Agenda

Renewable Energy Advisory Council

Friday, September 15, 2017: 9:30 a.m. – 11:45 a.m.

http://www.energytrust.org/about/public-meetings/renewable-energy-advisory-council-meetings/

Energy Trust conference room Kilowatt
421 SW Oak St., Suite 300
Portland, Oregon 97204

9:30 **Welcome, introductions, announcements** **Information**

9:35 **Low-to-Moderate Income Solar Update** **Information**

- Staff will provide a summary of the ongoing facilitation of a stakeholder work group to develop strategies to expand solar deployment to low and moderate income Oregonians. This work is being done in tandem with the Oregon Department of Energy.

10:05 **Draft 2018-2019 Action Plans** **Information and feedback**

- Staff will present the draft action plans and concepts that will form the foundation of the 2018-19 budget for the renewable energy sector.

10:35 **Break**

10:45 **Draft 2018-2019 Action Plans (cont.)** **Information and feedback**

- Staff will present the draft action plans and concepts that will form the foundation of the 2018-19 budget for the renewable energy sector.

11:30 **Public comment**

11:45 **Adjourn**

You can view this agenda and meeting notes at: http://www.energytrust.org/about/public-meetings/renewable-energy-advisory-council-meetings/. If you have comments on meeting notes, please alert Jed Jorgensen at jed.jorgensen@energytrust.org.

Upcoming RAC meetings:
Wednesday, October 25
Friday, November 17

Renewable Energy Advisory Council Meeting Notes

August 2, 2017

Attending from the council:
JP Batmale, Oregon Public Utility Commission
Jason Busch, Pacific Ocean Energy Trust
Kendra Hubbard, Oregon Solar Energy Industries Association
Michael O'Brien, Renewable Northwest
Adam Schultz, Oregon Department of Energy
Frank Vignola, University of Oregon
Dick Wanderscheid, Bonneville Environmental Foundation
Peter Weisburg, The Climate Trust
Erik Anderson, Pacific Power

Attending from Energy Trust:
Gwen Barrow
Hannah Cruz
Sue Fletcher
Matt Getchell
Fred Gordon
Jeni Hall
Andy Hua
Jed Jorgensen
Betsy Kauffman
Dave McClelland (phone)
Dave Moldal
Cameron Starr
Jay Ward
Rachel Wilson
Lily Xu

Others attending:
Jeff Bissonnette, Oregon Solar Energy Industries Association
Meghan Craig, Oregon Solar Energy Industries Association
Peter Greenberg, Energy Wise
Alan Meyer, Energy Trust Board of Directors
Julie O'Shea, Farmers Conservation Alliance
John Reynolds, Energy Trust Board of Directors
Jason Zappe, Portland General Electric

1. Welcome, introductions and updates

Betsy Kauffman convened the meeting at 9:30 a.m. The agenda, notes and presentation materials are available on Energy Trust's website at: https://www.energytrust.org/about/public-meetings/renewable-energy-advisory-council-meetings/.

2. Announcements

Jed Jorgensen announced results of a survey sent out to advisory councils on the budget process. Energy Trust has provided a handout that outlines the budget process and key dates for this year. The Renewable Energy Advisory Council wants to talk about its role in shaping the budget. Formal outreach to the council will begin in September.

Jason Busch announced that the Ocean Wave Energy Trust (OWET) is now the Pacific Ocean Energy Trust (POET). The organization's annual conference is coming up in September, and will include a track on offshore wind.

3. Small and community-scale wind incentives

Energy Trust recommends discontinuing incentives for small and community-scale wind, except under limited circumstances. Jed presented an overview of how the small-scale wind program began in 2005. Program managers thought that community-scale installations of wind turbines could become a market in Oregon. The market hasn't materialized. The only interest is from a coastal county interested in a wind installation for resiliency in case of a Cascadia earthquake.

John Reynolds: I find it ironic that in the face of a major earthquake, something tall with weight on top is considered safe.
Jed Jorgensen: I don't know if turbines are stable or whether the resiliency aspect makes sense on the coast. More generally, we look at other benefits beyond power and revenue, and we look at markets to see if there is a desire to explore.

Peter Greenberg: Is there a reason why communities would favor wind over solar?
Jed Jorgensen: No. We think solar would be favored.

Michael O'Brien: Are you thinking this municipal project would be the last one?
Jed Jorgensen: The intent is to leave the wind incentive open for municipalities.

Betsy Kauffman: This project is an unusual one and an exception. We're not expecting to be flooded with municipalities looking to do wind projects.

Jed continued presenting the history of Energy Trust's small and community-scale wind program. Only five turbines have been installed since 2012. Wind is not operating like a standard program. At minimum, we need to treat wind projects like other custom projects and manage on a custom basis. Other states report similar issues. Our proposal is to save the staff time spent managing calls related to small wind. When people call, we tell them that it won't be a good model for them because a wind installation is more expensive and less reliable than a solar system. We'd like to institutionalize this advice. We'd like to post our experience with wind on the website and continue providing information for customers, but not incentives.

Jason Busch: I have no qualms with the premise of this argument. I do have heartburn about Energy Trust directing customers to one resource over another. Energy Trust is careful not to recommend natural gas over other energy sources. It's better to lay out facts than to give recommendations.
Jed Jorgensen: People install one type of turbine in New York that we think is reliable, but it doesn't make sense to build a program around that. We would tell a customer that if they really want to do this, this is the turbine to install. This is how to maintain it. We ask people if they are really up for what the technology requires and if it will meet their needs.

Jason: I'm not sure what I'm hearing. Are you suggesting a binary option? Are you saying you would either not do it at all or keep it where it is now? Or are you still open to doing a wind project?
Jed Jorgensen: The proposal is to not provide incentives. We are flexible in how we handle inquiries and navigate communications. We would direct people who have general interest to explore solar.

Dick Wanderscheid: For the one turbine being installed in Oregon, what's the incentive?
Jed Jorgensen: Incentives are usually between $20,000 and $50,000. A typical installation costs about $100,000. We have a hard time even recommending that turbine because the financial math is not there for a customer when compared to solar cost and output.

Alan Meyer: I'm thinking along the same lines as Jason. It's a fine line to walk. We don't want throw dollars away on projects that are not cost-effective. Rather than not covering wind, it would be more desirable to say we're not covering non-cost-effective projects when there are more cost-effective options available. If someone found a way of doing a project that would be cost-competitive with our other projects, I believe we're still obligated to provide funding.
Jed Jorgensen: Our legal team feels that we don't have an obligation under 1149 to provide incentives.

Alan Meyer: We provide information that allows customer to make better decisions. In the end, if a project is cost-competitive, I think we're still obligated. Wind is included in the list of resources we're obligated to provide above-market cost support for.

Frank Vignola: There is some advantage to wind because solar happens during certain times year and wind happens at other times.
Betsy Kauffman: You're correct. But there is a difference between the large projects we see in the Columbia Gorge and a wind project at a home or farm. There are resources that can support those large projects that are not applicable to the small ones. They rely on economies of scale. We understand the desire to give people choices, but we're trying to make responsible use of ratepayer money and be responsible to people who call us for information. This is about the way we allocate staff time and the responsible recommendations we make to customers. When know about another technology that can do the same job for a homeowner with significantly less cost, we feel it's our responsibility to recommend that technology.

Erik Anderson: The lessons Energy Trust has learned could be put into a question and answer resource explaining the comparative economics between small wind and solar. We could keep the door open without suggesting that we have a standard offer for small wind projects. The standard service we would provide would be our knowledge and years of experience. I'd be wary of rolling back that expertise and not sharing information. Having someone on staff who knows about problems a customer could run into seems valuable.
Betsy Kauffman: There is a precedent for us no longer doing certain things. This wouldn't be first time.

Michael O'Brien: Who's building a turbine in September? Are they out of state?
Jed Jorgensen: The owner is a sheet metal fabricator who has ability to install it themselves. They have a fleet of small turbines.

John Reynolds: I think we're doing the right thing by saying solar is a readily available alternative, so people don't waste time on other unviable sources.

4. Irrigation modernization program update
Julie O'Shea of the Farmers Conservation Alliance, which operates the irrigation modernization initiative, provided an update on the program's accomplishments and plans.

Alan Meyer: At this point, are irrigation districts covering cost? Or is this a free service to them?
Julie O'Shea: To get enough districts onboard, we started by providing services at no cost to them. Now that we have proof of concept, we're working with districts to provide some of that match and other sources to fund or finance. We're working toward creating enough efficiency within a system to reduce the overall cost, such as scaling up to be able to order materials for all districts and get the cost down.

Peter Greenberg: What does 100 percent paid mean?
Julie O'Shea: It means paid up to the delivery of the strategy. Once a plan is drafted, districts may be able to access federal funding. We're getting districts in position to be shovel-ready and have the right permitting in place. When the funding comes, they are able to act on that funding package. We work with districts not eligible to do debt financing.

Adam Schultz: This is an amazing story. Where do we go from here? Do you envision extending Energy Trust's contract with Farmers Conservation Alliance?

Jed Jorgensen: We're working with Farmers Conservation Alliance to put program and delivery mechanisms in place so that we can eventually provide project development assistance just like we would on other projects, with a 50-50 match. We see getting to that point within the next 2 to 3 years.

John Reynolds: With Colorado interested in replicating this model, what role would Energy Trust play with non-Oregon funds to help Colorado achieve results?
Jed Jorgensen: We haven't contemplated this. Colorado is calling the Farmers Conservation Alliance, not Energy Trust.

John Reynolds: To what extent are the tools provided here transferable?
Jed Jorgensen: When we first set up the contract with the Farmers Conservation Alliance, the idea was that delivery models would be open for other states to use. We're not trying to license this as concept.
Julie O'Shea: In California, groundwater is a major issue. That's different from Oregon. A lot of elements can transfer from Oregon to California, but other nuances would need to change. We're harvesting all-stars to show who's been able to come up with solutions. We've spent years working directly with the irrigators to get these projects in the ground. Some have funding to implement but don't have strategies. They need someone to help them map it out.

Jason Busch: Are you familiar with the U.S. Department of Energy's Rapid Power Toolkit for hydropower? They see opportunities there. They're at the point of looking at methodologies and how to move forward. They have funding. You could insert your methodologies.

Michael O'Brien: Energy Trust did a good job in laying out the story and recommendation. What's the next step in terms of resolution? It's an important topic in terms of setting precedent for the future.
Jed Jorgensen: Based on today's feedback, we got the sense that we could move forward with the proposal. We can pull back from offering small wind incentives and shift our website content to change the conversation. We will still provide the public with educational resources. That's not a challenge for staff. We'll also keep watching in case something shifts.

Michael O'Brien: Does everyone agree with that?

There were no disagreements.

5. Solar strategy for 2018
Jeni Hall presented information on the Renewable Energy Tax Credit (RETC) expiration that will take place on December 31, 2017. Without this tax credit, above-market costs for residential solar will increase in 2018. Energy Trust requested input from council members regarding their priorities for Energy Trust's support for the solar market after expiration.

Peter Greenberg: Do you know roughly what the current payback is for solar?
Kendra Hubbard: Payback is currently 5 years.

Jeni Hall: The scenarios we're comparing show roughly the same capacity installed. The question is about whether we should change our traditional funding allocation of about 60 percent residential and 40 percent commercial.

Peter Greenberg: What is the typical payback is for commercial projects? How many commercial projects are required projects due to the 1.5 percent for solar rules on public facilities?

Dave McClelland: The question on 1.5 percent projects was also brought up by Oregon Solar Energy Industries Association (OSEIA). We will have to look into that. The 80 percent commercial scenario

in the presentation is similar to the average incentive and payback this year. Average projects have about a 10-year payback. In the 80 percent commercial scenario, we were constrained by above-market costs. Even if we had unlimited funds to put into commercial projects, the number of projects we could support is constrained because larger projects now have little above-market costs.

Dave McClelland: All of this is modeling is based on typical conditions in the past, and 2018 may not be a typical year. We also haven't gone through our budget process yet and don't know how much budget can be allocated to solar in 2018.

Jeni Hall: Right now, the questions are about what role Energy Trust should have in the market and about the high-level split between commercial and residential support.

Jason Busch: Does Energy Trust have an opinion on which scenario results in the maximum capacity installed or the effect on the price of solar in state?
Dave McClelland: One thing that surprised me in the modeling was that the scenarios are not dramatically different in capacity or generation. We went in with the assumption that pushing commercial would result in more capacity. It's true, but not significantly. Regarding the effect on pricing, after the Business Energy Tax Credit went away, one thing we noticed in the commercial market was an overall reduction in cost, although that was also influenced by global cost-reductions for solar equipment. On the other hand, we've noticed that when the residential market slows down, costs tend to increase, perhaps due to higher overhead per project. There is correlation, but we're not sure what's the driver and what's the result.

Betsy Kauffman: I'm going to ask people to explain their recommendations on the commercial and residential funding split. John, what's your rationale?
John Reynolds: Nationwide, low-income renters spend 9 percent of their income on electricity while others spend 3 percent. If we invested in community solar, maybe we could find a way to reach the rental market, which has been tough to penetrate.

Meghan Craig: I'm also thinking about a non-traditional idea. Rather than incentivizing per system, I'm thinking about a new program to reduce soft costs across the state. The funding could go into designing a new program that would take some of burden off contractors and municipalities. The program could provide support for staff time, technical assistance and website or platform. The funding could go toward many ratepayers and trade allies. It would focus on lead generation, campaign management and marketing benefits for solar. It would ultimately be a statewide solar program that used economies of scale instead of one campaign. Municipalities could apply to an request for proposals or request for qualifications. They would need resources to access Energy Trust funding and bring it into their communities.
Betsy Kauffman: So the idea would be that after RETC expires, we would redesign our program rather than boosting incentives to do one house at a time?
Meghan Craig: Yes, that money could go toward a new program design to allow more trade allies to participate with funding put out by Energy Trust.
Jeni Hall: Energy Trust is working with Solar Oregon right now to do a focused Solarize effort and apply our resources in more structured way. We're gauging customer interest.

Peter Greenberg: One possibility along the same lines is a group-buy program. Energy Trust could facilitate buying a big batch of panels and getting better price. Of course, the federal trade case could change that in a few months.

Kendra Hubbard: In your strategic planning, have you thought of ideas or scenarios that are not based on an installed incentive, but on how Energy Trust could play a part in the future of solar?

Betsy Kauffman: Do you mean moving away from a house-by-house incentive toward other ways of supporting the market?

Dave McClelland: Until recently, we expected that the residential market might have no above-market costs next year. Conditions have changed. If we are in a situation where there are no above-market costs (and we will be approaching that in the commercial sector) that raises the question of the role of our program, and what is the best value the program can provide. That is another conversation and one that we'd like to engage with the Renewable Energy Advisory Council and receive more feedback.

Adam Schultz: Assuming your numbers are right across each scenario, it doesn't seem like sliding the scale between commercial and residential would impact capacity. Expiring tax credits may not be permanent. I'm thinking about not rocking the boat too much while waiting to see what's coming.

Michael O'Brien: The biggest bang for our buck seems to come when a slight amount of extra weight is added to the commercial side. There have been large transformations in the residential sector, and now there is potential for doing more in the commercial sector.
Erik Anderson: If the goal is to get as much installed as possible, there's more potential on the commercial side. I don't understand the value of incentivizing residential more than commercial projects. There are efficiencies for non-residential. Let's get the most installed with the limited funding we have.
Betsy Kauffman: We have always put a value on providing incentives for a portfolio of technologies. Our goal has been to create wide participation and to support as many types of technologies as are a good use of ratepayer money. Because of that, it's important to us for a residential customer to have the ability to participate. We're also balancing to make sure we have enough money for hydropower, biopower and geothermal project. Erik, someone else in your company had a strong opinion that Energy Trust should not be raising incentives in response to RETC expiration.

Erik Anderson: The solar industry in Utah is robust without incentives. The cost of solar is cheaper there, and much more solar is being installed in Utah than in Oregon. Are we still in market development here? Is it time to be concerned about how incentives are necessary for the market to function? In our service territory, we see that incentives might not be necessary. We can't make up the difference, so we might not need to worry about it and can see how it plays out. There is money available for subsidizing or helping renewables along other paths, like targeted solar deployment to meet other needs that provide better ratepayer benefits. Or we could figure out a way to incent the additional cost of smart inverter installations. We could start laying the groundwork for solar 2.0. We could re-focus funds to solve problems like that, and get out of the residential incentives game. We're not convinced that six-year paybacks are a driving factor when longer paybacks in places like Utah work fine. Why are we meddling with an old model to keep it going when there are new models out there?

Kendra Hubbard: Does Energy Trust take a stance on favoring a few over many? Has thought been given to the amount of reach Energy Trust has?
Betsy Kauffman: Wide participation has always been a value. We value market growth and transformation, so we're trying to build an industry of installers. Certain market impacts require volume. We're trying to create that volume to build the market.

Peter Greenberg: In Utah, has lower cost driven the solar industry? Or is the cost similar? Would we be in same place if we removed the incentive?
Erik Anderson: The focus is on above-market cost driving solar uptake. We have flat, static, robust costs that have been consistent over the past five years. In Utah, the 14-year payback period has higher growth.

Betsy Kauffman: The amount of money we get each year is fixed. There is only so much year-to-year growth that we have the budget to support.
Jason Zappe: The cost per watt is not drastically different. Oregon caught up to Utah.

Jeff Bissonette: OSEIA did a state-by-state breakdown and found that Utah had 1,500 megawatts installed at end of 2016, while Oregon had 226 MW installed. Oregon is a more developing industry, and has had a strong incentive environment. No one is saying that has to go on forever, but changing overnight hasn't worked out in most other states that have seen sudden change in incentives. If we want to make a change, let's have a glide path. The legislature worked out a six-year year package that reduced over years. We surveyed our membership about this, and found a strong feeling that residential shouldn't be abandoned for commercial or vice versa. They want a status quo approach for now. Some big things are uncertain. People are thinking about the trade case. In community solar, no one is sure what will happen as rules are implemented. There is a possibility of going to the legislature in February and trying to get the deal we had back on table.

Jed Jorgensen: We've always run the solar program as way of supporting the market. We set up a budget for residential and commercial. We offer incentives throughout the year and adjust as costs come down. This year, we're managing an increase in demand. We'll continue ratcheting down our incentives so that when we get to the end of the year, incentives will be low. RETC will expire, leaving a big chunk of above-market costs uncovered. We can't make up the RETC. Does that translate to not raising incentives, or to something else? Should we manage our incentives to keep the market operating, therefore raising our incentives at the end of the year? Should we hold it?

Frank Vignola: Look at the budget. With fewer systems, see how much we have to spend. Look at other things to reduce soft costs. One thing consider is purchasing bulk permits. Also keep in mind that storage is coming, and we have to have some money for that.

Jeff Bissonette: The industry recognizes that Energy Trust can't make up for the loss of RETC. No one expects it to. Contractors are thinking about it in terms of the immediate future—the first quarter or first half of next year—and beyond. They are balancing heavy demand from the expiration with what can be reasonably installed by April 1. Our members are saying that it would be helpful to have a little more from Energy Trust in the first quarter or first half of the year to be able to plan, and then see where we are. If there's a trade case, we'll know the outcome after late September. If the trade commission says there was injury to the market and it needs to be remedied, we'll know. To help in planning for the first few months of the year, it makes sense to increase incentives a little bit. There is also interest in seeing how we can make up that gap. Energy Trust could come up a little bit to see if installers come down. Some people think installers can come down, and others aren't sure.

Jason Zappe: We should get back to whatever is most cost-effective. We don't have a preference either way for residential or commercial, but prefer whatever is the best use of funds.

Kendra Hubbard: Over last few years, what has been the average size of commercial project that comes through Energy Trust? Is the approximate number of projects realistic?
Jen Halli: The current average is 60 kW. We are capping the commercial incentive at 250 kW for PGE and no larger than 100 kW for Pacific Power.

Kendra Hubbard: How does residential and commercial come into play with Energy Trust's effort around energy and storage?
Jen Hall i: We are listening and learning. We have a limited pilot going on.

Kendra Hubbard: Does storage fit into the projected capacity on the handout?
Betsy Kauffman: Yes.

Kendra Hubbard: Will storage change or impact how Energy Trust is allocating funds? From a price perspective, those projects are more expensive.
Betsy Kauffman: I will take that into consideration.
Jeni Hall: There is also the question of how or whether we budget for pilot efforts.

Kendra Hubbard: Speaking for OSEIA, we'd like see half residential and half commercial. Commercial projects are important to getting the most bang for your buck.

Jen Halli: Our second question is about timing and how we engage with the market. Regardless of the residential-commercial split, we have to decide how we go to market with that decision. There is a possible future where Energy Trust waits to see what happens in February. Does it make sense for Energy Trust to not do anything and wait until we have more information? It's the lower risk approach, but it might not align with our strategic goals. The other option is to be proactive and make a decision as soon as the budget allows, and communicate with contractors to give them certainty as soon as possible to provide transparency. There may also be an option somewhere in the middle.

JP Batmale: What is the current baseline for communications?
Jeni Hall: The current baseline is to communicate our incentives as far into the future as we can. We publish this in a report each week, so contractors can use the information to have conversations with customers. They quote prices to customers that include the cost of installing now and the cost of waiting.

JP Batmale: At what point do we establish the tiers and communicate out for next year?
Dave McClelland: We typically do this late in the year and plan for a year ahead. After the budget is established, we do preliminary work with the budget to land on numbers, nail down incentive rates and look at above-market costs. We announce these as early in the year as possible. This year, we moved very quickly through tiers, so we had to be flexible in reallocating funds and changing incentives and eligibility.

Jeni Hall: With RETC expiring at the end of this year, contracts need to be in place by December 31. Projects must be installed by April 1. Contractors can get that one last signature needed by June 1. We expect sales to slow down starting this November after contractors have filled their pipelines through April.

Alan Meyer: In the last few years, we've reduced incentives as the years go on. Have we looked at whether there is a correlation between reduction and number of projects? Is the incentive really causing people to install solar? The level of commitment as incentives go down is an indication.
Dave McClelland: While modeling, we looked back over the last six years. We plotted demand compared to the number of applications in each period compared to the payback available at the time. As you'd expect, the better the payback, the more people install. It's not a linear relationship, but more of an upward curved relationship as payback gets shorter. What's been different in the commercial market is that it goes flat and then spikes. When it reaches a tipping point, everyone wants to do it. When the payback gets longer, the market slows down. The market can be unpredictable, but people do act rationally to some degree.

Betsy Kauffman: In these three scenarios, the number of projects in the door changes. In the first one, we offer a 14-year payback and get 1,000 projects. At the other end, we offer 36 cents a watt with a 17-year payback and get 500 projects. This is based on data going back years.
Dave McClelland: The value of RETC for a typical 6-kW system is $1.00 per watt. For each watt, you save about 10-11 cents per year; so, the RETC expiration is adding about nine years of payback for residential customers.

Matt Getchell: Because we've had a stable incentive framework and reduce incentives over time, contractors can expect that to start when the year ends even if we don't announce it. For the last two to three years, where we ended is where we started. It's predictable in that way. This year, Energy Trust incentives will end at a lower amount than they have before. Do we need to reset them?
Betsy Kauffman: Or do we need to give the market some time?

Kendra Hubbard: The direct incentive is impactful as it lowers the sticker price for the customer.

Peter Greenberg: Shut down the residential program from the end of the year until after the legislative session. If you are a residential customer and don't install before the end of the year, you won't do it in the conditions at the beginning part of next year.
Betsy Kauffman: So you're saying we should wait and see.

Jeff Bissonette: I'm tilting toward wait-and-see. Most people think we should hold steady for as long as we can to see what happens. However, if we have the ability to increase incentives even a little, contractors can sell systems in the first quarter to first half of 2018. The last half of 2018 could look much different than the first half. If there is a change and we bump up incentives a little bit to help, we can see how it works.
John Reynolds: I agree. There are two big decisions we're hoping to answer: the trade case and possible RETC renewal. If resolved quickly, it's better to wait and see.

Erik Anderson: If Jeff thinks the plan to go to back to the legislature has legs, it's only a six-week session, so we should know by March. Three months doesn't seem crucial. Maybe we should wait to see what happens rather than reconfiguring the program and over-incenting in April.

Kendra Hubbard: Energy Trust programs can be changed based on what happens with the trade case and RETC. The idea is to be transparent. We should also consider how it affects workload for Energy Trust staff. What's the biggest reward with the least harm?

Frank Vignola: I think Energy Trust should communicate as early as possible. It can change as the situation changes, but you should communicate something either way by the end of the year.
Michael O'Brien: I agree that having a message early is essential to provide continuity.
Jason Busch: I agree that creating continuity is important. I erred on the side of being nimble to keep continuity for the industry. With that said, I would defer to those working day-to-day with the companies at the heart of this.

Jeff Bissonette: On the legislative front, because it is a six-week session, there is a limited number of bills that can be introduced. The bills that are introduced aren't guaranteed to pass, but we can at least get a strong indication in November or early December about whether we're on the agenda. By January you will have a bill.
Jeni Hall: Has Senator Haas indicated he's willing to back a bill and a working group on this?
Jeff Bissonette: There is a working group forming. The idea is that we had a good deal with solar, and there's no reason to change it. With Haas, we're waiting to see the next revenue forecast. If the forecast is positive, it would add more money to the bottom line. If not a good forecast, it would be a harder discussion. The forecast comes out later this month.

Peter Greenberg: If we start by offering bigger incentives, and then the legislature retroactively passes a tax credit, the people who installed at the beginning of 2018 will get more money than people who wait. If the legislature doesn't pass a tax credit, those people will miss out. People don't normally want to install in January anyway with the rain.

Meghan Craig: The workforce is already considering what to do with the change in RETC. Do they hire more people to work on the commercial side? Do they lay people off? The quicker we can give certainty to the industry, the better. A contract signed in January could go into April or May. If we say to wait until April or May, there won't be a pipeline of projects in the spring. We need to communicate that the incentives will change. Waiting to communicate would hurt the workforce.
Matt Getchell: We do have the ability to be flexible and look at all scenarios. If there is a possibility of a tax credit passing retroactively, we can include terms in incentive agreements to disallow combining with other incentives. We can cancel incentive reservations and ask people to reapply at a new rate.

Kendra Hubbard: I appreciate this working session. It's a great way to get more participation and get more visibility into things.

Jeff Bissonette: No matter what happens—if we are successful in achieving tax credit legislation or not—Energy Trust still delivers a lot of value to the industry and ratepayers. Complaints on solar are much smaller here, trade allies are held to high standards, and Energy Trust is able to play that role and deliver that value because they deliver incentives. Without incentives, it will be harder to deliver that value to customers. The value is more than the incentives, but when that tool is unavailable because of lack of above-market cost, is there a way that we continue to provide the value Energy Trust brings? One way or another as cost come down, we will need to consider this point.

6. Public comment
Erik Anderson: The Blue Sky Community grant window has opened. We're interested in more creative projects, such as with storage or electric vehicle components. We'll score projects higher that have a research and development opportunity or new thinking. Applications are due to Pacific Power on September 29, 2017.

Peter Greenberg : I recently cleaned my solar system and got a 6.5 percent increase in energy generation. Would you consider a $50 incentive for homeowners to wash their solar panels?
Jeni Hall: That is something to consider. We've seen contractors offer annual servicing agreements.

7. Meeting adjournment
Betsy Kauffman adjourned the meeting at 12:49 p.m. The next scheduled meeting of the Renewable Energy Advisory Council is on Friday, September 15, 2017.

Renewable Energy Sector—Solar Program

Solar Program Description

The Solar program aims to create a vigorous and sustainable market for solar in Oregon that will ultimately thrive without incentives. The program design is based on offering incentives that are managed in response to market behavior; increasing consumer awareness through education and marketing; protecting consumers by enforcing business and quality standards; aiding the industry to drive down non-hardware "soft costs;" and ensuring a robust, qualified installer base. In 2018, the program will focus on improving equitable access to solar for lower-income customers and supporting innovative applications of solar that provide greater value to communities or the grid.

The program works with an approved network of solar trade ally installers to provide incentives for construction of high-quality solar electric systems throughout Oregon. The program offers **standard incentives** for smaller-scale systems across all sectors and customer types. Starting in 2018, the program will provide periodic opportunities for **custom incentives** for solar projects that fall outside the standard offerings and provide additional community or utility benefits.

Solar 2018 Strategic Focus

- Provide incentives to help the market transition after the expiration of Residential Energy Tax Credits (RETC) at the end of 2017.
- Respond to market, regulatory and policy changes that affect the solar industry and solar above-market costs.
- Support the solar industry in making business, process and technical improvements that reduce soft costs.
- Maintain a pipeline of solar projects across sectors through project support, education, marketing and collaboration with industry and advocates.
- Support innovative applications of solar and advanced solar technologies to provide additional community or utility benefits.
- Engage with stakeholders across the state to identify strategies for increasing solar adoption in low- and moderate-income communities.
- Position the program to take advantage of new opportunities for demand-side management and peak management.

Solar 2018 Activities—Ongoing

Adapt incentive offerings to market changes

- Moderately increase residential incentives to account for expected higher above-market costs and lower demand after the expiration of the Residential Energy Tax Credit.
- Refocus and simplify standard commercial incentives to target smaller projects.
- With lower expected demand and more focused standard incentives, reallocate incentive funds to new initiatives noted below.

Support industry in soft-cost reduction

- Continue lead generation services to quickly connect customers with trade allies and reduce customer acquisition soft costs. Enhance customer website with new online solar calculator and improved automation and tracking.
- Provide trade allies with continued business development opportunities to improve their technical expertise, customer acquisition, project accounting and internal quality management processes.
- Continue statewide marketing to support consumer education about solar.

Provide data and expertise for decision-makers

- Support the OPUC with expertise and market data relevant to ongoing solar-related work, including community solar program development, storage and resource value of solar dockets.
- In partnership with the U.S. Department of Energy and software developer Kevala, continue development of mapping tools to provide context and visualization for localized solar impacts and benefits to the grid.
- Provide project development support to customers exploring the feasibility of using solar plus storage systems to provide grid benefits and/or improve community resilience.

Solar 2018 Activities—New

Enhance program delivery

- Implement PowerClerk 2.0, a new version of online incentive administration software that allows for better integrations and more customized offerings.
- Implement a new custom incentive targeting at net-metered solar projects that fall outside the standard offerings and provide additional community or grid benefits. Use this pathway to collaborate with utility voluntary fund programs to support projects with additional community value.

Support higher utility-value applications of solar

- Explore and test ways to deploy solar to meet peak energy needs, including pairing with energy efficiency, storage or flexible loads. Test methods to influence adoption of solar systems with more advanced controls for storage or flexible loads.
- Support targeted demand-side management efforts with partner utilities. Coordinate with utilities and customers to pilot applications for advanced solar technologies, such as smart-inverters and solar plus storage integration.
- Develop communication materials to address growing customer interest in solar plus storage.
- Leverage solar trade ally expertise to provide additional value for customers and utilities. For example, collaborate with efficiency programs to provide incentives when solar trade allies install smart thermostats at the time of solar installation.

Broaden access to solar and improve solar workforce diversity

- Solicit input from stakeholders on proposed strategies for increasing solar adoption in low- and moderate-income communities. With support from a U.S. Department of Energy grant, collaborate with the Clean Energy States Alliance and six other states to identify and prioritize strategies to increase access to solar for low- and moderate-income communities.

- Design and test a solar incentive offer for moderate-income customers in owner-occupied, single-family homes.
- Evaluate tools for measuring baseline adoption of solar by customer demographic and identifying opportunities for increased access.
- Dedicate outreach and contractor recruitment resources to promote participation of minorities and women in Energy Trust's ally network.

Solar 2018 Key Assumptions, Risks and/or Challenges

- The Residential Energy Tax Credit for solar systems will expire at the end of 2017. To qualify, customers will need to submit an application by December 31, 2017 and have their systems installed by April 1, 2018. This will likely result in heavier installation volume in Q1 and early Q2 of 2018, followed by a drop in residential installations for the remainder of the year.
- Continued declines in solar costs are assumed; however, the current Federal trade case may result in import tariffs that could significantly increase solar pricing in 2018 and beyond.
- If the legislature adopts a new state residential solar tax credit in the 2018 session, the above-market cost for a residential project may change quickly. The program will need to be prepared to make a swift change in incentive strategy if such legislation appears to move forward.
- OPUC's resource value of solar docket (UM 1716) will likely complete in 2018. Budget assumes any subsequent changes to net metering or compensation levels for solar generation would not be in place in time to impact above-market cost or incentive strategy in 2018.

Solar 2019 Expected Changes

- If above-market costs decline, the program will need to transition incentives out of segments of the market that need less support.
- The OPUC's community solar program will likely be active and available in 2019. As an alternative option to direct onsite installation of solar, this may influence demand for standard incentives.
- The Federal Investment Tax Credit (ITC) is will remain at 30 percent through 2019, and will step down to 26 percent in 2020.

Renewable Energy Sector—Other Renewables Program

Other Renewables Program Description

The program supports renewable energy projects up to 20 megawatts in nameplate capacity that generate electricity using biopower, geothermal, hydropower and wind technologies. Most projects are less than 2 megawatts in size. The goal of the program is to expand Energy Trust's renewable energy portfolio across a range of technologies and improve market conditions.

The program provides project development assistance incentives and installation incentives. **Project development assistance incentives** can pay for a portion of the costs of feasibility studies, technical assistance or other non-capital cost assessments and investigations to help projects move from concept to construction. Qualified projects may access project development assistance incentives multiple times, up to the limits of funding caps, enabling applicants to move through consecutive development activities. The program also provides **installation incentives** calculated on a custom basis after a detailed technical and financial review of a project's application. All incentives are paid following successful project installation or activity completion.

Other Renewables 2018 Strategic Focus

- Maintain development assistance and installation incentive support for a broad portfolio of technologies to sustain and grow Oregon's vibrant small- and community-scale distributed renewable energy generation markets.
- Focus outreach and project development assistance on technologies and project types able to offset onsite load or leverage additional benefits that can bring outside funders and financing.
- Continue innovative delivery models, such as the irrigation modernization initiative, to accelerate the pace of project development and completions.
- Continue efforts to optimize the performance of operating projects to maximize value for ratepayers.
- Support biopower projects using anaerobic digestion that can benefit operationally and financially from materials such as fat, oils and grease; source separated municipal food waste; food processing waste and brewery waste. Continue to assess regional markets for co-digestible feedstock.

Other Renewables 2018 Activities—Ongoing and New

Expand participation

- Focus development assistance outreach on irrigation hydropower and net-metered biogas projects while remaining open to supporting hydropower, biopower and geothermal projects outside of these target areas.
- Expand participation in the irrigation modernization initiative to meet increasing interest and market uptake.
- Expand outreach to water resource recovery facilities to include smaller facilities that may be able to pursue on-site generation and net-zero energy use through solar and/or anaerobic digestion.
- Hold two competitive solicitations for projects seeking installation incentives greater than $150,000.

Deepen relationships with customers

- Support existing irrigation modernization participants with technical assistance and project development assistance.
- Transition the first set of irrigation modernization participants to hydropower project design and other project development activities.
- Build relationships with project developers and stakeholders with biomass, small hydropower and geothermal potential.
- Support water resource recovery facilities in their efforts to reduce energy use and add new net-metered renewable energy projects, in coordination with energy efficiency programs.
- Explore modest incentive support to encourage optimization of generation at previously incentivized and operating facilities.

Efficiently manage administrative functions

- Manage Renewable Energy Certificate (REC) delivery from new projects while continuing work with PGE and Pacific Power to initiate REC delivery for existing, operational projects.
- Respond to data requests related to OPUC dockets and activity, legislative activity and other requests.

Other Renewables 2018 Key Assumptions, Risks and/or Challenges

- Staff assume there will be no new federal or state energy tax credits or incentive policies.
- The December 31, 2017 sunset of the Oregon Renewable Energy Development Grant (RED grant) will increase above market costs.
- Staff expect continued demand from the nascent clean fuels marketplace for sources of biogas to be processed into renewable natural gas for vehicle fueling and pipeline injection, reducing feedstock availability for renewable electricity generation.
- Staff anticipate flat or declining avoided-cost rates available for projects that sell power on the wholesale energy market, potentially leading to higher above market costs.

Other Renewables 2019 Expected Changes

- Staff expect 2019 activities to be similar to 2018.