

Industrial Energy Efficiency in the Pacific Northwest



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The Northwest Story

- Partnership, collaboration and leveraging
- Deployment in Washington and beyond
- Technology transfer and advancement



Washington State University Energy Program

- **Self- supporting unit within the University**
– very limited state funding for specific projects
- **Staff of over 100 people** – energy engineers, energy specialists, technical experts, software developers, energy research librarians and more
- Provides **state energy office** program and project delivery
- Particular strength in **industrial energy systems, programs and relationships**

Pacific Northwest Industrial Sector

Pacific Northwest Energy Statistics	Washington	Oregon	Idaho	Montana
Total energy consumption 2009 (trillion Btu)	2,032.90	1,066.50	509	411.5
Total industrial energy consumption 2009 (trillion Btu)	529.2	252.1	169.9	140
Total industrial energy consumption rank	17	33	40	42
Total industrial GDP 2009 (thousand)	\$57,819,000	\$44,261,000	\$11,281,000	\$6,363,000
Industrial energy intensity (Btu/GDP)	9,152	5,695	15,060	22,002
Industrial energy intensity rank	34	41	17	4
Total industrial electricity use 2009 (trillion Btu)*	247.4	124.5	87.8	50.6
Total industrial electricity use rank	15	29	36	40
Total industrial natural gas use 2009 (trillion Btu)	73.4	58.8	24.8	25
Total industrial natural gas use rank	27	32	41	40

Source: U.S. Department of Energy Advanced Manufacturing Office

Northwest Partnerships Create Synergy

- **Widespread interest in industrial energy efficiency**

State energy offices, utilities, BPA, NEEA, MEPs, state environmental agencies, industrial assessment centers and businesses

- **Collaboration is key**

Strong partnerships build trust and create successful leveraging opportunities

- **Partnerships** create “more for less” and protect customers from multiple contacts

- **Industrial area is a model** for how to create a collaborative environment

Northwest Industrial Energy Efficiency Summit



- **First and only event of its kind in the region**
- **Focused on speakers from industry**
 - Discuss technical and strategic energy management topics
- **Significant annual attendee growth**
 - 2009: approximately 100 attendees
 - 2012: nearly 300 attendees

Deployment

- **Regional leadership team**
 - Plans regional activities and approaches
 - Focuses on impacts, savings and supporting continuous energy improvement efforts
- **Boots on the ground** approach fosters success
- **Economic development** is a driver, particularly from a state government perspective

WSU Energy Program Industrial Services

- **Industrial energy efficiency and CHP**

Technical services – training, technical consultations, assessments

Clean Energy Application Center – five-state region

Software – MotorMaster+, AirMaster+, IMSSA, Relcost

- **Program management**

Save Energy Now, Industrial Services Program

Save Energy Now State Partnership

As **Team Leader** for U.S. Department of Energy-funded industrial program in Oregon and Washington, we provide:

- Assessments and technical assistance
- Support for project implementation by leveraging existing state and utility programs
- Industrial Leadership Recognition Program
- Best practices trainings
- Industrial Newsbriefs



Recovery Act- Funded Regional Program

Industrial efficiency efforts in Washington, Montana and Idaho:

- **Leveraged state resources** to develop industrial program in Montana
- **Supported Industrial Efficiency Alliance** in Idaho
- **Facilitated trainings, assessments and technical assistance** in all three states

Settlement- Funded Industrial Activities

Natural gas settlement funds helped create an even more robust industrial program, including:

- Support for electric and thermal efficiency efforts
- Assessments, technical support, combined heat and power projects and advocacy, trainings, articles and factsheets
- Project implementation funds
- Facilitating even stronger regional collaboration

Technology Transfer and Advancement

- **Industrial Heat Pump** technology
Emerging application of existing technology
Examples: TreeTop, Nutriom LLC
- **Recuperative Catalytic Oxidizer** heat recovery
Applicable at sites producing toxic emissions
Example: Shields Bag & Printing
 - More than 16,279 MMBtu savings
 - Incentives from WSU, Cascade Natural Gas

Putting the Pieces Together: State Technologies Advancement Collaborative

Funded the Food-Processing Industry Resource Efficiency initiative in **collaboration** with:

- Washington, Oregon, Idaho and California state energy offices
- Northwest and California food processor trade associations
- Lawrence Berkeley National Laboratory
- Northwest Energy Efficiency Alliance
- Del Monte Foods

F I R E

Food Processing
Industry
Resource
Efficiency

RESOURCE EFFICIENCY THROUGH COLLABORATION

Putting the Pieces Together

Working to:

- **Develop** network for technical information sharing
- **Identify** best practices in processing and energy management
- **Identify emerging technologies**
- **Demonstrate** enterprise management software
WAGES – Water, Air, Gas, Electricity, Steam
- **Implement** communication delivery strategy

F I R E

FoodProcessing
Industry
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RESOURCE EFFICIENCY THROUGH COLLABORATION

Putting the Pieces Together

Successes:

- **Best Practices conference** drew 200 attendees
- **Put NWFPA on the map**

Committed to reducing energy intensity:

- 25 percent reduction in 10 years
- 50 percent reduction in 20 years
- **Developed Energy Portal** on NWFPA website

Collaborative efforts continue

F I R E Food Processing
Industry
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RESOURCE EFFICIENCY THROUGH COLLABORATION

WASHINGTON STATE UNIVERSITY



EXTENSION ENERGY PROGRAM

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