

## **COMMUNITY WIND PROJECTS WEBINAR**

**June 15, 2011**

Coordinator: Welcome and thank you all for standing by. At this time all participants will be on a listen-only mode for the duration of today's conference.

I would also like to inform all participants, this conference call is being recorded. If you have any objection you may disconnect at this time. I would now like to turn today's conference over to Charles Newcomb, Section Manager of Department of Energy, Wind and Water Power Deployment.

Thank you sir, you may begin.

Charles Newcomb: Thank you and I wanted to welcome everybody to today's webinar. Good afternoon or good morning depending on where you are. And I wanted to bring you a little bit of an overview in terms of what we're going to cover today.

Today's conversation is about community wind energy and as distinct from specifically small transmission, mid scale, or utility scale wind. We're going to make an effort to define it for you at least for the purposes of today's conversation.

Sometimes the definition of community wind moves around. We'll provide a few case studies to provide an illustration of what scale of project are still community wind projects. We've got an expert to provide observations about what's working, sort of right sizing projects for the application as well as who's working, what kind of a development team makes it actually happen.

As we all know in this world or in this industry, having competent teams that can push projects or move projects through at a timely pace while making sure that

they're checking all the right boxes to maintain a high level of public approval as it were.

And then we'll provide an overview of the types of incentives that are working for community wind that directly support community wind projects as well as some programs that are working in areas where there are supportive systems in place.

So with that in mind, we've got the three presenters are Stephanie Savage with NexGen Energy Partners. They're actually a local developer in Colorado. We've got Tom Wind who where would we be with out Tom Wind in the community wind world.

Tom comes out of Iowa and has been around a long time and Mark Sinclair with the Clean Energy States Alliance who will be providing our picture of state policies.

And a couple things of note, one is that you are in a listen-only mode. There's so many attendees right now I can't even see how many there are. But when you've got more than a few it becomes pretty unwieldy to have people actually asking questions and background noise problems can abound.

So we're up to about 113 now. So of course the questions are going to be typed online. You guys will have in your browsing window you should have a Q&A button at the top.

And if it's not highlighted already, if you click on it and highlight it, it will launch a small window which will allow you to ask questions of the presenters.

The presenters are all going to go through their presentations before we get to the Q&A. So we'd like to hold our questions until end although we'll keep an eye on them and see if there's anything so burning that we can't wait.

So from there, a description of community wind is always a challenge. Because it seems to be sometimes a moving target, sometimes people want more than 50% local ownership. Sometimes people want a specific kind of flip where you end up in 99-1 equity ratio with the local ownership or whatever.

And it also depends on what your objectives are. So sometimes folks are looking to expand the definition of community wind so they can have a larger audience, there's any number of reasons and it does change.

So I'm, defining it today and for today's call and I'm leaning a little bit on AWEA to help do this and I'm highlighting the AWEA definition that I tend to support. But again, there's almost as many definitions of community wind as there are people who will define it.

Community wind in our world -- at least in my world -- does bridge across the scales of technology from very small almost residential units. So you can imagine a small turbine at a, not a house necessarily, I suppose, but maybe at a community center owned by the town.

It also bridges into the distributed space when you have projects that are sited at municipal facilities and owned by the facility or providing some other benefit. And it also as we are most familiar in the utility-scale projects where there's an opportunity for local ownership.

So what AWEA says and at least if you go to their policy documents now is that there's a few elements. For smaller projects, less than 20 megawatts or so, they believe that, you know, support from the local governing body is a part of it.

If anyone of these things is true then it can be called a community wind project. If the community is engaged in the development of it, that also works. The one that I tend to focus on is that there's a local benefit that's above and beyond what would normally be there if there weren't a community wind project.

So in some cases that might be providing rate stability, it may be energy cost savings, etcetera. And so that's a big one. And 335 ownership is threshold for AWEA when they're looking at larger, larger than 20 megawatt projects.

So that's my attempt to define community wind for you today. And with that, I want to move into Stephanie Savage's presentation. And Stephanie Savage, again, comes to us from NexGen. But she's also an NREL alumnus.

She was at State and Local Initiatives for a while. And while at State and Local at NREL, she was one of the leads at the USDA REAP support side of the house. So she became fairly adept at state, local and federal incentives.

And became the champion in a couple of development companies for moving projects through the incentive process so she's pretty studied in terms of what works, what doesn't work, what's easy, what's hard. One of the things that I would suggest about Stephanie is that, you know, when she, since she knows her way around the incentives and how to apply them, sometimes what she describes as hard can be nearly impossible for people aren't as up-to-speed on the incentives.

So with that, I'll pass you onto Stephanie.

Stephanie Savage: Thanks so much Charles for that generous introduction. And speaking of REAP, I know the deadline is today so hopefully all of you that have been working on applications are wrapped up with all that now and can breathe a big sigh of relief there because it was a big process.

Yes, I want to thank Charles for inviting me to speak on the call today along with the other wind powering America folks. As Charles mentioned, I'm going to go through a few different community wind case studies just to give you a little bit of a flavor for what do community projects look like.

And Charles kind of gave you some ideas about size, and ownership, and that sort of thing. But I'm going to talk about three specific examples of real, up and running community wind projects just to kind of help give you some context for the other presentations you're going to hear today.

A little bit about NexGen, as Charles mentioned, we are located here in Colorado not too far down the road from the wind site where Charles it at. You know, and you can see the flat irons there just to give you a sense of the lovely environment we're in.

We are a community wind developer. So we're a developer, owner, and operator of a variety of distributed renewable energy projects. We have done projects that are as small as 100 kilowatt wind turbines, all the way up to a large, kind of equity wind farm type projects and everything in between.

Our focus right now is mostly on the Western states. You can see the list there. For instance, a project in Colorado, a couple of those, some projects in Hawaii that are under development, some other projects out in Oregon and Idaho.

We've also been really successful in Ohio. We have a number of projects there on the wind and on the solar side actually. And we've leveraged some great incentives that were available and had great success there.

So we're technology neutral. As I mentioned, we do wind and solar projects. We have experience kind of with both of those. Obviously I'll be talking more about wind today. And we've also looked at other technologies including geothermal and (Biomax) and we have not quite found the right tip there yet.

But we might down the road. And, yes, we're in Boulder. We're a team of mostly technology folks that kind of have a nice marriage with some folks from the financial services background. So that's where the financial expertise comes in.

So it's been a really great match. We've been at NexGen for about five years now. So we're just out there doing all sorts of interesting projects these days.

The first project I'm going to talk about is a NexGen project. And just to give you a little context, we'll talk about this as a distributed wind project. And what do I mean when we're talking about distributed wind? Typically we're going to be talking about projects that are less than 1.5 megawatts in capacity.

This might be a single wind turbine. It might be a couple different wind turbines but usually it's going to be kind of in that range. These are going to be behind the meter projects and what do I mean when I say behind the meter?

Typically this is going to be a project that's at an end user's site. It's going to be something that's going to be offsetting energy usage at the actual site itself. It's not going to be feeding its energy just, you know, under a PPA, selling it to the utility.

It's going to be something that's actually going to be offsetting energy usage at the site. So this might be a school. It might be a city facility. Here, we're going to talk about a waste water treatment plant. It might be a technical college or something of that nature. So it will be a wind turbine that's actually onsite benefiting that end user.

Usually the community aspects that we're talking about here as Charles mentioned sort of in the introduction is these projects are really going to be providing cost savings to that end user. So whether the end user owns the particular project and they're obtaining cost savings that way.

Or, in NexGen's case, usually we're a provider of a power purchase agreement where we're selling, we own the wind turbine. We're selling the energy to the end user at a rate at or below the retail rate.

So they're able to leverage long term energy savings because they have this nice, fixed energy rate that's going to be beating their retail rates. It's predictable and it will provide them long-term cost savings.

Usually these distributed wind projects leverage state incentives. We talk about Ohio, that's a market we've been successful in partially because there were good state incentives available and also good policy in the state. There was a favorable net metering policy, interconnection was fairly straight forward. Those rules were all defined.

So you'll find a lot of distributed wind projects are successful in places where there are good state incentives and policies in place. So we'll talk about this project in particular that you can see there on the slide. This one is at the City of Conneaut water treatment plant.

Conneaut, Ohio if you're not familiar is right on the border, pretty much right on the border of Ohio and Pennsylvania on Lake Erie. And like I said, the waste water treatment plant is right there on the coast so it has a really excellent wind resource.

The 400 kilowatt wind turbine and again this is a behind-the-meter project where all of the energy generated by that wind turbine feeds into the waste water treatment plant and offsets their energy usage there. This project was commissioned in 2010 so it's been up and running for a little over a year.

And again, this was an attractive project for the city because it did allow them to basically lock in an energy rate for the next ten years. And it's going to provide the City some really nice cost savings. Because, you know, they have this locked in rate that's going to beat their retail rates.

This was a project that was supported by the Ohio Department Development Advanced Energy Fund grant. It did receive that as well as a Treasury Grant, the 1603 Treasury program that many of you are probably familiar with. It did also receive one of those grants.

And NexGen has done quite a few of these distributed wind projects. This is just one good example but this is one type of community wind project. And again, like I said, you'll find these in a lot of states that do have strong incentive programs, California, some of the Midwestern states. Ohio has some distributed wind.

These kind of projects have been really fun for us to do just because they do really have a nice benefit for the community and you get to know, you know, the actual folks that are going to benefit from this in the cities, the schools. You know, we've

done some projects for colleges and that sort of thing. So these are fun, a fun size for us to do.

Moving on a little bit, we'll talk about some projects that are a little bit larger. This might sort of what some of you think of as maybe a little bit more as traditionally in the community wind bin. So I'll kind of talk about small community wind as mainly being under 20 megawatts in capacity size.

So this usually means it's going to be multiple units, utility-scale units here. It's not going to be, you know, a bunch of 100 kilowatt wind turbines. This is going to be, you know, a bunch of 1.5 megawatt wind turbines, maybe larger, a few of those.

And contrasted to distributed wind, these are typically going to have a power purchase agreement with a utility. These wouldn't be feeding into an end user site. These would be feeding into, you know, they would have some sort of power purchase agreement setup with the local utility and all the energy then produced by the wind farm would go into the electric grid.

Some projects, the examples specifically that we'll discuss here and some projects oftentimes the actual owners of the land where the wind turbines will be erected is the developer themselves. This isn't always the case. But sometimes there are land owners that get very interested in having a wind farm on their land, perhaps they're farmers or ranchers.

And they get excited about wind and see that as a really good opportunity for them to just diversity their revenue streams from their farm or their ranch. And they're willing to kind of put in the sweat equity so to speak to develop some of these projects.

So they'll go through the tasks of, you know, maybe erecting an anemometer. Or maybe they'll go through kind of a state anemometer loan program, get that up on their land. You know, pay someone to kind of go through the resource analysis piece.

Maybe start on some of the local permitting because they're probably the most familiar with the local permitting just because they live in the area so they might take on some of those tasks. Maybe go through even some of the interconnection initially and get some of that setup.

The example here that I'll talk about that you can see in the picture there is a great example of an owner-developer. And it's the (Poptu) wind farm. It was up in Oregon. This project was put together by two brothers, (Jeff) and (Ormond Hildebrand) who had some land up in Oregon.

They were essentially surrounded by other wind farms, the (Klondike) and the (Big Locannon) wind farms are basically surrounding them. So they knew their resource was obviously very good seeing all the other wind turbines go up in their area.

They spent quite a few years putting together this project. It ended up being a nine megawatt wind farm which it consisted of six GE 1.5 megawatt wind turbines. It went operational in December of 2010. But they certainly had spent many years working on developing this project ahead of that.

They had, you know, a few missteps with some different financing partners. They put in some of their own money to start kind of some of the development tasks so some of the wind resource assessment. They secured an interconnection agreement and a power purchase agreement.

They did the local permitting that was required. They talked to turbine suppliers. They did a lot of the work on their own. You also might remember this if you guys are frequent attendees of Wind Powering America webinars.

This was a project that was discussed back in February and it's also discussed in Mark Bolinger's report that came out, I believe it was in January. He's with the Lawrence Berkeley National Lab. He talked about this in kind of his community wind financing piece so they might be familiar from that.

But like I said, you know, a great example of a landowner really putting in the work upfront to try and figure out if this was going to be a good project to do in terms of wind and really putting in a lot of the work ahead of time before they even obtained their financing.

But they were successful. They leveraged a few state incentives here. In Oregon, there is a business energy tax credit known as the BETC. They obtained that for this particular project. Basically that enables - it's a state tax credit.

The beauty of this tax credit is there's a pass through option which allows you to transfer the tax credit to a pass-through partner. And then you receive basically a discounted lump sum cash payment upfront. So you don't have to worry about having a tax appetite necessarily. You kind of get this cash payment.

They did leverage that. And I'm guessing they leveraged the 1603 Treasury grant as well in this particular project since that's available. The interesting community aspect about this particular project is this is sort of - it's somewhat structured like an equity flip project which we'll talk a little bit more about in a minute.

But in addition to kind of putting up some of their own funds in the beginning, they do, the actual brothers, the (Hildebrand) brothers, owners of the land do have

the option to purchase the project in five years. So essentially they have some other equity partners that have put up the initial construction and equity for the project.

And then the brothers have the option to buyout the project in Year five which they plan to do. They're very dedicated to this project and I think they really do eventually have this, you know, they want to take full ownership in it.

So essentially after five years, kind of why five years might make sense is because at that time all of the tax benefits sort of would be used up by the equity partners, the accelerated depreciation would be used and then the brothers would basically take ownership of the full project and operate it from there.

And the nice part about it is that then the funds all stay within the community. It's really, truly a community project at that point. It's no funds kind of going out to other developers that are elsewhere.

You know, I think for a lot of folks that do have land, this can be really exciting. They do get really excited about these kind of projects and want to put the time and the effort in to figure this out. You know, sometimes that can be a little bit tricky just because there is a very steep learning curve with figuring out how to put together these large wind projects.

It's something that a lot of wind owners, you know, there's not many that are full blown wind experts. So it can be a little bit tricky. This is a great example of a real success story where just because of their enthusiasm and their organization, and their smarts, basically they really made it happen.

You know, a lot of other landowners might not have time or, you know, just the capability to be as successful. But this is a really great example of some folks that did a really great job with it. So it's definitely possible to do it on your own.

Certainly many others might just look to a larger developer to kind of give them a hand. But these guys did a great job with this particular project. Now I'll talk about another example, this is kind of what I'll talk about as kind of a larger community wind project.

This might be a little bit more of what you're expecting to see for community wind where it's going to be a larger project typically. You know, what I described here is it's going to be, you know, ten megawatts or larger.

Again, this is going to be another project where it's going to consist of large utility-scale wind turbines. So, you know, 1.5, 2.0 megawatt wind turbines and some number of those. These projects will operate under a power purchase agreement with a utility. Typically they're, again, not going to be like those distributed wind projects I mentioned earlier where it might be a behind-the-meter application where they're just offsetting onsite energy use.

The benefits to the community for some of these types of projects would be, you know, this wouldn't be kind of as we just talked about where the developer might be putting some of their own money and sweat equity upfront to get the project up and running.

This might be one where a developer would approach landowners about leasing their land. And the developer would be, you know, some other large development company would be doing most of the work on this but offer the landowners compensation for use of their land. So there might be a lease payment that happens annually.

There might be some royalty fees, you know, some percentage of energy sales or something of that nature that might be involved. So the community would receive some sort of benefit from this type of project.

And again, this might be more of what you're used to hearing as far as community wind when we're talking about equity flips where what happens in these types of transactions is that, you know, a large bank or some other large organization takes a primary ownership stake in the first few years of the project.

It might be the first ten years. It might be until some sort of rate of return threshold is met. Basically they'll put up all the equity upfront. They'll take all of the tax benefits and any other incentives that might be available for the project.

And then either, you know, at the end of Year ten for instance or once their rate of return threshold is met, they would then flip that project back over potentially to the landowners. Examples of this, you might have heard of the (Min) wind projects that happened, gosh, a while ago now, ten years ago.

That sort of were the, you know, basically started this sort of equity flip option where again this is a nice community type project because, you know, you're basically getting the project built and the community is the one really benefiting down the road where they can take ownership in these types of projects.

And like I said, there have been numerous examples of these. One example that I will talk about is the (Echo) wind farm which is another project in Oregon. Not to be Oregon centric that just happens to be where my examples are from.

That was built in 2009. That was a project that was initially built by John Deere Renewables. Those projects have since been bought out by Exelon Corporation. So they're the owners-operators of those.

This is one, it was a 64.5 megawatt farm. And this is one where it was a flip model where essentially after the first, you know, 10 to 12 years of the project, the tax benefits run out, this will be returned, the project ownership will flip then to the landowners where they'll take a 95% ownership stake in the project.

And then Exelon would retain, you know, something like a 5% ownership in the project kind of over the life of the turbines. There's the mix of investments in wind turbines and repower wind turbines here. Again, these large, utility-scale wind turbines.

Oftentimes, you know, some of the early projects, for instance the (Min) wind projects, those did receive some federal incentives. So those leveraged the USDA REAP grants or was formally the 9006 Program back quite a few years ago.

So there often are federal incentives that are available for these. Typically before a couple of years ago, this was the production tax credit was the primary incentive that would, you know, support these types of programs in addition to the depreciation that's available.

So oftentimes it was kind of a ten-year type flip that usually the flip would occur after those ten years just because that was when the production tax credit benefits would run out.

And that would, you know, typically the landowners wouldn't be able to monetize those credits which is why you had these equity partners come in because they would have the tax appetite to monetize those types of credits. So once those ran

out then it made sense to turn the ownership and operation over to those landowners.

There have been some interesting variations on this type of model. Recently -- and again, I'll kind of refer back to Mark Bolinger's presentation and paper that he gave back in February on the Wind Powering America webinar. And his paper is available. I don't have the link of course but it is available.

Since the ERA bill came out in the Treasury 1603 program is available, it's open up for some other kind of more creative types of financing and structures for these types of projects where they don't necessarily rely on the production tax credit anymore.

They're available to take advantage of a 30% tax credit cash payment upfront. So that's really opened things up for a few other more creative type structures. There was a real interesting project that was discussed on that webinar in South Dakota.

Where they had opened up, they basically were able to offer a mix of kind of debt and equity type investments into a wind project there in South Dakota that was only available to local South Dakota folks. So another good example of kind of interesting community wind type projects on the larger end.

And they did a great presentation back in February. You'll have to dig that one out of the archives. But definitely another great way to include the community in these types of projects and open up investment to more local folks rather than just larger developers.

And those kinds of projects may or may not necessarily be some sort of flip where the ownership goes back to the local folks. But again, it's another way to sort of involve the local community in some of these larger wind farms. And like I said,

as a result of these different incentives that are available now, people have gotten creative with some of those.

I think that pretty much covers a few of my examples. Again, like I said, if you're interested in some of these more creative financing structures, I would definitely recommend checking out the presentation from February. But again I think that covers my examples. Thanks everybody.

Charles Newcomb: Thank you Stephanie very much for your contribution. As we go forward, I'd like to introduce Tom Wind. Tom is a Principal at Utility Wind Consulting. Tom's been active in the utility space forever, 37 years by my accounting which is longer than many of us in the industry.

And he started utility wind consulting 22 years ago if I'm counting right again. He's a specialist in wind generation, integration of wind into the utility. Was with a utility when he got out of school and until he started Utility Wind Consulting.

He's kind of the go-to-guy and you guys are probably familiar with him because he's been presenting and speaking forever. He's what I call over the 100 club, not 100 years old but that he's presented at well over 100 events. So he's pretty well known, well spoken member of UWIG and IEEE and the technical advisory group for wind generation, and the IEC, and he's with the Mid Continent Area Power Pool Design Review Subcommittee, etcetera, etcetera.

So Tom is our resident, I use that loosely, within our industry but he's a resident expert on all things utility and wind. So Tom, take it away.

Tom Wind: Well thank you Charles. Can you hear me okay?

Charles Newcomb: Hear you just fine, thank you.

Tom Wind: Very good, well who is Wind Utility Consulting? That's my little company of three people. And we provide consulting services for those who want to develop community-based wind projects.

And, you know, it could be one turbines or ten turbines typically. The services we provide range from the initial project planning, finding environmental interconnections, the whole ball of wax. And I'm not very good at any one of those but I can do about any of those.

So it's kind of a one-stop shop and that's really handy for a lot of smaller projects that don't have a lot of extra money to use for development. And I started working in wind power in 1994 and I've been involved in about 28 projects so far.

So okay how large -- I guess they're all going to come up at once here -- how large should community wind projects be? Well it depends upon the goal. For example, if a small town says I want to get 20% of my electricity from wind power, well then you can figure that out and figure out what size of a wind turbine you need.

If a college wants to reduce its carbon emissions by 50%, well you can back calculate again and say, hey, I need three megawatts to run a 35% capacity factor. Or if a business or for example, in my area, in Iowa, we have a lot of confined operators that wants to reduce their power bill let's say by 25% just to try it out.

So then you can again, work backwards and say well I need 100,000 kilowatt hours a year to do that. And then some people just say, I don't care how big it is. I just want to make money. I need to find the most economic size and make money.

And one of the challenges that we always have is that larger wind turbines produce cheaper power. So larger means it's cheaper per kilowatt hour. But the problem is a lot of places can't use that much power.

So we've got to figure out a way to take advantage of the economies of scale without either having to do it ourselves or find some place - like at one college were looking at using the excess electricity. And actually generating steam with it because they burn natural gas year round in their boilers on their campus.

So they put an electric boiler in. So rather than give the power back to utility which would give them a low price says, well I can justify putting the boiler in and use that electricity myself. So sometimes it actually results in using more electricity because you may convert natural gas loads to electricity.

Making incentives that produce results, I've found through the years that lots of people think they can do a project or they have a lot of enthusiasm. And they'll soon learn that those projects as Stephanie and Charles will attest to, they're really hard to do.

I should it put it this way, it takes a lot of perseverance to get projects done. So ultimately you need a good project team to get things done in the right order. And when everybody works together and knows what they're doing, you have a successful project.

And ultimately that successful project, maybe it's just one wind turbine, that successful project starts the interest of other people. They see how well it works. They may think, hey I've always wanted to do that. And if the wind turbine runs like it's supposed to then that's what gets the industry going in that area.

So if you're going to have incentives in your state, you need to make sure that they drive the proper business. That they provide incentives for people to do the right things. So that you'll have a better chance of having a successful project.

For example, we had a dairy farmer call me a couple of weeks ago. The guy received a REAP grant, could receive \$40,000 for a wind turbine project, 25 kilowatts. And he put together a proposal that was from a small manufacturer that had not sold very many wind turbines. Didn't really know what they were doing.

He underbid the price and then when he was awarded the REAP grant, the dairy farmer went back, okay I'm ready to do the project. And then the manufacturer says, oh, we can't do it for this price. So the REAP program is a good program.

And it's got a lot of measures in it, if you've gone through a REAP grant recently, that a lot of good questions in there that and scoring such that it rewards those teams, those project teams that have got the pieces together, that have looked into various things.

So another thing that we had in the State of Iowa, we have a zero percent interest loan fund that there's an engineer back there, sitting at a desk. He reviews everything, all the details of the report. And if he sees something fishy, he calls the guys up and says, hey, you know, I've never seen a wind turbine this size put out so many kilowatts hours in your area of the state. What gives?

So sometimes having a third party person that, you know, doesn't have any vested interest in the project be involved in some way is a good way to monitor the program and make sure the incentives go to the right place.

So as I said at the bottom, the incentives need to reward the winners. And sometimes the winners and the stakeholders are utilities. Utilities are our partner.

So you've got to make sure that they come out ahead on these projects too. And usually wind projects means they lose money.

They don't sell as much electricity. So somehow you've got to make them whole in the matter if you want them to be cooperative. So you can often do that through state regulation. And, you know, giving them rewards when they do the types of things that the policy wants.

Engaging the community and the stakeholders, in all the projects that I've been involved with, there's always been it's usually one person that perhaps wasn't the most knowledgeable about the project. But was perhaps the most driven to want to see the wind turbine project built.

And that one person has to demonstrate why the project is important to those around him. Because if he's a board member, he's got to convince the other board members that this is a good idea. And then he's got to go out beyond that board and get the other stakeholders in the community involved, the tax payers.

The people maybe in the community that will be supporting the cost of it and he has to be demonstrate to them why they win. And what's in it for them. And then he needs to address the potential issues upfront. And you can't run and hide from these things because they will eventually pop-up.

You know, the bad things about wind power, or the noise, or the shadow flicker, things like that. They need to be addressed heads-up. And then the project needs to make sure that the benefits are spread across all the various stakeholders.

For example, if you have some nearby neighbors that are going to be adversely affected by the wind turbine, they're going to hear the noise, have flickering shadows in their window. Well then you've got to make it whole for them.

So they still somehow have to come out and be, you know, see the benefits of this. And it could be just a simple easement that says, hey, we acknowledge we're going to be causing these problems. We're going to give you a little money every year to, you know, just for your inconvenience.

So a community wind project, it has to engage the community members, all the various stakeholders and it's got to demonstrate to them that there is a benefit in this project. And some stakeholders may not get any benefit.

But there shouldn't be any stakeholders that have a negative benefit. If there's somebody that's adversely affected, you need to make amends with that group or stakeholder group and figure out a way to, you know, at least make sure that they don't lose any money or whatever like that.

So Charles, that's the four main points that I wanted to cover here.

Charles Newcomb: Tom thank you very much. And I think most people would agree that your very salient points about engaging the community and the stakeholders are very good for any wind project whether it be a small, distributed, privately owned, or a vast, utility-scale project that goes on for 20 miles.

I think those are lessons that we should all be living by for sure. Next, we'll be hearing from Mark Sinclair. Mark is the Executive Director of the Clean Energy States Alliance. Clean Energy States Alliance is known as CESA is a nonprofit organization that assists states with design and implementation of renewable energy policies and programs.

They're the go-to for folks that are trying to develop the policies. Mark has co-authored with the late Charlie Kubert, folks remember him, a couple of reports on

state financing and policy tools that support distributed and community wind projects. And these reports and many other of the CESA products are available online at what is it? It's Clean Energy States.org, www.

So I encourage you look those up because CESA has been providing some fantastic support to states that are looking to incentivize and support renewable energy.

Mark is also an attorney with about a quarter century of experience in working with public interest on energy and environmental issues. And with that, we'll have Mark gives us a brief overview on some of the policies that he's familiar with that support community wind and even a program or so or implementing these incentives so thank you Mark.

Mark Sinclair: Thanks Charles I appreciate it. I'll try to go through this fairly quickly so we have plenty of time for questions and answers. Just a quick introduction to CESA.

We're a nonprofit organization that's been around for about ten years. And our focus is really providing assistance to state officials to develop effective renewable energy programs. And we do that through the creation of a network for a peer-to-peer exchange of innovation and program effectiveness.

We, at this point, have a coalition of about 20 of the leading state and public utility energy programs ranging from the California Energy Commission to the Massachusetts Clean Energy Center. And as you probably all know, states increasingly are recognizing the importance of supporting community and distributive onsite wind energy projects.

The states are recognizing that these projects can play a very important role in building public support for all kinds of wind development. That these projects

often have a shorter development timeline and can get into the ground much more quickly with the use of state funds. And can be more easily integrated into the distribution system.

There are a number of strategies being used today by states. And what's nice is that it's a portfolio of approaches. There's no single right answer. But I think that Tom was correct that to be effective, truly a state needs to create a policy and programs that are long in duration and that are predictable and that don't change with every, you know, election.

And I'm afraid to say that we're not yet exactly in that place right now with the difficult economic times that many of the states are facing. So we're seeing lots of changes in these strategies which is troubling. But the major tools that states are using have been and are site assessment and feasibility support to try to help projects get off the ground when there is no money coming in.

Financial incentives, typically rebates that are dollars per watt to reduce the upfront costs. Unfortunately there has not been a lot of performance-based incentives for small and mid scale wind because of the upfront costs problem.

Then there obviously are RPS programs in 29 states and the use of RPS set asides for smaller distributed generation projects. Again, there's an issue there in that so far not many states, in fact, no states have developed actual set asides for smaller scale wind to my knowledge.

But there is growing interest in seeding tests. And then there are a significant number of state tax credits that are offered by at least 13 states that cover wind like the Oregon business energy tax that was mentioned by Stephanie. Again, however, the future is somewhat uncertain for these tax credits because states again are trying to reduce hits on their tax foundation.

And then finally but very important are smart, interconnection standards and net metering. Now let me turn to some of these tools in a little more depth.

A number of states in their clean energy funds provide rebates and grants for these scale of projects. The states have targeted these smaller scale applications to overcome the high capital cost barriers and to hope to produce scale and cost reduction.

Now while the project support by states has been significant for small scale and community wind, the actual number of projects supported through these funds has been less than 25% of the total number of the scale projects, projects going in nationally. And this is in sharp contrast to the support of solar PV projects by state plan energy programs in which about 75% of the PV installations in the country are supported by state clean energy incentives.

So there's a much greater focus on solar PV by the states and that's to me a bit unfortunate. There needs to be more equity towards other technologies. But obviously PV is very, very popular and visible throughout the country.

Now I listed several of the states who have direct rebates and grants. There are more but these are the major programs that are still around and very vibrant. I wanted to give one example of a program that I think is very effective and that comes out of the state of Massachusetts.

This is not to say that the other programs aren't effective. It's just that Massachusetts took a long, hard look at some of its earlier, small scale wind support and found they weren't getting projects in the ground. And that there were some reliability and performance issues.

So they went back to the drawing board in 2010. And they created what they call the well this is the Massachusetts Clean Energy Center and they created a wind incentive program that has three segments, one for micro wind, under 100 kilowatts; one for community wind, behind-the-meter; and over 100 kilowatts; then one for commercial wind, projects that are larger than two megawatts.

I wanted to just quickly focus on the community scale wind program in Mass because I think it's pretty interesting. They actually provide three types of support. They report grants for site assessment only at public sites. So they really focus their dollars on those sites that are going to provide a public benefit in a very direct way.

Then they provide feasibility studies both for private and public entities, \$55, 000 is a project cap with no match required. And there's a little more money provided to public entities for feasibility studies. Then finally you can apply for a design and construction support grant of \$380,000 as a project cap for non-public facilities and then almost \$600,000 for a public project.

The program is really designed to ensure that the most feasible and best projects move forward. So for example, their community scale construction grants are staged so that payouts are made throughout the development phase, as certain milestones are achieved.

And then for the larger, commercial projects, they actually provide non-recourse loans instead of grants. Another tool that you're all familiar with is the RPS. There are 29 states with renewable portfolio standards which is a tremendous amount of participation on this kind of a tool.

And it's really one of the major drivers of renewable energy in the country. Unfortunately the typical RPS benefits only large-scale wind. It's less effective for

smaller scale, higher cost technologies. I think something like 74% or more of the projects that can be attributed to RPS laws are from larger scale, utility scale wind.

So to overcome this RPS least cost bias, states are increasingly using set asides requiring a specific percentage of an RPS obligation to be met with DG resources and then the reg system can provide financial support instead of rebates.

And the reg system, if it's designed right, relies on the market to determine direct value. Now as I mentioned, there is no state that's adopted a set aside for locally owned or community wind. Minnesota has a nonbinding goal.

But it strikes me that states with a strong interest in this particular scale of wind development really should think about establishing a community wind set aside in their RPS through legislation or regulatory action. And I expect that to happen more in the future.

And a newly emerging tool is the feeding tariff which requires utilities to purchase electricity from system owners at a long term fixed rate approved by regulator commissions. That tool, the fit, provides revenue certainty for these projects and help to drive investor confidence and lower financing costs.

Fits are the dominant policy tool in Europe of course. But and they have generated considerable discussion in the US in recent years. But frankly, there's been limited implementation at the state level. It's only California and Vermont, the Sacramento Municipal Utility district that really use comprehensive Fit programs.

You know, fees and rebates can substitute rebates for performance-based incentives, support distributed or community wind. However there are restraints posed by the Federal Power Act and PURPA which PURPA has exclusively authority over setting wholesale electric rates.

So a state has to be careful in providing a premium above a utilities avoided cost. The bottom line is there are ways to design Fits to avoid Federal Power Act issues and (unintelligible) has provided guidance on that recently.

I guess the important thing to realize is that Fit payments, Fit tariffs have to be set very carefully. And it can be quite complicated and its based on typically costs, based on that type of technology broken out by project size and required rate of return for investors.

It's important to set up a fit level that's high enough to attract a significant amount of renewable energy capacity but not provided an excessive economic windfall to projects. So it's a difficult balancing act but certainly a very effective financing tool.

I just want to give an example of one Fit where the results are in. Vermont, where I actually live, created a first in the nation comprehensive pilot fit about four years ago. The capacity, when it was only 50 megawatts and the projects had to be less than 2.2 megawatts.

But they set a small system, a small wooden system rate of 11 cents per kilowatt hour for the slightly larger projects. And out of the 15 megawatts, 13 megawatts came from small wind. So there was a demonstration of interest in this small state by developers of this small size project which tend to fit in pretty well especially in the Northeast, these sized projects.

Finally there's net metering and you're all probably very familiar with the importance of net metering. I'm not going to say much here other than that net metering policies really need to be progressive. So we've got 42 states with some

form of net metering. But many of them have significant limits in terms of aggregate, caps and project size caps.

Now there are model state policies directed by IREC suggest that utilities credit system owners at the applicable retail rate and then carry those credits forward into future billing periods. And that's a very nice recipe for actually having an effect net metering program.

I guess I just want to mention that there's a real new trend that's quite interesting and that's community net metering which makes a lot of sense for these mid scale projects. And it basically allows a municipality or a community of interest with multiple meters to consolidate those meters in determining excess generation from onsite, distributed renewable generation.

So for example, a community might install a one megawatt turbine on town-owned land. And that could serve offset the load of all the town facilities at that one site. I'll wrap it up with that.

I just wanted to close with the observation that with the federal stimulus dollars now gone and with states under tremendous economic development pressures, it's very important for stakeholders in this industry to reach out to important players in the state to ensure that we continue at the state level to provide effective policy support and program support for these renewable energy technologies because it doesn't seem to be happening at Congress.

And states continue to be incredibly important at driving these markets. And with that, I appreciate the time Charles.

Charles Newcomb: Mark, thank you very much for that and we appreciate your contribution of course.

So we're pretty late in the hour. We have about two minutes and we have a few questions here.

I want to encourage folks to remember that there is a Q&A button at the top of your viewing window where you can post questions. And I'm going to fly through a couple of them so that we can get to a couple of others.

One is a question about vertical access machines and the affair being planned and any community wind projects that maybe lack some transmission. And I think the answer, the quick answer on that is that there's no vertical access machines in the market of a size or transmission would be a concern. We haven't seen those kinds of overlaps.

There was a question about acronyms about renewable portfolio standards, distributed generation and I think we covered distributed generation. Stephanie mentioned that it's effectively a behind-the-meter project where it's wind turbine installed directly to meet an onsite load.

There's a question, is there any traction for feeding tariffs at the federal level? Mark do you mind just talking about that for a moment about what might be required in order to pull that off?

Mark Sinclair: An act to Hercules. I just don't think that's likely to happen despite the fact that there are studies that show that it can reduce financing costs in relationship to renewable portfolio standards. I think there's a better chance that we'll see a national clean energy standard of some sort maybe not this session but down the line.

But I think where you'll see action with feeding tariffs is at the state and municipal level. I think it will continue to blossom at that level.

Charles Newcomb: There were some great presentations in the past about how much cheaper the Fit was in Germany as opposed to a renewable portfolio standard because it provided such a more stable framework for financing. That's very true.

Mark Sinclair: Exactly.

Charles Newcomb: Can you elaborate, let's see, Tom, do you mind elaborating on the current install capacity for community wind projects in the US? Are you familiar with that?

Tom Wind: It seems like AWEA publishes that now. And their numbers differ from my definition. So I would go to the AWEA website and search there.

Charles Newcomb: It's pretty small, it's a couple percent though right?

Tom Wind: Yes it would be like 2%, 1% or 2%.

Charles Newcomb: Right. There's another question about vertical access machines and if there's a future for UL approval. And we do know that UL has gotten re-interested in the conversation about certifying small turbines.

At this point the Small Wind Certification Council is doing that. And again, we haven't seen any real I mean I should say real. There are clearly companies out there that are selling vertical access machines.

But nothing that's in a substantial size yet. And I think we'll want to see some real track records on the vertical machines before people get moving on the larger ones I might say.

Here's another question, what are the activities or efforts about the intra or interstate cooperation on the community wind side of the house? Tom, have you see that where you states working across state lines to create a larger market perhaps?

Tom Wind: I have not seen that. You know, like Minnesota and Iowa, are home most of the community wind generation and there's no cooperation between the states to encourage that. So I have not seen anything.

Charles Newcomb: Okay. Stephanie, here's a question for you. If a community, without pointing at NexGen, if a community were interested in a distributed project supporting their community loads, where would they first go to find a competent development partner do you think?

Stephanie Savage: That's a good question. I mean there's certainly a variety of them out there. You know, one good resource not that many of them can probably recommend someone but contacting your state energy office, usually they at least know some of the players in the market. That would be one good resource to go to.

You know, there's also, you know, quite a number of different renewable energy events that usually happen in states some of those sponsored by COE and Wind Powering America. Going to some of those fairs and talking to folks is a good place.

Also talking to other folks in the community that have built wind turbines or wind projects, you know, they're probably going to give you the best feedback on what developers or what supplier, or what installers are going to be the best to work with in your area. That's the way that word of mouth definitely makes a lot of projects happen or not happen. So those are few ideas.

Charles Newcomb: Very good. Tom another -- thank you very much Stephanie, it was a fantastic response -- Tom, here's another question for you. Has there been any recent progress on transmission line upgrades to support wind and other renewables?

Can you just comment on transmission upgrades that are happening in your world?

Tom Wind: Oh yes, there is. There's work done, you know, now. I see transmission upgraded all the time, larger wires or poles, incrementally increasing the capacity to transmission systems. The real work with the higher voltage, the \$100 million type project is just around the corner. It's probably two, three, four years out.

They're getting to close to start permitting stage. And those projects would take a lot of players, a lot of stakeholders involved. Oftentimes they'll cross state lines. It just takes longer to plan those things.

So those are probably three years out before they'll happen. But there's a lot of work incrementally done on the grid in the Midwest I know for instance increasing the amount of wind power. So it's happening today.

Charles Newcomb: Oh that's exciting thank you. Mark, you mentioned briefly net metering by communities. And you can expand a little on what the benefits for that sort of a program might be?

Mark Sinclair: Yes, typically net metering only allows you to be compensated for the energy you're generating with your system onsite with the utility. What community net metering does and there's several versions of it so I don't have time to get into all the different versions.

But essentially what it does is it allows a municipality or a community of interest, let's say a neighborhood or a farm for example, with multiple electric meters. You can consolidate those meters in determining the excess generation that your distributed system is providing.

So you can basically cite a larger distributed generation facility on another piece of property. And then it can offset the load from multiple, individuals who are associated with that site. And the example really for a town would be as I mentioned that a community would install a one megawatt wind turbine on town-owned land.

Some place that was convenient and avoided some of the issues that come up in citing wind projects. And even though no town facility was located at the site, the wind turbine's generation could be used to offset the load from the police station, the fire station, the municipal offices and the library.

And the same thing can happen with neighborhoods in some states. And this is a new, emerging use of net metering to make it much more expansive and to allow for scale.

Charles Newcomb: Very good, thank you very much. There was one question and bears bringing up, these presentations, once we get our signatures from our three presenters, these presentations will be available on the Wind Powering America website for later downloading.

If you're not able to download it, you know, I'm not logged in as a participant but as a presenter. So I don't know if my console is different. But my console on the bottom right corner has a few icons, one that maximizes my window, one that prints it to a PDF.

And one that creates a little window of the presenters' slides, little thumbnails. So might also surreptitiously try that. Another question and I think we're going to have this be our last question because we're seven minutes over.

But what do the economics of wind projects look like without subsidies? Is it really economic? And Tom, do you mind briefly describing because I think you can some of the other subsidies for other sources of power that we describe often and now the subsidies for wind projects are simply leveling the playing field.

Tom Wind: Yes, that's true. For example, in our neck of the woods, the Midwest here, wind power with existing subsidies is cost effective with other generations. Otherwise you wouldn't see such a growth in it.

But it meets the market some years right now. It's not that other years are dust. So the question is can you get rid of the other subsidies of the oil industry and what the coal use is for depletion allowances and what's the value of that.

Or can you add on to the price of air emissions. And the wind industry has come out and said you bet. We'll forgo our subsidies if the other fossil fuel industries will forego theirs. That's the new policy that they're starting to agree to.

And then the other factor is that's just the subsidies for doing business. And then you have to add what's the penalty of carbon dioxide and everything else. So if you add that true cost on it well then yes renewable certainly in the Midwest here are very competitive.

Charles Newcomb: Thank you Tom and thanks to all the speakers. Actually before I let you go speakers, if you could say what the most important thing you'd say in 15 seconds to just close it out that would be appreciated. Starting with you Stephanie, what's

the most important thing that you think people ought to know and then we'll go with Tom and then Mark.

Stephanie Savage: Wow 15 seconds.

Charles Newcomb: Pretty quick.

Stephanie Savage: You know, I think if you're a state person who's in charge of these policies, I think making sure the incentives are there to really support these developers and make the projects, you know, economic in your state is really important.

Yes, definitely vet your developer if you're looking for a partner. Talk to folks that have worked with them before.

Charles Newcomb: Very good, thank you Stephanie. Tom?

Tom Wind: Yes, we have found that state policies are absolutely necessary for community wind both in Minnesota and Iowa where we have the largest amount. And it's nice to have smart people in government some place that can referee things. That can, you know, work behind the scenes to make sure things get done right.

Charles Newcomb: We'll send the bottle of Scotch over after that conference. Mark?

Mark Sinclair: Look the others -- both Stephanie and Tom -- have mentioned I think the most important thing and that's state policy being durable and strong. But I want, since it's already been said, I think tapping the opportunity to work with the rural cooperative utilities is a huge untapped resource.

And covers a huge geographic area where the wind power is tremendous there is transmission issues. But I think somehow engaging more effectively with the public cooperatives could move the ball forward.

Charles Newcomb: Very good Mark. And I think you hit on a good point. In Colorado, our own example here was that we passed a pretty well what then was an aggressive, effective renewable portfolio standard. It took four years for our PV industry to respond.

And really at the distributed side, wind has never really responded because it just doesn't overlap. But it takes a long time for a market to respond to an incentive because people have to understand it. Businesses have to grow up around it. They have to become adept at acting on that incentive. So longevity of incentives is of a paramount importance for sure.

Now I wanted to again extend a thanks to our speakers and to our many attendees who have stayed on. We're still at two-thirds of our original attendees and we're overtime.

So thank you again very much. Upcoming Wind Powering America webinars, the next one is on July 20. These come every month on the third Wednesday I should say this time. And it's on the myths and benefits of wind energy. So that question about what do the economics of wind really look like. That's a great question for that forum for sure.

And then coming on later in August is going to be (Suzanne Tagen) is going to be moderating this one on jobs and economic development impacts. So it goes back to what's in it for me. And I think from a state perspective, that's a key, key element is understanding first what the economic development impacts are for your state so you can justify the incentives.

If it's just paying people to put stuff up and there's no benefit, what's the point of that. In fact, we've been able to show pretty definitively that wind energy in comparison with other conventional generation sources, dollar for dollar from the incentive side provides a much higher value.

So that's going to be a fun one in August. So again thanks everyone for your participation and we will look forward to being on the phone and online with you again in a month. Thank you.

Coordinator: That concludes today's call. Thank you for participating. You may disconnect at this time.

END