



Fan Energy Index Efficiency Symposium: Bonneville Power Administration Participation

12/5/2024



Who is BPA?

- BPA markets wholesale electrical power from 31 federal dams in the Northwest. As a self-funding, nonprofit federal power marketing administration within the Department of Energy, BPA covers its costs by selling its products and services.
- BPA Energy Efficiency buys energy savings through energy efficiency measures, either through a prescriptive path (quick & easy) or custom projects (thorough & robust).

BPA Fan Specific Energy Savings: Unit Energy Savings (Prescriptive) Offerings

1. Variable Frequency Drive (VFD) on existing single speed Air Handling Unit (AHU).
2. Heat Recovery Ventilator (HRV) installed within a facility that is electrically heated.
3. Package Terminal Heat Pump (PTHP) replacing existing Package Terminal Air Conditioner (PTAC).
4. Demand Control Kitchen Ventilation (DCKV) that automatically controls fan speed and makeup air during low activity/demand.

Additional BPA UES Offerings

1. Nonresidential Lighting
2. Shell Measures
3. Refrigeration
4. Pumps
5. Block Heater Controllers
6. Heat Pump Water Heaters
7. Many others...More detailed information and complete list: [BPA.gov Implementation Manual](#)



Custom Projects for Commercial and Industrial

- Any savings opportunities that do not fit a UES measure can be developed as a Custom Project.
- BPA customer utilities have Customer Service Engineers available to assist with project development, facility energy audits, analysis, measurement & verification (M&V), and documentation.



Custom Project Examples

- Typical aging two-fan (Supply/Return) unit replaced with a highly efficient Fanwall air handler unit. Compared pre/post actual usage.
- VFDs installed on equipment that do not meet the UES requirements.
- Installation of a geothermal heat pump system.
- Building control upgrade and optimization.
- Retro-commissioning.
- In general, any change that reduces electrical energy and can be quantified through BPA M&V protocols.

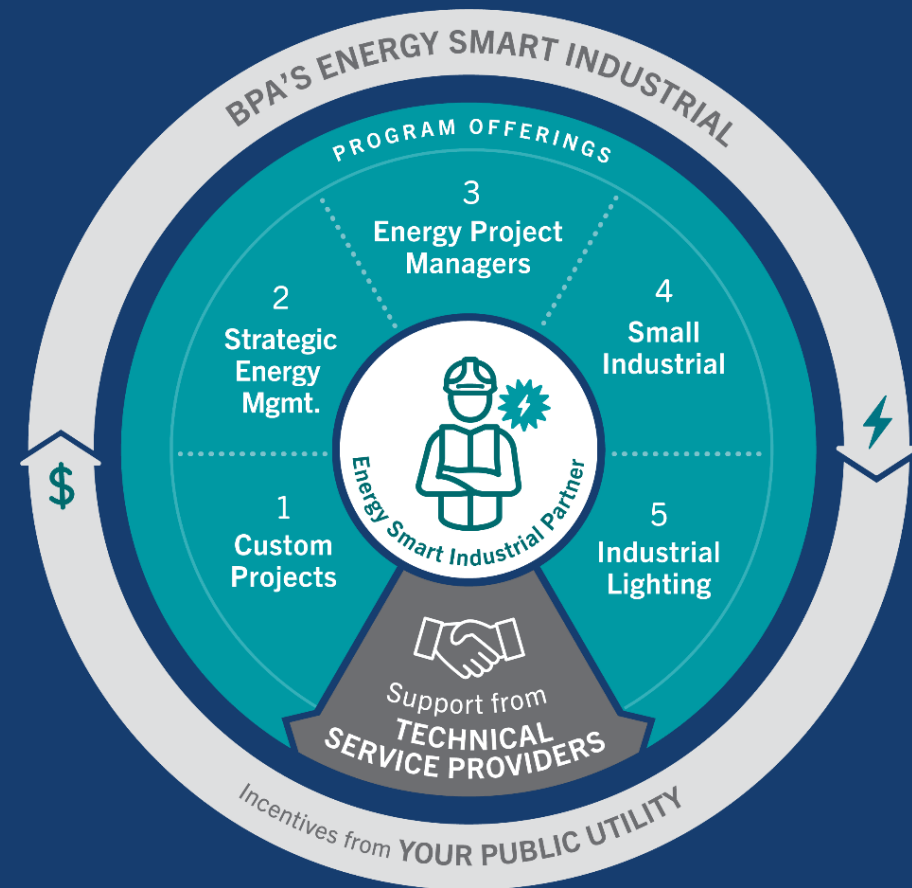
Metering Capabilities

- BPA Energy Efficiency has a robust collection of metering equipment and expertise to support Custom Projects.
 - Power loggers
 - Flow meters
 - Temperature sensors
 - Pressure sensors
 - Weather data
 - And more!

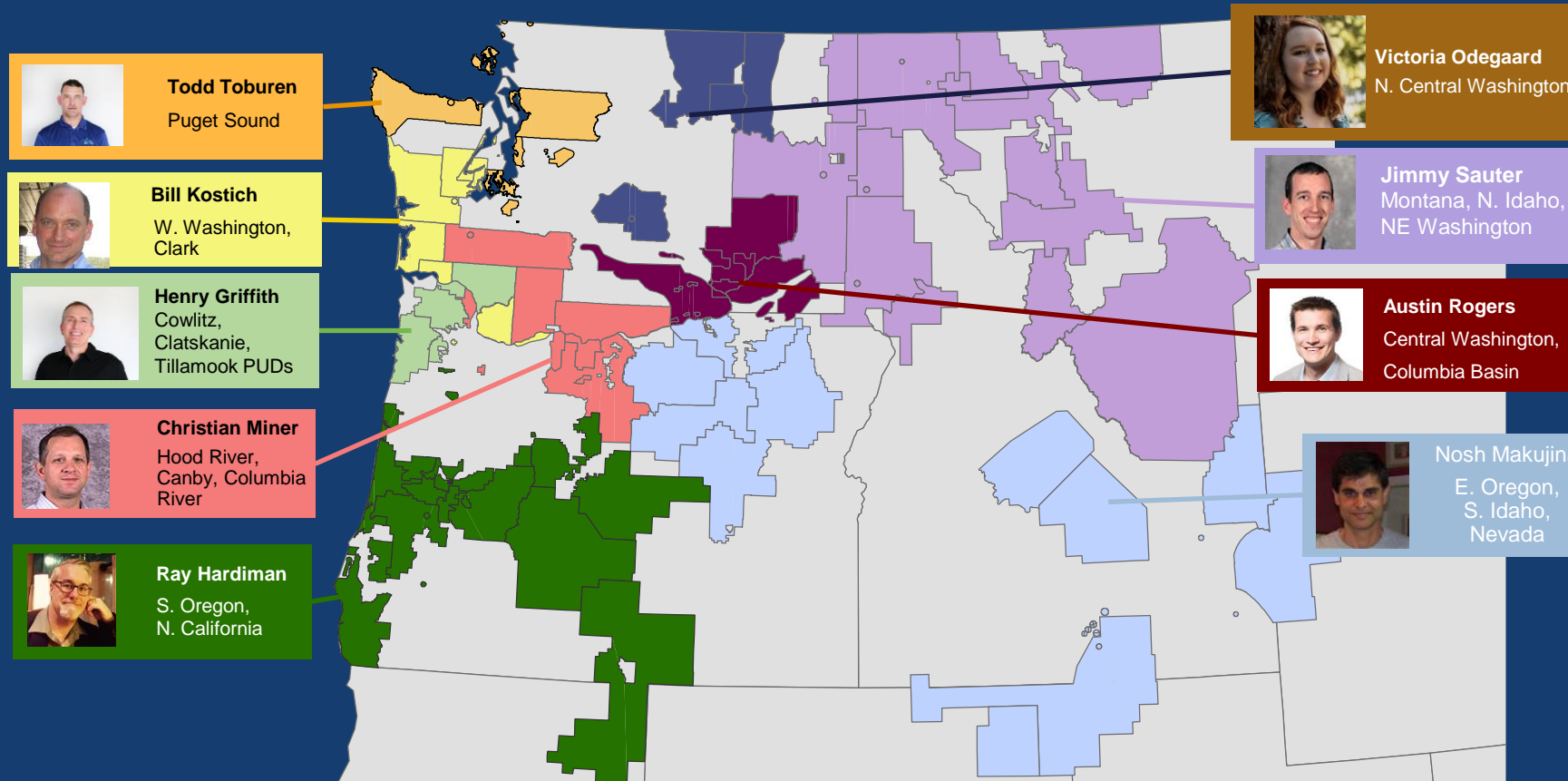


Specialized Support: Energy Smart Industrial

- Assists the public utilities and the industries of the Pacific Northwest.
- Provides technical expertise and cash incentives to implement energy efficiency projects.
- Serves industries of all types, sizes, and budgets (including wastewater).
- The ESIP serves as a single point-of-contact for utilities and industries.

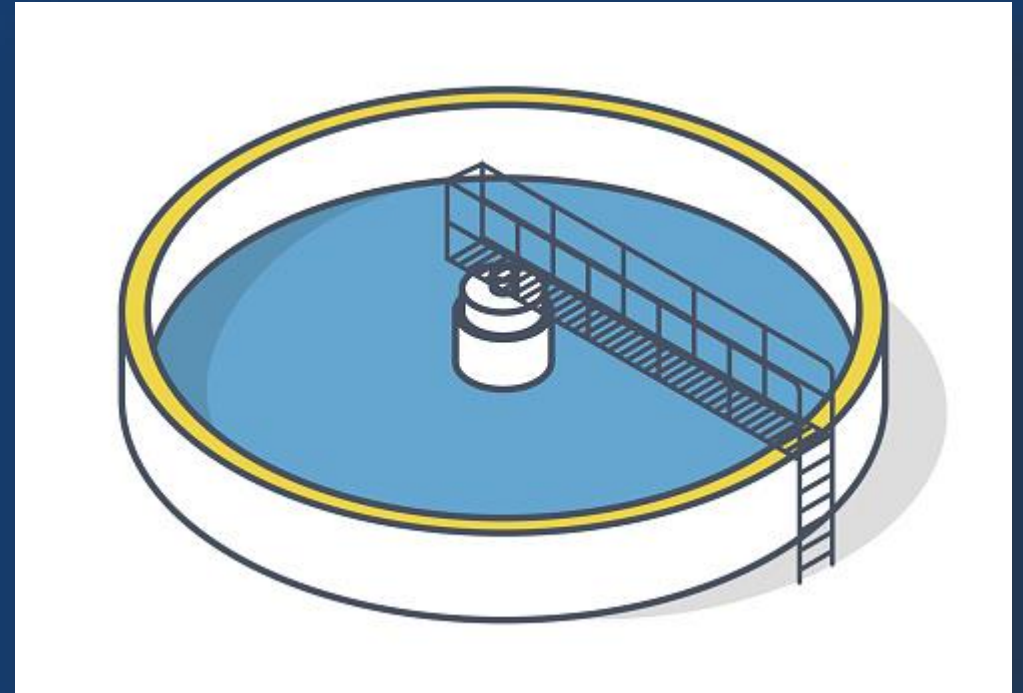


Energy Smart Industrial Partners (ESIPs) Boots on the Ground



Example 1

- Local Municipal Wastewater Treatment Facility
- Aeration System VFDs:
 - Fans (425 HP)
 - Pumps (60 HP)
- Total Savings: Over 600,000 kWh



Example 2

- Onion Storage Fans
- Fan VFDs (360 HP)
- Control Panels
- 8 Auto Bypass/Doors Controls
- Total Savings: Nearly 400,000 kWh



THANK YOU

TJ Sharkey

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