentation so just ignore that Minnesota and it provides energy independence and national security in a general sense wherever it is installed.

It creates new revenue streams, it promotes local ownership and I'd say a large amount of it, it galvanizes support and neutralizes some of the opposition that we are seeing to renewable energy development across the country.

So some of the - it helps to neutralize some of the Nimby effect. When communities can see the benefit and realize the benefits locally there's quite a bit more support for that type of development.

And community wind has some economic impact. Studies that have been performed, Windustry is usually not involved in the - in conducting these studies. We like them to be done by universities such as University of Minnesota or the national renewable energy lab or US Department of Energy.

And these studies are coming out more and more and they are all coming up with the fact that the community wind has - leaves more in the community. / Has more economic benefits for the community.

Installed community wind, you can see we have quite a bit of installed community wind around the country. This map was produced in January of this year and I would say that probably all the numbers have changed somewhat since you know the big building season is the summer.

But you can see just taking a walk around the US here on the map, Texas with its 9000 megawatts of installed capacity has about 51 megawatts that is considered locally owned or considered distributed generation.

California which is another long time leader in renewable energy has 2700 megawatts installed and about 231 megawatts is local owned or community.

And I think a lot of that is due to SMUD, the efforts at Sacramento municipal utility district.

We have the state of Washington with quite a bit of community wind and that's because we do count the White Creek project as community wind and we'll be hearing about that later in this webinar.

Also Minnesota and Iowa have quite a bit of community wind. And Nebraska, Nebraska is a public power state or has been until the 2009 legislative session so we considered almost everything that was developed in Nebraska to be community since everything had to be owned either in a public fashion or it had to be owned by a local entity.

But in Minnesota 25% of the wind generation installed is locally owned, considered community wind, and that's good. And it's owned by a number of different entities.

And we're very - and I would say what makes it happen in Minnesota is the policy in place and the policy and elected officials that are following what types of wind generation is developed in Minnesota.

Community winds, social return on investment, as the studies showed absentee owned - so you have a 40 megawatt wind project that is absentee owned and developed.

Puts about 18 jobs in the area and that's during the construction period. And the income that is realized locally is about \$1.3 million.

But if you look at that a little bit differently, maybe with two locally owned 20 megawatt projects, there's about 41 local jobs during the construction period

and - but over the life of the project there's about \$4 million left in the local communities.

So you can see there is a difference on the economic benefits. Local community success stories, we have several and this you know these are all over the map.

In all of those states that were on our - that have some community wind you can see that farmers and local investors are getting together, local utilities are putting projects in the ground, rural electric co-ops, schools, tribal communities.

There's some public private partnerships, urban and rural partnership and many more business models and success stories are emerging all the time.

And we have many of them on our website and I just want to cover just a couple of them. There's a cooperative style, community wind project that is in the southwest corner of Minnesota in Luverne. And it is nine LLCs with 11 wind turbines that are owned by more than 200 local investors.

They installed two projects in 2002 and those were so successful they did seven more in 2004. And the goals for you know the underlying goals for this work was local economic development and maximizing the return on investment and also to diversify their economy.

The projects involved a number of different people in the community from the developers and the contractors and the bankers to the local elected officials, the state energy office, all kinds of accountants.

And there is a going viable business to this day in this community for these wind projects. And I will say it started out, it was initially started out as the group of people that were involved with a corn to ethanol cooperative.

And then they decided that since they were right there in the heart of wind country maybe they should take a look at this, so they did look at it for about three years before they even dug a hole in the ground.

But it's been a very successful piece for that community. Also in Colorado there is a project called the Lamar project, and there was a project that was being built, it was a large project, 162 megawatts that was going to be built.

So the local leaders at the - with the municipal utility and with Arkansas River power authority saw that an opportunity to piggy back a small locally owned project onto the larger project.

So they piggy backed in terms of the permitting and the siting of the project, they piggy backed in terms of the purchase of the wind turbines.

And in terms of the maintenance and installation, so it's really been a wonderful piece that these four wind turbines can be locally owned and they got the benefit of the economies of scale with the larger project.

This is a relatively new project, it's on Fox Island in Maine and the community worked with the rural electric coop to put this project in place. I believe the 25 acres were specifically purchased by community members for this project.

And they worked very much with the Fox Island electric co-op to put this project together. And it is reducing the need for the purchased power by 50%.

During the summer when there is the population on the island increases then sometimes they do have to still purchase power.

But during the winter they are selling power back to the mainland. Also tribal community Rosebud Sioux tribe, now this project has been a demonstration project, it's considered a mid size machine now.

It was installed in 2003 but the reason this was really interesting was because they sold the electrons to the utility in the area but the utility was not interested in the green value of it, of the project.

So they sold the rural electric - I mean the renewable energy credits, they sold those separately. So they really sold two products from this demonstration project and they are working on more projects throughout the tribal areas and especially the Midwest in the Wapah territory.

This is just a little - you know a little quote from one of the farmers in southern Minnesota, (Dan Moore). He needed a way to diversify his farm operation to survive.

There's nothing coming to us so we had to create our own jobs. It's not easy to put a wind project together.

But it's a good opportunity and that's why he's doing it. And I would say that he has - his project is up and running. It's a small community owned project and it's very successful.

Current challenges, there are many challenges to putting projects together and there's - and I would say that we are no where near to the point where it's

easy to put a wind project in the ground, especially for somebody who's not connected with a utility.

But this is you know it's something that we're all dedicated to keep going and plug away at. You know even in this country where there's on again, off again public policy and this is a federal production tax credit, the history of it over the last - over several years.

And I would say that with the American Recovery Act providing more opportunities for community wind, it really has. It's been a wonderful thing because it turned a production tax credit did a very narrow audience of entities within the US or even worldwide could use.

It was a very high level production tax credit. It wasn't usable against ordinary income or by ordinary individuals at any level.

So the recovery act translated this or adapted this production tax credit into an investment tax credit but you could also take 30% cash in lieu of the investment tax credit.

And this has been a good thing because cash is king, it works for everybody no matter what kind of a - no matter how big or small your organization is.

And this is a good thing and actually we would like to see this extended. This is just a little bit of a summary, there has been a study by Lawrence Berkeley lab Mark Bolinger and he has taken a look at how the cash - the US treasury cash grant has changed the equation for community wind projects.

And I'd say the cash grant provides the greatest benefits in the behind the meter and the cooperative style LLC projects that we're seeing. A vision for

community wind, we need stable long term policies to establish a domestic market for community wind and community power.

There's - you know we've all been pointing up to a renewable energy standard for the nation and extend the treasury grant program and also using this you know as there is diverse policy measures implemented, there can be diverse businesses models.

And that is key here, using and building new partnerships for the purchase installation and the operation and maintenance for this kind of development. It's a big deal.

And it's not - you know I would say that it's not a political decision so much any more, it's really about America's competitive advantage.

It's not a democratic issue, it's not a republican issue, this is about our competitive advantage. This is about - this is a global industry, this is a global need and we need the manufacturing, we need the infrastructure and we need the renewable energy systems in place in order to continue to be a global leader.

I just wanted to bring one last thing up and you know we've been working - the community wind folks have been working very hard to get community wind policy at the federal level and with that we've been working within the American wind energy association.

We have a policy platform that we're working on now clearly so far there's no vehicle to move this policy platform because our congress is so locked up and shut down and not addressing our energy issues right now.

So we can only hope that there is going to be a change or a change of leadership or a change to get things in place, a change of sentiment so that people really grab the bull by the horns and get some good policy in place.

We're looking at modifying the depreciation rules, we're looking at putting - getting USDA and USDOE to put funding programs in place, technical assistance in place, making capital available to not only the large multinationals but the main street entities, the municipals, the rural electric co-ops, the schools, the towns that want to put these projects in place.

And that we're seeing you know working very hard to put these projects in place and also you know we're seeing that if we've put a community wind roadmap together then we have - it can raise the awareness, it can raise the understanding. Right now you know just by hook or by crook we have either 2 or 4% depending on how you count the projects.

Either way you can see it's just a toe hold in the market for installed wind and many believe that community wind could be representing 20% of the total of wind installed.

So community wind is an opportunity. It's an opportunity for today for our whole nation to get on board and put this - put renewable energy in place on a distributed level, on a locally owned level.

And especially good and very ripe opportunity for public power entities to get involved. Especially right now while there's so much - you know there's a little bit of chaos in the machinery and the construction crews and the cranes are available.

This is a really good time for public power to just move in and put projects together while the - you know the rest of the industry is wondering what happened to their market.

The vision is that it shouldn't take a superhero to put these projects in the ground.

We need stable policies, we need standard contracts to make renewable energy everybody's business. And this is what it should be for this country.

New ownership models can only emerge if there are community members can participate and if this policy can get into place. We want the new ownership models to show that community members can participate in the project design and the revenue.

And new investment, new grants, technical assistance, that level the playing field for main street. It is all a policy issue and we have - you know Windustry has - you know we've been talking this whole webinar is about community wind.

And this is an opportunity but I want to extend an open invitation to join us for more dialogue and more updates and more business models and more discussion about policy that can enable these business models.

We have a community wind across America campaign which has three conferences this year, one in Denver, one in St. Paul and one in State College Pennsylvania.

This is your open invitation to come and join us for these conferences. And that's all I have for today.

Guy Nelson: Thank you Lisa, thank you very much and I see we're getting some good questions coming in and we will address them at the end of the presentations.

And Mike Vernon, I'm expecting a question from you to come up on the screen. Now let's turn to Terrance Meyer who has a decade of experience consulting to the wind industry and two years ago he launched Cascade Community Wind Company.

And the company has several projects in the works including eight of which have purchase - or power purchase agreements ongoing and two are currently under construction.

So Terry's got a lot of experience to share with us and Terry the floor is yours.

Terry Meyer: Thank you very much. So that's me everybody so you know who you're talking to. And unfortunately right now it does take a superhero to do community wind projects and somehow I've become one of those superheroes.

And unfortunately I'm not this superman type of superhero that actually has super strength or x-ray vision, these sorts of things. I'm the batman sort of superhero where you just have to use your skills and ingenuity and what resources you can find and make due with them.

We started Cascade Community Wind Company because as we were working for large wind energy companies, mostly developers but also utilities and banks and so on we saw a resource that's fundamentally distributed being - the benefits going for the most part into concentrated hands.

And you know we got into renewable energy for altruistic as well as you know it being a good career reasons and figured with our skills we could help make the projects we wanted to see happen.

I've been asked to talk about financing so I will do that and - but before we go on the - a counterpoint to something Lisa said about it being easier potentially to get over local objections is something that so far we have not found to be true.

In that although yes, we have local supporters, local off takers, we're also small enough that the local entities that make decisions can boot us around pretty easily.

So that's one disadvantage of being a community project is you don't have millions of dollars and if you go in with a large project and say okay, the counties going to get X million dollars in tax revenue, you can't say oh well my project which is one megawatt is going to give you five times the tax revenue per megawatt but it's only one megawatt and you still have to play the little guy.

But yet another challenge. But my job is to talk about financing so Lisa pointed out that there's lots of different ways and models of doing it, and so far basically each project that I've seen has had to reinvent the wheel to some degree or another.

There's an advantage to having a developer, (Dan Jewel), there's a couple others that are doing community wind development and then you can create a standard package and plug and chug.

And the learning, the lessons you've learned in making your first projects can be carried on to other ones, the (Min Wind) is another example and that's something again that we felt that we could fill is it's holding that center of knowledge and connections and formats to make these things happen.

And there's tons of pieces to put together, thus the developer thing and as one moves forward in a project maintaining your community intent can be challenging.

There's you know as soon as you start looking for - and this goes into financing people who want to give you money, some of them, all they really want is money back.

And if some community aspect of your project reduces the amount of money they get, they're going to be less interested in that part and so there's going to be pressure to maybe compromise some of the communities involved which may be the right thing to do.

But there's that pressure. All right, I'm going to talk about there's a ton of elements that go into the financing of a community wind project.

And not all of them are used on every project and it's a bit of a puzzle to put together. So I'm having trouble advancing this slide, it's an animation, Susan could you move it forward? T here we go.

I got it. So the first what came up there is the USDA grant on guaranteed loan as well as the treasury grant. These are grants, they're great for a small enough project it can pay for up to half the project.

That's certainly part of the basis, this USDA grant is a great way to overcome any diseconomies of being smaller by the fact that it covers 25% of a project up to about \$500,000.

So that's a huge thing for these projects but they're also hard and getting harder to come by. And so increasing funding for that program I think would be huge for community wind.

Both of these things - these sources of money come in after the project is built so you need to bridge between actually spending the money months ahead of time or with something.

And a construction loan is a typical way to do it and I've also had a lot of luck with vendor financing, getting - there's a lot of people that are eager to be in the business like Lisa said, crane crews are waiting to put something up, turbine vendors want to sell turbines.

And so getting some level of vendor financing is helpful to bridge that as well as - those are both - so then there's this where's the money, long term money coming from besides these grants?

A permanent loan is a great way to do it and the USDA has a guaranteed loan program. Typical - regular investors can be a - you know influence big money. Person or it can be a bunch of smaller people like we saw in the mid wind projects.

And then there's this tax equity, there's this fact that we get a benefit of depreciating the project quickly.

If you can give that benefit to somebody who has a high tax liability they can get more out of it than the project could avoiding paying income tax for however long.

And that's a way to get money in the project early and end up paying more taxes later. But in general it ends up being a plus.

One - just to go back up to the permanent loan and the USDA guaranteed loan, there's a couple of states that have programs that are really helping people get access to organs has a state program that will give those guaranteed loans and in Iowa there's just a ton of banks that are used to that program now.

But other states like Washington where I work there's one bank that works with that thing and they're very reluctant, very picky and so just getting lenders to work with the programs is one of the challenges we found.

So there's - you can get more creative. The first community project in Washington State which I was only peripherally involved in involved new market tax credits which are an interesting device that encourages banks to invest in low income communities.

And then bonding, that's you know I mean it's PUD, county government, there's lots of entities that can do bonding and get low interest money and if you are partnering with somebody like that or are somebody like that that is a huge benefit to having that low cost of capital.

And then there's utility pre-payment so this project in Washington was able to have a very, very low price on their power purchase agreement. But because

the utility they were selling the power to could bond and prepay for the entire 20 year contract they were able to get that money up front.

So even though their price per kilowatt hour is low they got it all up at the beginning or a lot of it at the beginning rather and were able to make the project - finance the project with that. So it wasn't all of it but it was a big chunk and that really helped.

Also rec contracts like you saw with Rosebud project, you can sell the (unintelligible) credit separately from the power and sometimes there's prepayment associated with that which can give you that capital you need as well as an additional revenue stream that you can finance on.

And then there's others is the word falling off the bottom of the page there, but there's state tribal local too, there's all sorts of other little quirks and twists that are particular to a local area and that's where community wind really needs to be a part of a community.

I've seen in quotes community wind developers emerge the higher after the consultant for a little while and die because they come in seeing the niche in the market.

Maybe they're very well capitalized but they don't know much about wind and they don't know anything about community.

And that ends up being the end. The developers I've seen being successful are the ones that know their community incidentally and also have a background in wind energy.

And then of the two the more important is the knowing the community. All right, next slide, this is how Cascade Community Wind company manages it.

We designed the - a for profit company developer, Cascade Community Wind to do community projects with the maximum we could figure out of community give back and community benefit.

Each turbine is owned by the land owner, investors as well as sweat equity participants in the project and then you know we - you know contract locally, we do do separate record contracts.

Work with lenders and so on, this thing on the far left is our subscribers and that's the interesting part of what we do which I'll get to in a couple slides here.

So this is an example of our first project. And this is under construction at the moment and this pie chart looked a lot different six months ago and it will probably look different when all is said and done.

But you can see there's one, two, three, four, five six different pieces to this puzzle and each has its own story and I suspect future projects will be different even though like I said before we're trying to create sort of a standard model.

Maybe that standard model as we know these pieces, however we put them together for each project as we can at the time. So of that big list the one thing that Cascade Community Wind is doing differently is something called - we're calling subscribers subscriptions.

Our virtual net metering subscriptions, we are allowing people to not own the project but just have a contract for the power from the project directly and the next series of slides kind of shows how that is.

This is from a different presentation so I'll slide through the first two a little quicker and linger on the last.

All right, so green power instead of brown, great, you've got three options. Your utility green power program, easy, right, you just say I want green power and you get it.

Well the point of this slide is it's not so easy, you pay a little extra for it but it's not really green power, it's regular power in recs and it's not really from a specific project it's from this mix of stuff that they have or maybe they're contracting with somebody for.

And it comes from your utility. You're paying for your power as well. They are paying a little bit less than you paid for your power to the wind farmer or the renewable energy project.

Your recs are probably coming through a third source and the money you paid for those recs diminishes greatly before it ends up actually getting to the wind farm.

So for this extra bit of money, this top blue arrow won the right, you're actually not much of that is ending up with the wind project which is ostensibly what you're buying extra there.

Double yourself, that's great, you do get direct wind power, you reduce your power bills but there's a big up front cost and the amount of power you get

from that cost is often a lot lower because not everybody has a great wind site and so it can be expensive, etcetera.

So what we tried to do is create a middle ground. This assumes okay, we're going to get our power from the utility but if you make an up front capital contribution and so do many others in your community you can put up a wind turbine.

So your upfront little chunk you know first \$3000 chunk vis-à-vis everybody else does, then you've created a turbine. If selling power to the utility, the utility, there are many utilities out there that have standard feed in rates for distributed projects.

And so our projects which are all of that scale receive that good price, so they get paid well for their power. The recs go directly to you with your subscription renewing the greenness to your power.

And over the next - in exchange for that up front payment over the next 20 years we end up paying your power bill. Each subscription is to 1% of the output of the turbine and so when we get a check from the utility we pay 1% of that check to your utility bill and the advantage of this style of market virtual net metering is that we can do it to any utility.

So we're in Washington State our projects are with public utility - or with private - whatever and we can sell to the private.

And the municipal and wherever somebody wants to and says hey this is part of my community, this is something I want to support, we can pay their power bill and so they're getting the recs, they're getting their power bill reduced.

And so it feels as much like having a turbine net metering on their own house. So this is kind of the piece that Cascade Community Wind is offering that's new to the financing picture.

But yet we do have to deal with all the other pieces that I mentioned before and God bless anybody who's working to make this work. It is a valuable thing, it can be a profitable thing and I'm glad I'm doing it.

So that's it for my presentation, I'll wait for your questions at the end of the thing and enjoy the rest of the show.

Guy Nelson: Thank you Terrance, you're a great steward of time sir. And now we're going to get perspectives from the utilities who have got purchase power agreements or are taking the power from the wind resources.

And the first is Robin Rego who received his electrical engineering degree from Gonzaga University so he's got to be a basketball fan.

And has worked for various electric utilities in the northwest for the last 38 years. He has been at Lakeview Light and Power for 28 years, in the last 11 he's been serving as the general manager.

He is also the Chairman of both the White Creek and the Harvest Wind projects which he'll be talking about. Robin we appreciate your coming on board.

Robin Rego: Thank you Guy. Thanks to Lisa and Terry, you have had quite a good introduction to community wind. And now you will hear about wind from the utility scale side.

So you're looking at Slide 1, that will give you an idea of the kind of terrain this is and we will get more into that. We are - before I actually get into the slides I wanted to give you an overview of how I'm going to approach this.

So we are really looking at partnering to achieve economies of scale and we're talking about from a utility scale wind project. I felt it was important to give you an idea of how a small utility like ours, Lakeview Light and Power can get involved with a good sized wind project.

In fact we're involved with a couple of them. To Lisa's point and Guy's point you will get quite a taste of the complexity involved with building a project like this and to Guy's presentation specifically you will learn about the financial challenges.

So on to Slide 2, and we're talking about Lakeview. We are really small, we have a little over 2200 members. We are a cooperative, a mutual cooperative.

And we started in 1922. We are owned by our members so we're still under the public utility umbrella with municipalities and PUDs, co-ops are included therein but really they are private in that they are owned by their members but they are not for profit.

We are right outside two military bases, Ford Lewis and McChord and so our members have many tenants, large apartment complexes so even though our service area is only eight square miles it is one continuous city with the city of Tacoma.

We serve a third of the city of Lakewood which is about 60,000 people, Tacoma power serves a third and Peugeot Sound Energy investor owned utility serves the balance.

So even though we have a little over 2200 members we are actually serving close to 12,000 electric meters in this eight square mile area. We have been buying our power and we still are a full requirements customer of Bonneville Power Administration.

And we - you probably know that we are primarily hydro, there's one nuclear plant, 31 dams. We about nine years ago chose to think seriously about wind when our state wide co-ops group suggested these wind sites were getting snatched up pretty quickly, why don't we look into this.

We formed the last hydro electric co-op, a group of co-ops about a dozen or so and we started looking into wind opportunities in our area.

And our area being the Pacific Northwest, we looked into getting leases and White Creek wind project was the first project that emerged from the last hydro electric co-op umbrella.

So that was just sort of an errant organization to get going from there. Our average load is 32 megawatts, we serve the fourth largest industrial park in the state.

So for a small utility we have a really high system load factor of close to 70%. So we got into wind thinking that we are probably going to have to comply with the renewable portfolio standard.

This was way back in 2001, 2002 but as we got involved we found out that when the law was actually passed we were well below 50% of the minimum to have to comply.

In addition our load growth is minimal since we are surrounded by other utilities and we are pretty much completely built out.

But we decided we were involved with this, let's proceed and we stepped up our percentage share as some of our partners were dropping out due to the challenges, the cash flows and you already heard a little bit about the challenges from the earlier presentations.

So still on Slide 2, we have a 26% interest in about 205 megawatts of White Creek wind, 30% ownership in almost 100 megawatts of Harvest Wind.

On to Slide 3, the projects, so White Creek you can see the partners, Collins public utility district, Klickitat, and then Klickitat after completion of the project sold half their share of 26% to Benton and Lewis to Washington State public utility districts.

And there's Lakeview and then there's Tanner electric co-op with 2%. You will see that this tax equity investors, prudential capital and Lehman which is now New York Life with Lehman filing bankruptcy.

On the right you will see Harvest Wind utility partners, (Howlitz) PUD again, 30% and now we have a municipality from Oregon, Eugene Water and Electric Board, Lakeview again and Peninsula Light cooperative right across the Narrows here in Gig Harbor.

You will see that for Harvest Wind we ended up with a US treasury grant for 30% of the construction cost in lieu of PTCs or ITCs. So Lisa talked quite a bit about the grant and about the PTCs and ITCs.

And I believe Terry also mentioned that, because of the challenges on Wall Street we were unable to go with tax equity investors on Harvest Wind like we did on White Creek.

So now I am looking at Slide 4 to give you an idea of the location of the wind projects with respect to Washington State and that's shown in the purple circles and the red circles are the various utilities that I just mentioned.

Then I want to talk about the White Creek wind project and its as shown 10,000 acres at the east end of the Columbia river gorge in Washington. Construction started in September '06, completed in November '07, total project cost \$364 million.

It's 89 Siemens 2.3 megawatts wind turbine generators. So these 10,000 acres under lease are in Klickitat county near Roosevelt, little town on the north side of the Columbia river.

It's the habitat for coyotes, deer, porcupine, badgers and rattle snakes and of course wind turbines. So before I go to the next slide on Harvest Wind I wanted to just quickly give you an idea, those of you who may not be familiar with utility scale size wind turbines.

And both the Harvest Wind and White Creek turbines are the same 2.3 megawatt Siemens turbines.

So there's three sections to the tower, total height 80 meters, about 260 feet on the top of which is the nacelle which is like a little motor home. It houses the generator and the gear box.

So that's one of the heaviest portions of the turbine, it weighs 90 tons. The blades themselves, 43 meter blades, about 150 feet in length, three of them connected to the hub that drives the gear box.

Four turbine and there were 89 of these for White Creek, 43 for Harvest Wind. It took eight heavy hauls of tractor trailer and two truckloads of parts. In fact we needed a tractor trailer both ahead and behind the one hauling the nacelle up the hill.

The tower section is about 15 feet in diameter at the base, there's ladders to the top, the nacelle we have climb assist. Speed of the turbine is about 20 revolutions per minute to avoid bird issues, we occasionally still see a carcass from one of the slow birds.

But we slowed it down to comply with environmental concerns, of course we had to place these turbines in areas where they were not in migratory bird paths.

Even though the turbine speed is 20 revolutions per minute naturally on a 150 foot long blade, the blade tip is over 150 miles an hour. Generator produces variable speed, variable frequency, AC power.

This is converted to DC then reconverted to fixed voltage AC 60 cycle frequency goes down the tower 260 feet to a (badvon) transformer where it's stepped up from 690 volts AC to 34,500 and goes underground from there to a collector substation and stepped up to 230,000 volts and there it goes overhead to a bigger substation where it's stepped up to half a million volts and goes into the grid at that point.

So wind turbine generator challenges include lightning, complex terrain, wind variability, on and on from there. So at this point I'm ready to go to Slide 6 and this is the Harvest Wind project.

It's adjacent to White Creek, construction went from April to December of '09. Much, much faster, the reason was that we were concerned that the production tax credits were going to expire at the end of '09 and we thought we better get geared up.

We had all the various teams in place just for White Creek winding down and we thought we could do it with basically the same team of folks and so we did it. But in the meantime Wall Street went south and we were unable to get tax equity.

So we ended up using the grant that was mentioned earlier. You can see that the total cost is \$225 million, we have 43 turbines capacity of almost 100 megawatts. So on to Slide 7, so 7 is talking about traditional structures for public utility acquisition of renewable resources.

And then on the following Slide 8 we will talk about the disadvantage of traditional structures. So as you can read number one the public utility develops and finances the project, a lot of work prior to breaking ground from years of wind studies, you know to even erect the anemometer, the met towers.

You have to get leases from the land owners, the tower data needs to be collected and that's just the start of it. You need to make sure you have transmission to get the pigs to market, you need to and in fact Lisa talked a little bit about the Nimby challenges of transmission.

You need to make sure that terrain allows itself to haul these huge turbine parts into place. So the development financial risks are significant. There's public bids, prevailing wage, tax exempt financing may be available.

And you take all the construction operating risk but you get the part at cost. Second option is participating through a joint operating agency like Energy Northwest for instance in the tri-cities in central Washington.

So they are a group of utilities, public utilities and they form Energy Northwest. They actually own the only nuclear plant we have in the state and they also own some wind.

So the GOA develops and finances, usually tax exempt and then it has our purchase agreement with all risks but usually near cost.

Then third is purchase power from private resource developer, so the private party develops, the developer finances with debt and tax equity, PTC, ITC, depreciation as Lisa mentioned earlier.

Public agency power purchase agreement at market price which covers developer's capital and operating cost, risk and profit.

So now I'm looking at Slide 8 and the disadvantage of traditional structures, so in a typical private wind project about half of the total capital costs covered by monetizing the PTCs, ITCs, accelerated depreciation and as was mentioned earlier the ARA 30% grants.

These are available only to for profit taxable entities so that's a challenge there. So by partnering with a private developer a publicly owned utility can capture the 50% savings from federal tax benefits.

And if properly structured, publicly owned utilities can pre-pay for the other 50% with tax exempt bonds. So now we're going to Slide 9 which talks about the White Creek structure.

So as mentioned earlier those are the four utilities, we did the developing in the site leases all that we just spoke of, got the wind turbines ordered and took care of the balance of plant contracts and construction.

Just want to talk a little bit about logistics there. There were 250 employees on the site, I'm talking about White Creek during construction. Improvements to 11 miles of county and state highways, 33 miles of fiber optic and electric cable, on and on from there.

Just trying to give you an idea of all that's involved before you actually get to the construction. But - and the four utilities took care of those development costs.

So let's talk about the second bullet, the White Creek project LLC sells the project as it's private tax equity.

This is because we would not be eligible for the production tax credits so we got a lender and then the lender took us out, made us whole for all our development costs and then through letters of credit from us and from the tax equity they were protected.

They proceeded with building the project at commercial operation date then we made them whole. For our 50% of it we got 20 years of power at cost and for the other 50% that was contributed by tax equity they got to own the project and take advantage of the production tax credits.

However all the operating costs are all our responsibility. We have the right to buy it back after year ten at fair market value and they are obviously will make sure they get their return on their investment.

So you can see that with our power purchase agreements to them we agreed to buy the power and environmental attributes, pre-pay for the 20 years and as I said right to buy it back after ten years.

So at this point I'm going to go on to Slide 10 which talks about how this all came together, all the various parties involved. So there was 15 months of construction, 14 contractors, subcontractors involved, 300 cubic yards of concrete for each of those 89 turbines for White Creek.

Excavation depth to 25 feet for soil foundations beneath the concrete, on and on from there. As far as documents, there were 26 federal, state and county permits, 623 certificates relating to mechanical, electrical foundations, completion, commissioning of each power plant.

And I signed because I'm the chair of both projects for White Creek in one afternoon, ended up signing 457 contracts related documents at closing.

One of my staff who is a notary really got a cramp with all the notarization he had do, was about half of those had to be notarized.

How did we do it? We had 11 law firms, 13 financial institutions, seven financial advisors, five engineering environmental permitting firms, 14 construction related contractors and five land owners.

That's just for White Creek, so looking at this slide you can see White Creek in the center, White Creek wind one LLC, this is the passive investors who bought it.

And then you can see bottom right hand the energy purchase agreement at the top purchase option agreement with the four utilities, herein guarantee of corporate guarantees.

You can see Siemens there on the top left, institutional investors, construction lender. The interconnection agreement very important there, I spoke about getting the pigs to market.

We had to have an interconnection agreement with Klickitat PUD who happened to be our partner on White Creek, went through their substation and transmission over to Bonneville and then into the grid.

So that gives you an appreciation there. By the way when we talked about law firms have to be ready to be involved we're spending big bucks there, but it's really necessary to do it right.

Some of our tax attorneys for White Creek, their rate back in '07 was \$750 an hour. When - by the time we got to Harvest Wind the rates had gone up to \$815 an hour.

So you want to make sure when you talk to these folks you cut to the chase, be bright, be brief and be gone, you don't spend the time talking about the flowers of spring and love and fresh air.

So let's go to the next slide which would be Slide 11 and we're talking about the Harvest Wind structure there. As I mentioned earlier we had to have a

different structure because Wall Street was having severe challenges there, more than just stomach gripes.

Harvest Wind owned and developed by those four utilities I mentioned earlier but in order to be eligible for the grant we set up a structure tenants in common called a TIC and then the TIC was eligible for the 30% of construction cost grant.

So we received a grant of \$60.8 million from the US treasury under the American Recovery and Reinvestment Act. Power and environmental attributes from Harvest Wind are sold under 20 year purchase agreements to the same four utilities in proportion to their ownership interest.

So now we're going to talk on Slide 12 about economies of scale. So there's a - for the project development here we need to have minimum of 100 megawatts is our experience, our opinion.

There's so much work we mentioned earlier on the permitting and environmental work, turbine supply agreement, construction, balance of plant, I already mentioned legal transaction costs.

The challenges with the financing, monetizing these tax benefits and O&M. We still have a meeting by conference call once a month for both White Creek and Harvest Wind and so I'm on the hot seat there talking to people similar like on this webinar except it's a conference call to back to back conference calls we start at 8:30 and sometimes go on till 1:00.

But that's how we are able to keep up with what's happening at both these projects. Remember all the O&M costs are ours. Just want to talk a little bit about what we said earlier, the main construction contracts.

One is the wind turbine supply and installation agreement, this is the primary contract for project development. The majority of project cost, turbine warranty.

Just to give you an idea for White Creek which is 200 megawatts for each 100 megawatts of capital or each 100 megawatts as a capital cost of about \$150 million.

Of that it's broken out \$115 million for the turbine generator, \$6 million for the balance of plant, \$19 million for other miscellaneous.

So balance of plant, this is the main non-wind turbine generator contract, deals with the sight roads, the crane pads, the foundations for the turbines, the collector system, electrical collector system, the fiber optic communication network, the O&M building, the substation and transmission line.

The third principle contract was the construction management agreement. The main project manager, and you need to get the right one. It's our job to run the utilities, we have no time to be running the wind projects.

You need to have a project manager who will do that and do that well. So at this point I'm going to Slide 13 and we mentioned that there are significant economies of scale associated with this but joint development is difficult and requires partners who know and trust each other, creativity and flexibility, financial strength, strong project development team, good legal and financial advice and managers who find solutions in difficult situations.

Bottom line there's huge benefits, it's not for the faint of heart. There were many times we were up late into the evening and of course talking about those

of us who had primary responsibilities like the GMs for the four utilities, many, many sleepless nights.

So there is a lot of risk associated with this and the flip side of it is for those people who did not want to take risk like we found out with our particular utility we did not need the wind power, Bonneville Power is cheaper being hydro.

It made sense for us to sell our power to our brother utilities who in fact needed this to satisfy their renewable portfolio standards. And so we have 20 year contracts and I'm just speaking for Lakeview.

The other utilities have other arrangements, some are taking them to load. So we have 20 year contracts at fixed prices with escalation or other utilities here in the Northwest and with Harvest Wind we've got it up and going and we're in the process of marketing that looking for long term contracts.

So there are two sides here, you can build it yourself, there's a lot of risk or you can choose to be if you're risk adverse choose to just buy it from someone else and you don't even have the financial risk there because you pay for it month to month.

So I just wanted to mention finally in closing a few comments related to overview concerns. What have we learned so far? The financial incentives are significant.

Site selection on wind is critical, wind resource permitting environment. It's complicated and time consuming, the state and federal legal issues are daunting, the right team is a must.

Utility must be committed to the project. There is value by having mixed ownership. It is doable even if you are not very big.

A good anchor tenant is helpful in our case with White Creek it was Collards PUD that has the lion's share of it.

Transmission issues are problematic but resolvable. Looking at your particular utility each of you look for opportunities. Keep your eyes open.

There are opportunities around the region to get them, to chase them down. Many of them will probably be dead ends. Find the right one for you. Portfolio strategy is imperative, don't put all your eggs in one basket.

Look at just how big is your utility and how much of a resource is appropriate. Risks we mentioned, all resources have risks. Price the risks, operational and integration.

Mentioned construction, financial, etcetera. You need to have a high tolerance for risk and the ability to make decisions. It's not like your other utility projects where you can engineer your way from start to finish and take most all the risk out of a project.

Generation will have its ups and downs, there are good days and bad days. You need board members willing to see it through to the end with cost high end constitutions.

And there is risk in doing nothing. All of this starts at the top. You need a management team that is dedicated and develops the vision, commissioners needed to carry the vision to the consumers.

Use portfolio techniques to grow into resource acquisition one bite at a time. Use partners for their operational assistance as well as right sizing your project. Lastly make sure the team includes dedicated professionals to assist you through what's going to be very, very exciting times.

That completes my presentation, back to you Guy and Sue.

Guy Nelson: Thank you Robin, very good sir. It's refreshing to see a general manager with a great sense of humor. That's fantastic. Before we get - before I introduce David let me again repeat that if you want to have a - if you have a question just click on the Q&A button on the top of your screen and type in the question and submit it.

There was a question regarding anonymity or to make sure that well if you do not want your question to be identified by you just indicate in your question that you want to keep it private.

And then I will just ask that question without accountability on it. Okay, oh and also to Lisa, Terry, Robin and David, I emailed you the questions thus far if you look at - look those over. So far David you don't have a question yet but you haven't given your presentation yet.

So I anticipate you're going to get some here right quick. Let me introduce David. David has over 20 years of utility experience including being VP at Edison International.

He leads the electric and gas resource planning, renewable energy portfolio edition and demand side and energy efficiency programs for the members of Southern California Public Power Authority.

David has degrees in electrical engineering, physics and business. He is also licensed general engineering contractor. David Walden, it's great to have you, the floor is yours sir.

David Walden: Thank you and welcome to everybody who's still on the phone. All we see is the attendee count for the people who are logged in via the actual webinar, we don't actually see those that are additionally on voice lines.

But appears we have quite a number out there. Real quickly Southern California Public Power Authority is a joint powers authority within the state of California.

We aggregate on behalf of 12 municipal cities which are public power entities and the primary purpose of forming was to get economies of scale for them on behalf of power contracts as well as transmission lines.

These folks are spread across Southern California. The total service territory is a little over two million customer accounts, about 4.6 residences. We serve about 35% of what you know as the LA basin the rest of the area being served by Southern California Edison.

We go all the way out to the state border with imperial irrigation district out, you know the salt and sea. This particular group of folks have voluntarily set renewable standards even prior to the state objectives being put in place.

In some of those cases exceeding 35% by 2020 and our current combined capacity for renewables is a little over 2000 megawatts put on in the last three years or so and we have about 3000 megawatts of projects in various stages of negotiations for development moving forward.

So by the end of this year our portfolio is already at 20% and looking to get more as I kind of shown in that little diagram above.

So clearly in this conversation we're the largest entity speaking, our projects go across multiple states and they leverage existing assets.

The red lines on this particular graph are transmission lines that we either own or have significant contract rights to for capacity.

One of them is the Pacific Northwest intertie going straight north and south up towards the Columbia River Gorge where we have several projects going in the map you just saw and the prior presentation was for the state of Washington which feeds downwards towards that intertie.

We also have facilities out in Utah, Arizona and what have you and for this particular presentation the stuff that's italicized is a contract that's in negotiation so stuff that is straight up and down is already delivering power.

We try to leverage both those technologies. What you will see here is in white our conventional generation supplies, either natural gas for our plants such as Magnolia, the intermountain power project which is coal, New Mexico, San Juan, Palo Verde Nuclear facility down in Arizona.

So we have a significant number of conventional resources and let me explain what that is. Our members have previously established long term contracts to supply all their load. So in utility speak that's called fully resourced meaning we had carried contracts in preparation for every demand we would receive.

And the group was very innovative in that for the natural gas supply they even went on and made purchases to natural gas reserves in the ground to avoid market cost fluctuations.

So they have an extremely enviable position when it comes to their resource supply. They also of course are doing aggressive energy efficiency and other you know demand reduction type programs.

But after that all of that said, when we started looking at greenhouse gas objectives which began back in early 2000, we began adding renewable energy and as you saw before objectives for renewable energy are aggressive even still.

And they're at a premium cost, so all of our rates are established based on that conventional infrastructure and these renewable sources come at a premium cost. We actually are required in many cases to sell the energy to our customers less than we purchase it for based on the various scales.

So to us it's all about economies of scale. If we look at the prior slide, the reason we're spread out all over the country is because that's where the wind resources are.

And this call in particular is talking about community wind and one thing we say is well if we're going to spend money let's make sure we're spending it at the best wind resource possible.

If you're going to spend a dollar putting up a turbine you might as well put it in a location where the wind is absolutely the best that's possible.

So for communities that we find that have those great wind sources, that's great. For a community in the middle somewhere where the wind resource may be marginal, the cost effectiveness begins to diminish.

However you know distributed environment like we've spoken about here, it can in fact vary and avoid transmission costs. So for us it is all about economies of scale.

This picture here is a little bit gray, it's actually a rendition of two pictures. You saw a lot of pictures of the various turbines and how big they are and what they are.

In this one you'll see all those little dots on the bottom that look like ants, those are actually people. There's about 200 people at the ribbon cutting for this particular facility, it was a 200 megawatt facility.

Each turbine in this case shown is a 2.5 megawatt turbine. So again like the prior conversation, these are giant units and for us the economies of scale are worth aggregating them in a specific location where the wind resource is very, very good.

Critical for us to keep the cost as low as possible but do directly hit rates. And every dollar we spend on renewables we are either offloading conventional generation or trying to make room for this green resource to match our portfolio needs.

So the concept of community generation is very real, we are very much a believer in it and we try to support it. In this particular picture here this is a facility up in Utah, the total contribution to the community including tax revenues as well as local jobs because they used local labor as much as they

could for the actual construction and ongoing O&M of these particular facilities was well in excess of the rest of the state.

And got lots of accolades from the mayor, what have you. So quite simply for us it's - we clearly are trying to serve a huge load so we're looking for large aggregate facilities.

Those ultimately land on someone's property and in that particular location you are in fact a community owner and you're involved with the community owner, we support that as much as absolutely possible.

If you wish to look at some of our other projects, just log on to our website and you can see some of the others. You also find our other generation projects there, the conventionals as natural gas facilities that we have.

Natural gas being important here in southern California, obviously because for any of these other renewables including wind we have an intermittent supply and we have to backfill any time that the wind is not blowing with conventional generation that can ramp very quickly.

And at this point in time natural gas is the fuel of choice for trying to keep up with the variance, what they call intermittency of the renewable wind projects.

That was all I had to present, it was merely a large purchaser response to the concept of community wind. And some of these projects that you've seen in these prior notes were in fact proposed to SCPPA under our renewable RFP.

And others were all contracted directly. So with that I return it to Guy.

Guy Nelson: Thank you David and we have as we hoped plenty of time for Q&A and we have quite a few questions to address.

And I think let's start with the ones to Lakeview, to Robin. First two questions and I think you probably answered some of them during your presentation.

Let me ask the questions of you Robin and I'll answer one question while you formulate the answer to yours. For you Robin, based on the percentage ownership and size of your projects, it appears you've acquired more capacity than your total demand of 32 megawatts.

Are you selling the excess, and then related to that another question, what is the load factor or total yearly annual energy consumption, also Harvest Wind out but yearly energy and wind White Creek output yearly energy.

And also what are your transmission losses to get the energy to the load? Okay, while you're formulating an answer to that let me respond to several questions that came in related to similar issues.

Will a copy of the presentations be available after the webinar? And yes they will, they'll be on the www.repartners.org site in about ten days and I will send all of you that I have an email address for the site information once I know that it's up.

So look for it in about ten days, it will be recorded and you can follow it along. And passing around to those who haven't had the opportunity to participate in this webinar.

So back to you Robin, the question again was the size of your projects are bigger than the demand and also what the yearly output from the two projects.

Robin Rego: So thank you Guy, you're right, I did address this earlier, happy to do so again. So our demand 32 megawatts, average megawatts is met with totally from buying Bonneville power, the hydro power that I mentioned earlier.

We're a full requirements customer of Bonneville. So yes, we are selling everything that is our share so about 53 megawatts of White Creek, we have basically long term contracts already 20 year contracts in place with local utilities.

And for Harvest Wind 30% share we have just under 30 megawatts that we do not yet have long term contracts for. We are selling it on the market, and yes we are interested in long term contracts for Harvest Wind.

So that's the first question. On the second question the load factor of both projects I'm assuming you're talking about capacity factor, it's pretty much guaranteed to be around 33, 34% when I say guaranteed the deal we have with the owners of White Creek the passive investors is such that they have three years rolling such that if the minimum based on the 30% P99 as they call it, 99% of the time how much the wind blows, how much power is generated.

If the project doesn't make that in year one it can roll over to year two if year two has an excess it can make up the shortage in year one. That's well and good.

You have three years, if it doesn't make it by the end of year three then they actually have to go out on the market and make us whole. So that is - gives you an idea the P99 based on about 33% capacity factor.

It's the same for White Creek within a few percent, they are adjacent projects and you can just take the megawatts of each project and the number of hours in the year and the percentage and come up with the output yearly energy.

Both projects have actually been doing better than guaranteed and it varies, year one for White Creek which was 2008 was very good, much, much better than the 33% year two it dropped a little.

So wind is - everyone wants it because it's free but it's so unpredictable we never know what it's going to do.

Transmission losses, I don't really have the exact - was looking for a percentage on that. Be happy to get back to whoever asked the question if they can email me.

My email address is rarego@lakeviewlight.com. Maybe it was on that last slide. The - keep in mind that for the transmission we pay for it yet from each turbine through to the 500 KV substation and our off takers take delivery there.

So it's their responsibility to take care of the wind resource, the generation to get it to their load so whatever their losses are beyond there is something they know about.

So I'll be happy to give you this percentage as soon as I can look it up if you email me that. Guy I believe those were the two questions addressed to me, I haven't checked to see if there are any others.

Guy Nelson: Okay thanks Robin and just as a comment looking at the size of the transmission lines you have 345 and 500 KV, that's pretty high. I wouldn't expect more than a 1%, 2% at the most losses just a comment.

Robin Rego: Yeah, the figure I'm remembering is 1.5% to 2%, I was just trying to get that confirmed but it's 230,000, 34,500 from the turbine to the collector station and then 230,000 from there to the station where it goes out on the grid and that's at 500 KV.

So that's all I have.

Guy Nelson: Okay, thanks Robin. Lisa I've got to ask you a couple of questions regarding the local jobs of community wind versus large wind and also the listing of community wind projects.

Before I get to that let me forewarn David, we just got a couple of questions in for you. Would SCPPA be interested in purchasing the output of small community wind projects and also historically Bonneville has a charged firming shaping around \$10 per megawatt hour.

It looks like that's going to be going up and what's your feeling about that? So formulate your answer as I'm asking Lisa these. Lisa, the question is it's unclear what additional jobs remain in the local community based on the Windustry model.

I understand that large scale projects, the absentee owner still use the local labor so essentially why is it different, why is community wind - have more jobs and then also could we get a listing of community wind projects from you?

Lisa Daniels: Yes, we do have a database of community wind projects. To talk about the jobs and community wind, I just want to just talk about it in general terms here because you'd have to - you do have to look at each project by project and what the goals of the project are.

You know clearly the economic development impacts are driven by the size of the expenditures into the economy.

They're driven by the size you know or the size of the investment, the size of the local labor pool, the availability of goods and services.

So when we were talking about economic development and jobs, you know clearly it has an impact. I will say that if it is a large absentee project they don't necessarily use local labor.

And - or maybe their percentage of local labor that they use is quite a bit lower comparatively for the whole project. You know for instance if there is a large project going in in one area but the same firm is building two or three other projects in other areas then they have a workforce that they move from location to location more than using the local labor.

You know so there is I would say you know on the long term operations and maintenance sometimes the labor is moved into the area and resettled.

And sometimes if they make a concerted effort there is some training for the local labor that goes on. And sometimes there is - so it all depends on a number of things.

But it has been studied in these reports that it does make a difference what the size of the existing local labor pool is. Clearly and what the size of the

investment is and you know and what percentage of the local investment is going to be used for hiring local labor or hiring from outside the region.

Guy Nelson: Okay.

Lisa Daniels: There's also local lawyers, local engineers, local accountants that are utilized more often in local projects.

Guy Nelson: Okay, thank...

Lisa Daniels: And that's - you know those are consultants, you know on a consulting basis or you know for the operations and maintenance.

Guy Nelson: Okay, thank you Lisa. And Terry I'm going to ask you the question regarding the realistic - is it realistic for the local community members, but before I do that let me get back to David and ask you the question, the two part question.

First of all SCPPA's appetite for perhaps purchasing the excess power from community wind projects and then your opinion about what the direction Bonneville is going on firming the output from wind power in the northwest.

David Walden: Regarding the community projects, we do receive proposals from community investors all the way down to property owners who will call or write simply with a statement that I own property and the wind seems to blow a lot can you help me?

So we get calls from that extreme all the way up to the large developers. We do try to assist them, we point them in the directions of developers in their areas or investors in their areas that can help them get started.

It also - those other renewable projects such as biomass, solar and other localized generation plants, that is done through an RFP process. That RFP you can find it on our website today.

Typically we put up continuous RFP, you would close it and reissue it periodically due to our procurement requirements but we basically had an open door request.

Our renewables committee has gone through about 400 project proposals in the last two and a half years or so to kind of put it in perspective of volume.

Those range from huge projects all the way up to 1000 megawatts down to single site projects of one megawatt. So the simple answer is yes we do entertain them.

Generally speaking the community wind, the pricing is a little bit higher than these larger facilities, again economies of scale issues and so we have to unfortunately make a decision as to do we spend time on a large project versus small.

But the local ones in particular as you get closer and closer to the load base here in California are entertained. We have projects going just north of us as well as east in Imperial Valley.

So hopefully that answers the question. So if you wish to do that like I say you would go to our website and respond to the RFP as to where it is and how it's located.

Regarding BPA and what we commonly call is the wind integration charge, what occurs here is you have a lot of facilities, wind facilities in particular up

along the Columbia River Gorge and all over that neck of the woods in the Pacific Northwest.

So much so and as we described before the intermittency and the fact that the wind doesn't blow and these things spin up and down that the operator of the transmission infrastructure began running into problems on their system with regards to maintaining the reliability and keeping a continuous supply of electricity to their members.

They have solved this by installing the various control equipment and are now recovering the costs of those control equipments into their rate base and it's called a wind integration charge.

And what they do is they on behalf of everybody stabilize the system and then price to all those folks their relative share. That relative share as the question asks is done on a megawatt hour basis.

And it does vary depending on the size of your facility, how far you are moving it and if you have other ancillary services you're able to provide somewhere on the grid as well.

So it varies from \$3 up to \$15 depending on where you are. For the folks here in southern California we take that into consideration as well as transmission and transmission losses into the total cost delivered at our load center.

And one of the reasons we can entertain the Pacific Northwest is because there is an existing high voltage transmission, 500 KV DC intertie called the Pacific Northwest Intertie that we're able to put energy on.

And we have capacity rights on that line. If it were not for that line we would not be able to entertain a lot of the projects in the Pacific Northwest because of the added integration charge, the added losses to get that energy all the way home.

Guy Nelson: Okay, well thank you David. I'm going to ask Terry a question on the local community member ability but before we do that what I'm going to ask you all to consider and we'll revisit later a question that came in.

What is the small community wind install cost that we would expect? So be noodling on that and then Terry, the question in front of us is is it realistic that the local community members could actually be the investor in your model and obtain either the tax incentives or apply for grants?

The comment was it seems hard to believe that the local community has cash ready to invest.

Terry Meyer: Thank you. Yeah, the answer is it's totally impossible. No, I'm joking. Of course we believe it's possible, that's why we're doing this.

What - if you go back to the slide showing the pie chart of where the money came from, from our first project, 12% of it was from these community subscriptions.

And my lawyer is very strict that I'm not allowed to call them investments, they're not investments, they're contracts for virtual net mirroring service.

And it's very real, you know that contract is a two page legal document as opposed to you know many tens of pages document that would be our LLC agreement for the owners of the project.

So we are able to actually gift the land owner some ownership. We are as well as some of these split equity participants. Right now it is - it's a lot of work gathering them because it is - you know a \$3000 chunk of change from somebody in the community is a significant investment.

And I just used the word - it's a significant chunk of money to put towards anything. And it's - but people are doing it and I think that once we have the success stories from our first project, once we put a concise marketing and branding effort together that this will be a really viable way of financing our projects.

And really the most in touch with our community goals. There's - you know we could assuming the treasury grant continues, we could fund each of these projects entirely with community subscriptions and these grants.

Simplifying our financing and making them 100% if the community wanted a wind project, they pooled their money, they made it happen, they're getting the benefit.

I'd like to add a little bit to what Lisa said about the jobs and a lot of jobs that these projects create are recirculating jobs where money is flowing in the community.

A large wind project in Washington State there's a few exceptions, the one Robin talked about in particular but a lot of them are developed by a European developer and the power is sold to a large California utility.

And so for Washington that means that what stays in the state is some land based, some taxes. And yes, there's some people there now maintaining the

wind farm. With these community projects all of the financial stream stay in the state.

The investors are local, the subscribers are local, the people are saving more money - we project that each subscriber will save about twice as much on their power bill as they initially put in.

The - all the owners are local, all the services are within the state and so it's not just the fact that we're hiring a local accountant but it's also that the land owner is receiving a much higher benefit per megawatt for this turbine on his land.

And is that much more inclined to go and eat out and support the local restaurant etcetera.

So it's this bolstering of the economy as a whole which is why some job numbers that I've used in describing the benefits in the past have come from. I don't know exactly the source of the numbers Lisa used.

So that's - so yeah, I think that many small community based contributions to a project can make a project happen. We've done it - we've gotten let's see, a fourth of our goal of 50% of the project costs accomplished already.

We do expect to get more before the project finishes and even gather some subscriptions after it's installed. So it's - for me it's almost like an ethical thing that you know renewable energy projects are great.

The fuel is free, but the cost is in the initial capital and everybody wants renewable energy. And it's easy to check the box on your utility box and that's a great first step.

But it really gives people the ability to participate in a more full way and to really take responsibility for creating the source of power they want to see exist in the world by giving these community virtual net metering subscriptions.

You can say I want to see this project happen, me and 50 other people putting in our \$3000 means it will happen. That's really powerful and that's something that I would like to see more people get used to doing is solving problems themselves with a scale of investment they can handle.

I used the word again, anyway so that's the answer, thanks a lot.

Guy Nelson: All right Terry, thank you. And it looks like I just got a signal from Susan we can go a little bit longer if you can stay with us, it looks like we've still got a few more questions. But before we get to the next questions I want to thank the speakers Lisa Daniels, Terrance Meyer, Robin Rego, David Walden.

Thank you all of you for your insights and your contributions and also thanks to Lakeview Light and Power, Cascade Community Wind, Southern California Public Power Authority, the US Wind Power in America program and also big thank you's to two people with NREL Susan Hinnen and with Western Area Power Randy Manion.

Without these two we couldn't be having these. Okay back to the questions, and if you could just kind of give us a quick maybe 30 second response to a very complicated question.

This is regarding community wind installed cost. We're looking at the data we see so far, the large wind farms, you know 100 megawatts and more are coming in around \$2200 a KW installed.

What can we expect from community wind? Can I open it up to the speakers on that?

Terry Meyer: I'll start and just say \$2.50 to \$3 a watt for projects in the hundred to - 100 kilowatt to 5 megawatt range.

Guy Nelson: Okay, anybody else want to comment? So if I'm hearing you right Terry we'd be looking at \$2500 to \$3000 a KW.

Terry Meyer: That's right, and then more the lower down in the range you get - the smaller you get the more per watt.

David Walden: This is David Walden at SCPPA, on the per megawatt hour basis we typically observe about a 25 to 30% cost increase for the smaller facilities.

Lisa Daniels: And this is Lisa, I just want to say that these are all variable right now in this economic period because whereas machines have been under tight supply you know before the meltdown of the capital markets different machines are making their way to the market.

And I would say that you know from \$2200 per kilowatt to you know \$3000 per kilowatt, it's all variable and it continues to be variable.

Guy Nelson: Okay. This is a question to all of you and this is as follows. The Windustry tool box materials seem very good, are there other resources that you can recommend for a new community wind team?

The difficult part seems to be putting together a financing plan, any tips or guidelines for public sector entities and also private entities?

So if you could maybe give a 30 second sound byte on that, any of you.

Terry Meyer: I can start on that. I think at least the piece that I would throw into it is get a good consultant. There - and somebody with experience in community wind.

You know I continue to do consulting, I know Tom Wind out in the Midwest continues to do consulting I'm sure and I know that Windustry has a list of consultants that are interested in supporting community wind projects.

But getting somebody with experience to come and help your team is a great thing. Right now I'm helping a project in Oregon that called up and said I've got this project, my interconnection queue is about to run out, get me financing, make this project work.

And we're working together and plan to make it work. And that's something where asking for help from somebody who's been there before is my recommendation.

Lisa Daniels: This is Lisa, my recommendation would be to come to one of these community wind conferences that we are setting up. We have one in Denver, one in St. Paul, one in State College Pennsylvania.

Make yourself available for one set of those two day conferences. It will be invaluable and the people you meet and what you'll learn.

Terry Meyer: I agree.

David Walden: This is David Walden from SCPPA. We typically point people in several directions, one is AWEA which is the wind energy association, on their website you can find all the conferences that exist including the ones mentioned as well as the general industry type activities which are in all cases attending these conferences to meet your peers.

Realize how many options there are and how many variables there are is very critical and then where we have people who are ready or specific questions on this particular area we would direct them to start conversations with a developer in that area.

Typically we would give them a list of two or three that are known in that particular area to at least educate themselves as to what their options are.

Guy Nelson: Okay, thank you all for your responses and you had to think pretty fast on some of these because I just threw them at you but I appreciate all the speakers and all the attendees.

And thanks again for your participation and also again Susan Hinnen, thank you very much from NREL, you're in the background there working hard and we really appreciate that. So on behalf of everybody including all the sponsors and NREL and Western Area Power, I thank you all for attending.

And let's go out and do good things. Bye bye.

Lisa Daniels: Great, thank you.

Terry Meyer: Thank you everybody, good bye.

Robin Rego: Thank you.

Coordinator: Thank you for participating in today's conference call, you may disconnect at this time.

END