

**Save**  
**ENERGY**  
**Now**



## Utility Partnership Webinar Series

State Mandates for Utility Energy Efficiency

March 1, 2011

## Speakers and Topics:

- **National Association of State Energy Officials (NASEO), Senior Energy Advisor, William Nesmith** will discuss regional trends and successes in state mandates for utility energy efficiency.
- **New York State Energy Research and Development Authority (NYSERDA), Senior Project Manager Energy Efficiency Services, Mark Gundrum** will provide insight regarding New York State mandates for energy efficiency and NYSERDA's energy efficiency programs designed to meet these mandates.
- **Bonneville Power Administration (BPA), Industrial Sector Lead, Jennifer Eskil** will discuss BPA's industrial energy efficiency programs to meet the Northwest regional mandates for utility energy efficiency.

## Questions?

Email: [jredick@bcs-hq.com](mailto:jredick@bcs-hq.com)

Presentations: <http://www1.eere.energy.gov/industry/utilities/>

# State Mandates for Utility Energy Efficiency

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*NASEO—Transforming America's Energy Future*

# State Mandates for Utility Energy Efficiency

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- This Webinar will examine the impact state-mandated energy-savings targets have on energy utilities.
- Energy utility representatives, state legislators, and public utility commission staff members will speak to the effects these targets have on their programs and operations.

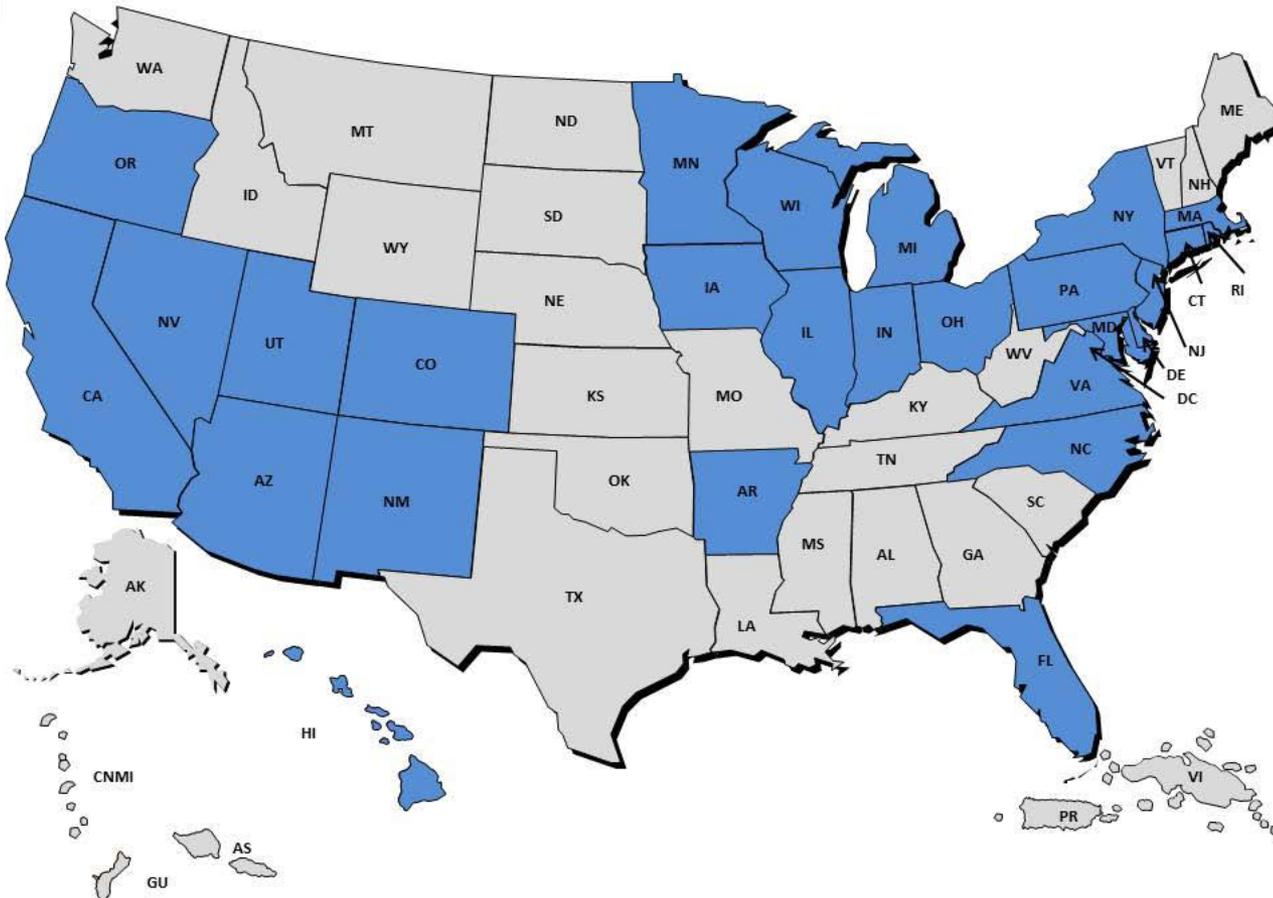
# State Policies that Impact the Utility Sector

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- State Public Benefits Funds (SBFs) and the programs they fund.
- State Energy Efficiency Resource or Portfolio Standards (EERS or EEPS) opening markets for cost-competitive energy efficiency.
- Alternative Business Models (e.g., Decoupling)
- Energy Efficiency as a Resource
- Reward Structures for Successful EE Programs (new trend)



# Energy Efficiency Resource Standards (EERS)



Twenty-seven states have an EERS or an RPS which includes energy efficiency.

# Reward Structures for Successful Energy Efficiency Programs

- The state of Rhode Island developed five performance-based metrics for specific program achievements; and kWh savings targets by sector.
- The Minnesota PUC shares net savings from energy efficiency programs with ratepayers and the participating utility.
- In Nevada, the state establishes rate of return incentives so that utilities can earn an additional 5% return-on-equity for demand side management. Base ROE is 10.25%, meaning that utilities could earn up to 15.25% ROE.

## Northeast Region

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- Groton Utilities, based in Connecticut, will provide rebates up to 50% of total cost for energy efficiency measures in order to meet its requirement to procure 1% of its electricity sales through energy efficiency or CHP.
- In New York the utility NYSEG uses public benefits funds to issue rebates for efficient chillers, controls and advanced lighting for consumers with loads of 100 kW or greater.

## Mid-Atlantic Region

- The Delaware Sustainable Utility offers loans up to \$1 million to all power consumers to install energy efficiency upgrades to meet the state's EERS requirements that utilities save the equivalent of 15% 2007 electricity consumption by 2015.
- Pennsylvania Sustainable Energy Fund is administered by the state's Public Utilities Commission, funding renewable energy and energy efficiency projects to consumers of all size in the state.

## **Southeast Region**

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- Duke Energy operates the Commercial and Industrial Energy Efficiency Rebate Program in North Carolina to achieve the legislated requirement to obtain 3% prior-year electricity savings in 2012.

## Midwest Region

- The Wisconsin Focus on Energy program uses 90% of collected public benefits funds to incentivize energy efficiency throughout the state. A wide variety of efficient industrial, computing and food processing equipment is eligible for rebates through the program.
- In Iowa, the Missouri River Energy Service Member Utilities offer rebates for a many prescribed energy-saving technologies and set rebates per kW, kWh and Therm saved by custom measures.

## Central Region

- Black Hills Energy, based in Colorado, offers nonprofit energy audits costing \$750/facility and \$1,500 per customer in order to meet its legislated energy reduction goals of 11.5%.
- In Montana, utilities can administer their own Universal System Benefit Charge (USBC) or pay into one administered by the state. Black Hills Power uses USBC revenue to fund heat pump and water heater replacement rebates for industrial consumers.

## Northwest Region

- The Oregon Energy Trust uses public benefit funds to provide rebates for lighting, controls, heat pumps, motors and other equipment that meets minimum efficiency requirements for the state's manufacturing and agricultural industries.
- Hawaii has a hard Energy Efficiency Portfolio Standard of 4,3000 GWh savings by 2030, approximately 40% of 2007 consumption. Kauai Island Utility Cooperative offers financial incentives to all consumers for non-prescriptive efficient equipment.

## Southwest Region

- New Mexico allows in-state utilities to levy public benefits charges for energy efficiency if they elect to do so. El Paso Electric Company uses PBF monies to fund cool roof projects, motor upgrades, chiller retrofits and more.
- Beginning in 2014, all investor-owned utilities in Arizona must achieve 2% annual savings in electricity consumption. The utility, TEP, covers up to 75% of the incremental cost per prescriptive measure and up to 50% of the incremental cost on custom measures to help achieve these goals.

# Conclusions

- Public Benefit Funds, whether administered by a state agency or a utility, create opportunities to harness energy efficiency within a state or service territory. Most PBFs diversify the projects they fund to include all sectors (residential, commercial and industrial) of power users to relieve energy cost related financial stress in the region.
- Energy Efficiency Resource Standards are flexible tools that incentivize utilities to view energy efficiency as cost reduction strategies, not lost business.

# Contact Information

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# “State Mandates for Utility Energy Efficiency”

A New York State Perspective

# Who is NYSERDA

- Establish in 1975 as a public benefit corporation
- Funds research and deployment efforts in energy efficiency and energy-related environmental issues
- Program administrator
  - System Benefits Charge
  - Energy Efficiency Portfolio Standard
  - Renewable Portfolio Standard

# Energy Efficiency Portfolio Standard

- Created 2008
- Primary goal is resource acquisition
- Programs
  - Industrial Process Efficiency
  - New Construction Program
  - FlexTech
  - Existing Facilities Program

# Industrial Process Efficiency

- Provides incentives to offset the capital costs of projects to increase energy efficiency at industrial sites
- Incentives are performance based
- Measurement and verification is required

# Industrial Process Efficiency

- Outreach, Education and Marketing
  - 3 Focus contractors
  - DOE grant
  - Stakeholder and customer direct engagement

# Industrial Process Efficiency

- Goals and Budget
  - Electric
    - \$93 million over 3 years
    - 840,000 MWhrs
  - Natural Gas
    - \$15 million over 2 years
    - 1.7 million MMBTUs

# Bonneville Power Administration and Pacific Northwest Utilities Acquire Energy Efficiency

by

Jennifer Eskil

Ag / Industrial / Utility Efficiency Sector Lead

March 1, 2011



# Who is Bonneville?

- Federal Power Marketing Agency – Department of Energy (e.g., WAPA).
- Been around since 1937 – 74 years young!
- Service area covers Idaho, Oregon, Washington and Western Montana; also portions of California, Nevada, Utah and Wyoming.
- Markets and transmits power generated from the Federal Columbia River Power System\* (FCRPS).
- Generates ~ 8,000 aMW of energy annually.
- Self-financed ~ \$3.5 billion/yr, pays US Treasury \$1B/yr.

\*The FCRPS includes 31 Federal hydro project dams, 1 non-federal nuclear plant and several small non-federal power plants (and wind generation); all are carbon-free!

# Northwest Power Act of 1980

- The Northwest Power Act of 1980 mandated the Northwest to make energy conservation a top priority to meet its power needs.
- Congress authorized Idaho, Montana, Oregon and Washington states to form the Northwest Power and Conservation Council.
  - Governors appoint two members to serve on the Council.
  - Headquarter in Portland, Oregon; staff of 65.
  - Develops 20-yr regional power plan (and fish & wildlife plan) to assure reliable power supply and mitigates impacts of Columbia River Basin\* hydropower dams.

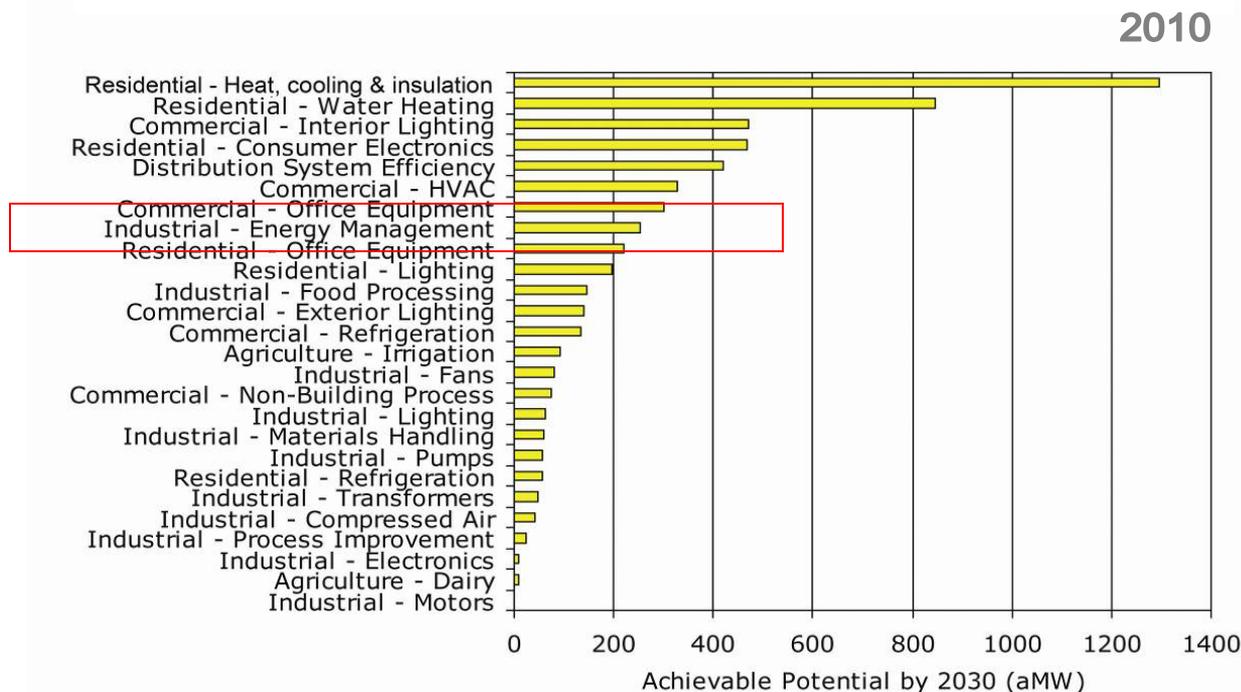


# Relationships and Northwest Power Act

- Statutory authority:
  - BPA administrator must make decisions “consistent with” the Council’s regional power plan and F&W plan.
  - Council’s regional power plan and F&W plan is implemented by:
    - U.S. Army Corps of Engineers
    - Bonneville Power Administration
    - Bureau of Reclamation
    - Federal Energy Regulatory Commission
  - Implementing agencies must “provide equitable treatment” to fish and wildlife “with other purposes” of Columbia River Basin hydropower dams.
  - Electricity customers “shall bear the cost of measures designed to deal with adverse effects” of the dams.



# 6th Power Plan Summary: Sector Resources

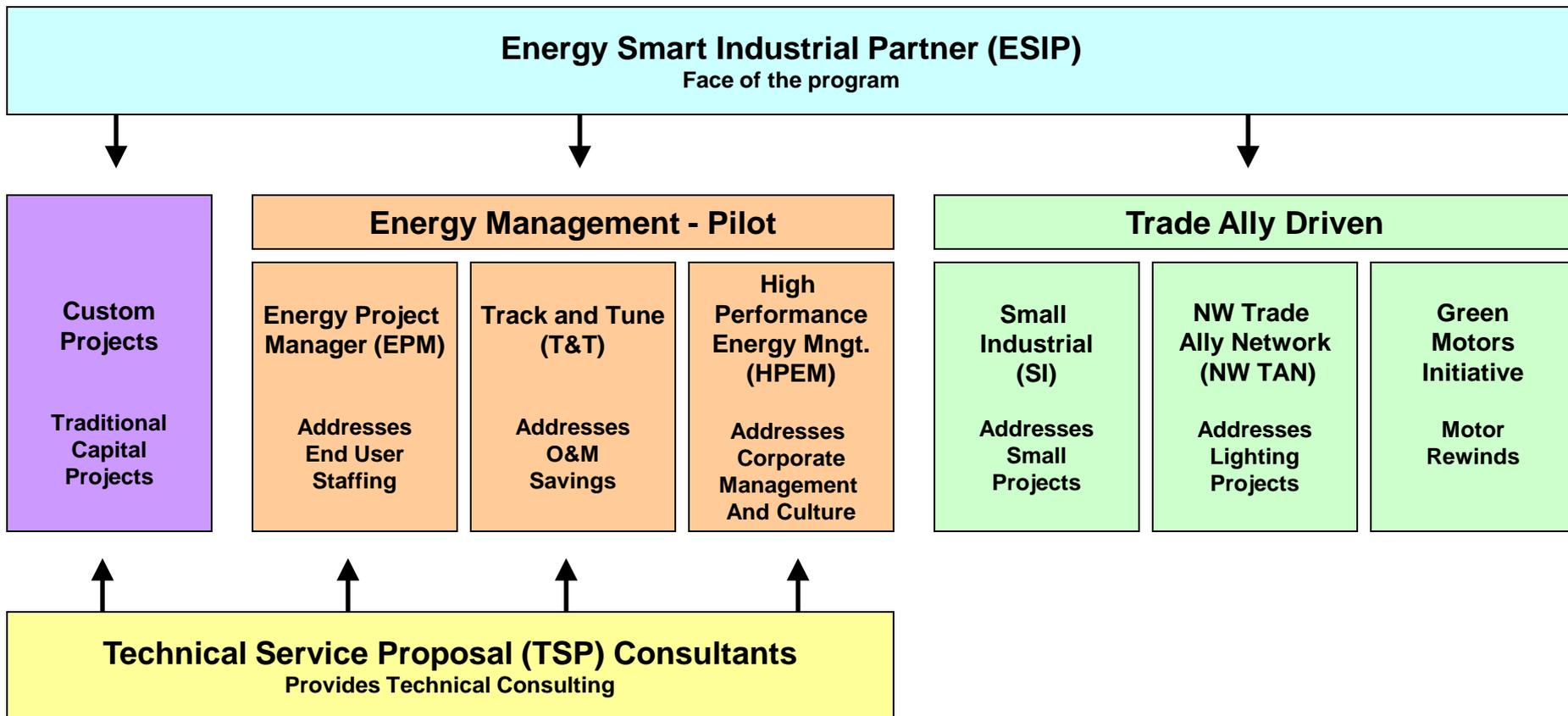


\* Energy Management is the largest Industrial EE resource identified

# Regional Power Plan & Program Design

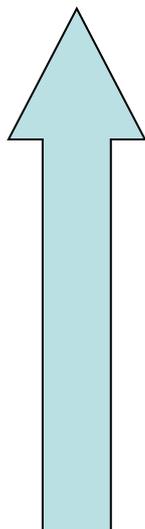
- Bonneville designs its programs in response to the Council's regional power plan.
  - Sixth Power Plan (20-yrs achievable conservation potential 2010 to 2030)
    - Energy Management makes up 1/3 of the Industrial EE target!
  - Bonneville designed the Energy Smart Industrial program, which debuted October 2009.
    - Multiple program components to provide flexibility.
    - 103 utilities are currently enrolled in the program.

# Energy Smart Industrial Components



# Whole Plant Energy Management Tiers<sup>1</sup>

Integrated Energy Management



General Energy Management

**Level 3 (Integrated Plant Management)**

- Adoption of an Energy Management Plan
- Advanced Operations and Maintenance (O&M) approach
- Benchmarking of energy intensity relative to similar systems or operations

T&T/HPEM

**Level 2 (Energy Project Management)**

- Assigned responsibility for energy (e.g. Energy Engineer)
- Tracking of energy as a controllable expense
- Inclusion of energy projects in capital planning

EPM

**Level 1 (Plant Energy Management)**

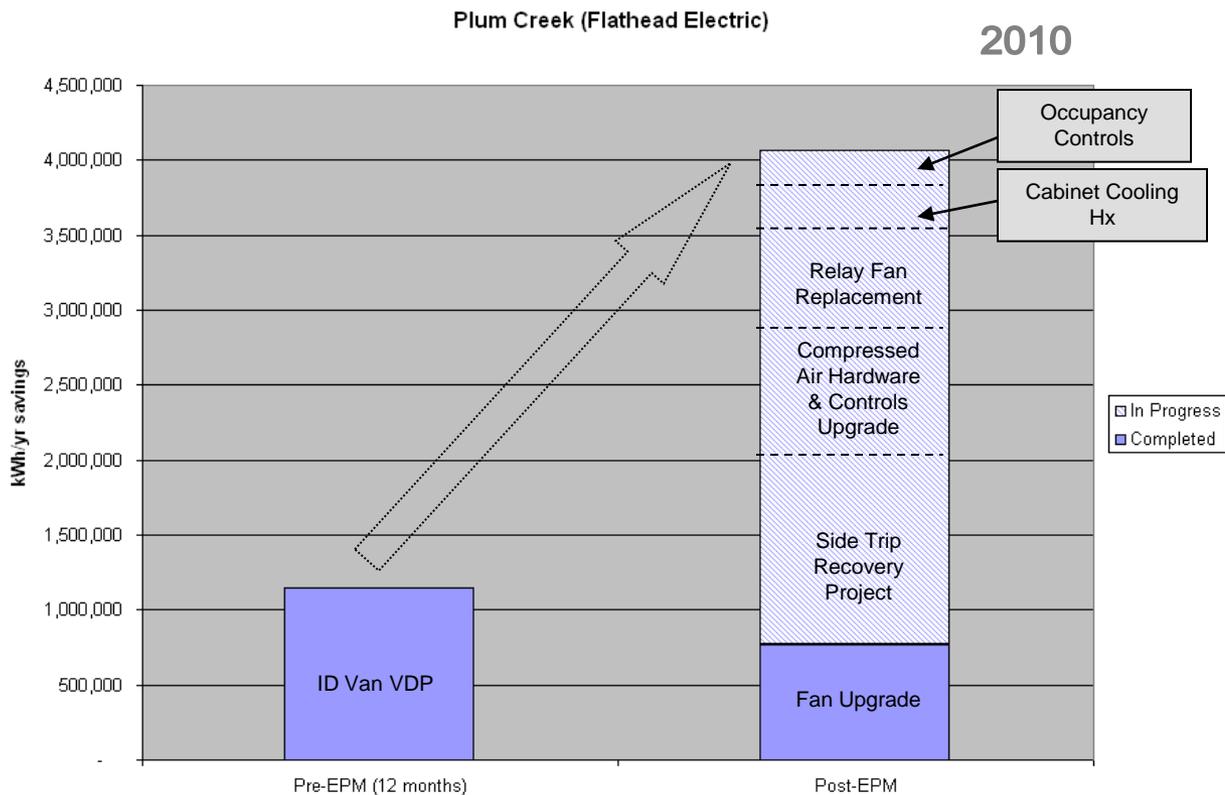
- Good Preventative Maintenance Practices
- Consideration of energy in Operations and Maintenance (O&M) activities
- Some application of new technologies

<sup>1</sup>Source: System Optimization Measures Guide for 6<sup>th</sup> Power Plan, SEG, 03/23/2009

# Energy Project Managers

- Currently 21 EPMs; 17 are existing employees assigned to focus on energy projects and company energy goals.
- Four EPMs span multiple facilities (i.e., Hampton, Boeing\* and ConAgra\*).
- EPMs are driving nearly 9.0 aMW in projects.
- Types of industries with EPMs
  - Food Processing
  - High-tech Manufacturing
  - Wood Products  
(non-pulp & paper)
  - General Manufacturing
  - Pulp & Paper
  - Metal Processing
  - Mining

# EPM Example: Plum Creek<sup>2</sup>

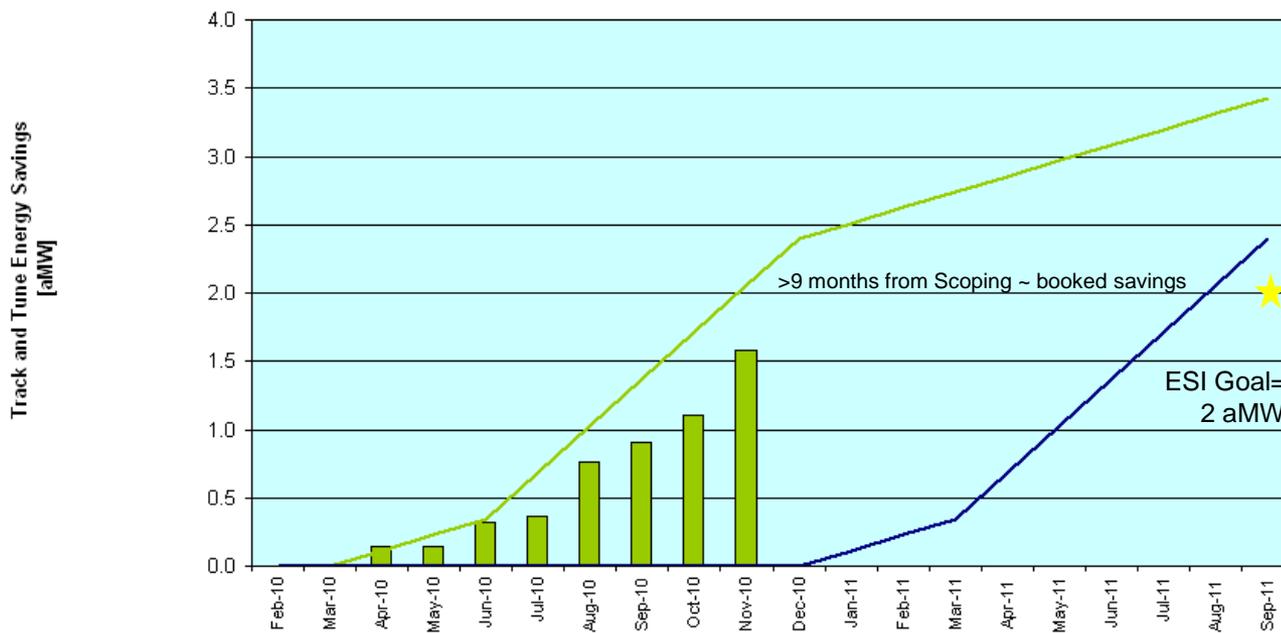


<sup>2</sup>Plum Creek is served by Flathead Electric Cooperative

# Track and Tune Projects

Track and Tune Savings Summary (Scoping and Booked Savings)

2010



	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	
Completed - Actual Booked	0	0	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scoping Phase - Proceeding	0	0.00	0.15	0.15	0.32	0.36	0.76	0.90	1.10	1.58	-	-	-	-	-	-	-	-	-	-	-
TARGET - Booked Savings	-	-	-	-	-	-	-	-	-	-	-	0.1	0.2	0.3	0.7	1.0	1.4	1.7	2.1	2.4	-
TARGET - Scoping Phase	-	-	0.1	0.2	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.5	2.6	2.7	2.9	3.0	3.1	3.2	3.3	3.4	-

Executed Agreements (5)

- ConAgra Foods (refrigeration)
- Columbia Colstor: Woodland & Quincy (refrigeration)
- SEH America (chilled water)
- Anheuser Busch (TBD)

Scoping Completed

- Linear Technology (chilled water/HVAC)
- Anheuser Busch (fans/blowers)
- City of Bend W/WW (pumps/blowers)
- ConAgra Foods

# High Performance Energy Management

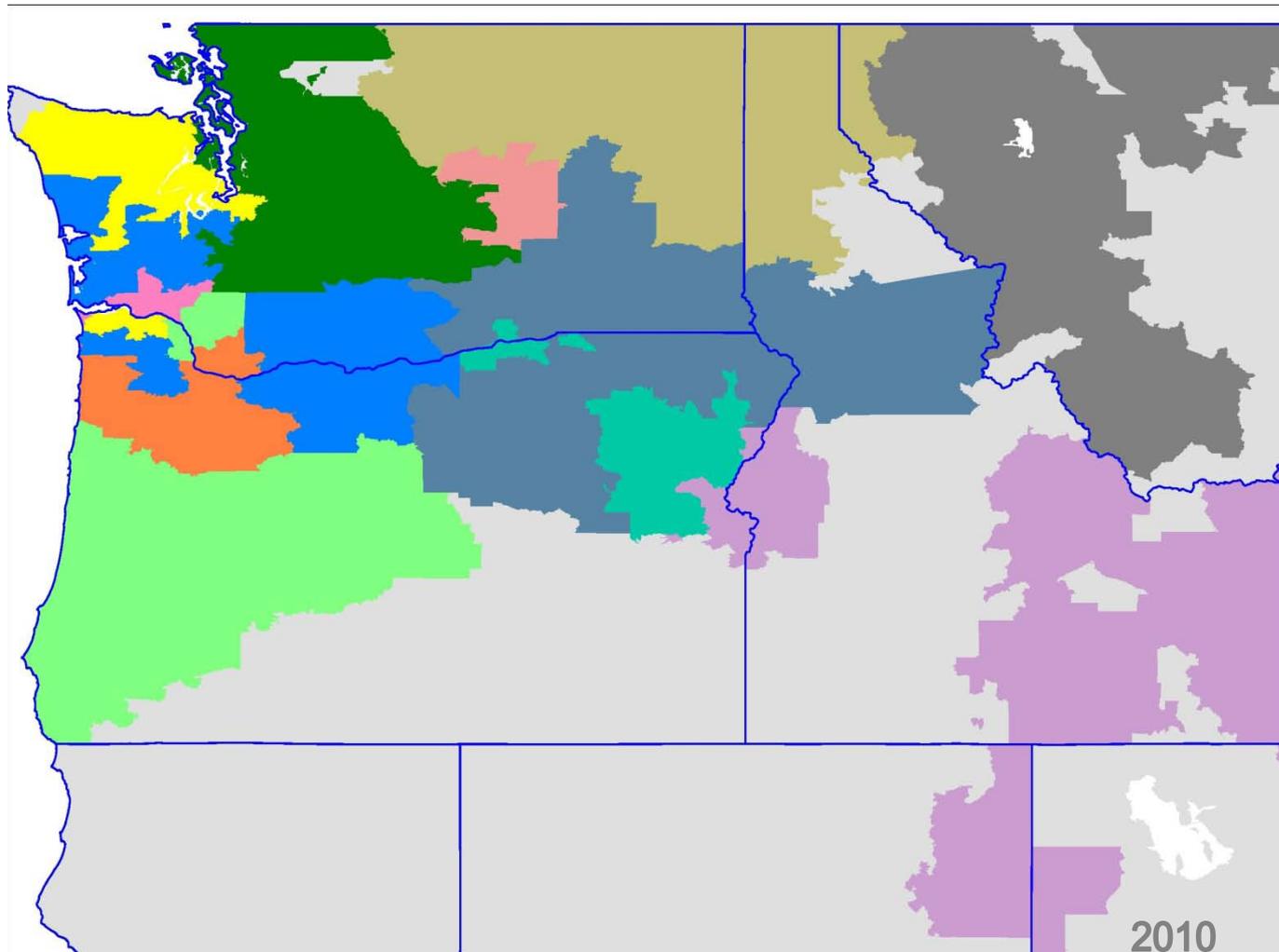
- Primary mode of HPEM delivery – structured network group / cohorts.
- SW Washington cohort participants.
  - 14 end users (31 aMW load)
  - Five utilities (Clark, Clatskanie, Cowlitz, Lewis Co PUDs and City of Richland)
- Coming months, confirm execution of HPEM Agreement with Georgia Pacific-Toledo.
- Establish a Puget Sound cohort.

# Energy Management Successes

- Leverage NEEA and Energy Trust of Oregon's past efforts.
- Broad uptake of EPM component.
- Track and Tune is gaining momentum, across a range of industries.
- HPEM industries share knowledge and experience.

# ESI Program's Regional Coverage

- Alignment Legend**
- Brennand
  - Dick
  - Hardiman
  - Hare
  - Jackson-Gistelli
  - Jarvis
  - Kostich
  - Lee
  - Makujina
  - McDevitt
  - Poulin
  - Whitchurch



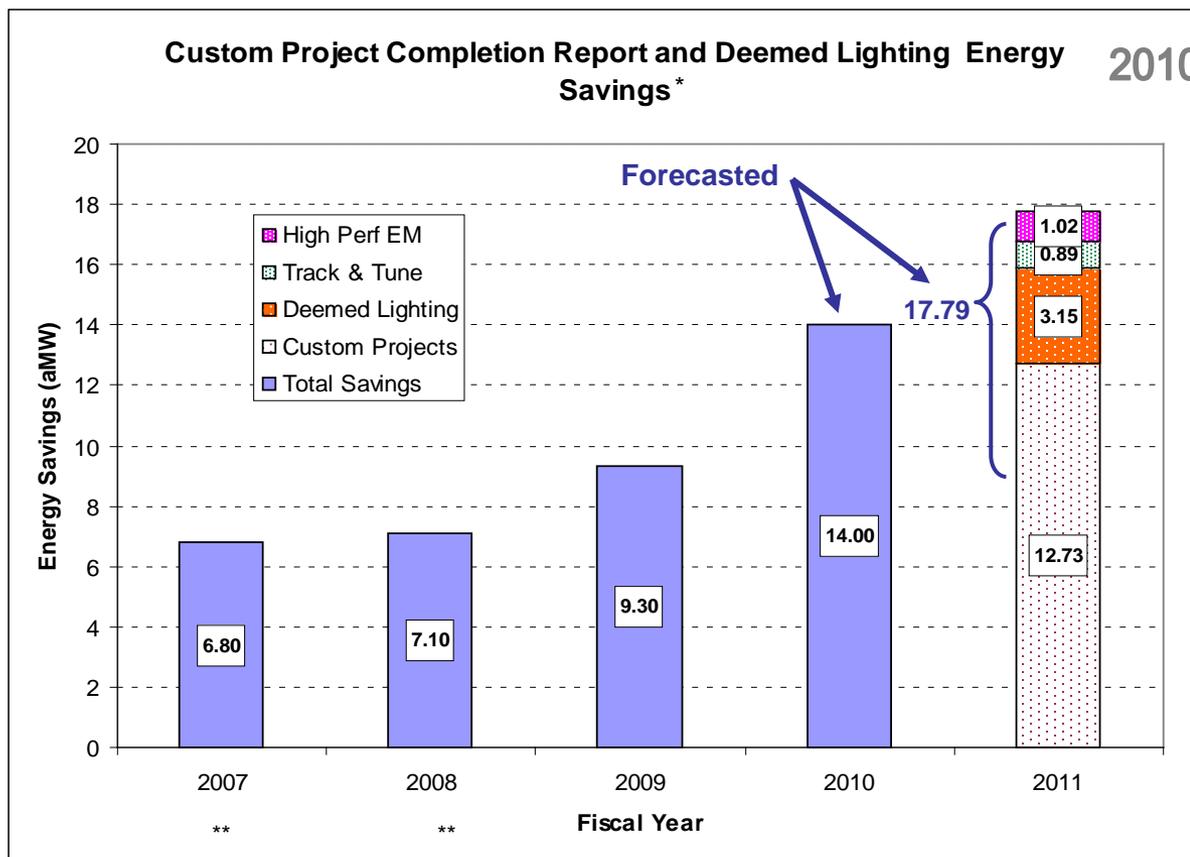
# ESI Program Projections

2010	Projections FY2010	<i>Preliminary</i> <sup>3</sup> <i>Actuals</i> FY2010	Projections FY2011	<i>Preliminary</i> <i>Actuals</i> FY2011
<b>Program Savings (kWh)</b>	105,120,000	117,384,000	131,400,000	n/a
<b>Program Costs (\$)</b> <sup>4</sup>	\$ 10,600,000.00	\$ 7,400,000.00	\$ 12,200,000.00	n/a
<b>Utility Incentives (\$)</b>	\$ 17,000,000.00	\$ 13,800,000.00	\$ 21,200,000.00	n/a
<b>Totals:</b>	\$ 27,600,000.00	\$ 21,200,000.00	\$ 33,400,000.00	n/a

Footnote:

- <sup>3</sup> Preliminary Actuals FY2010 - program savings and utility incentives await conclusion of BPA review/acceptance of all Utility FY2010 CRC Annual Reports.
- <sup>4</sup> Program costs include technical assessments, Program Partner and program component expenses, marketing, TrakSmart Tool, Energy Management support (e.g., tracking systems).

# Industrial Projects in the PTR System<sup>3</sup>



\* Excludes custom projects from Seattle City Light, EWEB and NORPAC.

\*\* As published in the BPA Redbook.

<sup>3</sup>PTR = Planning, Tracking and Reporting

# What We've Accomplished / Achieved

- Designed / implemented flexible industrial program
  - Joint (BPA/Program Partner) collaboration necessary
  - More “boots on the ground”
  - Created Energy Management pilot
  - Developed structured systems and processes
  - Accountability – project management
- Established the ESI Utility Focus Group
- Developed TrakSmart project tracking tool
- Access into more facilities

# The Vision Going Forward

- ESI program **must** be viewed as complete package
- Relationships are critical (i.e., communication / trust / accountability)
- Post-2011 preparedness is critical
  - ESI program interaction with Post-2011 outcomes
  - Exceed the energy savings goals cost-effectively

# ESI Meets Industry Needs



1-Grays Harbor Paper, Hoquiam WA 2-Boeing, Seattle WA 3-NORPAC, Longview WA  
4-SEH America, Vancouver WA 5-Areva, Richland WA

# Questions?

- Contact Information:
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    - Ag / Industrial / Utility Efficiency Sector Lead
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    - E-mail: [jleskil@bpa.gov](mailto:jleskil@bpa.gov)

## For More Information:

### DOE Industrial Technologies Program (ITP) Utility Partnerships

[www.eere.energy.gov/industry/utilities](http://www.eere.energy.gov/industry/utilities)

### DOE ITP Utility Partnerships and Resources, including past webinar presentations:

[http://www1.eere.energy.gov/industry/utilities/tools\\_and\\_resources.html](http://www1.eere.energy.gov/industry/utilities/tools_and_resources.html)

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**Utility Partnerships Webinar Presentations  
are posted on the  
ITP Utility Partnerships Resources and Tools webpage:**  
<http://www1.eere.energy.gov/industry/utilities/>

Follow the above link to register for upcoming webinars.

The next webinar is on  
Financing Utility Energy Efficiency Programs,  
April 5, 2011 from 12-2pm EDT.