Northwest **Power** and **Conservation** Council

Minutes for Systems Analysis Advisory Committee
November 5, 2025

John Ollis, NWPCC, began the meeting at 9:00am. After Chad Madron, NWPCC, explained how to best interact with the Zoom Webinar platform, Ollis took attendance.

Market Availability Study Preliminary Results and Implications

Sophie Major, WA UTC, asked if having Inflation Reduction Act (IRA)policies come back in 2030 is the strategy for a sensitivity or a base case [Slide 13]. Ollis answered that it's a sensitivity adding that there is no official base case right now.

Nicolas Garcia, WPUDA, asked if staff plan to reincorporate all of the original IRA policies exactly as they stood or if there will be any changes. Ollis said staff are only making assumptions around the production tax credit and the investment tax credit for renewables and efficiency along with the 111(b) requirements. Garcia said this made sense even though he doubted these policies would come back exactly the same. Ollis agreed.

Blake Scherer, Benton PUD, confirmed that the near-term availability of new transmission is delayed six years and nuclear is 10 years, before asking where the delay for these resources start [Slide 17]. He wondered if it's from the beginning of the study horizon or delayed from the old assumption. Ollis answered that the delay is different for different resources before listing some examples.

Scherer said it sounds like the delay is from old assumptions. Jennifer Light, NWPCC, confirmed, saying the delays push the clean baseload and clean, medium-duration storage out of the study horizon leaving, clean long-duration storage as the only clean emerging tech proxy. She added that this comes in 10 years later than originally planned.

Scherer said this complicates things. Ollis explained where California offshore wind would fit into the work. Light put specifics for the assumptions for generating resources in the chat pane, noting that they are available on the Ninth Plan technical page.

Scherer then moved to [Slide 18] asking why the graphic have no explainers. Ollis moved back to [Slide 16] to show the explainer and then moved to [Slide 19] delve further.

Scherer clarified that his question goes back to the fact that there is no base case, wondering what is assumed for everything besides transmission. Ollis said this was covered in previous work and it will be addressed later in the presentation.

Sibyl Geiselman, Public Generating Pool, asked about availability limitations, wondering if adoption looks like a hockey stick when these resources finally do become available or if there are some limits [Slide 22]. Ollis answered that all resources have some level of limits. Geiselman confirmed that it is a ramp and not a cliff. Ollis said yes, adding that without limits the model overwhelmingly chose these resources which created a risk.

Angelena Bohman, WA UTC, asked about the values used for the assumptions on [Slide 23] and how that is different than a hypothetical "base case." Ollis said there is nothing different on this slide. Light discussed the approach of using the ramp rate assumptions discussed in the Conservation Resources Advisory Committee. Light then wrote "I confirmed with the conservation team about the approach for the slower demand side resources. The general approach was to lower the assumed ramp rate by 2. This isn't a universal approach given the suite of ramp rates that we have, and some judgement was needed," in the chat.

Garcia asked about transmission costs on [Slide 31] saying they seem low. He wondered if they included the cost of transmission construction. Ollis said the numbers do not include the cost of expanding the transmission system but do include the cost of interconnecting to the system.

Garcia said explaining that is important because the slide does not identify least cost because it leaves out that transmission piece. Ollis agreed saying he will include that going forward. Ollis added that many of the scenarios shown have the same transmission build as Transmission +.

Aliza Seelig, PNUCC, struggled with the 38 M$ saying it looks low. Others in the room nodded in agreement. Ollis said it was a typo, and it is supposed to be billions not millions.

Bohman asked for more information about model output not showing a lot of hybrid solar/battery sited together and what policy changes could mean for that. Ollis said this will be covered later but previewed that pre-IRA a stand-alone battery did not qualify for the ITC which gave a benefit to oversizing solar panels. He said once stand-alone batteries qualified for the ITC, hybrids lost their dominance meaning that they are still chosen but are not preferred.

BREAK

Outside the Region Builds and Observations

Carla Essenberg, BPA, asked if the Y axis on [Slide 33] is cumulative MW. Ollis answered yes, it's nameplate. Essenberg confirmed that hydro ops refer to the IRA and 111(b) remaining intact. Ollis answered yes noting that that particular buildout is higher.

Essenberg checked that the fixed cost total on [Slide 32] include the value of the tax credit. Ollis said yes. Essenberg wondered if that's why it's higher as the developers would see a lower cost

because of the credit. Ollis said not exactly, explaining that the fixed cost total would show the tax credit if it was still incurred. He admitted that the higher number is a bit shocking, but the model picked a lot more.

Essenberg asked to move back to [Slide 31] saying it doesn't look like more was built. Ollis clarified that the model didn't build more in total MW but built more renewables. There were nods of understanding in the room. Ollis then said [Slide 33] only represents builds outside the region.

Essenberg said the bar representing this is not marketed higher and wondered about the much larger cost. Ollis said the scenario appears to be driving down emissions to avoid emission pricing but generally agreed with Essenberg.

Major asked for clarity around emissions pricing asking if the assumption is the Washington State Department of Ecology manages the carbon market in a way that allowances get the state to its emissions targets. Ollis said the approach is similar to how California is modeled with auctions and an implied carbon price. Ollis said staff used Department of Ecology information about the price of allowances over time. He asked if that was a reasonable trajectory.

Major was not sure but said the Department of Ecology would have the best answer. She said there was talk at WA UTC about if the Department of Ecology would adaptively manage the carbon market system to meet emission targets.

Ollis explained that staff based the price off of the option floor price with a trajectory that acknowledges California competing for the same resources. Ollis then offered a price range starting at $28 a metric ton and reaching to $78. Major asked about spatial analysis of this, wondering how much is being driven by resource changes in Canada or other regions. Ollis said they do have that but cautioned that the west is more complicated to analyze.

Garcia praised this work asking if has been compared to the WECC or other entities. He then referenced strong local pushback to wind projects in WY, MT, and ID. Garcia concluded by saying he's hearing that California, realizing that grid reliability is at risk, is allowing the continuation of gas and other resource operations.

Ollis said staff are tracking this as well, saying AURORA doesn't economically retire resources and only retires based on announced closures. Ollis then moved to Garcia's first point about comparing to other studies saying staff look at buildouts from California and the work remains consistent with buildouts from E3 and the WECC. Ollis added that staff have been higher in the past but now it looks closer as everyone is modeling clean policies.

Ollis said staff using a planning reserve margin to limit builds, saying there is no appetite for overbuilding the system.

Jason Sierman, ODOE, asked about the impact of wheeling charges and developing markets. Ollis said markets are not modeled right now as they are too volatile. He was hoping future studies would provide more clarity, guessing that the market would produce a slightly smaller buildout in

some places and a slightly higher buildout in others. Ollis said the market would be a bit tighter with no wheeling costs in the region.

Sierman thought the market would have a bigger impact on renewable buildout. Sierman said people are choosing different "partners in this dance" to get to Wyoming and other places. Ollis admitted that Wyoming is posing a challenge, but staff care about what is available in the market.

Essenberg said she is having trouble lining up past comments with the list of sensitivities. She asked if delay storage means short duration storage is less available in the first six years. Ollis answered yes. Essenberg then asked for clarity on the Fed Policy 2 sensitivity. Ollis said that assumes the IRA policies come back in 2030.

Seelig said that looking at nameplate there are between 10-15 GW of gas builds across the WECC by 2032 [Slide 34]. Ollis clarified that this is only outside the region. Seelig asked if staff is presenting the information this way because they can't break out the dollars in the builds. Ollis said he was trying to show the types of resources next to each other. Ollis said it looks like 20-35GW throughout the entire WECC, pointing to a big build in the mountain west.

Seelig asked about a WestTEC graphic which shows resources by state. Ollis agreed that it was a cool graphic and said he can do that too for more clarity.

Ryan Egerdahl, BPA, confirmed that the slide shows new builds of gas, wondering how they are getting interconnected. Ollis pointed to a tricky set of contracts, adding that standard interconnection costs are incorporated as fixed cost.

Egerdahl wondered why natural gas developers are not delayed while other resources are. Ollis said they are delayed at the same rate with gas filling the space of renewables.

Essenberg asked how [Slide 40] is different than an earlier slide for short-duration storage. Ollis answered that this slide only represents stand-alone storage and not hybrid.

Seelig pointed to staff's limitations in the ability to reflect transmission infrastructure costs [Slide 42]. She assumed that was the same with gas as well, wondering how that infrastructure cost was reflected. Tomás Morrissey, NWPCC, pointed to adders that allow for fuel supply saying simple cycle equipment has a storage tank. He added that combined cycles have a higher cost.

Seelig confirmed the staff's technique for transmission costs. Ollis agreed with her assessment, adding the caveat that it is not apples to apples. Seelig thought leaving the slides this broad will be challenging and called for a stronger caveat. Ollis agreed, calling on the SAAC to come forward with better transmission cost estimates.

Seelig thought there should be committee discussion to try to come up with ideas to avoid an implementation risk factor. Ollis said he will reconnect with the committee with that.

Sierman asked if this slide plus the CCT slide equals the natural gas picture shown earlier. Ollis said yes.

Garcia said that [Slide 51] is the result of the assumption that natural gas will go away and will have to be replaced by electricity. He asked about the extreme weather scenario wondering if the model acknowledged the high cost of non marginal cost pricing in periods of high demand. Ollis said there is no bid ask adder treatment to capture contractual challenges. Ollis added that this is one trajectory and many things can cause price spikes, agreeing that it warrants a deeper look.

Garia referenced 2024 and a week of $1000MWh prices. He said this risk needs to be acknowledged and put into the Monte Carlo analysis. Ollis agreed, adding that the model is not set up to do this outside the region right now.

Seelig said, in regard to gas plants, the region still needs the transmission system to move power around [Slide 56]. She thought the WesTech study talked about the general need for transmission to move any energy as we're relying on another region which impacted talk about the market. Ollis said staff get a lot of questions about interconnection and have costs incorporated as best as they can. Ollis said that bulk transmission transfer is valuable, but it is not a decision in the model like it is for WesTech.

Seelig thought there was room for more talk about transmission in committees. Ollis said baked in projects are represented in the Transmission + sensitivity, while Transmission Max includes additional findings and Transmission Min is the most bearish. Ollis offered to bring this to the Council. Seelig thought the SAAC should talk about it as well.

Light agreed there could be more conversation but not with the market study piece. Light thought it might be more appropriate when the group is talking about the overall regional strategy and the tradeoffs. Light said the team will talk about this internally and come back. Seelig agreed that there should be longer term thinking about the topic. Ollis said it's good for the Council to consider this when talking about risk. Seelig suggested talking to the people at WesTech. Ollis said staff has connected with them.

Sierman wondered if there would be more value in the Council digging into transmission if the WesTech study didn't exist. Ollis did not know.

Ollis pledged to have a longer meeting next time before ending this meeting at 12:20.

Attendees in person and via Zoom Webinar

Jennifer Light	NWPCC	Aliza Seelig	PNUCC
John Ollis	NWPCC	Carla Essenberg	BPA
Dor Hirsh Bar Gai	NWPCC	Ryan Egerdahl	BPA
Tomás Morrissey	NWPCC	Eric Graessley	BPA
Jake Kennedy	NWPCC	Jason Sierman	ODOE
Chad Madron	NWPCC	Brittany Andrus	WECC
Mary Kulas	Consultant PPC	Paul Barrager	WA UTC

Angelena Bohman	WA UTC
Ryan Bottem	Pub Gen Pool
Frank Brown	BPA
Pat Byrne	BPA
Elliot Carleton	WA UTC
David Clement	NEEA
Brian Dekeip	NWPCC
Ted Drennan	OR PUC
Sean Ford	Portland PPC
Nicolas Garcia	WPUDA
Rachel Gardner	Tacoma Power
Sibyl Geiselman	Pub Gen Pool
Peter Jensen	NWPCC
Alexandra Karpoff	PSE
Nolan Kelly	BPA
John Lyons	Avista Corp
Sophie Major	WA UTC
Ian McGetrick	Idaho Power
Esther Neuls	BPA
Heather Nicholson	Orcas Power & Light
Kaitryn Olson	PSE
Elizabeth Osborn	NWPCC
Carly Page	Tacoma Power
Craig Patterson	independent
Blake Scherer	Benton PUD
Mike Swirsky	Critfc
Andrea Talty	PSE