Energy Smart
Industrial

Utility Focus Group Meeting

May 21, 2024

FACILITATOR:

Eric Mullendore
Commercial & Industrial Sector Lead
Energy Efficiency
Bonneville Power Administration

Attendees

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Name:	Company:
Amanda Wagnon	Springfield Utility Board
Bill Hough	Eugene Water & Electric Board
Brandy Neff	PNGC Power
Cesar Garcia	Northern Wasco PUD
Chad Smith	Benton Rural Electric Assn.
Charlie DeSalvo	Columbia Rural Electric Assn.
Dan Kinnaman	Grays Harbor PUD
David Harris	Springfield Utility Board
Graham Goodman	Seattle City Light
Jackie Caldera	Umatilla Electric Coop.
Jennifer Langdon	Cowlitz PUD
Katie Timmerman	Benton PUD
Kelly Haugh	Big Bend Electric Coop.
Maurilio Lopez	Franklin PUD
Megan Johannes	Grays Harbor PUD
Megan Walters	Central Lincoln PUD
Melinda Evans	Northern Wasco PUD
Rainee Habersetzer	Lewis PUD
Robert Frost	Benton PUD
Ryan Perry	Tillamook PUD
Mesfin Taye	Tacoma Power
Terry Mapes	Benton PUD
Travis Hardy	Northern Wasco PUD
Zeecha Van Hoose	Clark Public Utilities

Name:	Company:
Ben Graves	BPA, Program Manager
Brice Lang	BPA, Energy Efficiency Rep.
Eric Mullendore	BPA, C&I Sector Lead
Henry Griffith	Cascade Energy, ESIP
Jennifer Wood	BPA, Industrial Program Manager
Mike Palmer	BPA, Contract Officer's Technical Rep.
Ray Hardiman	Cascade Energy, ESIP
Shelley Layton	Cascade Energy, ESI Program Specialist
Steve Martin	Cascade Energy, ESI Operations Manager
Todd Amundson	BPA, Industrial Engineer Technical Lead
Tony Simon	Cascade Energy, ESIP Lead

Agenda

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1. Welcome and Overview Safety Update	*Eric Mullendore*	11:00 – 11:05
2. ESI & BPA Updates		
ESI Program Updates	*Steve Martin*	11:05– 11:45
BPA Updates	*Jennifer Wood*	
UES Measure for Pump VFDs	*Tony Simon*	
3. UFG Open Forum	*Tony Simon*	11:45– 11:55
4. Wrap-up and Reminders	*Jennifer Wood*	Remaining Time

Safety Moment – Hearing Protection

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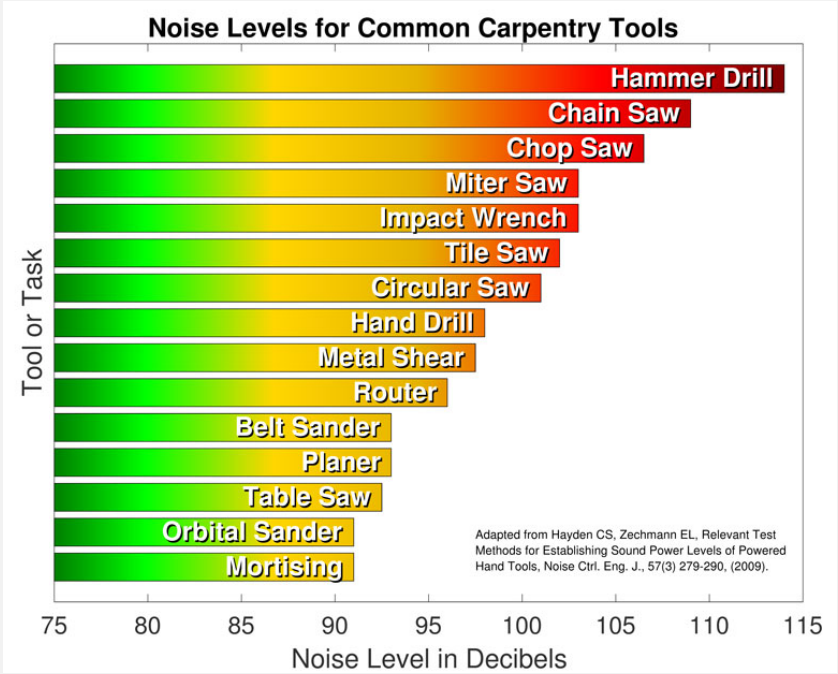
Industrial Hearing Protection is Important!

- Prolonged exposure above 85 decibels (dB) can cause permanent hearing damage
- Most industrial sites are required by OSHA to implement hearing conservation programs.
- Hearing protection devices (HDPs) such as earplugs and earmuffs should be worn when on site.



Safety Moment – Hearing Protection

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Factors considered when selecting hearing protection devices include:

- Noise hazards
- Noise frequencies
- Fit and comfort
- Noise reduction
- Rating

Safety Moment – Hearing Protection

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When to wear hearing protection:

- The end user's safety program requires it, or warning signs are posted
- When performing or assisting with electrical work
- Anytime working near intense noise

Key Objectives for FY 2024

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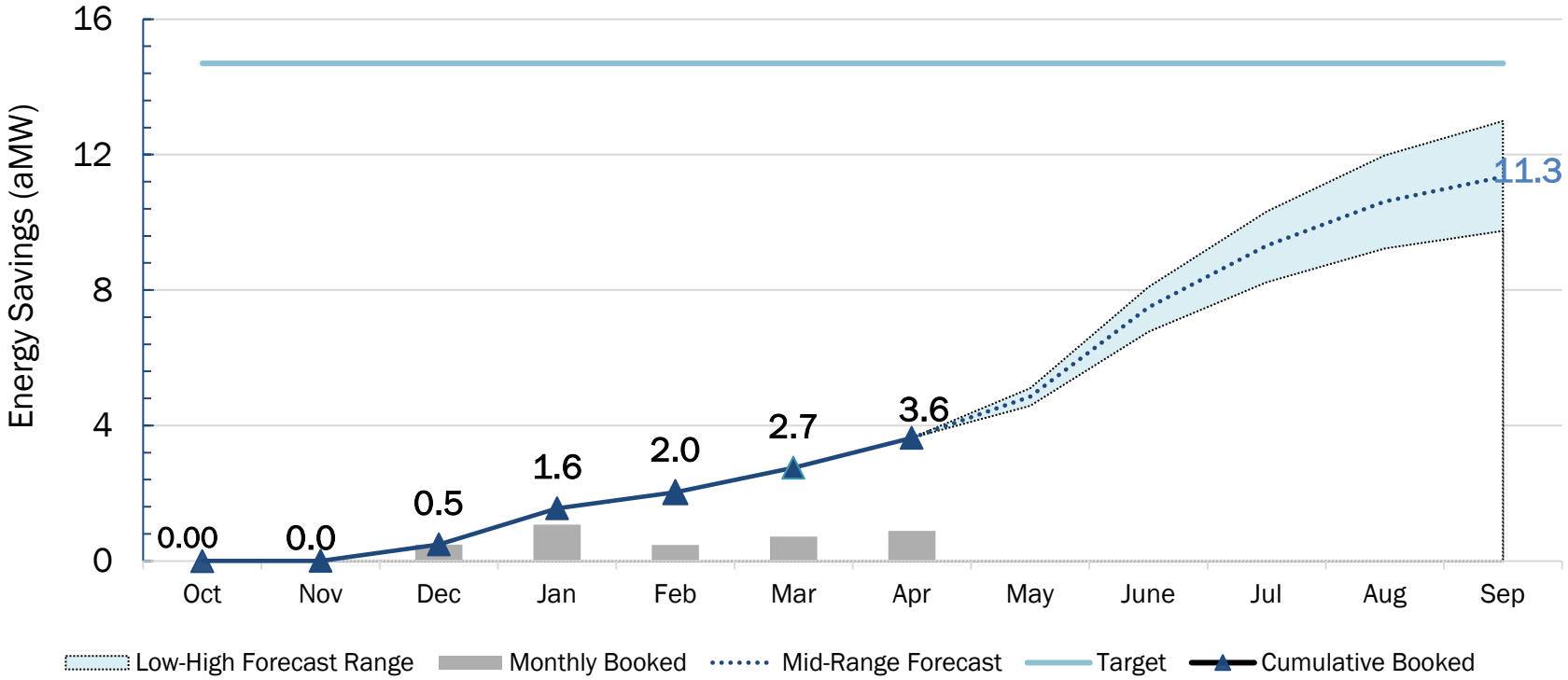
Achieve BPA and utility savings goals

Engage EPMs supporting SEM sites

Innovate and prepare for future technologies

FY 2024 Savings Forecast



Custom Projects Approaching the Finish Line

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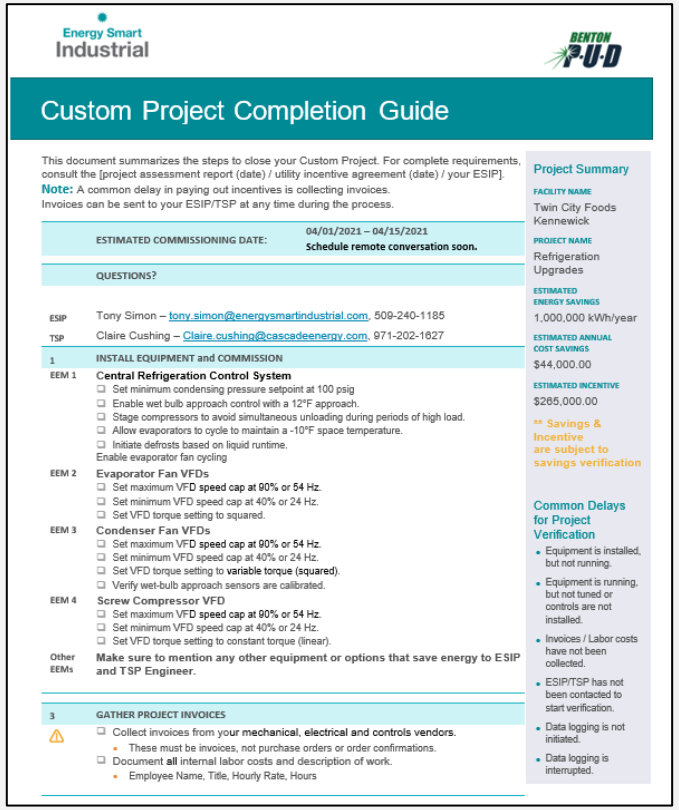
Purchase Order Issued
1.2 aMW
(26 projects)

Equipment Being Installed
1.6 aMW
(15 projects)

Post Installation M&V
3.5 aMW
(54 projects)

Custom Project Approved!!

Custom Project Completion Guide



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BENTON PUD

Custom Project Completion Guide

This document summarizes the steps to close your Custom Project. For complete requirements, consult the [project assessment report (date) / utility incentive agreement (date) / your ESIP].
Note: A common delay in paying out incentives is collecting invoices.
Invoices can be sent to your ESIP/TSP at any time during the process.

ESTIMATED COMMISSIONING DATE:	04/01/2021 – 04/15/2021 **Schedule remote conversation soon.**

QUESTIONS?

ESIP	Tony Simon – tony.simon@energysmartindustrial.com, 509-240-1185
TSP	Claire Cushing – Claire.cushing@cascadeenergy.com, 971-202-1627

1 INSTALL EQUIPMENT and COMMISSION

EEM 1 Central Refrigeration Control System
- ❑ Set minimum condensing pressure setpoint at 100 psig
- ❑ Enable wet bulb approach control with a 12°F approach.
- ❑ Stage compressors to avoid simultaneous unloading during periods of high load.
- ❑ Allow evaporators to cycle to maintain a -10°F space temperature.
- ❑ Initiate defrosts based on liquid runtime.

Enable evaporator fan cycling

EEM 2 Evaporator Fan VFDs
- ❑ Set maximum VFD **speed cap at 90% or 54 Hz.**
- ❑ Set minimum VFD speed cap at 40% or 24 Hz.
- ❑ Set VFD torque setting to squared.

EEM 3 Condenser Fan VFDs
- ❑ Set maximum VFD **speed cap at 90% or 54 Hz.**
- ❑ Set minimum VFD speed cap at 40% or 24 Hz.
- ❑ Set VFD torque setting to **variable torque (squared).**
- ❑ Verify wet-bulb approach sensors are calibrated.

EEM 4 Screw Compressor VFD
- ❑ Set maximum VFD **speed cap at 90% or 54 Hz.**
- ❑ Set minimum VFD speed cap at 40% or 24 Hz.
- ❑ Set VFD torque setting to constant torque (linear).

Other EEMs **Make sure to mention any other equipment or options that save energy to ESIP and TSP Engineer.**

3 GATHER PROJECT INVOICES

⚠
- ❑ Collect invoices from your **mechanical, electrical and controls vendors.**
  - These must be invoices, not purchase orders or order confirmations.
- ❑ Document **all** internal labor costs and description of work.
  - Employee Name, Title, Hourly Rate, Hours

Project Summary

FACILITY NAME
Twin City Foods Kennewick

PROJECT NAME
Refrigeration Upgrades

ESTIMATED ENERGY SAVINGS
1,000,000 kWh/year

ESTIMATED ANNUAL COST SAVINGS
$44,000.00

ESTIMATED INCENTIVE
$265,000.00

** Savings & Incentive are subject to savings verification

Common Delays for Project Verification
- Equipment is installed, but not running.
- Equipment is running, but not tuned or controls are not installed.
- Invoices / Labor costs have not been collected.
- ESIP/TSP has not been contacted to start verification.
- Data logging is not initiated.
- Data logging is interrupted.

A communication tool to promote clarity on:

- Critical set points
- Collection of cost records
- M&V data collection

FY 25-26 Custom Project Pipeline Growth

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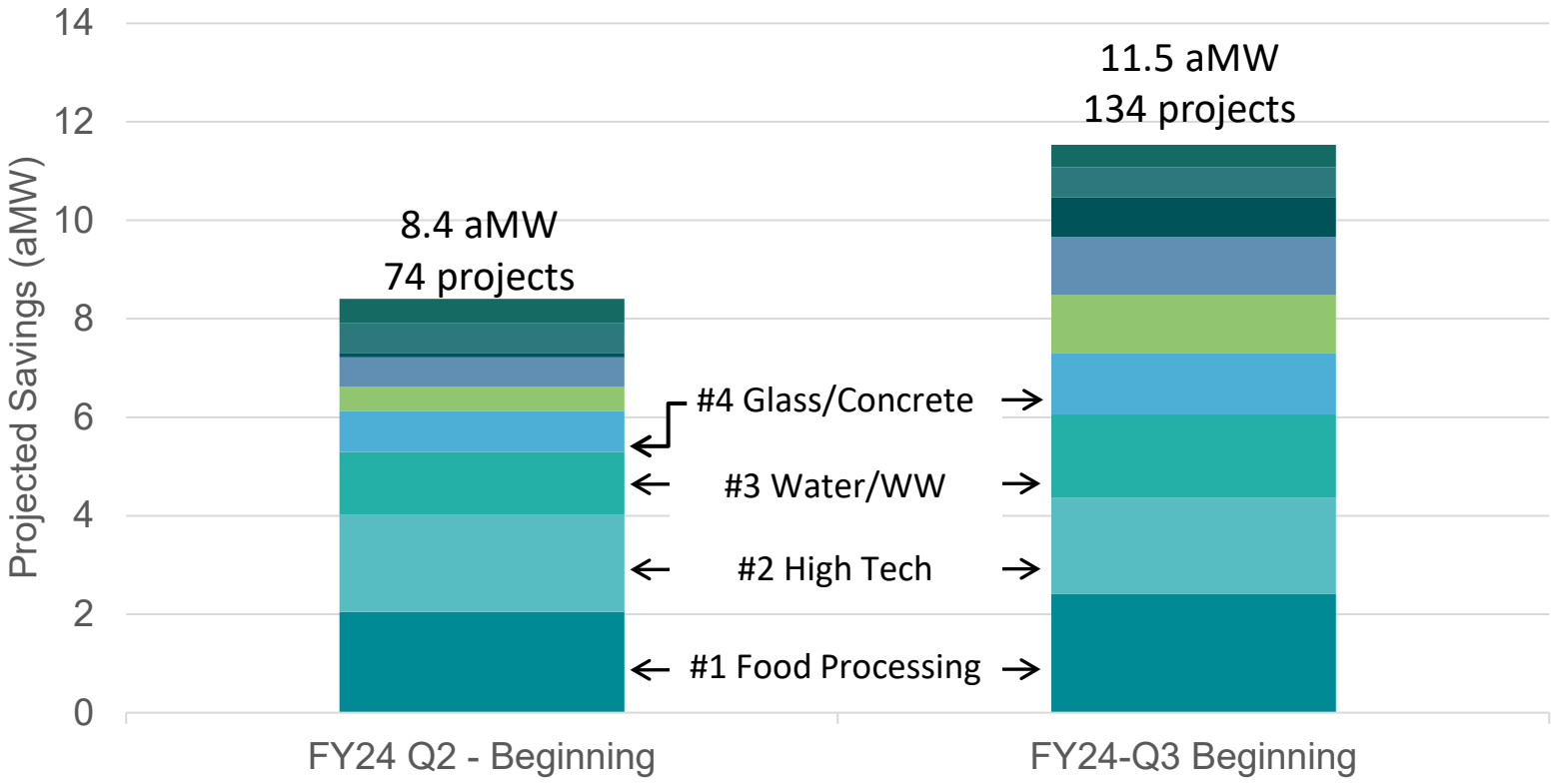
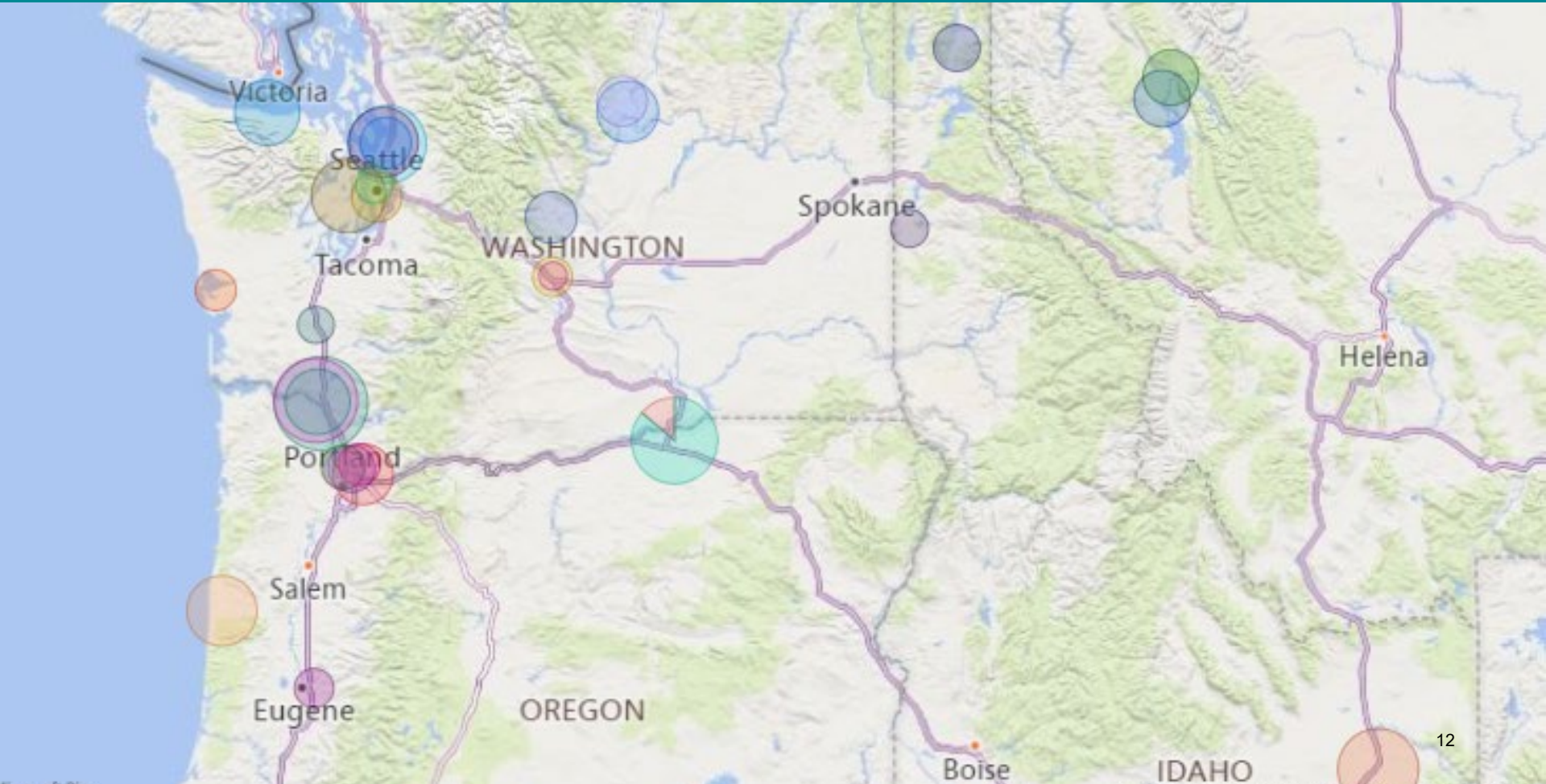
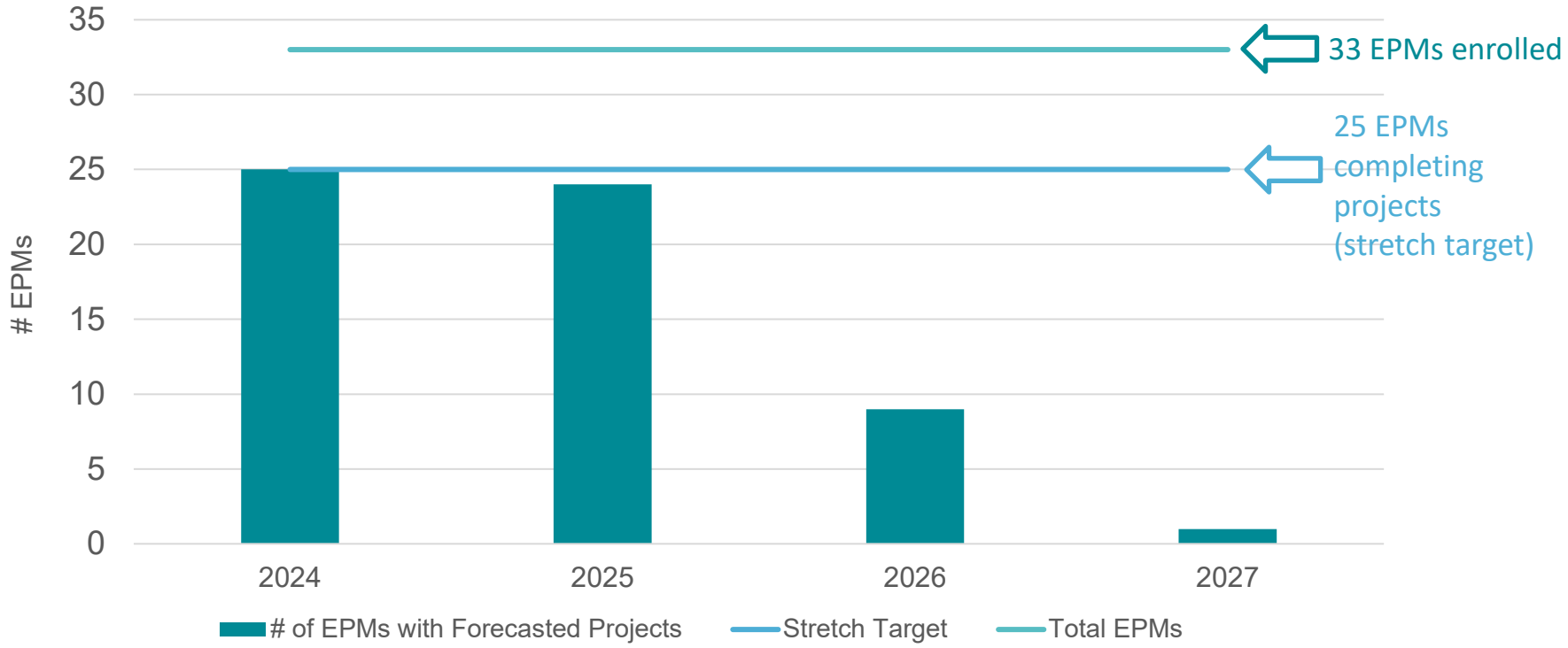


Industrial EPMs: 33 EPMs across 16 utilities



Energy Project Manager Engagement: Spring Lunch & Learn – May 30, 2024

Key Objective - Helping EPMs Close Projects



EPM Payments

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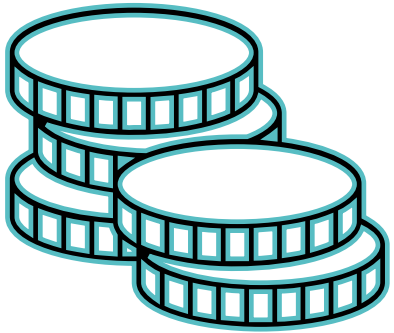
- Payments are up to $0.025/kWh of verified savings, up to the lesser of $150,000 per biennium or a utility-specified cap.
- **EPM payments are processed <u>after</u> projects are completed and approved.**
- Utilities determine the schedule for releasing EPM payments.



Step 1: Update the EPMs Comprehensive Plan

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Completed Project Information

- Verified savings and approval date

Project updates

- Updates to existing projects (e.g., dates, savings)
- Addition of new projects

Step 2: Processing EPM Payment in BEETS

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- Reminder: Your ESIP is available to help set up your EPM payment!

Industrial Lighting Support

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- In late April BPA announced an interruption in support services relating to the Trade Ally Network NW program; beginning June 1, BPA will provide *commercial* lighting project support internally.
- **Energy Smart Industrial team will continue to support regional industrial lighting projects.**
- BPA saw an increase to Industrial lighting projects with Network Lighting Controls during the FY2022/2023 rate period.

TRADE ALLY NETWORK NW
Building Success Together

UES Payment Clarification

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- Fan VFDs in Potato and Onion Storage Facilities - discrepancy between the payment language in the Implementation Manual (IM) and the UES Measure List. The industrial team is working to correct the IM language.

Payment

To calculate the payment, the customer will add the total fan VFD horsepower installed on a per-building basis.

MEASURE CATEGORY	PAYMENT PER HORSEPOWER
Variable Frequency Drive for Fans in Potato and Onion Storage Facilities	$200

- Select the **correct UES RefNo** (based on VFD horsepower), then enter the **number of units** in the UES Measure Upload Template and BEETS – (payment aligns with $200 per horsepower).

UES RefNo	Measure Name	Payment ($/unit)
IMDMC30056	Motors/Drives Control Improvements (VFD) Potato/Onion Shed Horsepower 10	$2,000.00
IMDMC30059	Motors/Drives Control Improvements (VFD) Potato/Onion Shed Horsepower 25	$5,000.00

M&V Protocol Updates

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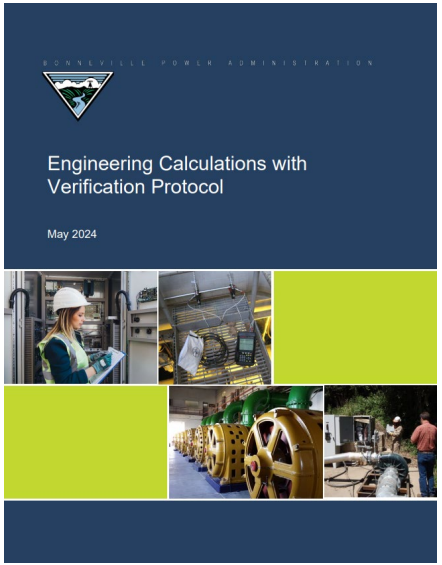
- The review and comment period for updates to BPA's Measurement & Verification Protocol Documents* ends tomorrow.
  - One update – Engineering Calculations with Verification (ECwV) Protocol – we foresee more projects should use this protocol – as evaluation findings show the savings to be reliable.



*See [Measurement and Verification - Bonneville Power Administration (bpa.gov)]

Latest Marketing Collateral

- New marketing piece, *The Value of a Performance Tracking System*, applies to both Commercial and Industrial Strategic Energy Management. It provides answers…
  - What is an ideal PTS?
  - How do utilities report PTS?
- Ask your ESIP for a copy.

Pump VFD Upgrade Measure

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Adding a VFD to your Pump

$180 per hp*

*Subject to utility limits or caps.

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)

- **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.

Pump VFD Upgrades – Benefit of UES Approach vs Custom

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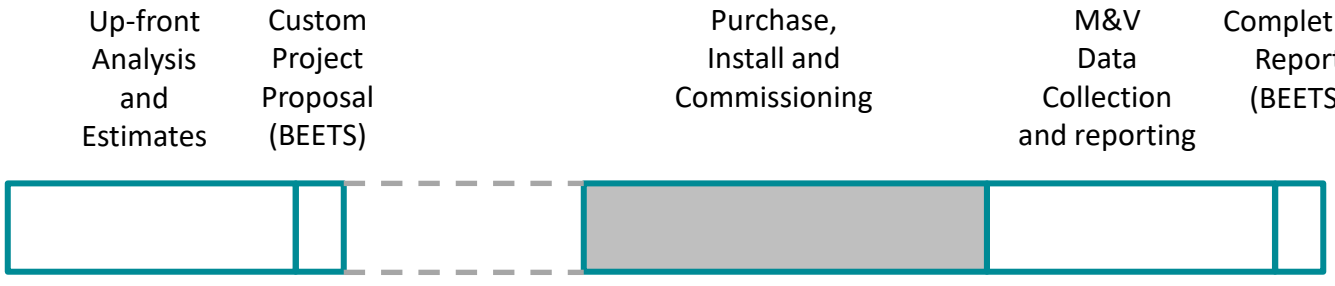
Custom Project Approach



Program Process Time **165** + **165** = **330 days**

Pump VFD Upgrades – Benefit of UES Approach vs Custom

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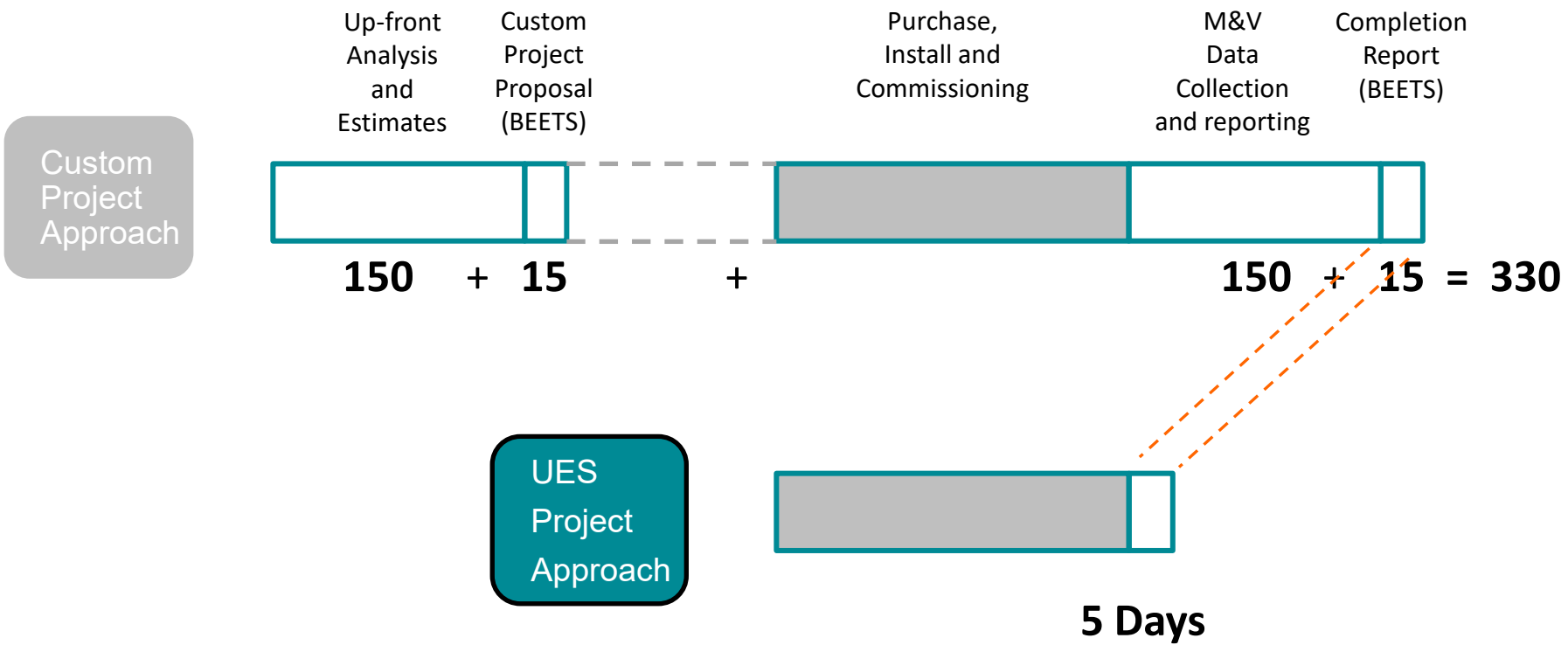

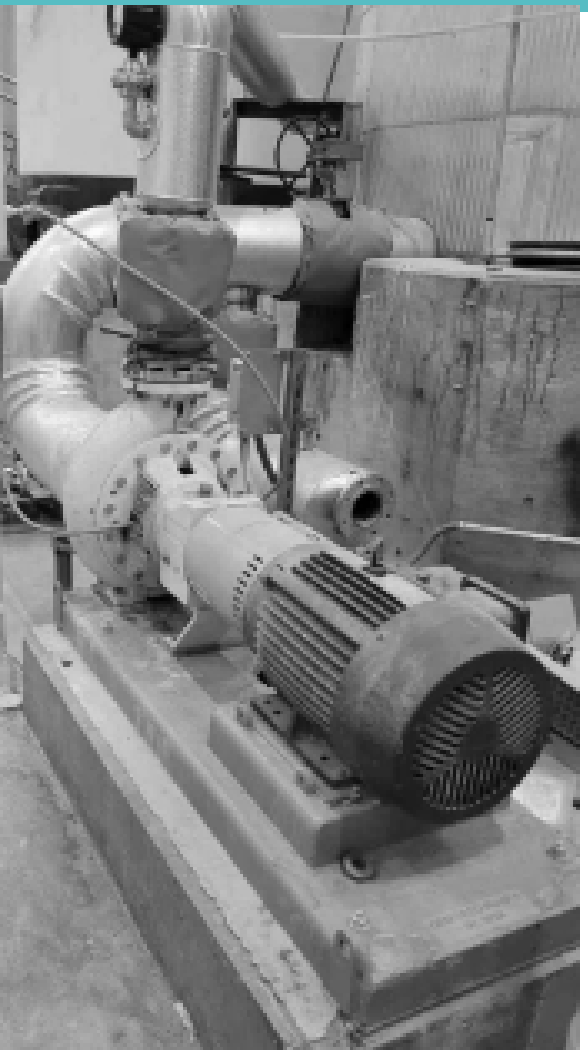

First UES Pump VFD Project in Program

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BENTON P·U·D

- Fruit Juice Concentrate Processor
- Pump Size = 25-hp
- Retrofit on existing juice transfer pump.
- Pump Incentive
  - 25-hp x $180/hp = **$4,500**
  - 25-hp x 815 kWh/hp = **20,375 kWh**

Less processing time and faster payment to end-user!

Utility Focus Group Open Forum

Discussion with Utility Focus Group Members

- Feedback
- Other topics

Wrap-up and Reminders

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- BPA M&V Protocols will be posted May 24, 2024
- Non-residential Lighting Impact Evaluation Webinar in June
- Q3 UFG Call: Tuesday, August 13, 11:00-12:00 PDT
- Utility Staff Changes, please notify Jennifer Wood

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Thank you!

For more information, contact:

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