Northwest Power & Conservation Council
Conservation Resources Advisory Committee
April 1, 2021

Kevin Smit, NWPCC, began the meeting at 9:00 am with a call for introductions. He asked members to look at the DEI CRAC survey and the minutes from the January 26th meeting.

Coal Plant Retirement Scenario
An April Fool's look at resources (Cannabis Lighting and HVAC Measures, Cold Showers and Heat Pump Ovens) projected to fill the gap left by retiring coal plants. The Q&A page filled with appreciative chortles, Ha Ha HAAAs and LOLs.

More Preliminary Modeling Results for the 2021 Power Plan
Smit reviewed the timeline and gave a recap of initial baseline conditions modeling results. He reviewed scenario results and addressed EE and capacity.

Jim Lazar, independent, noted that dispatchability has always been critical, but now seems important in a different way [Slide 5.] Smit agreed, saying the intermittent resources coming on the system need dispatchability in a way that makes the hydro system uniquely valuable.

Craig Patterson asked how much EE is verified at the end-user meter and how much is deemed or projected [Slide 6.] Smit answered that a large number of measures have gone through the Regional Technical Forum and they base a lot of savings on verified, metered and tested analysis when available.

Patterson thought that only 3-4% are pay-for-performance measures and the rest are deemed or projected. Smit called this a separate discussion but said a lot of measures have gone through the rigor of the RTF and verification. He also noted the array of reliability standards in place. Smit said pay-for-performance is a different kind of measure but can be part of the mix.

David Baylon, independent, asked where the pay-for-performance measures are in the resource stack. Smit asked for clarification of what pay-for-performance is. Patterson said a verification of savings is done before payment is made. Baylon added that it depends on overall metered performance and the EUI of the building versus the details of individual measures.

Smit said this is more of a program function and estimates are not based on those types of estimates unless they are built on past program achievements. Baylon called this a significant blind spot in the resource stack. Smit said this should be discussed further when developing programs for the region.

> *[Staff post-meeting clarification: Council staff considered the Washington Clean Buildings law for the commercial sector. After review and discussion with Washington Department of Commerce staff, it was decided to treat the Pay for Performance as an EE*

program or mechanism for implementing EE, rather than a new set of EE measures. Council staff also reviewed the Commercial sector potential and concluded that if all of the EE in the plan were completed, the result would be that most, if not all, of the buildings would meet or exceed the Clean Buildings law. The Plan includes a wide range of measures including well-known and well-vetted EUI-style measures, many new and emerging measures, behavior-based measures (e.g., strategic energy management), and controls-based measures. Council staff do not agree we have a "blind spot" in our supply curves. Different mechanisms such as the Clean Buildings law or other pay-for-performance program could certainly assist in achieving the potential in the plan, and if successful, it could possibly complete some of it more quickly.]

Jeff Harris, NEEA, said [Slide 8] shows EE competing against market purchases after the first two years. Smit explained that EE competes with market purchases, renewables, renewable energy credits and tax credits. He continued, saying policy is flooding the market with renewables and first costs have decreased to $30-40 per MWh, while tax incentives and energy credits drive prices down further.

Rich Arneson, Tacoma Power, noted seeing large, negative numbers during the day and a price spike after sundown. He said some measures benefit from this volatility, making it hard to use averages. Smit agreed that this makes sense, particularly on the local level, but called this a look at the entire region and the whole hydro system. He said a lot of capacity and adequacy signals are being absorbed by the hydro system, a topic that will be discussed in more detail later in the day.

Nicolas Garcia, WPUDA, asked if there is a similar graph [Slide 8] for the Seventh Power Plan to show some context. He then said he is concerned about the assumed amount of flexibility that remains in the federal hydro system, particularly with possible changes coming to the Snake River Dams and other river operations. Garcia asked for a scenario that explored the risk of assumed flexibility not being there, adding that it would make EE much more valuable.

Tina Jayaweera, NWPCC, said this is better addressed at the SAAC, noting that the redeveloped GENESYS offers a much more sophisticated look at the entire hydro system.

Harris suggested a run that removes investment tax credits and RECs. Jayaweera said that Ben Kujala, NWPCC, tried taking away RECs and found no significant change in acquisition. She added that including the social cost of carbon in the portfolio is also a driver. Harris thought the larger ITC is more important to explore. Jayaweera said the ITC is upfront cost while the PTC is an ongoing cost and even without the ITC, solar comes in at around $40.

Lazar agreed solar costs have gone down more than the ITC, saying it is no longer essential. Harris said we are playing around at the margins and it might influence the marginal EE buildout. Smit said he will take the message back to the modeling team.

Patterson moved back to deemed/projected savings, asking how to separate a reduction in use due to the economy versus conservation. He called this important, noting that Lane Electric has converted about 10% of residents into pre-pay accounts, while they mailed out 6800 notices for disconnects over the last six years. Smit thanked him for his comment.

Lazar referenced the Power Act, 839d(b)(5) Notwithstanding any acquisition of resources pursuant to this section, the Administrator shall not reduce his efforts to achieve conservation and to acquire renewable resources installed by a residential or small commercial consumer to reduce load, pursuant to subsection (a)(1) of this section. [Northwest Power Act, §6(b)(5), 94 and expected to see a constraint because of this [Slide 11.] Smit said he will look at this.

> *[Staff post-meeting clarification: The portion of the Act quoted at the meeting was correct, but it refers to instructions for Bonneville in achieving the EE once the plan is identified. It is not giving direction to the Council for developing the plan. We are currently in the process of developing the plan. Once this plan is set, then these portions of the Act would apply to Bonneville.]*

Harris voiced curiosity over the model not buying EE after 2023 [Slide 12] unless it is very inexpensive while it continues to buy renewables. Lazar added that it seems contrary to the priorities of the Act. Harris agreed that it might be a better question for the SAAC. Jayaweera said it goes back to renewables also having a negative cost due to their benefits and relative dispatchability.

Baylon said the resource stack has some very limited, proven EE but limited pay-for-performance and nothing to reflect the Zero Energy Building movement. He did not think the bottom resource stack has everything needed to reflect how buildings will transition in the coming decades. Smit called this a good point that should be explored, noting the supply curves were built a year ago.

> *[Staff post-meeting clarification: See comments above regarding pay for performance.]*

Arneson said he doesn't think of renewables as terribly dispatchable to serve energy needs hour by hour. He asked if the renewables are serving critical hours or if there are LOLP issues. Smit said this is being deeply explored by the Systems Analysis team. He said the hydro system has the capacity to absorb extra power during the day to dispatch at night or during calm, windless periods.

Jayaweera added that the model is building a surplus of renewables that can be interrupted.

Garcia predicted a split in incentives between customer and utility. He predicted prices increasing due to regulations which could lead to more customers choosing efficiency. Garcia said this is a different cost calculation than a utility would see on the wholesale level. Smit agreed. Jayaweera noted Kujala's region-wide, rates-and-bills analysis that showed rates going down because renewables have no fuel costs.

Josh Keeling, Cadeo Group, asked if demand elasticity on the commercial/industrial load has been captured. Smit said it has not been captured explicitly but the scenarios do capture a wide range of outcomes. Keeling said there are large, commercial customers that are well aligned to a solar load shape. He said he expects to see a narrowing of load shapes that could benefit the capacity contribution.

Baylon said there is more than energy economics around EE, pointing to various state policies. He suspected these effects will not be captured in this modeling approach. Baylon then pointed to commercial industries moving to high-efficiency, low-carbon buildings that meet LEED specifications as example. Smit called this a good point, saying a question about missing benefits is teed up for later in the presentation.

Fred Heutte, NW Energy Coalition, moved to [Slide 40] to address capacity values and the baseline. He asked how the modeling stack assess the peak value of different measures i.e., a lighting measure versus a shell measure. Smit said that is coming up later in the presentation.

Jennifer Finnigan, SCL, asked to talk more about Resource Adequacy [Slide 19.] Smit said this will be addressed later in the presentation.

EE and System Needs

Jayaweera walked through a presentation by John Ollis, NWPCC that showed that the traditional approach of calculation EE capacity contribution during hour of peak load is no longer sufficient, that energy and capacity adequacy needs are a better metric and the interaction between the regional hydro system and resources may lead to non-intuitive results in determining their contribution to meeting needs.

Ted Light, Lighthouse Energy, wondered if there was any thought about how to put a dollar value towards the capacity contribution of EE [Slide 38.] He also wondered how to address the tension between the RPM's big, early build with utility plans. Jayaweera referred to Gillian Charles's, NWPCC, work with IOU's IRPs to gauge expected renewable builds. Jayaweera said it can be hard to parse out but, in aggregate, the IOUs do not look that far off from projections.

Jayaweera said staff is still working out how to value the capacity contribution of EE. She noted that Ollis is working on a cost-effective reserves analysis, saying it should be informative.

Patterson questioned the idea that EE is effective at eliminating needs, pointing to putting new windows in a trailer that needs weatherization, as example. He thought the economy forcing a decrease in use separate from EE needed further analysis. He called it interesting to hear "negative cost" in relation to renewable technology, thinking it should be a positive. Patterson asked where the learnings from Texas and casino capitalism are, saying the projections have little bearing with our direct experience.

Jayaweera answered that not all EE is created equal, some is more valuable than others and markets are complicated. She called it unlikely that our current market infrastructure will continue if prices are negative. She said the baseline assumes the world as it is and scenarios are used to test for the future.

Mohit Chhabra, NRDC, did not see negative prices as a bad thing but an outcome and a signal to change.

Finnigan said there is more work to do around resource adequacy in the summer and she wants to leverage Council findings.

Lazar echoed Patterson, saying relying on markets and market prices is troubling and the Power Act is written on cost not markets. He pointed to Texas' reliance on markets that produced unacceptable results, noting that the Northwest hasn't experienced consistently high market prices in 20 years but when we did it was devastating.

Lazar said deviating from cost-based analysis conflicts with the Act and exposes the region to potentially unacceptable risk. He thought the market assumptions around negative pricing were wrong and the Act requires the Council and BPA to plan on a cost foundation. Jayaweera said she agreed that the markets will likely change and we need to recognize that we are part of a market.

Heutte noted changes in the ARMs that did not have much of a change in conservation, renewables or curtailment. He said the action plan period finds there is 900+MW of EE but the model consistently picks a lower number even with a revised baseline. Heutte wondered if the modeling is reflecting the full value of EE measure by measure.

Jayaweera noted a stress test that doubled the capacity value that resulted in fewer "other" resources but not EE. She added that they do not have the ability to look at EE measure by measure.

Heutte asked how the capacity level was raised. Jayaweera said it was raised across all bins in all seasons. Heutte was still confused. Jayaweera thought that energy was driving the acquisition and capacity was coming along for the ride. Heutte voice concern about over or undervaluing EE, noting the risks of lost opportunities and stalled momentum.

Baylon called the EE measures the "Greatest Hits of the Last 20 Years" devoid of absorbing innovations in EE and the markets. He thought some of this, like whole building performance, should be put in lower bins to see different results. Jayaweera answered maybe, saying the supply curves contain the universe of measures. She agreed there is uncertainty and there may be ways to bring costs down, but was unsure it would change the entire story.

BREAK

Jessica Aiona, BPA, thought that showerheads were deactivated by the RTF and residential lighting is no longer a focus [Slide 40] and wondered why they are included. She also wondered how to build a comprehensive, equitable portfolio when all utilities have to offer are TVs and clothes washers. Smit said there is some residential lighting available and shower heads are still in the Plan. Jayaweera commented that the supply curves are not necessarily for programs and there has to be a pencils down point. She suggested focusing less on specific measures as this is to inform. She added that the cost effectiveness formulation methodology is meant to adapt to more information as it comes.

Jennifer Light, RTF Chair/Manager, added that most of the lighting is not lamps but fixtures which have potential.

Aiona understood about pencils down and that changing conditions, but said building an EE portfolio to serve a majority of customers will be hard with the presented list. She then asked about frozen efficiency, wondering about the ability to maintain that level of efficiency in the current practice baseline moving forward. Jayaweera said these results are new and everyone is struggling with the dramatic change. She noted that Council members are considering the larger aspects of the existing infrastructure and don't want to make a dramatic change. Aiona thought it would be helpful to back that out or consider the funding required to maintain those baseline efficiency levels.

Baylon asked if the EE numbers are the aggregate of the less than $40 measures or if it takes account of the other measures. Smit said the models have the whole supply curve to choose from. Baylon asked if this is the first 500 lowest cost measures so other bins are not taken into account. Jayaweera asked if he was talking about the ASCC values, explaining how they created two load profiles for book ends.

Amy Wheeless, NW Energy Coalition, asked if compliance with laws is adequately captured on [Slide 44.] Smit said it's not captured as a value; laws are captured in the baseline and the building performance requirement is captured in the potential.

> *[Staff post-meeting clarification: See also the comments above regarding the Washington Clean Building Law. In general we count building codes and appliance standards as part of the baseline (and therefore not in the supply curves). However, the Washington Clean Buildings law was handled differently – as a program or mechanism for implementing EE that is already in the plan]*

Patterson referenced forty years of wrapping water heaters and offering low-flow showerheads, saying low hanging fruit has persisted as the focus while big drivers like space and water heating are being ignored. He said people are not disconnected because they can't pay for lighting and wondered when key needs will be examined. Smit did not disagree, saying it is a struggle when cost benefits don't make the cut.

Bonnie Watson, BPA, wondered how to zoom out of our region and anchor the target framework to upcoming federal policy, noting that it could help reduce backsliding. Smit called that an interesting question.

Harris did not think the environmental cost from woodsmoke reduction was fully quantified while space heating measures are penalized. Deborah Reynolds, WA UTC, agreed. J. Light said the Council made this decision when the framework for systems costs was put forward. She said woodsmoke was re-considered in 2019 but there was not enough data to fairly and systematically account for it. J. Light acknowledged there are health benefits that some utilities take into account.

Arneson asked about the codes and standards impact. He commented that a number of states are moving towards electrification and thought there was an opportunity to do it correctly. Smit said codes and standards are impacting the amount of EE available to the supply curves. He noted that the Pathways to Decarbonization will show interesting results in regard to electrification.

Summary of System Integration Forum Exploration of Energy Equity in the 2021 Power Plan
Jayaweera outlined the exploration of DEI timeline with the idea presenting recommendations to the Power Committee. She reviewed the SIF work, called out high-level themes, and explained how they are distilling and prioritizing ideas.

Finnigan thanked staff for the work saying it exceeded expectations and called it informative, meaningful and well run [Slide 11.]

Anna Kim, OR PUC, noted the struggle Energy Trust's Diversity Advisory Council has in getting DEI perspectives to the table as there is a lack of free time or funding to support a lot of participation [Slide 12.]

Finnigan agreed with Kim, adding that the energy world is "jargon-y, opaque and hard to understand." She said that makes it harder for engagement and meaningful input. Because of this, Finnigan thought one central committee made more sense, but she also thought there was a need for clearer communication and translations.

Wheeless suggested education materials would be valuable to support either choice. She was not sure which option would be better, but felt that many people would benefit from knowing what data is available and what is needed.

Garcia was curious if the equity was regional or intra-utility equity. He said what makes sense in a poor county might be different than a richer one and asked what equity metrics are being considered. Jayaweera acknowledged that there are many dimensions and the question is "what role should the Council play" and what is in the utility's wheelhouse.

T. Light said the Council is effective at building tools, resources, some methodologies and best practices for the rest of region to adopt, reference or modify for their fit. He thought that would be a good model to follow. He said it would be hard for the Council to talk about program design but the rest would fit in the framework. Jayaweera agreed that the Council could be a clearinghouse.

Patterson said 97% of BPA's power sales are not regulated and are increasing the basic charge, which undermines people who conserve or on fixed energy budgets. He said the inequities of the basic charge are pronounced between the COUs and IOUs and he is discouraged by the unwillingness to discuss this. Jayaweera said that is captured in "Recommend research on the equity implications of different rate structures in the region" and suggested filling out the survey to help prioritize the issue.

Harris asked about the health and safety benefits around EE, like woodsmoke, that are not captured. He said woodsmoke disproportionally effects disadvantaged communities, yet the non-energy, public health benefit is not counted. Jayaweera thought it was captured in "Revisit the Council's cost-effectiveness methodology and framework."

Watson said that, as the market research and momentum savings team lead, she has been thinking a lot lately about how her research portfolio and future projects could contribute data and insights towards improving equity. She welcomed ideas or suggestions from folks because she definitely wanted this to somehow become a bigger piece of the work at BPA for the next Plan period. She offered her email, bfwatson@bpa.gov to anyone who wanted to help brainstorm. She said meetings are the first Wednesday of each quarter.

Kim mentioned her workshop that will look at ways to expand low and no-cost EE as part of COVID-impacts workshop [Slide 14] noting they will also talk about cost effectiveness. Jayaweera thanked her, saying there is a lot of work going on and it would be good to leverage expertise and guidance.

Public Comment

Lazar called the $40 cut off irrational, in conflict with the direction of the Act, fails to include environmental, transmission and distribution costs and relies on expected, low-market cost of power. He said this is fundamentally flawed and if we learned anything from Texas it is that relying on markets for long term resources carries significant risks. He hoped to look at this in more detail.

Smit said that we do include avoided T&D in our EE measure benefit calculations. Smit said the $40 cut off is arbitrary and a discussion point. Lazar asked where that discussion is happening. Smit said it will be discussed more and the Council will set a need or target and that gets to the avoided costs. Lazar said he was part of the RTF that put that in place.

Smit ended the meeting at 12:15.

Attendees via Go-To-Webinar

Kevin Smit	NWPCC
Tina Jayaweera	NWPCC
Jennifer Light	NWPCC
Chad Madron	NWPCC
Jessica Aiona	BPA
Rich Arneson	Tacoma Power
David Baylon	independent
Jonathon Belais	NEEA
Steven Bicker	Tacoma Power
Ben Cartwright	ETO
Gillian Charles	NWPCC
Mohit Chhabra	NRDC
Michael Coe	Snohomish PUC
Warren Cook	ODOE
Debbie DePetris	Clark PUD
Jennifer Finnigan	SCL
Lakin Garth	Cadmus Group
Nicolas Garcia	WPIDA
Amber Gschwend	EES Consulting
Jeff Harris	NEEA
Fred Heutte	NW Energy Coalition
Chad Ihrig	Franklin Energy
Chris Johnson	Benton PUD
Josh Keeling	Cadeo Group
Anna Kim	OR PUC
Jim Lazar	independent
Aaron Leatherwood	FCI Management
Ted Light	Lighthouse Energy
Scott Mayfield	Evergreen Efficiency
Kerry Meade	NEEC
David Moody	BPA
Eli Morris	Applied Energy Group
Brandy Neff	PNGC Power
Quentin Nesbitt	Idaho Power
Elizabeth Osborne	NWPCC
Craig Patterson	independent
Deborah Reynolds	WA UTC
David Siddiqui	Oracle
Shani Taha	UCONS
Taylor Thomas	Idaho PUC
James Vanden Bos	BPA
Aquila Velonis	Cadmus Group

Bill Wahl	Power energy Management
Bonnie Watson	BPA
Amy Wheeless	NW Energy Coalition
Andrew Wood	DNV
Deb Young	Northwestern
Jessica Graeber	PE
Jim Greer	
Chris Smith	Energy 350