

Commercial Advisory Committee (CAC)
Thursday, October 18, 2017
NEEA Office, Portland, OR



Attendees:

On Phone:

Joe Fernandi – Seattle City Light (SCL)
Lorri Kirstein – Avista
Scott Pugrud – Idaho (Energy & Mineral Resources)
Sinh Tran – Snohomish PUD
Randy Thorn – Idaho Power
Zeecha Van Hoose – Clark PUD
Chao Chen - Puget Sound Energy
Natasha Houldson – Tacoma Power
Rob Marks – Snohomish PUD
Deb Martin Young – NorthWestern

In Person:

Mark Lenssen - PSE
Romana Cohen – Stillwater Energy
Peter Meyer – Tacoma Power
John Wilson – Bonneville Power Administration (BPA)
Kevin Smit – NW Power & Conservation Council (NWPCC)
Blake Shelide – OR Dept of Energy (ODOE)
Shelley Martin – Idaho Power
Oliver Kesting – Energy Trust of Oregon
Mattias Jarvegren – Clallam PUD

NEEA Staff: BJ Moghadam, Emily Moore, John Jennings, Elaine Miller, Maria Murphy, Christian Miner, Debbie Driscoll, Alisyn Maggiora, Julia Harper, Anne Curran (phone), Geoff Wickes, Jeff Harris, Neil Grigsby, Maria Alexandra Ramirez, Steve Phoutrides

Welcome, Introductions, and Housekeeping Items

- A. Meeting [packet](#) review; see page 3 for links to:
 - 1) Latest CAC and RPAC meeting notes
 - 2) Q4 Market Research & Evaluation Newsletter
 - 3) Q4 Emerging Tech Newsletter
- B. Informational updates
 - 1) Reminder about Energy Efficiency awards – nominations due today
 - 2) Introduction of Maria Alexandra Ramirez; she will be filling BJ's role as Stakeholder Relations Manager supporting the CAC and will take over at the Q1 meeting February 1, 2018.

Commercial Portfolio Update

Emily Moore (NEEA) gave an overview on the commercial portfolio. *The desired outcome is to level-set on the current portfolio status and key changes as reflected in 2018 Operations Plan. Refer to [slides](#) 5-11 and page 4 in the [packet](#) for greater detail.*



Presentation Highlights (in addition to slide above):

A. Staffing Changes

- 1) Emily now sector manager replacing Sepideh Rezania; first introduction at CAC webinar in September
- 2) Neil Grigsby now taking on CCE after Kim Hughes’s departure
- 3) Debbie Driscoll folding into Commercial team (previously on Strategic Markets team)

B. Program Overview in Commercial/Industrial (color key)

- 1) Gold icons above are products in the scanning phase
- 2) Blue icons are products/initiatives
- 3) Green icons are infrastructure programs
- 4) Purple icon (CCE) is related to codes

C. 2018 Focus Areas

- 1) LLLC: Planning for scale up to market development mid-late next year.
- 2) RWLR:
 - a) TLEDs (and LEDs in general) continue to erode the fluorescent lamp market.
 - b) Current rate of decline in 2017 is trending towards 22% a year.
 - c) Planning to transition RWLR out of the portfolio to long-term monitoring and tracking in late 2018/early 2019.
- 3) Distributor Platform: Actively exploring ways the distributor platform (which is made up of the distributor relationships and agreements for data access) might be leveraged for the benefit of other initiatives and utilities.
- 4) Two new initiatives: Extended Motor Products & Commercial HVAC – Very High Efficiency Dedicated Outside Air Systems
- 5) C+I Lighting Regional Strategic Market Plan
 - a) Recap: Saw great regional collaboration in areas identified by funders in early 2017, including good/better/best guide for LED retrofits, and user group gathering lamp pricing data and insights for utility programs.
 - i. Supply chain understanding:
 1. Compiled secondary research, shared presentation at Summer Summit, followed by industry panel.
 2. Presentation available.
 - ii. COMMITTEE ACTION ITEM: If you want this information shared further within your organizations, please reach out to Debbie (ddriscoll@neea.org | 503-688-5487).
 - iii. Midstream coordination:

1. As new midstream programs develop, ensure coordination.
 2. SCL has been developing program in close coordination with PSE and SCL.
 3. The Puget area and BPA initiated an effort to create better TLED program alignment to create more consistent and stronger signals to the market.
 4. Pacific Power and RWLR are partnering on field support at the branch levels between the mid-stream and Reduced-Wattage programs.
- iv. Pricing data:
1. Assembled user group – program planners, program managers from Avista, SCL, ETO, PSE, plus the Council, BPA market research, NEEA market intelligence
 2. Develop use cases and specifications.
 3. Plan to use web scraping of a handful of sites to track price trends across several commercial lamp types
 4. Just released first prototype, collected feedback from user group
 5. One more round of prototyping and then we plan to release first version to region in Q1 2018
- v. Good, Better Best:
1. Michael Lane leading the effort, with participation from Shelley, Nancy, Bill, Stacy, Snohomish PUD, Lighting Design Lab and Evergreen (thanks to Nancy)
 2. Focusing on guidance for LED retrofits, developed mock-up for simple web-based guide that allows user to click to additional info
 3. In final phase of effort, hoping to complete in time for inclusion in NW TAN Field Guide, mid-November.
- vi. Plan to reconvene in Q1 to select priorities for the coming year.
- b) For 2018: Desire to continue building on the strong engagement, and maintain regional dialogue and future look to lighting opportunities and challenges.
- 6) 2018 Draft Budget

COMMERCIAL/ INDUSTRIAL			
DRAFT 2018 BUDGET (DIRECT EXPENSES) = \$4.7MM			
Program (\$ Thousands)	FY 2017 Forecast	FY 2018 Plan	Variance
Commercial Lighting			
Reduced Wattage Lamp Replacement	\$ 1,719	\$ 1,402	\$ (317)
Luminaire Level Lighting Controls	470	829	359
Top Tier Trade Ally	468	469	1
Lighting Resources	126	135	9
Commercial New Construction			
Integrated Design Lab	490	492	2
Commercial Code Enhancement	485	499	14
Commercial Buildings			
Betterbricks	72	80	8
BOC Expansion	94	15	(79)
Commercial Real Estate	473	321	(152)
Window Attachments	280	131	(149)
Industrial			
Industrial Technical Training	131	149	17
RETA Operator Certification	275	35	(240)
Strategic Energy Management	137	105	(32)
Total	\$ 5,220	\$ 4,661	\$ (559)

- a) RWLR transitioning to Long-Term Monitoring & Tracking phase
- b) LLLC Scaling-up to Market Development
 - i. Focus will be on training. Piloted hands-on installer training in 2017 thanks to Idaho Power. Snohomish PUD hosting training in December 2017. Further roll-out planned for 2018. Looking for utilities to host the training.
 - ii. Working with distributors on collaborative marketing efforts
 - iii. Looking at manufacturer reps, designers and specifiers as key influencers, working on plans to leverage them to promote.
 - iv. Had budget allocated this year for research recruiting activities that did not occur and will roll over to 2018.
- c) Decrease in spending on Commercial Real Estate (CRE)
 - i. Seeing this is a time where we may want to take more targeted approach with existing tools, focusing on those things that work well and have greater strategic value.
 - ii. Seeking to evaluate role/strategy of CRE and how to best position going forward based on funder feedback.
- d) Decrease in budget for Window Attachments program
 - i. Want to allow 2018 to be the year that the strategy with the AERC plays out – this is the key market intervention for this program, want to ensure they have the support they need and the hand-off happens effectively.
- e) BOCE and RETA CRES programs retired in 2017, so no further budget in 2018 for those.
- f) Anticipated spending in 2018 on two new programs listed above should culminate to around \$800,000 in total between the two.

Discussion: Feedback on All-Advisory Committee Webinar Oct 10, 2017

- **BPA:** Good overview, addressed my questions, particularly on XMP initiative. Excited to see the LLLC program get traction and start to take off. Seeing program colleagues show interest in that.
- **Tacoma Power:** Liked the level of detail provided; good job. Interested in hearing more about the XMP initiative later today.
- **SCL:** Everything seems consistent with what we've been discussing
- **BPA:** *With respect to leveraging the distributor platform – I know they've benefited greatly from the data share component – with the scale-down of RWLR, is the active engagement being discussed?* **NEEA (Elaine)** replied that it might be different for each partner, this discussion is happening now. Don't think getting data back from LTMT will be that difficult, it's easy for them to do.
 - **BPA:** *Does that mean leveraging their existing mid-stream programs?* **NEEA (Elaine)** replied that means that if we can get something moving in Puget Sound, they will likely be willing to continue to give us data; they've agreed to give us data for \$15,000/quarter.
 - **NEEA (Julia)** added that the data streams for lighting are an issue we are identifying in the ops plan as well - the focus is not just commercial lighting, but includes residential lighting as well. That data stream is going to disappear, so if you have been using this data, heads up that we are looking to discuss this with you further in Q1 or 2 of 2018.
 - **Clallam:** *Have you thought about incorporating TLEDs on the platform, since that's where the market is headed and is an area that's hard to pick up?* **NEEA (Elaine)** replied that TLED data is already being captured along with the fluorescents. It will be included in the Seattle City Light pilot and potentially the NorthWestern pilot as well. That's

where distributors want to go and may be a good way to continue to get that while utilities continue to pursue deeper retrofits.

- **Northwestern:** We're interested in participating in the discussion that happens in Q1/2 of next year on this
- **BPA:** Appreciated the camera, face-to-face interaction, forced me to pay more attention.

Extended Motor Products (XMP) Initiative Start (IS) Program Review

Warren Fish (NEEA) introduced the initiative. *The desired outcome is for CAC to have an understanding of the initiative and provide support for Initiative Start (IS) Milestone votes at RPAC in Q4 (Nov 8, 2017). Refer to [slides](#) 13-28 and pages 5-16 in the [packet](#) for greater detail.*

Presentation Highlights

- A. Market Transformation Theory
 - 1) Goal for XMP is to drive awareness, stocking & sales of efficient motor driven products.
- B. Efficiency Ratings for Products
 - 1) Varies across size of pumps

Discussion

- **PSE (Mark):** Confusing talking about "small pumps" as a general term; if we're talking about 200 hp, or even 50 hp, those really aren't small pumps. **NEEA (Warren)** clarified that when we're talking about circulators, we're talking fractional horsepower. **PSE** added that it might be better to clarify in the program language to clean up what is defined as "small" pump – describing the application could be more beneficial.
- **BPA** sought confirmation on the 2020 DOE standard that applies to 1-200 hp. **NEEA (Warren)** affirmed and also clarified, in response to **PSE** about just allowing the standard to do the work, that by working on higher tiers of pump energy performance, achieving greater savings is possible.
- **Energy Trust:** *What is the timing for sharing the documents?* NEEA (BJ) confirmed materials are typically sent 1 week in advance for sector meetings and 2 weeks in advance for RPAC meetings, when there is a program review for a vote.

C. Pumps

- 1) Pump Energy Index (PEI) – rating established by Department of Energy (DOE) with heavy involvement from the industry, covers pumps between 1-200 HP. Takes effect in 2020.
- 2) Cost is typically more important when purchased, but the DOE wants to improve efficiency considerations so this is part of the effort to make the products more easily comparable.
- 3) Hydraulic Institute Energy Rating Portal has individual pump listings.
- 4) Assets and Opportunities at Initiative Start
 - a) DOE standard, metric, test procedure
 - b) Hydraulic Institute – label, manufacturer support
 - c) Data on pump energy performance
 - d) RTF planning measures in place, plan for proven
 - e) Distributor platform experience
 - f) Small fraction of current pump market participating
 - g) Potential to add other motor driven systems and to track and index savings over time.

Market Barriers

- 1) First cost
- 2) Energy not a selection criteria
- 3) Split incentive

- 4) Awareness
- 5) Complexity
- 6) Volume and velocity of sales

Discussion

- **PSE (Mark):** *How do the C&I and circulator quantities compare if you have 70,000 in total unit sales? NEEA (Warren)* clarified that it's about 25,000 of C&I and 45,000 of circulators; it's also detailed in the business case.

D. Savings for Pumps & Circulators

- 1) Savings potential for clear water pumps; 3400 measures, with savings potential around 30-40 aMW
- 2) Circulator pumps savings potential around 35-60 aMW, with 100 measures available.
- 3) Measures will expire if not proven – a key component; some work already in place but still have more research to conduct.

Discussion

- In a question from **Seattle City Light** about these savings being realized before the 2020 DOE standard implementation, **NEEA (Warren)** clarified these are estimates for 20-year savings potential. In 2020, the baseline will shift up to the standard for C&I pumps; circulator pumps will not be affected.
- **PSE (Chao):** *Is there any backup information that can be reviewed to evaluate how savings numbers were calculated? Don't know how we're going to define a more efficient pump – there's so many variables; how will this be done?* **NEEA (Warren)** clarified that there is a good overview on page 10 of the packet, which addresses the savings forecast. At a high level, one way to conceive of this is that pumps have been using significant energy for decades and buyers had to figure it out on their own. With the DOE and regional level use cases, the goal is to be aware of an expected average and understand that individual use cases will vary.
- **Tacoma Power:** *Does this include pool pumps?* **NEEA (Warren)** noted it does not, it's possible it may in the future. The DOE has a separate rule making going on for pool pumps.
- **NEEA (Jeff):** To be clear, this will increase the average efficiency across the average of applications and market of pumps being sold; individual results will vary. The goal is to increase the overall efficiency for pumps and motors.
- **PSE (Mark):** Still concerned that it may not really drive change. **NEEA (Jeff)** added that with the XMP initiative, the goal is to If we can create a rating system that forces the low end of the market to reach some minimum level of efficiency. This is like the Energy Star label for pumps; the rating has to take into account the wide range of uses for the variety of pumps.
- **PSE (Chao):** – In most cases we see that the wrong sized pump is purchased/used. The labeling doesn't solve that problem. **NEEA (Geoff)** confirmed it's hard to know, but the standard will knock out the lower 25% and the label will help inform.
- **Tacoma Power:** With Energy Star you have an icon label, with this, you have a number so the buyer won't necessarily know what the scale/number means.
- **Idaho Power:** *So the label already exists?* **NEEA (Warren)** confirmed; the Hydraulic Institute label exists.
- **Clark PUD** Making a parallel to NEMA Premium in terms of raising the overall bar of efficient products in the market.

E. Market Context

We have:	We know:
Federal Standard for Clean Water Pumps, 2020	~70,000 sales a year (lots of transactions; small savers)
Energy Rating (PEI), HI Label, Manufacturer support	65-100 aMW of 20-year savings potential
RTF Planning measures in place (+plan for Proven)	Efficient pump solutions are available, yet few are sold
Distributor platform – relationships, experience, process	Sensor/control technology for small pumps is here

F. Why NEEA, why now?

- 1) Regional scale to simplify energy efficiency in a complex category / sales channel
- 2) Experience with distributor platforms
- 3) Relationships with distributors, manufacturers, trade associations
- 4) Efficient pumps available but not many are sold
- 5) New DOE standard, and new RTF UES planning measures—research to make proven

G. XMP Value Streams

- 1) Obtain full category sales data to give us market visibility
- 2) Increase the percent of the NW pump market aware of and participating in energy efficiency
- 3) Take RTF pump savings measures from planning to proven status
- 4) Open doors to bigger, directly incented pump upgrade programs by local utilities
- 5) Ease NW customer challenges from this new DOE pumps standard

H. Next Steps

- 1) Leverage pump industry relationships
- 2) Leverage assets of the RWLR distributor platform
- 3) Support research plan for UES measures – long-term, expensive effort.
- 4) Coordination on regional education/marketing/outreach
- 5) Work collaboratively to design and test market interventions

Discussion:

- **PSE (Chao):** *With 200 hp – thinking about a rebate incentive – we want to look at the system, not just the pump – not sure how this will help us.* **NEEA (Warren):** We’re not suggesting this effort (program and distributor platform use) is mutually exclusive for funders to upgrade pump systems. Certainly the NEEA/MT play is separate from the utility play. By encouraging the stocking and sales of pumps at the distributor level, hoping for a “both/and” scenario. We know there is a narrow path to navigate.
- **Idaho Power:** Already discussed issue of going up to 200 hp in size; recall at last IAC meeting we discussed that anything over 50 hp would be a custom project. Can we limit the NEEA effort to only the smaller things (i.e. under 50 hp)? Also, with fans and air compressors, we want to ensure we’re not investigating those technologies right now and encourage that we’re only focusing on small pumps only at this time. On the cost effective savings, want to ensure funders can acquire and claim savings on the initiative. On the value exchange platform, seems like a separate set of market players, would like to hear more on that. Lastly, assume the work NEEA will do will feed into RTF and their planning process. With respect to up- and mid-stream incentives, would like to see a couple hypothetical examples for further discussion.
 - **NEEA (Geoff):** We are not working on custom projects, only the ones that don’t get transacted through your utility. NEEA will be involved at the mid-stream level only. There will be the transaction follow through to keep the marketplace honest and the customers informed. We’re building the tier levels and savings now. We have a good idea of what these savings are at the different levels; they do get foggy the higher the horsepower.

- **NEEA (Warren):** In terms of the value exchange, we want data from the distributors, to understand what they're selling, and to encourage them to sell higher efficiency pumps and to reward them for doing so.
- **PSE:** That analogy works with lamps; when you're talking pumps, would be helpful to provide a specific pump example. Demonstrate where the problems are in the arena and how this will fix them.
- **Energy Trust:** *Instead of a fractional hp pump, what about a 400 hp pump, what will NEEA do?* **NEEA (Geoff):** clarified NEEA will be working with distributors at the sweet spot that funders dictate. Also want to be informed so that we can promote utility programs and encourage distributors to do so. We want to widen the conversation.
- **NEEA (Elaine):** You're correct that the distributor platform has components that don't overlap here, but there are some areas where it does, for example with Grainger. We can leverage those partnerships out of the gate, but also build those connections more relative to this program.
- **NEEA (Emily):** Having approval of the Initiative Start milestone will allow us to invest in and learn how to engage in the market place.
- **Tacoma Power:** Idaho Power offered up most of my questions and concerns. *In addition, when we approve this for Initiative Start, are we approving fans and compressors, or just pumps?* **NEEA (Geoff)** clarified that we are starting with pumps, but building a framework that if successful, we can expand into fans, compressors, etc. (anticipate a rule making).
- **NEEA (Julia):** We also have a process already that when adding a product into a program category, we go back to RPAC with a program change document to seek their approval to include additional elements.
- **PSE (Chao):** With compressors, the data is already there, that's why I'm questioning this. Want to encourage caution here, pumps are very different than compressors or fans. If we try to oversimplify we may not get the results we want. **NEEA (Geoff)** replied that while there is good data out there, we can establish an overarching label and that's where we're trying to go with this. There are still good synergies and great channel development opportunities available out there.
- **COMMITTEE ACTION ITEM:** Please make the connection on your end with your RPAC member, they will receive call downs from NEEA staff.

Thumbs Up/Thumbs Down Strawman:

- **PSE (Mark & Chao):** Have reservations.
- **Tacoma Power (Peter & Natasha):** Supportive of concept for pumps less than 50 hp
- **Idaho Power:** Also supportive of pumps only - less than 50hp.
- **Clark PUD:** Overall supportive, see it as a MT move
- **Snohomish PUD:** Agree with supporting pumps under 50 hp; have reservations above that.
- **NorthWestern:** Supportive of comments here; need to follow up with Emily Moore (NEEA) and loop in technical staff.
- **SCL:** Generally supportive – utilities are seeing a small percentage of a really large volume; mid-stream seems like the right approach and timing seems good. Like idea to expand to compressors and fans down the line. Potential reservation about larger hp equipment. Want to give John Owen an opportunity to weigh in. Also notice there are 3400 unique measurers for C+I pumps, that's a lot of measures, would like to see more detail on the online database platform, in particular how we're getting data from the distributor back to NEEA and deeming the right EUS measure.
- **Avista:** Supportive based on comments; want technical folks to have a chance to review details.
- **BPA:** Echo what's being said here; encourage follow up folks to connect directly with Brent.

- **Clallam:** Appreciate discussion. No reservations. Look forward to follow up discussion, this is a good gap to fill for us, we never touch pumps, appreciate the effort.
- **NWPCC:** No reservations; good potential here. Think this is the best, if not only way to get this potential. Expect a lot of issues raised today can be hashed in the program design. Good Job. Had conversations with RTF on this, there's so much analysis that's gone on with it, there's good data, fully supportive.
- **ODOE:** Overall structure looks great. Concerns raised today are valid, would like to see how that plays out.
- **Energy Trust:** No concerns, think Commercial is generally supportive; would like to loop back with planning group and industrial to see if there were any challenges. Did hear there might be some concerns above 50 hp.
- **NEEA (Julia):** If we can't ultimately get to a place where everyone is comfortable with a program, it can come to an end; it wouldn't be the first time. Just because it goes through Initiative Start doesn't mean it's guaranteed to continue on.

Utility Share-outs/Round Robin

A. Avista:

Biggest news is that we are being purchased by Canadian company, Hydro One – expect that to finalize Q3 2018. Expect we will remain as our own entity for now. Online to meet goals this year; completed advisory group fall meeting with commission staff and regulators. Highlighted programs on residential side and have several pilot programs we'd like to get involved with.

B. Snohomish PUD:

Met our budget in first six months, 85% of which was on lighting. 80 projects left to go. Looking for different ways to handle small projects. Looking at winter peak demand options M-R, November to February. Grocers end in June, adding those measures to our rebate program. Cannabis has about 90 active licenses now – 4th largest customer they have. Pay for Performance is moving slowly but surely. 2018 target budget about same as 2017.

C. PSE (Mark):

Wrapping up planning cycle for 2-year biennium. Continuing to dealing with replacing retirements. Working on pay per performance program. Expect to meet our targets for the year. Cannabis is still a strong market, new facilities continue to keep coming in. Generally these are retrofits. LLLC incentive bonus in the workbook for next year, will give folks added incentive to go with LLLC fixtures over the others.

D. Energy Trust:

Busy with budget season. Looking forward to accomplishments at end of year. Expect to exceed most if not all goals on electric side, struggling more on gas. Launching a food-service bonus at end of year to help get that going, trying to stay away from bonuses but need the savings. Working on Pay for Performance pilot, launched and signed up three allies (those already qualified to do energy audits and commissioning as subcontractors); focusing on getting 6 customers signed up and allies are helping to recruit. Paying a flat per kwh rate. Strategic Energy Management – launching another cohort at end of month and recruiting for another to launch in January. Will be combined industrial and commercial; targeting folks in more rural areas and hope to leverage both programs and have more participants. Seeing high participation in path to net zero offering on new construction side. Released two case-study video stories on new construction net zero projects. They have to achieve 40% above code on net zero.

E. Clallam PUD:

Closing out 2016-17 compliance year for I-937; projecting to go over target. Reduced incentives, particularly on residential side for DHPs. Will have less commercial lighting savings, mostly because we restricted the budget. Thinking about marketing efforts instead of paying incentives;

new ground for us. No specific detailed plan on how to do that yet, will be reaching out to contractors – big piece will be on residential side with DHPs.

F. BPA:

Wrapping up 2-year rate period. Overall hit targets for the year, went over in Commercial sector. Dramatic how savings roll in – early in the year had 1 aMW on the books, now we're at 17. BPA is scaling down and back in all ways, tremendous budget pressure as we try to be competitive in the power markets. Have canceled article off market to ramp up commercial program. Hitting targets and wasn't a need to go out and be competitive; believe we need to be doing that across the board. Engineering workforce retiring. Focusing inward, evaluating where we can partner; seeking to get more strategic with ally networks. Ran a small business lighting promotion, was more successful than expected. At last look, it had generated 15mmKWh and about 2 million dollars invested across the region that wouldn't have occurred otherwise. A lot of utilities in BPA start out concerned, but 98% of utility incentive dollars were spent. Looking to continue to partner with NEEA on lighting and the new HVAC initiative coming up.

G. NWPCC:

RTF reported on regional progress conservation report for 2016. In total, 270 aMW savings reported in the region for 2016, the goal was 185. 33% of which was commercial. 65% was lighting (both residential and commercial). Concern is in HVAC – small sliver with lots of potential – encouraging folks to think about this. Presentation is on council website. Targets were lower than year before but budgets didn't change. Spending is expected to remain the same.

H. Oregon Department of Energy:

Commercial code update expected for coming year, excited to work with NEEA and Energy Trust on those. Ranked number 5 in statewide ACEEE scorecard. This was improved from our original score, which had incorrectly evaluated our residential code equivalency and failed to include our statewide policy on fleet vehicles for fossil fuel reduction, among a few other items. Washington was number 7. Several tax credit programs sun-setting at end of year.

I. Idaho Power:

Met our goal on every project. Have a lot in the pipeline. Looking at pushing back changes in commercial and residential programs for next year to Q2 and 3. In process of reviewing cost-effectiveness with avoided cost, will be reviewing all measures. Expect work to be done by end of year.

J. Tacoma Power:

On track to exceed goals for this year and I-937 two year period. Looking for new director. Street lighting replacements happening. Finishing IRP and conservation plans for next cycle, going to utility board next week. Targets going down a little, but not in C&I. Expect large cold storage project (8mmKWh) to come on board in 2018. Issuing RFP to hire commercial implementer, expect that to be released Q1 2018.

K. SCL:

On track with I-937 targets. Program development updates: Officially launched tune-up accelerator program; working on RFP for virtual energy assessment for a select group of customers impacted by that. Working on retro commission program to support larger buildings impacted by large building tune-up ordinance; hoping to launch Q1 2018. Continuing to build deep retrofit Pay for Performance program and launch Q1 2018 as well. Holding off on commercial SEM for now due to resource constraints. Working with Elaine and Ray on building mid-stream lighting offering to leverage the distributor platform – a Q1 2018 goal. Need to revise incentive structure on downstream lighting to align with Good Better Best approach; will be incorporating LLLC savings into workbook. Exploring adoption of simplified path for multifamily new construction based on new BPA measure.

Commercial HVAC-VHE DOAS (Very High Efficiency Dedicated Outside Air Systems)

Maria Murphy (NEEA) presented the update; this is an introduction to the initiative in preparation for a potential Initiative Start (IS) vote in Q1 2017. *The Desired Outcome is to discuss the program concept and address any questions/concerns. Refer to [slides](#) 41-57 and page 17 in the [packet](#) for greater detail.*

Presentation Highlights:

- A. Initiative team is forming. Charlie Stephens (NEEA) has been working on this project for the past 3 years and will continue to support the team as it moves forward.
- B. Technology Overview
 - 1) Like conventional DOAS (package rooftop unit), based on the fundamental concept of separating ventilation from the heating and cooling system
 - 2) VHE DOAS improves upon this by focusing on efficiency. Coupling a high efficiency heating/cooling system like VRF with a very high efficiency heat recovery ventilator (VHE HRV).
 - 3) 'Right-sized' heating and cooling system that is substantially smaller due to lower heating or cooling load, less air to condition overall resulting in smaller fans.
- C. Saving Energy
 - 1) Right-sizing: Separates out the heating / cooling functions from ventilation provides plenty of opportunity for down-sizing
 - 2) Cross-flow Heat Exchanger allows for better heat recovery
 - 3) Efficiency is generally over 90%. At its lowest heating mode, doesn't go below 85%. It's lowest efficiency is substantially higher than that the high end of everything else available in North America right now. Standard efficiency now is around 50%. Twice the efficiency for half the energy.
 - 4) Ventacity: This is the only high-efficiency HRV manufacturer in N America right now.
 - 5) NEEA has been key in getting them started; bringing more to this market will be a key barrier this program seeks to address.
- D. Key System Benefits
 - 1) Whole building energy savings of up to 50-70% over conventional rooftop unit (RTU)
 - 2) Better indoor air quality and greater occupant comfort
 - 3) Reduced maintenance costs and requirements
 - 4) Simplified controls
- E. Pilot Projects
 - 1) 8 total around region (offices, restaurants and 1 airport terminal), including Montana; 1 of the 8 have results in already and 4 total will have 12 months of performance data by end of year.
 - 2) Will have nearly all of the data in by spring 2018
 - 3) One test site already seeing 63% whole building energy savings; HVAC savings at 69%
- F. Challenges and Opportunities
 - 1) Opportunities (Conservative estimate):
 - a) Target - 43% of 1.3 billion (20% of total) have packaged RTU systems. We're not limited to these. 20% equals 540m square feet
 - b) *This estimate is based on sq footage, but we're refining based other criteria. Now looking at details within opportunities to design program around. Building types are less than 50,000 square feet.
 - c) 2.7 billion sf total space in commercial sector in 2007
 - d) 1.3 billion sf (48%) is considered smaller commercial

- e) 70% gas fired
- f) 30% electric
- 2) Challenges:
 - a) HVAC industry hasn't changed in over 100 years, including revenue model.
 - b) Lack of tools, training and overall design expertise.
 - c) 1 High Efficiency HRV manufacturer
- G. Next Steps, pending Initiative Start
 - 1) Market characterization to inform program strategy
 - 2) Market research
 - 3) Awareness building
 - 4) More pilots – seeking partnership; have no new construction pilots currently.

ASK OF COMMITTEE: NEEA seeking to partner with you to run a pilot on any of the following, if you have one you think would be a good project please contact Maria (mmurphy@neea.org | 503-688-5486).

 - a) K-12 schools
 - b) Big box retail
 - c) New construction

Discussion:

- H. **BPA:** *Any space to consider a non-super HE heat recovery ventilator or different tier system?* **NEEA (John)** noted that because of the lower efficiency HRVs, we can't down size the heating /cooling system as much so the high savings wouldn't be realized.
- I. **BPA:** *There is only 1 manufacturer of HE HRV?* **NEEA (John):** We do see one or two more manufacturers inching towards interest, so by the time this program would reach Scale-Up down the road, the picture may look different. Energy Trust had a modeling workshop that has been helpful
- J. **NEEA (Emily):** *What are the challenges or things that get you excited?*
 - 4) **NEEA (John):** Costs are higher but because the savings are so high, the payback is short. Existing rooftop unit systems are (\$7-\$10/sq ft). Also finding limitations with restaurants and fan hoods.
 - 5) **NEEA (Maria):** K-12 schools are a key target
- K. **NWPCC:** *Will you be doing some cost-benefit analysis to look at some of these other options?* Seems like VHE product is key on a really bad building, but that's a narrow potential. **NEEA (John)** replied that is still being investigated in terms of what will be included; following Good Better Best guidance, still move them above code.
- L. **ODOE:** One thing I always look at is breakdown on cost and savings for each component. I know they lean on each other and it's hard to isolate.
- M. **BPA:** *You're also saying, you have to tighten the building at the same time, right, not just swapping out the HVAC system?* **NEEA (Maria)** Per the pilots done thus far that doesn't appear to have substantial impact on savings. We've done blower door testing on all pilots, but will likely not include that in future pilots due to the high cost and lack of impact on project savings.

Commercial Real Estate (CRE) Update

Christian Miner (NEEA) presented the update. *The Desired Outcome is awareness of program progress and status, and rationale for 2018 scale-back and assessment of future program role and value. Refer to [slides 58-63](#) and page 18-21 in the [packet](#) for greater detail.*

Presentation Highlights

- A. Funder desires relative to the CRE program:
 - 1) Utilities want access to decision makers. Anywhere we can help by making this connection, it is helpful.
 - 2) Benchmarking is important. NEEA should support benchmarking where it makes sense as an infrastructure program.
 - 3) Continue identifying opportunities and helping the market identify opportunities and of course connect with utility programs where possible.
- B. CRE Program Success
 - 1) Support for the City of Portland’s Energy Performance Reporting Policy, providing resources and promoting training events
 - 2) Unico Properties successfully input 30 properties into Spark
 - 3) CRE Hub (Navigator) is on-track to launch Q4 2017
 - 4) Engaged 66 million square feet of CRE property in the PNW
 - 5) Seattle Building Tune-Up Accelerator Program is using Spark as part of its 2-Day, mandatory training
 - 6) 90 engineering service providers have been pre-qualified to date with another 30 slated for Q1 2018
 - 7) “Shovel Ready” efficiency upgrades identified with PAE Engineering, SRG and ZGF Architecture, and Solarc Engineering
- C. CRE Infrastructure Challenges
 - 1) Low participation in the Spark webinar series and BOMA BEEP 2.0 training
 - 2) Undetermined impact of BetterBricks Quarterly Tool Kit
 - 3) Unclear value perceived by utilities
- D. 2018 Plans – Scaling back (refer to program change document for detail)

Note: If there’s a significant change in scope or budget on a program, this program change document is the vehicle for communicating the desired change and seek agreement from funders.

 - 1) Scale back the scope of the program
 - a. Focus on more targeted market engagement with existing resources and tools
 - b. Reassess the future role and value of the CRE Infrastructure program
 - c. The 2018 CRE budget will decrease by 30% compared to 2017

Tool/Resource	Work Group Theme	2018 Activity
CRE Relationship Platform	Engage commercial real estate owners and decision makers	Continue
Portfolio Manager	Support benchmarking best practices	Continue
CRE Hub (formerly Navigator)	Help customers navigate a cluttered market	Continue
Spark Tool	Make/quantify the business case for energy efficiency	Continue
Tool/Resource	Work Group Theme	2018 Activity
Spark Webinar	Make/quantify the business case for energy efficiency	Scale Back
BOMA BEEP 2.0 Training	Help customers identify opportunities and take next steps	Scale Back
BetterBricks Quarterly Tool Kit	Make/quantify the business case for energy efficiency	Scale Back

Discussion:

- 1) **BPA** shared that while their engineers agreed it makes sense, it’s not what they’re getting asked to evaluate. Some in their office expressed they haven’t seen the value in this program, but John appreciates seeing NEEA step back and take a practical approach to something that isn’t providing Significant value at this time.

- 2) **Tacoma Power:** Support this reduction. There were concerns early on. Moving forward it appears the only effort is in Portland and Seattle. **NEEA (Christian)** clarified that it's more so along the I-5 corridor (it's an I-5 corridor program because Idaho and Montana opted out). Working with Idaho Integrated Design Lab and other areas as well.
- 3) **Clallam PUD:** Just don't think there's much commercial real estate in our territory so hard for us to value.
- 4) **SCL:** Support the scale back. Will continue to try to leverage Spark as a source of leads as we move into recruitment for Pay for Performance.
- 5) It makes sense for Spark to augment existing programs but not to be the central offering of its own program. This is evident in the manner in which Spark augments the Seattle 2030 Tune-up Accelerator program.

Wrap up/Feedback on Meeting

- A. **SCL:** Been working a lot lately on program life cycles and building up the artifacts. Really appreciate seeing the program change document and these seem evolved from previously – looks like some feedback has been incorporated and they look great.