

October 18, 2017

Commercial Advisory Committee



Agenda

- Introductions, Housekeeping, Announcements
- Commercial Portfolio Update
- Extended Motor Products (XMP) – IS Milestone
- Lunch!
- CAC Member Share Out/Round Robin
- Commercial HVAC-VHE DOAS
- Commercial Real Estate
- Adjourn

Informational Updates

- Commercial Code Enhancement update: Washington State Code Proposals (pg 22)
- New Emerging Technology quarterly newsletter format (pg 23)
- See Packet Page 3 for links to:
 - Latest CAC and RPAC meeting notes
 - Q4 Market Research & Evaluation Newsletter
 - Q4 Emerging Tech Newsletter

Announcements!

- BJ

Commercial Team



Commercial / Industrial / Ag

Emily Moore
Interim Sector Manager
503-688-5422

Program Coordinator

Anne Swanson
503-688-5446

Program Coordinator

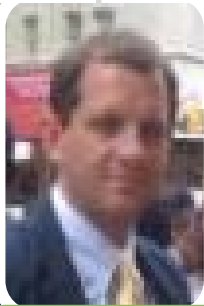
Open



Strategy Manager

Debbie Driscoll
503-688-5487

- Commercial Strategy
- C+I Lighting Regional Strategic Market Plan



Sr. Program Manager

Christian Miner
503-688-5498

- Commercial Real Estate
- Window Attachments



Portfolio Program Manager

Neil Grigsby
503-688-5417

- Commercial Code Enhancement
- *New Homes*
- *Manufactured Homes*



Sr. Program Manager

Elaine Miller
503-688-5461

- Reduced Wattage Lamp Replacement
- Lighting Distributor Platform



Program Manager

Maria Murphy
503-688-5486

- Commercial HVAC - Very High Efficiency Dedicated Outside Air Systems

COMING SOON!



Sr. Program Manager

Anne Curran
503-688-5431

- Luminaire-Level Lighting Controls
- Top-Tier Trade Ally
- Lighting Resources



Program Manager

Warren Fish
503-688-5402

- Extended Motor Products
- SEM Infrastructure
- Industrial Technical Training

COMING SOON!

Commercial / Industrial

Scanning & Concepts

Extended Motor Products



Commercial HVAC



Air Nozzle



Program Development

Window Attachments



Luminaire Level Lighting Controls



Market Development

Top-Tier Trade Ally



Commercial Code Enhancement



Reduced Wattage Lamp Replacement



Commercial Lighting Regional Resources

C/I Strategic Energy Management



Commercial Real Estate



Industrial Technical Training



2018 Focus Areas

- Advancing Luminaire Level Lighting Controls
- Transitioning Reduced Wattage Lamp Replacement
- Leveraging Distributor Platform
- Launching two new initiatives
- Continuing to engage on the C+I Lighting Regional Strategic Market Plan

2018 OPERATIONS PLANNING






C+I Lighting Regional Strategy: 2017 priorities

1. Supply chain understanding
2. Midstream coordination
3. Pricing data dashboard
4. Good, better, best guidance

WHICH LED LIGHTING SYSTEM IS RIGHT FOR YOU?

LED lighting systems are changing the way we light our indoor and outdoor spaces. LEDs offer significant energy savings and dramatically reduce maintenance costs by lasting two to five times longer than fluorescent and HID bulbs. When LEDs include customizable smart controls, you can save up to twice as much energy and offer customers even more comfort. Use the chart below to determine which lighting system is right for you.

			
FEATURES	New LED fixture or retrofit with integrated controls	New LED fixture or retrofit kit	New retrofit LED lamp
COMFORT			
Quality of light	Excellent	Excellent	Good
Smart capabilities	Mobile On/Off, Dim, Color Tuning / Occupancy / Daylight	Mobile On/Off	Mobile On/Off
Lifespan	Ⓛ Ⓛ Ⓛ	Ⓛ Ⓛ	Ⓛ
INCENTIVES AND SAVINGS			
Utility incentives <small>(contact your utility for more information)</small>	Best	Good	Limited
Energy savings	Best	Good	Good
Payback	Long	Medium	Short
COST			
Equipment cost	Ⓢ Ⓢ Ⓢ	Ⓢ Ⓢ	Ⓢ / Ⓢ Ⓢ *

COMMERCIAL/ INDUSTRIAL

DRAFT 2018 BUDGET (DIRECT EXPENSES) = \$4.7MM

2018 OPERATIONS PLANNING

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)

Discussion

- Does the 2018 Operations Plan for the commercial portfolio resonate with you? Do you have any major concerns at this time?
- Which programs or activities do you feel most excited about? Which programs or activities do you want to ensure your utility is plugged into?



October 18, 2017



Extended Motor Products (XMP): Initiative Start Milestone CAC & IAC Review

Warren Fish



Refresher on Initiative Start



Agenda

- Review the XMP program concept and Initiative Start (IS) document
- Gain understanding of your questions, concerns, and insights
- Prepare for RPAC approval vote for IS on November 8th
 - Our ask: Your support for a YES vote by RPAC!

Before we get going...



What questions do you have from your review of the IS document?



Are there topics you want to be sure we cover?



Are you feeling supportive and ready to recommend a YES vote to your RPAC member?

Market Transformation Theory

Drive awareness, stocking & sales of efficient motor driven products



Efficiency Ratings for Products

MEF



PEI



U-Factor
SEER, IEER, AFUE, ...



HSPF



R-value



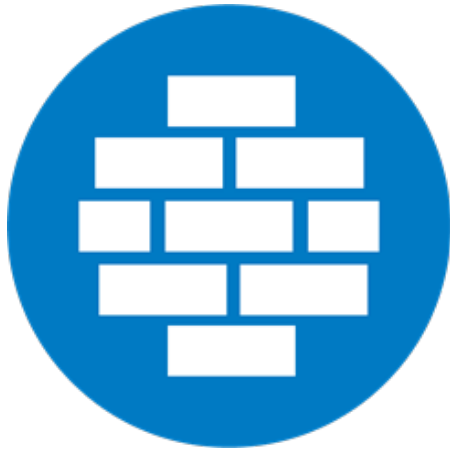
UEF



XMP: Assets and Opportunities at IS

- DOE standard, metric, test procedure
- Hydraulic Institute – label, manufacturer support
- Data on pump energy performance
- RTF planning measures in place, plan for proven
- Distributor platform experience
- Small fraction of current pump market participating
- Potential to add other motor driven systems and to track and index savings over time

XMP: Market Barriers



- First cost
- Energy not a selection criteria
- Split incentive
- Awareness
- Complexity
- Volume and velocity of sales

Maximum Achievable Savings Potential Estimates



Regional
Technical Forum

Clean Water Pumps Savings

- 3400 measures*
- Estimated savings potential 30-40 aMW

Circulator Pumps Savings

- 100 Measures*
- Estimated savings potential 35-60 aMW

* RTF UES – Available now as “planned” with research plan for achieving “proven” measures – we need more research funding

Summary of 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

Why NEEA?

Why Now?

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

XMP Value Streams

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

Next Steps

- Leverage pump industry relationships
- Leverage assets of the RWLR distributor platform
- Support research plan for UES measures
- Coordination on regional education/marketing/outreach
- Work collaboratively to design and test market interventions

Discussion, Insights and Feedback



Thanks for your time!

TOGETHER We Are Transforming the Northwest



Who is Participating in EMPLI / XMP

- Spawned out of DOE Rule makings, ACEEE convened broad group of stakeholders focused on energy saving systems (versus components)
- Key element was a label to compare performance
- EMPLI is organized into three groups:
 - **PUMPS!**
 - Fans
 - Compressed air



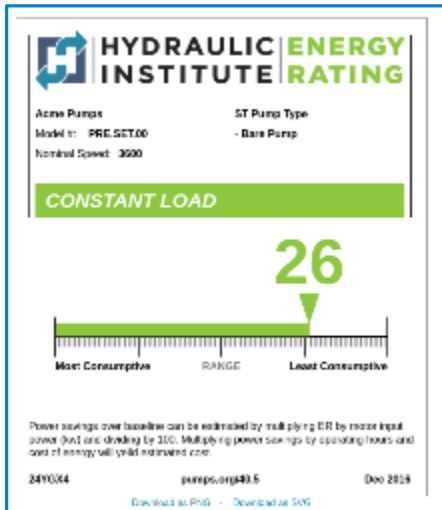
Numerous Utilities
Across the US

HI Energy Rating Portal – Individual Pump Listings

+ New Pump - Download pumps

ID	Listing Date	Basic Model #	Individual Model #	Configuration	DOE Pump Category	Impeller (Inches)	Nominal speed (rpm)	Stages	PR	ER	
24Y024	Nov 15, 2019	PRE.SET.00	N/A	Basic Pump	ST	10.000	3600	1	0.8100	26	Details

Downloadable Media



Public Data

Brand X / PRE.SET.00 N/A
10.000 inches @ 3600 rpm

This data is visible to the public.

Download full data

HI Rating ID:	24Y024
Basic model designation:	PRE.SET.00
Manufacturer's model designation:	N/A
DOE product category:	ST
HI approved laboratory:	undefined - undefined
Testing method:	Section III
Full impeller diameter:	10.000 inches
Nominal speed:	3600 rpm
BEP flow rate:	388.67 gpm
BEP head:	389.40 ft
BEP Driver input power:	55.50 hp
Rated motor power:	8 hp
Data dated:	Nov 15, 2019

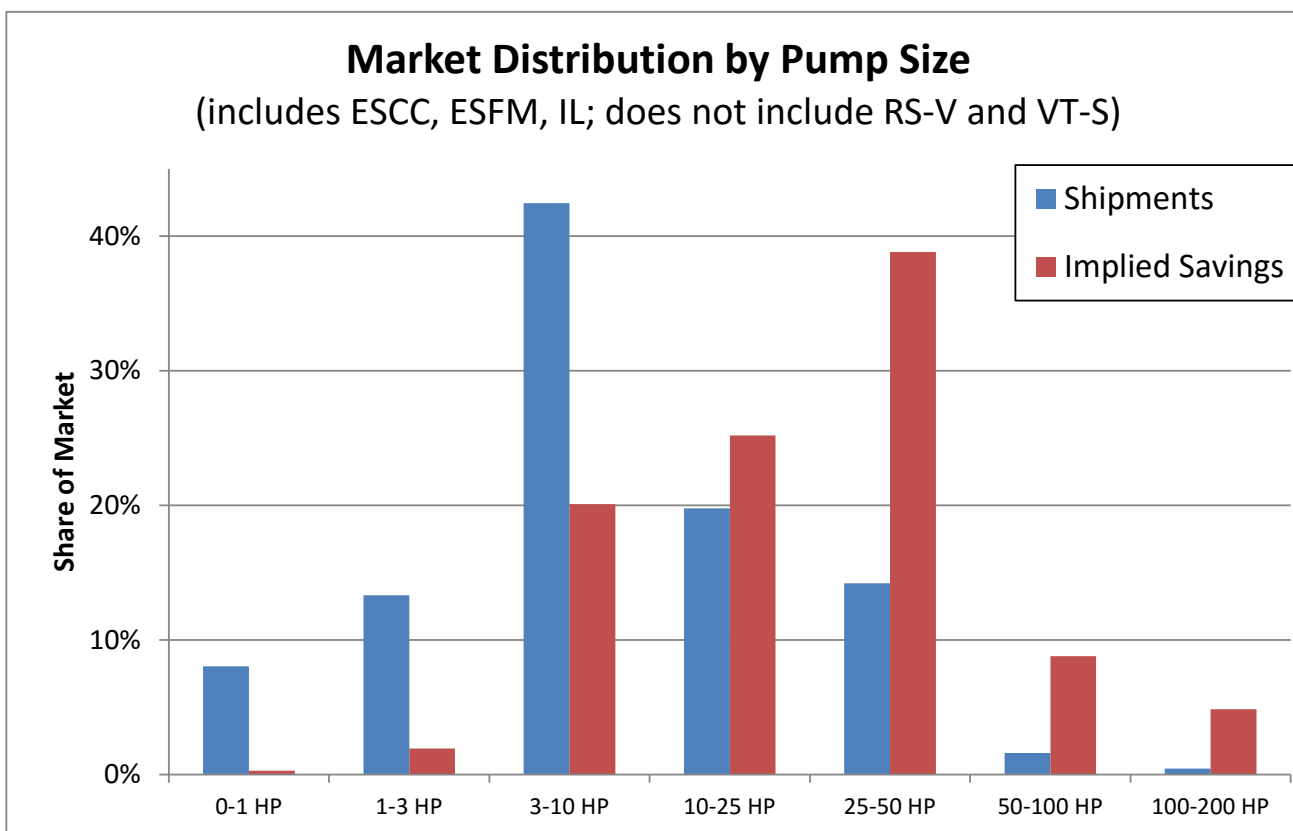
Energy Ratings

This data is visible to the public.

Pump Energy Index	Energy Rating
0.81	26
DOE/HL 1.01	

Small Pumps Market Characterization

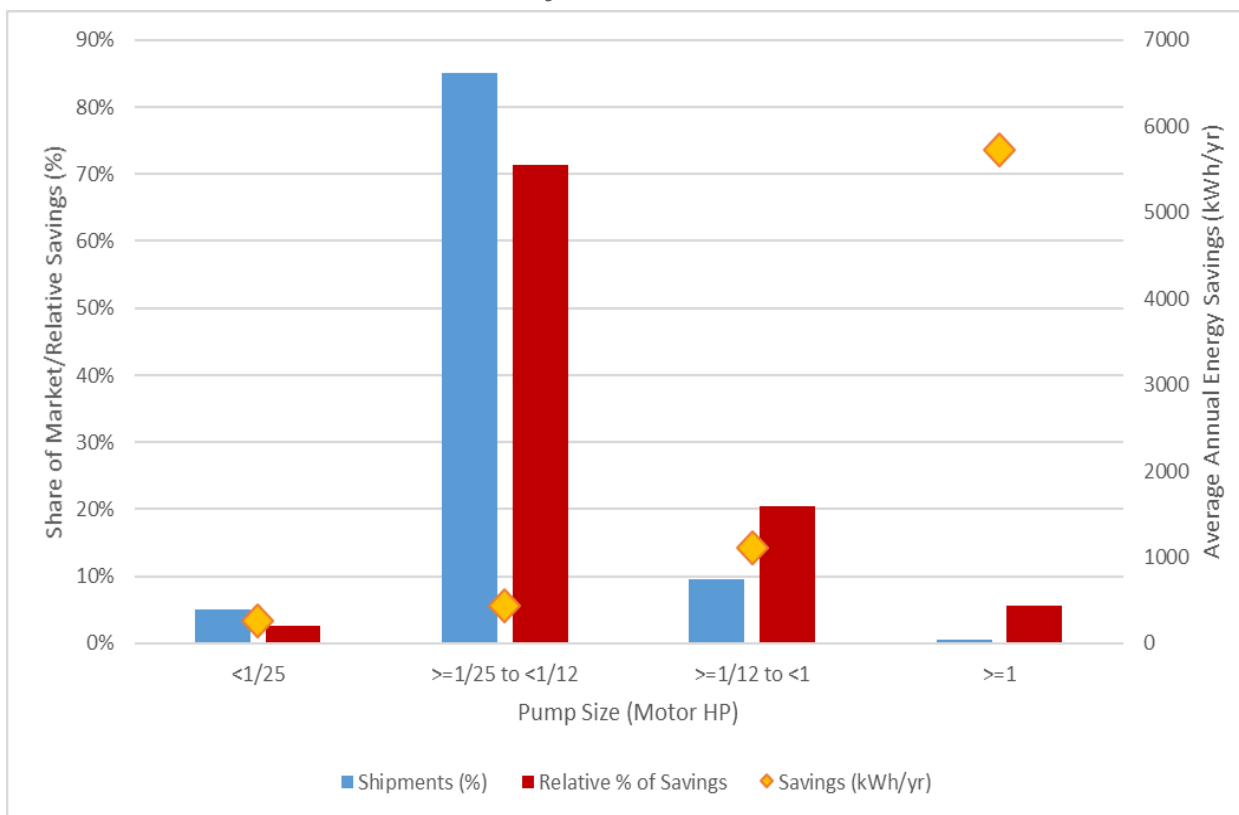
~25,000 small C&I pumps between 1 and 200 HP sold in the NW each year



Circulator Pumps Market Characterization

~45,000 circulator pumps between 1/40th and 5 HP are sold in the NW each year

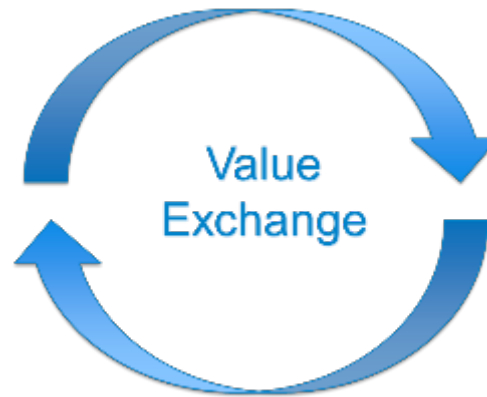
HPCP's under 5% of sales today



Platform Concept



Distributors
Manufacturers
Other Market Actors



MT Initiatives
Utility Programs

✓ Scale

✓ Simplified engagement

✓ Improved profitability

✓ Cost-effective savings

✓ Speed to market

✓ Market insights



Lunch!





CAC Member Share-out

Break!



October 18, 2017

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

Maria Murphy

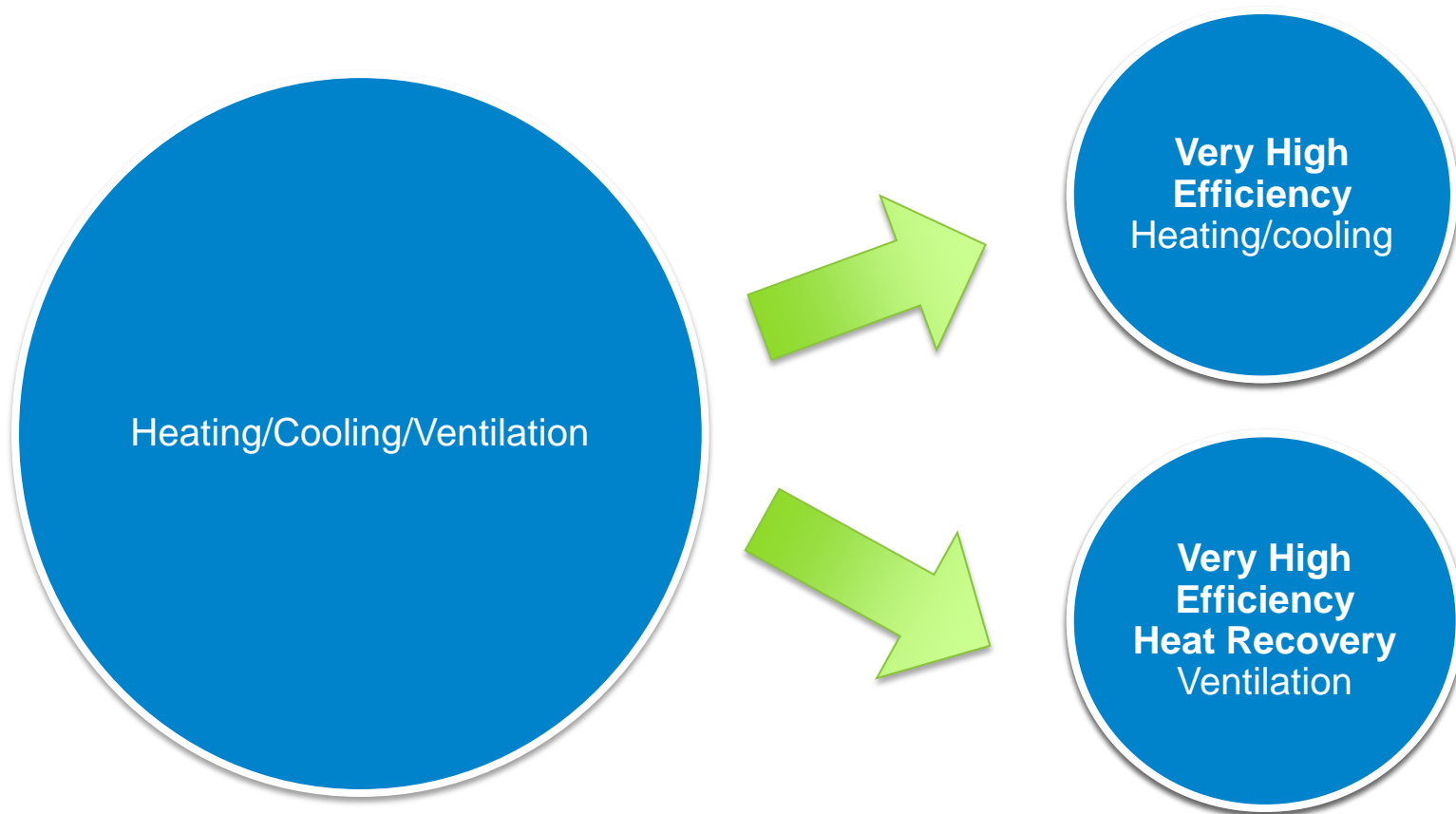


Where We're At



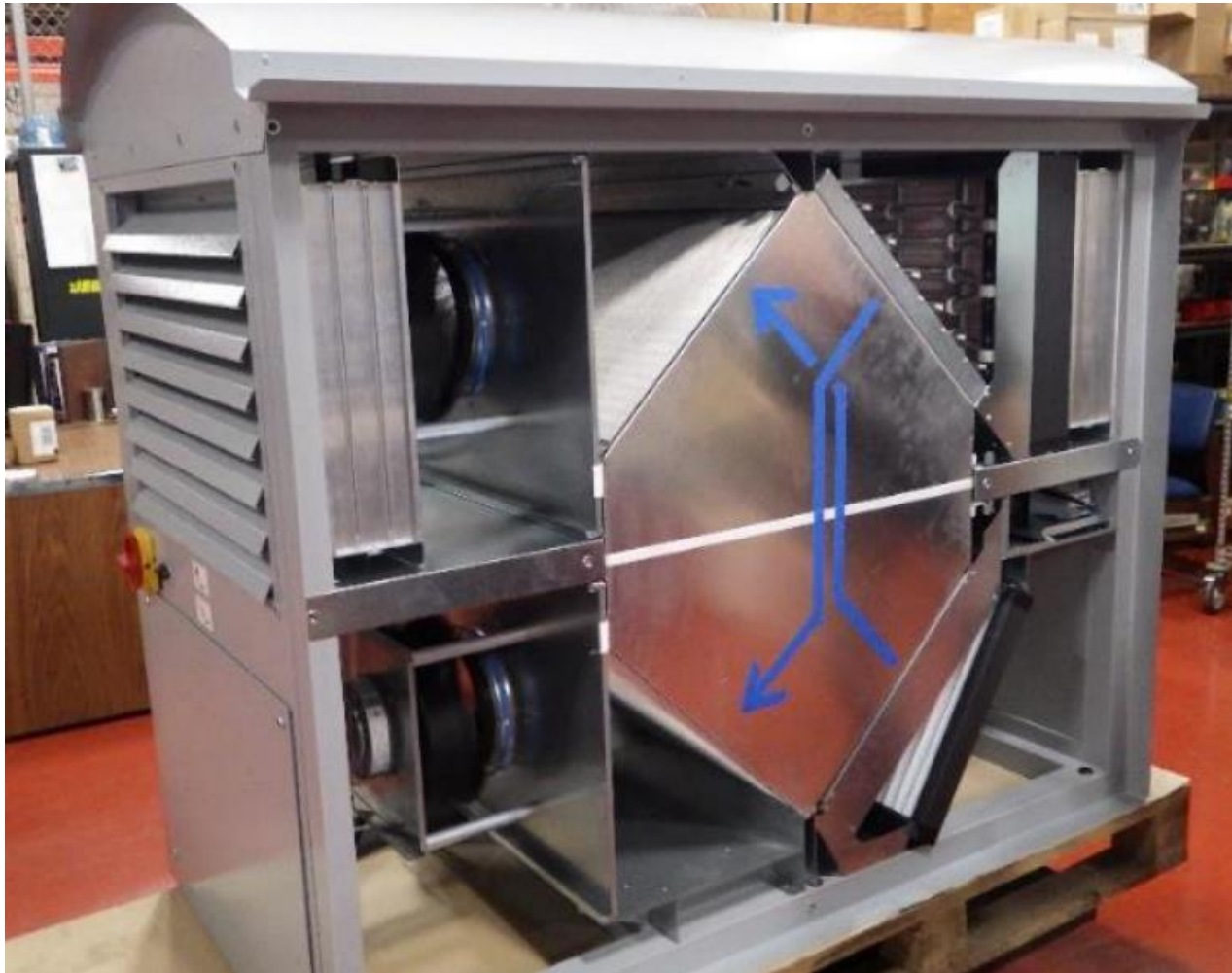
***What is a Very High Efficiency
Dedicated Outside Air System
(VHE DOAS)?***

DOAS vs VHE DOAS



How does it Save Energy?

Heat Recovery Ventilation



Right-Sizing



Key System Benefits

- Whole building energy savings of up to **50-70%** over conventional rooftop unit (RTU)
- Better indoor air quality and greater occupant comfort
- Reduced maintenance costs and requirements
- Simplified controls

Pilot Project Updates

Current Pilot Projects



State Offices – Corvallis



Job Corps Dorms – Darby, MT



Law Offices – Portland



Pizza Restaurant – Corvallis



Utility Field Office – Libby, MT



Offices – Seattle (historic bldg.)



Airport Terminal –
Seattle (historic bldg.)

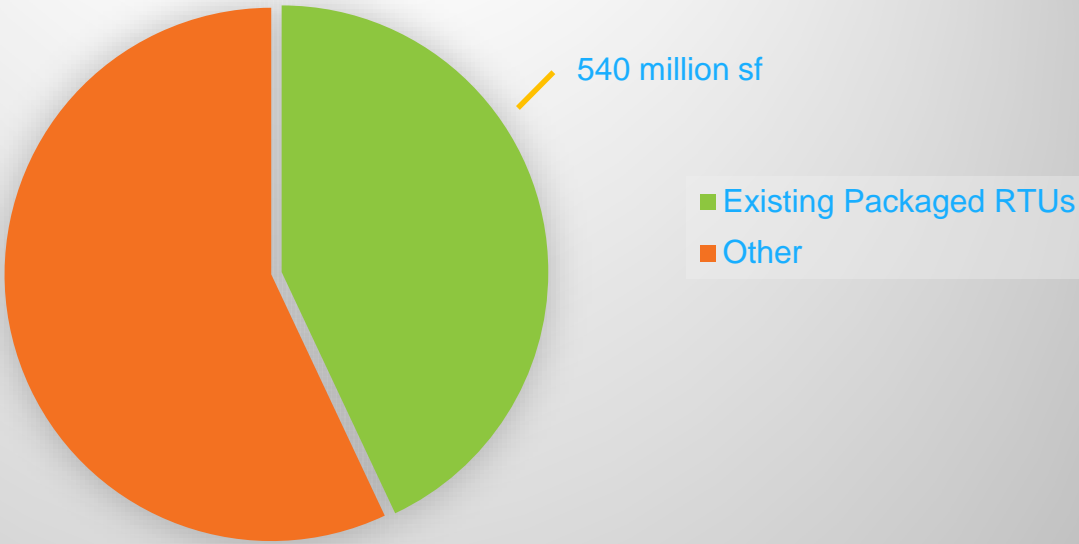


Restaurant – Portland

The Opportunity

What is the Opportunity?

Total Small Commercial Market (1.3 billion sf)



Big Challenges



Big Opportunities



What's Next?

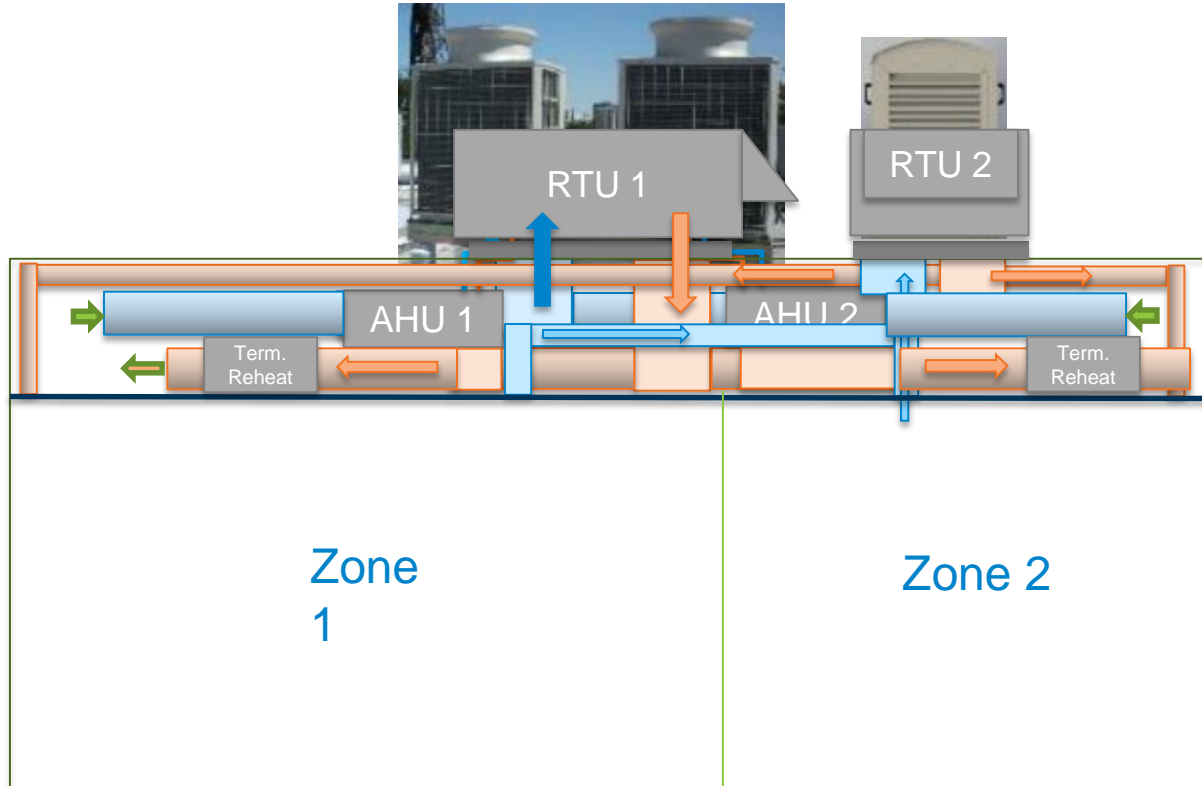
Next Steps

- 2018
 - Market characterization
 - Market research
 - More pilots:
 - » K-12 schools
 - » Big box retail
 - » New construction

Questions?



VHE HRV DOAS Replacement Sequence



October 18, 2017

Commercial Real Estate Infrastructure

Christian Miner



What we heard from you...



**SUPPORT
BENCHMARKING**



**IDENTIFY
OPPORTUNITIES**



**ENGAGE
DECISION-MAKERS**

CRE Infrastructure Success

- Support for the City of Portland’s Energy Performance Reporting Policy, providing resources and promoting training events
- Unico Properties successfully input 30 properties into Spark
- CRE Hub (Navigator) is on-track to launch Q4 2017
- Engaged 66 million square feet of CRE property in the PNW
- Seattle Building Tune-Up Accelerator Program is using Spark as part of its 2-Day, mandatory training
 - 90 engineering service providers have been pre-qualified to date with another 30 slated for Q1 2018
- “Shovel Ready” efficiency upgrades identified with PAE Engineering, SRG and ZGF Architecture, and Solarc Engineering

CRE Infrastructure Challenges

- Low participation in the Spark webinar series and BOMA BEEP 2.0 training
- Undetermined impact of BetterBricks Quarterly Tool Kit
- Unclear value perceived by utilities

Program Change

- The program team recommends scaling back the scope of the program in 2018 to:
 - Focus on more targeted market engagement with existing resources and tools, and
 - Reassess the future role and value of the CRE Infrastructure program
- The 2018 CRE budget will decrease by 30% compared to 2017
- NEEA staff is providing a Program Change Document to RPAC (November 8th meeting)

Program Change

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

Your Feedback

- Does this change to the program resonate?
- What questions or concerns do you have?
- What ideas or asks do you have to utilize the CRE to best support your market?

Meeting Wrap-Up

- Public Comment?
- Feedback on any of the following?
 - Agenda
 - Pre-meeting packet materials
 - What worked?
 - What was missing, needs improvement?
 - Did you understand relevance to THIS committee?
 - Anything else?

Thank you, CAC!!

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