



Energy Smart
Industrial

Utility Focus Group Meeting

February 13, 2024

FACILITATOR:

Eric Mullendore

Commercial & Industrial Sector Lead
Energy Efficiency
Bonneville Power Administration

Attendees*

Name:

Alan Fraser
 Andy Masa
 Billy Curtiss
 Brandy Neff
 Chad Smith
 Charlie DeSalvo
 Danielle Hansen
 David Harris
 Jackie Caldera
 Jason Bird
 JayIn James
 Jennifer Langdon
 Kelsey Lewis
 Kim Johnson
 Lori Froehlich
 Maurilio Lopez
 Tara Maynard
 Terry Mapes
 Zeecha Van Hoose

Company:

Tacoma Power
 Flathead Electric Coop
 Eugene Water & Electric Board
 PNGC Power
 Benton REA
 Columbia REA
 Centralia City Light
 Springfield Utility Board
 Umatilla Electric Coop
 Idaho Falls Power
 Lewis Co. PUD
 Cowlitz PUD
 Snohomish PUD
 Okanogan PUD
 Clark Public Utilities
 Franklin PUD
 Grays Harbor PUD
 Benton PUD
 Clark Public Utilities

Name:

Ashley Tetrault
 Bill Kostich
 Brice Lang
 Eric Mullendore
 Jacob Schroeder
 Jennifer Wood
 Jimmy Sauter
 Mike Palmer
 Morgan Carrero
 Shelley Layton
 Steve Martin
 Todd Toburen
 Tony Simon

Company:

BPA, Contract Officer's Technical Representative
 Cascade Energy, ESIP
 BPA, Energy Efficiency Representative
 BPA, C&I Sector Lead
 Cascade Energy, ESI Energy Mgmt Program Mgr
 BPA, Industrial Program Manager
 Cascade Energy, ESIP
 BPA, Contract Officer's Technical Representative
 Cascade Energy, Marketing Manager
 Cascade Energy, ESI Program Specialist
 Cascade Energy, ESI Operations Manager
 Cascade Energy, ESIP
 Cascade Energy, ESIP/ESIP Manager

**This is a list of people that joined the meeting virtually.*

Agenda

1. Welcome and Overview

Safety Update

Eric Mullendore

11:00 – 11:05

2. ESI & BPA Updates

ESI Program Updates

Steve Martin, Jacob Schroeder

11:05– 11:45

Utility Perspectives on EPM Support

Jen Langdon, Zeecha Van Hoose

BPA Updates

Eric Mullendore, Jennifer Wood

Custom Project Success

Bill Kostich

3. UFG Open Forum

11:45– 11:55

4. Wrap-up and Reminders

Eric Mullendore

Remaining Time

Steps to prevent slips, trips, and falls

1. Walk flat footed and take short steps.



2. Wear footwear that provides traction.



3. Step down, not out, from curbs.



4. Use your arms for balance.



5. Don't carry too much.



Key Objectives for FY 2024



**Achieve BPA
and utility
savings goals**

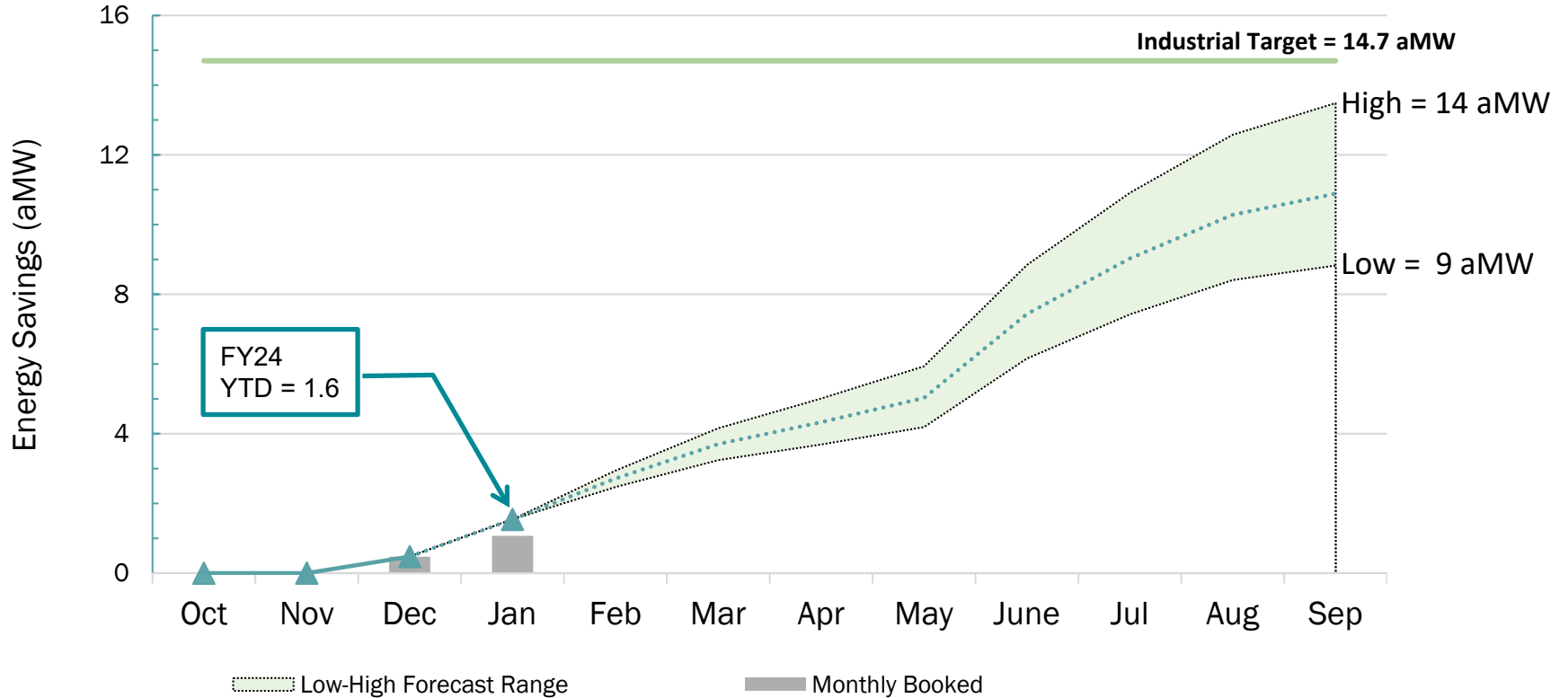


**Engage EPMs
supporting SEM
sites**

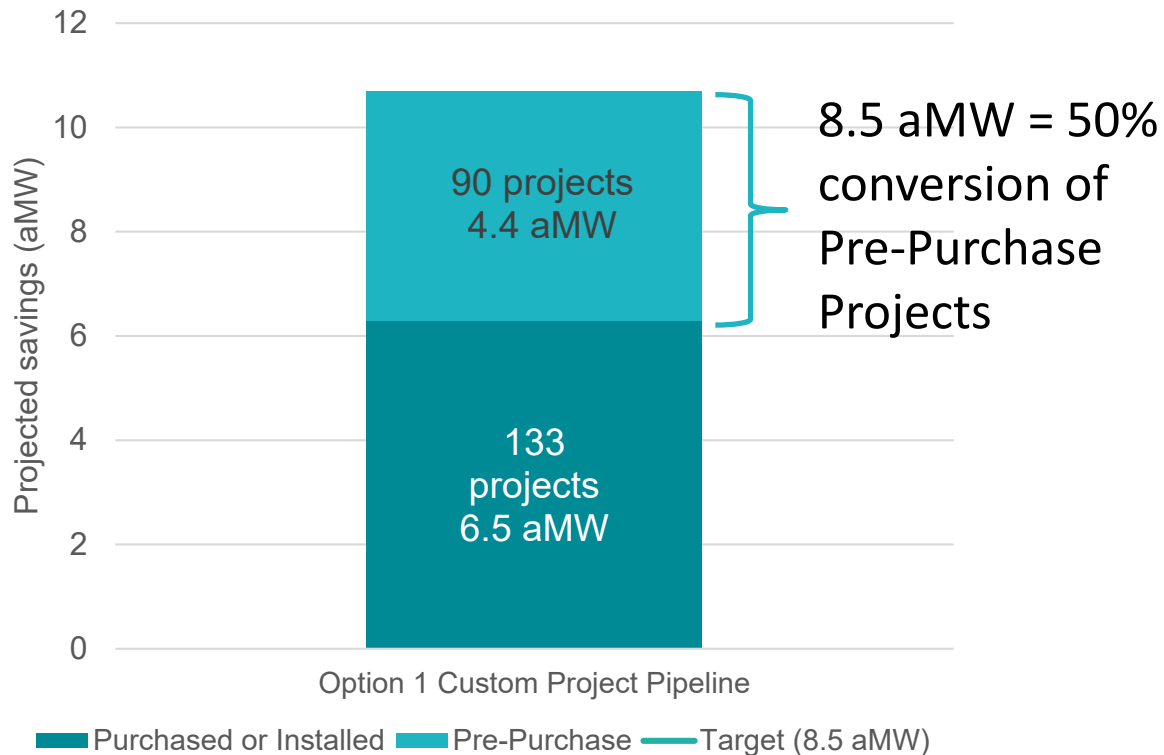


**Innovate and
prepare for future
technologies**

FY 2024 Savings Forecast



Converting our Option 1 Custom Projects



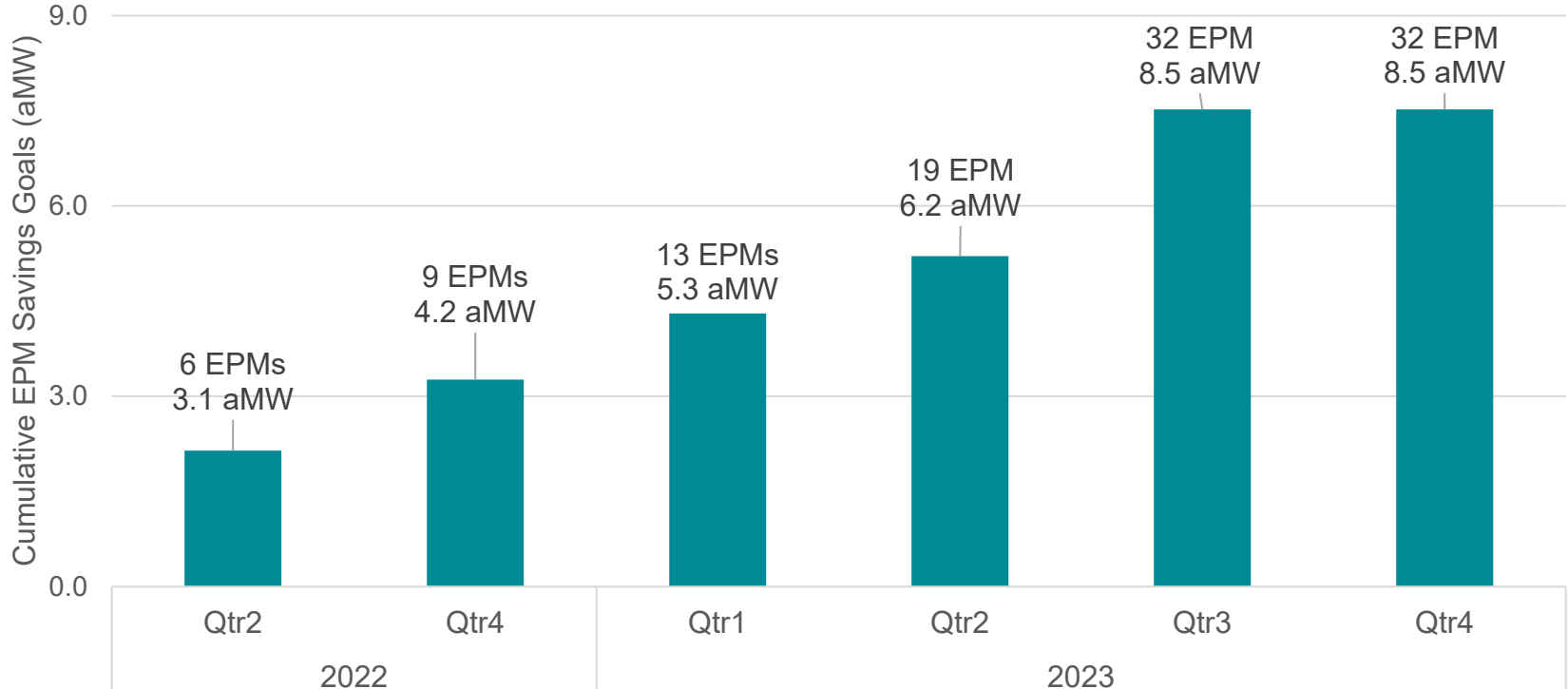
ESIP's focus

Review past studies

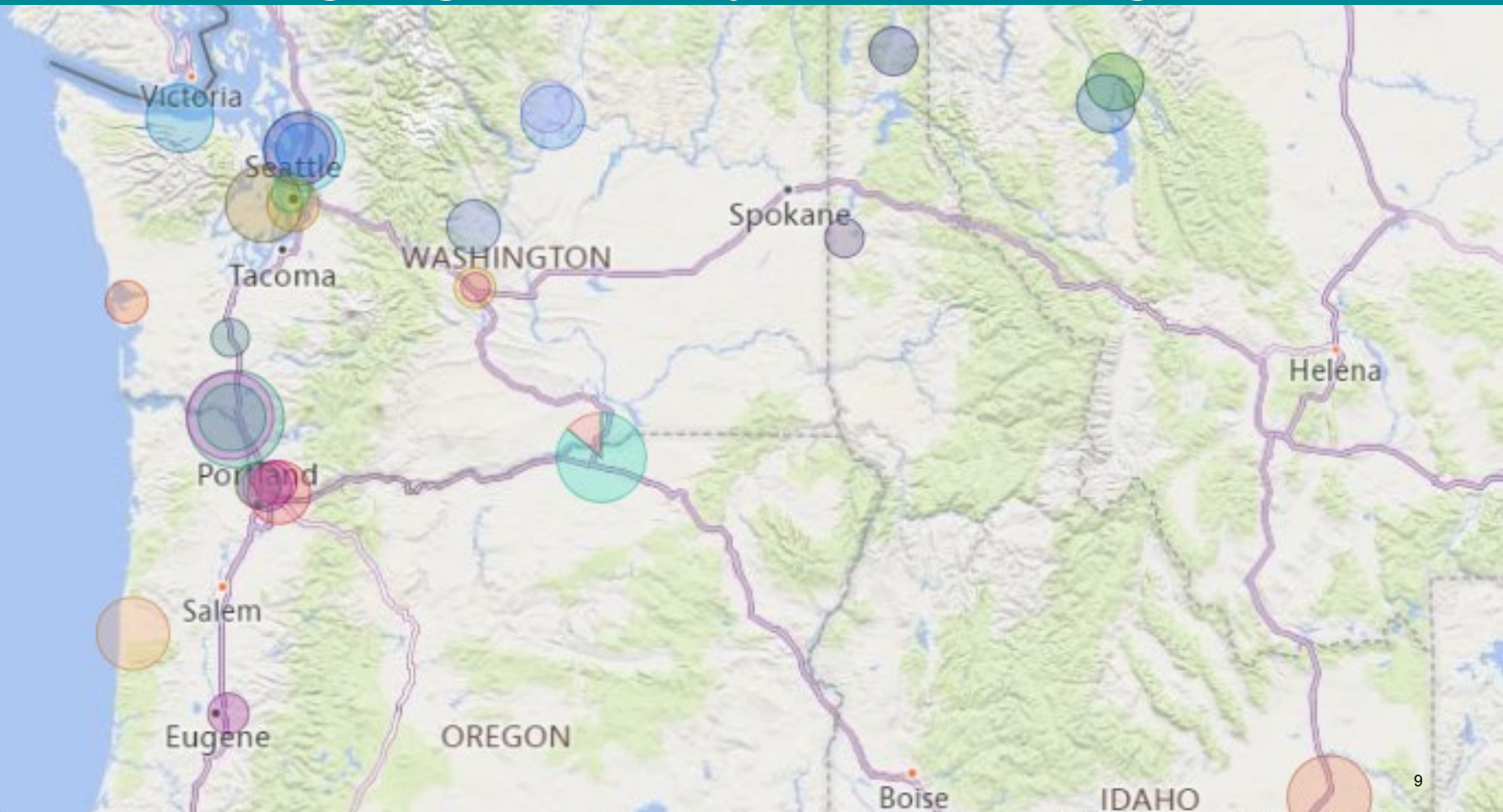
Confirm project economics

Revisit the incentive

Successful EPMs = successful program



EPMs – A geographically distributed group!



Utility Perspectives on EPM Support



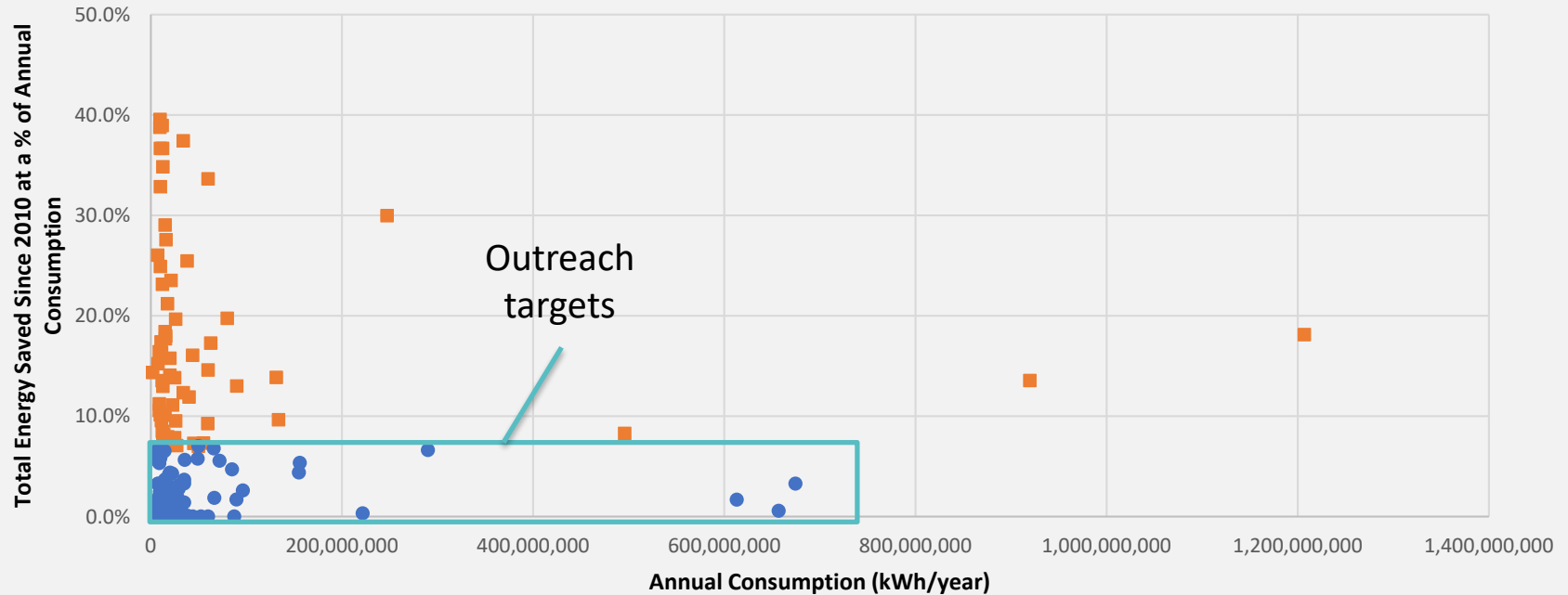
Jen Langdon
Cowlitz PUD
Energy Efficiency Manager



Zeecha Van Hoose
Clark Public Utilities
Key Accounts Senior Manager

Big Opportunity at Sites with Low Participation

Savings vs. Annual Consumption for Top 200 Industrial Loads



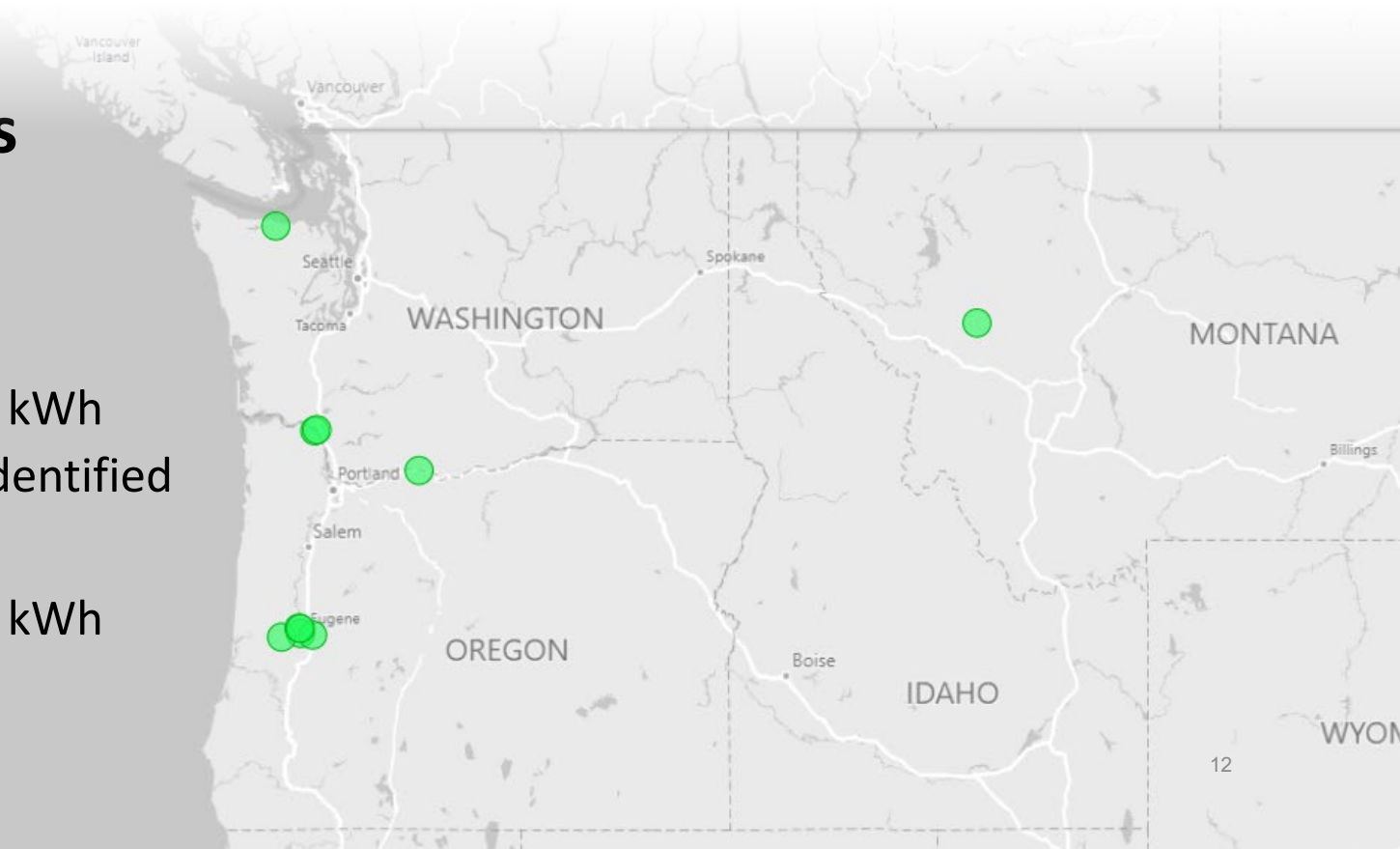
SEM Timber & Wood Products Cohort Update

Energy Scans

completed at
8 of 9 sites

over **6 million** kWh
of O&M savings identified

over **4 million** kWh
of capital



Energy metering *hardware or software* used to:

measure **baselines**

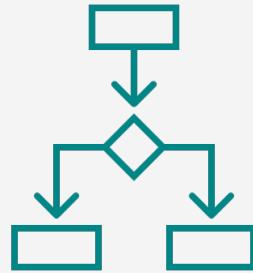
determine energy **savings**

help establish **cause and effect**

Performance Tracking System Overview



Increased
Awareness



Informed
Decisions



Energy
Savings

Qualifying items and methods may include

- **Energy Management Information System (e.g., Energy Sensei)**
- **Control/monitoring system upgrades**
- **Real-time power monitoring**
- **Current monitoring (e.g., SCADA)**
- **Motor or lighting on/off sensors**
- **Production or occupancy sensors**
- **Flow metering**
- **Permanent or temporary data loggers**

Performance Tracking System Overview

Industrial SEM Participants are eligible for PTS co-funding.

Up to

\$15k

one time only

Setup

Up to

\$10k

per two-year engagement

Maintenance

Performance Tracking System Overview

1. **Participant specifies a PTS design (ESI can support)**
2. **Participant purchases and installs the equipment and/or software**
3. **Participant (and ESI) document PTS installation**
 - ▶ Description of PTS
 - ▶ Cost documentation
 - ▶ Photos/data to verify installation*
 - ▶ Data to demonstrate that PTS is valid working correctly*
4. **ESI/utility submits PTS (Installation and Maintenance) via UES Measure Program in BEETS and upload documentation** for BPA approval**
5. **Utility issues co-funding payment to Participant**

**May be optional for PTS maintenance*

***Recently updated PTS Calculator and working on utility-facing PTS one-pager*

Updates to EMIS Funding

- **Effective April 1, 2024, the ESI Program will no longer directly fund EMIS costs for new engagements.**
- **We encourage utilities support EMIS costs through the Performance Tracking Systems measure.**

Efficient Pump Measure

Upgrade to an
Efficient Pump

\$0.33
per kWh*



*Subject to utility limits or caps.

Install a high efficiency pump of less than 200 horsepower and you could earn an incentive of up to \$0.33 per kWh. Energy savings are calculated using BPA's Efficient Pump Calculator.

- The size of the new pump is less than 200 hp.**
- The new pump is an eligible type** (*radial split, submersible turbine, end suction close-coupled, in-line, end suction frame mounted*).
- The pump spec sheet has a rated Pump Energy Index (PEI) value.**

To initiate a project, contact your vendor, utility, or ESIP to complete [BPA's Efficient Pump Calculator](#).

Pump VFD Upgrade Measure

Adding a VFD to your Pump

\$180
per hp*



A Variable Frequency Drive (VFD) lowers pump speed to match the flow demand of the system. As the pump slows, the motor draws less power, resulting in energy savings. Adding a VFD on a pump can earn an incentive of up to \$180 per horsepower (815 kWh/hp).

- The pump motor is less than 100 hp.
- For new construction projects, there are no state or local energy codes that mandate a VFD. Does not apply to retrofits.
- Any existing throttling or bypass mechanism have been removed or disabled.

To initiate a project, contact your utility or ESIP about either of these prescriptive incentive offers.

*Subject to utility limits or caps.

Industrial Heat Pump Market Study

Goal: Understand industrial heat pump applications in BPA territory.

Segments:

- Pulp and Paper
- Chemical
- Frozen Foods
- Wood Products
- High Tech

Current Status: 10 site visits complete

Deliverable: Site-specific and summary reports

Target: Completion by mid-March, 2024



Operations-based Custom Project Success

Bill Kostich

Operations Based Custom Projects (OBCPs)

- ESI program has found recent success in identifying and supporting the implementation of custom projects with little to no capital investment.
- Unlike traditional capital-intensive custom projects, these operations-based projects can often be completed in short time frames with minimal incentives.
- These operations-based projects must still meet all criteria for Custom Projects listed in the BPA Implementation Manual.

Custom Project Requirements

1. The project must save energy, and meet the additional requirements listed in Section 4.3.2 of BPA's IM (e.g. no fuel switching, B/C requirements, measure life ≥ 1 year).
2. The energy savings must be measured and verified by applying a methodology consistent with one of BPA's M&V Protocols.
3. There must be a reasonable assurance of persistence (i.e. not routine or deferred maintenance).
4. All other criteria in BPA's Implementation Manual must be met
5. The site cannot be engaged in an active SEM offering

Example - Kiln Fan Schedule Adjustment

Baseline:

The facility uses eight kilns to dry dimensional lumber. The kiln fans are equipped with variable frequency drives (VFDs) to control airflow. The drying scheduling includes several steps. In the baseline, Step 4 lasts about 9.6 hours, with fans operating at full speed.

Upgrade:

Site personnel reduced the Step 4 fan speed setpoint from 100% to 65%.

Project Numbers

- **Savings (busbar): ~800,000 kWh/yr**
- **Project Cost: Less than \$1000**
- **Measure Refno Number: Process Load System Controls**
- **Measure Life: 5 years**
- **BC Ratio:1691**
- **Total avoided energy cost: \$200,000 (over 5 years)**

Persistence is the Key

Standard Operating Procedure

SOP Name / Title	[Redacted] Kiln Schedule Changes
Date	9/1/2023
Approved by (Name)	[Redacted]
Signature	[Redacted Signature]

1. Purpose

- a. Only make changes to drying schedules that will maximize lumber quality while minimizing energy consumption

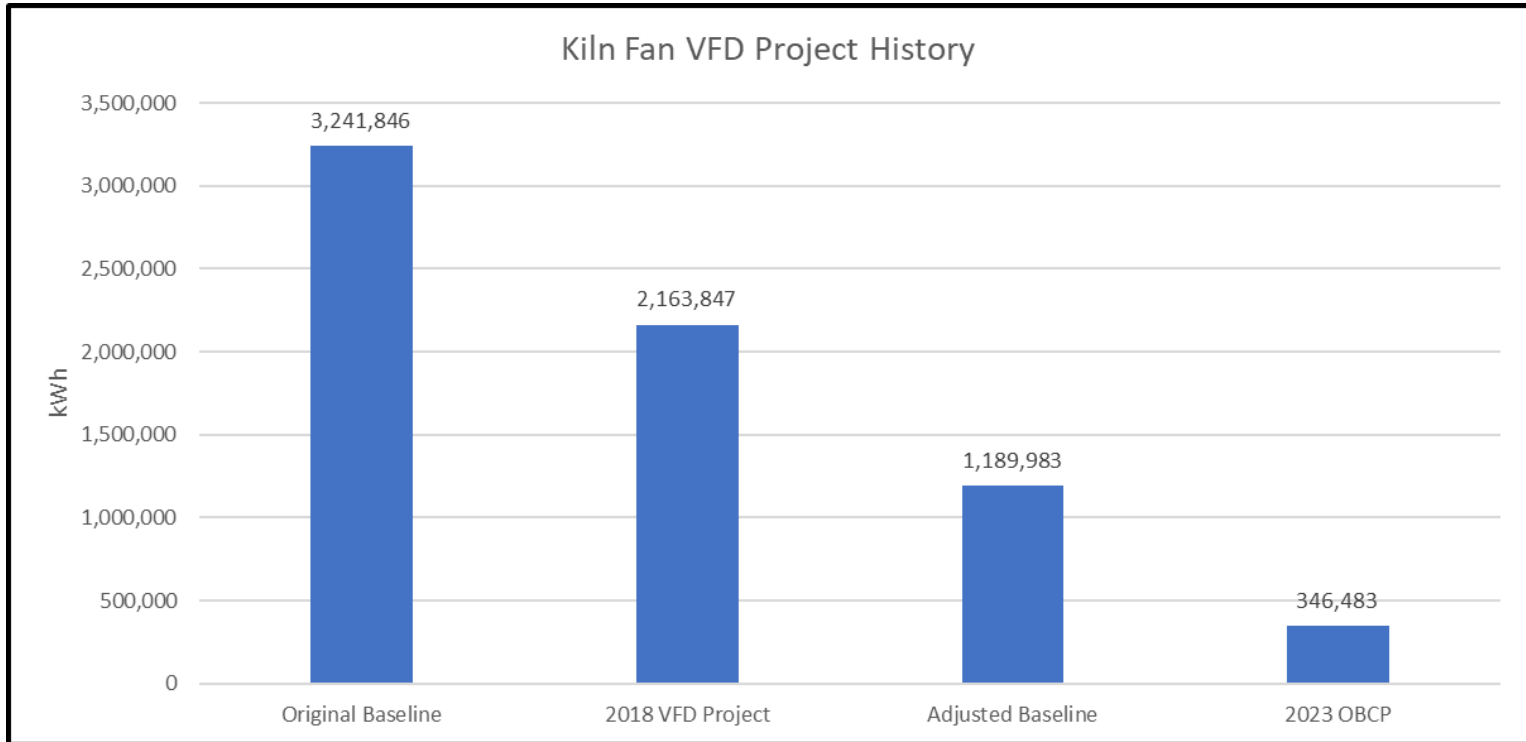
2. Scope

- a. Applies to all products (all widths, all lengths) in all kilns

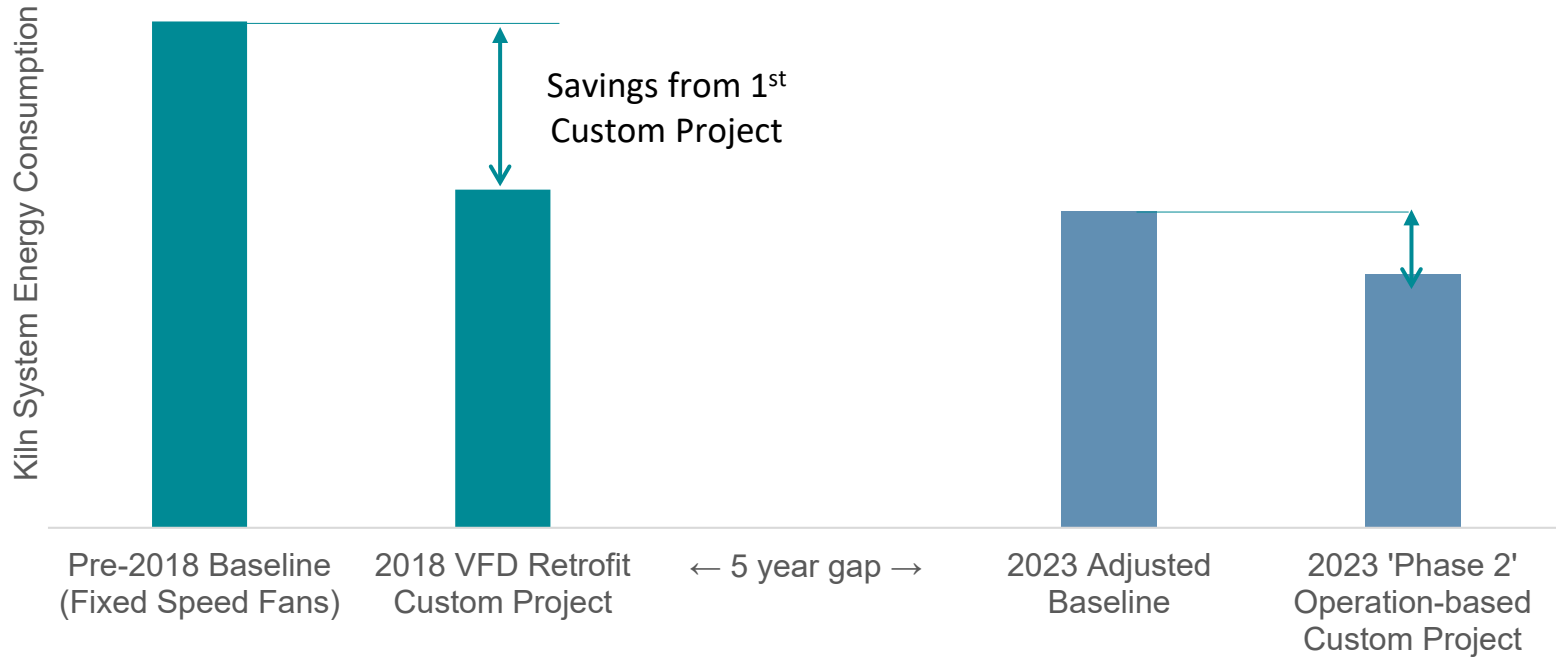
3. Responsibilities

- a. Operators will not make changes to drying schedules without getting prior approval from Lead Kiln Operator
- b. The following changes to all kiln schedules have been implemented:
 - i. Step 1:
 1. Fan speed will be maintained at 70% (max)
 2. Duration will be 0.2 hrs (max)
 - ii. Step 4:
 1. Fan speed will be maintained at 65% (max)
 2. Duration is reduced by 2 hours. It is recognized that duration for this step varies by product and will be adjusted in the future (longer or shorter) based on moisture content measure at the planer mill infeed (typically only increasing or decreasing time by 1-2 hours at a time). The goal is to try to maintain as short a time as possible while maintaining target lumber moisture content and quality.

Kiln Fan Project History



OBCPs - Two Phases of Savings



*Energy consumption percentages are for illustration purposes and do not represent values for this specific project

Utility Focus Group Open Forum

Discussion with Utility Focus Group Members

- Feedback
- Other topics

Wrap-up and Reminders

- Remember to register for EFX24 in Coeur d' Alene May 14-15, 2024! Three panels to be aware of
 - Springing Forward: Advancing Electric Energy Efficiency and Decarbonization with Industrial Heat Pumps
 - Innovations in Rural Program Delivery
 - Making It Easy: A Tag-Team Customer Engagement Approach for Wholistic Energy Efficiency Delivery
- Next ESI Quarterly UFG Meeting - May 21, 2024

Thank you!

For more information, contact:

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