Industrial Advisory Committee

DATE: July 16, 2019

LOCATION: NEEA – 421 SW 6th Ave, 6th Floor (Cedar Conference Room)

TIME: 10:00 am – 3:45 pm Pacific

WEBINAR: https://neea.adobeconnect.com/neeaiac2019q3/ (includes phone option)

DIAL-IN: 1-877-890-9502, Participant Code: 7702378329 (for those dialing in directly)

AGENDA			**Page#**
10:00-10:30 am	Welcome, Introductions, Packet Review *Desired Outcome:* *IAC alignment on preparation materials and meeting objectives.*	Maria Alexandra Ramirez	1-2
10:30-11:00 am	Industrial Portfolio Update, including expected scope for SEM in next cycle. *Desired Outcome: Level-set on industrial portfolio and outlook for NEEA's 2020-24 business cycle*	Emily Moore Debbie Driscoll	3-7
11:00-12:00 pm	IAC Member Share Out/Round Robin *Desired Outcome: Awareness of current activities and issues within the region.*	All	
12:00-12:45 pm	Lunch (provided)	All	--
12:45-2:15 pm	Emerging Technology Guest Speakers: • Water & Waste Water Market Tech Measures • Utility Cohorts - Learnings from the Field *Desired Outcome: Information sharing on technologies and program approaches that are working to reduce energy consumption in water / waste water facilities.*	Cascade Energy Layne McWilliams Idaho Power Snohomish PUD	8
2:15-2:30 pm	Break	All	--
2:30-3:15p	Emerging Technology Guest Speaker: Air Saver Unit Update *Desired Outcome: Update on progress of field study of Parker Hannifin's Air Saver Unit.*	Energy350 Justin Ramsey	9
3:15-3:35 pm	Emerging Technology Presentation: Waste Heat Capture System *Desired Outcome: Awareness of emerging technologies being developed in Europe.*	Eric Olson	10-11
3:35-3:45 pm	Wrap Up, opportunity for public comment and adjourn	MariaAlexandra Ramirez	--

Memorandum – *Agenda Item (Tier 1)*

July 16, 2019

TO: Industrial Advisory Committee (IAC)

FROM: Maria Alexandra Ramirez, Stakeholder Relations Manager

SUBJECT: IAC Information Packet – Q3 2019

MEETING PACKET APPROACH

This packet continues the "tiered" approach:

- Tier-1 memos for active agenda items;
- Tier-2 memos for informational updates on items not currently requiring agenda time;
- Tier-3 materials provided as additional detail for those interested, accessible via links in the Tier-1 and Tier-2 memos.

This approach helps keep packets concise and digestible. Any input for improvement is appreciated.

INFORMATIONAL UPDATES

Enclosed please find Tier-2 informational updates on the following:

- Page 12: Conference Coordination
- Pages 13-14: C+I Lighting Regional Strategic Market Plan Quarterly Update

ADDITIONAL DETAILS (Tier 3)

Tier-3 materials related to the agenda items and informational updates listed above will be accessible through links in those memos. Additional Tier-3 details are available here:

- Q2 2019 IAC Meeting Notes
- Q2 2019 RPAC Meeting Notes
- Q2 2019 Marketing Newsletter
- Q2 2019 Emerging Technology Report
- Q2 2019 Market Research & Evaluation Newsletter

Memorandum – *Agenda Item (Tier 1)*

July 16, 2019

TO: Industrial Advisory Committee (IAC)

FROM: Emily Moore, Senior Manager, Commercial & Industrial

SUBJECT: Industrial Portfolio Updates

Our Ask of You:
Please review the program highlights from the last quarter and direct any questions or comments to Emily Moore (emoore@neea.org or 503-688-5422) or the program manager.

PROGRAM HIGHLIGHTS FOR Q2-2019:

Pumps

Extended Motor Products

Program Manager: Warren Fish (wfish@neea.org or 503-688-5402)

- Pumps Energy Savings Validation Research:
  - The XMP Technical Workgroup (TWG) is holding its Q3 and final meeting (sixth of six total meetings) on July 22nd. Notes and slides from past meetings are available on the XMP Conduit page and webinar recordings of all meetings are available on request. Many IAC members are part of the TWG or have members of their team participating. We sincerely appreciate your participation and welcome any others to join.
  - In Q2, we completed gathering the necessary data on pumps and circulators from data contributors across the Northwest, and we have reached or exceeded data targets for all subsets of the Pumps Research Study sample frame (over 300 pumps in total). Data analysis and final report writing are nearly complete. We will share the draft final report in early July ahead of the TWG meeting. We expect to present our findings to the RTF in Q4. Thank you again for your and your team members' help in facilitating the data contributions essential to this research.
- Our Market Characterization and Baseline study of the Northwest pumps market is underway and on track with The Cadmus Group for completion in Q3.
- In Q2, we met our goal by executing participation agreements with five Northwest pump distributors and manufacturers representatives. Their participation will enable us to gain an understanding of the Northwest pump sales mix and to test and refine our initial XMP market shift intervention design. We are in learning-mode with XMP, leveraging assets of the NEEA Reduced Wattage Lamp Replacement initiative and other NEEA initiatives targeting distributors and manufacturers, and recording our learnings on pump market engagement as we go for the benefit of NEEA funders.

Cross-cutting Infrastructure

Strategic Energy Management (SEM)

Program Manager: Debbie Driscoll (ddriscoll@neea.org or 503-688-5487)

- SEM Infrastructure in Cycle 6: Thank you for voicing your support for this program to your Board members. At this point, it looks like there will be sufficient interest to secure at least the minimum necessary funding for the SEM Infrastructure program in Cycle 6. An overview of the proposed scope and funder benefits is attached on pages 5-7.
- Upcoming Events:

    - The North American SEM Collaborative's SEM Summit will be held in Portland on August 12th, immediately preceding ACEEE's Summer Study on Energy Efficiency in Industry. Registration for both the Summit and the Summer Study are available at https://aceee.org/conferences/2019/ssi.
    - This year's Northwest SEM Collaborative Fall Workshop will be held in Portland on October 24th. Registration is now open here: https://semhub.com/events/2018-nw-sem-collaborative-fall-workshop. We look forward to seeing you and your SEM staff there!
- SEM Hub: In Q2, NEEA delivered the first edition of SEM Hub News, a quarterly email newsletter that highlights new content and provides brief updates on SEM news an events throughout the region. Please contact Debbie if you or your staff would like to be added to the mailing list.
- Data Planning: As part of this year's scope for SEM Infrastructure Program, NEEA is facilitating the development of a regional SEM data plan. Through a funder worksession and a handful of follow-up meetings in May, several top priorities for data insights emerged:
    - Identifying which customers have the greatest potential
    - Determining measure life
    - Establishing best practices for baseline measurements and tracking against baseline over time, including what to measure for different business types
    - Estimating cost per unit saved

  NEEA is drafting preliminary concepts for funder review and prioritization in Q3.

Industrial Technical Training (ITT)
Program Manager: Warren Fish (wfish@neea.org or 503-688-5402)

- We confirmed in Q2 that, unfortunately, there is not adequate funding support to continue the ITT program into the next business cycle. We are completing the current 2019 training plan and are working with members of the ITT Subcommittee to support interested utilities in transitioning ITT materials and other assets by year-end, at which point the program will end.
- In Q2, the ITT program delivered six in-person trainings:
    - Adjustable Speed Drive Applications and Energy Efficiency in Everett, Washington on April 23rd, attended by 13 individuals;
    - Adjustable Speed Drive Applications and Energy Efficiency in Wenatchee, Washington on April 30th, attended by 24 individuals;
    - Compressed Air Challenge – Level 1 in Tacoma, Washington on May 1st, attended by 27 individuals;
    - Energy Efficiency of Cooling Towers in Spokane, Washington on May 2nd, attended by 10 individuals;
    - Adjustable Speed Drive Applications and Energy Efficiency in Billings, Montana on May 7th, attended by 15 individuals;
    - Adjustable Speed Drive Applications and Energy Efficiency in Evergreen, Montana on June 7th, attended by 11 individuals.
- 2019 attendee and sponsor satisfaction levels are on track to meet our 95%+ annual goal.
- Our 2019 annual training plan, developed in concert with participating utilities, includes a total of 12 scheduled trainings, and we remain on track with 8 of 12 trainings in 2019 now complete. The four remaining trainings in our 2019 plan are all scheduled to occur in October and November.
- With guidance and buy-in from the ITT Subcommittee, we are now alerting our utility contacts directly about energy efficiency project related post-training survey feedback from their customers. This information contains, in some cases, details about planned or contemplated energy efficiency projects, and it can be leveraged by those utility account managers and energy efficiency staff choosing to do so for customer engagement opportunities as they see fit. Several of our utility contacts have expressed their appreciation for this new program feature which highlights their customers' project ideas and intentions.

Commercial and Industrial SEM Infrastructure Program: Cycle 6 Proposal

Prepared for NEEA's Industrial and Commercial Advisory Committees
July 2, 2019

Description

Strategic Energy Management (SEM) is recognized as a pathway to deeper energy efficiency within commercial and industrial programs, and is a foundation for deeper and more enduring customer relationships. Existing SEM infrastructure is the result of several years of regional investment and collaboration. The 2015- 2019 funding cycle work established valuable SEM tools and resources on the online SEM Hub knowledge center, increased consensus on common SEM standards, and improved regional and national collaboration on SEM initiatives. Moving forward, NEEA proposes to build on this success and deliver value where the greatest regional market opportunity exists.

Program Objectives

The region has long identified a need for a set of common resources and best practices to guide commercial and industrial businesses in strategically managing their energy. To address these shared needs cost effectively, the SEM Infrastructure Program aims to:

1. Support Northwest program administrators with high-value SEM tools and resources to launch, grow, and sustain regional SEM programs.
2. Enable commercial and industrial customers to see value in SEM as a strategy for meeting their sustainability and energy performance goals.
3. Understand baseline SEM practices and identify targeted savings opportunities.
4. Build regional and national consensus on SEM as a best practice or de facto standard.

Funder Priorities

At its outset, the SEM Infrastructure program focused primarily on broader regional adoption of SEM programs as part of energy efficiency program portfolios. Now that many alliance members have established commercial and industrial SEM programs, the most prominent regional need is shifting from program design and startup to program implementation and growth. The growth potential for SEM is immense, representing 64% of the region's industrial potential alone.[1] Looking forward, the priority needs identified by funders include:

- Marketing and recruiting: Knowing who to reach out to, and how to get them engaged.
- Engaging new business types: Understand how to effectively engage medium and small businesses, and a wider range of business types than are commonly served today.
- Baseline models: Identifying best practices in developing baselines, both to improve cost effectiveness and accuracy for each customer type.
- Cost effectiveness: Finding ways to reduce costs, and establish measure life and savings.

[1] Northwest Power and Conservation Council's 7th Northwest Power Plan estimates that 64% of anticipated 2035 Industrial Potential can be met through SEM-related measures.

Cycle 6 Scope

The SEM Infrastructure Program will continue to offer a holistic set of tools and resources via SEMHub.com and will convene the NW SEM Collaborative with a focus on the most pressing needs of funders. In addition to these existing resources, aggregating relevant program information/data from across the region will be an important new tool for identifying best practices and opportunities. Across these three areas of activity, we will focus program efforts on the funder priorities identified above.

- SEMHub.com:
  - Site management
  - Marketing at similar minimum level as today
  - New content, relying mainly on biannual call for content, and resources developed through working groups, DOE grants or other existing efforts
- Energy Management Assessment Tool:
  - Improvements and maintenance as needs are identified by users
- Learning Management System:
  - Customization of LMS platform to support funder program implementation
  - One refresh of each training module
  - One new training module per year
- Commercial and Industrial Talk Cards: Transition to online access, including one content refresh (printed version to be discontinued)
- **Budget above the minimum viable will be directed to developing case studies, training modules and other resources aligned with funder priorities**.

- One Collaborative Workshop per year
- Collaborative Management and Support (program management, facilitation and communications support)
- Regional support for North American SEM Collaborative (small amount of staff time and financial support with the hope that, once established, partnership or merger with a North American Collaborative is a path to a self-sustaining NW Collaborative)
- **Budget above the minimum viable will be directed to**
  - **Administrative and SME support for working groups to accelerate and elevate deliverables, especially those that support the funder priorities identified above.**
  - **Webinars or other opportunities for members to connect.**

SEM Data Plan implementation: A data plan is still being formulated, though a range of common needs have been identified based on initial conversations with some funders. Within the minimum viable budget, NEEA aims to complete one regional data project. **With additional funding, the region will be able to continue work on the to-be-defined data plan**. At this early stage, emerging priorities include:

- Meta-analysis to inform best practices and market opportunities
- Baseline modeling improvements and streamlining
- Establish measure life and other efforts related to cost effectiveness
- Taxonomy to standardize data collection and enable comparison

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Funder Benefits

The objective of this program is to strengthen and expand SEM throughout the region. This will benefit all programs by increasing awareness of SEM, creating a larger base of experience from which all programs can learn, and making progress on data challenges toward the goal of establishing measure life and savings estimates.

In addition to these core regional benefits, there are a handful of benefits that will only be available to funders:

- Participation in SEM Infrastructure program strategic advisory group, which will inform SEM Hub strategy, research activities, learning module development and other program strategy decisions.
- Funder brand recognition on SEMHub and in NW SEM Collaborative communications.
- Priority selection for NW SEM Collaborative Leadership Team openings.
- Customization of the Energy Management Assessment Tool and Learning Management System.
- Complementary registration for the NW SEM Collaborative's 2020-2024 Fall Workshops for your organization's SEM staff, plus one contractor staff member (implementer or evaluator) who supports your program.

Budget

Total program budget will depend on number and size of funders, as well as individual funding level. Based on funder interest expressed to date, NEEA anticipates that the program will be funded at least at the minimum viable budget of $1,750,000 for the 5-year cycle.

The table below shows the funders who have indicated interest in funding the SEM Infrastructure Program in Cycle 6, and their confirmed or recommended funding level. To finalize program scope and budget, NEEA staff seek to confirm your organization's support of the proposed scope and funding. The program may be funded entirely by electric budget or may be dual fuel funded.

	Estimated share for Cycle 5	**Cycle 6**		
		Low	**Mid**	**High**
Energy Trust of Oregon, Inc.	$433,164	**$741,125†**	$1,111,688	$1,482,250
Puget Sound Energy, Inc.	$307,019	$510,825	**$766,238***	$1,021,650
Seattle City Light	$79,359	$124,425	**$186,638***	$248,850
Clark Public Utilities	$28,536	$43,400	**$65,100†**	$86,800
Tacoma Power	$23,805	$32,200	**$48,300†**	$64,400
PUD #1 of Chelan County	$21,028	$36,925	**$55,388***	$73,850

*Recommended funding level, based on level that will achieve minimum viable funding for the program.
†Confirmed funding

Contact

Please contact SEM Infrastructure Program Manager Debbie Driscoll at DDriscoll@neea.org or 503-380-6160 with questions or to move forward with funding for the SEM Infrastructure Program in NEEA's 2020-2024 business cycle.

Memorandum – *Agenda Item (Tier 1)*

July 16, 2019

TO: Industrial Advisory Committee (IAC)

FROM: Mark Rehley, Senior Manager Emerging Technology & Product Management

SUBJECT: Continued Discussion on Water & Waste Water Industry

Our Ask of You:

Come prepared to share your experience with your work with water & waste water operators. This is an opportunity to compare notes with your peers and learn new approaches that might work with your customers.

Context

Over the past year, the Industrial Advisory Committee has shared experiences with the Water & Waste Water Industry. During the Q3, 2019 meeting, the IAC will continue their discussion.

Presenters

Layne McWilliams with Cascade Energy Engineering will present on technologies they are seeing good results from. In addition, several utilities in the region are currently (or have recently) hosted cohorts with water & waste water operators. There will be an opportunity for these utilities to share their experience with their cohorts.

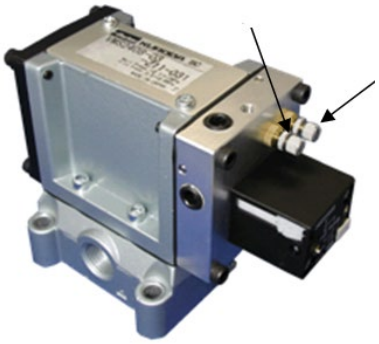
Memorandum – *Agenda Item (Tier 1)*

July 16, 2019

TO: Industrial Advisory Committee (IAC)

FROM: Geoff Wickes

SUBJECT: Air Saver Unit Field Testing



Our Ask of You:

Would utilities be interested in getting Unit Energy Savings "UES" by the regional technical forum for Air Saver units as applied in the field? Or would you rather handle this technology as a custom project solution? If the path is UES, would it be beneficial for NEEA to build a specification, test procedure and qualified products list with recommended incentives? Do you think it should become part of a NEEA initiative or just end as a UES?

Brief Overview:

Presentation will be provided by Justin Ramsey of Energy 350 giving a general background on the technology and results to date.

Overview of technology: The Air Saver Unit by Parker Hannifin, has been introduced to curtail the consumption of compressed air in these areas using high frequency pulsing of the compressed air source.

Lab results: Testing by SBW Engineering in Michigan lab identified savings from 12-30% on a per use basis and recommended field studies to validate savings and market acceptance. SBW Engineering Estimated 6.4 aMw potential in the PNW in the identified applications see earlier reports for specifics

Field sites:

- Baseline metering installed for 9 sites
- Note that couple of these were deemed to not be good applications of the ASU after review of the data.
- A couple others are still collecting data, so a pulse valve installation is in the near future
- Pulse valve installed for 4 sites
- Post valve data collected for 3 sites
    - One of the 4 immediately removed the valve for production reasons

Initial Findings: Results look promising with savings ranging from 10-40% in applications where they are properly implemented. Quality, productivity and maintenance improvements have been seen. Several companies have requested additional units to evaluate and extend onto other production lines. Full report due out later this year by Energy 350.

Please contact gwickes@neea.org if you have questions about this **Emerging Technology** on Compressed Air and Motor driven systems.

PROGRAM LIFECYCLE STATUS – Currently in Scanning and Concept identification

Memorandum – *Agenda Item (Tier 1)*

July 16, 2019

TO: Industrial Advisory Committee (IAC)

FROM: Eric Olson, Senior Product Manager

SUBJECT: Emerging Technology: Waste Heat Capture Systems

Ask of You:

Please review this memo and be prepared to provide an assessment on the market potential for these two products and you/your organization's level of interest. Additionally, if there is an interest, let us know what additional information you'd like to receive on these products.

Background:

NEEA continuously scans the market for innovative technologies that increase product and system efficiencies, reducing end-user consumption of electricity or natural gas. Captured and reused waste heat is an attractive opportunity for a reduction in total energy use. The DOE reports that, nationally, as much as 20 to 50% of energy consumed in manufacturing processes is lost via waste heat and that efficiency improvements can improve energy efficiency by 10 to 50%. Furthermore, the DOE reports that 5 to 13 quadrillion BTU/year of waste heat energy remains unrecovered, confirming a market opportunity for commercial and industrial energy efficiency programs.

There are multiple products available that capture waste heat for reuse in other processes reducing the total electrical or gas load for a facility. Current products are typically split into low(<450°F), medium (450-1,200°F) and high (>1,200°F) categories. Some products currently available include recuperators, regenerators, passive air preheaters, regenerative and recuperative burners, economizers, waste heat boilers, condensation recovery and heat pumps.

Brief Overview of Products:

Two innovative products developed in Europe have been identified for tracking and follow-up.

1) **Olvondo High Lift:** *http://www.olvondotech.no*

Company Location: Holmstrand, Norway
Company Size: 10 employees; start-up phase, jointly owned by two large Norwegian companies, LOS-Gruppen, and Olvondo Industries
Technology Overview: Stirling-cycle heat pump with helium (R-704) as the refrigerant. Low-temperature waste heat of 32 to 212°F is recycled into high-temperature process heat from 212 to 392°F delivering 1.75 million Btu/hour (500 kW) heating and 850,000 Btu/hour (250 kW or 70.8 tons) cooling. The unit requires a cold-water loop and hot water loop. Utilizes 420 HP+ motor to run the unit (high HP is required for start-up phase and then is reduced).

Environmental Impact: Claims of CO2 reduction of 165 tons/year or 550 cars driving ~7,500 miles/year; reduced power consumption by more than 50% (COP ≥2) when compared to electric boilers
Market Availability: Beta sites installed in Norway with 30,000 operating hours. Generation 2 in development with more capacity. Focus on EU in 2019/2020 with growth into North America in 2021.

2) SoundEnergy: *https://www.soundenergy.nl*

Company Location: Enschede, The Netherlands
Company Size: 10 employees; start-up
Technology Overview: The THEAC-25 is a thermoacoustic heat engine that converts waste heat into either increased temperature or chilled water. Thermoacoustic heat engines work by using soundwaves to carry heat, which means that there are no moving parts in the unit. Designed primarily as a cooling source the THEAC-25 provides can reach output temperatures of -13°F (-25°C)/85,300 BTU's (25 kW or 7.1 tons) of cooling with waste heat input temperatures of 320°F to 572°F. Additionally, it can deliver a maximum of 392°F maximum output temperature when boosting temperature. The unit requires 2 kW of electricity for three pumps and a dry cooling system.
Environmental Impact: Claims of operating noise of only 70 dBa; zero additional CO_2 emissions
Market Availability: Currently in the Netherlands only.

Any feedback and/or questions, please address them to **Eric Olson** via email (eolson@neea.org) or at 503-688-5435.

Memorandum – *Agenda item (Tier 2)*

July 16, 2019

TO: Industrial Advisory Committee (IAC)

FROM: Maria Alexandra Ramirez, Stakeholder Relations Manager

SUBJECT: Conference Coordination

Our Ask of You:

Please review the Upcoming Event agenda(s) linked below and email me (maramirez@neea.org) if you'd like to coordinate with NEEA staff in advance of the event, and/or if there are specific topics/breakouts you'd like to hear about at our next IAC meeting on October 10.

Upcoming Events:

Date	Conference	Report
8/12/19	North American SEM Collaborative's SEM Summit	Internal
8/12/19 – 8/14/19	ACEEE's Summer Study on Energy Efficiency in Industry	Internal
10/24/19	Northwest SEM Collaborative Fall Workshop	Internal

Background:

In response to a NEEA Board discussion last year about conference/event attendance, NEEA developed a
(1) Tracking system to improve its management of staff attending conferences, and
(2) Criteria that improves NEEA's ability to manage to its annual operations plan and budget.

There is a coordination opportunity here to ensure that we're connecting as appropriate in advance and sharing out key relevant takeaways afterwards with the region. This will be a standing housekeeping item for this Advisory Committee moving forward.

COMMERCIAL + INDUSTRIAL LIGHTING REGIONAL STRATEGIC MARKET PLAN

Q2 2019 Update

WHO WE ARE

The C+I Lighting Regional Strategic Market Plan (RSMP) was originally developed in 2015 through collaboration between the NEEA Regional Portfolio Advisory Committee (RPAC), Commercial Advisory Committee (CAC), utility program leads and planners, NEEA, state energy offices, and market experts. NEEA continues to facilitate the RSMP effort, the region's Commercial Lighting Program Manager Work Group drives progress on strategies, and updates to the strategy are driven by a five-member Steering Committee with input from the collaborative.

OUR PURPOSE

The purpose of the RSMP is to align the region on longer-term goals in the commercial and industrial (C+I) lighting market, improve coordination in the region, and maximize cost-effective, long-term energy efficiency opportunities. The Vision, Mission and Goals identified at the outset still guide our collaboration:

VISION

Our customers choose quality, adaptable lighting that uses every kWh to its best advantage.

MISSION

As a result of our collaboration, we maximize cost effective, long-term commercial and industrial lighting energy efficiency opportunities, prevent conflicting overlap of roles and improve coordination in the NW.

GOALS

- The most efficient, quality lighting system products and services are readily available in the market.
- Customers choose the most appropriate, efficient lighting system solution for their needs.

2019 PRIORITY STRATEGIES & ACTIONS

In Q1, the Lighting Program Manager Work Group, CAC and RPAC supported the RSMP Steering Committee's recommendation to continue focusing on the Priority Strategies "*Increase adoption of Networked Lighting Controls (NLC), with a focus on Luminaire Level Lighting Controls (LLLC),*" and *"Inform program planning for commodity lamps."* The Steering Committee recommended a range of possible actions to support these priorities, and the Lighting Program Manager Work Group selected the 2019 actions described below.

PRIORITY STRATEGY 1: INCREASE ADOPTION OF NETWORKED LIGHTING CONTROLS, WITH A FOCUS ON LLLC

2019 Action 1a: Understand how we can best support trade allies and customers

A sub-group of the Lighting PM Work Group met to plan this action, deciding to use existing forums to collect input and then host a discussion in our summer Work Group meeting. So far Work Group members have collected feedback from trade allies during or after trainings in Portland and Seattle, and hope to solicit feedback from owners in the near future. The sub-group is preparing to share findings and host a discussion of next steps with the Work Group in June.

2019 Action 1b: Better understand which markets should be our focus

While we've collected qualitative evidence that schools, hospitals and offices requiring flexible spaces are early adopters, the region lacks quantitative data on adoption. NEEA's LLLC Program is currently conducting research on LLLC sales, and hopes to offer insights on LLLC adoption in the region in Q4, and plans to share with the Lighting PM Work Group at that time.

Follow-up on 2018 Actions: Marketing

Program Managers and the LLLC Program will continue to develop and share marketing materials and strategies, with focus on targeting individual audiences. Recent progress includes:

- The LLLC Program produced several flyers in Q4 that are now available for region-wide use.
- The Lighting PM Work Group is currently developing a HID-LED Good-Better-Best customer guidance that highlights the benefits of networked enabled fixture replacements. The group anticipates having a guide ready for regional use by Q3.

PRIORITY STRATEGY 2: INFORM PROGRAM PLANNING FOR COMMODITY LAMPS (TLED, HID-LED, etc.)

2019 Action 2a: Present unified input to the Regional Technical Forum's (RTF) lighting-related work

Individual Lighting Program Managers and Planners often provide feedback and data to the RTF as it sets unit energy savings (UES) values for downstream and midstream lighting measures. Many Lighting PMs see an opportunity to have a greater impact if they are aligned in their communications with the RTF. A sub-group of the Lighting PM Work Group, let by Elaine Miller of NEEA and Roger Peery of Tacoma Power, plans to collaborate on more unified and coordinated communications with the RTF, starting this spring with UES values for tubular LED lamps sold via midstream channels. Please contact Elaine at EMiller@neea.org to be a part of this group.

2019 Action 2b: Collaboratively explore questions of program strategies to address quality, efficacy, lagging markets
A sub-group of the Lighting PM Work Group convened to plan 2019 activities related to these topics, which are top-of-mind for many program managers as LED sales continue to increase and price decreases. The initial plan is to collect information on these topics and then discuss at the Lighting PM Work Group meetings in 2019. In order to collect perspectives from outside the region, we helped shape the agenda of the most recent North American Utility Lighting Exchange (NULX) meeting to focus on the topics of quality and efficacy. Several Program Managers from our region attended, and collected a range of perspective to help inform our regional dialogue.

Follow-up on 2018 Action: Data Dashboard
With input from Program Managers and their implementers, NEEA developed a Commercial Lighting Sales and Pricing Dashboard to inform incentives & program strategy, with the objective of creating repeatable methodologies that allow program managers and planners to keep program strategies/incentives in line with market shifts. This dashboard builds on and combines the Reduced Wattage Dashboard and the webscraping-enabled Pricing Data Dashboard. The new Sales and Pricing Dashboard was shared with Lighting PM Work Group Members in our January meeting, and rolled out region-wide via a webinar on April 12.

ONGOING STRATEGIES & ACTIONS

The following strategies and actions were identified in previous iterations of the RSMP. We continue to monitor new developments and support key ongoing actions where needed.

ONGOING STRATEGY 1: IDENTIFY SYNERGIES AND COMPLEMENTARY APPROACHES TO ALIGN UPSTREAM AND COORDINATE MIDSTREAM AND DOWNSTREAM INTERVENTIONS

Quarterly Progress: Multiple midstream programs operate in the region simultaneously, which, when uncoordinated, can result in misaligned incentives, mixed market signals, overlapping efforts and administrative complexities – all in a market that continues to evolve quickly. Since 2016, the region has prioritized midstream coordination, particularly as new midstream programs launch. Two pilots currently in development aim to inform new midstream program models for the region and assess potential impacts to downstream programs:

- Seattle City Light (SCL) and NEEA launched a midstream LED replacement lamp pilot in Q3 2018 that leverages the region's Distributor Platform and combines midstream customer incentives with strategies used in the region's Reduced Wattage Lamp Replacement market transformation program. The goal is see how market transformation strategies can accelerate the conversion to LED commodity products. These products were simultaneously removed from SCL's downstream program.
- Snohomish PUD and NEEA will launch a small pilot with 3-4 distributors that provide only market transformation incentives and strategies absent the midstream customer incentive, which Snohomish PUD ended in 2018. This pilot will target linear lamps.
- The RWLR Program has ended and NEEA is completing its final Market Progress Evaluation Report. This should be completed in Q2 2019 and will include lessons learned from other midstream approaches.

SCL, Snohomish PUD, Puget Sound Energy and NEEA continue to coordinate details and share results of these pilot efforts via the Lighting PM Work Group, CAC and RPAC.

ONGOING STRATEGY 2: COORDINATE EFFORTS TO PRIORITIZE, ADVANCE & PROMOTE EMERGING TECH

Quarterly Progress: The Regional Emerging Technology Advisory Committee (RETAC) is continuing to leverage the regional ET database housed on ConduitNW to identify priority emerging technologies in our region and drive regional alignment on next steps.

ONGOING STRATEGY 3: COORDINATE ADVANCEMENT OF CODES

Quarterly Progress: NEEA's codes group continues to promote greater understanding, awareness and collaboration on new codes in each state for lighting as well as a range of other technologies. They produce a quarterly memo covering all updates.

ONGOING STRATEGY 4: DEVELOP A POOL OF COMMITTED, HIGHLY TRAINED MARKET ACTORS

NXT Level Training: In Q1 we had our first NXT Level 2 designee, with several more attendees of the first Level 2 training workshop, held in the Puget Sound area in Q4 2018, close behind. Q1 also saw our second NXT Level 2 workshop, in Portland, and an online offering is planned for Q2. NXT Level 1 continues to attract new participants and designations, with a total of 190 individuals and 48 companies designations to date.

Controls Training: In collaboration with NEEA, Lighting Design Lab rolled out a 1-day networked lighting controls class targeted at trade allies. Idaho Power and NorthWestern each hosted the 1-day class in Q1. A range of controls workshops, varying in duration and focus, are available for utilities to offer to their trade ally networks. Contact Anne Curran at acurran@neea.org if your utility is interested in hosting a class.