

Memorandum



September 3, 2019

TO: Regional Emerging Technology Advisory Committee
FROM: Jonathan Belais, NEEA Staff
SUBJECT: Key Takeaways & Action Items – August 28, 2019

To Committee Members,

Thank you for your attendance and participation at our August 28th Regional Emerging Technology Advisory Committee meeting. We appreciate your feedback and questions. Below is a high level summary of the meeting and the feedback we heard. If we missed anything or you have additional questions, please contact Jonathan Belais (jbelais@neea.org).

In Person: Kevin Smit (NWPPCC), Matt Iris (Avista), Suzanne Frew (Snohomish PUD), Rem Husted (PSE), Keshmira McVey (BPA), Todd Currier (WSU Energy Extension), Jeff Schwartz (ICF), Todd Blackwell (Idaho Power), Ammi Amarnata (EPRI)

NEEA Staff: Jonathan Belais, Dave Kresta, Tess Studley, Mark Rehley, Christopher Dymond, Jeff Rigotti, Alisyn Maggiora, Eric Olson, Jon Jennings, Julia Harper

On the Phone: Angela Long (Pacific Corp), Tom Osborn (BPA), Will Price (EWEB), Andrew Pultorak(PSE), Robert Weber(BPA)

Power Plan Emerging Technology Update

- Following up from a discussion in the Q2 2019 meeting, Kevin Smit, NWPPCC, provided a brief update on the technologies currently slated to be included as emerging technology in the 2021 Power Plan.
- *Feedback:* Committee member suggested some minor adjustments and identified a couple of topics for future product councils or further review.
- *Action Items:* NEEA staff to coordinate with Ahmi on possible future product council topics.

Residential HVAC Discussion

- Christopher Dymond, NEEA staff, provided a look at the possible futures for residential HVAC technologies using a draft residential HVAC mapping tool. This tool continued the committee's exploration of possible product, application and research mapping tools.
- *Feedback:* NEEA staff responded to a
- *Actions Items:*

2020 Plan Share Out

- RETAC members shared their responses to the 2020 planning questionnaire sent prior to the meeting. Some recurring focus areas included multifamily, low-income, and system level solutions.

- *Feedback:* Committee members expressed that there remains significant value in the coordination and sharing that occurs at RETAC. Additionally, members re-emphasized the need to focus on development of new measures that generate savings.
- *Actions Items:* NEEA staff will work to aggregate and summarize responses for sharing with the full committee. These responses will be used to inform the 2020 planning discussion during the Q4 meeting.

Database Update and Round Robin

- Due to the extensive 2020 planning discussion, this was limited to some minor Q&A on topics of interest for committee members.
- *Feedback:* NEEA staff fielded a few minor questions regarding specific product/project updates.
- *Action Items:* NEEA staff to follow-up with individual committee members on specific questions.

Review of 2019 Activity Plan and Refinement

- The committee reviewed the 2019 activities list, prompting some brief discussions regarding individual updates.
- *Feedback:* In addition to some individual project questions that were answered in meeting, committee members briefly discussed the continued utility of the annual activity planning document. Suggestions were made to continue refinement for 2020 plan during the Q4 meeting.
- *Action Items:* Committee to revisit this plan in Q4 to prepare for 2020.

Appendix A: Products for 2021 Power Plan

Products with “Gas Savings Only” (Will not cover in 2021 Plan)

| Product Name | Product/ Performance | SavingsType | Meeting Notes |
|--|-------------------------|------------------|------------------|
| Add-on non-condensing boiler economizers | Level 3 | Gas Savings Only | |
| boostHEAT Heat Pump | Level 1 | Gas Savings Only | |
| Commercial dryer moisture 'sensor' | Level 3 | Gas Savings Only | |
| Dearation for Boilers | Level 1 | Gas Savings Only | |
| Gas water heater; non-electric ignition | Level 1 | Gas Savings Only | |
| High Efficiency Rooftop Units (RTUs) | Level 3 | Gas Savings Only | |
| HVAC Fan Stop Delay | Level 3 | Gas Savings Only | |
| Hydronic Heat Transfer Enhancement Additive | Level 3 | Gas Savings Only | |
| Intellihot Commercial Tankless Water Heating | Level 3 | Gas Savings Only | |
| Modulating valve retrofit - Fryers | Level 2 | Gas Savings Only | |
| NTI Combi Gas Water Heater/Furnace | Level 3 | Gas Savings Only | |
| Robur Gas Fired Absorption Heat Pump | Level 3 | Gas Savings Only | |
| Thermolift Vuilleumier Heat Pump (VHP) | Level 1 | Gas Savings Only | |
| Through -the-wall condensing heat, MF | Level 3 | Gas Savings Only | |
| Transport Membrane Condenser | Level 1 | Gas Savings Only | |

Products to be Excluded

| ProductName | Why Exclude? | Product/ Performance | Meeting Notes |
|---|--------------|-------------------------|------------------|
| Downlight LED Porch Light w/ Built-In Dimming Control | Not ready | Level 1 | |
| Textiles for personal thermal management | Not ready | Level 1 | |
| Thermal Paint | Not ready | Level 1 | |
| Whiskerlabs Home Thermostat Automation | Not ready | Level 1 | |
| DC Building Grid | Not ready | Level 2 | |
| Turbopots | Not ready | Level 2 | |

| | | |
|---|----------------------|---------|
| VersaControl | Not ready | Level 2 |
| Cadet Energy Plus Heaters | Not EE | Level 3 |
| Ductless Heat Pump Quick Connect | Low Efficiency | Level 3 |
| High-accuracy, Low-cost Methods for M&V | Not EE | Level 3 |
| Automated Optimization Software | Enabling Tech | Level 4 |
| Aeroseal for Residential Duct Sealing* | Covered Elsewhere | Level 4 |
| Attic Blackout Air Sealant* | Covered Elsewhere | Level 4 |
| Energy Information Systems | Enabling Tech | Level 4 |
| Energy Management Systems | Enabling Tech | Level 4 |
| Opower Personal Energy Reports | Covered Elsewhere | Level 4 |
| Whole Home Air Sealant* | Covered Elsewhere | Level 4 |
| Multifamily Water Sub-meter | Behavior/No Data | Level 6 |
| Nest Seasonal Savings | Covered Elsewhere | Level 6 |
| Scientific Irrigation Scheduling | No Longer RTF | Level 6 |
| Tools for Analysis of Energy Use by Residential Buildings | Enabling Tech | Level 6 |

**Products to be Considered for 2021 Plan
(Not In 7th Plan)**

| Product Name | Regional Potential (aMW) | Product/ Performance | Meeting Notes |
|---|---------------------------------|-----------------------------|----------------------|
| Combo Water and Space Heat | 194 | Level 2 | |
| Compressed Air Saver Unit | 8 | Level 2 | |
| *CO2 Heat Pump Water Heater | 160 | Level 3 | |
| Small Circulator Pumps with Automated Control | | Level 3 | |
| Small commercial heat pump water heater | 50 | Level 3 | |
| Split-system HPWH | 354 | Level 3 | |
| Switched reluctance motors | | Level 3 | |
| *Thin, Lightweight Triple Pane Window | | Level 3 | |
| Ultra High Definition TVs | 57 | Level 3 | |
| Step Dimming Exterior Area Light | | Level 4 | |
| *Very High Efficiency DOAS | 85 | Level 4 | |
| Advanced Design Rooftop HVAC Units | 100 | Level 6 | |

Products TBD (1)
(Products not in 7th Plan; are they ready for the 2021 Plan?)

| ProductName | Regional Potential (aMW) | Product/ Performance | Meeting Notes |
|---|--------------------------|----------------------|---------------|
| Advanced Occupancy Sensors | | Level 1 | |
| Carnot Industrial Air Compressor | | Level 1 | |
| Kitchen exhaust heat recovery | | Level 1 | |
| Refrigerant Leak Sealing Systems | | Level 1 | |
| Daylight Redirecting Film | | Level 2 | |
| Dynamic Glass | 35 | Level 2 | |
| Ocean Source CO2 Heat Pump System for DHW | | Level 2 | |
| Pump System Assessment Professional | 20 | Level 2 | |
| Structural Thermal Break for Commercial Buildings | | Level 2 | |

Products TBD (2)
(Products not in 7th Plan; are they ready for the 2021 Plan?)

| ProductName | Regional Potential (aMW) | Product/ Performance | Meeting Notes |
|--|--------------------------|----------------------|---------------|
| *Applied Film | | Level 3 | |
| Cellular Shade | 5 | Level 3 | |
| *CO2 and ammonia cascade industrial refrigeration system | | Level 3 | |
| *CO2 Industrial Refrigeration | | Level 3 | |
| Heat Recovery from Refrigerant | | Level 3 | |
| High-efficiency Pumping Systems for HVAC Applications | | Level 3 | |
| High-Volume Heat Pump Water Heaters | | Level 3 | |
| Integrated air and water RTU | | Level 3 | |
| Ozone Laundry | | Level 3 | |
| Thermal Break Shear Wall | 26 | Level 3 | |
| Zoning Technologies | | Level 3 | |
| *Copper Rotor Motors | | Level 4 | |