

**U.S. Environmental Protection Agency  
State Climate and Energy Technical Forum**

**An Overview of State Public Utility Commissions (PUCs)  
for State Environment and Energy Officials**

**May 20, 2010**

**Transcript  
1:45 p.m. EDT**

Operator: Good afternoon. My name is (Courtney) and I'll be your conference operator today. At this time I would like to welcome everyone to the EPA State Climate and Energy Technical Form conference call. All lines have been placed on mute to prevent any background noise.

After the speaker's remarks there will be a question and answer session. If you would like to ask a question during this time simply press star then the number one on your telephone keypad. If you would like to withdraw your question press the pound key.

Thank you. Ms. Julia Miller, you may begin your conference.

Julia Miller: OK great. Thanks a lot. This is Julia Miller from the EPA State Climate and Energy Program, and I'd like to welcome you all to the Tech Forum this month entitled "*State Public Utility Commissions (PUCs), An Overview for Energy and Environment Officials.*"

I want to thank all of our speakers. We've got Miles Keogh from NARUC, Ann Berwick from Massachusetts, and then we've got three folks from Minnesota: Vincent Chavez, Bill Sierks, and Frank Kohlasch. First, Miles is going to give an overview of the topic and then we're going to hear the other speakers as they give a little bit of information on what their states have been doing, working together between the air offices, energy offices and PUCs. So thank you for taking the time to be with us today and for putting together your presentations – we're really looking forward to it.

This Webinar is part of EPA's State Climate and Energy Program. The program provides information, tools and resources for state governments on

how clean energy (which we define as energy efficiency, renewable energy and Combined Heat and Power) can help reduce greenhouse gases and criteria pollutants. Through the program, we send out a weekly list-serve on policy developments, both on the state and federal levels, with regards to clean energy and climate change. And we have several online resources. If you're interested in the program or you'd like to sign up you can e-mail me at [miller.julia@epa.gov](mailto:miller.julia@epa.gov).

We have materials online for today's call. You can see the web link at the bottom of the agenda on your screen. On that site, there are all the presentations from the Webinar today. And there is also a background document which is a really useful resource. It's about six pages long, and it looks at the responsibilities of state public utility commissions, goes into a little detail on their decision-making processes, and how their decisions affect energy efficiency, renewable energy, and air quality. So you can go online, afterwards, if you like, and download those if you haven't already.

Next month's Webinar is going to cover resources to help state governments communicate with the public on climate change. We haven't set a date for that yet, but we'll send a save the date out soon – hopefully in the next week.

As operator noted, everyone is muted right now, so we won't have background noise. But when we get to the Q&A we'll go over again, for the folks who just joined us, how you can ask questions either on the phone or through the webinar software. So with that, I am going to hand it over to Catherine Morris from the Keystone Center, and she can get us started.

Catherine Morris: Thanks, Julia. I think you covered just about all the important points. I'll just get everyone familiar with how to type in a question online, because you may want to start doing that while you're listening to Miles or other speakers. You have a control bar for your Webinar that's off to the right, which you can minimize and get out of the way. But when you open it up there is an option for questions. All you need to do is click on the question box and type the question in and it gets sent to the hosts. We can also verbally raise the

question on your behalf if you don't want to speak up. But we will give you some directions again if you want to just voice your own question.

And with that, I'm going to go ahead and get us started and introduce our first speaker, Miles Keogh. Miles is the Director of NARUC's Grants and Research Department. NARUC is the National Association of Regulatory Utility Commissioners. He has a responsibility not only for grants, but he has done a lot of writing on topics that are of interest to Commissioners to give them the information they need in their decision-making. Everything from decoupling to infrastructure protection, disaster response, energy efficiency policies, and carbon capture and storage.

He also provides training and facilitation services to the commissioners. Before that he worked for the Massachusetts Commission in the siting office. So he is perfect for giving you an overview of how PUCs work, and he promises to be both informative and entertaining. So Miles, we'll let you take it over.

Miles Keogh: Thanks, Catherine. I think the word you're looking for is infotaining. I always strive for that. Let me just ask before I start – can everyone see my cover slide?

Female: Yes.

(Miles Keogh): All right. Good. In the next 12 minutes or so I am going to try and run through every thing that every state public utility commission does in every state of the country. Catherine mentioned I run the grants and research shop here. Right now we have about 17 different projects. As it turns out, clean energy and demand side resources turn up in about half our projects.

And just the usual disclaimer: if I say anything that makes you angry or that you think is a bald-faced lie about the activities and commissions, that's entirely my fault. If I say anything that you think is brilliant I almost certainly got it from Commissioner Jeanne Fox in New Jersey or Dian Grueneich in California or somebody else who is great.

Because of the diversity of commissions, I am going to say a lot that's somewhat vague, but should apply pretty fairly to all commissions, although there's a lot of variety among commissions.

So what is a public utility commission? A public utility commission is a quasi-judicial panel that sets the rates, terms and conditions for the provision of essential services in regulated utility sectors.

NARUC didn't used to stand for National Association of Regulatory Utility Commissioners. It used to stand for Railroad and Utility Commissioners. So 110 years ago commissioners were more focused on trains and granaries than they were on electric power and broadband access and things like that.

Commissions vary in their structure across the country. How many Commissioners there are, what their partisan representation is, what their field of expertise is, whether they were appointed or elected, et cetera. But across all of them, the fundamental emphasis is on creating an open, transparent and accountable system by which everybody's views get heard.

The only electric companies that PUCs have jurisdiction over are the investor-owned utilities. And depending on whether it's a restructured or vertically integrated state, it may mean that a utility has power plants, transmission lines, distribution service and retail service. Or it may just be distribution and retail. Or it may just be transmission and distribution. The rules vary in different places.

But overall, the investor-owned utilities that are jurisdictional to state PUCs represent about three-quarters of the customer's revenues and sales. So a lot of them.

Folks ask me all the time, especially folks from other countries, what's the difference between what the states have jurisdiction over and what the feds have jurisdiction over. The federal counterpart that's often held up is the Federal Energy Regulatory Commission, at least on the electricity and gas side.

In electricity, federal jurisdiction is over sale for resale transactions. State jurisdiction is over retail transaction, facility siting and distribution issues. This slide gives you a more easy to follow explanation of what the difference between federal and state jurisdiction is.

This is something that's evolving over time. For example, in the late 90s, we all got market fever and several of the states decided to move forward with electricity restructuring. Sometimes that was accompanied with unbundling of the electric utility which required the electric utilities to sell off their power plants, and consequently in some states the generation side of the portfolio is overseen by a different group of regulators than the state regulators.

I think this map is current as of April 2010. The states in green are the ones where restructuring is going ahead full steam. The states in yellow are the ones where they put the brakes on restructuring, and the states in white are the folks who decided they wanted no truck with deregulation and restructuring.

In addition, you'll be able to see that state jurisdiction over utilities follows state boundaries. The market boundary lines are in some areas confined to utility footprints, even sometimes within states. And in a lot of areas the market footprint isn't confined to a state line. It's operated as part of a regional transmission organization. NERC has some jurisdiction, but they're all advised, and in some respects have some sort of role played, by state commissions that get together in regional state committees. So this is the shape of the markets. And it's not the same shape as the shape of regulatory jurisdiction.

So a commission does a few different things. It ensures reliable, affordable, and clean electricity. And it does that through a few different specific activities.

First they plan the systems. This includes siting infrastructure and going through evaluation of alternatives. They also deal with cost allocation and cost recovery, which is often done in the context of a rate case. And last on the slide, I call it "other stuff." But there is a whole passel of other activities

that commissions either lead in some states, play a role in other states, or are important advisors to it in some states. So we'll go through each of those.

Ensuring that there is reliable service has a lot of components to it. One of the most important is ensuring that there is adequate resource availability for the amount of electricity you are going to need. The U.S. Energy Information Administration (EIA) has predicted that we'll see about a 30 percent increase in the requirement for electricity services between now and 2030. There may be some impacts from the recession, but I think over the long-term we'll see a 30 percent increase in electricity services requirement, which is not necessarily the same thing as 30 percent more electrons, but 30 percent more stuff you're trying to do with power. I think that's probably a pretty fair prediction. And commissions play a large role in ensuring that decisions that we make today and tomorrow put us in a place where, in 30 years, we have an adequate amount of demand side delivery and supply side resources.

We also have standards settings as a piece of reliability. Technical standards for reliability are set by the North American Electrical Reliability Corporation (NERC). A lot of commissions, most commissions, ensure that utilities are meeting and complying with NERC standards.

Also in terms of standards, safety and security is a big piece of regulatory oversight. And commissions do this is by requiring their utilities to submit plans with regular updates. And if the utilities plans are in compliance with the various requirements in that state then it's good. And if they're not in compliance then they get dinged. And in some states there are even incentives for high achievement in terms of reliability.

So we've covered reliability. The next thing that commissions care about is affordability. This is a map of how much power cost in the United States, circa 2000 to early 2009. These are the retail rates for electricity.

Setting rates is a big piece of what commissions do through rate cases where utilities come in and they unpack everything that they predict will be their cost of service. They unpack everything that they think will serve as load in terms of demographic growth and the other things. And they build a model that

basically suggests how much load we'll have and how many customers. It will cost us this much to meet that plus a little bit of profit so that we stay in business and keep having investors. And that's our revenue requirement. You divide that by the number of customers, and that's your rate. And that's it – in 10 seconds I have demystified rates for you.

One of the key things that complicates that algorithm, that makes it more mystifying, is that your revenue requirement is a rapidly moving target. Slide 13 shows the difference in the estimated cost of new supply between 2003-2004, and 2008. And actually the numbers that I'm starting to see come back make 2010 look a little farther over to the right for just about everything than what you are seeing for estimated prices for all those resources.

So we've covered reliability and affordability, and the next four things that commissions do are planning, siting, cost recovery, and what I call "other stuff." So the first of these is planning. Commissions have several tools that they use to work with their utilities, other states, federal counterparts, power marketing agencies, and all kinds of other folks to plan the system.

Integrated resource planning is one tool that some states use to enable commissions to work with their utilities, transmission operators, and other stakeholders, so that over the long term we're making decisions that ensure resource adequacy, affordability, reliability, and clean electricity services. This is a map of the states that use integrated resource planning.

There are other kinds of tools, like portfolio management and capacity auctions that commissions are involved in.

The electricity system in the United States really is three big machines. One in the east, one in the west, and one in most of Texas. And to date, there hasn't been really unified transmission planning in any of those regions except in ERCOT in Texas.

The west has done some ad hoc transmission planning that's coordinated among states. But the east has not, outside of the RTO jurisdictions, really looked at inner-connection wide planning. And as of this year they are at least

in the east and in the west starting up, and in Texas continuing, initiatives to accomplish inner-connection wide planning.

And I can talk for three or four years at a time about the stuff going on in the east and the west. So if you have questions about that maybe we can address that later on. But this is certainly something that's a new area of transmission planning on an inner-connection wide basis.

On slide 15, there's also a little map in the lower-right corner that demonstrates something called siting – a national interest electric transmission corridor that deals with siting. All commissions have some role in siting even if it's indirect. In terms of generation, commissions have a responsibility to oversee siting proceedings where alternatives are evaluated and where environmental and cost impacts, and other kinds of reviews are performed.

In terms of transmission, states have siting authority over all transmission within a state, and over interstate transmission within the portion that's within their states, except for under certain conditions where there has been some changes since 2005 that give some (backs) about siting authority that doesn't fall to the states.

We also site inside-the-city-gates gas infrastructure. So not interstate gas infrastructure, that's mostly sited by FERC. But once it gets to a local distribution company station, everything behind that out to the customer, those pieces of infrastructure are sited as part of commission proceedings for the most part. And then a number of demand side programs are also managed by the states. And that's not exactly a siting proceeding, but it has a strong impact on facilities that are sited.

There's also a strong local role in some states. For example, in Washington State, a lot of the siting authority is ceded to local jurisdiction. Siting proceedings are quasi-judicial proceedings. There are site visits, and then people bring evidence from all sides. There are some intervenings by stakeholders who also provide evidence and also receive evidence. There are evidentiary hearings. And then at the end of it we throw a big party where the



siting board or the commission or the siting authority in that state makes a decision and releases a decision on the siting of that facility.

And then again, there is new coordination among states. And new backstops to interstate authority that has been handed to FERC within certain well-defined areas and under certain conditions that was done in the Energy Policy Act of 2005.

And then on slide 17 there is a map of transmission siting authority by state. And as you can see, FERC has some sort of piece of it somewhere. You'll notice Massachusetts is yellow. It's a multi-agency siting board. That's what I used to work for is the multi-agency siting board up in Massachusetts. So don't get me started on siting.

Cost recovery. Probably the 800-pound gorilla of what regulatory commissions do is set the rates. The regulatory compact that exists, the agreement between utilities and the public, is that utilities will provide this essential service, and that it makes sense for this to be a monopoly provision of the service so we don't have 15 different companies all running electricity lines into my house.

And so in order to ensure that this essential service as a monopoly is fair and non-exploitative and also fair to the shareholders and to the providers of the electricity, rates are set in a very open transparent process. One of the things that setting rates does is it creates what Warren Buffett once described as electricity being a good business to be in, but not a great business to be in.

So a rate case is often a little bit of a hard fought argument between consumers and consumer advocates and others on one side who don't want to see the utilities make too much money. And the utilities who want to be lucrative to their shareholders and their credit ratings and who want to be in a great business.

Ultimately cost recovery and rate setting is a balance between providing the utilities with lots of certainty so that they can get mortgages at great low rates and give their bankers lots of certainty that they'll still be in business. And

also creating a risk base incentive for them to innovate and try different things and really hustle to give good customer service. Really hustle to get a lot of juice out of the fruit they're squeezing there.

And then the last thing that is sort of addressing the rate setting process is, there is a large wave of energy efficiency moving back over towards states that's being seen as a bigger and bigger resource. And it's changing the context of rate setting. I won't get into what decoupling is, but decoupling is a word that gets thrown around a lot. And it's a subtle but extremely important change in the mechanism for revenue collection after you set rates. And it's something that we're seeing a lot more states trying to figure out how to do with one utility or a few utilities, or no utilities or lots of utilities.

The last thing that commissions do is what I call “other stuff.” Commissions have oversight over natural gas service by local distribution companies. And in a lot of states they manage, and in other states they have an important role in tracking, and in other states they simply advise their renewable portfolio standards. They manage or advise or track or play some role in a lot of utility funded efficiency programs. They're involved in a number of climate and environmental related programs, the Regional Greenhouse Gas Initiative in the Northeast. They do loading orders in California and some other states.

They oversee the utilities contributions to public benefit funds. They also do things like emergency preparedness and critical infrastructure protection. Worrying about inter-dependencies between different sectors of the economy like between electricity and telecommunications, transportation and gas, et cetera.

And finally, coordinating with other agencies is sort of bread and butter to most commissions. That's a map of RPS from the DSIRE database. A fancy map of system benefit funds and of climate policy by state. And those maps were meant to just illustrate some of the other stuff that we do.

I'll wrap up with a really quick preview of some of the things that are changing commissions. Again, what commissions care about is reliable service, affordable service and clean service. Affordable doesn't matter if the

lights don't turn on reliably. And affordable doesn't matter if we end up frying the planet through a change in the climate. And clean doesn't matter if nobody can turn on reliable supply, or nobody can afford to buy power.

So these are sort of three areas that are in conflict but also – or not conflict. They're in tension with one another as the chief priorities for commission decision making. And they're constantly changing. It's a very dynamic set of tensions.

Climate is sort of the new game changing question mark in this. And it is seen as a bit of a game changer. A lot of the things that you would do in order to de-carbonize your electric supply, cost a lot of money. The one thing that costs a lot of money for up front that tends to pay you back is energy efficiency.

Commissions have not really been built and geared entirely around ensuring reliable, affordable, cost recovery, et cetera to deal with demand side resources. They're disaggregated in terms of the decision makers who implement them and it's just trickier. So it is – the new emphasis on energy efficiency is a game changer for commissions in terms of thinking about how they do planning, siting, and cost recovery as well as all the other stuff that they take on.

And with that I will close up and pass the mic over back to Catherine.

Catherine Morris: Thanks, Miles. You covered a lot of territory. I again want to encourage you, if you have questions for Miles to please type them in and send them my way or I'll ask our operator just to remind you how to unmute your line and ask him directly.

Operator: At this time I would like to remind everyone, in order to ask a question simply press star then the number one on your telephone keypad. Again, that's star then the number one on your telephone keypad. We'll pause for just one moment to compile the Q&A roster.

Catherine Morris: And while we're waiting for questions to come in, Miles you seemed like in the very end of your presentation where you were talking about all the other stuff, that seemed to be the area where there was most overlap with the type of clean energy policies that other agencies are going to have their finger in as well. Would you agree? Or would you say that rate setting also has implications?

(Miles Keogh): If I was from an agency that was an air quality agency or a state energy office, I would be tempted to focus on the other stuff. And the other stuff is extremely important, and there is a lot of overlap. And the language the commissions speak in that arena is going to be a language that you guys already know all the vocabulary, and you'll be able to play ball with that game pretty quick.

That said, the other areas, planning, siting, and rate setting, I think are areas that are maybe target rich opportunities for participation by other state agencies. And other stakeholders that yield really important results, or can yield almost invisible, but extremely significant setbacks to some of the things that folks are interested in.

For example, in a transmission siting case, if you've spent a lot of time and effort on your RPS, and let's say you've got a giant solar carve-out in your RPS. So you're forking out a lot of money in-state in order to get your solar portfolio really strong in that state. And then in a transmission siting case transmission line is approved that leads out to coal resources that you know are then brought in by wire. That will undermine some of your efforts with your RPS by depressing the price of high carbon resources by bringing in cheap resources by wire. And making it harder for you to do what you want to do with a higher priced but otherwise policy preferred resource like solar.

So siting is an example, rate setting's another example. If you think that the utility is gaming their numbers to disadvantage something that you think has a higher policy preference, or if there are over or under ambitious targets set for demand side resources and the like. A lot of the places where those decisions get made is within a rate case.

And because it's called a rate case instead of an energy efficiency-approval decision-making process case, it's overlooked. And because the folks are talking about rate setting and using a different vocabulary, getting involved can be fairly intimidating. I think a lot of states have created institutional infrastructure that force collaboration.

We've got Ann Berwick talking in a second about Massachusetts, which is an excellent example of states coordinating their decision-making. Minnesota is another really good example of that. But in some states there are more opportunities to intervene and to take part in the rate setting, the siting, and the planning. And that's where a lot of big decisions get made that really affects your policy outcomes and what you're trying to do.

Julia Miller: I just want to remind folks that everything Miles just mentioned is detailed in the background document for today's call, and you can find that on the web site listed on the agenda.

Operator: You have a question from the line of Ellen Petrill.

Ellen Petrill: Hi, Miles.

Miles Keogh: Hi, Ellen.

Ellen Petrill: So good job. And you did cover a lot. And you mentioned decoupling. And without going into that, I see decoupling as an example of the kind of change that we're probably going to need, and how utilities get paid as we go forward. Because the whole business is changing.

So there is a lot of foot dragging, I think, in accepting those kinds of changes. What's your view of – will those kind of changes start happening? Will it be slow? Will it continue to be slow? And decoupling is an example of that. But what's your view of how we go forward?

Miles Keogh: You know I think one of the things that regulators do is they try to make really prudent decisions. A lot of folks come in with a lot of really great ideas that are going to save the world. And it's sort of the commission's job to kind of put the brakes on things a little bit. And you know I wouldn't characterize it

as foot dragging. I would probably characterize it as the exercising of wisdom and prudence in otherwise hotly considered issues.

That said, I think commissions broadly are probably the first to say that a lot of the innovations that come into play in terms of RPS, in terms of efficiency programs, smart grid, a lot of times they work because a commission has said to a utility, "Guys, that's not good enough. You have to come back with something that really knocks our socks off with X or Y or Z."

So a lot of states have done decoupling. A lot of states have tried decoupling and tried a lot of other mechanisms to address incentives and disincentives to efficiency, to incentivize RPS, to move on RGGI, to move on climate policy and the like.

And I am not sure it's fair to characterize all of the changes as being resisted by commissions. In fact, I think in a lot of cases they are instigated by commissions. But I think the reason why they are instigated by some commissions, and the reason why where they are not instigated by commissions where we're starting to see a lot of commissions do less "foot dragging," is because commissioners are in the business of ensuring affordable, reliable and clean.

And the world's changing, and they're looking down the barrel of a changing world and trying to grapple with how to stay ahead of that. I don't think everyone is going to be happy with the pace at which regulatory policy changes. I think there are going to be places where commissions get caught not being ready for game changing things that come at them.

I think it's almost impossible to predict all the changes that are coming. But I think commissions are aware that they are changing. And they are just trying not to make multi-billion dollar wrong decisions. They're trying to make multi-billion dollar right decisions. I don't know if that answers your question or not, Ellen.

Ellen Petrill: It touches a lot of parts of it. Yes.

Miles Keogh: Sorry.

Ellen Petrill: Yes I agree. There's a lot of movement in lots of areas like RPS and so forth. So yes, I guess they are dealing with it in lots of different ways, so.

Miles Keogh: But I have to say you know where the foot-dragging thing has come up before, I know I am throwing a little tantrum here. But decoupling, RPS, and all these other things, those were all effectively demanded by commissions.

Ellen Petrill: Yes.

Miles Keogh: So.

Ellen Petrill: Good point. Yes.

Miles Keogh: So let's not say that the commissions are the ones who are poo-pooing and chasing these things away. In fact, in some cases, in many cases, they're the guys who made it start.

Ellen Petrill: OK. Well said.

Catherine Morris: I am going to jump in here. And I know we may have some more questions, I certainly have several online that are asking more specific information about particular policies of PUCs across the country. And I want to hold those until we get through our other two speakers. We should have enough time at the end.

And let me go ahead and introduce Ann Berwick, our second speaker. Ann is the Under Secretary for Energy, and this is within the Massachusetts Executive Office of Energy and Environmental Affairs. She is going to talk to us a little bit today about one of the topics we thought was important, which is how structure of these different agencies can help actually facilitate some of this collaboration between energy, PUC, and environmental agencies.

In her job, she is – she was a key participant in the development of the Massachusetts Green Communities Act. We actually have talked about that on past Tech Forums. And she works very closely with both the Department

of Energy Resources, and the Department of Public Utilities. And she is also the acting chair of the State Energy Facilities Siting Board.

So she knows pretty much what's going on in all these areas. She's been a consultant before joining the state, and she's also been the Chief of the Environmental Protection Division in the Massachusetts Attorney General's Office. Ann, we'll get your slides up and let you take it away from here.

(Ann Berwick): Ok great. Thanks so much. You can just move to the next slide. So since I was enlisted to participate in this webinar, I have actually had a job change. Starting as of June 7<sup>th</sup>, I am going to be the Chairperson of the Massachusetts Department of Public Utilities.

So that makes my participation in this webinar slightly more appropriate even than it was when I was first asked to participate. But let me deal with the structural issues that I have been tasked to address.

When the Patrick Administration took over in January 2007, legislation was passed creating the Executive Office of Energy and Environmental Affairs. So for the first time, the energy agencies and the environmental agencies were brought together under one roof. And those agencies on the energy side include the Department of Energy Resources (DOER) which is the energy office. The Department of Public Utilities, which is where I am about to head to chair the DPU. And then the Energy Facilities Siting Board, the EFSB which is within the DPU. And as was just mentioned, I've been chairing that for the last three years. So these energy agencies were moved from consumer affairs into what had been just the environmental secretariat, but now is the energy and environmental secretariat. So all of the traditional environmental agencies such as the Department of Environmental Protection, the Department of Conservation and Recreation, et cetera, those are now all in one secretariat with the energy agencies, energy agencies being the DOER, the DPU, and the Siting Board.

At the same time, the DPU was reorganized from five to three members without any designated specialty. So the prior five-member board had designated specialties for each commissioner. For example, there was a



telecom commissioner, a gas commissioner. Now there are three members, and no one has any designated specialty.

And also telecom by the same legislation was taken out of the DPU. So unlike some public utility commissioners, we don't address telecom. We address electricity, gas, some large utilities, and also some transportation issues.

At the same time, the Energy Facility Siting Board was reorganized, now chaired by the Secretary of the Executive Office, and I have been serving as his designated chair of the Siting Board.

And so globally, the intention here was to bring the energy and environmental agencies into one home with the intention of stopping the silo-type thinking that is inevitable. Frankly, even with some consolidation, but it's a much greater problem when the energy and environmental agencies are not all under one roof.

We can move to the next slide. So that reorganization all happened in January or thereabouts, early 2007. And a year-and-a-half later, the legislature passed new extremely progressive energy legislation, along with five other bills. It was kind of a banner year for EOEEA in terms of energy legislation.

The other bills included but aren't limited to an Oceans Act, which requires Massachusetts essentially to look at various offshore areas in terms of which areas are appropriate for different kinds of developments. And also legislation called the Global Warming Solutions Act, which requires the state to get to 80 percent below current – possibly current levels of greenhouse gas emissions by 2050. And do an interim target for greenhouse gas reductions for 2020, between 10 and 25 percent. And we're in the process of setting that interim target. But I want to focus on one of those six pieces of legislation that were enacted in July of 2008, which are energy legislation, the Green Communities Act.

So that legislation does a number of things. It facilitates the development of renewables. It also – and I am going to come back to some of the details. It

mandates all cost-effective energy efficiency and preference to conventional generation and has a whole bunch of other pieces.

So the most important things to know about that legislation is what it does for renewables in terms of facilitating their development, what it does in terms of mandating energy efficiency, and then a bunch of other pieces. So now let me go back briefly.

On the renewables front, among the ways in which it facilitates the development of renewables is through more robust renewable portfolio standards. And that involves DOER in setting those standards. But they – they have to actually – or rather really more in implementing those standards than in setting them.

Because, if by virtue of this legislation the RPS obligation for retail suppliers goes up by one percent a year. There is also a requirement for a long-term contract for renewables. That is, utilities have to go out twice in a three-year period for up to three percent of their load. And enter into long-term contracts with certain specified types of renewables.

So more robust RPS, long-term contracts for renewables. Utility ownership of renewables, actually not all renewables, only just solar. So this is – Massachusetts is a restructured state. Utilities cannot own generation. But this this legislation allows them to own up to (15) megawatts of solar PV. It's not a mandate, but it's permission for the utilities to own solar generation.

And finally, the law has extremely innovative net metering provisions. And I could spend the whole time talking about these provisions, but I won't. But just briefly, up to two megawatts of wind and solar generation could be net metered, so you can run the meter backwards. If you have two megawatts of solar at your installation. At your commercial, residential, industrial or municipal or other governmental installation. And get paid a favorable rate, the retail rate.

And in fact public facilities, municipal and other governmental facilities can have wind or solar installations larger than two megawatts and still get paid the retail rate.

So that's briefly an overview of what the legislation does on renewables. It also mandates all cost effective energy efficiency and preference to conventional generation. So obviously what constitutes cost effective energy efficiency is a complex topic, and those guidelines are set by the DPU. But the bottom line here is that utilities have to spend money on energy efficiency that's cost effective before they buy supply resources of a conventional kind.

So about a tripling or quadrupling of expenditures on energy efficiency over the next three-year period. And then there are a number of other innovations including a green community program whereby the DOER puts a fair amount of money into grants and assistance to municipalities that satisfy certain criteria for becoming green communities. Smart meter or a pilot program, a very progressive building code which updates automatically when the International Energy Conservation Code is updated every three years.

So that is the story with respect to how we restructured in 2007 and then the progressive energy legislation that was enacted by the state in mid-2008. Now for the structural stuff that I was billed as talking about. And since I sort of have been living and breathing this for the last three years, it kind of feels second nature to me. But when I started putting it down on paper I realized how complicated it actually is.

So first, on communications between the executive office, EOEEA, shorthand EEA, and the Department of Public Utilities, and then I'll move to – the next slide, but let's stay on the current slide. Communications between EEA and the EFSB. So remember, these are agencies with DPU. And the EFSBs that are within the secretariat and that – but nonetheless, communications between the secretary and the – each of these agencies is closely regulated.

And I don't have anything here on communications between EEA and DOER because that's not complicated. DOER is not in an adjudicatory agency. And communications can be unlimited between EEA and DOER, the energy office.

OK. So now talking about communications between EEA and the DPU. The DPU has both adjudicatory and regulatory function.

So in an adjudication, the DPU is an absolutely independent agency. Even with respect to EEA. So the prototypical adjudicatory function is the rate making function. So when a company files a rate case that's an adjudicatory case, it takes place on a record, and the DPU is an independent decision-making body, and among other things this means that conversations between EEA and the DPU are prohibited ex-parte contacts.

So just like in a judicial proceeding, nobody can just go and talk to the judge and say "Judge, you've heard this evidence but you should ignore it because this witness isn't credible. Right?" That has to happen in a highly stylized way on a record. Same is true for adjudicatory proceedings before the DPU. Nobody talks to the DPU other than on the record. And so if EEA wants to say something to the DPU it has to put it in as evidence, whether that is an oral testimony or written materials, depending on a proceeding.

But there is none of the Secretary or me as Undersecretary calling up the DPU chair, which is about to be me, or the current DPU chair and saying, "Hey, we know you've heard the evidence but we think you should also think about X." There is none of that.

OK. And when EEA wants to actually weigh in an adjudicatory proceeding, for example take a position in a rate case, it does so on the record through DOER. So DOER will put a witness on, for example in the rate case, or through its lawyers cross-examined witnesses that are being put on in the rate case. With respect to regulations, that's a somewhat different matter.

EEA has to sign off on the DPU regulations. So EEA can speak directly to the DPU without violating ex-parte rules. There aren't ex-parte rules in the regulatory as opposed to adjudicatory context. However, it's often the case that if EEA wants to weigh in on regulations, even though it can do that simply by saying to the DPU, "Hey we're not signing these regulations unless they include X, Y or Z." It actually speaks in writing through the DOER on the record to get its views on the record.

So that covers communications between EEA and the DPU. And to summarize, the story is (their adjudicatory proceedings independent agency) no ex-parte communications. And EEA qualifies as a ex-parte communicator, and can't do it.

OK. Now going to the issue of communications between EEA and EFSB. This is a funny one. And we have been struggling with what is permitted and what is not permitted. The EFSB also has an adjudicatory function. So when somebody files a siting, a petition to site whatever, a generating facility or a transmission line, that is an adjudicatory function.

So staff of the EFSB will hold hearings on the record. And then make a recommendation to the EFSB itself, to the board itself. However, EEA and DOER are both represented on the board. I am a member of the board. I chair the board on behalf of the Secretary. The DOER Commissioner is a member – is represented on the board, two DPU Commissioners are on the board.

The DEP Commissioner is on the board. So obviously the perspective of all of those agencies is brought to bear in an adjudicatory proceeding of the EFSB. And I am distinguishing again adjudicatory from regulatory because the EFSB also passes regulations. If EEA or DOER, or for that matter DEP or any other state agency, wanted to weigh in, other than through its institutional membership, in other words, if it actually wanted to put in facts to introduce evidence, it would have to do that on the record.

So although I sit on a chair of the EFSB and therefore bring the institutional perspective of the EEA to the deliberation, I don't get to say “Oh, I think this proposed generating facility is too close to the nearest residence, because I think it's really 500 feet away when the evidence said it was 600 feet away.” If I have some evidence that it's 500 feet away that has to go on the record in the adjudicatory proceeding.

The EFSB has recently struggled with the extent to which it can get information from other state agencies such as DEP, which is also represented

on the board other than as record evidence. So, for example, the DEP commissioner is a member of the EFSB. Actually, she has a designate who represents her. So again, that designate brings the perspective of the Department of Environmental Protection, but we have decided that he cannot bring facts other than as record evidence to bear in the proceeding.

If the DEP has information, for example, that came up in a permitting proceeding, about the facility that is before the EFSB, then it has to give us that information on the record. The person who sits on the EFSB – the designate of the DEP commissioner – can't just say “Oh by the way, I learned through my role in a permitting proceeding that this facility is really only 500 feet from the nearest residence,” for example.

A crucial difference between the deliberations of the DPU and the EFSB is that the DPU deliberates in public. It's not required to do so by statute. But its own regulations do require it to do so. So the three commissioners of the DPU by statute go off and make a decision, deliberating in private. Just the way a judicial panel deliberates in private. You wouldn't expect the Supreme Court to have to talk in public about how they're going to decide a case so that, you know, on the bench the justices hammer out their differences. That's not the way it works in a judicial proceeding.

It's typically not the way it works in an adjudicatory proceeding either, but it's different by regulation for the EFSB. And I just want to leave you with one example, a very recent example from last week, of the ways in which bringing the agencies under one roof can make a difference.

Just last week in a transmission siting case, involving I think about a three-mile transmission line, the EFSB decided that the company constructing the line has to retrofit all of the construction vehicles in accordance with DEP's retrofit protocols for non-road diesel vehicles.

So all of the off-road construction vehicles that are used to construct this transmission line are going to have to use very protective air pollution equipment. So I am going to stop there and I am very happy to take questions.

Catherine Morris: Thanks very much, Ann. You covered a couple of the different topics we wanted to get to. Not only the institutional structures that can help facilitate this, but the legislation that can actually direct and require agencies to work together and define those roles. And then the last set of issues you talked about in terms of the legal constraints that might affect how you want to influence policies at the PUC, or the commission.

So I want to see if there are any verbal questions. And we can take maybe one or two verbal questions before we move on.

Operator: At this time I would like to remind everyone in order to ask a question simply press star then the number one on your telephone keypad.

Catherine Morris: One of the questions that came in online which I can answer very quickly is, what does EFSB stand for? You mentioned it at the beginning, it's the Energy Facilities Siting Board and which is within the DPU. So that might help clarify that.

Operator: There are no questions at this time.

Catherine Morris: OK. We'll come back to questions as they come in and I'll introduce our next speaker, Frank Kohlasch. Frank is actually sitting in a room with two other speakers, Bill Sierks and Vince Chavez. And I think he's going to introduce them. But let me just let you know a little bit about Frank.

He's been at the Minnesota Pollution Control Agency since 1996. But more recently, in 2008 he became the manager of the Air Assessment and Environmental Data Management section there. And in that position, he provides leadership to MPCA's air monitoring efforts, their risk assessment and risk modeling work, their air quality rule making, and also their environmental data management systems.

He is going to tell you a little bit about how the different agencies work together. And they have a particularly interesting model for how to facilitate some of that collaboration between the agencies via some personnel decisions that they have made, and he'll explain. So Frank, I see you're ready to go.

Frank Kohlasch: Yes, thank you, Catherine. And here in the room with me is Vincent Chavez. Vince is the Special Assistant to the Director of the Office of Energy Security here in Minnesota. He has been an energy policy analyst with the Department of Commerce for 25 years. And he will start off the presentation, and give an overview of our Office of Energy Security and the energy planning functions at the state of Minnesota.

And then we also have Bill Sierks. Bill is a (inaudible) manager between the Pollution Control Agency and the Department of Commerce. And the Pollution Control Agency is a manager in Prevention and Assistance Division, and responsible for coordinating energy and climate change related activities with the Department of Commerce's Office of Energy Security.

So with that, we'll start off. Vince will lead off the presentation and Bill will have a few slides in the middle and then I will finish off with a specific project that we undertook in Minnesota.

Vincent Chavez: Good afternoon. Once again, my name is Vince Chavez. I am with the Minnesota Office of Energy Security. We have a very productive interaction among the agencies. It has been formulated over the years. And I believe that our products speak for themselves.

I think this all came about from the highest levels. From the legislature, from the Governor's office, down to the individual analysts and people that are doing program level work. And once again, since everybody's involved, there is that participation, but there is that commitment at an individual level. People are here wanting to do something, and I think we're doing that.

As I said, our products speak for themselves. And as a product of our interactions, we have come up with very good products that are consistent with each other which is very important when you are going to the legislature and providing numbers that we use the EPA's analysts to come up with certain calculations and certain figures for the legislature.

They help us in calculating those. So I think with what we have got going in Minnesota, we do have agencies able to talk to each other and provide input



not only to the legislature but also very much impact the Public Utilities Commission decision-making process.

I did a quick schematic of how my office, the Office of Energy Security, is organized. As I'll mention, especially when we get down to planning and advocacy, we have rules and regulations. It is that role that provides us direct input into the Public Utilities Commission. That, and the energy facility planning level.

We are not the decision makers. However, we are a party to all actions in front of the PUC. So, once again, just an overview of our office. The Director of the Office of Energy Security is William Glahn. He is also the state reliabilities administrator, and it will become more obvious why that is important as we continue.

We have three general program areas within energy assistance, which would be our federally funded (inaudible) program. We've got energy planning and advocacy. And we've got the State Energy Office. Our charge, our mission is to promote adequate, reliable, low-cost and environmentally sound energy for Minnesota.

Now if I can I'd like to just dissect some of the different offices or different program areas. I'll start with the Director of the Office of Energy Security and the Reliability Administrator. The director or the administrator who are the same people right about now, he just changes hats now and then. He is also the Deputy Commissioner of the Department of Commerce where the Office of Energy Security is located.

As the reliability administrator we use staff from all different areas. We carry out certain duties that would include managing all the mandated legislative studies. And there are quite a few. And here is the director's counterpart, at EPS is the Deputy Commissioner. So that's at the highest level. And so when we start talking about the legislative studies it's hands on for these two high-level officials. And then the work filters down and they come up with a joint report.

We're also as a reliability administrator responsible for participating at the federal, regional, and state (plans) for reliability related issues. This would include some of our staff working with myself, the Midwest Independent System Operator, and the activities that they are participating in. I guess that cost allocation right now is the hot topic.

And then part of the reliability administrator is to facilitate long range planning for future technologies. So with that, right now our State Energy Office is also the conduit for the federal stimulus funds, so they are quite busy and they have reorganized slightly in there. But we have several program areas underneath that. Under the operations area we have energy efficient buildings.

Wind, solar and biomass resources, and also the state grant and rebate program. We have under that same program the weatherization, which is a stand alone program that is highly (inaudible) right about now. We were able to organize early on.

The area under (SIP) is perhaps one of the important areas right now that we are working on as a state. And what's important about this and where the PCA and Commerce actually get together is there is a report due to the legislature that we're suppose to provide our (MCF) savings which was about 875 million kilowatts and four million (MCF) saved, as well as our CO2 savings, which we have estimated as being over a million tons.

That CO2 estimate is a collaborative between our (SIP) personnel and Frank's planners over here. Energy regulation, as I mentioned earlier, is a split commission in Minnesota. The Office of Energy Security contains the analysts that provide expert witness testimony. They do special reports for the Commission. They will be doing – we also enforce the commission rules and orders.

So there are two program areas underneath that. The first would be the regulatory regulation and planning. And as I mentioned, we're advocates for the public interest in all energy forms, state and federal regarding energy regulation, planning and policy.

We're also advocates for actions and policies promoting reliable, environmentally sensitive, reasonably priced energy service. And yes, we took a role in the proceedings on decoupling here recently where we have got a pilot program that's been initiated.

Under energy regulation we also have facilities planning. And I think this is mentioned by other folks as a role that the commission has. We have the same role on this side as we do in energy regulation. We are advisors to the commission. And we – along with facilitating a review of all the facilities that are being sited, we're responsible for the public hearings and preparing the documents which include the environmental documents. And so there's participation once again on that level for preparation and input from the EPA.

I failed to mention that at the regulatory level that we are involved in several different activities. Well let me get to that as we go on. Next slide.

Catherine Morris: We're only shortly into your presentation and have about five or at most seven minutes left. Just wanted to give you a heads up.

Vincent Chavez: OK. Well, quickly, there are several giant reports that we put together. And they have been collaborative efforts. We can provide web sites to any of these. But it shows you that we have been working on reports continuously for the last three years.

Under the environmental, or the energy planning and advocacy, we have been working together on routing permits, wind being one of – and certificates (inaudible) wind being a big issue up here. Emissions recovery, carbon regulation, which is establishing a reasonable range of carbon costs, and feeds directly into our integrated resource planning.

So the role that (inaudible) plays in our (inaudible) products is essential. I think I'll leave it at that and hand it over to Bill Sierks.

Bill Sierks: Hi good afternoon. I'll be very quick. I just wanted to talk about some of the voluntary areas of collaboration we've had. These are all not mandated by the

legislature or the executive branch. They are results of just the initiative of the agencies.

(Inaudible) perspective or highest level, one we have is, there are 10 different state agencies that meet every two weeks to discuss specifically focused on energy and environmental issues. They range from our natural resources, the agriculture department, both of our agencies and Department of Economic Development. Labor and industry, transportation, health, housing, and then our metropolitan area planning commission.

So it's a great example of an ability to get very high level – these are either deputy commissioners or assistant commissioners reporting directly to our agency heads, people who attend. And they are able to collaborate on high-level statewide issues effecting energy and environment. So some of those reports that this mentioned, even though one of our agencies is responsible for those, we can get input from a whole range of other agencies on a comprehensive view for example, the status of greenhouse gas reduction efforts by all the different agencies.

I think Frank mentioned at the beginning, I am actually co-located between the energy and environment offices, which is a really much more effective way than we realized initially, a way of finding out and establishing personal connections. It's much more effective than just having periodic meetings, and understanding how the two agencies operate and how they collaborate.

And then I'll get into a few examples of the staff level coordination. In addition to having joint meetings of our energy and environment agency staff, we coordinated on a whole range of outreach actions and reports, as just mentioned. We have different sectors we try to reach. And I'll kind of shorten these. If anybody wants specific examples of programs we'd be happy to talk with you further.

But we connect at the local government level to joint programs (inaudible) agency staffed. At (school) sector we're really focused on saving energy and carbon and have some collaborative programs where we jointly requested funding and received that to deliver assistance.

And that's basically about it. And we – everything from exhibits at the state fair, we have an entire building that we focus on environmental and energy issues that our staff (inaudible) on closely. And definitely as we try to implement resource assistance and outreach to cities, schools, counties, we work very closely together at all levels. And with that, Frank, I will let you close.

Frank Kohlasch: OK very good. Thank you, Bill. Again, my name is Frank Kohlasch. I am with the Minnesota Pollution Control Agency, the environmental quality agency in Minnesota. And what I want to go through first on this slide is identify some of the major statutory requirements that have been given to the Pollution Control Agency relative to proceedings that happen before the Public Utilities Commission. And that started in 2001 with the emissions reduction rider which allowed utilities to make proposals, to reduce environmental pollution, and seek recovery of those costs outside of a general rate case.

And it required the Pollution Control Agency to determine whether or not the proposal qualified under the statute, assess the benefits of the proposal and then make a recommendation to the PUC on this proposal. That was followed up in 2006 with a similar type of statute but focused on seeking reductions in mercury from utilities requiring a 90 percent reduction in mercury emissions from utilities. Again, allowed for rate recovery outside of a general rate case.

Similar types of responsibilities for the Pollution Control Agency to conduct on the proposals. They also included in 2006 the ability within one of these mercury proposals to address other air pollutants and seek rate recovery for those. And we have certain responsibilities within that statute.

We also have responsibilities in the greenhouse gas emission control. And the first bullet really relates to the process that was known as the Minnesota Climate Change Advisory Group, which established a process and the recommendations for seeking greenhouse gas reductions in Minnesota. And then the ongoing responsibilities to work with the Department of Commerce on tracking greenhouse gas emissions in the state and coming up with policy

recommendations for the legislature to consider for greenhouse gas reductions in the state.

We also have a number of statutes where we provide assistance to the Office of Energy Security or to the Department of Commerce, but we're not specifically identified in the statute required to do that work, but the relationship and trust we've built allows us to do that work. And those I think Vincent mentioned, most of those, the renewable energy credit, we have a role to play in determining whether or not coal-firing or fuel blending applies, is eligible for renewable energy credits.

We also, as Vince mentioned, both the cost of carbon resource planning and conservation improvement plans. And since the emissions reduction rate rider statute was where the Pollution Control Agency was involved in a major way with the public utilities commissions, I want to go through that project in specific over a few slides.

The emissions reduction rider, statute, and the Metropolitan Emissions Reduction Plan, the MERC, neither of those would have occurred without the involvement and the support of the Governor who made this a major component of his energy policy priority, and also the groups listed here including environmental groups, business groups, individual companies, and also key leadership at the Department of Commerce and at the Pollution Control Agency and especially at the Department of Commerce. People who have understood both the energy plan inside and the environmental regulation side.

A quick rundown of some of the drivers for the Metropolitan Emission Reduction plan to reduce fine particulates and their precursors that affects also the regional haze for the class-one areas in Minnesota, reduce the emissions of coarse particulates. Reduce the emissions of (inaudible) the precursor for the formation of ozone. Reduce mercury emissions, reduce lead emissions, address greenhouse gases, acid rain emissions and also localized impacts such as traffic and coal dust.

And especially focusing on seeking reductions from power plants that were grandfathered in under the Clean Air act and did not have requirements for modern pollution control equipment on those facilities. And this graph just quickly shows the difference – the graph shows emission rates in pounds per kilowatt-hour for one plant in what is a lavender color up there which was covered by the Clean Air Act, not grandfathered in. And then the emission rates for three power plants that were grandfathered in under the Clean Air Act and did not have to have modern control technologies installed.

So the statute specifically requires that Pollution Control Agency review the technical merits of the emissions reduction proposal to do a capital cost review, do an assessment of the human health and environmental benefits including cost benefits. And then provide a recommendation to the (inaudible) on the actual project.

And for one of the larger components of the Metropolitan Emissions Reduction Plan, the PCA found that the MERC proposal would achieve significantly lower levels of harmful emissions even as it added 383 megawatts of new capacity to (XL) systems and fully refurbished to new quality 1,100 megawatts of capacity.

So the key to success of the MERC and also the Emissions Reduction rider was a very good roadmap within the legislation that established roles and also put on par both the energy system benefits and the environmental benefits that would be received by some of these projects. And it also set up a system in collaboration between the Department of Commerce, the Office of Energy Security, the Public Utilities Commission, and the Pollution Control Agency which has paid off dividends throughout the decade as far as the level of trust and the comfort of working with each other that was built through the MERC project.

And then just to show the results of the project, these are the emissions and tons of coal used. (Inaudible) facility there was part of the Metropolitan Emissions Reduction Plan, our King plant. What you see is in 2007-2008 but especially 2008 showing how the tons of coal returned to which is the middle

gray bar, returned to full capacity, full usage but the emissions of nitrogen oxide and sulfur dioxide reduced significantly compared to 2003-2004.

And the coal usage you see in 2006-2007 dropping. And that was the sign in which the control technologies would be installed so the power plant wasn't used at full capacity. And then this picture is just a lasting image of one of the major results of the MERC project. And that is the removal of the smokestack from our (Herbage) plant which is right along the Mississippi River.

And so now behind that is the natural gas – I believe that's a natural gas power plant behind that. And we no longer have a 500-foot plus stack sitting on the Minnesota – Mississippi Rivers.

And with that we – we're open for questions.

Catherine Morris: Thank you very much, gentlemen. That was impressive results from that program. I wondered if we have any questions coming in from the operator.

Operator: Again, if you would like to ask a question simply press star then the number one on your telephone keypad.

Catherine Morris: While we wait, Bill, about how much time do you spend at each of the agencies that you're involved in?

Bill Sierks: Oh I think it's a 50/50 split basically. It's – and usually (inaudible) either half a day at one agency and then half a day at the other.

Catherine Morris: And that works pretty well?

Bill Sierks: It really – yes it does. And it's not so much the time – length of time, but it's the getting into specific work of the other agency. Where if you're around you can really start – I have been helping out on projects more than just being there and trying to have things sink in. Because just being there physically without actually getting into some of the other agency's work when you are involved in either a joint project or helping out in one of theirs. You can really perceive areas of collaboration and opportunity a lot more effectively, I think.



Catherine Morris: So we have any questions on the phone?

Operator: No Ma'am. There are no questions at this time.

Catherine Morris: OK. Well we had a couple of questions coming in online for some of our earlier speakers, as well. One of them was asking about the demand forecasting that utilities do, and which the PUCs oversee.

The question was whether or not the demand forecasting is public information that would be accessible to other agencies.

Miles Keogh: Catherine, this is Miles. Do you want me to take a swipe at that?

Catherine Morris: Yes. It actually came in while you were talking, Miles.

Miles Keogh: Of course. It depends. And it also depends on what data you are trying to get into. In states that do resource planning, for the most part, the inputs for the demand forecast are done through some sort of collaborative process. And a really good example of one is the forecasting that is done by the Northwest Planning Conservation Council, which is a group that does power planning for Washington, Oregon, Idaho, and Montana together. So sometimes the inputs that go into the forecasts, not only are they public, they are a function of a public process. Sometimes the process by which the inputs are derived are much less public. And in fact, some of the inputs that are put into a model in a lot of cases are business confidential information and are not necessarily public.

The demand forecasts themselves in an IRP are usually very public. And in a rate case, for example, they are meant to be wide open. But sometimes you want to know the inputs that were used in order to derive the piece that you're being told about. And the inputs are not always totally transparent although often they are. So that's really where the point of contention is about the transparency of demand forecasting is, what did you use to come up with your demand forecasts rather than thanks for telling me very transparently what your demand forecast is.

It's not exactly an answer to the question but it is sort of ...

Catherine Morris: Well thank you. Thanks for trying. And another – if I could jump back to our Minnesota speakers. Another question was, what are the plans in terms of new projects where the particularly the Pollution Control Agency might have some impact over decisions at the PUC?

Vincent Chavez: This is Vincent Chavez. We've got a couple different things happening, I guess. We finished our legislative session, thank goodness. But there is a large solar demonstration project going in – or being planned for Rochester, so the southeast quadrant of the state. The PCA is trying to use landfills, full landfills for renewable energy. And the plan is to put a large solar demonstration project on one of these landfills.

What becomes even more interesting is that the legislature on a one-time basis is going to allow the purchase of solar energy from that project, and only that project, to be counted towards the conservation improvement, or energy efficiency savings goal.

So this is one of those situations where everybody is working together, including the utilities, the regulatory bodies, and the PCA in trying to move forward an on innovative large solar project.

Frank Kohlasch: And this is Frank from Minnesota. We also have a continuation of some of the mercury reduction plans that are coming in from the facilities. They have a longer timeline for mercury reductions. And in the most recent legislative session there was an extension given to one facility to turn those in and we're right now reviewing another proposal from Xcel Energy to deal with I think their mercury reductions also.

So it continues on, especially with the focus on the mercury reduction. And to Vince's point, just to emphasize that in Minnesota the legislature chose for old landfills, that the state would take ownership and maintenance of those. So we have 106 sites throughout the state where the state is the owner/operator of a closed landfill. We line them, we maintain them to the highest standards. And now we are looking to install renewable energy projects on those lands.

And so that's where it becomes something that the PUC is very involved with as far as using some of these land managed essentially by the state for solar generation or other renewable energy generation.

Catherine Morris: Thank you very much. I know we're a little bit over time. But I have one more question I'd like Ann to try to answer if she could that was very interesting. One of our audience members is asking whether or not you have any insights on the politics that really enabled the type of structure you have in Massachusetts, the enabling legislation that created your office, and the oversights.

Ann Berwick: Yes, that's a great question. And I always am a little nervous about opining on politics on which I don't really consider myself to be an expert. But you know I think it was the start of a new administration, and gave an opportunity to do something different. And I think it was clear to the Patrick administration from the get-go that it simply made sense to combine the energy and environmental functions.

During the campaign for the governor, Governor Patrick had combined his energy and environment advisory teams. And that just seemed like falling off a log. It just seemed like so many of the issues were related that it made sense.

And then as a continuation of that, it made sense for him to propose to the legislature that the energy and environment agencies be brought into one home. But it just seemed I think to everybody to work. And I am certain that no one wants to go backwards on that.

Catherine Morris: Well great. Thank you very much. I want to thank all of our speakers. And I apologize to those of you who did send in some questions we didn't get to. There's a great one here, Miles here on feed in tariffs. So we'll try to forward these. And if they have time, I am not going to make any promises on their behalf, but if they do have time maybe they can shoot you back an answer via e-mail.

And of course they did share with you their contact information if you want to follow up directly with them. So with that we are going to close this Tech Forum call and invite you back. Just look for some information about the scheduling for next month's call.

Thanks very much everybody and talk to you next month.

Julia Miller: Thanks everyone. Bye.

Operator: This concludes today's conference call. You may now disconnect.

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