

Northwest Power & Conservation Council
Systems Analysis Advisory Committee
April 14, 2021

John Ollis, NWPCC, began the meeting at 9:00am. Chad Madron, NWPCC, reviewed the best way to use the Go-to-Webinar platform. Ollis asked that any comments or corrections to the March 31, 2021 minutes be sent to him.

Discussion of Markets for Energy and Capacity Scenario Part2

A deep dive into results and a look at new analysis. Ollis discussed methodological approaches and setup for markets for energy and capacity scenario; shared buildouts from AURORA for the organized market, limited market, and no gas build limitations; discussed needs assessment and resource strategy, and additional market tests

Tomás Morrissey, PNUCC, confirmed that Solar + Storage on [Slide 12] is a one-to-one pairing with a four-hour battery. Ollis confirmed.

Fred Heutte, NW Energy Coalition, called it interesting to watch things shift around across the scenarios and WECC versus PNW. He noted that battery doesn't shift much [Slide 16] and wondered why. Ollis thought that NW hydro flexibility matters at different levels depending on the scenario. He stressed that the WECC is very long, but there are pressures and tightness in different time periods where that flexibility is important. Ollis agreed that the fact that it doesn't change is interesting, adding that there are buildouts but not as big as some people imagined.

Heutte said this echoes what was said in the earlier DRAC meeting, and wondered about DR meeting peak need instead of stand alone storage. Ollis said yes, noting that certain types of DR have the same signals and advantages of batteries and DR may start looking really good.

Eric Graessley, BPA, asked if the solar plus storage resources use a fixed shape or if the storage can shape dynamically. Ollis said AURORA does not have a dynamic shape because of modeling compromises and there is probably some more flexibility.

Heutte addressed transmission issues, wondering if the organized market helps work around some transmission limitations with a zonal approach. Ollis said yes, agreeing there are transmission limitations. He said removing wheeling costs and using one, WECC-wide reserve margin means you can build any resource where it is least expensive and fits needs. Heutte thought focusing on the reserves is key.

Graessley noted that in the first ten years, "no gas" pricing looks higher on average [Slide 21] He asked if that's because you don't have a massive buildout right off the bat. Ollis thought that was right, due to less buildout in the early years.

Resource Strategy Results

Ben Kujala, NWPCC

no discussion

Limited Markets

Morrissey noted that the discussion reveals a PNW with fewer needs with a limited market and asked if the WECC is also in better shape with a reduced build. Ollis answered no, it's less adequate than the baseline adding that it is not meeting reserve margins and has more load curtailments in different hours.

Morrissey asked if AURORA is building more resources in the NW. Ollis said yes, it's building more than in the baseline.

Elain Hart, Moment Energy Insights, asked what years are represented on [Slide 38 and 39] Ollis answered Hydro year 2031 from Oct-Sept. Hart thought when looking at the scenarios in the near range, 2022-23, one would expect conditions that more closely mirror present day conditions and we are not. She asked if the adequacy signal can be trusted. Ollis said most runs show near-term needs and there is a lot of activity. He said even if the year is not exactly right, we should keep an eye out for these narratives. Ollis said the effect may not show up tomorrow but it might in the next five years.

Kujala added that the resource strategy includes climate change information which might cause an instant shift.

Hart asked why the Hourly Price Distributions on [Slide 43 & 44] do not appear to have a mean of 0. Kujala said the price distributions take the hourly price from AURORA and subtract it from the average quarterly price, explaining that RPM produces 300 quarterly prices so it uses this information to get the hourly distribution. Kujala said the lack of a mean of 0 is an artifact of graphing and you should assume a mean of 0.

Morrissey asked what the RPM quarterly price is. Kujala said it will change, but it is the electricity price forecast. Ollis suggested looking at the monthly sides to get an idea of the range. Ollis said he will post information for the scenarios.

Morrissey said RPM gets the AURORA price and creates an equilibrium price which is impacting what gets built. Kujala said yes, adding that RPM changes the price to get to load resource within a window of tolerance. Morrissey said it would be helpful to see equilibrium price results. Kujala said there will be 300 of those that will shift the prices. Morrissey said it would be fun to look at them.

Ahlmaz Negash, Tacoma Power, asked about the assumption in AURORA that allowed for negative pricing. Ollis said the foregone REC or PTC is driving the negative pricing. He pointed to

a REC forecast that looked at shadow prices when trying to meet clean policies adding that negative pricing mean renewables are on the margin.

Graessley agreed that seeing the comparison of RPM equilibrium prices for the scenarios would be very helpful. Ollis said they will be posted. Kujala agreed but cautioned that there might not be as much difference as expected but there may be things to learn.

Hart thought it would be constructive to compare near term thermal commitment to what you see for 2020 when the west has been relatively constrained. Ollis thought that would be a good point of comparison and offered to dig in more, but cautioned that the climate change numbers could be influencing this.

BREAK

Demand Response Binning Strategy Sensitivity

Ollis reviewed observations on DR and 2021 Plan fundamentals, the early binning strategy and recently reconfigured binning sensitivity, and high-level takeaways from the reconfigured binning.

There was no discussion.

Greenhouse Gas Tipping Point Scenario

Ollis described the scenario, which is to look at thresholds where the resource strategy changes in response to a price on greenhouse gas emissions and regulations related to reducing emissions. Ollis provided preliminary results on AURORA buildouts and resource strategy information.

There was no discussion

GHG Tipping Points—No Social Cost of Carbon

Kathi Scanlon, WA UTC, asked if the Social Cost of Carbon means damage costs or in dispatch. Kujala said it is always damage costs and there is no cost in dispatch. Ollis said there will be a look at dispatch costs coming.

Ollis asked that any questions or comments be sent to him, adding that it is getting close to the deadline for the Draft 2021 Plan.

Ollis adjourned at 12:15.

Attendees via Go-to-Webinar

John Ollis	NWPCC
Ben Kujala	NWPCC

Hazel Aragon	CEC
Leann Bleakney	NWPCC
Frank Brown	BPA
Aaron Bush	PPC
Zhi Chen	PSE
Robert Diffely	BPA
Ben Fitch-Fleischmann	Northwestern
Eric Graessley	BPA
Charles Grist	independent
Doug Grob	NWPCC
Jared Hansen	Idaho Power
Elaine Hart	Moment Energy Insights
Fred Heutte	NW Energy Coalition
Mike Hoffman	PNNL
Charlie Inman	PSE
Tina Jayaweera	NWPCC
Massoud Jourabchi	NWPCC
Torsten Kieper	BPA
John Lyons	Avista
Ian McGetrick	Idaho Power
Shauna McReynolds	PNUCC
Tomás Morrissey	PNUCC
Heather Nicholson	independent
Paul Nissley	SCL
Sashwat Roy	Renewable NW
Kathi Scanlan	WA UTC
Kelli Schermerhorn	Northwestern
Tyler Tobin	PSE
Ben Ulrich	EWEB
Saul Villarreal	SCL
Jim Waddell	independent
Brian Dekiep	NWPCC
Ahlmahz Negash	Tacoma Power
Tanya Barham	Community Energy Labs
Jonathan Belais	NEEA
Ryan Fulleman	Tacoma Power