

Webinar #11: Flexibility analysis & Portfolio draft results

12/16/2020

Overview

On December 15, 2020 Puget Sound Energy hosted an online meeting with stakeholders to discuss the Flexibility analysis and Portfolio draft results. 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.

Attendees

A total of 79 stakeholders and PSE staff attended the webinar, plus another 9 attendees who called into the meeting and did not identify themselves (88 people total).

Attendees included: Alison Peters, Andrew Padula, Anne Newcomb, Barret Stambler, Bill Donahue, Bill Westre, Bob Stolaski, Bob Williams, Brett Rendina, Brian Tyson, Brian Grunkemeyer, Bruce Boram, C Bunch, Camerson Yourkowski, Cathy Koch, Charlie Black, Charlie Inman, Cody Duncan, Corey Kupersmith, Corina Pfeil, Court Olson, Cuong Nguyen, David Meyer, David Tomlinson, Diann Strom, Dillon Stambler, Don Marsh, Doug Howell, Elise Johnson, Elizabeth Hossner, Elyette Weinstein, Eric Markell, Fred Heutte, Gurvinder Singh, Horea Catanase, Irena Netik, James Adcock, Jennifer Magat, Jessica Raker, John Fazio, Jon Piliaris, Joni Bosh, Kara Durbin, Katherine Kissinger, Katie Ware, Kendra White, Kelly Xu, Kevin Jones, Kyle Frankiewich, Larry Becker, Leslie Carlson, Lori Elworth, Lorin Molander, Mark Lenssen, Matthew Shapiro, Michele Kvam, Nate Sandvig, Norm Hansen, Patrick Leslie, Rahul Venkatesh, Rob Briggs, Ron Roberts, Ryan Sherlock, Sarah Laycock, Scott Thomas, Scott Williams, Stephanie Chase, Steve Greenleaf, Therese Miranda-Blackney, Tom Eckman, Tracy Rolstad, Tyler Tobin, Virginia Lohr, Virginia Wiseman, 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.

Name	Time Sent	Comment
Don Marsh	1:03 PM	I'm aware of people waiting to get into the meeting.
Virginia Lohr	1:03 PM	The ink you sent out is not working!
Virginia Lohr	1:04 PM	The LINK does not work
Elise Johnson	1:05 PM	Hi Virginia! Is this the meeting link you're referring to?
Virginia Lohr	1:05 PM	The link sent out if your registered is wrong and says waiting for host to open. that is probably where people are waiting.
Don Marsh	1:07 PM	Court Olson and Fred Heutte have not been able to join.
Kyle Frankiewicz	1:07 PM	the link on PSE's public-facing IRP website worked for me: https://pse-irp.participate.online/get-involved
Virginia Lohr	1:07 PM	https://global.gotomeeting.com/join/413142693 . This is the bad link you sent out.
James Adcock	1:08 PM	How about this one: https://global.gotomeeting.com/join/255497885
Alison Peters	1:09 PM	Yes, James. That's the right link.
Michele Kvam	1:09 PM	Thank you, Jim! That is the correct link.
Elise Johnson	1:09 PM	Thanks for letting us know, all. We will send out an email with the correct link ASAP.
Doug Howell	1:12 PM	Would you please make note when there are changes in the slides that were release last week versus what is being used today?
James Adcock	1:13 PM	Whether or not I had a proper amount of time to develop my questions, I did ask a lot of question, because the slides for this meeting I found to be particularly confusing. I hope you will actually answer my questions so that we can all attempt to answer your slides.
Elise Johnson	1:14 PM	An email is now being sent with the correct link. Thank you, all!
James Adcock	1:14 PM	Sorry "so we call all attempt to *understand* your slides."
Elise Johnson	1:18 PM	Hi Doug! The slide deck being used today can now be found on the PSE IRP website at the following link: https://oohpseirp.blob.core.windows.net/media/Default/2021/meetings/December_15_Webinar/Webinar%2011%20-%20Presentation.pdf
Kyle Frankiewicz	1:21 PM	slide 15: I'm guessing that when the bars are higher than the CETA target, that represents overgeneration that comes with lots and lots of renewables. Is this correct?
Joni Bosh	1:23 PM	slide 16. Please repeat - does the red represent new peak gas plants?
Kyle Frankiewicz	1:23 PM	slide 16: Is the NG in 2045 within line losses or why is there still NG in 2045?
Joni Bosh	1:25 PM	18 DOes the carbon price include the SCGHG?
Kyle Frankiewicz	1:26 PM	slide 18: is this out-of-model or are RECs pinned to the CA market forecast selectable within the LTCE model?
James Adcock	1:27 PM	Slide 18 Question: Given that California is a "Double Counting" state that does not require the retirement of RECs used for "government mandates" -- unlike the definition of "RECs" used in CETA and by the EPA, why does it make sense to use Californian Carbon Prices? Shouldn't the use of Californian [fake] RECs be prohibited for CETA purposes? Shouldn't the price of "Real" RECs -- RECs meeting the definitional requirements of CETA and the EPA -- be higher in price?

James Adcock	1:30 PM	Slide 16 Question: Where do you think you can get that much Biomass ???
Fred Heutte	1:30 PM	On slide 16: what resources are included in "peaking capacity"
Kyle Frankiewicz	1:33 PM	Elise, I think you may have missed Joni's and my Qs on slide 16
Kyle Frankiewicz	1:33 PM	i'm comfortable coming back at the next pause
Charlie Black	1:35 PM	What price forecast for CARB GHG emissions allowances did PSE use?
Don Marsh	1:35 PM	Question on slide 21. Why are the numbers for DR and DER so tiny?
Don Marsh	1:36 PM	Those numbers seem very small compared to other utilities pursuing DR and DER.
Anne Newcomb	1:37 PM	Can more wind come online sooner? Before 2025?
Doug Howell	1:37 PM	How maximize existing gas instead of acquiring new?
R. C. Olson	1:38 PM	Are you assuming Market resources are fossil based?
James Adcock	1:39 PM	Slide 23 Question: You are showing a hypothetical future load "Jan 2 - Jan 4 2030" -- how exactly are you creating this future hypothetical load schenario?
Brian Grunkemeyer	1:39 PM	Slide 23: How can we be sure the market will be there if there is a substantial cold event affecting say most of the state? And would DR be your preferred option to meet peaking capacity?
Don Marsh	1:40 PM	I have a number of questions on slide 23. Best to ask them interactively I think.
Nate Sandvig	1:40 PM	How much of this market is out of region?
Bill Westre	1:40 PM	S-23 You currently have nearly 200MW of CCCT and peaker power. What justifies the new paekers?
Alison Peters	1:40 PM	Question from Nate S; how much of market is out of region?
Bill Westre	1:41 PM	S-24 I meant 2000MW
Nate Sandvig	1:41 PM	Is PG&E exchange agreement in these numbers?
Doug Howell	1:41 PM	Slide 24. If conservation does not assume a 6-year ramp verus a 10-year ramp rate, what is the additional contribution?
Doug Howell	1:42 PM	Now that PSE sale of Colstrip Unit 4 is happening, what does the new analysis say of Colstrip economics right now. The sale proceeding seem to reveal that Colstrip is not economic now.
Doug Howell	1:43 PM	* Colstrip sale NOT happening
Nate Sandvig	1:45 PM	based on PGE experience, given building new natural gas is extremely difficult if not impossible, what is scenario plan in the alternative?
Fred Heutte	1:45 PM	Slide 23: how frequent are extended duration events such as the one shown here happening in the modeling overall. Is it about 1 per year or something else?
Fred Heutte	1:46 PM	Slide 23: what is the cost of additional gas transportation and firm gas or other contractual provisions to provide gas to ride through long duration events?
Doug Howell	1:48 PM	Montana wind - you have about 350 MW of freed up Unit 1 and 2 so why couldn't you bring in Montana wind right now?
Doug Howell	1:49 PM	MW of transmission

Fred Heutte	1:51 PM	Just to note on market availability, PacifiCorp has documented that Mid-C transaction volume has fallen by about half since 2016, potentially related to the increase in EIM participation.
Fred Heutte	1:56 PM	my understanding is that gas can be held as spinning reserve if it's not being used for market dispatch
Brian Grunkemeyer	1:56 PM	Slide 23: Why is there no DR in this picture?
Fred Heutte	1:56 PM	correction, "market dispatch" better said as "dispatch to load" in the single-utility context
R. C. Olson	1:59 PM	Why did the model pick new peaker capacity and not add demand response capacity instead?
Alison Peters	2:01 PM	And we will move any leftover q's to the Feedback Report if we still have some at 5pm. Thank you.
James Adcock	2:05 PM	Slide 26 Question: I don't understand "I. SCGHG ..." -- can you please clarify what you are talking about here?
Kyle Frankiewich	2:06 PM	Slide 26: I understand that N, O, and one of the other ones are not actually included in this presentation. May want to correct the slide header
Alison Peters	2:07 PM	A friendly reminder to please stay on mute while speakers are presenting. Thank you.
Kevin Jones	2:07 PM	Slide 26 - Did PSE publish the results of the sensitivity voting? How many votes did sensitivity N receive?
Joni Bosh	2:07 PM	slide 27 - where are the actual values used for mid low and high found? Which previous presentation?
R. C. Olson	2:09 PM	How can PSE model conservation as a controlled variable? Conservation is happening outside of PSE control.
Elise Johnson	2:10 PM	Hi Kevin! Yes, this was published in Consultation Update #9: https://pse-irp.participate.online/consultation-updates
Tom Eckman	2:10 PM	Slide 28 - Was the amount of available conservation available less than the mid for the low forecast and more for the high forecast, given that you said there were lower and higher levels of population growth in these forecasts?
Eric Markell	2:11 PM	What project financing assumptions underlie assumed availability of MT and WY wind? Is assumed availability bi-lateral long term contracts or merely Mid C spot purchases?
James Adcock	2:12 PM	Slide 29 Question: Can you define "Annual Portfolio Costs" -- is this really "Annual" costs or is "Cumulative" Portfolio costs?
Elyette Weinstein	2:16 PM	Please add the answer to Joni's question to slide 27. This will help your audience. We should not have to rifle through the October presentation, This should not be a challenge for your audience to make sense of the slides, especially since you have easiest and quickest access to this data.
Elise Johnson	2:20 PM	Hi Elyette! The October presentation can be found here: https://oohpseirp.blob.core.windows.net/media/Default/2021/meetings/Oct_20_webinar/Webinar%209%20-%20Electric%20IRP%20Presentation.pdf
James Adcock	2:26 PM	Slide 31: I'm trying to understand battery storage being displayed as a negative number. I understand that when battery charges it represents a negative number, but when it discharges it represents a positive number, so shouldn't it also be displayed "above the line" -- above the zero mark?

Charlie Black	2:29 PM	Did I hear Elizabeth say today that all market power purchases are treated as unspecified energy? If so, does this mean that it is assumed PSE is only using owned and contracted renewables for CETA compliance?
Charlie Black	2:29 PM	This question is relevant for the overgeneration analysis.
Anne Newcomb	2:30 PM	Was a sensitivity run that uses excess energy to create Hydrogen?
Kyle Frankiewicz	2:30 PM	oh, this is because the units are in aWM, and batteries don't 'make' MWhs.
Doug Howell	2:32 PM	Slide 35. Would you confirm that you currently have about 350 MW of TX capacity from the closure of Colstrip Units 1 and 2?
Eric Markell	2:34 PM	To All: What project financing assumptions underlie assumed availability of MT and WY wind? Is assumed availability bi-lateral long term contracts or merely Mid C spot purchases?
Kyle Frankiewicz	2:37 PM	slide 36: did PSE do this analysis for its rerouting of some Tx rights from PSE-owned wind projects to MidC?
Doug Howell	2:37 PM	So PSE could bring in some new Montana wind now.
James Adcock	2:38	Slide 37 Question: Can transmission still be "shared" when there is little conflict -- for example when Battery Storage and Wind are on the same Transmission "Stub Line" -- where battery will charge from Wind when Wind runs, and therefore actually represent a negative load on the Transmission stub line?
Kyle Frankiewicz	2:38 PM	or, how does this analysis differ from that resource decision?
James Adcock	2:44 PM	Comment: The reason I asked was that PSE previously showed Battery costs (incorrectly I believe) including the costs of a 10 mile long dedicated stub line for that battery -- when that is NOT how your competitors are building Battery Storage -- rather they are building Battery Storage where additional new transmission line dedicated to that Battery Store *Is Not* needed.
Doug Howell	2:46 PM	Slide 38. Why isn't SCGHG when treated as an externality included in the dispatch model?
James Adcock	2:48 PM	Slide 39 Question: So am I understanding correctly, if PSE models SCGHG as a dispatch cost -- as many people have called for PSE to do -- then fewer new Natural Gas Peakers are required to be built?
James Adcock	2:50 PM	Does a phone user perhaps not have their phone on mute?
Eric Markell	2:51 PM	Slide 41 Does "retirement" mean deconstruction and site restoration? Are those entire costs included in your costing methodology?
Tom Eckman	2:52 PM	Slide 38 - Since the SCC is not applied to the hourly dispatch cost, this sensitivity appears to only impact resource selection, but not resource dispatch. Is that correct? If so, it doesn't seem to test whether including SCC in dispatch cost would further reduce GHG emissions due to lower fossil resource utilization.
Don Marsh	2:53 PM	Slide 42. Can you remind us why batteries have only 12.4% ELCC?
Nate Sandvig	2:53 PM	slide 41, you say "batteries," did you look at pumped storage?
Joni Bosh	2:54 PM	! to tom eckman's question.
Doug Howell	2:58 PM	Please respond to Tom Eckman's question about SCGHG and dispatch modeling.

James Adcock	3:02 PM	Slide 47 Question: My understanding is that the 2% cost cap limit "offramp" possibility does not exist prior to 2030 -- i.e. that PSE is strictly required to meet "80% in 2030." Is this PSE's understanding also, or does PSE believe that they can use the 2% 'offramp" prior to 2030?
Doug Howell	3:04 PM	Yes, it was understood that modeling needs to be in dispatch
Doug Howell	3:04 PM	When with the results of SCGHG in dispatch modeling be available?
James Adcock	3:08 PM	If PSE is going to answer questions in a future report, can PSE answer the questions *specifically* rather than lumping them all together and answering generically in a way that perhaps makes sense to PSE, but which doesn't make any sense to the people who actually asked the questions?
Joni Bosh	3:09 PM	No
James Adcock	3:10 PM	Raise hand
Brian Grunkemeyer	3:11 PM	raise hand
Kyle Frankiewich	3:11 PM	raised hand
Elise Johnson	3:12 PM	Hi James! Referring to your question on feedback reports - the feedback reports do answer the questions with line-by-line answers. For an example, you can refer to one of the reports: https://oohpseirp.blob.core.windows.net/media/Default/2021/meetings/Oct_20_webinar/Webinar%209%20-%20Electric%20IRP%20Feedback%20Report.pdf
James Adcock	3:13 PM	+1 "Smart Water Heaters."
Eric Markell	3:14 PM	What is the general order of magnitude of increased credit that will be required of PSE to provide to market resources as purchased power to replace Colsgrip and Centrailia and CCCTs
Kevin Jones	3:16 PM	Could you answer Kyle's question: Slide 48 - For the no CETA case, how is this cost not \$0?
Charlie Black	3:16 PM	Agree with Kyle Frankiewich about showing the social costs of GHG emissions, valued at the SCGHG.
Kyle Frankiewich	3:37 PM	slide 56: what do the inputs look like for intermittent resources?
Kyle Frankiewich	3:40 PM	slide 56: relatedly, where does the variance to forecast occur for wind and solar? I would guess the last two steps, but some clarification would be helpful.
Brian Grunkemeyer	3:41 PM	Slide 57: The DR call restrictions are exactly why PSE should model Demand Flexibility resources as a new type of conservation measure.
James Adcock	3:43 PM	Slide 58 Question: Why are you seeing so much unexpected "Night Hour" variability in the Dec. 30 Example?
Kyle Frankiewich	3:43 PM	slide 57: do the attributes of DR align with CPP, or some other DR resource? I understand that demand resources like water heaters can be callable multiple times a day without perceivable performance impacts to end users. These would presumably have a lot more value to this modeling goal than a lumpy DR program as shown.
Fred Heutte	3:45 PM	slide 55: "When the model must flex generation up, it can turn on dispatchable plants, discharge batteries, or buy power from the market." Can the model not also dispatch DR?

Zhi Chen	3:45 PM	PSE is using NREL data for wind and solar resources as the inputs in PLEXOS. Same input source as Aurora and the resource adequacy model.
James Adcock	3:47 PM	Slide 60 Question: Why wasn't Battery Storage included in this analysis?
Kyle Frankiewicz	3:47 PM	slide 60: are the purchases and sales connected to the energy imbalance market? Seems like the EIM is a big intra-hour market that could lower costs or increases benefits for these types of problems
Tom Eckman	3:51 PM	Since it was stated earlier that conservation significantly reduced the amount of renewables needed to meet CETA, how is this benefit captured in the flexibility analysis, since it impacts the amount of balancing reserves needed?
Eric Markell	3:51 PM	Slide 62 Is the PSE staff aware of any specific site in the PNW where a utility scale pumped hydro project could be permitted, constructed and financed?
Zhi Chen	3:51 PM	The model has the CAISO EIM engine. But no EIM transactions so far. PSE could add the market players later on. All market purchases and sales (DA, ID, and IH) connected to the Mid C market so far.
James Adcock	3:52 PM	Slide 63 Question: Sorry I really don't understand what you are talking about in this slide. Can you go over it again in more detail to I can try to understand it?
Don Marsh	3:53 PM	Raise hand
Nate Sandvig	3:53 PM	lot of opportunities to comment with what you are asking from stakeholders due dec 28 over the Holidays. can we get a week extension at a minimum?
Nate Sandvig	3:53 PM	"heavy"
Charlie Black	3:53 PM	How do PSE's draft results on flexibility analysis compare with other utilities' IRP analyses?
Kyle Frankiewicz	3:54 PM	re: other resources - PAC's 2019 IRP process explored a number of approaches to countenancing the value of dispatchable resources. Some were more palatable for stakeholders than others, but all were worth reviewing.
Tom Eckman	3:54 PM	PacifiCorp is using PLEXOS to evaluate the value of ancillary services, including balancing reserves.
Fred Heutte	3:56 PM	And in fact they are now using Plexos as their primary IRP model, replacing System Optimizer.
Fred Heutte	3:56 PM	These days Plexos is more of a model ecosystem than a core model.
Brian Grunkemeyer	4:02 PM	About your flexibility analysis, I thought your 2017 numbers were very low. But I had no comparison point to prove it, short of an anecdote from SRP saying they only had 150 MW of ramp capability.
Matthew Shapiro	4:04 PM	Also in pumped storage is the proposed Badger Mountain project in Douglas County, at the Mid-C hub. 500 MW.
Brian Grunkemeyer	4:08 PM	Elizabeth, on flexibility, SRP several years ago was considering a mix of demand response, demand flexibility (from electric vehicles), and maybe new generation to increase their ramp rate. Flexibility is cheap is you have it, but if you don't have it and need to build a new power plant, it's not free.
Brian Grunkemeyer	4:09 PM	This is made worse by CAISO market restrictions on DR. Basically, you need ramp to get ramp. It's a chicken and the egg problem.
Fred Heutte	4:19 PM	slide 70: it's a little hard to tell with the coloring, how much is JP & redelivery, and how much is Tacoma LNG

Don Marsh	4:19 PM	Slide 70: the relatively flat dashed line starts to increase in 2032. Is this because the 10-year ramp rate has expired?
C Bunch	4:34 PM	Like CA, many cities in WA are looking at gas expansion regulation. How is regulation factored into sensitivities analysis or demand?
Rob Briggs	4:50 PM	Would you please clarify Gurvinder's answer to the question on sensitivity analyses of new regulation of new gas hookups or the impact of electrification trends. Is there a sensitivity analysis coming as part of the 2021 IRP that will examine that potentially very significant trend?