TACOMA POWER

CONSERVATION RESOURCES MANAGEMENT

USEA EXECUTIVE EXCHANGE





TACOMA POWER

- Municipal utility serving Tacoma area
- Publicly owned since 1893
- Service territory = 180 square miles
- More than 165,000 customers
- Generation capacity 713 MW
- Tacoma Power's hydro projects provide about 42% of demand
- Conservation provides ≈ 1%
- Bonneville Power Administration provides most of the rest







WHY DO CONSERVATION?

- Good for ratepayers
- Good for customers
- Good for the world (which drives regulation)

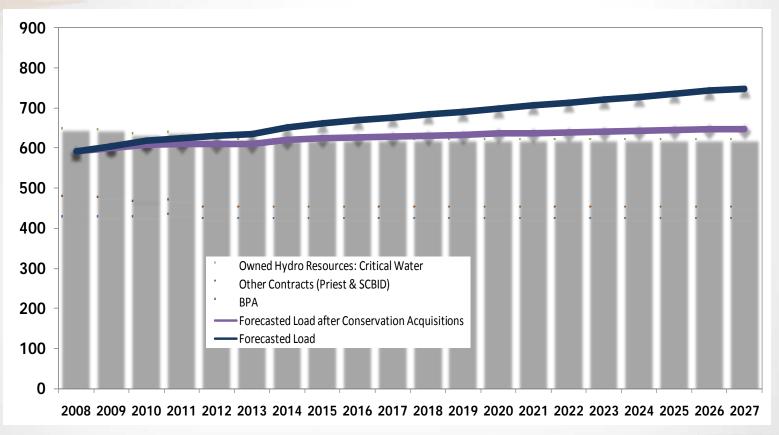








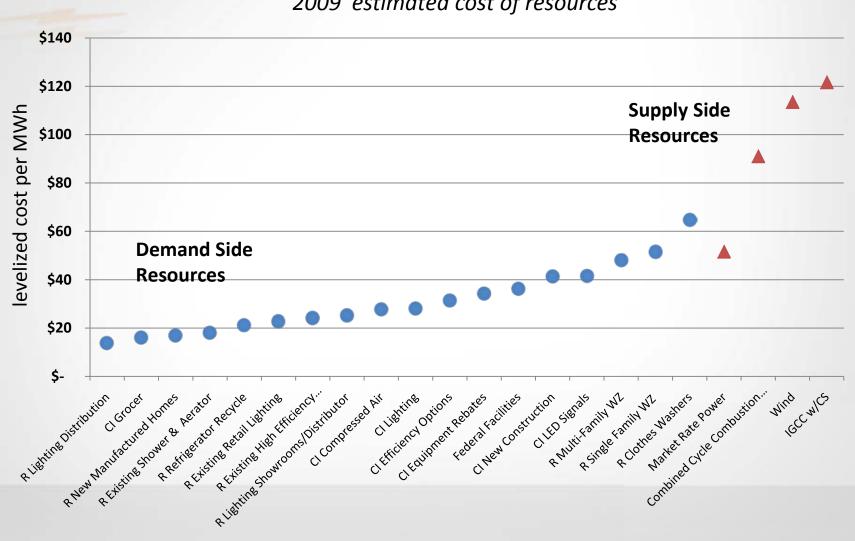
GOOD FOR RATEPAYERS





CONSERVATION RESOURCES ARE COMPETITIVE

2009 estimated cost of resources





GOOD FOR CUSTOMERS

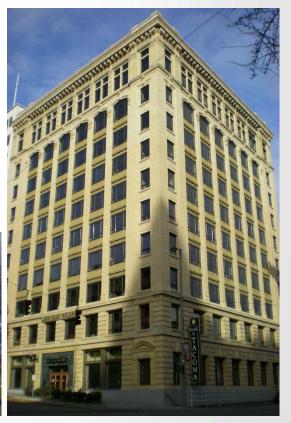
















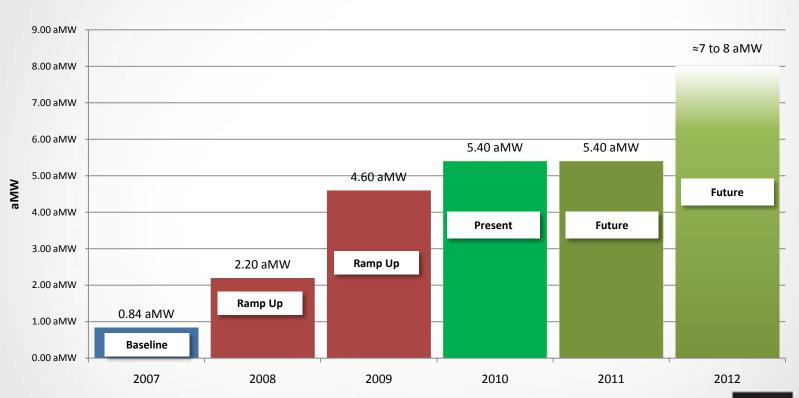
GOOD FOR THE WORLD

- Helps balance demand with a finite supply helps us live within our natural means
- Provides jobs
- Supported with regulation
 - Washington's Energy Independence Act (I-937) requires utilities to acquire all cost effective conservation



MORE SAVINGS IN THE FUTURE

Tacoma Power Conservation Targets Increasing







WHAT'S OUT THERE?

TACOMA'S 10-YEAR ACHIEVABLE POTENTIAL BY SECTOR

Percent

of

Potential

40%

33%

21%

6%

Economic and Achievable Potentials (in aMW)

	20 Year	20 Year	10 Year
	Economic	Achievable	Achievable
Sector / Segment	Potential	Potential	Potential
Residential	42.3	29.3	22.7
Existing Retrofit	33.4	23.1	20.1
Existing Equipment Replacement	4.2	2.9	1.2
New Construction and Equipment	4.7	3.2	1.4
Commercial	34.6	23.8	16.8
Existing Retrofit	24.6	16.9	13.4
Existing Equipment Replacement	3.9	2.7	1.1
New Construction and Equipment	6.1	4.2	1.7
Industrial	22.5	15.6	11.6
Military	5.8	4.0	2.9
Totals	105.2	72.7	54.0



MANY ISSUES BESIDES BILL REDUCTIONS AFFECT ADOPTION RATES

- Ease/difficulty of measure installation
- Appliance attractiveness
- Human comfort
- Stocking habits of distributers/retailers
- Business constraints of installing contractors
- Economy (credit availability, disposable income)
- Housing and commercial building trends (some in conflict with conservation goals)
- Issues of social concern (e.g., global warming, toxics)
- Effectiveness of creative material & media placement

To list just a few....



THE SOLUTION IS MARKETING







MARKETING

Marketing Component	Customer Perspective	Conservation Application
Product	Compelling Solutions	Measure & program portfolio driven by economics & market feasibility – constant flux requires management and redesign
Price	Adequate Value	Markets are slow to take advantage of most efficient solutions. Conservation incentives (rebates, loans, etc.) bridge the gap or accelerate emerging technology through adoption cycle.
Place (distribution)	Easy Access	Conservation programs manage entire market channel: manufacturers (collaboratively), distributors, dealers, retailers, builders, installers (might add regulators of standards and codes)
Promotion	Useful Information	Understanding complex market is required. Then optimal mix of messages and media. (CMS a valued resource.)



PRODUCT (CONSERVATION MEASURE)

- Must meet needs of Tacoma Power
 - Reliability
 - Persistence
 - Load shape
 - Contribute positively to brand (e.g., lighting's or showerhead's affect on customer satisfaction)
- And the needs of customers
 - Must do what it's expected to do
 - Must please the customer (appearance, performance, non-energy attributes)
- And the needs of the market channel
 - Must be available
 - Must be profitable





PRODUCT PORTFOLIO CONSIDERATIONS

- Cost effectiveness (key tests: participant, utility, TRC)
- Customer satisfaction
- Equitable availability of programs
- Regional coordination
- Minimize market risk
- Programs must accommodate Council's RTF measures





CONSIDERATION: CUSTOMER SATISFACTION

ENSURING TOMORROW'S SUCCESS WITH TODAY'S JOBS

 Product or service must meet customer's perceived needs (often non-energy related)

Brand impacts +/-

Informed by research







CONSIDERATION: EQUITABLE AVAILABILITY

ENSURING AGAINST CROSS-SUBSIDIES

All Tacoma Power customers pay for conservation















CONSIDERATION: REGIONAL COORDINATION

ENSURING EFFICIENCY OF PROGRAM OPERATIONS

- Utility markets are not islands
 - Shared media
 - Shared trade allies
 - Shared service area in the case of PSE
 - Shared program contractors
- Coordination
 - Avoids market confusion (does not mean we can't do something better)
 - Creates market buzz
 - Provides opportunity to share information, experience, data





CONSIDERATION: MINIMIZING MARKET RISK

ENSURING SUCCESS DESPITE UNPREDICTABLE MARKETS

- Markets are dynamic. Examples of change include:
 - NWPCC Power Plans
 - Codes, standards, Energy Star
 - Distribution channel
 - Competition (broadly defined)
 - National and regional advertising
 - Product improvements or flaws
 - Economy (disposable income, energy prices, etc.)
- A strong, broad, diverse portfolio of programs and measures provides strength and flexibility to respond to a dynamic market





CONSIDERATION: USE OF RTF MEASURES

ENSURING CREDIT TOWARD 1-937 GOALS

- Energy Independence Act (I-937) made NW Power and Conservation Council's methodology and measures the standard for compliance
- The Council's Regional Technical Forum (RTF) defines the technologies that utilities have to get
- Not achieving our potential results in penalties of \$50/MWh





WHY WE DON'T PUT ALL OUR EGGS IN ONE BASKET

EXAMPLES FROM 2009

- Residential
 - Retail lighting underperformed
 - Weatherization overperformed
- Commercial/industrial
 - Fort Lewis and LED traffic signals under performed
 - Bright Rebates overperformed







- Must overcome "failure of market" to deliver efficiency
- Can be near zero or pay full cost of the measure
- Incentives typically 30% 60% of incremental measure costs
- Rebates, Ioan buy-downs, instant retail markdowns
- Criteria: within the sweet spot of affordability to customer,
 Tacoma Power and the region. Program implementers share program data, which is useful as metric of market elasticity.
- Market transformation: special programs initially not cost effective, but become cost effective over time





CONSIDERATION: COST EFFECTIVENESS

ENSURING CONSERVATION IS GOOD FOR EVERYONE

- Total Resource Cost
 - Programs and individual measures are strictly vetted for costeffectiveness using a "societal" cost-benefit perspective
- Utility Perspective
 - Analyzes the impact of a measure on revenue requirements
- Participant Perspective
 - Evaluates potential consumer acceptance





PLACE (DISTRIBUTION CHANNEL)

- Must decide where and how in the channel to intervene
 - Channel includes regulators, manufacturers, A&E, distributors, dealers, retailers, builders, installers
- Other utilities are important channel actors:
 - May affect availability of products
 - Coordination of regional messages can prevent confusion
 - Regional programs affect customer satisfaction
 - Smart to cooperate where it makes sense, but without sacrificing independence or branding opportunities





SYMBIOSIS

Anemone benefits:

 Improved water circulation and resistance to parasites

Clownfish benefits:

 Protection from predators, allowing the fish to breed and survive





UNIQUE ADVANTAGES SERVE BOTH PARTIES

Partner:	Tacoma Power	Trade Allies
Market presence	33	442
Perceived credibility	objective , trusted	field experts
Unique advantages Unique advantages strong brand - 117 yrs old, regular billing, database marketing, media presence, public service		daily customer contact, national advertising
Nature of market	captive	voluntary





TAKING CARE OF TRADE ALLIES



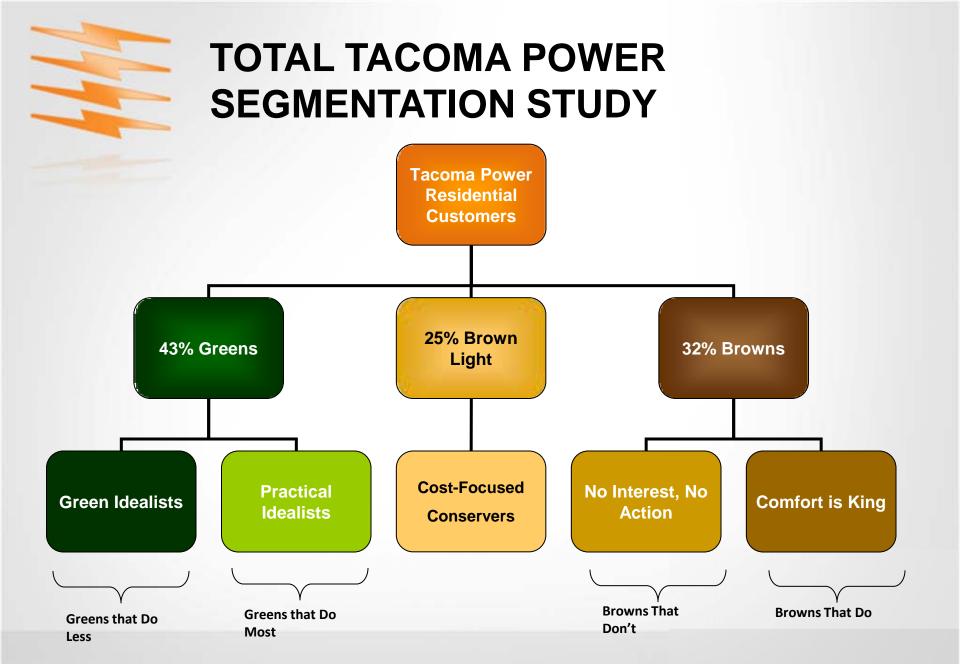


PROMOTION

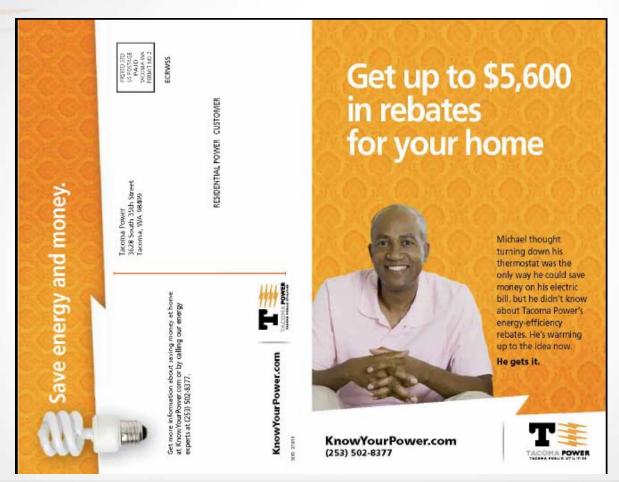
(MESSAGING & ADS)

- Opportunity for synergy between Tacoma Power brand and conservation programs
- Begins with good actionable research (segmentation, customer attitudes, customer satisfaction studies, equipment tracking, CRMS, etc.)
- Work on messages and media requires close partnership with CMS





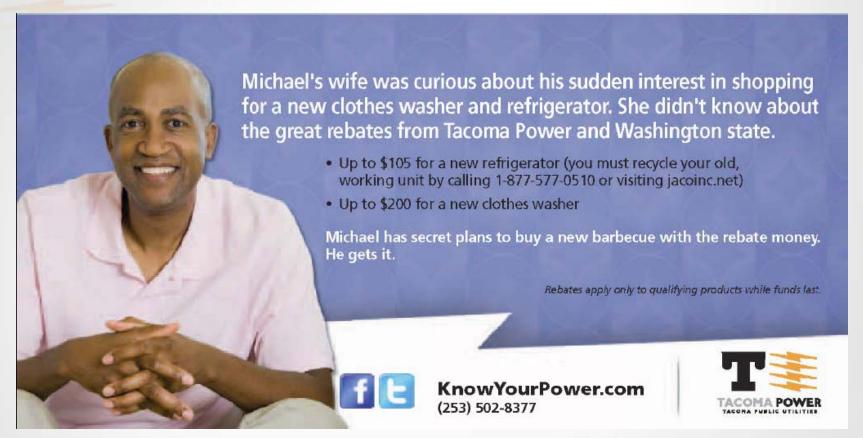
DIRECT MAIL - ALL PROGRAMS







BILL INSERT - APPLIANCE





DIRECT MAIL - HEAT PUMP







FRIDGE CONTEST

BEFORE



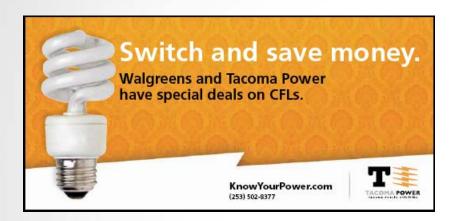
AFTER







BAG STUFFER



Switch & Save

Buy one CFL, get one free it's easy to switch to compact fluorescent lights (CFLs) and start saving money when you buy one CFL and get one free at any upcoming Walgreens' event. You'll also be able to get your lighting questions answered by Tacoma Power's energy experts.

Buy one, get one free events at Walgreens Weekday events are from 3 to 6 p.m.; Saturday events are from 1 to 4 p.m.

Saturday, Jan. 16, 15225 Pacific Ave., Tacoma Friday, Jan. 22, 4315 6th Ave., Tacoma Monday, Jan. 25, 12105 Pacific Ave., Tacoma Friday, Feb. 5, 8405 Pacific Ave., Tacoma Monday, Feb. 8, 3737 Pacific Ave., Tacoma Saturday, Feb. 13, 5602 Pacific Ave., Tacoma Monday, Feb. 22, 9505 Bridgeport Way, Tacoma Monday, March 8, 3540 N. Pearl St., Tacoma Saturday, March 13, 0224 Stellacoom Blvd., Lakewood Monday, March 15, 7451 Cirque Drive W., Univ. Place Monday, March 22, 2650 Bridgeport Way, Univ. Place

*Free CFL is a 19-watt light (equivalent to a 75-watt incandescent bulb); available while supplies last.

KnowYourPower.com (253) 502-8377





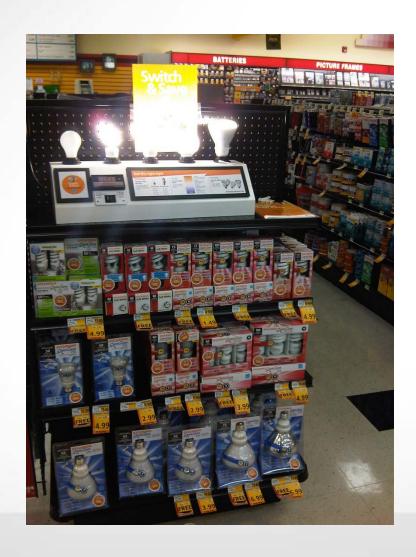
U* NEWSLETTER







POS – LIGHT BOX





OUTDOOR ADVERTISING











2009: WE'VE ACQUIRED MOST **NEEDED TOOLS**

2009 Conservation Program Rollout

		When prog	rams are e	expected to	o begin deli	vering savir	ngs					
Program	January	February	March	April	May	June	July	August	September	October	November	December
Single Family Weatherization	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP
High Efficiency Heat Pumps Systems		AP	AP	AP								
Energy Star Manufactured Homes												
CFL Distribution												
Energy Star Clothes Washers	AP						Residentia	al				
Refrigerator/Freezer Decommissioning	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP
CFL Retail Program (APT)			AP	AP	AP	AP	AP	AP	AP	AP	AP	AP
Lighting Showroom/Distributor Program (AP	T)											
Multi-Family Weatherization												
Showerheads & Fixtures - Direct Install (if ap	proved)											2010
Showerheads - Direct Mail (if approved)												2010
Heat Pump Commissioning (if approved)												2010
Resource Conservation Manager Program (i	f approve	d)										2010
Retro-Commissioning (if approved)												2010
Custom Retrofit Program												
Fort Lewis, McChord & Union Station												
LED Traffic Signals												
New Construction												
Efficient Equipment Rebates							Commeric	al-Industr	ial			
Compressed Air Program												
Energy Smart (Grocer)												
Bright Rebates												
Conservation Information Center					fully staffe	ed .						



GETTING THE WORD OUT

- "They Get It" soft launch Q3 2009
 - Promote refrigerator and freezer recycling, retail lighting, and single family weatherization programs
 - CRM and CMS are working together to develop the full launch
 2010 campaign
 - All programs promoted throughout 2010
- Promotion tracking
- Response rates tracked for all media
 - Will develop advertising metrics with CMS





INFO CENTER TOUCHES CUSTOMERS DIRECTLY

- Info Center contacts 7,903
- Workshops 12
 - Attendees 470
- CFLs distributed YTD 15,037
 - At workshops and conservation consultations, presentations and events





TPU VISITORS INVITED TO EXPLORE ENERGY CONSERVATION

- Conservation Information Center in TPU lobby was renovated
 - Private office for energy counseling
 - Educational displays
 - Program platform "Spotlight on Savings"
 - Kitchen/laundry appliance demo
 - Home office/home entertainment center (plug load demo)
 - Phantom power demo
 - Lighting: application and styles demo
 - Interactive kiosks/multimedia
- Grand opening March 4









KEY LESSONS FROM 2009?

- The program you think will carry the day is not necessarily the one that does
- Incentive levels make a difference
- You have to tell your story for customers to act on it
- Trade allies are critical to success
- Always have a contingency plan!





PROGRAM PORTFOLIO

Conservation Resources Management Program Portfolio 2009 & 2010 Projected Program Results

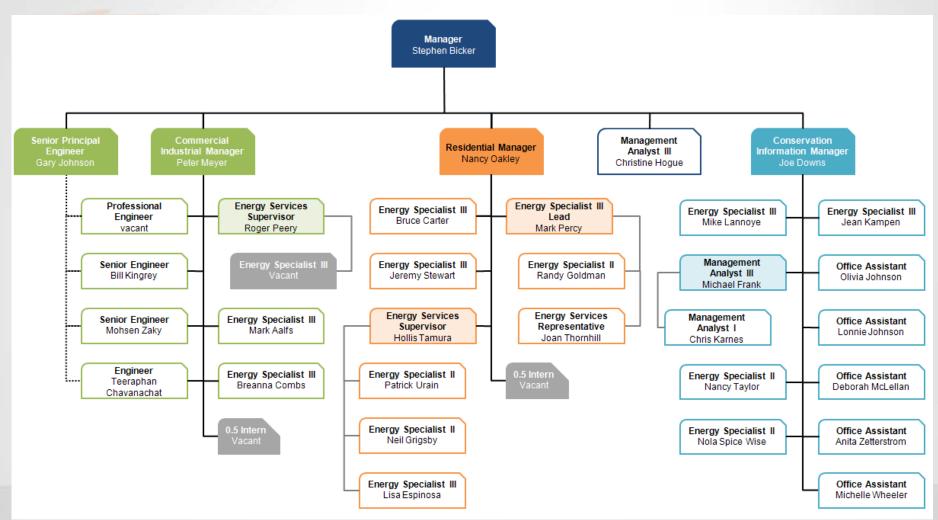
Program Name	Biennium Projected Savings ¹ (aMW)	Biennium Budget² (000s)	Total Measure Costs ³ (000s)	Utility Costs (Rebates) (000s)	Customer Costs (000s)	Cost Shares ⁴ (Utility: Customer)	Total Levelized Measure & Program Costs (\$/MWh)
All Sector Totals or Weighted Averages	12.4	\$30,895	\$31,169	\$14,405	\$16,686	46:54	-\$30
Commercial/Industrial	5.5	\$9,482	\$14,916	\$7,902	\$7,013	53:47	-\$29
Custom Retrofit	0.7	\$1,583	\$2,309	\$1,120	\$1,189	48:52	-\$31
Equipment Rebates	0.1	\$156	\$304	\$128	\$176	42:58	-\$23
Lighting (Bright Rebates)	2.5	\$4,220	\$6,122	\$3,666	\$2,456	60:40	-\$28
Compressed Air	0.6	\$869	\$1,390	\$771	\$619	55 : 45	-\$29
LED Signals	0.5	\$390	\$762	\$368	\$394	48:52	-\$27
New Construction	0.6	\$1,673	\$3,250	\$1,352	\$1,898	42:58	-\$41
Energy Smart Grocer	0.5	\$591	\$779	\$498	\$282	64:36	-\$17
Federal Facilities ⁴	0.7	\$40	\$2,440	\$0	\$2,440	0:100	-\$34
Residential	6.2	\$9,237	\$13,814	\$6,503	\$7,232	47:53	-\$30
Weatherization-Single Family	0.2	\$573	\$1,263	\$426	\$838	34:66 ⁶	-\$32
Weatherization-Multi Family	0.3	\$2,044	\$3,216	\$1,938	\$1,278	60:40	-\$45
Clothes Washers	0.1	\$793	\$1,152	\$446	\$705	39:61	-\$96 ⁷
Refrigerator Decommissioning	0.8	\$1,038	\$773	\$773	\$0	100:0	-\$18
Shower & Aerator	0.1	\$131	\$87	\$87	\$0	100:0	-\$17
High Efficiency Heat Pump	0.1	\$377	\$608	\$286	\$322	47:53	-\$46
Lighting-Existing Rehall	-	\$2,508	5,600	\$1,570	\$4,030	28:72	-\$23

2009 Final Savings (MWh)	2009 Final as % of Biennial Goal	Li
		1
1,489	0%	Ma
526	111.8%	Febr
4,906	245.9%	Octo
3,329	39.7%	Oı
2,102	34.0%	Ma
2,365	172.0%	Ju
2,015	242.2%	Or
2,015	28.3%	-
Developed post-plan	N/A	Ade
263	110.2%	Ma
876	60.7%	Jan
3,066	44.9%	Aur
N/A	N/A	2
526	16.0%	Jun
15,143	21.4%	E



CONSERVATION RESOURCES MANAGEMENT

ORGANIZATIONAL CHART





MEASURING RISK TO MANAGE RISK

- 1 Low Confidence little hope of hitting target; we plan to get the savings elsewhere.
- 2 Serious concerns about target, but not hopeless; remedial action is needed to meet target.
- 3 Will likely achieve target with the good marketing and active program management.
- 4 Confident of hitting target so long as there are no big surprises.
- 5 High Confidence fully expect to meet or exceed target; only extreme market disruptions could cause failure.





PROJECTIONS & SAVINGS RESIDENTIAL

AS OF OCTOBER 2009

Programs	2009 Projected Savings by Program (MWh)	Year-To-Date Actual Savings (MWh)	Actual Savings as % of Projection	Launch Date	Confidence of Reaching Projection 1 (low) to 5 (high)
Single-Family Weatherization		450		August 2009	3
Multi-Family Weatherization	263	53	20.3%	May 2009	5
High Efficiency Heat Pump Systems	526	56	10.6%	June 2008	1
Energy Star Clothes Washers	876	327	37.4%	January 2009	3
Refrigerator /Freezer Decommissioning	3,066	740	24.2%	August 2007	3
CFL Distribution	964	360	37.4%	On-going	4
CFL Retail Program	15,943	437	2.7%	February 2009	1
Lighting Showroom/Distributor	1,840	175	9.5%	February 2009	2
Residual Savings from Old Programs: * New Construction		15		On-going	
Total Residential	23,477	2,614	11.1%		



WHAT'S IN THE RESIDENTIAL PIPELINE?

Weatherization

- Multifamily weatherization program is beginning to slow down, primarily due to weather and holiday issues
- One large project (0.038 aMW), Morning Tree Apartments, requested a loan application – the first since the board authorized the commercial loan option under this program – expected to begin in early 2010

Appliances

- Approx. 205 washers pending and new WA program (ARRA) to be implemented in early 2010
- Lighting retail program (68% of 2009 residential goal)
 - Retail program: more than 20,455 units are in the pipeline
 - Working with Legal to streamline the MOU process
 - Two retailers added in November
- Lighting distribution program
 - Partnering with Click! for field techs to distribute CFLs at appointments





PROJECTIONS & SAVINGS COMMERCIAL/INDUSTRIAL AS OF OCTOBER 2009

Programs	2009 Projected Savings By Program (MWh)	Year-To-Date Actual Savings (MWh)	Actual Savings as % of Projection	Launch Date	Confidence of Reaching Projection 1 (low) to 5 (high)
Bright Rebates	4,906	10,166	207.2%	Revised October 2008	5
Fort Lewis, McChord & Union Station	2,015	571	28.3%	Ongoing	1
Compressed Air Program	3,329	1,322	39.7%	Ongoing	2
Custom Retrofit Program	1,489	-	-	May 09	2
Efficient Equipment Rebates	526	588	111.8%	February 2009	3
New Construction	2,365	9	0.4%	June 2008	5
Energy Smart Grocer	2,015	4,412	219.0%	Ongoing	5
LED Traffic Signals	2,102	714	34.0%	May 2009	2
Total Commercial/Industrial	18,746	17,781	94.9%		



WHAT'S IN THE COMMERCIAL/INDUSTRIAL PIPELINE?

- Approval for increased incentives for Compressed Air Program
 - Applications for 6 projects received (0.1 aMW)
 - Bradken Atlas project may occur in 2010 (0.32 aMW)
- Whirlpool & Toray Composites rebates in process now
 - 0.144 + 0.430 = .57 aMW!
- Several more Bright Rebates projects underway
 - Tacoma School District
 - Arclin
 - Simpson Lumber
- Several Custom Retrofit projects in scoping phase
 - P.C. Wastewater Treatment
 - Fort Lewis
 - Bates
- New Construction project
 - Versacold





PROJECTIONS & SAVINGS COMBINED AS OF OCTOBER 2009

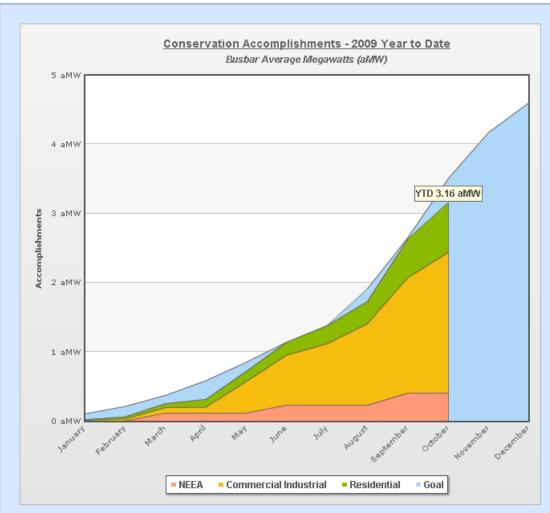
Programs	2009 Projected Savings by Program (MWh)	Year-To-Date Actual Savings (MWh)	Actual Savings as % of Projection	Launch Date	Confidence of Reaching Projection 1 (low) to 5 (high)
Total Residential	23,477	6,322	26.9%	Varies	1
Total Commercial/Industrial	18,746	17,781	94.9%	Varies	3
NEEA	4,030	3,538	87.8%	Ongoing	5
Total	46,253	27,641	59.8%		2
	5.28 aMW	3.16 aMW			

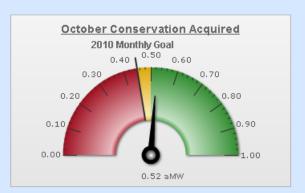


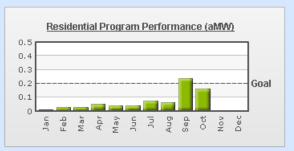


CONSERVATION DASHBOARD







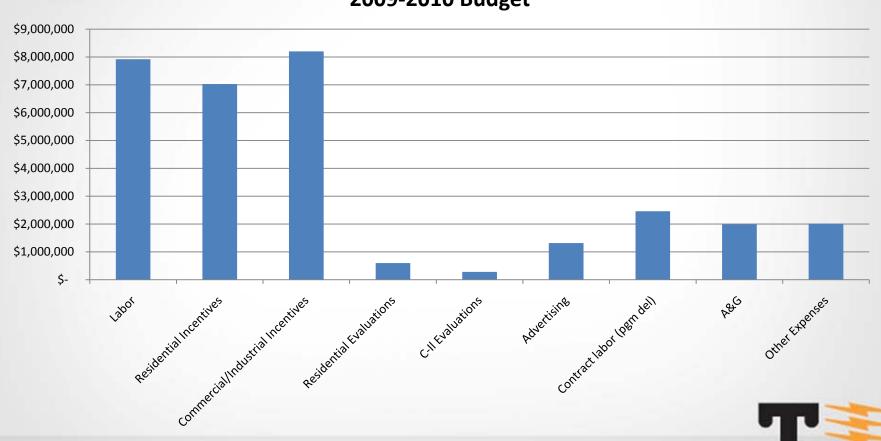






INCENTIVES AND LABOR DOMINATE BUDGET

2009-2010 Budget







RESIDENTIAL PROGRAMS

- Lighting
 - Switch & Save Energy Star compact fluorescent bulbs (CFLs) and fixtures
 - Lighting showroom and distributor Energy Star fixtures
- Appliances
 - WashWise highest efficiency clothes washers
 - Refrigerator and freezer recycling
- Weatherization and heating
 - Insulation, windows and duct sealing
 - Heat pump system
- Distribution
 - CFLs
 - Energy kit





LIGHTING PROGRAMS

- Switch & Save
 - 11 retailers, 34 store locations
 - Incentive: \$1-\$3 per bulbs, \$15 per fixture
 - Point of purchase displays essential
 - Residential customer existing homes
 - Represents about 70% residential savings goal
- Lighting showroom and distributors
 - 16 showrooms and distributors
 - Incentive: up to \$20 per fixture
 - Sales incentive for lighting representative
 - Builder new construction









APPLIANCE PROGRAMS

- WashWise High efficiency clothes washers
 - Joint program with other NW utilities (energy & water)
 - Incentive: \$50, \$75, \$100 based on model purchased
 - Retailer promotions, trained sales staff and point of purchase
- Refrigerator and freezer recycling
 - Incentive: \$30 and free pick-up
 - Customer schedules pick-up date
 - Contractor picks up and recycles appliance
 - 94% of the appliance is recycled





PROCESS

- Third party program administrator
 - Negotiates agreements with retailers and manufacturers
 - Processes customer rebate requests
 - Reports data to Utility
- Tacoma Power
 - Pays incentive to program administrator
 - Oversees program performance
 - Manages and maintains relationships with retailers and manufacturers
- Benefits
 - Streamlined and consistent process for retailers
 - Economies of scale and regionwide coordination reduce program costs







Get Loads of Savings

Home

Participating Utilities

Tier Qualifications

Qualifying Products [PDF]

Rebate Form

Home Efficiency Tips

Special Offers

Retailer Training Program

Photo Contest 2009

Story in Photos

CONTACTU

WashWise Rebate Program 1400 SW 5th Ave., Suite 700 Portland, Oregon 97201 Phone: 1-866-632-4636 Fax: 1-800-687-6176

WashWiseRebate@peci.o



Clothes Washer Rebates up to

2010 WASHWISE CLOTHES WASHER REBATE

Saving energy and water together! That is the goal of the WashWise Clothes Washer Rebate program. Your local energy and water utilities, listed below, have joined together to offer you a rebate of up to \$100 for the purchase of qualified resourcesaving clothes washers. This is the perfect opportunity for you to be part of the savings team which is focused on conserving natural resources, protecting habitat and maintaining a healthy environment for the Puget Sound region and beyond.

Tier levels changed January 1, 2010. Click here to see the new tier levels.

Please click on the logo to learn more about the participating utilities.





















If you qualify for a
WashWise rebate, you
may also qualify for a
Washington Cash for
Appliances rebate. Visit
cashforapplianceswa.com
for more information.





WEATHERIZATION & HEATING PROGRAMS

- Weatherization
 - Ceiling, floor, wall insulation, windows, heating ducts tested and sealed
 - Incentives:
 - Low income little or no cost to customer
 - Non-low income pays about one-third of the cost
 - \$.50 square foot of insulation, \$4 per square foot of windows, up to \$600 test and seal heating ducts
 - Loan option zero interest, 7 year loan through Tacoma Power
 - Contractor sells the program
- Heat pump system
 - Heat pump upgrade, commissioned, heating ducts tested and sealed
 - Incentive: up to \$1,000 (\$400 heat pump & \$600 ducts)
 - Contractor sells the program





PROCESS

- Customer
 - Submits application
 - Selects contractor
- Contractor
 - Provides bids
 - Completes installation according to program specs
 - Invoices utility
- Tacoma Power
 - Reviews customer rebate requests
 - In progress and final inspections
 - Pays incentive to contractor or customer
 - Manages and maintains relationships with contractors





DISTRIBUTION PROGRAMS

- CFL bulb distribution
 - 35,000 CFLs in 2010
 - Incentive: free
 - Community events, presentations and workshops
 - Promotes other conservation programs
- Energy kit
 - Kit includes: 1 showerhead and faucet aerator, 2 CFL bulbs, information
 - Incentive: free
 - Direct mail to targeted customers
 - Expect to mail 10,000 kits in 2010











PROGRAM MARKETING

Customer

- Newsletter
- Bill insert
- Print materials such as brochures

Retailer

- Point of purchase
- National and regional campaigns (for example, WashWise, Energy Star)
- Cooperative ads with local retailers

Contractors

- Training
- Participating contractor list





COMMERCIAL/INDUSTRIAL PROGRAMS

- Bright Rebates (efficient lighting)
- New Construction
- Custom Retrofit
- Equipment Rebates (e.g. HVAC, VFDs, motors, appliances)
- Zero interest loan
- On-site walk through energy audits

- Energy Smart Grocer
- Compressed Air Efficiency
- Energy Bill Profile (Analysis of your electric usage trends)
- Federal Facilities
 Program
- LED Traffic Signals





BRIGHT REBATES PROGRAM

- The program provides technical assistance and financial incentives for qualifying lighting projects such as:
 - T-12 to T-8 retrofits

HID to LED or induction

HID to fluorescent

- Controls
- Incandescent to fluorescent or LED Other technologies.....
- Incentives: 17¢/kWh first year savings, up to 70% of the project cost
- Small project prescriptive approach
 - New projects less than \$5,000 incentive
 - Covers many of the more common lighting retrofits





WAREHOUSE LIGHTING PROJECT

- Replaced old HID fixtures
- Installed new fixtures with high output T8 lamps
- Occupancy sensors in warehouse
- 50% reduction in lighting energy use
- Improved light levels





BRIGHT REBATES PROGRAM PROCESS

- 1. Application and scope of work
- 2. Pre-inspection: to confirm existing equipment type and quantity
- 3. Project review: for savings and cost effectiveness requirements
- 4. Pre-approval: incentive agreement submitted to participant
- 5. Incentive agreement: must be signed by participant and Tacoma Power prior to commencement of project **
- 6. Letter to proceed
- 7. Lighting fixtures installed
- 8. Post-inspection: conducted by Tacoma Power
- 9. Invoices and waste disposal form submitted
- 10. Incentive paid





LED LIGHTING

- LEDs excel in certain niche markets (exit signs, traffic signals, decorative & accent)
- Prices are declining and efficiencies are improving
- Maintenance savings are possible due to long life
- Some LED products are eligible for incentives
 - Energy Star qualified; UL Listed; 3 yr warranty; efficiency of 50 lumens per watt or greater; IES LM-79 & LM-80 tested;
- Product quality varies dramatically
 - Be sure to test products
- Check with Tacoma Power before finalizing sale





WAREHOUSE LIGHTING PROJECT

Installation Cost:	\$269,288
Tacoma Power	
Incentive:	\$174,097
Net Cost to	
Gensco:	\$ 95,191
Annual Cost	
Savings:	\$ 41,962
Annual Energy	
Savings (MWhr):	1,024
Return on	
Investment (ROI):	44%
Simple Payback	
(in years):	2.3





MEASUREMENT & VERIFICATION TOOL FOR LIGHTING CONTROLS

Sample data from customer warehouse

Lighting/Occupancy Summary

 On+Occupied
 14.2 Hours
 8.2%

 On+Vacant
 97.3 Hours
 56.4%

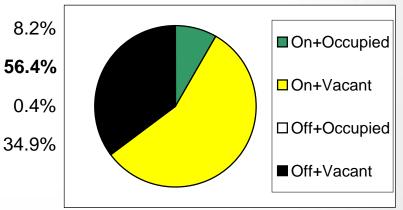
 Off+Occupied
 0.7 Hours
 0.4%

Off+Vacant

Total Monitored

Hours: 172.5 Hours

60.3 Hours





IT-200 InteliTimer® Pro Logger (Wattstopper)

Determines energy savings potential from occupancy sensor use





COMMERCIAL NEW CONSTRUCTION PROGRAM DETAILS

- Prescriptive path for small to medium-sized buildings
 - Incentives: 25 50¢ per ft² for specific packages of efficiency measures
 - No detailed energy savings calculations required
- Custom path for large buildings
 - Incentives: 20¢ per first-year kWh savings up to 100% of the incremental measure cost
- Additional incentives for design and energy modeling





NEW CONSTRUCTION SHOPS BUILDING

- 40% Below Code
- Geothermal HVAC
- LEED Certified
- Daylight from skylights









CUSTOM RETROFIT PROGRAM

- For complex conservation projects not covered by our other programs
- Up to 70% of project cost
- 23¢ per kWh saved (first year savings)
- Funding available for energy studies up to 50% of cost





CUSTOM RETROFIT PROGRAM ELIGIBLE MEASURES – EXAMPLES

- HVAC
 - Variable Air & Water flow
 - Controls
 - Heating & Cooling
 - Heat recovery
 - Economy cooling
- Domestic hot water
 - Variable flow
- Envelope
 - Additional Insulation
 - Improved glazing

- Drive power
 - Motor systems
 - Drive systems
- Refrigeration
 - Compressors
 - Controls
 - Evaporators & condensers
- Industrial process
 - Heat recovery
 - Ventilation systems
 - Variable flow
 - Controls





EQUIPMENT REBATE PROGRAM

Current list:

- Motors (new & efficient rewinds)
- Variable speed drives (\$100 per HP)
- PC power management software (\$8 per PC)
- Kitchen equipment
- HVAC equipment: heat pumps and air conditioners





EFFICIENT MOTORS REBATES





PC POWER MANAGEMENT

- Plug loads are increasing
 - Typical office building 26% of electricity usage
- Most PCs have their energy savings features disabled
- Network PC power management software is available to fix this problem
- Both free and commercial software options are available
 - Features for sending out patches are available (wake on WAN)
- Incentives available: \$8 per work station
 - Cost savings up to \$7.20 per year per PC





KITCHEN EQUIPMENT REBATES







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









ZERO-INTEREST LOAN

- Are available in five-year terms for energy efficiency improvements
- Are available for up to \$500,000 or 70% of the project
- Cover most energy efficiency project improvements such as lighting, HVAC



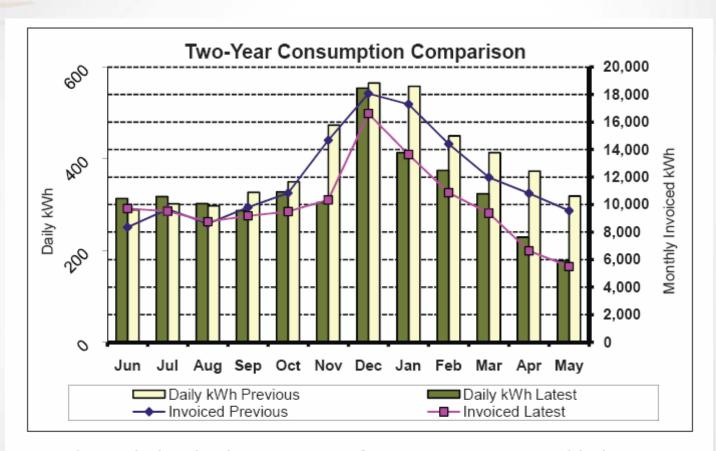




COMPRESSED AIR EFFICIENCY



ENERGY BILL PROFILE



Sample graph showing how one year of energy use compares with the next.