

**Northwest Power and Conservation Council
Conservation Resources Advisory Committee
June 5, 2018**

Kevin Smit, NWPCC, began the meeting at 9:30 with a round of introductions. He called for any comments about the minutes from the last CRAC meeting to be sent to him before finalization. He then reviewed the day's agenda.

Charlie Grist, NWPCC, reminded the group of the CRAC's role as an advisory body to the Council.

Tapping our Untapped Energy Efficiency Potential: The First Regional Effort to Systematically Identify and Address Underserved Populations in the Pacific Northwest

Kevin Smit, NWPCC

Marti Frank, Efficiency for Everyone

Grist recalled setting up proportionality as a metric goal [Slide 6] and noted that there are many ways to look at it. He stated there are other equity tests worth inspecting as well. Smit added that this metric was widely used but other utilities used other approaches as well.

Adam Schultz, ODOE, asked if there is any national literature available. Marti Frank, Efficiency for Everyone, replied that there is no single national study but there is work from other places like New England and California. Schultz asked if there are any similarities between this work and those. Frank answered that there are some.

Wendy Gerlitz, NW Energy Coalition, noted that the MCS-1 Action Item language mentions serving populations in proportion. She called this a great start to difficult work but felt that the "number of participants" ratio was not what was initially meant. She said more in-depth comments will be made on the paper.

Craig Patterson, independent, stated that utility rate structures, where the more you use the less you pay, undermines conservation [Slide 8.] He called these structures the "elephant in the room" that insures failure. Smit thanked him for his input. Grist reminded him that this is a two-phase issue and rate structure, a potential solution set, would come up in the second phase. Patterson called that a fair approach and offered "disconnects" where people pre-pay, as another metric.

Jennifer Light NWPCC, asked Gerlitz to discuss her earlier comment about proportionality and number of participants [Slide 12.] Gerlitz called for a deeper dive into these numbers, pointing to anecdotal evidence that shows less expensive, lower savings numbers are what lower income populations take advantage of. She asked for a deeper look into the investment/saving ratio for more meaningful input.

Frank said analysts started at the household level out of necessity and should be thought of as foundational. Gerlitz called attention to the lack of underserved stakeholders included in the initial discussion. She asked that the next iteration broaden involvement to include advocacy groups that assist low income or other underserved populations.

Patterson asked for studies that verify energy saved over time, which gets at the ethics of conservation. Grist thanked PSE for their three-tier dive and said that while the data is noisy, it shows that participation, incentives and savings are aligning.

Patterson asked how 1-2% of the market can be proportional. Frank said this is the characteristics of served customers as compared to the population. Patterson said if we are only concerned about 1-2% of the population we can't be informed on anything more than that. Smit called that good question but not one this work strives to answer.

Frank called the question surprisingly broad and a good question but not one that is tackled in this work.

Jeff Harris, NEEA, asked to identify energy savings potential by the same segments, saying it would be good information for the Council. He asked if any utility captures this information. Smit answered that Tacoma Power did this work well.

Schultz echoed Frank's earlier question about proportionality being the desired objective, noting Oregon's work on total energy burden across segments. Grist asked for an explanation of total energy burden. Schultz said a quick account would be what percent of disposable income goes to energy, which includes gas and electricity. He said this is much higher as you go down the income bracket.

Rich Arneson, Tacoma Power, asked if this study focuses on narrow band of trackable measures. Smit said that there are examples like lightbulbs and showerheads mailed out by Idaho Power so it depends on the kind of measure.

Frank said most utilities analyzed all measures and then divided out low versus high cost measures. She noted that mid-stream measures were excluded. Smit suggested looking at the appendix for individual measures.

Patterson stressed that some measures require user diligence so should be considered a non-starter. He suggested looking by effectiveness and R-value for a quality check.

Grist asked about Seattle's participation rate [Slide 13.] Brenden O'Donnell, SCL, said this was a direct install program for lighting, showerheads and plug strips and not part of a targeted, low-income program.

Schultz asked if the methodology slide had dummy data saying the disparity between owners and renters [Slide 15] did not show up in the income distribution. Smit called this a good point. Deb Young, NW Energy asked if this slide look at a single year or three. Smit answered three.

Frank addressed Schultz, saying his question assumes a systematic income difference between renters and owners. She said she would look into it but that might not be the case in renter-heavy Seattle. Grist noted that the paper finds that ownership is a participation issue across the utilities. Smit called attention to other examples where utilities had extra funding, targeted apartment buildings, and had great participation success.

Grist asked Arneson how difficult it was to calculate the percent of potential and what time period was looked at [Slide 12.] Arneson did not recall if this was one-year potential but said it is broken out year by year. Frank noted that potential could be cost-effective or technical potential.

Jack Cullen, Energy Trust of Oregon, asked if this is cost effective potential. Arneson answered yes.

Grist noted that initial data/privacy concerns seemed to not be a large issue [Slide 18.] Allie Mace, BPA, noted that privacy concerns forced BPA to use census block data. Young called attention to the difficulty in using census block data in defining rural versus urban. Smit said that BPA did not use census blocks to define rural/urban but admitted that it's hard to define.

Eli Morris, PacifiCorp, asked if there are any results that would feed into the Eighth Plan or if this is more informational [Slide 20.] Smit recalled this is a Seventh Plan Action Item and might be taken up next year. Grist stated ramp rate are a potential area, along with segregating remaining conservation technical potential.

Harris asked if codes and standards were addressed. Smit called this excellent work for NEEA to take up. He then stated that there is traditionally a lag and this is just a snapshot.

Cullen asked how cost effectiveness is layered into targeted programs which are typically costlier. He said this could give more directionality.

Grist called this an effort of the willing and a more comprehensive look would require more utility input. He asked for feedback on what's missing and how that work can be accomplished.

BREAK

National Standard Practice Manual for Energy Efficiency Cost-Effectiveness and Its Relationship to the Power Act's Definition of Cost-Effectiveness

Tom Eckman, NSPM co-author

Debora Reynolds, WA UTC

Guidance in Federal Governing Statute- Power Act's Specifies a Cost-Effectiveness Definition

Grist noted that the waste disposal costs mentioned is from the 1980 so includes nuclear waste. Grist said other issues like this will be discovered as we move forward. Eckman said the basic tenant is there are costs externalized to the environment that should be included in the analysis.

Energy Efficiency Cost-Effectiveness Testing Check List Participant Costs and Benefits Covered by Power Act Definition

Bud Tracy, consultant to Idaho, asked for a definition of utility consumer participant. Eckman state that the utility is a public, private, IOU or co-op including BPA while the customer is the consumer and the consumer is a participant or non-participant.

Harris asked why measure costs are not here. Eckman answered that his analysis assumes that measure costs are borne by the utility and not assigned a priori. Morris mentioned ProCost's assumed split between utility and participant cost. Eckman answered that it can but it's the total cost in aggregate. Grist stated that if a measure needs to be reinstalled over the 20-year period, we pretend the second installment cost is borne by the customer. He said we look at the total cost only. Morris called that accurate but for this document we should check the participant cost box. Eckman agreed.

Energy Efficiency Cost-Effectiveness Testing Check List Other Costs and Benefits Covered by Power Act's Definition

Harris asked for an asterisk that said market transformation impacts are included in the resource potential up to the achievable limit and none above that are included. Eckman asked Harris to send him that note. Grist asked for a definition of market transformation impacts. Eckman answered that NEEA may forecast investment and downstream returns but the Power Act says, you pay for it you get it, which is a different curve.

Harris said NEEA tries to look at the pre-unit costs over time at the measure level because technology is not likely cost effective early on. Eckman said this looks at single price but different utilities would have different goals and outlooks.

Morris asked if the 10% credit is explicitly in the list [Slide 19] or assumed to be embedded. Eckman answered that it's in the statute but not reflected here. Morris suggested including it in the Other box on the Utility benefit slide for consistency.

Juliette Homer, PNNL, asked if Washington State is open to looking at cost effectiveness in this way [Slide 19.] Deborah Reynolds, WA-UTC, answered no, this is staff looking at the issue and more conversation will happen on June 29.

Grist called associating the word clean with public health "off your rocker" as clean can mean anything. He called this a nexus that will take wrangling as groups try to implement the resource value framework. Reynolds noted that other statutes support the word clean but

admitted that the Standard Practice Manual might need revisiting with new policy. Eckman used a carbon cap versus targets as an example.

Tracy asked about the legislative intent of the word “clean.” Reynolds said these are quotes from the legislative intent, with no definition of “clean.”

Homer noted that when she worked on the Oregon staff commissioners said they look out for ratepayers but legislators and taxpayers look out for societal or public policy issues. She called this work interesting as it could formalize drawing in public policy directives. She asked how to include hard to quantify things. Eckman said the guidance document has a section on how to get a number, which includes making a number up.

Chuck Murry, WA Dept of Commerce, noted the desire to monetize things and wondered if there is enough public interest in things that is not monetized. Eckman suggested having the discussion to see if the value is big, little or zero.

Grist praised the matrix layout of the presentation as a way to look at and prioritize principals. He said recalled learning as a young analyst that the law is not what the words mean but what the court says the words mean. He wondered if that could apply hear. Reynolds said yes and pointed to a court challenge about ratepayers not having to fund providing energy to indigent or destitute persons. She said that a legislative statue later changed that.

Tracy went back to the definition of utility, noting that co-ops do not have the same mandate for social responsibility. Eckman said that’s why he stopped his analysis at the BPA wholesale grand utility scale. He noted that there are organic statutes in each state that say what and how monies can be spent by co-ops, PUDs and municipals; emphasizing that these often change over the years.

LUNCH

Value of Energy Efficiency White Paper.

Jennifer Light, NWPCC

Kevin Smit, NWPCC

Tina Jayaweera asked if the CRC is expensed or capitalized [Slide 10.] Eckman answered that they are expensed. Mace offered to check. She said the totals include program infrastructure and the \$80 million in in the CRC doesn’t.

Grist offered another lesson learned: over the years there has been evolutions, including downturns in EE, and Bonneville has morphed with the times.

Eckman added that the C&RD is the only program where BPA paid by kWh savings instead of measure cost. Tracy asked if the perceived kWh savings are based on dollars spent or measured savings. Eckman answered measured savings, but you got paid by kWh savings, using lightbulbs

as an example. Tracy noted that there are lightbulbs that are never installed. Eckman agreed, noting that the RTF has an appropriate write-down for that.

Grist suggested adding a “lessons learned” section to the whitepaper.

Morris how reduced costs relates to the other values [Slide 13.] Light said they are all interrelated as the avoided energy and capacity ties into avoiding reserves. She stated that energy efficiency is a lower cost resource which reduces the overall system cost versus building other generating resources.

Mace suggested recognizing the potential negative effects of energy efficiency—retail rates and load loss—as a way to strengthen the paper. Tracy nodded with enthusiastic assent. Light stated that this will be discussed in Section 5 but could perhaps be pulled up as a cross-cutting thought.

Grist stated that there really are not lost revenues but the topic is worth mentioning as there is confusion over whether this is a value or cost to the system. Gerlitz nodded with enthusiastic assent. Mace felt that recognizing the issue would strengthen the paper for naysayers.

Eckman stated that there is an economic efficiency take and an equity take. The equity take, he continued, is where you get into lost revenue discussions. Light stated that this looks at the region as a whole, while Section 5 looks at differences between areas.

Gerlitz agreed that the power system values look different in different regions but rate design is the way to collect and distribute those costs across the system. Because of that, she stated that rate design is not relevant to the power system values. She called this the right lift for the values.

Tracy felt that Mace’s earlier comment needed to be addressed but following comments about rate design were something that he has not adequately considered. He pointed to well-performing but no-growth systems that saw increased rates. He said there is an equity issue when the region benefits but some consumers pay more.

Morris pointed to page 25 of the document and question the language about bills. Light offered to finesse the language. Morris stated that the language implies double counting.

Megan Stratman, NW Requirements Utilities, said she was struggling with the last two sections: BPA rate design and cost collection and the regional value. She said the rest of the regional load is missing as Bonneville serves only 40% of the region. Light agreed and said they will think about the issue. Jayaweera added that the Action Item was directed at Bonneville which focused the discussion.

Gerlitz recalled earlier discussions with Henry Lorenzen, NWPC, that posed questions about the value of efficiency to the Bonneville system and felt this piece was missing. She recalled

sitting through the Bonneville budgeting process which showed energy efficiency as an expense without any mention of the benefits/values. Light called this a good comment that calls for further thought.

Grist moved to [Slide 17] and asked what else is missing from this list. Jayaweera wondered if they could actually do that analysis, as they didn't model the BPA system as a whole for the Seventh Plan.

Mace pointed to research work which was specifically trying to get at that value. She agreed that BPA wasn't modeled in the Seventh Plan. Gerlitz called for more information about the resource program as the provided slide deck was not very informative.

Patterson said that BPA is the overall perspective as it tries to deal with everyone's needs and found that conservation is the best approach in the long term. He moved back to rate structures, saying co-ops are talking about \$50 a month in basic charges. He said this undermines conservation and needs to be addressed directly.

Tracy recalled when Bonneville came to southern Idaho and Idaho Power provided the transmission. He said whatever benefits Bonneville will benefit Idaho Power and the region is bigger than Bonneville.

Light said the paper is going deeper as the equity issue is not well covered by a regional approach.

Eckman asked if Jayaweera was looking for quantitative as well as qualitative information. Jayaweera answered that she can't model anything quantitative at this stage but it will inform the discussion. Eckman suggested looking at Matthew Tidwell, US Department of Energy, rate analysis spreadsheet. Jayaweera asked if these are publicly disclosable. Mace said to reach out to her.

Eckman agreed with Tracy, saying that Bonneville is not just Bonneville, but Bonneville and its customers that pay the bills. He said those customers are the ones that have the risk and there should be a section that addresses this. Tracy recalled a paper he wrote titled, "Was It As Good For You As It Was For Me" that addressed the cost effectiveness in the region. Jayaweera asked for a copy.

BREAK

Marginal Carbon Dioxide Production Rate Report: Study Release **John Ollis, NWPPC**

Grist stated that the dispatch of resources from AURORA changes based on carbon prices embedded in the market [Slide 5.] Ollis agreed adding that it looks different with a universal social cost of carbon.

Grist suggested that the bump on [Slide 9] could be caused by all of the hours in 80 hydro years when coal was running. Ollis answered maybe or it could be simple cycle peakers.

Gurinder Singh, PSE, asked if [Slide 12] represented the 1,10, 100, and 250 MW tests. Ollis answered no, these are the 100MW test, specifically for the west side of the Pacific NW.

Spencer Moersfelder, Energy Trust of Oregon, asked if the columns on [Slide 20] are additive. Ollis answered no, the existing policy means there is no carbon tax except for CA and BC.

Grist asked how the Social Cost of Carbon gets below.... Ollis said the fundamentals of the dispatch tradeoff are nuanced, noting that CA is 30-40% of the WECC. He said this may cause a tradeoff between efficient gas units. Ollis moved to [Slide 23] saying that 100MW of EE does not necessarily correlate to 100MW of output drop.

Grist was still confused why this falls below an efficient modern gas-fired plant on average. Ollis explained the tradeoffs and avoided emission rates.

Homer was still confused by Social Cost of Carbon. Ollis said a carbon tax is applied to all zones in AURORA as if there was a federal policy.

Jessica Mitchell, Snohomish PUD, asked for a fuller explanation of Ollis's earlier statement that 100MWh of energy efficiency does not correlate to 100MW of output drop [Slide 23]. Ollis explained that a 100aMW of energy efficiency doesn't mean that WECC-wide output is reduced by the same amount because of transmission losses.

Grist asked if this ties into the variances found on [Slide 12]. Ollis said this is not wrong but it's more about coal-dominated locations that sell to CA.

Mitchell moved to [Slide 14] and asked about transmission opportunities. Ollis said there is opportunity on average but any given hour may have ties that are full. He stated that [Slide 13] shows that high hydro means the ties will be maxed out. Mitchell asked if Ollis needs more granularity to get at a better answer. Ollis said he needs a lot more data. Moersfelder asked if this can be used as a foundation for avoided capacity costs. Ollis answered maybe.

Jayaweera moved to [Spreadsheet] and asked for suggested values to update it. Mitchell asked how material it will be in the big picture analysis. Jayaweera answered that there is probably not much difference between .93 and .95 [Slide 20] but the goal is to be more representative. Amy Wheelless, NW Energy Coalition, asked if this is just for utilities that use that tab in ProCost or if the Council changing their methodology. Jayaweera said the Council's value is embedded and wouldn't change for the Seventh Plan but might be used after the Eighth Plan. Grist stated that the .95 reflects uncertainty. He praised Ollis' analysis for taking the scheduled closing of coal plants into account.

Jayaweera pointed to the paper where utilities can change default settings. Light noted that the intent was to approach the CRAC before bringing .93 to the RTF. Ollis said that 2026 is a good number [Slide 20.] There were thumbs up for using that number in the room.

Smit discussed next steps and future topics. He said a meeting will be scheduled in the fall. Smit ended the meeting at 4.

Attendees

Kevin Smit	NWPCC
Charlie Grist	NWPCC
Juliet Homer	PNNL
Eli Morris	PacifiCorp
Jack Cullen	Energy Trust of Oregon
Rich Arneson	Tacoma Power
Bud Tracy	Consultant to Idaho
Wendy Gerlitz	NW Energy Coalition
Adam Schultz	ODOE
Allie Mace	BPA
Jessica Mitchell	Snohomish PUD
Marti Frank	Efficiency for Everyone
Angela Long	PacifiCorp
Tina Jayaweera	NWPCC
Garrett Herndon	NWPCC
Amy Wheelless	NW Energy Coalition
Larry Blaufus	Clark PUD
Deb Martin Young	NorthWestern Energy
Shani Taha	UCONNS
Bill Hopkins	PSE
Jeff Harris	NEEA
Gurinder Singh	PSE
Spencer Moersfelder	Energy Trust of Oregon
Chuck Murry	WA Dept of Commerce
Deborah Reynolds	WA UTC

Attendees via Webinar

Allegra Hodges	BPA
Dan Anderson	
Angela Long	PacifiCorp
Bo Downen	PPC
Corey Read	Idaho Power
Craig Patterson	Independent
Dave Backen	Evergreen-Efficiency
Elaine Prause	Oregon PUC

Elizabeth Osborne

Hossein Haeri

Jeff Tripp

Jennifer Snyder

Kerry Meade

Lance Rottger

Brendan O'Donnell

Rebecca Blanton

Andrew Rector

NWPCC

Cadmus Group

PSE

WA UTC

Smart Buildings Center

Seattle City Light

PSE

WA UTC