



Acquiring Commercial Energy Efficiency

- Peter Meyer, Assistant Energy Services Manager, Tacoma Power
- Jason Salmi Klotz, Program Manager, BPA Energy Efficiency
- Wade Carey, Commercial/Federal Programs Specialist, BPA Energy Efficiency

Commercial Kitchens Presentation

Utility Energy Efficiency Summit
March 18, 2010

Conservation Resources Management

Peter Meyer, Commercial-Industrial Manager

Tacoma Power



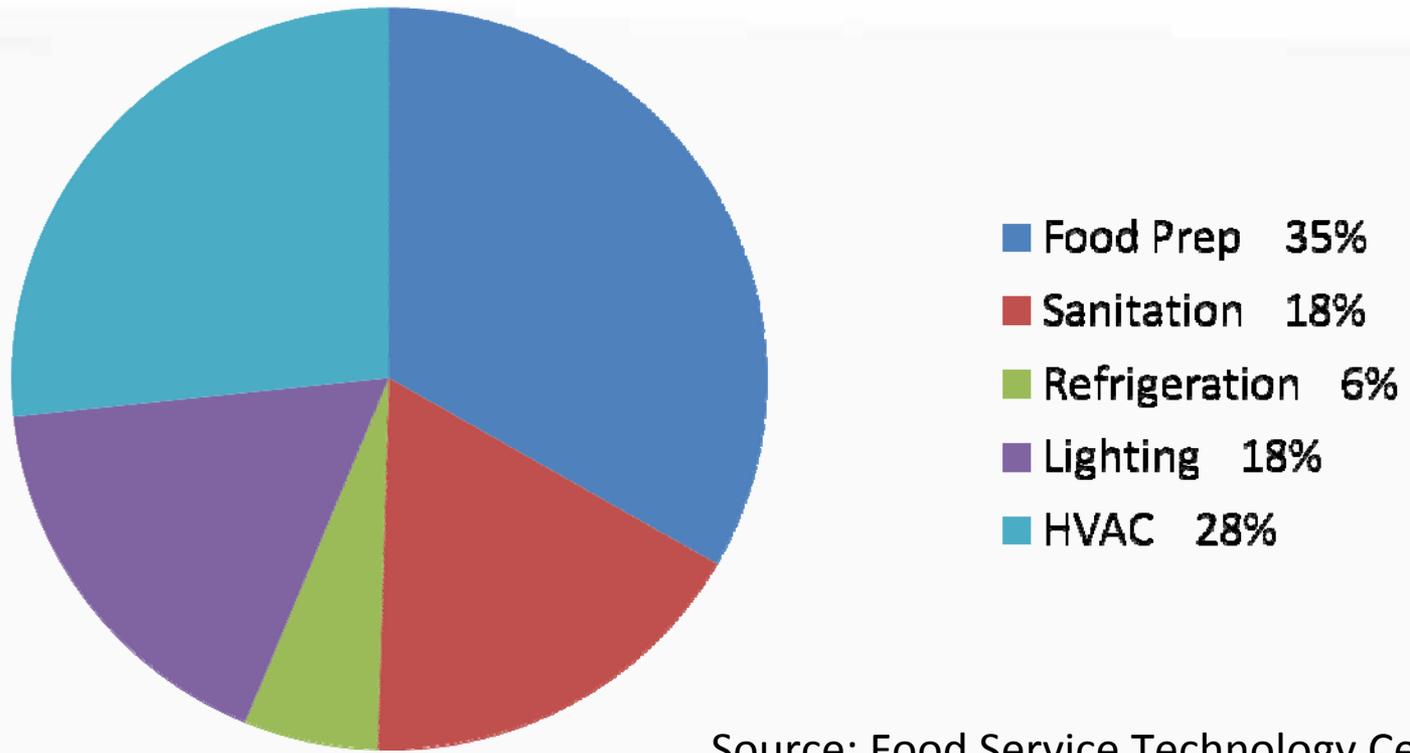
- Municipal utility serving Tacoma area
- More than 165,000 accounts
- Commercial Rates 4.5-6.9¢/kWh
- Service territory 180 square miles
- Generation capacity: 713 MW
- Tacoma Power's hydro projects provide about 42% of demand
- BPA meets much of the remaining demand

Program Background

- **Designed to capture savings from a neglected sector**
- **Commercial kitchens have high energy use (250 kBTU/sq ft/yr)**
- **Tacoma area has numerous kitchens in restaurants and institutions**
- **Primary efforts: spray nozzles, kitchen equipment**

Restaurant End Uses

Energy Use in Restaurants



Source: Food Service Technology Center

Pre-rinse Spray Nozzle



*(Photo by California Urban
Water Council)*

- This pre-rinse spray nozzle uses only 1.6 gpm, compared to 3 gpm for conventional nozzles.
- Replacing nozzles with the low-flow type can save 50,000 gallons per year, along with heating costs.
- Sprayer uses a high velocity spray pattern.
- It cleans dishes faster and improves cleaning performance.

Spray Nozzle Program

- **Joint effort with PSE, Tacoma Water, Tacoma Power**
- **Direct install approach**
- **SBW was the contractor**
- **Participants receive water, gas, electric and sewage cost savings**
- **Various marketing approaches**

Spray Nozzle Program

Continued

- **233 units installed from 2006 - 2008**
- **Highly cost effective measure**
- **Savings: 3,699 kWh per unit/yr**
- **Cost: about \$120 per unit including installation**
- **Program savings: 1,671 MWhr***

* Includes faucet aerators

Spray Nozzle Program

Continued

- **The majority of customers were pleased with the performance of the new nozzles**
- **Water, gas, electric and sewer costs were reduced**
- **New 0.64 gpm nozzles are an option for a future program**

Equipment Rebate Program

- **Motors (new and efficient rewinds)**
- **Variable Speed Drives (\$100 per HP)**
- **PC Power Management Software (\$8 per PC)**
- **Kitchen Equipment**
- **HVAC Equipment: heat pumps and air conditioners**

Future Equipment:

- **Chillers, Vending Misers, Smart Strips, demand ventilation (kitchen hoods)**

Kitchen Equipment Rebates

- **Puget Sound area program offered by PSE, Seattle City Light, SnoPUD and Tacoma Power**
- **One rebate form for all utilities**
- **Marketing has been limited thus far**
- **Upcoming event: NW Food Show**
- **Results: 8 units; 51,319 kWh**

Kitchen Equipment

Qualifying equipment types and rebate:

Combination ovens – \$2,000 per unit

Hot food holding cabinets – up to \$500 per unit

Steam cookers – \$750 per unit

Dishwashers – up to \$2,000 per unit

Ice makers – up to \$600 per unit

Refrigerators – up to \$200 per unit

Freezers – up to \$200 per unit

Kitchen Equipment Rebates

- **Energy savings range dramatically by equipment type**
- **Efficiency requirements include Energy Star®, CEE Tier 2 and 3**
- **Equipment vendors and manufacturers are key players**

C/I Conservation Programs Available to Restaurants

- **Bright Rebates Program** (efficient lighting)
- **Zero Interest Loan Program**
- **On-site walk through energy audits**
- **Custom Retrofit Program**
- **New Construction Program**
- **Energy Bill Profile**
(Analysis of electric usage trends)

Contact Info

Peter Meyer
Commercial Industrial Manager
253-502-8528
pmeyer@cityoftacoma.org

Breanna Combs
(Equipment Rebates)
253-502-8728
bcombs2@cityoftacoma.org

Roger Peery
(Lighting)
253-502-8138
rpeery@cityoftacoma.org

Gary Johnson
(Complex projects)
253-502-8571
gjohnso2@cityoftacoma.org

Anita Zetterstrom
(General inquiries)
253-502-8619
azetters@cityoftacoma.org

Mark Aalfs
(New construction)
253-502-8939
maalfs@cityoftacoma.org

END

- **Questions??**

Resources:

www.fishnick.com

www.energystar.gov

www.cee1.org

www.knowyourpower.com

www.conserve.restaurant.org



Smart Power Strips

Presented by:

Jason R. Salmi Klotz, EE Program Manager
BPA Energy Efficiency



Smart Power Strip



General Background

- In April 2009, the Regional Technical Forum provisionally deemed Smart Power Strips at 100 kWh in annual savings.
- More recently, increased program staff capacity has allowed for researched efforts to move forward for this measure.
- The target market for this measure is commercial offices or other commercial settings where multiple electronic devices are plugged into surge protector power strips.

What it means to be Provisional

- Measure will expire October 2011 unless sufficient research is collected for full RTF deeming.
- Research approach is to leverage utility interest to get installations and identify applications for detailed monitoring and evaluation.

Research Approach

- Reimbursement of \$20 effective April 1.
 - Smart Power Strip costs begin at \$22 retail.
- A broad specification to facilitate gaining experience with the measure.
- Some information collection requirements.
 - Number of installation
 - Loads mitigated
 - Location and application of smart power strips
- Coordinated information collection and eventual metering led by BPA.

We Need Your Help

- The research success relies on installing a broad sample of equipment in the field.
- Utilities can help by:
 1. Working with BPA EE staff to ensure that equipment installed aligns well with research needs.
 2. Collaborating with BPA on metering and analysis where appropriate.
 3. BPA will be communicating with the utilities going forward on research progress and outstanding needs.

Technical Requirements

- **Technical Requirements for Current Sensor Smart Power Strips:**
 - Include Safe Passive Current Sensor based Switching.
 - The Current Sensor Smart Power Strip shall automatically switch off peripheral plug load from its control plug outlet.
 - The Current Sensor Smart Power Strip shall prohibit false switching by incorporating resistor-capacitor circuit filters or equal.
 - Computers should be plugged into the color coded (often colored red) power bar sockets where they will be left powered on.
 - The Smart Power Strip shall include at least one uncontrolled socket with a primary device to connect to.

Contact Me to Get Involved

- For more information, contact:
Name: Jason R. Salmi Klotz
Title: EE Program Manager
E-mail: jrklotz@bpa.gov
Telephone number: 503-230-5327



Commercial & Industrial Lighting Program NW Trade Ally Network

Presented by:

Wade Carey

Commercial/Federal Programs Specialist

BPA Energy Efficiency



C&I Lighting Program Update

- Lighting Calculator Version 2.0
April 1, 2010 Rollout
More intuitive interface
Drop down menus changed
Utility modifiable
Demonstration at 3:00 today

C&I Lighting Program Update

- New Measures -
 - Light Emitting Diodes – LEDs
 - Refrigerated Cases
 - Outdoor Signage
 - Canopy Lighting – Gas Stations
 - Screw-in Reflector Lamps
 - Reduced Wattage T8s – 25 & 28 watts
 - Induction – High Wattage & 55 watt screw-in
 - Bi-Level Fixtures
 -

C&I Lighting Program Update

- New Federal Lighting Standards 2012
- Almost sure to impact baseline from T12 to T8
- New baseline will impact savings and cost effectiveness
- Program to target T12s currently be developed

- NW Trade Ally Network
- Completed 10 regional training sessions
- Increased field outreach
- Increased utility outreach soon to come
- Summer Summit

Contact

- For more information, contact:
Wade Carey
Commercial/Federal Programs Specialist
wacarey@bpa.gov
503.230.5861