

Summary Notes
Residential Advisory Committee Meeting
Tuesday, April 17, 2018
NEEA Office (Portland)



Attendees:

In Person:

Josh Mitchell – Chelan PUD
Tina Jayaweera – NW Power & Conservation Council (NWPCC)
Debbie DePetris – Clark PUD
Lis Saunders – Tacoma Power
Thomas Elzinga – Consumers Power
Becky Arte-Howell – Idaho Power
Jessica Kincaid – Bonneville Power Admin. (BPA)
David Murphy – Bonneville Power Admin. (BPA)
Chrissy Crowell – Puget Sound Energy (PSE)

Mark Wyman – Energy Trust of Oregon
Todd Blackman – Franklin PUD
Doug Dickson – Snohomish PUD
Roger Kainu – OR Dept of Energy (ODOE)

By Phone:

Victor Couto – Seattle City Light (SCL)
Kevin Holland – Avista Utilities
Rebecca Blanton – Puget Sound Energy (PSE)
James Marker – Puget Sound Energy (PSE)

NEEA Staff: Jeff Mitchell, Beth Littlehales, Stephanie Baker, Suzi Asmus, Alisyn Maggiora, Eugene Rosolie, Jonathon Belmont, Jill Reynolds, Jon Clark, Kyle Stuart, Becca Yates, Christian Miner, Jeff Harris, Neil Grigsby (phone), Christina Steinhoff, Dulane Moran

Public Attendees: Mark Jerome – CLEAResult; Andrew Rietz (phone) – Cadmus; Jeff Tamboro – NW Natural

Packet link: <https://conduitnw.org/Pages/File.aspx?rid=4378>

Slides link: <https://conduitnw.org/Pages/File.aspx?rid=4405>

Housekeeping and Agenda Items

- A. Packet Review
 - 1) Information included going forward on conferences NEEA staff attends. If you would like information in the future on any of these conferences, please don't hesitate to ask.
- B. Follow up on action items from January 30, 2018 committee meeting.
 - 1) Suzi scheduled and held the quick connect webinar on DHPs. It is recorded. If you're interested in the recording link, please reach out to Suzi (sasmus@neea.org | 503-688-5407)
 - 2) Cold climate follow up with NorthWestern – Suzi emailed some follow up items to Deb Young and offered further information if interested.
 - 3) Suzi followed up with Tacoma Power on the question of which installers we would be contacting in their territory for the DHP MPER interviews and when. NEEA is unable to give Tacoma Power the names of installers contacted, as it is an anonymous interview.
 - 4) Julia was following up with the gas team on thermostats – this is still in progress, more to come in the future.
- C. RAC 2018 work plan
 - 1) Handed out – not much changed from last meeting, with the exception of the addition of Super-Efficient Dryers – now expecting Scale-Up (SA) vote around Q2 2019
- D. Announcements

- 1) Efficiency Exchange Workshops on afternoon of second day
 - a) Open to any funder staff **free of charge!**
 - b) **ACTION ITEM: Eugene will follow up with an email to the Committee with details**
 - c) Workshops (2:30-4pm May 16):
 - i. Identifying and Connecting with Underrepresented Audiences
 - ii. Realizing the Value in Evaluation
 - iii. Get smart about connected
 - iv. Hot water forum 411
- 2) NEEA launching new website with individualized funder portals – will be live by end of April
 - a) All information relative to each funder will display on the respective pages
 - b) Feedback is encouraged – please send to Becca Yates if you have any (byates@neea.org | 503-688-5450)
 - c) Beta launch phase right now, NEEA Corporate Communications will be reaching out to a handful of funders for feedback)
 - i. Volunteers included Tacoma Power, Chelan PUD, PSE, Clark PUD

Heat Pump Water Heater Update (page 4-5 in [packet | slides 7-30](#))

Jill Reynolds (NEEA) provided the update. *The desired outcome is for RAC members to be informed of 2017 year in review and exciting plans for 2018.*

Presentation Highlights:

- A. 2017 Year in Review
 - 1) Great year last year with approximately 13,000 units
 - 2) Analysis by Sales Channel
 - i. Retail fairly low and steady; wholesale sales shot up at end of year
 - ii. Wholesale is the target market since replacements comprise the majority of purchases

Discussion:

- **Chelan PUD:** *Can you breakout where the wholesale product went (new construction versus replacement)?* NEEA replied that level of data is not available unfortunately, but new rebates this year going to new construction will help parse out that data.
- **Snohomish PUD:** *Did the retailers lower their prices, or what happened?* NEEA clarified that Bradford lowered their prices for distributors.

- 3) Sales by Tank Size
 - i. Majority of 50 gal tanks
 - ii. Continuing to incent larger tanks (65 & 80 gal) and contractor network doing the same (comprised about 25% of large tank sales last year)
- 4) Installer Pro Deal & Training
 - i. Pinpoint high potential companies
 - ii. Interview company owner
 - iii. Provide participating companies free product
 - iv. Staff training – increase product knowledge
 - v. Stay in touch!

Discussion:

- **Clark PUD:** *Did we track the number of installs to evaluate intake? Curious what the impact is.* NEEA (Jill) confirmed they did and will have a share-out on the results.

- **Franklin PUD:** There is a difference between sales approaches in HVAC contractors and plumbers. NEEA confirmed that plumbers are less effective in their sales pitches than HVAC contractors (good/better/best approach).
- B. 2018 Pro Deal Progress to date
 - 1) 9 contractors with fulfillment and training underway
 - 2) Goal: 20-25 completed by end of year
 - 3) Currently identifying candidates and beginning expanded outreach in WA
 - C. Upcoming Resources
 - 1) Videos for funders to utilize
 - i. Customer testimonials
 - ii. Installer testimonial
 - iii. How-to install a HPWH consumer-facing version
 - iv. How-to install a HPWH installer version
 - v. [How a heat pump water heater works](#) (courtesy of A. O. Smith)

ACTION ITEM: Jill to follow up with Committee to share video link
 - 2) Retail Signage – 45 funders opted in!

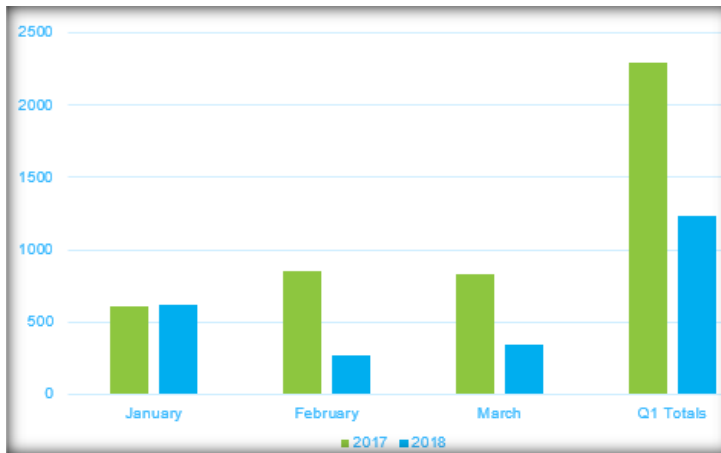
Discussion:

- **PSE:** *How does retail signage work for utilities with midstream programs and/or field reps?* NEEA noted that midstream utilities are planning on creating their own signage. NEEA will coordinate delivery of signs to utilities with their own field reps who want to place signage in their stores.
- D. Contractor Feedback
 - 1) Collaborative focus group session two weeks ago with 11 installers (plumbers and HVAC)
 - 2) Learned top challenges include:
 - i. Lack of consumer awareness
 - Makes it hard to sell in emergency replacement
 - ii. Lack of distributor support and focus on the technology
 - Need product influencers at distributor level
 - Training, marketing. free trial product etc.
 - iii. Lack of product support from manufacturer
 - Need more technical support
 - Easy access to parts and servicing info
 - 3) **ACTION ITEM: Jill to share list of participants**
 - 4) Top training preferences include:
 - i. Marketing
 - ii. Selling the value of HPWHs
 - iii. Longer (over an hour), in person trainings with continuing education credits (CEUs)
 - iv. Product direct-to-company mentoring with free product
 - 5) Top marketing support preferences include:
 - i. Direct mail postcard template
 - ii. Social media videos
 - iii. Product flyers

Discussion:

- **BPA:** *Were email marketing tactics an option?* NEEA (Jill) noted she didn't think so, **will need to check on why that was.**

- E. The Bad News
 - 1) Sales are down in Q1



2) Pricing going up

Discussion:

- **ConsumersPower:** *We played the game with our distributor to buy a ton, so haven't needed to buy any additional for a little while – now to a point where we've unloaded them all. Is that a factor?* NEEA noted that was likely playing into the lower sales.
- **Chelan PUD:** *Are you training for ducting?* NEEA (Jill) clarified that they find that most installs don't need ducting and are focusing on trainings that address more common challenges. If there is a need for that, we can consider offering training around that.
- **ConsumersPower:** *Low-income – squeezing our incentive to push HPWHs. Has there been any effort from NEEA to reach out to statewide groups to tap into that market?* NEEA (Jill) noted that she and the NEEA DHP program manager have been working with BPA.
 - **BPA** added that they have moved the low-income workgroup focus to include other facets, including (DHPs, HPWHs, etc.); this discussion is planned for this summer. If anyone has requests, please reach out to Jess Kincaid, Jill or Suzi (jbkincaid@bpa.gov, jreynolds@neea.org, sasmus@neea.org).
- **NEEA:** It might be interesting to ask manufacturers if they're seeing similar trends in total sales in HPWHs; might be an indication with the market than just HWPWHs; recall it being colder in 2017.

F. The Hopeful

- 1) Midstream utility programs
- 2) Summer marketing campaign
- 3) Sustainable community goals
- 4) National HPWH numbers up, just not in the NW

Discussion:

- **Energy Trust:** Although our numbers were really good in 2017, concerned to see the costs escalates, hope we don't have to get a cost-effectiveness exception. NEEA added that the AO Smith sales rep is working on the price issue with management and Lowes, it's tricky.
- **Chelan PUD:** *Are mid-stream people able to get zipcode level data from retailers?* Both PSE and Energy Trust noted that it's not available at retail, but it is available at wholesale.
 - **PSE** noted that they've been working on it from a consumer in-store coupon approach
 - **Energy Trust** added that the retail strategy has been to apply a statistical model to predict where units are going.
 - **Snohomish PUD** added that they're worried about this impact on their new construction program. Energy Trust replied that tracking serial numbers at a minimum to not double count reporting savings is important.

Regional Technical Forum (RTF) 101 ([slides 32-40](#))

Eugene Rosolie (NEEA), Mark Jerome (CLEAResult), and Jeff Harris (NEEA) led the panel-like overview and discussion. *The desired outcome is to provide committee members additional insight into RTF operations and methodologies. Refer to the [Regional Technical Forum](#) website for additional information.*

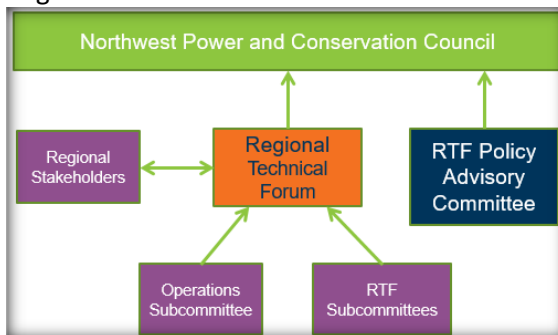
Presentation Highlights:

A. Overview (Eugene Rosolie – RTF member since 2002)

1) Origination

- i. 1996: Congress directed Bonneville and Council to convene a Regional Technical Forum
- ii. 1998: Governors review in midst of deregulation sentiments – minor changes made including tracking regional progress, communication recommendations on energy efficiency, conservation and renewables.
- iii. 1999: NW Power & Conservation Council forms the RTF

2) Organization



- i. RTF consists of 20 to 30 voting members
 - ii. Members appointed for three year terms, and are expected to represent themselves, not their organizations
 - iii. RTF also includes corresponding members and other interested parties
 - iv. Works primarily through subcommittees
 - v. Operations Subcommittee oversees business operations (agendas, contracting, etc.)
 - vi. Participation in the RTF is voluntary
- ##### 3) Connection to the Council
- i. Scientific advisory committee to the Council
 - ii. Supports the Power Plan
 - iii. Tracks regional progress towards conservation targets
- ##### 4) What the RTF Does
- i. Centralized, independent technical review of energy efficiency measures
 - ii. Guidance for estimating savings from custom measures and program-level savings
 - iii. Estimates for cost-effectiveness of measures
 - iv. Tracks regional progress towards efficiency goals
 - v. Assists Council in assessing new efficiency opportunities
- ##### 5) What the RTF Does NOT Do
- i. Direct regulatory function; however, it's activities are followed by state agencies and the BPA, thus it's activities do trickle down
 - ii. Use of specific savings estimates or protocols or restrict which measures utilities can install
 - iii. Use of specific program design

- iv. Establish utility program reporting requirements
 - v. Evaluate savings for ALL measures
 - vi. Establish rebate, incentive or willingness to pay levels
 - vii. Execute primary research
- 6) RTF Staff & Analysts
- i. Council Staff
 - Jennifer Light, RTF Chair and Manager (RTF-funded)
 - Send any suggestions you may have to her (JLight@NWCouncil.org | 503-222-5161)
 - Charlie Grist, RTF Co-Chair
 - Garrett Herndon, RTF Administrative Assistant
 - ii. Other Council staff support analysis
 - 2018 Contract Analysts
 - Greg Brown
 - Christian Douglass
 - Ryan Firestone
 - Josh Rushton
 - Eric Shum
- B. Mark Jerome – RTF member since 2007
- 1) Measures used to be developed and voted upon by consensus
 - 2) Around 2008: Development of Operating Guidelines
 - i. Good to have, but requires heavy analysis
 - ii. Takes large amount of research dollars – this is a concern
 - iii. Now looking at how to minimize the research burden and risk
 - 3) Utilities don't have to go through RTF to claim a measure, but will then incur evaluation costs to validate
 - 4) Measurers are either “proven” or “planned”
 - i. Seeing several in the region now that are planned that will need research but not seeing much research dedicated towards those
 - ii. Research strategy is developed for planning measures that dictates what the RTF expects it will take to make a measure proven.
 - iii. Proven measures can be adopted by any utility without incurring additional research (evaluation) costs since that work has already been done by the RTF to “prove” the measure.
 - 5) Small savers are small measures that were given limited research effort – the threshold is less than 3 aMW.
- C. Jeff Harris – RTF member since 2000
- 1) Have to recognize and reconcile the reality with some measures that are crafted
 - 2) Program implementer group is a key feedback loop in this process
 - 3) Nothing else in the country quite like this – hashed out in public and has a very transparent documentation process
 - 4) Sunset dates, especially those that are fairly soon from when the measure is determined proven, are indication of when the RTF expects the measure to no longer be effective, often due to anticipated market changes.
 - 5) Another feedback loop is small subcommittees (ex: rural) that evaluates whether what the RTF develops aligns with their market.
 - i. ConsumersPower added that this is a helpful mechanism for submitting small measures for rural areas as well as they can then use RTF research monies.
 - 6) California is launching a technical forum, modeled on our RTF
 - 7) Measure Workbooks

- i. Complicated database that has several building blocks – if you have a baseline that’s different from the regional average baseline, you can go into the workbook and enter yours to evaluate the implications.
 - ii. Recognize there could be room for improvement to make these easier to use
- D. Submitting for a new measure
 - 1) Consult the website – there is an online process that new measure proposals go through for review

Discussion:

- **Energy Trust** shared on the “implementers group”. It’s a valuable form of discussion / engaging that is less formal and allows utilities to participate in agenda building, etc. RE whether to use the RTF, we find that the burden of evidence is to disprove than to come up with another scenario. If we’re segmenting a market, etc., it is hard to get into the workbooks. Suggest offering a modular approach; that would be a useful evolution. When inconclusive or recent evidence crops up, there are judgment calls that are made but some are soft judgements – calling those out for those using the information would be really helpful as well.
 - **Energy Trust** later added that when new information comes up there’s urge to use it, but consistency is also important; weighing this balance would be helpful.
 - **NEEA** responded that the RTF does struggle with this as it is mandated to review new data that comes in.
 - **Mark Jerome** added that when new data comes in between approval and sunseting and it’s anticipated that it will make a big difference to incorporate, it’s re-reviewed. This was done with DHPs. Just have to make sure we’re not overclaiming for the years the other measures are good for.
- **Chelan PUD:** *What about measure life – another major input?* NEEA clarified that lack of data around cost and non-energy benefits impact how much effort is dedicated to them.
 - **Mark Jerome** added that there’s been a lot of discussion about the right method; we run a risk of over claiming savings if we went just with pre-existing conditions
 - **NEEA** clarified that there’s also a distinction between pre-existing conditions and natural purchase path/buying decisions.
- **Snohomish PUD:** *Is there any effort to look back at efficiency measures that have been stranded in small businesses or other types of situations by that practices; like T12s?* NEEA noted that this discussion has come up; the sunset date on the measures and review process afford the opportunity to go back and rethink what that current practice baseline is.
 - **Snohomish PUD:** Do you try to predict what those market changes might be (e.g. screw in lamps)? NEEA noted not really.
 - **Energy Trust** added that there is a point where this diverges; in the counterfactual, there’s a hypothetical alternate scenario that’s modeled (e.g. retail lighting measures and the passing of the federal standard). The cost data also matters; when they’re doing their analysis the cost data can be a couple years old, so they project an estimate at the same trend rate from past data. It’s up to everyone to monitor this.
 - **NEEA** added that there is a general guideline that dictates that if there’s a federal standard or building code already in law, the operating assumption is that it will take effect as written in law/code. If not, then we don’t necessarily do forecasts of what the efficiency level will be. We try to take the data available for the current baseline. Exceptions around cost are made when markets are moving really fast and it would be critical to revisit the data for updated information.

Dryers Unit Energy Savings (UES) Update (page 6 in [packet | slides 42-63](#))

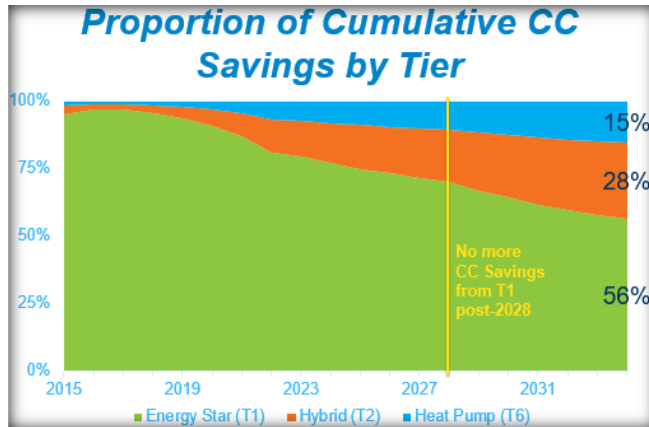
Stephanie Baker (NEEA) provided the update. *The desired outcome is for RAC members to be updated on recent ENERGYSTAR clothes dryers lab testing results and interactions with RTF, and have an opportunity to ask questions.*

Presentation Highlights:

A. Recap

- 1) Market transformation theory: Spec-based – goal is to improve federal test procedures and standards
- 2) Initiative Lifecycle Progress: currently in “strategy testing and finalization” phase, preparing for scale-up in 2019

B. Energy Star Lab Results



- 1) Recall that the RTF reduced the savings for Super-Efficient Dryers from 93kw down to 8 kw in 2017 due to data from one dryer test. They left the savings at a planning level because it wasn't considered proven (one dryer tested).
- 2) Research Plan
 - a) October 2017 - Research methods approved – focused on 12 dryers (6 ENERGY STAR; 6 Non-ENERGY STAR)
 - b) RPP sales data
 - c) NEEA supplemental test
- 3) RPP Sales Data
 - a) Top selling dryers
 - b) Controls:
 - Time on market (less than 3 years)
 - Manufacturer (did not duplicate manufacturers within each set of six)
- 4) Updated test results – not a major shift in UCEF (pounds of clothing dried per kwh) for ENERGY STAR, but baseline shifted significantly – this is a modification of the DOE metric (CEF), this is still measuring the same thing

	Current RTF UCEF	Updated UCEF	Current RTF kWh Usage	Updated kWh Usage
Non E-STAR	2.60	2.29	831	942
ENERGY STAR	2.65	2.62	816	827
Machine Savings			15	115
ESTAR Market Share			30%	40%
Adjusted Savings			8	68

- 5) Total Regional Savings

	Current NEEA Assumption	Updated Savings Rate Assumption
2017 Regional Savings	1.00 aMW	1.35 aMW
2015-2034 Regional Savings	26.34 aMW	36.49 aMW

These are draft numbers. This shows data from RTF's initial analysis but they still have to meet, discuss, and vote on final measure updates.

- 6) Next Steps
 - a) April RTF prep call – Thursday April 19, 10am
 - b) May RTF meeting will review analysis
 - c) Share data with ENERGY STAR
- 7) Direct additional questions to Stephanie Baker (sbaker@neea.org | 503-688-5483)

Next Step Homes Milestone Review (page 7 in [packet](#) | [slides 64-77](#))

Jon Belmont (NEEA) provided the overview. *The desired outcome is for RAC members to be informed of anticipated milestone progress and provide feedback, along with an update on Performance Path program.* Jon can be reached at jbelmont@neea.org | 503-688-5467.

Presentation Highlights:

- A. Scale-up (SA) Update
 - 1) Q4 2017 Review
 - a) Performance Based Programs
 - b) Home Certification Program Coordination
 - c) Training Development and Delivery
 - d) Next Step Home Pilot Project
 - e) Marketing
 - 2) Internal Meetings yielded some concerns/challenges:
 - a) Cost-effectiveness over time (knowing how to evaluate when we're done with this work, how will that look?)
 - b) Code roadmap
 - 3) Addressing the Challenge
 - a) Updated model run
 - i. Focus on a single state to start (WA)
 - ii. Define future WA code (looking out 15-20 years)
 - iii. Update inputs
 - iv. Different outcome?
 - b) Roadmap

Discussion:

- **Energy Trust:** *Is there intention to evaluate the road map state by state? Yes. What about the market transformation model - Is the ultimate benefit code, or above code activity?* NEEA (Jon) clarified that code is what we're trying to affect. This will be discussed even further in the future, in particular where/how NEEA interacts with code. It's a regional approach, but will have to evaluate state by state
- B. Performance Path Update
 - 1) Programs

Programs Launched	Programs in Progress
- Snohomish PUD	- Benton PUD
- Clark PUD	- Benton REA
- Central Electric Co-Op	- Franklin PUD
- Puget Sound Energy	- City of Richland
- Pacific Power & Light (WA)	- Chelan PUD
- Idaho Power	

- a) For eastern WA funders in progress, if each of these have programs running in tandem, expect to see some economies of scale. Interested in seeing implications for the region if even more funders are running these programs

Discussion:

- **Energy Trust:** *Of the dual-fuel utilities, are they running separate programs by fuel type?* PSE confirmed that they are running programs for both gas and electric.
- 2) Axis database issues, resolutions and looking forward
- a) Challenges(s) – errors in the database
 - i. This is a highly complex system
 - ii. Small errors in the coding resulted in inaccuracies
 - iii. Missing values from the RTF workbook
 - iv. Rounding errors (different results presented with differing significant figures (number of decimals in calculation provided))
 - b) Resolution(s)
 - c) Looking forward
 - i. New safeguards
 - ii. Continued, enhanced testing protocols implemented
 - iii. Third party testing
 - iv. Lessons learned
 - b) Certifying homes should begin next week (homes are entered into the Axis database)
 - c) Next steps
 - i. Homes being entered in Axis
 - ii. Notification on when certification will occur for each funder
 - iii. Enhanced QA protocol review for first 50 batches to ensure certification database is operating correctly

Discussion:

- **Chelan PUD:** *Did the errors occur while we were looking at savings? Will this affect the cost-effectiveness of the program?* NEEA (Jon) clarified that the utility cost calculations / cost-effectiveness calculations are not affected/changed – it’s the incentive value that will change. Ultimately it was around \$40 per home on average (this is a rough quote/estimate).
- **PSE:** *What are the estimated changes in total incentives and total savings?* Can’t answer this – it varies by home.
- **ACTION ITEM:** NEEA to share out After Action Review document
- **Energy Trust:** Been working with Pivotal to produce this database over the past 5 years, they are a small, but well-reputed company that has learned significantly from this experience.

Utility Share-outs/Round Robin

A. Energy Trust:

Milestones for 2018 include: transition of new construction program over to current OR code; retrofit programs: seeing a lot of DHP rebates from Q4 and Q1, – estimating the 2017 tax year sunset of the renewable energy tax credit had an impact on this; launched new program structure

by sector with more midstream programs– enabling operational efficiencies, in particular how savings are calculated and what each staff person is responsible for. DHP Performance Pilot: looking at system performance and occupant comfort in new construction with DHP as primary heat. Expecting report at the end of 2018. Have a program / measure for replacement of manufactured homes – a lot involved in making this happen; coordinating with BPA, are about to start replacing the homes and just need to complete the financing model. Partnering with the state’s low-income programs and develop a stand-alone financing option to move this forward. Confident we’ll see the first round of replacements this year. DHPs are encouraged but not required, will be customer choice. In terms of pilots for next year – curious about Low-e Storm windows. Also investigating pay-for-performance (meter based programs); idea is that savings claimed aren’t predicted, they’re realized. Working with meter data analytics software provider to automate aspects of our bill impact analysis; working with California and NY programs to develop a common protocol. May be going out to stakeholders this year for input.

B. Chelan PUD:

Not a ton of updates around efficiency. Seeing costs come down on DHPs, thinking about putting out an RFP to local contractors. (Energy Trust thinking about doing a pilot on this in 2018; Tacoma noted they just launched a pilot). Looking at creating a more robust low-income program, potentially with manufactured homes. Still hoping to do an instant rebate program for porch light – Night Sky: oxygen sensor and bilevel lighting. California code requires this, but thus far not seeing a manufacturer produce this. – **Action Item: Suzi to follow up again with Res Lighting Product Manager to see if anything is emerging.** Bitcoin farms are a big issue in Wenatchee, spent a lot of time lately evaluating top energy users in our territory and chasing these down, even from a safety risk. (Average Chelan customer uses 23,000kWh/year. Bitcoin customers are using ~30,000kWh/month.)

C. Clark PUD:

CEEP – community energy efficiency program run through Washington State University; Clark granted \$500,000 through CEEP. \$300k will go to a Ductless Heat Pump (DHP) program (incentive at \$4500 cap); \$75k towards insulation; \$100k towards commercial lighting (up to \$10k per project), targeting non-profits; remaining will go to home kits. Looking to launch in May with commercial lighting program. Will have Cameron Daline as program coordinator to support residential programs – expect to see him on workgroups. Brittany Thomas doing program support for commercial and industrial. These two are leading the charge on CEEP program efforts. Looked closely for HPWH mid-stream program, costs were too high so buying savings from the Energy Trust instead. Got one Sanden HPWH unit.

D. Franklin PUD:

Have had a Low-e Storm windows program for a year now, zero takers – think that may be because front line installers want to do whole-windows so don’t want to install them; possible there’s a chance for it in big box stores. Launched in-house low-income program in October 2017 that’s consumed far more budget than anticipated. Blew through two year budget already. Didn’t anticipate this. Includes DHP & HPWH in manufactured homes; floor and duct sealing; stick-built home insulation. Customers are qualified through local Community Action Program (CAP) agency and CEEP agency. Now contractors can submit paperwork through the iPad. The Tri-Cities utilities share the same builders, suppliers, box stores, sometimes the same customers so we always try to make our programs similar. For years used the Home Builders Association to champion training.

E. Idaho Power:

Been doing a shade-tree program for past 5 years, extending that this year beyond existing region; looking forward to seeing the savings start to come in from that now that the trees have matured enough. Ten unit town-house system going in near our office, just added it to the Axis database NEEA spoke about earlier. Have another local builder working (previous EnergyStar builder) on shipping container affordable homes that will be built in Boise. Expect they will retail

around \$85k. Website is <http://indiedwell.com/>. HPWH program launched in January (6 incentives paid so far).

F. ConsumersPower:

Focused mostly outside of EE right now. Reinforcing the impact of the impending RETC sunset.

G. Snohomish PUD:

About to launch clothes washer replacement program. Looking into replacements based on age/vintage – RBSA has some good info to glean here and cost-effectiveness not as critical for this project as we’re doing it to reduce our customer’s energy burden. New construction program moving slow right now, only have 1 going. Will train energy services consultants to do the ratings. Concerned about HPWHs – big piece of how someone meets or exceeds code. Re-bidding retail contract right now for RPP products, residential lighting and appliances (C+C and Enervee currently under contract, which expires in March). Low income program administration is changing over to the County. Have several new constructions projects planned for next year in multifamily.

H. BPA:

LEDs – RTF is reviewing residential lighting savings every year; savings and incremental cost savings released in January by the RTF will be implemented in October of this year. No change in direct install incentives. By request kit measures going down by \$1 (incremental cost). Big hit is in retail (incremental cost is the smallest) – NEEA helping with data: estimate that payments to utilities by BPA will drop by 60%. Shelf survey findings demonstrate that CFLs are shrinking rapidly. Looking to Simple Steps data to inform whether it confirms or provides a different view point (price differential between urban and rural areas); if it does, may be able to convince the RTF to revisit incremental cost. EISA (Energy Independence and Security Act (EISA) of 2007) may or may not be adopted in 2020; either way, BPA will have a program for specialty and decorative bulbs. Estimating large drops in aMW reported by residential lighting over the next few years.

Energy Trust noted this is a big deal for them. Regarding urban vs. rural splits – find it’s more by retail type. Question is whether general purpose will be in the program next year – has major swing effect.

Residential HVAC program - Have improved forms which should reduce the amount of paper work that contractors and utilities have to do. Looking at larger picture around simplifying HVAC program in preparation for 2019 implementation manual; evaluating where the market is going and will do broad outreach late summer and into fall to determine whether it’s time to look at things differently. Currently rebidding out PTCS contract (May 1 award date). Will let folks know about Performance Tested Comfort Systems (PTCS). Will communicate this and hold the vendor’s hand as the process moves along. Positioning the program to be looking 2-5 years out. Storm Windows measure also getting really low engagement for us as well – also think there’s greater potential for it in retail. Manufactured Homes program – one of BPAs customers (notes available in the low-income workgroup, or reach out to Jess (jbkincaid@bpa.gov)).

I. Tacoma Power:

Biggest changes are now that we’re offering a rebate OR a loan, can now bump up individual amounts as a result. Removed DHP grant program now offering grants for windows and installations to home owners only. Launched rental program, seeking to reach low-income/hard-to-reach audiences; removed the certification process and ramped up incentives for landlords. Looking at data results from winter manufactured home program to evaluate DHP installs on control groups.

J. PSE:

Single family limited time offers getting setup: HPWH contractor rebate, summer limited time offer with Johnstone on DHPs and with Gensco in fall for unitary heat pump. HPWHs – pursuing a retail delivery mechanism to provide a consumer spot discount so we can capture customer

information; hoping to launch in Q3. Having larger conversation around general retail strategy and mid-stream mechanism to see if there are other products we can push through it. Also looking at online strategy with LEDs. In retail, launched upgrades for 2018, including limited time offers and celebration offers at retail stores on appliances and lighting; doubled rebates for fridge and freezer recycling, other appliances (washers and heat-pump dryers). Multifamily – offering smart thermostat rebate using RTF measure. June launch for line voltage smart thermostat program with CEEP funds – will use the NEEEA Empowered Homes thermostat from Canada – the first true smart line voltage thermostat on the market. SEM performance period is over, conducting interviews to evaluate how program worked; Cadmus handling the evaluation of savings. New construction – launching Manufactured Homes and Single Family New Construction programs this month. Setup ability to refer home raters through contractor alliance network. Working with CLEARResult on multifamily and commercial new construction programs using tired incentives similar to Energy Trust’s; plan to launch with redesign by July 1. Low income – state matchmaker funds used for 2017-19 with slightly reduced budget. Using Greenpower fee reserve funds for low-income multifamily solar grids. Looking to see if we can leverage additional CEEP funds targeting 5 projects with CAP agencies. Have also targeted CEEP funds for a mobile home replacement project.

K. Avista:

Highlights include multifamily hard-to-reach pilot. Did some advertising and are able to get into some units to install some measures and observing other opportunities that can be realized. Taken off so much that we’ve had to slow it down, there’s a line-up. Trying to bridge transition to AMI by getting meter data direct from houses – put together pilot for an app (sense monitor) to monitor what is using power in a customer’s home.

2016-2017 Residential Building Stock Assessment Update ([slides 80-108](#))

Anu Teja (NEEA) and Cadmus provided the update. *The desired outcome is for RAC members to be briefed on detailed findings from the study.*

NOTE: *There are a significant number of graphical representations for each residential market and technology evaluated, please consult the presentation [power point slides \(#81-108\)](#), the [report](#), or the [full database on NEEEA’s website](#) for greater detail – a simple outline of the presentation is provided below. If you have any questions about the RBSA, direct questions to RBSAinfo@neea.org.* Also note that detailed tables linked in the database share more than what’s in the report.

Presentation Highlights:

- A. Three Working groups
 - 1) Customer contact
 - 2) Sample design
 - 3) Data collection
- B. Data collected – almost everything about the home
- C. Sampled Sectors
 - 1) Single-family
 - 2) Manufactured
 - 3) Multifamily
- D. Findings reported across product/industry
 - 1) Lighting
 - 2) HVAC
 - 3) Thermostats
 - 4) Insulation
 - 5) Washers

- 6) Water heat
- 7) Water fixtures
- 8) General Electronics
- 9) Refrigeration
- 10) Home tightness
- 11) Fuel type and energy benchmarking

Discussion:

- **Energy Trust:** Noticed some shifts – in particular water flow rate increases; this is a concern given the low-flow shower head install program over the past few years.
- **Chelan PUD:** *Duct ceiling measurements?* Cadmus clarified that although this was included, this data hasn't been a focal point so not clear on how thorough it is. Where found, it would be reported in the database. *What about thermostatic valves?* This was not part of the data collection.
- **Energy Trust:** Thermostats info is interesting with respect to RTF measure analysis – I see it as induced replacement of existing thermostats, not treated as though these are folks entering the market anyway. We have a long way to go on that measure if you look at the install base. It's an important dialogue to have because it will determine the length of the engagement.

Public Comment Opportunity

None

Wrap up

Meeting Feedback

- A. **Tacoma Power:** Next time, reduce the chat box and camera box on the display screen – would be nice to have the full presentation expanded. Number of breaks was also really helpful to take advantage of following up with people in between before they leave for the day.
- B. **Snohomish PUD:** Good meeting, also appreciate the round robin
- C. **Franklin PUD:** Always appreciate round robins, lots of notes with takeaways
- D. **Clark PUD:** Always appreciate the report outs
- E. **Energy Trust:** Appreciate the honesty and the challenges, nice to have that all laid out on the table

Next Meeting location

Thursday, August 2, 2018 in Seattle (SeaTac Airport Conference Center – Seoul Room)