

**Northwest Power & Conservation Council
Demand Forecast Advisory Committee
January 13, 2025**

Steven Simmons, NWPCC, began the meeting at 10:00am. Chad Madron, NWPCC, explained the best way to interact with the Zoom Webinar platform. Simmons introduced Council staff and then called roll.

Dave Clement, NEEA, wrote, Do you prepare demand forecasts for HVAC end uses? HPs for example? in the question pane [Slide 9]. Simmons answered yes, saying it will be covered both later in the presentation and at a future meeting.

Jim McMahon, Better Climate, wrote, Do you model battery storage behind the meter and its association with PV? in the question pane [Slide 11]. Simmons answered that staff is doing a PV forecast with some ability to model behind the meter battery as well. He said battery will also be examined in resource modeling while the PV forecast will have a conservative trend going forward.

Grant Forsyth, Avista Corp, asked about employment intensity saying technological advancements can lower employment levels for manufacturing. He wondered if output or value add could be examined as a variable. Simmons said they are examining employment intensity trends and asked what Avista is doing.

Forsyth said this comes up a lot in policy work and it might not be the best measure for the future. Simmons said staff use the metric because they have an employment forecast, but it might need to be investigated.

McMahon asked if staff considered demand response water heaters [Slide 16]. Simmons said they are not specifically broken out.

Amber Ritter, PGE, wrote I might have missed it, what are the key drivers for the housing stock forecasts? in the question pane. Simmons said staff calibrate to US Census data and use the S&P economic forecast for housing starts.

McMahon wrote, In California, post-covid residential electricity consumption increased in 2020-2022, and air conditioning slope (kWh per degree day) increased. Has a similar effect been seen in the Northwest? in the question pane [Slide 18]. Staff wrote, Hi Jim, we are seeing of course increase AC saturation which will increase cooling energy use. we've not looked at the slope yet, as an answer.

Fred Heutte, NW Energy Coalition, noted that the climate models C and G on [Slide 23] show temperatures that are not uniformly above the current baseline and said that should

be paid attention to. Tomás Morrissey, NWPCC, agreed saying there will be more discussion about this in the CWAC.

Aslam Hayat, Cadmus Group, asked if the historical average is the same for every climate model. Morrissey said the historical averages come from 1993 to 2022 and should be the same on every graph.

Jordan Prassinis, Idaho Power, said [Slide 24] looks like staff is keying into absolute temperatures but wondered about multi-day events as an outcome of climate change. Morrissey referenced a study by Daniel Hua, NWPCC, that looks at heat waves and cold snaps that last three days or more and offered to send a link.

DRAFT 9th Plan

Data Centers, Chip fabrication, and other large loads

McMahon wrote, Shehabi, Arman, Sarah Josephine Smith, Alex Hubbard, Alexander Newkirk, Nuo Lei, Md AbuBakar Siddik, Billie Holecek, Jonathan G Koomey, Eric R Masanet, and Dale A Sartor. 2024. 2024 United States Data Center Energy Usage Report. Lawrence Berkeley National Laboratory. LBNL-2001637. December 19. [<https://eta-publications.lbl.gov/publications/2024-lbnl-data-center-energy-usage-report>] in the question pane [Slide 8].

Heutte asked about data centers, saying most of those projects are only built once in one spot, meaning that loads are larger in aggregate but the uncertainty makes it hard to anticipate the location of that load [Slide 9]. Morrissey said staff are thinking about this too, saying that's why the mid-case forecast gets its data from the EIA 861 instead of IRPs.

Heutte thought this made sense and asked about coordination with PNUCC. He said there is a risk of both over and under counting. Morrissey agreed, saying the high-case forecast uses utility projections while the mid-case is more of a trend push.

Heutte agreed, saying it's worth shifting our thinking away from a line or point forecast to a range to encompass the uncertainty. He also suggested looking at early Council work, especially "[The Path Along the Ridge](#)" paper by Dr. Kai N. Lee. Morrissey said a lot of uncertainty has shifted forward from the 2030s/2040s to the 2020s, calling it unusual.

Simmons agreed, saying the first demand forecast had a lot of range, but it was spread out.

Taylor Bettine, Cadmus Group, wrote Re:Fred's question just now - you mentioned earlier that you try to factor in only projects that have some \$ investment already occurred. It seems like that might help address the concern, in the question pane. Morrissey said this does help alleviate some concern.

Heutte wrote, Also from the 1980s, when the author William Gibson said "the future is here, it's just unevenly distributed," the Chelan graph shows dramatic growth (and the same for Umatilla, PGE, etc.) -- that locational dispersion in growth is really a new thing, you'd have to go back to the 1950s to see anything similar.

Heutte asked if staff considered hydrogen load as well, calling it pretty large [Slide 13]. Simmons answered yes, saying there will be more information on that soon. Morrissey said the FAC will be discussing this soon previewing that it tends to show up post 2030. Heutte thought this approach made sense.

Forsyth said he was looking at the graph through the eyes of a policy maker and was surprised by how widely different the numbers were [Slide 14]. He wondered how policy makers would approach this. Morrissey agreed, saying that the high case is particularly different. Morrissey wondered if there would be load decay without these data center and pointed him towards other sectors.

Simmons pointed to other uncertainties in the transportation sector, which also takes off in 2030. Forsyth noted the big push to electrify while also incenting data centers with tax preference policy. He wondered how data centers would play against the region's ability to electrify rapidly. Morrissey pointed to other forecasts that start in earnest in 2030, saying staff haven't layered all of this together yet. Morrissey did not think the region would experience all the high cases at once.

Forsyth noted that water usage can constrain data center growth. Morrissey agreed, adding lack of skilled labor to other possible barriers.

Morrissey asked if Avista has any data center information. Forsyth said there have been inquiries, agreeing that it looks like data centers are shopping around.

Zeecha Van Hoose, Clark PUD, wrote, Same water question on any potential hydrogen gen ramp should that grow definitively in the future in the question pane. Simmons said that process also uses water.

Frank Brown, BPA, wrote, Tomas - Did I understand that the backcast and future growth rates independent? in the question pane. Morrissey responded yes, saying the future growth rates start in 2023 going forward. He was not sure what the backcast growth rate would average to.

Heutte dropped, This feasibility study anticipates about 140 MW load for Thacker Pass: https://s203.q4cdn.com/835901927/files/doc_financials/2023/ar/NewLAC-ThackerPassFeasibilityStudyNI43-101-October2023.pdf in the question pane [Slide 15].

Heutte then said he thought Thacker Pass would fall under BPA's new large single load policy which he heard is hard to make happen. Morrissey said he read something about them using on site generation.

Prassinis asked how big the Thacker Pass load is. Morrissey said he believes that it ranges from 100 to 200. Prassinis pointed to Department of Defense mining activity that is being proposed and offered to talk more offline. He previewed that they are in the 50-100MW range.

Stephanie Price, PSE, wrote Will you be reaching out to individual BAs to share findings of you forecasts? in the question pane. There was no response.

Simmons asked for feedback and previewed topics for the next DFAC meeting. He ended the meeting at 12:00.

Attendees via Zoom Webinar

Jake Kennedy	NWPCC	Tara Maynard	GH PUD
Jennifer Light	NWPCC	Marciana Rosales	EWEB
Tomás Morrissey	NWPCC	Ryan Bain	OPUC
Steven Simmons	NWPCC	Grant Forsyth	Avista Corp
Amber Riter	PGE	Jordan Prassinis	Idaho Power
Emma Taylor-Chapman	PSE	Yue Liu	Tacoma Power
Mary Kulas	Nuclear	Brad Westmoreland	PGE
Marcus Sellers-Vaughn	CNGC	Taylor Bettine	Cadmus Group
Kelly Xu	PSE	Aquia Velonis	Cadmus Group
Allison Jacobs	PSE	Aslam Hayat	Cadmus Group
Becky Keating	Chelan PUD	Tom Pardee	Avista Corp
Chad Severson	Idaho Power	James Gall	Avista Corp
David Clement	NEEA	Nathaniel Clayville	NWPCC
Dan Kirschner	NWGA	Malcolm Ainspan	NRG
Jean Falconer	OR PUC	Peter Jensen	NWPCC
Jim McMahon	Better Climate	John Ollis	NWPCC
Aliza Seelig	PNUCC	Glen Booth	BPA
Lorin Molander	PSE	Fred Heutte	NW Energy Coalition
Frank Brown	BPA	Dor Hirsh Bar Gai	NWPCC
Landon Snyder	Snohomish PUD		
Brian Dombeck	BPA		
Adela Arguello	BPA		
Heather Nicholson	Orcas Power & Light		
Leah Tucker	OR BAU		
Carl Holder	independent		
Tom Potiowsky	Portland State		
Joni Sliger	ODOE		
Aaron James	NEEA		
Zeecha Van Hoose	Clark PUD		
Dave Relch	WA DOR		
Stephanie Price	PSE		
Molly Morgan	WA UTC		