Northwest Power and Conservation Council
Conservation Resources Advisory Committee
March 5, 2020

Charlie Grist, NWPCC, began the meeting at 9:30am with a round of introductions. Kevin Smit, NWPCC, spoke about workflow for the 2021 Plan and pointed the group to the Draft Conservation Supply Curves Workbooks for comment. Grist reviewed the day's agenda.

Commercial Lighting Issues
Charlie Grist, NWPCC
Gurvinder Singh, PSE, expressed surprise that the CBSA found 30% penetration while the BPA model finds 43% [Slide 7.] He asked why the CBSA market is lower when IOUs have been more aggressive in reaching the market. Grist answered that the Bonneville model is regional and includes forecasts.

Singh then asked if the CBSA is more robust. Grist answered that it's complex and all models have their weaknesses. He admitted that the CBSA is not a perfect sample and they are still struggling with data and weighting.

Jeff Harris, NEEA, asked via Chat if [Slide 10] is for all lamp types, Grist answered yes.

Ted Light, Lighthouse Energy, asked how the baseline for the number of fixtures that have a reduction of light output was determined [Slide 18.] Grist answered that it's an input guess and is looking for feedback. He added that the PNNL found rising demand for light in commercial settings, citing health and wellness benefits. Grist thought this points to a takeback trend.

Singh confirmed that the numbers on the table on [Slide 20] are per fixture, then asked if the cost curve is an extension of the trend. Grist answered yes, saying it's about 10% a year. Singh suggested reaching out to vendors and manufacturers as the controls' costs may be decreasing or hitting a plateau going forward. Grist reported hearing mixed comments from control vendors, noting that they see this as an important revenue source with more than energy savings to offer.

Rich Arneson, Tacoma Power, thought it would be challenging to create a trend line with only three years of data. Grist offered to hold the line flat and asked for feedback. Eric Mullendore, BPA, suggested applying the trend to the equipment portion of the cost only and leave network and labor flat. Grist said he could explore that but cautioned that labor is not a big factor.

Singh asked what happens after 2024. Grist said the line will hold flat.

Singh asked about the baseline for the data presented on [Slide 21.] Grist explained that it comes from a fairly complex, 2018 DOE model adding that he is still looking for data. Singh offered to look for evaluation data for some controls.

Energy Management Potential Estimates for the 2021 Plan (Industrial Sector)
Kevin Smit, NWPCC

Grist asked if SEM savings at a site are multiyear or one-year savings [Slide 7.] Adam Hadley, Hadley Energy, answered that every year is a valid and equal data point. Grist asked if the second-year savings are over the first year of savings. Hadley answered no, they are over the baseline.

Light asked if the baseline energy consumption reflects that larger plants will often focus their SEM efforts on one particular part of the plant. Smit didn't think so as the baseline is the whole plant. Todd Amundson, BPA, countered that the baseline should reflect that only a portion of a plant uses SEM and not the whole facility, adding that the majority was full facilities. Smit offered to recheck.

Jayaweera was confused about the downward directions of the green dots. Smit said they represent the total consumption.

Grist asked about the negative numbers. Hadley said they were zeroed out.

Arneson asked about differences between industries. Hadley answered that he tried to explore different industries but small sample sizes made it difficult. He added that there was a separate wastewater estimate embedded in the wastewater plan analysis.

Light thought the 4.5% was fine but a little conservative. He noted that SEM programs have been running for 10 years and asked about past work. Smit didn't have the number on hand but offered to share them later.

Jennifer Finnigan, SCL, wondered how broadly the 4.5% could be applied as it is a behavior measure and not widget based. Arneson reported high variability in their results with larger companies surprisingly underperforming. Grist confirmed that the model rebuys a three-year measure in year four.

Mohit Chhabra, NRDC, asked if the applicability will be addressed by the S-curves, as it means the 4.5% will be adopted by forecasted sites and not every site. Smit answered that it's assumed to persist once it's in place. He moved to [Slide 11] to show the assumed adoption rate. Chhabra thought applying 4.5% to this ramp rate makes sense, admitting that he doesn't have local knowledge.

Finnigan wasn't sure she would draw the adoption curve the same way but didn't have anything better to suggest.

Mullendore pointed to a relationship between levelized cost and percent adoption, particularly with smaller or less-proactive sites. He said the costs he provided are based on current activity levels where participants are highly proactive.

Grist asked if costs would be expected to rise if the program scaled up over five years. Mullendore answered yes. Smit asked for cost information that could possibly be used to divide the measure by costs bin. Finnigan approved of this approach.

Residential Behavior
Tina Jayaweera, NWPCC
Grist asked how big 420 kWh/yr is in respect to load [Slide 9.] Jayaweera said her number is across all customers and includes gas, while the BPA numbers are probably primarily electric.

Arneson interpreted a three-year program investment with a five-year life as running the program for three years and then stopping [Slide 12.] He asked if this is the proposal or if there are plans to operate it year after year. Jayaweera said based on feedback she received, she is moving towards a two-year investment and program life. Finnigan said she will provide feedback on this soon.

Peak Hour Determination
Tina Jayaweera
Wendy Gerlitz, NW Energy Coalition, asked what the first bullet on [Slide 5] "across 30 climate change years" means, via Chat. Jayaweera explained how the GCMs use historic data to project out from the 2020s to 2049. Grist asked if there are four GCMs in the bundle. Jayaweera was not sure.

Light asked about the regression that turns climate change data into load information. Jayaweera explained the method developed by Massoud Jourabchi, NWPCC. Light thanked her for the explanation and said this generally looks consistent with other work he's seen.

Harris asked, via Chat, how the energy efficiency analysis of peak compares to resource adequacy work [Slide 7.] Jayaweera answered that the presented data comes from resource adequacy work by John Fazio, NWPCC.

Chhabra called [Slide 7] a fine assumption for the most part but suggested staff examine when the model builds capacity as opposed to just looking at maximum load. Jayaweera agreed that the issue encompasses both loads and the load/resource balance. She added that the "Robustness of EE" scenario will explore the strength of the capacity contribution estimate.

Grist spoke about the different models and the difficulties in lining up results. Chhabra thanked him for the explanation, asking if something will change as the models are integrated. Jayaweera explained that the sensitivity of the presented numbers will be explored in the other models.

Chhabra confirmed that Jayaweera was exploring the average of the peak savings of the measure during identified times [Slide 9.] Jayaweera confirmed this.

Grist moved back to [Slide 7] and explained his rational for choosing this method for the Seventh Plan. Jayaweera explained how her method is different. Chhabra asked why they are not weighted according to relative contribution as opposed to taking a straight average, and explained his method. Jayaweera thought that method assigns too much confidence to the numbers. Chhabra still didn't know if averaging across hours is fair or not. Jayaweera added that they aimed for a tight distribution when choosing hours. Chhabra understood the methodology and approved of the analysis, but commented that understanding what the model is actually building becomes more important when averaging across multiple hours.

Grist expressed concern that [Slide 8] misses important coincidences on peak for weather-sensitive measures.

Light echoed Grist's concerns, referencing load shapes with built-in assumptions around peak that may, or may not, align with system peak. He suggested taking the same approach across all load profiles whether they are weather-driven or not. Jayaweera assured him that staff does. Grist added that the peak-to-average is very small for many measures. Jayaweera used office equipment [Slide 8] as an illustration.

Light wondered if staff loses more in weather-driven load profiles than what is gained in averaging the flatter ones. Grist thought so, adding that they need to test it. Jayaweera said they will explore this and revise if necessary.

Chhabra wondered if this granularity of analysis will be explored and aligned in the next Plan. Grist thought that quarterly nature of the RPM combined with binning measures by cost smooshes the peak contribution. Chhabra wondered if the method will still be appropriate as the grid adds more solar and wind. Jayaweera agreed that there will be a lot of questions around the RPM and if it's the right tool for the next Plan.

Grist thanked the participants. Smit asked that members come to the SIF on March 10 and the next CRAC on March 31.

Smit adjourned at 12:30.

Attendees

Charlie Grist	NWPCC
Tina Jayaweera	NWPCC
Kevin Smit	NWPCC

Attendees via Webinar

Adam Hadley	Hadley Energy
Amy Wheeless	NW Energy Coalition

Brandy Neff	PNGC Power
Chris Johnson	Benton PUD
Michael Coe	Snohomish PUD
Danielle Walker	BPA
Deb Young	Northwestern
Debbie DePetris	Clark PUD
Elizabeth Osborne	NWPCC
Jeff Harris	NEEA
Jennifer Finnigan	SCL
Jennifer Snyder	WA UTC
Joan Wang	Cadmus
Kerry Meade	Smart Buildings Center
Leann Bleakney	NWPCC
Mohit Chhabra	NRDC
Eric Mullendore	BPA
Ryan LeBaron	BPA
Shani Taha	UCONS, LLC
Shirley Lindstrom	NWPCC
Gurvinder Singh	PSE
Ted Light	Lighthouse Energy
Todd Amundson	BPA
Wendy Gerlitz	NW Energy Coalition