

Webinar #12: Delivery System and Grid Modernization Solutions, Flexibility Analysis results, Portfolio draft results, and Economic, Health and Environmental Benefits Assessment of Current Conditions Status Update

2/11/2021

Overview

On February 10, 2021 Puget Sound Energy hosted an online meeting with stakeholders to discuss the delivery system and grid modernization solutions, the flexibility analysis results, the electric portfolio draft results as well as a status update on the Economic, Health and Environmental Benefits Assessment of Current Conditions. Additionally, participants were able to ask questions and make comments using a chat box provided by the Go2Meeting platform.

Below is a report of the questions submitted to the chat box. Answers to the questions were provided verbally by IRP staff during the webinar. Please note that questions were answered in order of relevance to the topic currently being discussed. Questions regarding other topics were answered at the end of the webinar session.

To view a recording of the webinar and to hear responses from staff, please visit the project website at pse-irp.participate.online.

Attendee

A total of 67 stakeholders and PSE staff attended the webinar, plus another 8 attendees who called into the meeting and did not identify themselves (75 people total).

Attendees included: Alexandra Streamer, Andrew Israelson, Anne Newcomb, Anthony O'Rourke, Ben Farrow, Benjamin Zwirek, Bill Pascoe, Bill Westre, Bob Williams, Brandon Capps, Brett Rendina, Brian Grunkemeyer, Bryan Tyson, Bruce Boram, Cathy Koch, Charlie Black, Charlie Inman, Christine Bunch, Colin Crowley, Court Olson, David Mills, David Tomlinson, Diann Strom, Don Marsh, Doug Howell, Elaine Markham, Elise Johnson, Elanor Ewry, Elizabeth Hossner, Eric Kang, Fred Heutte, Gurvinder Singh, Hayden Harvey, Irena Netik, Jennifer Magat, Jens Nedrud, Jeremy Ciarabellini, Jessica Yarnall Loarie, Jim Tarpey, Joni Bosh, Kara Durbin, Katie Ware, Kendra White, Kyle Frankiewicz, Lance Rottger, Leslie Almond, Lori Elworth, Marty Saldivar, Michael Goggin, Michael Rooney, Michele Kvam, Nate Sandvig, Norm Hansen, Pete Stoppani, Peter Tassani, Rahul Venkatesh, Renchang, Ryan Sherlock, Sachi, Sarah Laycock, Scott Williams, Shaughn Ryan, Stephanie Chase, Steve Greenleaf, Therese Miranda-Blackney, Tom Flynn, Tracy Rolstad, Tyler Tobin, Virginia Lohr, Warren Halverson, Wendy Gerlitz, Wiemin Dang, Zac, and Zhi Chen.

Questions Received

Questions from attendees are posted in the order in which they were received. The webinar began at 1:00 PM PDT and ended at 5:00 PM PDT.

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Name	Time Sent	Comment
Virginia Lohr	1:01 PM	The link distributed to me when I preregistered was wrong.
Elise Johnson	1:02 PM	Hi Virginia, I'm sorry to hear that! Did others have trouble with their link?
Virginia Lohr	1:02 PM	I don't know. This is the meeting number I was sent: 413142693
Elise Johnson	1:03 PM	Thank you, Virginia. I will work on troubleshooting this.
Don Marsh	1:20 PM	raise hand #12
Don Marsh	1:34 PM	Slide 17. Can you provide the full list of benefits associated with non-wires alternatives?
Joni Bosh	1:40 PM	Slide 19 - do you have some specific definition of "long term" that you are using?
Warren Halverson	1:42 PM	Would you please share PSE's specific use of batteries (grid, buildings etc) in the next 5 years, relate to eliminating or downsizing distribution and transmission lines.
Fred Huetten	1:42 PM	Question on slide 19
Don Marsh	1:42 PM	Question on 21
Christine Bunch	1:45 PM	How does the "missing link" planning work integrate with non-wire alternative planning?
Norm Hansen	1:45 PM	Norm Hansen. What about undergrounding? This increases the reliability remarkably during storms. With current technology it is economically feasible PSE could look at their peers for successes. What is PSE willing to do?
Don Marsh	1:46 PM	Question on 22
Kyle Frankiewicz	1:46 PM	Q on slide 21
Joni Bosh	1:46 PM	+1 to Christine Bunch question
Don Marsh	1:47 PM	Why don't we go back, slide by slide, and address all questions on each slide. Otherwise, we're going to go back and forth a lot.
Don Marsh	1:48 PM	Question on 23
Warren Halverson	1:49 PM	The WSJ Feb 6-7 "The Birth of the Super Battery" -- excellent article the experts say the cost of batteries per kwh is go from \$125kwh tdy; \$80kwh 3yrs; \$50kwh? What are implications to your plan and IRP decisions?
Joni Bosh	1:49 PM	Slide 22, how much of Kitsap are you looking at? the entire county? just a single feeder? Limited to Seabeck as on slide 23?
Don Marsh	1:52 PM	Question on 24
Brian Grunkemeyer	1:52 PM	Slide 21 - On Bainbridge Island, there are about 435 Tesla and Nissan cars there, which could be contributing up to 2.6 MW of load on weeknights, and this will grow with new EV's over time. However, I suspect some aggregators may not have participated because of a need to have already signed up drivers before starting the project. You might want to consider a marketing ramp-up period with PSE marketing materials in future program design, to get the right level of customer engagement.
Kyle Frankiewicz	1:57 PM	slide 25: 'operational flexibility' - what benefits does this phrase refer to?

Anne Newcomb	1:58 PM	Thanks Jens, what is the configuration of solar panels on these projects? Are the centralized or dispersed from site to site and how many are you using? This is very inspiring to see you are working on these non-wire projects. We want to support you in whatever way possible. Would it help to connect you with others around the world like in the UK who are having good success?
Don Marsh	1:59 PM	Question on 26
Don Marsh	2:02 PM	What would you say your most successful NWA projects are? Did they provide even more benefits than you anticipated?
Katie Ware	2:04 PM	What battery energy storage systems (and what durations) were modeled both in the non-wires runs and the hybrid runs?
Warren Halverson	2:06 PM	What factors are built into your IRP cost comparison analysis of brick old age type solutions versus newer technologies? Simply off shelf price comparison; flexibilities in the network; elimination of other elements; the next few years prices are going to really go down yet you are building, for example, transmission lines that have a life of 50 years. Comments?
Brian Grunkemeyer	2:08 PM	Have you considered structuring pricing for NWA projects based on aggregating devices (water heaters, air conditioners & EVs) to accept bids per kW, but with a dialable, variable total amount of power based on future marketing spend & consumer adoption rates? It may be less useful for system planning, but it's also hard to aggregate devices without a pilot or program in place in the first place. The ramp up time might only be 3-6 months, but the marketing campaign needs to be built in.
Anne Newcomb	2:08 PM	Are utilities able to make a profit on distributed energy? If not would new laws to address this be helpful?
David Tomlinson	2:09 PM	Jens, When you say the duration of energy storage limits its value, can you provide more definition on what duration lengths would be ideal for each of your four example projects. 24 hours, 72 hours or 3 weeks for example?
Charlie Black	2:13 PM	What price forecast for CARB GHG emissions allowances did PSE use?
Doug Howell	2:13 PM	I am still not clear if a cost of carbon was included in the benefits -- even without CETA -- and what was the carbon value that was attributed?
Joni Bosh	2:14 PM	Thanks
Jim Tarpey	2:15 PM	How long do you anticipate a NWA solution to last?
Anne Newcomb	2:17 PM	Is PSE looking for good locations for pumped hydro storage? Old mines are working well!
Anne Newcomb	2:20 PM	good thoughts Fred!
Brian Grunkemeyer	2:28 PM	I'm happy to follow-up offline with additional thoughts on my comments.
Katie Ware	2:34 PM	Do the flexibility cost savings incorporate the SCGHG?
Doug Howell	2:34 PM	Slide 32. Do the gas plants include CETA's \$74/ton social cost of carbon?
Brian Grunkemeyer	2:35 PM	Elizabeth, is that flexibility value of DR in addition to say the normal market price for DR, of up to say \$100-\$120/kW-yr? Or is that \$35 embedded in the market price for DR?
Bill Pascoe	2:37 PM	Question on 32

Charlie Black	2:37 PM	What did PSE's flexibility analysis assume about flexibility capabilities of CCCTs? For example, did PSE look at costs for incrementally increasing or decreasing generation from a starting point of partial loading on a CCCT?
Anne Newcomb	2:37 PM	on slide 33, what is your base load?
Kyle Frankiewicz	2:38 PM	slide 33: I don't understand exactly how the analysis works and these figures are calculated. Why would a 4-hr Li-ion battery perform worse than a 2-hr?
Anne Newcomb	2:38 PM	Also, this is great to see!
Charlie Black	2:40 PM	For clarification, did PSE include Social Cost of Carbon as a variable cost of dispatch?
Kyle Frankiewicz	2:41 PM	slide 32: iirc, the fixed-cost SCGHG adder is being included as a \$/kw-yr. Is this correct? If so, then do these cost savings include adjustments made to that SCGHG fixed-cost adder to account for any changes in a thermal resource's dispatch?
Katie Ware	2:42 PM	We recommend additional considerations to operational flexibility (both up & down) offered by controllable solar and wind power plants
Joel Carlson	2:44 PM	When will the Tono solar project in Thurston County be built?
R.C. Olson	3:03 PM	I've lost audio.
Alexandra Streamer	3:06 PM	Court, it's still coming through on our end. Are you able to leave and return to the meeting?
Fred Heutte	3:28 PM	Have a question...
Doug Howell	3:30 PM	Have you been consulting with Front & Centered on equitable distribution of benefits?
Doug Howell	3:39 PM	Slide 52. How do you define biomass? Just this include forest biomass? How does this align with Dept of Commerce that says development of renewable natural gas is very limited? * Does this include forest biomass?
Katie Ware	3:48 PM	Elizabeth, we spoke in January about PSE modifying sensitivity P to allow the model to consider a mix of storage resources (4-hour standalone storage, 8-10 pumped hydro, solar/wind paired with 4-hour storage and demand response) -- will this be included in the final IRP?
Don Marsh	3:48 PM	Slide 56: We are still emitting 1 million tons of CO2 in 2045? Is that compliant with CETA?
Bill Pascoe	3:49 PM	Question on 52
Charlie Black	3:50 PM	Are resource additions available by type of resource on an annual basis?
Fred Huette	3:50 PM	Have a comment about the 6-year EE/DSR ramp scenario.
Charlie Black	3:50 PM	Especially interested in annual resource additions by type of resource during 2021-2030.
Charlie Black	4:04 PM	It is very disappointing that PSE is not sharing any detail on the types of resources being added in the different portfolios, except as an aggregate total between 2021 and 2045. This makes it almost impossible to assess the reasonableness of PSE's analysis and results. It's also disappointing that the resource portfolio results are being kept so opaque at such a late stage in PSE's 2021 IRP process.

Christine Bunch	4:07 PM	Are non-energy benefits quantified for the ranking analysis related to customer benefit indicators? Examples might include fossil fuel savings from oil, propane, diesel, health/comfort, etc.)?
Pete Stoppani	4:08 PM	Is anyone from Front and Centered here? If not, will you get their feedback before moving forward on the benefits?
Christine Bunch	4:10 PM	Other indicators should be specific to energy burden - % of participation in EE programs from low-income households, % of households participating in weatherization programs, % getting access to utility discounts, etc.
Doug Howell	4:14 PM	Slide 63 - This looks as though you exceed the cost cap
Anne Newcomb	4:15 PM	why do you think 6yr DSR drops and then goes up sharply?
Bill Westre	4:16 PM	S-62 What discount rate was used for amortization of the scenario costs?
Joni Bosh	4:17 PM	Slide 63 the incremental cost calculations are between the preferred portfolio and the alternative portfolio. Is Sensitivity T the preferred portfolio?
Bill Westre	4:18 PM	Another question on S62
R.C. Olson	4:18 PM	What is the amortization period used in spreading the resource costs in slide 63?
Katie Ware	4:19 PM	Will the new portfolio adjusting for the 2% threshold consider altered timelines for new resource procurements, new resource mixes altogether, or both?
R.C. Olson	4:21 PM	When can we expect to see the new "adjusted portfolio" and the mix of resource acquisitions schedule?
R.C. Olson	4:23 PM	What resource life values are you using for utility solar and for wind farms?
Bill Westre	4:24 PM	How many years was used in the analysis?
R.C. Olson	4:27 PM	On slide 63 what electricity demand curve projection for the future are you using. Was it changed since Dec 15th. Is it projected to stay flat?
R.C. Olson	4:28 PM	Is that base demand forecast the same as it was in Dec 15th
Don Marsh	4:28 PM	I have a couple of questions in the first section.
Bill Westre	4:33 PM	Will you run the analysis (S62) with a 2.5% discount rate?
Anne Newcomb	4:37 PM	From what I understand solar panels are under warranty for 25 years but actually last much longer. have you considered adding longer lifespans into your modeling? don't wind turbines live longer than 25 years as well?
Pete Stoppani	4:45 PM	#27 If a solution is not needed for 3 years, shouldn't "Perform NWA Analysis" come after "Need Date > 3 Years" rather than after the capacity and cost tests?
Anne Newcomb	4:47 PM	considering onshore wind and solar are the lowest cost energy resources in 2020 and 2021 why does your modeling show it is expensive?