

# Puget Sound Energy Energy Efficiency Services

January through June 2010 Semi-Annual Report of Energy Conservation Accomplishments

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# **GLOSSARY OF COMMONLY USED TERMS**

Unless otherwise noted in a specific Conservation Schedule, the following commonly-used terms, used throughout and applicable only to this document<sup>1</sup> have the below noted meanings:

AIA	American Institute of Architects
ARRA	American Recovery and Reinvestment Act
aMW	Average MegaWatt. An expression of energy (versus "power"). It is used to express very large amounts of energy. The term represents an average of power (Megawatts [MW]) used over time (the standard term being one year or 8,760 hours). Thus, 1 aMW = 8,760 MWh.
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ВОМА	Building Owners and Managers Association
ВРА	Bonneville Power Administration
Calculated Savings	This savings type is different than deemed values (described below). This term indicates that there is a pre-approved, stipulated input value savings value (or cost) per measure. This value (or cost) is then multiplied by site-specific input values to arrive at the overall savings value (or cost). This term is used in the <a href="Savings Type">Savings Type</a> field in Exhibit 2, List of Measures.
Channel	Within an EES Residential or Business sector, an organization that is established to focus on the value chain—consisting of manufacturer distributor, dealer, contractor to the end-use customer—with the most similar market, delivery methods and ultimate purchasers or product users.
CHP	Combined Heat & Power
CMS	Customer Management System. A PSE proprietary software application that tracks customer activities, inventory and rebate processing.
CRAG	Conservation Resource Advisory Group
DDC	Design, Development and Construction
Deemed	As in a measure's deemed value; A savings (or cost) value that applies to a specific measure, regardless of where or how the measure is installed. (For instance, residential interior CFL lamps have a deemed value of 24 kilowatt-hours per year.)
DHW	Domestic Hot Water

<sup>&</sup>lt;sup>1</sup> Some acronyms, such as "ECM" have a different connotation outside the purview of PSE or conservation activities. Outside of EES, "ECM" may mean "Electric Conservation Measure". Within PSE, though, it means "Electronically Commutated Motor".

# Glossary of terms, continued

Direct Benefit to Customer (DBtC)	An incentive payment, grant, rebate, discount or value-added service provided to or realized by a customer.
Direct Install Measure	A conservation measure that is installed by a PSE representative—rather than a PSE customer—into a qualifying structure.
EC Motor (ECM)	Electronically Commutated Motor
EES	Energy Efficiency Services; a department of Puget Sound Energy.
EME	Energy Management Engineer
EM&V	Evaluation, Measurement and Verification
ERR	Evaluation Report Response. A form used to complete an evaluation study's resultant actions.
GPM	Gallons Per Minute
HID	High Intensity Discharge (lamp type)
HVAC	Heating, Ventilation and Air Conditioning
I-937	An informal reference to the 2006 voter initiative, The Washington Clean Energy Initiative. The vote resulted in the creation of RCW 19.285 and WAC 480-109, which is now referred to as the Energy Independence Act.
kWh	Kilowatt Hour
LED	Light Emitting Diode (lamp type)
Measure	A product, device, piece of equipment, system or building design or operational practice used to achieve greater energy efficiency or to promote Fuel Conversion and Fuel Switching. Unless specifically enumerated in a specific Energy Efficiency Program, all Measures, proposed by Customers or otherwise, shall meet or exceed the efficiency standards set forth in the applicable energy codes, or, where none exists, "standard industry practice" as determined by the Company. Measures will meet common construction practices, and meet industry standards for quality and energy efficiency. <sup>2</sup>
MEF	Manufacturer's Energy Factor (applies primarily to appliances)
NEMA	National Electrical Manufacturers Association
O&M	Operations and Maintenance
Program	Programs may consist of a single measure, an assortment of related measures or a suite of measures that are related strictly by delivery type or customer segment.

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<sup>&</sup>lt;sup>2</sup> Schedule 83, section 4, Definitions, #m. Schedule 183, section 4, #l.

# Glossary of terms, continued

PSE Deemed	Relative to PSE savings types (Custom, Calculated, PSE Deemed or RTF Deemed), supported by engineering calculations or an evaluation study.					
	This term is used in the Savings Type field in Exhibit 2, List of Measures.					
RCW	Revised Code of Washington.					
RTF	Regional Technical Forum.					
RTF Deemed	Relative to PSE savings types (Custom, Calculated, PSE Deemed or RTF Deemed), supported by RTF analyses.					
	This term is used in the <u>Savings Type</u> field in Exhibit 2, List of Measures.					
System	In this document, System may have the following meanings:					
	<ol> <li>Any software program—supported by PSE's IT department or otherwise—or physical apparatus used to record, track, compile, report, archive, audit energy savings claims or financial data.</li> </ol>					
	<ol> <li>Electrical, and/or gas equipment that is either attached together or works in concert to provide space conditioning, plumbing functions or other end-uses associated with structures, such as HVAC systems, pumping systems, etc.</li> </ol>					
TRC	Total Resource Cost: The cost to the customer and/or other party costs to install or have installed approved Measures plus Utility Costs and minus Quantifiable Benefits (or Costs). <sup>3</sup>					
UC	Utility Cost: The Company's costs of administering programs included, but not limited to, costs associated with incentives, audited, analysis, technical review and funding specific to the Measure or program and evaluation. <sup>4</sup>					
ULI	Urban Land Institute					
USGBC	U.S. Green Building Council					
WAC	Washington Administrative Code					
WAMOA	Washington Association of Maintenance and Operations Administrators					
WUTC	Washington Utilities and Transportation Commission					

 $<sup>^3</sup>$  Schedule 83, section 4, Definitions, #z. Schedule 183, section 4, #x.  $^4$  Schedule 83, section 4, Definitions, #bb. Schedule 183, section 4, #z.

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# **EXECUTIVE SUMMARY**

# **Energy Efficiency Services' Semi-Annual Report of 2010 Accomplishments**

Puget Sound Energy's ("PSE's" or "The Company's") Energy Efficiency Services (EES) department is pleased to present this Semi Annual Report of 2010 energy efficiency program activity. Covering January through June 2010, the report is associated with the Electric Conservation Rider and Natural Gas Conservation Tracker funding.

In the first half of 2010, EES is on track to exceed energy savings goals while managing costs. The overall electric energy savings finished the second quarter at 153,833 MWh or 17.6 aMW,<sup>5</sup> 54.6 percent of year-end goal and electric expenditures were \$37,370,858<sup>6</sup>; 48.8 percent of the year-end budget target. The overall natural gas savings achieved through the first two quarters of the year were 2,555,377 therms or 59.9 percent of savings year-end goal and gas expenses were \$11,345,630<sup>7</sup>; 68.9 percent of the year-end budget target.

PSE's one-and two-year energy conservation performance indices are provided in Table 1 of the introduction section, comparing the overall performance of PSE's energy efficiency programs against budget and savings targets for both 2010 year-to-date and the 2010-2011 biannual tariff period progress to date. EES sector overviews (Residential, Business, Regional, Support Activities and Other Electric Programs), program descriptions and year-to-date summary program recaps are provided in the following pages. Details about financial and savings performance, Direct Benefit to Customers, portfolio measure tables and program accomplishments are included with each program overview. A detailed list of EES measures, organized according to program and fuel type is featured in Exhibit 2. Programs are organized in the report according to their Schedule number for easy reference.

#### **EES Savings**

#### Residential

Through the first half of the year, the residential sector achieved 59,471 MWh or 6.79 aMW of electric energy savings, which were 42 percent of year-end goal. Gas programs realized 1,680,239 therms of gas savings; 95 percent of year-end goal.

<sup>&</sup>lt;sup>5</sup> Savings are defined and reported as those recognized in the first year of a measure's total expected life. PSE reports the total savings for the year that the measure was implemented, regardless of when it is installed. Savings are counted at the customer meter, not the busbar. Savings do not recognize transmission and distribution

<sup>&</sup>lt;sup>6</sup> Total includes \$811,509 of Other Electric Program expenditures. Other Electric Programs have no conservation savings. Thus, it isn't possible to perform a cost of conservation per aMW calculation based on the overall total EES expenditures.

<sup>&</sup>lt;sup>7</sup> Total includes shareholder funding of \$181,947.

#### **Business**

The Business sector accounted for 82,612 MWh or 9.43 aMW of electric energy savings, which was 71 percent of year-end goal. Gas programs achieved 875,098 therms of gas savings; 35 percent of year-end goal.

NEEA electric energy savings were 11,750 MWh or 1.34 aMW.

## **EES Expenditures**

Overall expenditures trended similarly to the savings track during the first six months of 2010.

## Residential

Through the first half of the year, the residential sector expenditures were \$13,033,463 for electric programs, which was 38 percent of year-end budget. Gas program expenses were \$8,230,022; 75 percent of year-end budget.

#### **Business**

The Business sector electric expenditures were \$19,774,441<sup>8</sup>; 61 percent of year-end budget. Gas program expenses were \$2,601,167, which was 67 percent of year-end budget.

NEEA expenditures were \$2,551,762 or 55 percent of year-end budget.

<u>Support Activities</u> expenditures were \$1,199,682; 33 percent of year-end electric budget and \$332,494 which was 26 percent of year-end gas budget.

Lastly, Other Electric Programs expenditures were \$811,509, or 58 percent of year-end budget.

# **Key Results Drivers**

Key Residential Sector expenditure drivers included:

- Community ARRA funded efforts have increased the demand for PSE incentives beyond targeted planned marketing efforts,
- The Federal Tax Credit has significantly increased consumer demand and
- HVAC and Weatherization contractors are concentrating their efforts on jobs where funding is available – energy efficient products and appliances.

<sup>&</sup>lt;sup>8</sup> \$600,000 in Large Power User/Self-Directed (Schedule 258) 2009 grants were not accrued prior to 2009 year-end financial close and were instead recognized in 2010.

Key Business Sector expense contributors were:

- A tremendous increase in participation in PSE's Small Business Lighting Rebate program as contractors leverage PSE incentives to help sell projects during a down economy,
- The impact of ARRA Funding for City & County Governments and
- Several large new construction projects will be completed in 2010, contributing significantly to incentive expenditures and claimed energy savings.

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#### INTRODUCTION

# 2010 Semi-Annual Report Organization

Readers will notice a completely new "look and feel" to this EES Semi-Annual report. The report provides a significant increase in the level of value-added information and program detail, emphasizing key performance indices, including program-level budget and savings target tables, Direct Benefit to Customer charts and a comprehensive measure table from the EES Measure Metrics system (Exhibit 2).

This report is organized in such a way as to provide overall review by portfolio, by sector and then by individual program. The layout follows the format of the Company's Appendix B, Budgets and Savings Goals. Specifically, we will detail within this report:

- Overall EES Summary Results
- EM&V Activities that are common to all EES programs
- Residential Sector overview and program recaps
  - Residential program-by-program details
- Business Sector overview and program recaps
  - Business program-by-program details
- Support Activities recaps
  - Details for each support activity
- Other Electric Programs recaps
  - Details associated with Small Scale Renewables and Demand Response Pilot programs.
- Stakeholder Relationships
  - Washington Utilities and Transportation Commission
  - Conservation Resource Advisory Group
- Exhibits:
  - 1. Overall EES results, electric and gas
  - 2. Complete listing of measures by program, by fuel type, including savings type classifications and claim amounts
  - 3. Overall Cost-effectiveness benefit-to-cost ratio calculation figures.

# **Energy Efficiency Services January through June Results**

PSE is proud of our results during the first two quarters of 2010 and are eager to share our accomplishments. 25 percent into the 2010-2011 biennium, we are well on our way to achieving our biennial savings goals of 71.0 aMW and over 9 million therms. The extensive planning process of 2009 is paying dividends, both in terms of savings achieved, and in the prudence with which PSE is utilizing ratepayer funds.

Over the past six months, PSE has formalized several processes which were established and have been followed for several years; including evaluation planning that ensures that all EES programs are examined in a regular, consistent fashion. Through our active participation in the RTF, PSE is also making regional contributions to consistent evaluation standards. Savings claims are regularly audited at various stages of development. From the time that a measure is implemented and its value and source of savings is added to the Measure Metrics database it is regularly verified against the savings values logged in the EES tracking systems. Savings are reviewed and audited both on a monthly rolling basis and a formal stand-alone quarterly audit that—similar to the evaluation plan—ensures that all programs are reviewed in a planned cycle.

As you will read in the coming pages, EES continues to make significant strides in reducing costs to ratepayers, maximize their direct benefits (illustrated by a metric that is new to this report, Direct Benefit to Customer) and provide the maximum support to trade allies, distributors, contractors, builders, developers, retailers and our vendors.

Our pilot programs are constantly evolving—demonstrating our commitment to bring the latest and most efficient technologies to our customers. PSE is engaged with an ever-increasing number of municipalities and community partners, which is broadening the reach of energy efficiency services.

On an overall level, EES is above the 50 percent level of electric and gas savings (17.6 aMW and 2.6 million therms). EES finished Q2 below 50 percent electric and slightly above 69 percent gas expenditures (\$37<sup>9</sup> million, electric and \$11.3<sup>10</sup> million gas). The specific figures for overall EES results to date are provided in Table 1 on page 11. Results are further detailed in Table 2, Results by Sector.

Economic recovery conditions are keys to the first two quarters' performance. In the Business Sector, large grant projects which received approval in 2009 were completed during the first half of the year. In the Residential Sector, contractors have focused on projects where funding—incentives and rebates—are available. Tax credits and school district stimulus are also contributing to 2010 performance.

Program details are provided in the coming pages of this report.

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<sup>&</sup>lt;sup>9</sup> Including Other Electric Program expenditures of \$811,509. This amount is included in the total electric expenditures noted in Table 1.

<sup>&</sup>lt;sup>10</sup> Including LIW shareholder funding of \$181,947. This amount is included in the total gas expenditures noted in Table 1.

**Table 1: Overall EES Results** 

# **January Through June 2010 Results**

# 12 Month View

# 50% of one year time frame

ELECTRIC CONSERVATION:		YTD Actuals		YTD Actuals		yr. EES Budget/ EES Goal	% Goal
Electric Costs:	\$	37,370,858	\$	76,504,975	48.8%		
kWh Savings:	153,832,905		281,680,000		54.6%		
aMW Savings:	17.6 aMW		17.6 aMW 32.2 aMW				
GAS CONSERVATION:							
Gas Costs:	\$	11,345,630	\$	16,459,912	68.9%		
Therm Savings:		2,555,337		4,264,500	59.9%		

## 24 Month View

# 25% of two year time frame

ELECTRIC CONSERVATION:	PTD Actuals		2 y	r. EES Budget/ EES Goal	% Goal				
Electric Costs:	\$	37,370,858	\$	166,661,765	22.4%				
kWh Savings:		153,832,905		622,000,000	24.7%				
aMW Savings:	17.6 aMW		17.6 aMW		17.6 aMW			71. aMW	24.7%
GAS CONSERVATION:									
Gas Costs:	\$	11,345,630	\$	33,500,097	33.9%				
Therm Savings:		2,555,337		9,054,000	28.2%				

Table 2: EES Results by Sector

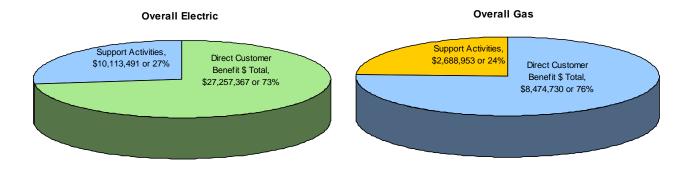
	Through June 2010	Year to Date Jan. '10 - June '10 Actuals				2010 Budget & Goal			
				% of	% of				
Schedule	Programs	Dollars	Savings	Budget	Savings		Dollars	Savings	
Electric	Electric	E	Electric (MWh)				Electric		
Gas	Gas		Gas (Therms)			Gas			
	Residential Sector								
	Electric	\$ 13,033,463	59,471	37.6%	42.0%	\$	34,639,380	141,680	
	Gas	\$ 8,230,022	1,680,239	74.7%	95.2%	\$	11,013,500	1,764,500	
	Business Sector								
	Electric	\$ 19,774,441	82,612	61.3%	70.9%	\$	32,235,791	116,500	
	Gas	\$ 2,601,167	875,098	66.9%	35.0%	\$	3,886,667	2,500,000	
	Northwest Energy Efficiency Alliance	\$ 2,551,762	11,750	55.2%	50.0%	\$	4,625,000	23,500	
	Support Activities								
	Electric	\$ 1,199,682	0	33.2%	0.0%	\$	3,612,612	0	
	Gas	\$ 332,494	0	26.4%	n/a	\$	1,259,745	0	
	Other Electric Programs	\$ 811,509		58.3%		\$	1,392,192		

#### **Direct Benefit to Customer**

As a measure of how effectively PSE is using ratepayer dollars, PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Services can include, but aren't limited to credits on a monthly bill, upstream incentive provided to channel partners or trade allies—either within our service territory or regionally—and free energy efficient devices available by mail.

For example, at many retailers, customers receive a point of sale discount when they purchase a CFL bulb. Similarly, customers are spared the trouble of transporting their old refrigerator to the local transfer station when they take advantage of the Refrigerator Decommissioning program. The below charts in Figure 1 represent the total EES ratios for electric and gas, factoring in costs of Support Activities and Other Electric Programs, versus sector-specific ratios, noted in the applicable sections of this report.

Figure 1: EES Electric Programs Direct Benefit to Customers



Support activities include a certain amount of administrative functions necessary to efficiently operate the department and maintain accurate recordkeeping, provide required reporting, and maintain good customer service. The noted Support Activities include, but are not limited to, marketing—including the creation and distribution of energy efficiency brochures, web and media content—market research, all program support functions, including rebate processing, reporting, systems support and partner training (such as contractors or vendors) to be advocates for PSE-supported energy efficiency measures and analyses. Evaluation functions, EME project evaluation and verification analyses, trade ally/contractor training, community event participation and all customer renewable program support is also included in this category. Each of these is critical to providing ratepayers with cost-effective, value-added energy efficiency programs.

#### **Cost Effectiveness Ratios**

EES performed a Utility Cost and Total Resource Cost benefit-to-cost ratio test on its entire portfolio, based on six-month results, which is indicated in table 3 below. Details supporting these ratios are contained in Exhibit 3 of this report.

It is important to note that semi-annual cost-effectiveness tests at the program level are impractical and can be inaccurate. This is primarily due to costs that have yet to accrue and savings that may accumulate and not be recognized until year-end. Full sector and program cost-effectiveness benefit-to-cost ratios will be reported in the EES 2010 annual report.

Table 3: Overall EES Cost-effectiveness Benefit/Cost Ratios

Benefit to Cost Ratios						
	Total Resou Utility Cost Cost					
Electric	3.86	2.34				
Gas	2.73	1.32				

#### Measures

In Exhibit 2 of this report, EES presents complete measure tables for programs whose suites of offerings consist of deemed or selected calculated measures<sup>11</sup>. Since the majority of Business Sector measures are custom engineering calculations, only the Business Rebates program (Schedule 262 for both electric and gas) will list deemed and calculated Measure detail tables.

<sup>&</sup>lt;sup>11</sup> Active measures as of June 15, 2010. The list may include some Residential measures which were suspended for further/re-evaluation in late June 2010.

All measures noted in the Exhibit are listed in the EES List of Measures, Incentives and Eligibility, commonly referred to as **Attachment 1**. Attachment 1 is available at the Company's website:

# http://www.pse.com/insidePSE/ratereginformation/Pages/Default.aspx

Measure tables included in Exhibit 2 indicate the number of instances a particular measure category appears in the program's suite of offerings. Measures are listed and compiled according to equipment or usage type by Schedule. They are then separated into fuel types. A number of measures (residential clothes washers for instance) may apply to more than one program within that Schedule and thus, may be noted several times. Each clothes washer variation is listed according to water heater and dryer type:

- Electric water heater/electric dryer
- Electric water heater/gas dryer
- Gas water heater/electric dryer
- Gas water heater/gas dryer.

Each of these also includes three MEF levels, for a total of 12 possible listings, as illustrated in the example Single Family Existing<sup>12</sup> table, Figure 2:

Figure 2: Sample Page of Exhibit 2; Single Family Existing Clothes Washers

Residential	Electric			
Schedule E214	Single Family Residential	Single Family Existing only		
MeasureCategory CategoryDescription	Detailed Description		Savings Type	kWh Savings Therm Savings
Clothes Washers				
Energy Star®	MEF 2.0 or Higher and WF 6.0 or below; Electric Water Heater & Electric Dryer		RTF Deemed	119.00
Energy Star®	MEF 2.0 or Higher and WF 6.0 or below; Electric Water Heater & Gas Dryer		RTF Deemed	61.00
Energy Star®	MEF 2.0 or Higher and WF 6.0 or below; Gas Water Heater & Electric Dryer		RTF Deemed	77.00
Energy Star®	MEF 2.0 or Higher and WF 6.0 or below; Gas Water Heater & Gas Dryer		RTF Deemed	19.00
Energy Star®	MEF 2.2 or Higher and WF 4.5 or below; Electric Water Heater & Electric Dryer		RTF Deemed	159.00
Energy Star®	MEF 2.2 or Higher an	MEF 2.2 or Higher and WF 4.5 or below; Electric Water Heater & Gas Dryer		79.00
Energy Star®	MEF 2.2 or Higher an	MEF 2.2 or Higher and WF 4.5 or below; Gas Water Heater & Electric Dryer		1 106.00
Energy Star®	MEF 2.2 or Higher and WF 4.5 or below; Gas Water Heater & Gas Dryer		RTF Deemed	26.00
Energy Star®	MEF 2.46 or Higher, Electric Water Heater & Electric Dryer		RTF Deemed	181.00
Energy Star®	MEF 2.46 or Higher, E	MEF 2.46 or Higher, Electric Water Heater & Gas Dryer		88.00
Energy Star®	MEF 2.46 or Higher, 0	MEF 2.46 or Higher, Gas Water Heater & Electric Dryer		124.00
Energy Star®	MEF 2.46 or Higher, (	MEF 2.46 or Higher, Gas Water Heater & Gas Dryer		32.00

Some residential programs provide incentives for all clothes washer variants, while others limit incentives to selected types. These are detailed in Attachment 1, which is organized by program. Prescriptive Business measures are classified and compiled similarly in Exhibit 2.

<sup>&</sup>lt;sup>12</sup> Extracted from Exhibit 2, EES List of Measures.

It is noteworthy that each measure noted in this report's measure tables represents a record in the Measure Metrics database. The database also manages an extensive list of retired measures. These are maintained to ensure that EES can track the history of energy savings claims, incentive amounts, measure life, etc. Furthermore, there is not a direct correlation of the number of iterations noted in the program tables and the measures listed in Attachment 1<sup>13</sup>.

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<sup>&</sup>lt;sup>13</sup> For example, as noted on page 14, PSE makes savings claims on 12 different clothes washer. PSE pays three incentive levels, regardless of water heater/dryer types, however. Thus, in order to simplify the customer offering, all 12 iterations are not noted in Attachment 1.

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## **EM&V ACTIVITIES COMMON TO ALL PROGRAMS**

This section of the report describes functions and activities related to Evaluation, Measurement and Verification that affect all conservation programs and activities in EES, although are not part of a specific program or sector.

# Evaluation, Measurement and Verification (EM&V)

Several of EES's EM&V processes have been in place since the inception of the department. As the business evolved and energy savings goals grew, so did the rigor with which EES conducted EM&V activities, including process and impact evaluations, energy savings and expense tracking, regulatory and Company compliance, audit functions, marketing, trade ally relationships and an ever-expanding suite of conservation services. Over the last three years, EES has made significant progress in documenting and executing these guidelines and processes, including:

- Measure savings values and savings claims calculations
- Measure documentation
- Measure savings tracking and expenditure reconciliation
- Savings and expenditure verification

Specific to January – June 2010, the following functions that affect and are utilized in various degrees by all EES departments were improved and formalized.

## **Evaluation Report Responses**

Although implemented in 2009, the Evaluation Report Response (ERR) process gained traction and was formalized this year. This process ensures that there is a direct linkage between evaluation studies, Program Staff and their savings tracking systems and the Measure Metrics archival system.

When an evaluation study is completed, it is reviewed with the applicable Program Staff<sup>14</sup>. The results are discussed as are potential program effects. The Evaluation Staff provide the program staff with the ERR form, indicating the study title, a hyperlink to the study and the study date. The Program Staff then indicate what actions, if any, will be taken as a result. Actions may include, but aren't limited to, revising the delivery method,<sup>15</sup> adjusting the incentive level or revising the savings value at a prescribed interval.

<sup>&</sup>lt;sup>14</sup> There are cases, such as the Showerhead Installation Survey, where multiple programs are affected, such as Single Family Existing, Multifamily Existing and Consumer/Retail.

<sup>&</sup>lt;sup>15</sup> A hypothetical study may indicate, for instance, that a cost-effective "widget" may yield a higher penetration rate if PSE switches to a mail-in program versus a directly-installed "widget".

#### **Measures**

The methods of vetting, justifying, counting and reporting measure savings was documented in EES's Savings Claims Guidelines in April. This is a comprehensive document that ensures consistency across programs and sectors, outlines rounding rules, applicable claims periods and how retired measures are tracked, reported and archived. EES also outlines the guidelines for tracking savings derived from rebate applications, directly-installed measures and savings from retailers, resellers and dealers.

#### **Measure Metrics**

Employing an MS Access® database and centralized hierarchal filing structure to maintain an archive of measure savings, EES made reporting and evaluation-related upgrades to the system between January and June 2010. In addition to archiving every prescriptive measure's source of savings, incentive level, measure life, cost and revision history via a clearly enumerated process of review and management approval, the system now tracks measure sunset dates and reasons for measure revisions (for example, "Revised RTF Value", "Updated Evaluation Report", etc.).

A dedicated Evaluation database was also created to track evaluation studies; including authors, topics and programs affected. The database also tracks Evaluation Report Responses (ERRs), linking evaluation studies to any resultant change(s) in delivery methods, incentive or savings values.

# **Program Audits**

In 2010, EES formalized its policy of performing internal program audits each quarter. Audits have clear prioritizations and criteria and a set of steps to "drill down" to the highest level of detail where possible. Although annual program audits have been performed since 2008<sup>16</sup>, our savings tracking and audit guidelines were documented, vetted and published internally in April 2010. These guidelines ensure that all programs will be audited on a continuing basis in an ongoing cycle. Program audits include a focus on both savings and financial accuracy. In addition to formal, quarterly audits, savings and expenses are reviewed monthly against the plan<sup>17</sup> and internal order numbers<sup>18</sup>.

<sup>&</sup>lt;sup>16</sup> In January 2009, the Residential Lighting, Electric Weatherization and Multifamily Retrofit programs were audited for 2008 savings claims. In August 2009 and January 2010, semi-annual audits were performed on Residential Lighting, Manufactured Homes, Multifamily New Construction, Energy Education, Fuel Conversion and Refrigerator Decommissioning programs. All audits resulting in no findings. 2009 audits also included financial reviews.

<sup>&</sup>lt;sup>17</sup> Budgets and targets aren't set on a monthly basis; rather, a linear, 12-month average is applied.

<sup>&</sup>lt;sup>18</sup> Internal order number checks include: assuring that invoices are paid against correct accounts, incentives paid are classified correctly, etc.

# **Savings Adjustments**

Another practice that has been in place since 2007 is the savings adjustment process. This process is included in the EES Savings Claims Guidelines. Although rare, savings claims adjustments are periodically necessary. For example, a vendor may mistakenly identify some clothes washers from a previous month and add them into the next month's total. Data entry errors also occur infrequently and are corrected as soon as they are found (E.G.; a total of 69 refrigerators were entered in the Residential Savings Tracking System when there were actually 96).

The EES Budget team manages a formal adjustment process, which includes documenting answers to the following four questions.

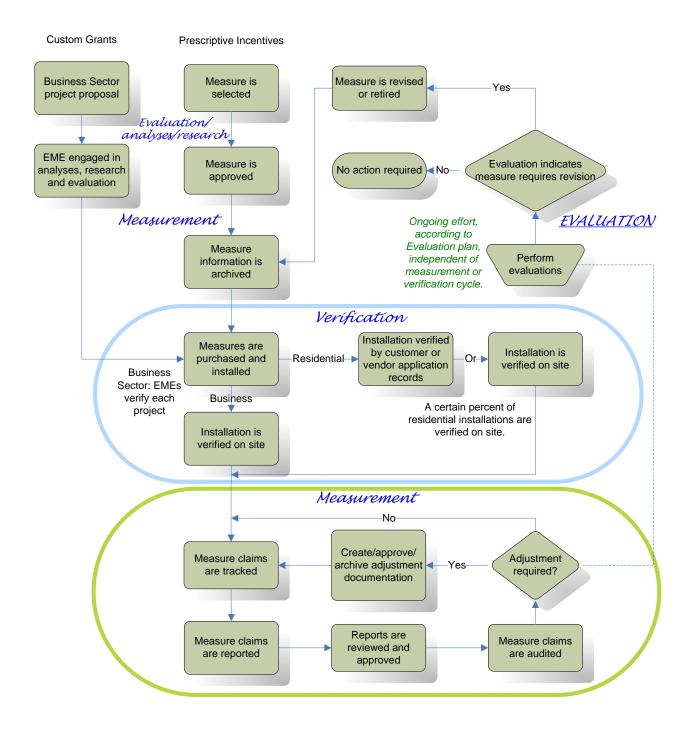
- What happened ("savings were overstated by 10,000 kWh last month", etc.)?
- Why it happened ("10 manufactured home rebates were counted twice", etc.)?
- How it is corrected ("10,000 kWh will be subtracted from this month's claims, with a corresponding note in the Residential Savings Tracking System", etc.)?
- What will be done to prevent future errors ("all rebate forms will be marshaled in areas specific to their corresponding programs and receive a check mark when processed", etc.)?

When the responses have been vetted by the Budget team, the adjustment is forwarded to EES management for approval. The applicable tracking system is then updated to reflect the accurate savings value and the adjustment is archived for historical records.

#### **EM&V Process Flow**

In Figure 3, we provide a summarized view of EES's Evaluation, Measurement and Verification process that has been utilized for the past several years. As discussed above, various elements that have been in practice for several years have been recently formalized. It is important to note that each activity represented below has a complete process behind the activity heading in the process box. This report, as a representation of January through June performance, avoids going into great process detail.

Figure 3: High-Level View of Measure EM&V



# January – June Accomplishments and Activities

The following programs were audited in the first quarter<sup>19</sup>:

- Residential Lighting (twice)<sup>20</sup>
- Low Income Weatherization<sup>21</sup>
- Single Family Existing Electric and Gas Weatherization.

18 savings claims adjustments were made; 13 electric, four gas and one expenditure.

Six ERRs were generated in response to four evaluation studies and logged into the Evaluation tracking database in the first half of the year.

# **EES Tracking and Reporting**

## Description

EES employs a combination of proprietary and licensed software applications to accumulate, validate and report financial and energy savings figures with a high degree of integrity and accuracy. Some are used strictly for Residential Sector reporting, others are primarily Business Sector focused. The EES Residential tracking database also maintains information on some Business measures, used by Multifamily projects. Corporate systems, such as SAP, are used for all financial activity within the department. All come into play, though, when EES presents data to its stakeholders.

The following diagram, Figure 4, and associated descriptions provide background on what the systems do, how they assemble data and how the data is processed to the resulting reports. It is important to note that many business tools; spreadsheets, flowcharts, checklists, etc., utilized by individual programs or EES staff members which feed some of those listed here are not outlined in this document.

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<sup>&</sup>lt;sup>19</sup> All Business grants over \$100,000 are audited every quarter. Additionally, a random sampling of all Business grants are audited every quarter.

Residential Lighting is audited every quarter, as it is such a large part of EES savings.

<sup>&</sup>lt;sup>21</sup> Low Income Weatherization is audited each quarter as part of the Attorney General's disbursement of Enron settlement funds.

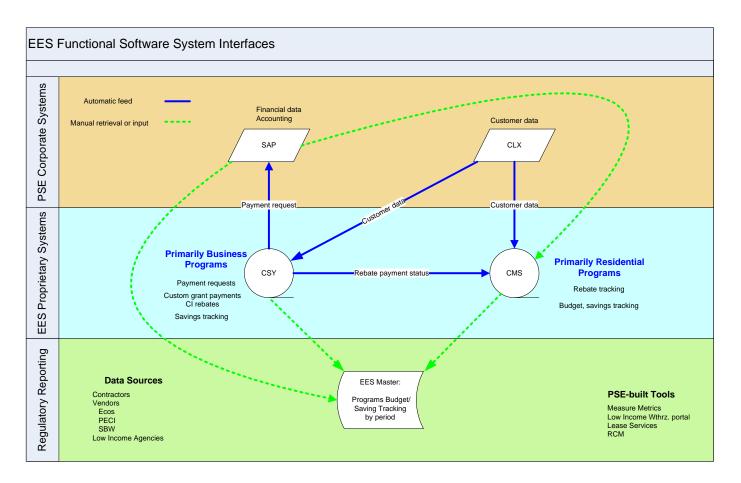


Figure 4: EES Energy Management Tracking and Reporting Interface

**SAP** (Systems, Applications, and Products in Data Processing) – SAP is a large multinational software development and consulting corporation located in Germany. The PSE SAP system is used mainly for HR, Contracting, and General Accounting. EES interacts with the system thru timesheets, contract/invoicing, and by assigning costs against order numbers.

**CLX** (Customer LinX) – A system used for managing customer billing information, gas and electric meter status and tracking outages. The CLX data is saved in a business data warehouse to allow for information transfer to other systems. CSY and CMS pull customer usage data and basic account information (name, address, account number) from the data warehouse.

**CSY** (Customer SYstems solutions) – A PSE-created system with two distinct functional areas: Custom Grant Programs and Customer Rebate Programs. The system is used to track the status of Custom Grant Projects (from initial estimates to Grant Agreement to Final Payment) and to send payment request information to SAP. Payment information includes custom grants and rebates; both prescriptive and calculated for both EES sectors (Residential and Business).

**CMS** (Customer Management System) – EES Customer Management System is the primary interface for fulfilling and tracking customers' interactions with EES residential programs and services. Modules include: Literature & Rebate Fulfillment, Contractor Referrals, Rebate qualifying and processing and EES Inventory Management.

**EES Master** – Compiles all savings and all financial data relative to EES operations in both sectors (Residential and Business). Generates all periodic reports; internal and regulatory.

# **January through June Accomplishments and Activities**

#### **Residential Rebate Processing**

PSE's processing of residential retrofit rebates (windows, heat pumps, furnaces, water heaters, and gas conversion) increased substantially during the first half of 2010. The volume of rebates processed and paid out to customers increased nearly 250 percent over the same six month period in 2009 (14,691 vs. 5,938). To manage the increased workload and keep labor costs in check, the group cross-trained existing personnel within EES to assist with certain steps of the rebate process. Consequently, the Systems Channel's processing team maintained its strict verification process and prompt turnaround time throughout this period of high demand.

#### **Improved Inventory Control**

The Systems Channel new inventory control system, developed in late 2009, is now providing benefits throughout EES. This new tool clearly monitors and tracks program brochures, promotional materials and lighting products as they are used for mailings, events, and programs. This system has allowed the group to help reduce waste, lower storage costs, decrease collateral charges in nearly every department.

#### Research and Reporting

In the first half of 2010, the Systems team began building a new database-driven system to improve program analysis and reporting. As part of this effort, the group has recently implemented a new application to assist managers in tracking and forecasting program savings and spending. The system boasts improved security, streamlined data-entry, and advanced reporting capabilities.

#### **Business Grants and Rebates**

The Business Sector also saw a significant number of grants and rebates paid during the first six months of the year. As of June 30 the Business sector processed over 900 individual gas and electric conservation grants, totaling more than \$11 million in Direct Benefit to Customers. The majority of these were for the Commercial/Industrial Retrofit program. This is an 82 percent increase in the number of grants and 31 percent increase in dollars paid over the same time period 2009, when there were almost 500 grants and PSE paid \$8.4 million.

From January to June 2010, over 3,000 rebates were paid, including over 2,000 for Small Business Lighting and over 300 for Premium HVAC service. Rebates paid totaled over \$5 million during the first six months. This compares with 1,603 rebates, totaling \$2.2 million in Direct Benefit to Customer; an 87.1 percent and 125 percent increase, respectively.

All Business grants and rebates were processed through the CSY system.

# RESIDENTIAL SECTOR

## Overview

#### **Customer Base**

The Residential Sector provides incentives, rebates, contractor referrals, information and conservation value-added services for a wide variety of residential customers. The Residential structure types supported are equally varied, including single family, multifamily and low income dwellings.

# Types of Incentives, Measures and Services

The Residential Sector offers a wide variety of incentives and Direct Benefits to Customers (DBtC), including mail-in rebates, point-of-sale (POS) discounts for energy-efficient products, no-charge measures, such as showerheads and directly-installed CFL lamps provided to customers during HomePrint evaluations and services such as refrigerator decommissioning.

## Who We Work With

In order to deliver value-added conservation programs to customers, EES collaborates with vendors, contractors, manufacturers, distributors and retailers. PSE leverages these relationships to assist in maximizing existing and developing future programs so that implementation is seamless to our customers.

One of the primary tools used to provide maximum exposure to energy conservation programs is our training expertise. Through our extensive training programs, contractors are certified in rigorous insulation installation techniques and standards, HomePrint analyses and retailers are trained in providing product mark-downs at the point of sale and HVAC installation. EES conducts several vendor seminars throughout the year to ensure that all customer touchpoints have the most up-to-date information and customer satisfaction skills.

#### Organizational Structure

In order to maximize the Residential Sector effectiveness—responding to customer requirements, addressing contractor and trade ally questions and providing the highest level of service possible—the organization is modeled according to the accompanying chart, Figure 5.

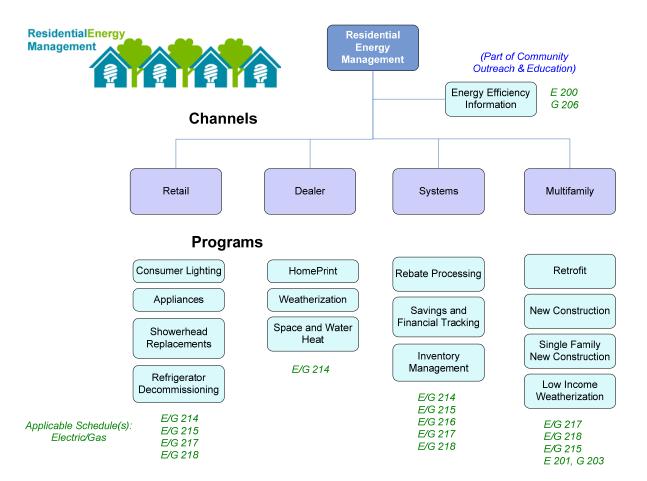


Figure 5: Residential Energy Management Organizational Structure

#### **Retail Channel**

The Retail channel focuses on services targeted to a wide variety of retail entities, including "big box" chains, hardware chains, regional concerns and local resellers. The channel manages several programs—most of which are consumer-oriented—including refrigerator decommissioning, appliances and of course, energy efficient lighting. As the above chart indicates, this channel provides services covered by several Conservation Schedules.

#### **Dealer Channel**

The Dealer Channel's target market constituency consists primarily of contractors and resellers that sell, install and service HVAC systems, water heating systems, windows and insulation. The Dealer Channel operates primarily within the structure of Schedule 214; Single Family Existing. Programs within this channel are delivered to customers mostly through contractors.

# **Systems Channel**

The Systems Channel plays an important support role within Residential EES. This group provides the department with the right tools, resources, and people to assist in managing their respective businesses. Rebate processing, customer fulfillment, program analysis, and savings reporting are some of the critical services this group provides.

The group has staff dedicated to process many of the residential rebates offered by its delivery channels. Rebates for windows, heat pumps, furnaces, water heaters, gas conversion, and new construction are all processed in-house.

The Systems Channel was instrumental in designing and building a customer management system (CMS) to track customer requests logged by the team of Energy Advisors in its call center. This system enables the group to manage the daily mailings to its customers as well as internal requests for brochures and supplies for program-related events.

The group's analysts handle research and data requests, program analysis, savings tracking and systems support for the various managers within Residential EES. The team is now building an integrated tracking and reporting system within CMS. This database system will merge information captured from all of its residential efficiency programs (run internally and by outside vendors) to provide analysis to its internal program managers as well reporting to outside agencies.

#### **Multifamily Channel**

In addition to facilitating the installation and usage of energy efficiency measures within multifamily structures (both new and existing), this channel also manages Single Family New Construction activities.

The Multifamily New Construction program manages relationships with developers and contractors to implement cost-effective projects, many of which involve custom engineering calculations. This program collaborates extensively with a Business Sector Energy Management Engineer (EME) in developing grants, along with prescriptive incentives.

The Single Family New Construction program manages relationships with lighting showrooms (whose clientele are largely builders and developers), and builders directly, including single-proprietor and large regional operations.

Low Income Weatherization is also managed in the Multifamily Channel.

## **Program and Services Development**

The Residential Sector regularly reassesses its suite of offerings to ensure that Customers have access to incentives and measures that will save them the maximum amount of energy and money. We partner with the Evaluation staff to review savings claim figures, delivery methods, measure costs and program cost effectiveness.<sup>22</sup> This effort includes the development of pilot programs, which expose customers to newer technologies, new and innovative marketing techniques to create a sense of excitement about energy conservation and different types of incentives and value-added services.

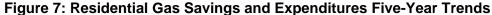
<sup>&</sup>lt;sup>22</sup> A detailed description of Evaluation activities is located on page 125 of this report.

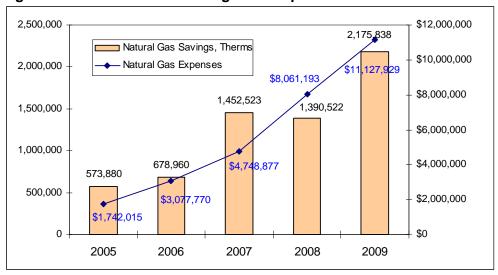
## **Five-Year Trends**

As illustrated in Figure 6, the five-year trends indicate an average annual increase in electric savings of 40 percent and an overall 199 percent increase from 2005 to 2009. Figure 7 illustrates an average annual increase in gas savings of 56 percent and an overall 279 percent from 2005 to 2009.

\$40,000,000 180,000 166,544 ■ Electric Savings, MWh \$35,000,000 160,000 144,274 Electric Expenses \$30,000,000 140,000 120,000 107,987 \$25,000,000 100,000 \$20,000,000 \$23,640,861 80,000 62,590 \$15,000,000 55,559 \$16,935,008 60.000 \$10,000,000 40,000 10,4 0,702 \$8,015,437 \$5,000,000 20,000 0 \$0 2005 2006 2007 2008 2009

Figure 6: Residential Electric Savings (MWh) and Expenditures Five-Year Trends





# 2010 Year-to-Date Summary

#### **Electric Programs**

PSE's Single family Electric existing weatherization programs, namely rebates for windows and insulation measures, have realized great success in the first half of 2010 with greater then anticipated customer participation. This increased demand can be attributed to PSE marketing efforts, the availability of the \$1,500 Federal Tax Credit, and other Federal Stimulus programs being administered in our service territory.

January – June of 2010 saw Residential electric programs achieve savings of 59,471 MWh (6.79 aMW), which is 42 percent of year-end savings goals. Program expenditures finished Q2 at \$13,033,463, or 38 percent of year-end budget.

#### **Natural Gas Programs**

PSE's Single family Gas existing weatherization program (windows and insulation), space heat program (90% furnaces), and water heat program (.62 Energy Star storage water heaters), have realized great success in the first half of 2010 with greater then anticipated customer participation. This increased demand can be attributed to PSE marketing efforts, the availability of the \$1500 Federal Tax Credit, and other Federal Stimulus programs being administered in our service territory.

January – June of 2010 saw Residential gas programs achieve savings of 1,680,239 therms, which is 95 percent of year-end savings goals. Program expenditures finished Q2 at \$8,230,022, or 75 percent of year-end budget.

# **Key Results Drivers**

#### ARRA Funding – Community Involvement

 Community ARRA funded efforts are increasing the demand for PSE incentives beyond targeted planned marketing efforts. More groups are receiving funding, primarily for in-home energy audits, which is increasing the number of "sales people" in the marketplace and therefore greater demand and program participation.

#### Tax Credits

• The \$1500 Federal Tax Credit, currently running through 2010, for energy efficient products and appliances (insulation, windows, space heat, water heat, etc.) has significantly increased consumer demand. Contractors are successfully integrating the credits into their sales messaging and are leveraging them for record sales on high efficient appliances and weatherization measures. A good example is that HVAC contractors are installing 95% efficient gas furnaces, almost exclusively, where prior to the tax credits they were struggling to install 90% efficient models.

#### Contractor Involvement

 The economic downturn has affected the job mix of HVAC and Weatherization contractors. They are concentrating their efforts on jobs where funding is available – energy efficient products and appliances. Consequently more and more contractors in the marketplace are selling and installing rebate eligible energy efficient products and appliances – at greater levels than originally anticipated.

## 2010 Programs

The January through June performance for each program in the Residential Sector is indicated in Table 4<sup>23</sup>.

Table 4: Residential Savings and Expenses Year to Date Performance

	Through June 2010		Year to Date	Jan. '10 - June			2010 Budge	t & Goal
					% of	% of		
Schedule	Programs		Dollars	Savings	Budget	Savings	Dollars	Savings
Electric	Electric			Electric (MWh)			Electr	-
Gas	Gas			Gas (Therms)			Gas	
E200	Residential Information Services	\$	406,890	n/a	27% ו	n/a	\$ 1,503,280	0
E201	Low Income	\$	1,070,063	1,370	48%	99%	\$ 2,207,080	1,380
E202	Energy Education	\$	266,800	712	45%	52%	\$ 598,000	1,380
E214	Single Family Existing	`	,				,	,
E214	Homeprint, Water Heat	\$	467.431	302	2%	0%	\$ 19,550,460	109,480
E214	Residential EE Lighting Rebate	\$	3,092,699	35,097	16%	32%	.,,	
E214	Space Heat	\$	637,823	1,875	3%	2%		
E214	Refrigerator Decommissioning	\$	288,859	1,920	1%	2%		
E214	Energy Star Clothes Washers	\$	1,075,012	2,010	5%	2%		
E214	Showerheads	\$	4,257	587	0%	1%		
E214	Weatherization	\$	1,817,673	6,471	9%	6%		
E215	Single Family New Construction	\$	795,875	1,398	72%	43%	\$ 1,112,280	3,220
E216	Single Family Fuel Conversion	\$	441,631	1,819	21%	23%	\$ 2,068,620	7,820
E217	Multi Family Existing	\$	1,947,172	4,848	41%	32%	\$ 4,747,200	15,180
E218	Multi Family New Construction	\$	451,496	1,013	42%	44%	\$ 1,074,560	2,300
E249	Pilots, excluding:	\$	21,671	50	2%	5%	\$ 1,069,040	920
	Home Energy Reports	\$	248,111	0	35%		\$ 708,860	0
	Total Electric Programs	\$	13,033,463	59,471	38%	42%	\$ 34,639,380	141,680
G203	Low Income	\$	234,712	14,365	41%	53%	\$ 567,500	27,000
G206	Residential Information Services	\$	239,755	n/a	38% ı	n/a	\$ 624,000	0
G207	Energy Education	\$	162,286	48,214	46%	75%	\$ 350,000	64,500
G214	Single Family Existing							
G214	HomePrint	\$	177,656	709	2%	0%	\$ 7,365,000	1,408,000
G214	Water Heater	\$	385,443	149,587	5%	11%		
G214	Space Heat	\$	2,107,179	572,430	29%	41%		
G214	Showerheads	\$	9,035	37,908	0%	3%		
G214	Weatherization	\$	4,105,038	734,305	56%	52%		
G214	Energy Star Apliances	\$	-	22,638	0%	2%		
G215	Single Family New Construction	\$	335,130	52,913	34%	29%	\$ 972,500	180,000
G217	Multi Family Existing	\$	284,368	40,483	83%	89%	\$ 343,000	45,500
G218	Multi Family New Construction	\$	59,031	4,743	23%	22%	\$ 253,000	21,500
G249	Pilots, excluding:	\$	14,984	1,944	8%	11%	\$ 178,500	18,000
	Home Energy Reports	\$	115,406	0	32%	0%	\$ 360,000	0
	Total Gas Programs	\$	8,230,022	1,680,239	75%	95%	\$ 11,013,500	1,764,500

<sup>&</sup>lt;sup>23</sup> In Table 4, Gas Programs, Schedule G214, Energy Star Appliances, the expenditures are captured under the electric portion of that program. Gas savings are derived from analyses of rebate applications from PSE gas service territories.

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Figure 8 and Figure 9 below are representations of proportions of EES Residential programs savings and spending for electric and gas.

Figure 8: Residential Sector Savings, as percents of totals

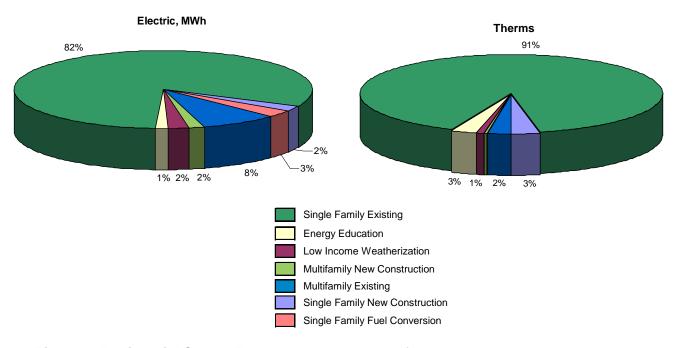
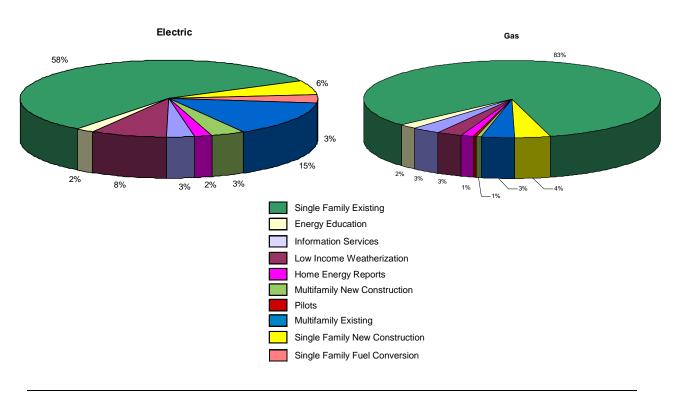


Figure 9: Residential Sector Expenses, as percents of totals



### **Direct Benefit to Customer**

As a measure of how effectively PSE is using ratepayer dollars, PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. These services can include, but aren't limited to credits on a monthly bill, upstream incentive provided to channel partners or trade allies—either within our service territory or regionally—and free energy efficient devices available by mail.

For example, at many retailers, customers receive a point of sale discount when they purchase a CFL bulb. Similarly, customers are spared the trouble of transporting their old refrigerator to the local transfer station when they take advantage of the Refrigerator Decommissioning program. The below charts represent the overall Residential Sector ratios for electric and gas. Program-specific DBtC ratios are indicated in the applicable overviews. The Residential Sector DBtC ratios are indicated in Figure 10.

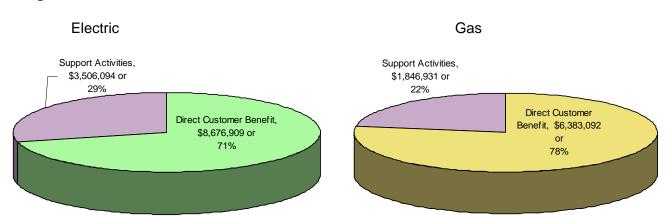


Figure 10: Residential Sector Direct Benefit to Customer Ratio

Support activities include a certain amount of administrative functions necessary to efficiently operate the department and maintain accurate recordkeeping, provide required reporting, and maintain good customer service. Additionally, the noted Support Activities include, but are not limited to, marketing—including the creation and distribution of energy efficiency brochures, web and media content—market research, all program support functions, including rebate processing, reporting, systems support and analyses. Evaluation functions, EME project evaluation and verification analyses, trade ally/contractor training, community event participation and all customer renewable program support is also included in this category. Each of these is critical to providing ratepayers with cost-effective, value-added energy efficiency programs.

The individual program synopses below will provide additional details of our achievements through the first two quarters of 2010.

## **RESIDENTIAL PROGRAMS**

## **Residential & Commercial Energy Efficiency Information**

Schedules E200/G1206 (Residential) & E260/G260 (Commercial/Industrial)

## **Description**

Although Energy Efficiency Information provides services to both residential and business customers, the program summary is presented here, in the Residential Sector section of this report. This is to preserve continuity with previous reports as well as to maintain the numerical sequence of our Schedules in the report. In future reports, this program may appear either separately in the Residential and Business sectors or in its own separate section.

These services consist of five components that complement each other to provide information for customers on energy programs and efficiency improvements tailored to their interests and energy-use concerns.

# **Energy Advisors**

The Energy Advisors research, analyze, resolve and respond to customer inquiries, issues and requests related to energy efficiency and conservation; and promote and explain energy efficiency and renewable programs and their advantages. They represent PSE in an effort to promote and cross market products and services by presenting and providing educational materials to employees, organizations and community groups. They consult with customers to help lower bills and educate them regarding energy efficiency and conservation as well as promote PSE energy efficiency and conservation programs and services at community and corporate outreach events such as trade and home shows, fairs, educational workshops and trainings.

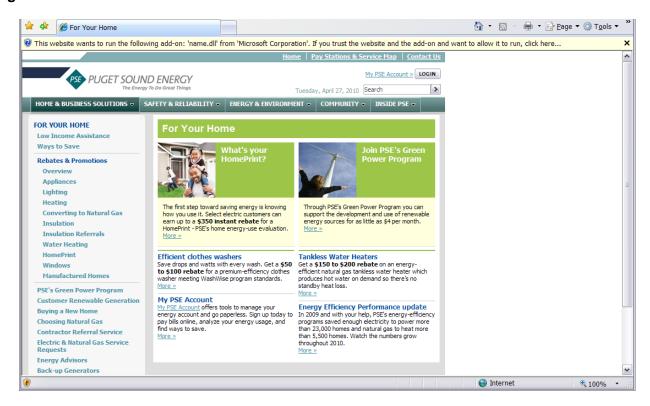
## **Energy Efficiency Brochures**

PSE provides brochures and how-to guides on numerous energy efficiency opportunities, including low-cost equipment, weatherization measures, major weatherization improvements, and equipment upgrades. This information includes investment and savings estimates where appropriate. These brochures are available to customers in paper form and online at the PSE Web site. Where required by tariff, brochures are included as bill inserts.

#### On Line Services

To assist customers with information and questions, a section of the PSE web site (<a href="www.pse.com">www.pse.com</a>) is dedicated to energy efficiency and energy management for customers that prefer on-line services. Figure 11 is an example of PSE's website. PSE provides "Energy at Home", a quarterly e-newsletter promoting energy efficiency services. This free service contains articles about energy efficiency, timely seasonal tips, links to PSE program information and coupons for energy efficient products. A similar bimonthly "Energy in Business" e-newsletter features case studies of PSE energy efficiency projects, as well as announcements of upcoming training opportunities. Other services include an email box, and links from a customer's Energy Tracker information and graphs to energy efficient tips and ideas.

Figure 11: EES Website on PSE.com

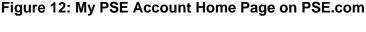


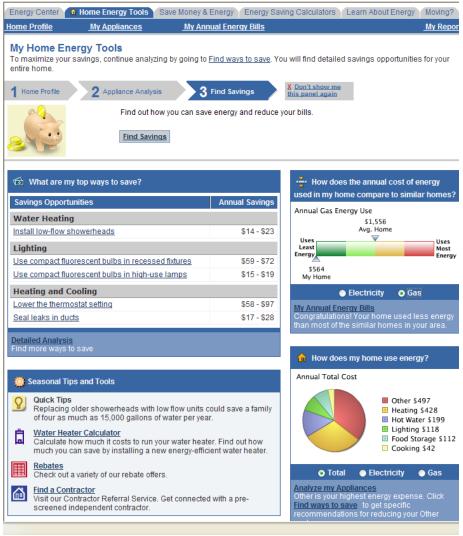
Work is underway to revise the PSE.com website, which will incorporate an interface with PSE's Re-Energize campaign, about which we elaborate in the Mainstreaming Green discussion on page 114.

### On-Line Personal/Business Energy Profile

Personal Energy Profile (residential) and Business Energy Profile (small business) are free energy self-audit surveys, with PSE follow-up analysis and a report that provides customers with specific and customized energy efficiency recommendations. These services identify current energy costs and consumption by end-use, and provide a list of specific recommendations for energy efficiency opportunities and their associated savings estimates.

<u>MY PSE Account</u> incorporates easy-to-navigate tabs and menus that a customer can use to query their billing history and details, an analyzer tool that explains what is included in their bill. An Example of a My PSE Account home page is illustrated in Figure 12. Customers can access energy analysis tools to better understand what changes can be made to reduce energy usage. Below is a sample energy tools page. The Business Energy Profile is available only to online users.





### **Events**

Energy Efficiency Services sponsors and participates in community, local, and regional events annually. These events include home shows, trade shows, seminars, corporate events and community outreach. By providing unique opportunities for EES staff to interact directly with customers to discuss a variety of products, programs and services PSE offers and match customer interests/needs with Energy Efficiency programs.

The event strategy team provides specific criteria for event participation that matches overall business and strategy of the programs supporting EES programs with emphasis on presence, affiliation and relevance. Each event holds a particular value to stakeholders and relates to objectives of PSE EES programs. The Events team has been redesigning and organizing the events management processes in order to improve the customer experience. The Events strategy team—including representatives from marketing, outreach and programs—assesses event requests, reviewing event opportunities in advance, with a focus on tactical planning for and vetting events.





## **Program Performance**

Table 5 provides a year-to-date summary of expenditures for Residential Information Services.

**Table 5: Residential Information Services Year to Date Performance** 

	Through June 2010		Year to Date Jan. '10 - June '10 Actuals						et/Goal
					% of	% of			
Schedule	Programs		Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric			Electric (MWh	1)			Electr	ic
Gas	Gas			Gas (Therms	)			Gas	
E200	Residential Information Services	\$	406,890	n/a	27.1%	n/a	\$	1,503,280	0
G206 Residential Information Services			239,755	n/a	38.4%	n/a	\$	624,000	0

## January through June Accomplishments and Activities:

Recently, we have relocated three of the eight energy advisors to support local business offices by representing Energy Efficiency as community challenges and partnerships develop. Olympia, South Whidbey and Bothell are currently staffed with an Energy Advisor as Energy Efficiency's representative. We provide improved customer service with person to person contact with walk in customers, and are more integrated with other PSE departments such as Customer Care and Customer Construction Services.

Eight Energy Advisors processed almost 4,000 Green Power bill inserts responses, answered over 40,000 phone inquiries, responded to over 1,700 e-mails and provided over 26,000 energy efficiency information brochures to customers across PSE's service territory.

January through June event activities decreased slightly from last year, primarily due to economic conditions and a mild winter. In the first six months of 2010, PSE participated in or sponsored in 71 residential events and 35 commercial events. This resulted in 83,000 Residential brochures and 6,000 commercial brochures provided to customers through event participation.

Earth Day events around the region request Puget Sound Energy participation each year and are recognized in April. PSE is an active participant in many of these Earth Day events as the focus is usually energy efficiency, renewable awareness and sustainable activities. Four of the events in which PSE participated were at companies that created an "Employee Awareness" event specifically around Earth Day. In Thurston County, it was hosted by the Washington State Employment Security Department, State Farm has an event in Pierce County, and Boeing had their Earth Day festivities in King and Pierce counties.

Attendance for the two Boeing events alone attracted about 2,300 employees. This is the third year that Boeing asked PSE to be a main source of information for their event. State Farm was also eager for PSE to participate in their Earth Day event which attracted about 1,200 employees. In addition to company-sponsored Earth Day events, communities also hosted events; most notable was the Community Energy Forum on Bainbridge Island located at Sakai Intermediate School. The event focused on creating positive power solutions and pathways to sustainable energy practices.

The 28th annual West Coast Energy Management Congress (EMC), hosted by PSE, was a great success - attracting record attendance to the Washington State Convention and Trade Center. Attendees were treated to informative sessions presented by top energy experts from around the region, on topics including energy auditing, power quality and carbon reduction.

Business Energy Management has been visible at other industry events including the Energy Facilities Connection in Leavenworth, Washington. BEM presented as part of the utilities panel on Innovative Utility Energy Programs utility company perspective at the Council of Educational Facilities Planners International.

### **Low Income Weatherization**

Schedules E201/G203

### **Description**

PSE provides funding of cost-effective home weatherization measures for low-income gas and electric heat customers. Funds are used for single-family, multifamily, and mobile home residences.

Program participation takes place through referrals from low-income and crisis service agencies. PSE customers who have difficulty paying heating bills are also referred to the appropriate serving agency when they apply for energy bill payment assistance. Income qualification for the low-income weatherization program takes place at the local weatherization agency or other designated agency. Local agencies assume responsibility for obtaining permission from rental property owners to install weatherization measures. Agencies report measure installation and savings calculation attributes to EES via a proprietary MS Access database application.

The elderly, disabled, and households with very young children receive priority in scheduling of the weatherization work. In addition to the structure audit and measures installation, agencies are trained to provide energy use education to participants.

## **Program Performance**

Table 6 provides a year-to-date summary of expenditures and energy savings for the Low Income Weatherization program.

Table 6: Low Income Weatherization Year to Date Performance

	Through June 2010		Year to Date Jan. '10 - June '10 Actuals					2010 Budget/Goal	
					% of	% of			
Schedule	Programs		Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric		Electric (MWh)					Electr	ic
Gas	Gas		Gas (Therms)					Gas	
E201 Low Income		\$	1,070,063	1,370	48.5%	99.3%	\$	2,207,080	1,380
G203	G203 Low Income		234,712	14,365	41.4%	53.2%	\$	567,500	27,000

### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer (DBtC) to be defined as rebates, grants, credits or services that are of value to customers. In the case of Low Income Weatherization, DBtC are incentive payments for those measures directly installed in customer's homes/building by social service agencies and approved by the Department of Commerce. No measure costs are passed on to the low income customer; therefore, incentive payments are made directly to social service agencies for reimbursement of measures installed. The accompanying charts, Figure 13, indicate that the Low Income Weatherization program has maintained a DBtC ratio of 89 percent in electric service and 85 percent in gas service.

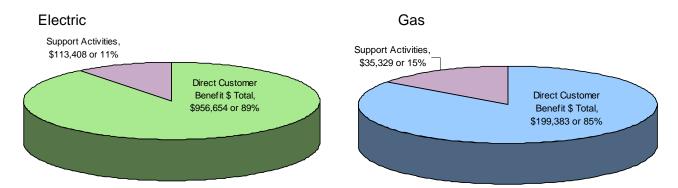


Figure 13: Low Income Weatherization Direct Benefits to Customers

### January through June Accomplishments and Activities:

The Low Income Weatherization program January-June 2010 experienced increased production as compared to past years. As of June 2010, the tariff electric program was at 89 percent of year-end goal and the tariff gas program was at 43 percent of year-end goal. This increased production is due to a number of factors: 1) PSE funding has been leveraged with ARRA funding by social service agencies in the PSE service territory to maximize number of units served; 2) increase in multi-family units served, primarily due to State policy encouraging increased service to this housing sector; and 3) distribution of Enron settlement funding for the 2010 program, providing increased funding for weatherization-related repairs and energy efficiency improvements (see below).

# **Enron Proceeds processing**

PSE received \$2.1 million from the recent Enron Settlement in November, when reporting requirements and logistics were established for the disbursement of the funds. EES filed its first required report on Enron settlement proceeds spending on May 31, 2010. That report can be procured from PSE's Regulatory Department.

As of April 30, EES spent \$1,066,508.96 on gas and electric weatherization projects to single-family, multi-family and mobile home low income customers.<sup>24</sup> Also specific to low income applications are energy-related repairs, such as mechanical ventilation and electrical, roof, floor and structural repairs required prior to weatherization.

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<sup>&</sup>lt;sup>24</sup> PSE's semi-annual report of Enron Settlement Distribution Money to the Attorney General of Washington State, May 28, 2010

## Energy Education Schedules E202/G207



## Description

Powerful Choices for the Environment empowers middle school students in western Washington to make a difference through their everyday actions. Facilitators trained in energy education and resource conservation present this 4-day curriculum in science classrooms to more than 16,000 students at over 90 schools every year. Sponsored by Puget Sound Energy and 20 local partnering agencies, including other utilities and cities, Powerful Choices presents the students with a systems approach to energy use through the lens of ecosystems.

The curriculum begins by inspiring the students to understand the value of protecting their local, unique ecosystem and builds toward an understanding of how their energy use impacts all aspects of their environment. Through a series of hands-on games and activities, the students explore how their energy use affects the quality of their air, land, and water. In this way, the program guides the students to explore the question, "How do my personal choices connect to energy use and the health of the Puget Sound ecosystem?"

Powerful Choices supports the Washington State Essential Academic Learning Requirements and the 2009 Environment and Sustainability Education standards, and in 2009 received the EPA National Clean Air Excellence Award in the Education/Outreach category. Figure 14 is an illustration of the Energy Education website on PSE.com.

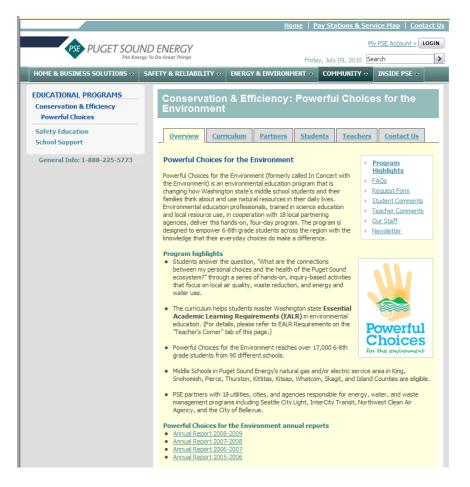


Figure 14: Energy Education Website on PSE.com

### **Program Performance**

Table 7 provides a year-to-date summary of expenditures and energy savings for the Energy Education program.

**Table 7: Energy Education Year to Date Performance** 

	Through June 2010		Year to Date .	Jan. '10 - June	e '10 Actua	ls		2010 Budget/Goal		
					% of	% of				
Schedule	Programs		Dollars	Savings	Budget	Savings		Dollars	Savings	
Electric	Electric		Electric (MWh)					Electri	С	
Gas	Gas		Gas (Therms)					Gas		
E202 Energy Education		\$	266,800	712	44.6%	51.6%	\$	598,000	1,380	
G207	G207 Energy Education		162,286	48,214	46.4%	74.8%	\$	350,000	64,500	

## **January through June Accomplishments and Activities:**

The Powerful Choices team remained on target with savings and budget goals during the first half of 2010. The team is now in the process of enhancing the energy efficiency component of the curriculum so that the program builds up to the understanding of how the students' use of energy affects their local ecosystem. The staff sought input from key stakeholders, including the larger EES department, teachers, and partners. The staff will pilot the new energy efficiency curriculum this summer and in the fall of 2010. The former energy efficiency lesson plan will now be given to teachers to implement after the PSE facilitators have left the school. The education staff continues to learn and update the delivery of the program and will participate in a retreat at the Baker dam facilities. At this retreat, the staff will focus on PSE's environmental mitigations and the delivery of the new energy efficiency curriculum.

Two new partners joined the Powerful Choices team during the first half of 2010. The plans for the 2010 partner meeting are underway (planned for August).

The new web-based scheduling data system is on target and expected to launch in fall 2010. Staff, teachers, and partners will begin utilizing this new system to expedite the classroom scheduling, communication, and coordination with 90 schools, 300 teachers, and PSE education staff.

PSE and Hopelink partnered to provide an Energy Efficiency Education program to low income adults with limited English speaking skills. Curriculum and materials were developed for use in the classroom in educating adults on how to save energy and save money. Upon completion of the class, they receive a bag of low cost energy efficient applications such as a low flow showerhead, CFL bulbs and weather stripping.

The pilot ITSCOOL school fundraiser, The Cool School Challenge, and Komo Kulshan Outdoor School programs were discontinued due to lack of funding and less than optimal cost effectiveness. A strategy plan was launched to communicate this transition to key stakeholders, including community members and school leaders. Internal and external messaging ensured an easy transition and preserved PSE's connection to these communities.

## Single Family Existing

Schedules E214, G214

## Description

Single Family Existing programs implement cost effective, targeted, residential energy savings using a menu of prescriptive and calculated efficiency measure incentives, including rebates for single family existing structures (those that have not been newly constructed), consisting of four or fewer dwelling units. Prescriptive rebates are intended to facilitate participation by customers, contractors, developers and trade allies, and provide administrative efficiencies for PSE in meeting energy efficiency goals.

Rebates and incentives offered to eligible natural gas and electric PSE Single Family Existing customers include a variety of end-use classifications, not limited to:

- Compact Fluorescent Lighting including CFL lamps and CFL fixtures,
- Appliance—including refrigerators, freezers and clothes washers—rebates,
- Refrigerator Decommissioning focused on removing the "garage" unit Weatherization including windows, insulation and duct sealing,
- Heating including high efficiency furnaces and heat pumps,
- Water heating, including tankless water heaters and efficient showerheads.

Incentive amounts and savings values are regularly reviewed and are based on regionally accepted energy savings estimates and incremental efficiency measure cost. Incentives may be subject to change in response to revisions in savings estimates, average incremental cost or changes in Federal appliance efficiency standards or State codes.

## **Program Performance**

Table 8 provides a year-to-date summary of expenditures and energy savings for the Single Family Existing program.

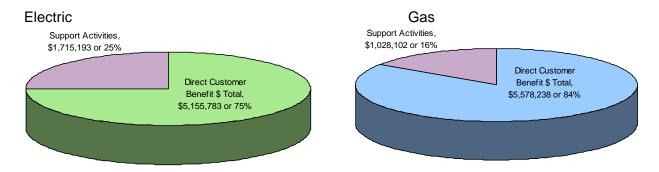
**Table 8: Single Family Existing Year to Date Performance** 

	Through June 2010	Year to Date	Jan. '10 - June	e '10 Actua	ls		2010 Budge	t & Goal
Schedule	Programs	Dollars	Savings	% of Budget	% of Savings		Dollars	Savings
Electric	Electric		Electric (MWh)				Electr	ic
Gas	Gas		Gas (Therms)				Gas	
E214	Single Family Existing							
LZIT	HomePrint + Water heat	\$ 467,431	302	2.4%	0.3%	\$	19,550,460	109,480
	Residential EE Lighting Rebate	\$ 3,092,699	35,097	15.8%	32.1%	*	.0,000, .00	.00, .00
	Space Heat	\$ 637.823	1.875	3.3%	1.7%			
	Refrigerator Decommissioning	\$ 288,859	1,920	1.5%	1.8%			
	Energy Star Clothes Washers	\$ 1,075,012	2,010	5.5%	1.8%			
	Showerheads	\$ 4,257	587	0.0%	0.5%			
	Weatherization	\$ 1,817,673	6,471	9.3%	5.9%			
Subtotals		\$ 7,383,755	48,262	37.8%	44.1%	\$	19,550,460	109,480
G214	Single Family Existing							
	HomePrint	\$ 177,656	709	2.4%	0.1%	\$	7,365,000	1,408,000
	Water Heater	\$ 385,443	149,587	5.2%	10.6%		,,	,,
	Space Heat	\$ 2,107,179	572,430	28.6%	40.7%			
	Showerheads	\$ 9,035	37,908	0.1%	2.7%			
	Weatherization	\$ 4,105,038	734,305	55.7%	52.2%			
	Energy Star Apliances	\$ -	22,638	0.0%	<u>1.6</u> %			
Subtotals		\$ 6,784,350	1,517,577	92.1%	107.8%	\$	7,365,000	1,408,000

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 15 below indicates that the Single Family Existing program maintained a DBtC of 75 percent in electric offerings and 84 percent in gas service through the first half of 2010.

Figure 15: Single Family Existing Direct Benefits to Customers



Below are Single Family Existing Summaries:

## **Retail and Consumer Channel**

The Retail and Consumer Channel focuses on promoting energy efficiency products and services to customers through retailers, manufacturers, and direct-to-consumer offerings.





## **Residential Retail Program**

This program collaborates with retailers and manufacturers of energy efficient products – such as lamps, light fixtures, showerheads, electronics, and appliances such as clothes washers – to ensure that customers have access to a wide variety of efficient product options. The Retail Program provides incentives and promotions for efficient products to PSE's residential customers by establishing agreements with retailers and manufacturers; PSE also provides field services to educate retail employees on our products, detail qualifying product, and ensure compliance with PSE agreements.

## January through June Accomplishments and Activities:

In June, PSE completed the transition of its Retail Program from 3<sup>rd</sup> party management to in-house program management. The result is immediate recognition of approximately \$25,000 per month in cost savings. The team is now exploring further cost-saving strategies by realigning its incentive processing and field services contracts.

PSE Retail Program field contractors conducted 30 formal and 1,654 informal retailer trainings on our program. The result has been a more informed and engaged retail sales staff in the approximately 350 stores that we serve. The team also conducted 53 consumer outreach events to educate our customers on the energy efficiency rebates and promotions offered by PSE.

PSE Retail Program staff also worked closely this year to aid in the formation and launch of Washington State's Cash for Appliances program. Administered by the State Department of Commerce Energy Policy Division, this program is administering \$5.6 million in American Recovery and Reinvestment Act (ARRA) funds to Washington residential consumers who purchase eligible ENERGY STAR® refrigerators and clothes washers and recycle their resource-wasting appliance.

As a final highlight, PSE began a field assessment of LED 6-watt A-lamps in conjunction with the Department of Energy's L-Prize competition. L Prize is the first government-sponsored technology competition designed to spur lighting manufacturers to develop high-quality, high-efficiency solid-state lighting products to replace the common light bulb. Philips is the first manufacturer to have submitted qualifying product to the competition. By working cooperatively with the DOE, PSE has distributed about 100 bulbs to PSE customers to test in a variety of applications – from single family homes, to multifamily common area lighting, and even in retail stores. PSE will continue to explore opportunities to bring cutting-edge technologies to our customers in order to gain real-world feedback and testing results.

## **Refrigerator Decommissioning**

This program provides customers with a means to safely dispose of their unwanted refrigerators while receiving an incentive for removing a potentially high-energy usage appliance from service. Decommission is differentiated from refrigerator replacement insofar as decommissioned refrigerators are not replaced with another refrigerator<sup>25</sup>.

# January through June Accomplishments and Activities:

Refrigerator decommissioning usually begins to pick up in volume in the early summer, where we expected to achieve the majority of the savings for 2010. Program expenses are well below budget.

<sup>&</sup>lt;sup>25</sup> RTF values are substantially different for refrigerator decommissioning versus refrigerator replacement. Additionally, the process for decommissioning at the customer's residence is completely different.

## **Dealer Channel**

### **HomePrint**







Launched in February 2010, the HomePrint program provides incentives to authorized contractors to provide home performance evaluations to requesting customers. The home evaluation market currently lacks maturity and PSE is developing innovative marketing strategies and regional partnerships to reach customers. PSE is utilizing independent HomePrint-certified specialists, which are mostly small businesses, to conduct the evaluations. The program's quality assurance specialists constantly review HomePrint evaluations to ensure consistency with PSE standards.

HomePrint incentives are used to offset the cost of the inspection. While performing inspections, contractors provide several energy-efficient measures, including CFL lamps and low-flow showerheads to customers. HomePrint reports outline conditions that may be causing increased energy usage and provide information on many conservation measures offered by the Company.

### January through June Accomplishments and Activities:

- 46 specialists trained.
- 364 HomePrint evaluations have been completed,
- 6,771 compact fluorescent lamps have been installed,
- 94 in-field HomePrint reviews have been conducted by PSE's quality assurance team.
- HomePrint became a sponsor of Home Performance with Energy Star.

## **Weatherization**

The weatherization program oversees the "shell" of residential structures; installation of windows, insulation and duct sealing for both natural gas and electric savings. There are a wide variety of duct sealing offerings, some directed specifically to manufactured homes, while other focus on site-build residences.

## January through June Accomplishments and Activities:

Electric weatherization savings targets are currently at 79 percent of year-end goal using 64 percent of the 2010 budget. Natural gas weatherization savings targets are at 146 percent of year-end of goal using 104 percent of the 2010 of budget. Higher than usual participation rates by customers relative to past years have been attributed to spill over of 2009 tax credits installations, increased 3rd party marketing from ARRA funded programs and an increase in the number of independent contractors authorized to install insulation measures for PSE.

Insulation and windows programs were adjusted in Q2. New qualifications were introduced to the Insulation program to increase the quality of cost effective savings (e.g. Rebates do not apply to damaged and removed insulation.) Inches were added as a simple measurement for insulation pre-conditions in contrast to the traditional and nebulous R-value measurement of the past. Other less cost effective measures began the "sunset" process including window program and the top two least cost effective insulation measures. Insulation rebates were also reduced from a \$400 cap per measure to a \$200 cap per measure.

## **Space and Water Heating**

The program manages incentives and installations of gas furnaces, heat pumps, water heaters and new for 2010, electric water heaters and electric furnaces.

### January through June Accomplishments and Activities:

During the first half of 2010, the Space and Water Heating program launched an instant rebate option for contractors; encouraging them to participate in for space & water heating programs. This improved process enhances the customer and contractor experience and improves productivity by speeding up the processing of rebates and reducing the number of checks issued by the Company. The program also completed four training webinars; two focused on proper heat pump sizing & lockout controls, another described PSE water heating programs, with the most recent discussing the new instant rebate process. The participation for each webinar ranged from 60-100 people. The heat pump sizing and instant rebate webinars were recorded so that additional interested contractors and trade allies can link to our website or receive a DVD via our contractor network.

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We also distributed PSE co-advertised heat pump water heater, geothermal heat pump, and ductless heat pump fliers to 27 HVAC/plumbing contractors during the first two quarters. Co-advertising on the fliers includes contractor and PSE information. These are used by these contractors for mailing to their PSE customers, home shows, and overall industry marketing. Lastly, we presented to and met with over 100 contractors during January and February to discuss space & water heating programs.

## **Single Family, New Construction**

Schedule E215, G215

## **Description**

Similar to PSE's Single Family Existing program, rebates and incentives are offered to eligible natural gas and electric PSE Single Family customers, builders, vendors, contractors, trade allies and developers (cumulatively, the Program refers to these as "partners") who are constructing or recently constructed new single family residential structures (consisting of four or less attached units). EES works with many lighting showrooms and distributors to market energy efficient lighting for encouraging developers, builders and electrical contractors to purchase energy efficient lighting products for their construction projects.

Incentives include a variety of end-use classifications, not limited to:

- Lighting: Compact Fluorescent Lighting including CFL lamps and CFL fixtures,
- Appliances: Clothes washer rebates, refrigerator,
- Ventilation: Whole house fan,
- Heating: Furnace, duct sealing with performance testing, ducts in the conditioned space with performance testing and heat pumps,
- Water heating: standard storage tank and tankless water heaters
- Manufactured homes: And ENERGY STAR or EcoRated Manufactured homes, which is unique to this program.

Incentive amounts and savings values are regularly reviewed by PSE and are based on regionally accepted energy savings estimates and incremental efficiency measure cost. Rebates may be subject to change in response to revisions in savings estimates, average incremental cost or changes in Federal appliance efficiency standards or State codes.

For the majority of conservation measures, EES receives measure installation data directly from builders, developers, showrooms and distributors. It is therefore possible to precisely track measure details.

### **Program Performance**

Table 9 provides a year-to-date summary of expenditures and energy savings for the Single Family New Construction program.

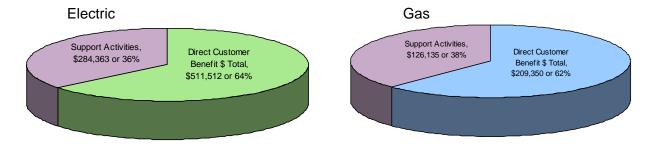
**Table 9: Single Family New Construction Year to Date Performance** 

	Through June 2010	Year to Date	Jan. '10 - June	e '10 Actua	ls	2010 Budget/Goal		
				% of	% of			
Schedule	Programs	Dollars	Savings	Budget	Savings	Dollars	Savings	
Electric	Electric	E	Electric (MWh)			Electri	С	
Gas	Gas	1	Gas (Therms)			Gas		
E215	Single Family New Construction	\$ 795,875	1,398	71.6%	43.4%	\$ 1,112,280	3,220	
G215	Single Family New Construction	\$ 335,130	52,913	34.5%	29.4%	\$ 972,500	180,000	

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 16 below indicates that the Single Family New Construction program maintained a DBtC ratio or 64 percent in electric offerings and 62 percent in gas offerings through the first half of the year.

Figure 16: Single Family New Construction Direct Benefits to Customers



## **January through June Accomplishments and Activities:**

Builders of all sizes are seeing value in energy efficient building in several ways. The new construction building community wants to build energy efficient, energy efficient homes, however, the market slowdown and the increased building efficiencies in the new Washington State Energy Code that is pending implementation have them very concerned and seriously evaluating the value.

Some highlights in the first 6 months of 2010:

- PSE targeted existing builders and increased the participation of four large existing builders while recruiting 11 new builders into the program,
- ENERGY STAR® Homes market share is 18 percent; approximately 75 percent of our savings came from homes being built to this standard,
- Three new lighting distributors with ten locations were added,
- Several new lighting distributors that signed up in late 2009 have increased the supply and demand of ENERGY STAR® recessed ("can") fixtures by up-selling to electrical contractors,
- The program educated our partners on the upcoming 2009 WSEC changes and PSE program impacts in a seminar attended by 200 new construction industry partners,
- We've engaged in a collaborative effort with NEEA and the ENERGY STAR® Homes
  Program to increase the energy efficiency components and verification standards of
  two home building associations,
- Our Showroom and Distributor lighting program successfully transitioned to in house management and tracking, saving the program approximately \$500,000 during the first six months of 2010.

## **Single Family Fuel Conversion**

Schedule E216

### Description

The Company's fuel conversion program acquires cost-effective electric energy savings from existing single-family retrofit measures and services by converting to natural gas customers who use electricity as the primary source for their space heat and/or water heat. The Company provides incentives for replacing existing electric forced-air or baseboard space heating equipment and/or tank style water heating equipment with high efficiency natural gas space heating equipment.

Based on the measure/product type and market factors, PSE may provide incentives to its customers at different points along the value chain. Market barriers vary dramatically from measure to measure; consequently PSE incentives may occur at the manufacturer, distributor, contractor, retailer or consumer level. Incentive amounts are based on regionally accepted energy-saving estimates and incremental efficiency measure costs. These incentives may be subject to change in response to revisions in savings estimates, average incremental cost or changes in Federal appliance efficiency standards or State codes. Training, education and support by PSE for independent contractors, distributors, retailers, showrooms, sales associates, consumers and partnering organizations are foundational to the success of this program.

PSE estimates that approximately 10 percent of the customer base qualifies for the incentive, creating a finite and specialized niche for conversion opportunities. To date, the majority of conversions are water heater installations. Dealers indicate that 50-70 percent of the water heater conversions require relocation of the equipment to meet the efficiency code requirements. PSE incentives assist customers offset these relocation costs. Another opportunity requiring PSE focus is that of construction costs, such as meter installation and street restoration where natural gas lines aren't yet installed or require overhaul.

## **Program Performance**

Table 10 provides a year-to-date summary of expenditures and energy savings for the Fuel Conversion program.

**Table 10: Single Family Fuel Conversion Year to Date Performance** 

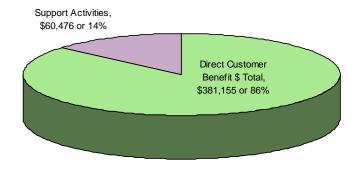
	Through June 2010		Year to Date	2010 Budget/Goal				
					% of	% of		
Schedule	Programs		Dollars	Savings	Budget	Savings	Dollars	Savings
Electric	Electric			Electric (MWh)			Electr	ic
Gas	Gas			Gas (Therms)			Gas	
E216 Single Family Fuel Conversion			441,631	1,819	21.3%	23.3%	\$ 2,068,620	7,820

<sup>&</sup>lt;sup>26</sup> As outlined in the Company's Schedule 216, **Section 1**, **Availability/Eligibility**, the equipment to which the Customer is converting must be "highly efficient natural gas space and/or domestic water heating…"

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 17 below indicates that the Fuel Conversion program maintained a DBtC ratio or 86 percent through the first half of the year.

Figure 17: Single Family Fuel Conversion Direct Benefits to Customers



## January through June Accomplishments and Activities:

The program has been working with EES Marketing, utilizing its new "Re-Energized" campaign (details of which are outlined in the Mainstreaming Green section of this report) to post in neighborhoods of potentially eligible customers. EES partnered with City of Enumclaw in March and Cascade Natural Gas in May and conducted a joint utility bill insert.

### 2010 Year to Date Key Statistics

- Space Heat Only (10 Units)
- Space Heat and Water Heat (69 Units)
- Water Heat Storage Tank (61 Units)
- Water Heat Tankless (128 Units)

Per above list, almost 70 percent of all rebates were for water heat only, as expected. This is due to the easier installation than a space heat conversion. Of the total water heat rebates processed, approximately 66 percent were tankless.

# **Multifamily Existing**

Schedule E217, G217

## **Description**

The Multi-Family Retrofit Program is designed to increase the installation of selected energy efficient measures in existing, multifamily buildings with five or more attached residential dwelling units located in PSE's electric and natural gas service areas. The team works with property owners, managers, contractor's trade allies and tenants to encourage installation of energy efficient measures. These structures typically have opportunities for upgrades in common areas, building envelope and in the units. Measures include window and insulation upgrades, appliance, lighting, HVAC and water heating upgrades and calculated commercial upgrades including boilers and solar pool heaters. This program targets installation of energy efficient measures occurring during planned retrofit and replace upon failure.

## **Program Performance**

Table 11 provides a year-to-date summary of expenditures and energy savings for the Multifamily Existing program.

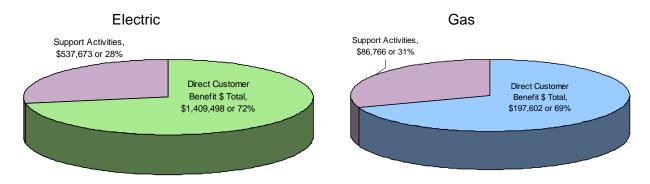
**Table 11: Multifamily Existing Year to Date Performance** 

	Through June 2010	Year to Date Jan. '10 - June '10 Actuals						et/Goal
				% of	% of			
Schedule	Programs	Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric	Electric (MWh)					Electr	ic
Gas	Gas		Gas (Therms)				Gas	
E217	Multi Family Existing	\$ 1,947,172	4,848	41.0%	31.9%	\$	4,747,200	15,180
G217 Multi Family Existing		\$ 284,368	40,483	82.9%	89.0%	\$	343,000	45,500

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 18 below indicates that the Multifamily Existing program maintained a DBtC ratio of 72 percent in electric service and 69 percent in gas service through the first half of the year.

Figure 18: Multifamily Existing Direct Benefits to Customers



## **January through June Accomplishments and Activities:**

#### Electric

To date, 83 multifamily electric properties have been completed. As the program matures (3.5 years) there has been several new energy saving opportunities evaluated and now offered. Triple pane windows, LED common area lighting, GU-24 in unit fixtures and common heating/water heating systems were added at the beginning of 2010. The EES evaluation team began conducting a comprehensive program savings evaluation on all Multifamily offerings beginning late in the second quarter of this year. It is anticipated that the results will be available by the end of Q3.

#### Gas

In the first half of 2010 we have seen a dramatic increase in gas weatherization and heating/water heating measure installations. To date, 19 multifamily gas properties have been completed. This is due to the team's marketing efforts during the two quarters of 2009. As property owners identify the value of energy efficient upgrades, they need to include those costs in their annual budgets. It can take up to six months to identify budgets and implement the upgrades. Also, owners are unwilling to install heating and water heating upgrades during the heating season, as this can cause system down time. Installing these systems in the spring or summer avoids tenant disruption. Subsequently, we are now seeing benefits from our efforts last year.

## **Multifamily New Construction**

Schedule E218/G218

### Description

Under this comprehensive program, financial incentives for multifamily new construction projects are packaged under one grant and are structured to work in accord with current commercial programs. PSE provides a single "point of contact" to development teams for all energy efficient measures/upgrades. This allows PSE to maximize the energy savings opportunity in each development and reduce multi-program confusion for the customer.

The program includes prescriptive rebates/incentives and calculated grants. Eligible customers include builders, developers, owner or agent receiving electricity or natural gas through PSE's residential schedules 7 (including 17, 27, 37 and 47) and 7A; and commercial schedules 8, 11, 12 and 24.

Structures include but are not limited to apartments, town homes, condominiums, and assisted living residences. There are three distinct construction types in this market that typically offer inunit and common area energy saving opportunities:

- 1. Low/mid rise construction
- 2. High rise construction
- 3. Assisted Living/Affordable Housing construction

There may be any combination of residential and commercial meter mixes in all three types of construction. Once the meter type mix is confirmed with the development team, the appropriate PSE programs are identified to serve that development.

### **Program Performance**

Table 12 provides a year-to-date summary of expenditures and energy savings for the Multifamily New Construction program.

**Table 12: Multifamily New Construction Year to Date Performance** 

	Through June 2010	Year to Date	Jan. '10 - Jun	e '10 Actua	ıls	2010 Budget/Goal		
				% of	% of			
Schedule	Programs	Dollars	Savings	Budget	Savings	Dollars	Savings	
Electric	Electric		Electric (MWh)			Electr	ric	
Gas	Gas		Gas (Therms)			Gas		
E218	Multi Family New Construction	\$ 451,496	1,013	42.0%	44.0%	\$ 1,074,560	2,300	
G218 Multi Family New Construction		\$ 59,031	4,743	23.3%	22.1%	\$ 253,000	21,500	

### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 19 indicates that the Multifamily New Construction program maintained a DBtC ratio of 87 percent in electric offerings and 46 percent in gas offerings through the first half of the year.

Support Activities,
\$57,770 or 13%

Direct Customer
Benefit \$ Total,
\$393,726 or 87%

Direct Customer
Benefit \$ Total,
\$27,419 or 46%

Figure 19: Multifamily New Construction Direct Benefits to Customers

## **January through June Accomplishments and Activities:**

### **Electric**

The program received three new project applications in the first half of 2010 serving residential, market-rate affordable and senior housing units. In addition, nine project grants were fully verified, paid and closed during this time frame, representing 1,312 residential units. Despite continued slowing in the residential new construction market in the first half of 2010, the program is on track to exceed its kWh goal and gain further visibility in the development community.

## Gas

The program received 2 new project applications in the first half of 2010; two project grants were fully verified, paid and closed during this time frame, as well, representing 308 residential units. The economic downturn continues to affect both gas and electric projects, resulting in several projects being postponed until 2011 and 2012. However, the program is on track to meet its therm savings goal for 2010.

### **Pilots**

Schedule E249

## Description

Pilot programs and demonstration projects may be undertaken to determine whether certain strategies and measures are cost-effective in the long run. Pilots are employed to test cost-effective ways to demonstrate market opportunities for energy efficiency.

Pilots may include tests of measure cost and performance, customer acceptance and delivery methods. Pilots are not subject to achieving energy savings sufficient to demonstrate cost-effectiveness in the near term.

## **Program Performance**

Table 13 provides a year-to-date summary of expenditures and energy savings for the Pilots program.

**Table 13: Pilots Year to Date Performance** 

	Through June 2010		Year to Date	Jan. '10 - June	'10 Actua	ls		2010 Budg	et/Goal
					% of	% of			
Schedule	Programs		Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric			Electric (MWh)				Electr	ic
Gas	Gas			Gas (Therms)				Gas	
F040	Dilata avalvalia av	Ι¢	04.074	50	0.00/	F 40/	Φ	4.000.040	000
E249	Pilots, excluding:	\$	21,671	50	2.0%	5.4%	\$	1,069,040	920
	Home Energy Reports	\$	248,111	<u>0</u>	<u>35.0</u> %		\$	708,860	<u>0</u>
Subtotal		\$	269,782	50	15.2%	5.4%	\$	1,777,900	920
G249	Pilots, excluding:	\$	14,984	1,944	8.4%	10.8%	\$	178,500	18,000
	Home Energy Reports	\$	115,406	<u>0</u>	<u>32.1</u> %	0.0%	\$	360,000	0
Subtotal		\$	130,390	1,944	24.2%	10.8%	\$	538,500	18,000

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 20 indicates that overall pilot programs (excluding Demand Response pilots) maintained a DBtC ratio of 32 percent in electric and 51 percent in gas services through the first half of the year.

Electric

Gas

Direct Customer
Benefit \$ Total,
\$249,736 or 32%

Support Activities,
\$531,604 or 68%

Support Activities,
\$149,904 or 49%

Direct Customer
Benefit \$ Total,
\$158,638 or 51%

Figure 20: Pilots Direct Benefits to Customers

2010 pilot programs include:

## • Heat Pump Air Handler/Furnace Fan Motor Upgrade

 Installation of a high efficiency, variable speed, Brushless Permanent Magnet fan motor. This motor will replace less efficient existing Permanent Split Capacitor (PSC) motors. Installation will be by trained PSE technicians or existing contractor network. PSE will offer this pilot to 1,500 single family homes throughout PSE's service territory.

#### Status:

Through PSE's RFP process, Proctor Engineering was selected and contracted to provide both product and services associated with this pilot program. This was for only one brand of motor called the Concept 3, manufactured by McMillian Electric Company.

### Heat Pump Sizing and Lock out Controls

This pilot measure will be delivered through an existing contractor network, to assure properly sized heat pump systems by following industry standard sizing recommendations, and by installing an outdoor control (thermostat) that will sense outdoor temperatures. This control will lock out inefficient auxiliary heat down to specified temperatures in order to achieve full energy saving potential of heat pump systems. PSE will offer this pilot to 1,000 single family homes throughout PSE's service territory.

### Status:

This pilot launched in January 2010 and included all program documentation and a PSE sizing form. The PSE sizing form can be downloaded on <a href="https://www.pse.com">www.pse.com</a>. PSE conducted dealer outreach at local distributors in December 2009 and January 2010. Further, we did specific program training, which included the use of the new PSE sizing form, via a few PSE webinars. These webinars reached 150 individuals in February 2010.

## • Home Energy Reports

Home Energy Reports are customized reports mailed directly to PSE customers that help each residential customer better understand their home electric and gas consumption, motivate them to conserve and provide targeted calls to action tailored to help each customer save money and improve energy efficiency. The initial pilot included 40,000 combined gas and electric single family households and ran for one year. Pilot was launched 3<sup>rd</sup> quarter 2008. Additional customers will be added in partnership with communities who are interested in bringing the reports to their constituents, and in order to further evaluate the pilot.

#### Status:

Contracts are currently being executed with 7 municipalities in east King County to add approximately 90,000 customers to the pilot. We are currently working with groups in Whatcom County and Bainbridge Island to add up to another 30,000 customers to an electric-only version of the pilot.

## Micro-Combined Heat and Power (CHP) System

This pilot measure combines two technologies, an advanced warm air furnace that will also incorporate domestic water heating and a gas fired engine generator. This hybrid heat and power generation package provides energy efficiency in combined heat and power delivery to the home. The Freewatt® system is designed to be installed in the place of a typical furnace and uses the same ductwork system to deliver the heat to the home. PSE will offer this pilot to 10 single family homes within PSE's service territory.

#### Status:

This pilot is on hold as additional research is conducted, savings estimates evaluated and market penetration rates analyzed.

#### Natural Gas Fireplaces

High-efficiency direct vent gas fireplaces provide heat directly in the room.
 Advances in gas heating technology make these heat sources safe and easy to operate. Units must be direct vented with sealed combustion. PSE will utilize our existing contractor network for installation. PSE will offer this pilot to 500 single family homes throughout PSE's service territory.

#### Status:

This program launched in January 2010. PSE conducted dealer outreach at local distributors in December 2009 and January 2010. We have had 27 participants without any marketing investment. We believe that this is a good start. Currently in development is a bill insert planned to run in August 2010. Further, development is ongoing for further outreach to dealers for the upcoming Fall/Winter season. We can target the dealers that are on PSE's CRS program for fireplaces and the companies that have already installed the fireplaces under this pilot program.

## Residential Grants

- This pilot measure will utilize advanced energy modeling and structure-specific data to identify the energy savings value of an identified project. The savings will be unique to each project and allow a program approach similar to that of the existing commercial retrofit custom grant program. PSE will offer this pilot to 30 residential electric single family existing customers.
  - Status:

This pilot is on hold as additional research is conducted, savings estimates evaluated and market penetration rates analyzed.

## **BUSINESS SECTOR**

### **Overview**

## **Customer Base**

The Business Sector serves a diverse set of clientele. Our programs serve small, medium and large commercial customers; industrial facilities and industrial processes; government entities such as school districts, municipal and county buildings, utilities such as water and sewer treatment plants, state and federal buildings and military bases. Our programs also serve agricultural customers such as farms, food storage and food processing.

## Types of Incentives, Measures and Services

A variety of offerings is available and tailored to meet the needs of our customer base. PSE has incentives for efficiency improvements for both existing and new buildings and equipment. Prescriptive rebates are used for small lighting projects, motors, kitchen equipment, heating/cooling equipment, etc. Other prescriptive incentives are available for more complex projects such as new construction or Building Energy Optimization for existing buildings. Custom grants are used for large lighting projects and complicated projects such as HVAC modifications, heat recovery, process improvements, boiler upgrades and replacements, whole-building new construction, etc.

PSE's services also include training and education for contractors and customers. For example we train contractors to make effective use of our programs, we sponsor workshops, conferences and provide incentives for customers to attend regional training programs such as Building Operator Certification. Resource Conservation Managers have individual and group training opportunities to improve their skills, and to share their knowledge with others. Other types of support include Energy Interval Service, utility tracking software, analysis tools, etc.

#### Who We Work With

PSE works directly with the following entities to promote and deliver business efficiency programs:

- Customers
- Contractors
- Other Service Providers (e.g. direct-installers, RFP contractors, etc.)
- Design Professionals and Consultants
- NEEA; Other Utilities; Local & Regional Organizations
- Professional and Trade Associations (e.g. AEE, ASHRAE, BOMA, etc.)

# Organizational Structure

Business Sector organization consists of three engineering teams, a commercial rebates team, a Resource Conservation Management (RCM) team, and program support staff.

The engineering teams are responsible for administering custom grants and managing sectorspecific programs such as Energy Smart Grocer and the Large Power User Self-Directed Program. While all engineers work on a diverse mix of projects to broaden skills and promote professional development, each engineering team has an area of expertise:

- Commercial Team 1 Lighting, small HVAC, commercial refrigeration systems, Energy Smart Grocer Program, and support of PSE multi-family programs
- Commercial Team 2 New construction programs, commissioning programs, large commercial systems such as central chiller and boiler plants
- Industrial Team Industrial retrofit, steam systems, compressed air systems, data centers, and Large Power User Self-Directed Program

The commercial rebates team consists of a mix of engineers, program managers, and implementers to deliver prescriptive rebates and programs.

The Resource Conservation Management (RCM) program team consists of program managers, applications analysts, and an engineer to support customers with operational and behavioral improvements for energy efficiency at their facilities.

Support staff consists of a Senior Business Analyst and administrative specialists responsible for issuing and tracking grant contracts, processing commercial rebates, and maintaining procedures to ensure accurate tracking and reporting of business sector incentive payments and energy savings. A Consulting Energy Management Engineer also works in this team and provides technical support and guidance to the BEM teams and other groups in the EES division.

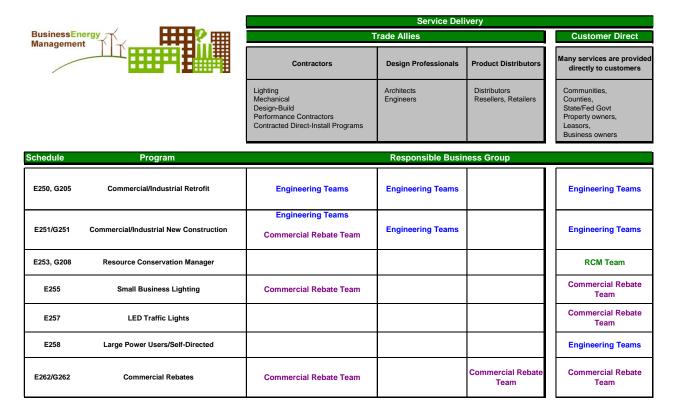
The Business Sector teams deliver programs through the following primary channels:

- Contractors (Lighting, Mechanical, Design-Build, Performance Contractors)
- o Design Professionals (Architects, Mechanical Engineers, Electrical Engineers)
- Product Distributors

Geographical coverage: To enhance customer service and facilitate delivery through channels mentioned above across PSE's service area, members of the engineering teams and commercial rebate team are positioned in multiple PSE offices located in Burlington, Bothell, Bellevue, Bremerton, Kent, and Olympia.

Figure 21 provides a summary view of Business Energy Management's organizational structure. It illustrates the primary customer sectors served, measure delivery channels and incentive types.

Figure 21: Business Sector Organizational Structure



### Value to Customers and Trade Allies

PSE provides direct incentives to customers in the form of rebates, grants, and direct-installation of equipment. Customers also receive indirect incentives such as point-of-sale discounts. In addition to financial incentives, customers receive services such as training & education, Energy Interval Service and other tools, expert on-site advice, etc. Contractors, design professionals, and other trade allies can boost their business and knowledge in the application of energy efficient technologies through PSE's programs.

## **Program and Services Development**

PSE strives to enhance and refine its programs to achieve annual goals cost effectively. It is imperative that our customers, and the contractors and vendors who provide efficient equipment and services, find our services worthwhile and participation requirements well-defined and easy to navigate.

The process of developing our Integrated Resource Plan, when we analyze the conservation potential and cost effectiveness of various measures and strategies, yields insights and high-level guidance for our programs. But program design and implementation is where "the rubber meets the road." PSE exerts significant effort to work out program details and anticipate issues or barriers to participation before a program is launched to the public.

We rely heavily on support from others who are experts in the field when designing new programs or modifying existing programs. We value suggestions from our customers and trade allies because they are most directly involved in the process. We also rely on the experience of other utilities and players in the energy efficiency field. After launching a program, we constantly look for ways to improve it, simplify it, make it more user-friendly, and adjust it as needed to respond to changing market conditions.

To keep informed of the latest technologies, we make use of extensive regional and national information resources to help enhance and refine our program offerings; (e.g. NPCC, Regional Technical Forum, NEEA Energy Efficiency Technology Roadmap, E Source, BPA's E3T/HVAC Technical Advisory Group, WSU Energy Program, Emerging Technologies Coordinating Council, various National Labs, Department of Energy, CEE, ACEEE, AEE, ASHRAE, etc.) We also make use of our Energy Efficient Technology Evaluation tariff to research technologies or new applications that show significant potential.

The "oversight" function is important in order to assure that our programs continue to stay on track, achieve our goals, and do it cost effectively. PSE's Evaluation staff reviews our savings, delivery methods, measure costs and program cost effectiveness. It assures accurate reporting of our results, and helps to improve our processes. The Conservation & Renewable Advisory Group (CRAG) also provides valuable guidance and advice regarding our programs.

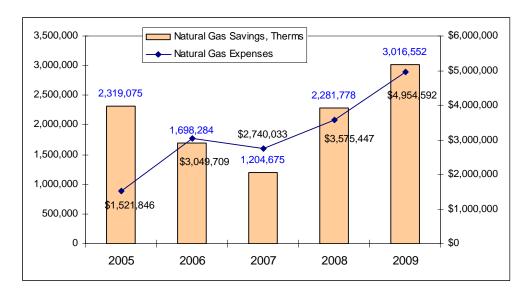
### **Five-Year Trends**

As illustrated in Figure 22, the five-year trends indicate an average annual increase in electric savings of 3.3 percent and an overall 16.3 percent increase from 2005 to 2009. Figure 23 illustrates an average annual increase in gas savings of six percent and an overall 30 percent from 2005 to 2009.

140,000 ■ Electric Savings, MWh \$35,000,000 ◆ Electric Expenses 116,844 120,000 \$30,000,000 104,709 100,502 99,823 \$29,692,564 100,000 \$25,000,000 89,164 4.356.657 80,000 \$20,000,000 60.000 \$15,000,000 \$16,656,317 \$15,618,139 \$15,587,060 40,000 \$10,000,000 20,000 \$5,000,000 0 \$0 2005 2006 2007 2008 2009

Figure 22: Business Sector Electric Savings (MWh) and Expenses





# **2010 Year to Date Summary**

### **Electric Programs**

January – June 2010 saw record participation rates in PSE Business Sector electric efficiency programs. The economic downturn and fall-off in new construction activity led many contractors to utilize energy efficiency incentives to help them market their electric retrofit projects.

The Small Business Lighting rebate program experienced a rapid increase in participation, and a similar trend was experienced in other rebate programs and the quantity of custom grant applications received.

While new construction starts were down significantly, existing project closeout activity was high due to the time required after a building is completed to commission and verify funded efficiency measures.

January – June of 2010 saw Commercial/Industrial electric programs achieve savings of 82,612 MWh (9.43 aMW), which is 71 percent of year-end savings goals. Program expenditures finished Q2 at \$19,774,441<sup>27</sup>, or 61 percent of year-end budget.

### **Natural Gas Programs**

January through June 2010 saw record participation rates in PSE Business Sector natural gas efficiency programs as well.

The custom grant retrofit program has yielded significant savings to date in 2010 as a result of high program participation and several large scale projects involving heat recovery and ventilation controls at energy intensive facilities such as hospitals, laboratories, and natatoriums.

The Resource Conservation Manager (RCM) program has generated large natural gas savings to date in 2010, in part due to carryover of projects from 2009 that could not be closed until meter data issues were resolved to ensure accurate savings.

January – June of 2010 saw Commercial/Industrial gas programs achieve savings of 875,098 therms, which is 35 percent of year-end savings goals. Program expenditures finished Q2 at \$2,601,167, or 67 percent of year-end budget.

Puget Sound Energy

<sup>&</sup>lt;sup>27</sup> This total amount includes \$600,000 in Large Power User/Self-Directed (Schedule 258) 2009 grants that were not accrued prior to 2009 year-end financial close and were instead recognized in 2010.

### **Key Results Drivers**

On the electric side of the Sector, participation in PSE's Small Business Lighting Rebate program has increased tremendously as contractors leverage PSE incentives to help sell projects during a down economy.

- Many contractors have lowered costs so that PSE incentives will cover a greater portion of the measure cost (less cost to customer)
- A significant increase in project volume occurred in late 2009/early 2010 and a special team was mobilized to process these projects
- Project volume was more than double the forecast in Q1 2010.

Additionally, some large New Construction projects were completed in the first half of the year. Even though construction has slowed due to economic conditions, projects typically take several years to complete, and the program is expected to see continued project activity throughout the year.

Several programs also realized greater than expected gas savings. The Commercial/Industrial Retrofit program had three very large projects completed in the first half of 2010. Another key driver was the RCM program. High program participation rates, in addition to delayed completion of Start-Up Grant deliverables by customers have resulted in an accumulation of savings claims in Q1 and Q2. Additionally, the program accumulated savings in the first half of the year due to RCM turnover<sup>28</sup>, which delayed savings verifications along with reconciliation and verification of meter data<sup>29</sup>.

Details Business Sector results are included in the following program overviews.

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<sup>&</sup>lt;sup>28</sup> PSE does not claim savings until deliverables are completed, training of new RCMs delays completion of deliverables

<sup>&</sup>lt;sup>29</sup> Savings are not claimed until verified and "trued-up", e.g. corrected for weather influences, linear regression analysis performed, etc. which requires accurate data.

### **2010 Programs**

The January through June performance for each program in the Business Sector is indicated in Table 14<sup>30</sup>.

**Table 14: Business Sector Year to Date Performance** 

	Through June 2010		Year to Date	Jan. '10 - June	'10 Actua	ls		2010 Budge	t & Goal
					% of	% of			
Schedule	Programs		Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric			Electric (MWh)				Electr	ic
Gas	Gas			Gas (Therms)				Gas	
E250	C/l Retrofit	\$	11,709,016	44.544	53.6%	67.5%	\$	21,850,000	66,000
		ا أ		, -			1 .		
E251	C/I New Construction	<b>3</b>	1,479,993	4,178	68.7%	83.6%	\$	2,153,846	5,000
E253	Resource Conservation Manager - RCM	\$	428,538	6,870	35.7%	57.3%	\$	1,200,000	12,000
E255	Small Business Lighting Rebate	\$	3,881,252	13,038	101.5%	108.7%	\$	3,822,222	12,000
E257	LED Traffic Signals	\$	13,360	334	53.4%	66.9%	\$	25,000	500
E258	Large Power User - Self Directed	\$	544,133	0	130.6%	0.0%	\$	416,667	1,000
E260	Commercial Energy Efficiency Information	\$	66,099	n/a	31.1%	n/a	\$	212,500	0
E262	Commercial Rebates	\$	1,652,050	13,647	64.6%	68.2%	\$	2,555,556	20,000
	Total Electric Programs	\$	19,774,441	82,612	61.3%	70.9%	\$	32,235,791	116,500
G205	C/I Retrofit	\$	1,805,873	300,648	90.3%	88.4%	\$	2,000,000	340,000
G208	RCM	\$	259,540	271,569	64.9%	113.2%	\$	400,000	240,000
G251	C/I New Construction	\$	225,281	51,261	33.1%	51.3%	\$	680,000	100,000
G260	Commercial Energy Efficiency Information	\$	43,964	0	22.0%	n/a	\$	200,000	0
G262	Commercial Rebates	\$	266,508	251,620	43.9%	13.8%	\$	606,667	1,820,000
	Total Gas Programs	\$	2,601,167	875,098	66.9%	35.0%	\$	3,886,667	2,500,000

Figures 24 and 25 are representations of proportions of EES Business programs savings and spending for electric and gas.

Puget Sound Energy

<sup>&</sup>lt;sup>30</sup> Schedule E258, Large Power User/Self-Directed Program expenses shown in Table 14 (electric line number 6) are not an accurate reflection of 2010 program activity. A large grant payment associated with the 2006-2009 program cycle was delayed until January 2010, without being accrued to reflect 2009 activity

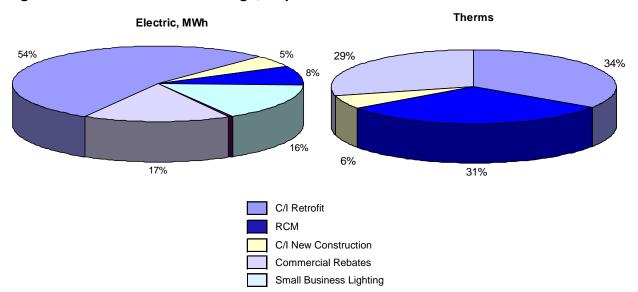
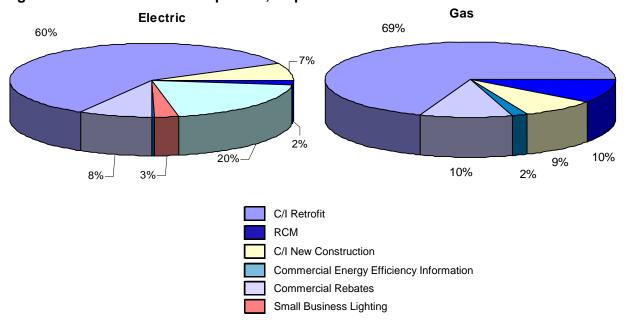


Figure 24: Business Sector Savings, as percents of totals





### **Direct Benefit to Customer**

As a measure of how effectively PSE is using ratepayer dollars, PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. The Business Sector aggregate DBtC ratios are represented in Figure 26.

Services can include, but aren't limited to credits on equipment purchases at point of sale, payments to contractors for direct installation of efficiency measures at customer facilities, and online access to energy interval data.

For example, customers may receive a commercial rebate applied as a point of sale discount when they purchase high-efficiency commercial kitchen equipment or compact fluorescent lamps from a commercial supplier. The Figure 26 charts represent the overall Business Sector ratios for electric and gas. Program-specific ratios are noted in the applicable program overviews.

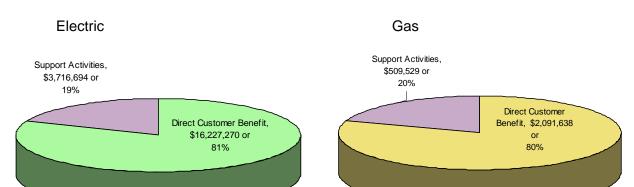


Figure 26: Business Sector Direct Benefit to Customer Ratio

Support activities include a certain amount of administrative functions necessary to efficiently operate the department and maintain accurate recordkeeping, provide required reporting, and maintain good customer service. Additionally, the noted Support Activities include, but are not limited to, marketing—including the creation and distribution of energy efficiency brochures, web and media content—market research, all program support functions, including rebate processing, reporting, systems support and analyses. Evaluation functions, EME project evaluation and verification analyses, trade ally/contractor training, community event participation and customer renewable program support is included in this category. Each of these is critical to providing ratepayers with cost-effective, value-added energy efficiency programs.

# **BUSINESS PROGRAMS**

### Commercial/Industrial Retrofit

Schedules E250/G205







# Description

PSE works with commercial and industrial customers to provide incentives for cost-effective energy efficiency upgrades to equipment, building shell, industrial process, and select O&M improvements. These services are provided on the customer's behalf and, where specified by the customer, will be developed in conjunction with design engineers, contractors, and/or vendors.

PSE conducts energy audits to determine savings opportunities and makes recommendations to customers. PSE also reviews third-party savings estimates and analyses, and when required performs in-house analyses to validate energy savings. PSE works with financial decision makers at the customer's facility to ensure the customer is aware of cost-savings opportunities, including review of energy saving projections that can help obtain favorable financing rates.

Commercial/industrial retrofit projects commonly include: lighting system upgrades, HVAC equipment upgrades, HVAC controls improvements, commercial refrigeration measures, and industrial process modifications. Additionally, incentives for existing building commissioning (O&M) improvements are provided through the Building Energy Optimization Program offered under C/I retrofit.

Upon customer's decision to proceed with a project, PSE issues a standardized Conservation Grant Agreement that establishes terms and conditions for participation in PSE's Custom Grant Program. After the agreement is signed by both parties, customer is given notice to proceed with the energy efficiency project. Following completion of the project, PSE verifies the installation and energy savings via an on-site inspection, review of equipment operation and trend log data where necessary, and collection of project invoicing and specifications of installed equipment.

### **Program Performance**

Table 15 provides a year-to-date summary of expenditures and energy savings for the Commercial/Industrial Retrofit program.

**Table 15: Business Retrofit Year to Date Performance** 

	Through June 2010	Year to Date		2010 Budget & Goal				
				% of	% of			
Schedule	Programs	Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric	E	Electric					
Gas	Gas		Gas (Therms)				Gas	
E250	C/I Retrofit	\$ 11,709,016	44,544	53.6%	67.5%	\$	21,850,000	66,000
G205	C/I Retrofit	\$ 1,805,873	300,648	90.3%	88.4%	\$	2,000,000	340,000

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 27 indicates that the Commercial/Industrial Retrofit program maintained a DBtC ratio or 77 percent in electric offerings and 84 percent in gas offerings through the first half of the year.

Support Activities, \$2,682,410 or 23%

Direct Customer Benefit \$ Total, \$9,048,634 or 77%

Direct Customer Benefit \$ Total, \$1,514,389 or 84%

Figure 27: Business Retrofit Direct Benefit to Customer Ratio

### January through June Accomplishments and Activities:

#### Electric

Increased program activity has been experienced in 2010. Significant influencing factors have included:

- increased contractor interest in PSE's incentive programs to help market their services during the economic downturn
- increased program activity by government agencies driven by ARRA block grants
- a large quantity of energy efficiency retrofit projects in public schools seeking PSE funding driven by OSPI (Office of the Superintendent of Public Instruction) grants

C/I retrofit program incentive levels have been adjusted in 2010 to align with current market conditions and compensate for external factors, such as stimulus grants and tax incentives that are driving increased implementation of energy efficiency retrofits. PSE funding formula modifications have also reduced incentives for longer-payback, less cost-effective projects to maintain program cost-effectiveness.

#### Gas

Increased program activity has been experienced in 2010 for the same reasons mentioned previously regarding electric measures. Additionally, gas retrofit projects are well beyond 50 percent of target and budget at mid-year due to several large heat recovery projects that have been implemented at hospital, laboratory, and natatorium facilities in 2010.

# **Commercial/Industrial New Construction**

Schedules E251/G251



# **Description**

PSE works with designers and developers of any large or small new Commercial / Industrial facilities, or major remodels, to propose cost-effective energy efficient upgrades that exceed energy codes or standard practice where minimum efficiency requirements are not prescribed by code. Three paths may be followed to qualify for assistance and/or funding for New Construction energy efficiency measures. New Construction Commissioning is also offered in addition to the building paths.

The first path is a prescriptive approach applicable to office, school and retail facilities less than 100,000 square feet. PSE recommends standardized packages of efficiency measures that typically yield savings of 10 percent or more versus a facility constructed to the minimum requirements of Washington State Energy Code 2006 Edition. Efforts are underway to develop a new prescriptive program based on WSEC 2009 Edition that will be announced when the new edition of code becomes effective.

The second path utilizes building energy simulation to demonstrate improvement over energy code requirements. PSE will work with designers to incorporate measures that produce at least 10 percent overall savings beyond applicable energy code, including local jurisdiction amendments. Given the time required for planning and construction, these projects typically take several years to complete.

The third path is similar to the retrofit program where measures are evaluated individually and funding is based upon cost-effectiveness. Under this approach, customers may receive up to 70 percent of the incremental cost over a code-compliant baseline option.

New Construction Commissioning (Cx) includes three phases: Design, Construction, and Post-Occupancy. The total incentive available for all three phases combined is up to \$0.50/square foot. The maximum incentive for each phase is as follows:

- \$0.10/SF if the commissioning agent participates during the Design Phase of a project
- \$0.15/SF for participation during Construction
- \$0.25 for participation during Post-Occupancy

A detailed and thorough PSE scope, which is focused on energy related commissioning work, is required in the commissioning agent's contract with the customer.

Customers assume full responsibility for utilizing their design teams and contractors to provide information to PSE for evaluation for grant funding. Projects must be approved for funding prior to installation/implementation to be eligible.

### **Program Performance**

Table 16 provides a year-to-date summary of expenditures and energy savings for the Commercial/Industrial New Construction program.

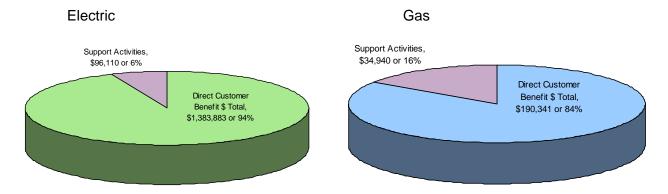
**Table 16: Business New Construction Year to Date Performance** 

	Through June 2010		Year to Date Jan. '10 - June '10 Actuals						t & Goal
Schedule	Programs		Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric		Electric (MWh)					Electr	ic
Gas	Gas			Gas (Therms)				Gas	
E251 C/I New Construction		\$	1,479,993	4,178	68.7%	83.6%	\$	2,153,846	5,000
G251 C/I New Construction			225,281	51,261	33.1%	51.3%	\$	680,000	100,000

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 28 below indicates that the Commercial/Industrial New Construction program maintained a DBtC ratio of 94 percent for electric and 84 percent for gas through the first half of the year.

Figure 28: Business New Construction Direct Benefit to Customer Ratio



# January through June Accomplishments and Activities:

#### **Electric**

The Commercial new construction program activity remained steady in the first half of 2010 with 27 projects paid (completed). With the exception of two very large office tower electric savings projects paid in March, the average project electric savings was 86,000 kWh and the average grant amount per project was \$27,000. The two large office tower project grants were more than \$400,000 each and contributed more than 1 million kWh of savings each, accounting for approximately 60 percent of the total program kWh savings and grants paid. The combination of steady, more typical, projects and the two large projects put mid-year electric savings well over half of the annual goal.

New Construction completion dates depend on the construction schedule and on the customer's ability to provide the necessary verification reporting and trending data, which can take many months on complex projects. This creates challenges in predicting when major projects will be paid and savings claimed. Many projects started during the construction boom are just now reaching the final stages of construction commissioning and closeout.

#### Gas

The Commercial new construction program gas efficiency projects were more uniform in their level of energy savings, averaging 3,900 therms per project, and the most for a single project was 12,380 therms. The total number of projects that included gas savings measures was 13. Gas measures ranged from commissioning to high-efficiency packaged HVAC equipment, condensing boilers, and HVAC controls.

# **Resource Conservation Manager**

Schedules E253/G208



# **Description**

PSE offers Resource Conservation Manager Services (RCM) to any school district, public-sector government agency, and commercial or industrial (C/I) customer with sufficient energy use to ensure program cost-effectiveness. The RCM program focuses on larger customers with multiple facilities. An RCM customer employs or contracts with someone who has designated resource management responsibilities, including accounting for resource consumption and savings.

Customers qualify for the RCM program based on their annual PSE energy purchases. A typical customer baseline for a fulltime equivalent (1 FTE) program is 20,000,000 kWh or 2,700,000 therms for gas-only service from PSE. Funding levels are prorated based on the amount of staff a customer would need to allocate in order to achieve cost-effective savings from RCM efforts.

Monetary grants include a "start-up" grant for completion of deliverables associated with building the program foundation: hiring an RCM, setting up an energy-accounting database, writing a company resource management plan, and completing facility action plans. Once start-up deliverables are complete, the customer may qualify for "performance grants" based on achieving pre-established energy-reduction targets. Salary guarantees are available for customers with a full-time program on an as-needed basis.

The RCM agreement is valid for three years. Over this time, PSE anticipates a 10-12 percent reduction in overall energy use. Savings are calculated using industry standard practices and energy accounting methodologies. Reported annual savings are a variance from the previous year. PSE may elect to renew a customer's RCM agreement in three-year increments to provide continued support and additional performance incentives.

## **Program Performance**

Table 17 provides a year-to-date summary of expenditures and energy savings for the Resource Conservation Manager program.

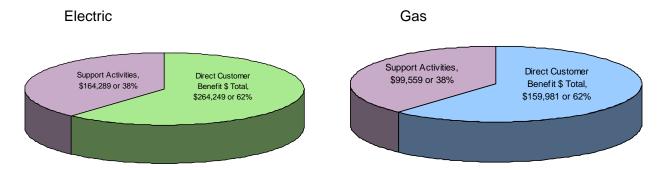
**Table 17: Resource Conservation Manager Year to Date Performance** 

	Through June 2010	Year to Date	Jan. '10 - June	e '10 Actua	ls		2010 Budget & Goal		
				% of	% of				
Schedule	Programs	Dollars	Savings	Budget	Savings		Dollars	Savings	
Electric	Electric	Electric (MWh)					Electr	ic	
Gas	Gas		Gas (Therms)				Gas		
E253 Resource Conservation Manager - RCM		\$ 428,538	6,870	35.7%	57.3%	\$	1,200,000	12,000	
G208	RCM	\$ 259,540	271,569	64.9%	113.2%	\$	400,000	240,000	

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 29 below indicates that the Resource Conservation Manager program maintained a DBtC ratio of 62 percent in electric and gas service through the first half of the year.

Figure 29: Resource Conservation Manager Direct Benefit to Customer Ratio



RCM Support includes a suite of services for designing and implementing an RCM program that can be tailored to meet the specific needs of the customer. Typical support activities include assisting a customer in hiring or identifying an RCM, drafting program policies and plans, helping to identify PSE accounts and meters, supplying monthly billing and interval data, training staff on core RCM competencies, providing on-site technical assistance for audits, and a variety of other related assistance. Although the service is valuable to customers, these support activities have not been tracked as "direct customer benefits."

# January through June Accomplishments and Activities:

In 2010, PSE added five more RCM contracts; several of which are "Shared RCM" efforts that encompass two or more government agencies. The shared RCM programs are a joint effort with WSU Energy Extension. The program now touches over 82 customers and nearly 150,000,000 square feet.

High RCM gas savings results for the January to June period occurred due to high program participation rates and several factors that resulted in delayed reporting of savings from the prior year:

- Reporting of 2009 savings results were delayed awaiting completion of customers' Start-Up Grant deliverables
- Turnover of customer RCM employees resulted in delayed completion of deliverables (PSE does not claim savings until deliverables are completed, training of new RCMs delays completion of deliverables)
- Gas rate schedule conversions temporarily interrupted meter data reporting for the RCM tracking program, delaying final true-up and verification of savings until 2010. Savings are not claimed until verified and "trued-up", e.g. corrected for weather influences, linear regression analysis performed, etc. which requires accurate data.

# **Small Business Lighting Rebates**

Schedule E255







### **Description**

The Small Business Lighting program provides a menu of lighting retrofit rebate options that meet the needs of most small business customers and maintains a network of lighting contractors and vendors that effectively serve small businesses. Eligibility is limited to Schedule 24 and Schedule 8 electric customers. Rebates cover a wide variety of efficient conversions for incandescent, fluorescent, high intensity discharge (HID), exit lights, and lighting controls.

# **Program Performance**

Table 18 provides a year-to-date summary of expenditures and energy savings for the Small Business Lighting program.

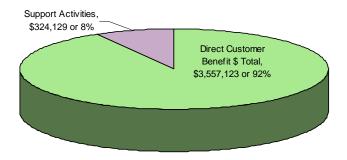
Table 18: Small Business Lighting Year to Date Performance

	Through June 2010		Year to Date		2010 Budget & Goal						
					% of	% of					
Schedule	Programs		Dollars	Savings	Budget	Savings		Dollars	Savings		
Electric	Electric		Electric (MWh)						Electric		
Gas	Gas			Gas (Therms)				Gas			
E255 Small Business Lighting Rebate			3.881.252	13.038	101.5%	108.7%	\$	3.822.222	12,000		

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 30 below indicates that the Small Business Lighting program maintained a DBtC ratio of 92 percent through the first half of the year.

Figure 30: Small Business Lighting Direct Benefit to Customer Ratio



### **January through June Accomplishments and Activities:**

In the first six months of 2010, the Small Business Lighting program exceeded its annual goals for budget and savings. The tremendous increase in demand this year is due to a large increase in contractor participation and streamlining of the rebate processing system. In these economically challenging times, contractors have turned to the Small Business Lighting program incentives to keep their businesses open and their people employed. Contractor participation has increased over 50 percent due to the struggling economy.

The increase of participation caused the Small Business Lighting Program to become heavily backlogged. In response to the increase of incoming projects, the Small Business Lighting team needed to further streamline rebate processing, which contributed to the increase of rebates given and savings achieved.

A Small Business Lighting Process Workshop was developed and will train more than 165 contractor representatives by the end of the year on how to fill out paperwork and report proposed savings correctly. The workshop comes with a well designed Training Workbook and process checklists so that all of the contractors are sending in projects correctly.

In response to market conditions, incentives were reduced in April. The number of new projects coming in for approval has slowed, but there are still a large number of pre-approved projects that will be completed in 2010.

**LED Traffic Signals** Schedule E257



## **Description**

The program educates public-sector customers with traffic control authority (cities, counties, and DOT's) on the benefits of installing red, green and yellow LED traffic signals. PSE provides an LED informational packet along with a rebate application by mail or in person. Customers must receive electric service from PSE to qualify for the rebates, and customers with unmetered accounts must document all connected load at the intersection.

## **Program Performance**

Table 19 provides a year-to-date summary of expenditures and energy savings for the LED Traffic Signals program.

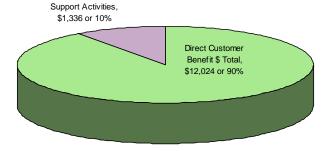
**Table 19: LED Traffic Signals Year to Date Performance** 

	Through June 2010		Year to Date	2010 Budget & Goal					
					% of	% of			
Schedule	Programs		Oollars	Savings	Budget	Savings		Oollars	Savings
Electric	Electric		Electric (MWh)						ic
Gas	Gas			Gas (Therms)				Gas	
E257	E257 LED Traffic Signals		13,360	334	53.4%	66.9%	\$	25,000	500

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 31 below indicates that the LED Traffic Signal program maintained a 90 percent DBtC ratio through the first half of the year.

Figure 31: LED Traffic Signals Direct Benefit to Customer Ratio



# **January through June Accomplishments and Activities:**

In spite of a slow start this program is on target to meet the 2010 goal. Some municipalities have expressed interest in rebates to couple with ARRA funding. This should help us reach the majority of the remaining opportunities in 2010.

### Large Power User/Self Directed

Schedule E258

### Description

This program solicits electric energy efficiency upgrades through a Request for Proposal (RFP) process. C/I customers receiving electric service under Schedule 40,46,49 or 449 receive a funding allocation based on electric usage and are responsible for proposing cost-effective project to utilize their allocation. Proposals are evaluated by PSE engineering staff for technical soundness, cost-effectiveness and compliance with energy code and tariff requirements. Customers sign a standard PSE Conservation Grant Agreement, defining project cost, PSE incentive amount, and verification requirements prior to installation of project measures.

The Large Power User Self-Directed program is implemented in 48-month cycles, with the current program spanning January 1, 2010 to December 31, 2013. Customers have until March 30, 2012 to propose projects to utilize their incentive allocations. Customers not designating projects to fully utilize their allocation forfeit their remaining balance to a competitive phase, in which remaining funds are available to all program participants via competitive bid.

### **Program Performance**

Table 20 provides a year-to-date summary of expenditures and energy savings for the Large Power User/Self-Directed program.

Table 20: Large Power User/Self Directed Year to Date Performance<sup>31</sup>

	Through June 2010	Year to Date	2010 Budget & Goal					
				% of	% of			
Schedule	Programs	Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric	Electric (MWh)						ic
Gas	Gas		Gas (Therms)				Gas	
E258	Large Power User - Self Directed	\$ 544.133	0	130.6%	0.0%	\$	416.667	1,000

### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 32 indicates that the Large Power User program maintained a DBtC ratio or 69 percent through the first half of the year.

<sup>&</sup>lt;sup>31</sup> Schedule E258, Large Power User/Self-Directed Program expenses shown in the table are not an accurate reflection of 2010 program activity. A large grant payment associated with the 2006-2009 program cycle was delayed until January 2010, without being accrued to reflect 2009 activity.

Support Activities,
\$234,696 or 31%

Direct Customer
Benefit \$ Total,
\$523,031 or 69%

Figure 32: Large Power User/Self Directed Direct Benefit to Customer Ratio

DBtC is typically very low in the first year of a Schedule 258 program cycle since it is primarily spent developing projects that will not be completed until years 2, 3 or 4 of the program and the majority of costs are for program administration. The above pie chart overstates the DBtC for the first half of 2010 since \$522,891 of the direct customer benefit is for a delayed incentive payment from the 2006-2009 program cycle.

### January through June Accomplishments and Activities:

January through June activities consisted of 2006-2009 program close-out and reconciliation prior to issuing the 2010-2013 program RFP on April 1, 2010.

Program activity is typically limited in year one of the four year cycle as customers develop projects and proposals. However, first year customer participation has been higher in this program cycle, with sufficient projects in progress to exceed the program's 2010 savings target.

### **Business Information Services**

Schedule E260/G260

A discussion of Business Information Services is included with the Residential Information Services overview on page 33.

# **Program Performance**

Table 21 represents year-to-date summaries for Business Information Services.

**Table 21: Commercial Information Services Year to Date Performance** 

	Through June 2010	Year to Date	1	2010 Budget & Goal				
Schedule	Programs	Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric	Electric (MWh)					Electr	ric
Gas	Gas	Gas (Therms)					Gas	}
E260	Commercial Energy Efficiency Information	\$ 66,099	n/a	31.1%	n/a	\$	212,500	0
G260	Commercial Energy Efficiency Information	\$ \$ 43,964 0 22.0% n/a \$				\$	200,000	0

## **Commercial Rebates**

Schedules E262/G262









### **Description**

PSE offers fixed rebates for select, commonly-applied measures to commercial customers. Rebate measures are those with energy-savings that can reasonably be standardized over a wide variety of applications, and that have competitive market pricing to ensure cost-effectiveness. Rebates are available, but not limited to the following categories: appliances, cooking equipment, controls, drives & motors, hospitality, HVAC, lighting, refrigeration, water heating. Rebate amounts are updated as market conditions change. A detailed list of eligible Commercial Rebates is available in Attachment 1, the EES List of Measures, Incentives and Eligibility and included with this report as Exhibit 2.

### **Program Performance**

Table 22 provides a year-to-date summary of expenditures and energy savings for the Business Rebates program.

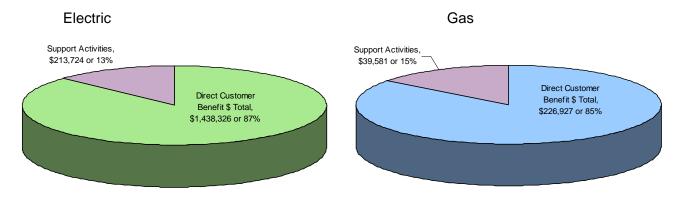
Table 22: Business Rebates Year to Date Performance

	Through June 2010		Year to Date		2010 Budget & Goal				
					% of	% of			
Schedule	Programs		Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric		Electric (MWh)						ic
Gas	Gas			Gas (Therms)				Gas	
E262 Commercial Rebates			1,652,050	13,647	64.6%	68.2%	\$	2,555,556	20,000
G262	G262 Commercial Rebates		266,508	251,620	43.9%	13.8%	\$	606,667	1,820,000

#### **Direct Benefit to Customer**

PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 33 below indicates that the Business Rebates program maintained a DBtC ratio of 87 percent in electric offerings and 85 percent in gas offerings through the first half of the year.

Figure 33: Business Rebates Direct Benefit to Customer Ratio



#### January through June Accomplishments and Activities:

### **Electric**

Halfway through 2010 the Commercial Rebate Program achieved approximately two-thirds of its year-end goals for both budget and savings. Contractor participation has increased significantly, partly because PSE's programs have helped them to stimulate new business as the economy slowed, and partly due to efforts to streamline relationships with contractors as the work flow increased. We also started a new program that was more successful than expected.

**New Commercial CFL Markdown Program:** A new program added this year is called the CFL Markdown Program. The CFL Markdown Program allows participating distributors to give rebates at the point of sale for Compact Fluorescent Lamps. The program was much more successful than anticipated. In response to adjusted forecasts for the program and in response to changing market conditions, PSE slowed the program down by closing the program to new contracts for the immediate future.

Lighting rebates for exit signs, lighting controls, and CFLs have seen higher than expected participation as well.

Commercial Kitchen Program: This program teams up with six other utilities in the Puget Sound region to offer a consistent program to commercial customers in qualifying areas. 2010 saw this group effort solidify, and maintaining this consistent solidarity has helped streamline the process for both customer and vendor. Training new vendors in the Point of Sale Program in 2009/2010 has increased vendor participation immensely. That, combined with recently added incentive types (e.g. dishwashers in 2009) resulted in significantly more activity in 2010. Within the first four months of this year the program had exceeded both savings and rebates paid in 2008. By the end of the first six months of this year, the program exceeded the kWh savings earned by the program in all of 2009.

Premium HVAC Service Program: This program has seen tremendous growth in 2010 in overall savings and in the number of contractors joining the program. In order to better handle the increased workflow and manage program budgets, a number of changes were instituted. New contractors may enter the program during two training sessions (one in the fall and one in the spring) for a total of 12 new contractors per year. The initial technician trainings are still free, but there is a charge for additional trainings to cover PSE's expenses. In order to ensure that the technicians maintain their level of understanding of the program protocols, contractors must regularly provide service to new customers or they may be dropped from the program. Contractors must also have a year long maintenance agreement with the customer to ensure that the proper settings for efficiency are maintained. In order to maintain program cost-effectiveness, units smaller than four tons are no longer eligible.

**High Efficiency Heat Pumps and A/C:** This program was changed last year to encourage customers to replace older inefficient units, instead of repairing them. The result is a program that has achieved many times more savings than in years past.

**PC Power Management**: This very cost effective program continued to grow during the first half of the year, contributing over 2 million kWh. Every indication is that this program will continue to produce for the remainder of the year.

**Pre-rinse Spray Heads:** The direct install portion of this program has been discontinued in response to changing market conditions.

### Gas

In the first six months of 2010 the Commercial Rebate Program achieved 13.8 percent of the 2010 savings goal, while program expenses were 43.9 percent of the year-end goal. More projects included costlier measures during this period, resulting in a noticeable difference between percent expenses and percent savings.

Commercial Kitchen Program: This program teams up with six other utilities in the Puget Sound region to offer a consistent program to commercial customers in qualifying areas. 2010 saw this group effort solidify, and maintaining this consistent solidarity has helped streamline the process for both customer and vendor. Training new vendors in the Point of Sale program in 2009/2010 has increased vendor participation. That, combined with the addition of new incentive types (e.g. dishwashers in 2009) resulted in increased activity in 2010. Natural gas savings did not increase in quite the same proportion as electric but still nearly doubled compared to the same time period last year.

**Premium HVAC Service Program:** Units that only receive natural gas service from PSE are no longer eligible for incentives in order to maintain program cost effectiveness.

**Pre-rinse Spray Heads:** The direct install portion of this program has been discontinued in response to changing market conditions.

Gas Boiler Tune-up Program: An internal evaluation of this program raised questions regarding the ability of contractors to consistently comply with boiler testing procedures required to accurately quantify energy savings achieved from boiler tune-ups. Since program changes are needed to ensure a high confidence level in savings results, the program will be discontinued until such changes are made. We intend to develop a revised program that provides increased confidence in energy savings and encompasses additional boiler room efficiency measures to ensure program cost-effectiveness.

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### REGIONAL EFFICIENCY PROGRAMS AND RELATIONSHIPS

Northwest Energy Efficiency Alliance Schedule E254



www.nwalliance.org (Trademark used with permission)

### **Description**

NEEA was founded in 1997 to work in collaboration with its stakeholders and strategic market partners to accelerate the sustained market adoption of energy-efficient products, technologies and practices in homes, businesses and industry. As a partner with NEEA, Puget Sound Energy contributes funding for regional programs, actively participates on NEEA's Board of Directors and advisory committees, and supports various related initiatives in the Puget Sound Energy service area.

NEEA's 2010-2014 Business Plan, adopted in 2009, focuses on creating lasting change in energy efficiency in the Northwest through strong partnerships with the region's utilities and market actors. It was informed by NEEA's 2010 – 2014 Strategic Plan, developed through a participatory year-long strategic planning process with the NEEA Board and region as a whole. The Business Plan has a five-year regional savings goal of 200 aMW. Further information about NEEA's history, structure, initiatives and press is available at NEEA's website.

NEEA received \$192 million in funding for 2010 – 2014 market transformation initiatives from regional utilities including the Bonneville Power Administration (BPA) (on behalf of more than 130 utilities), Puget Sound Energy, Energy Trust of Oregon, Idaho Power, Avista Corporation, PacifiCorp, Seattle City Light, Tacoma Power, Snohomish County PUD and others.

### **Program Performance**

Table 23 provides a year-to-date summary of expenditures and energy savings for the Northwest Energy Efficiency Alliance program.

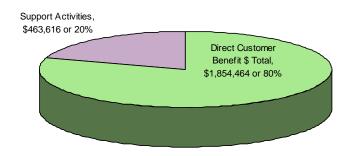
**Table 23: NEEA Year to Date Performance** 

	Through June 2010	Year to Date	2010 Budget & Goal							
				% of	% of					
Schedule	Programs	Dollars	Savings	Budget	Savings		Dollars	Savings		
Electric	Electric	Electric (MWh)						Electric		
Gas	Gas		Gas (Therms)				Gas	1		
E254	NW Energy Efficiency Alliance	\$ 2,551,762	11,750	55.2%	50.0%	\$	4,625,000	23,500		

#### **Direct Benefit to Customer**

As a measure of how effectively PSE is using ratepayer dollars, PSE considers Direct Benefit to Customer to be defined as rebates, grants, credits or services that are of value to customers. Figure 34 illustrates that the DBtC ratio for the NEEA program is 80 percent.

Figure 34: NEEA Direct Benefit to Customer Ratio



### January through June Accomplishments and Activities:

#### **Residential Initiatives**

NEEA's residential work supports and maintains regional upstream delivery platforms for energy-efficient products and services. NEEA's unique regional role leverages resources to influence the market through collaboration. To remove market barriers to distribution and use of energy-efficient solutions, NEEA collaborates with utilities, builders, manufacturers, large and small retailers and dealer networks to fill the pipeline with highly energy-efficient products, services and practices.

- 1. NEEA accelerates market adoption of energy-efficient homes by builders, the real estate community and homebuyers through the Northwest ENERGY STAR Homes initiative.
  - Northwest ENERGY STAR Homes achieved an 11.5 percent market share region-wide. Homes certified in Q1 increased 32 percent over the prior year (741 homes over 561 in 2009). In PSE's territory the initiative has trained over 100 realtors and 250 builders, further strengthening the market capacity and infrastructure to deliver ENERGY STAR homes. Regionally, NEEA continues to support certification infrastructure.
  - The success of the Northwest ENERGY STAR Homes initiative was critical in achieving
    the adoption of a new Washington energy code for the 2010-2011 timeframe with inclusion
    of a majority of Northwest ENERGY STAR specifications in the code's requirements or
    options. The initiative has increased consumer awareness of ENERGY STAR Homes from
    37 percent in 2007 to 51 percent, resulting in long-term residential energy savings in
    Washington.
  - In Q1, NEEA developed minimum energy efficiency specifications for *Built Green* in Washington to expand our impact in residential new development.
- 2. NEEA's Northwest Ductless Heat Pump Pilot project is designed to accelerate market adoption of ductless heat pumps (DHPs) to displace electric resistance heat in the Northwest.

NEEA is conducting an evaluation to assess cost, energy savings potential and non-energy benefits associated with this technology. The Project partners with market actors to increase the market capacity to deliver residential ductless heat pumps. With the potential for approximately one million installations in the Northwest, DHPs can result in significant long-term savings.

In the Puget Sound Energy service territory, NEEA expanded the market's capacity to deliver DHPs by hosting project orientations at Puget Sound Energy facilities for local contractors, partnering with manufacturers to bring technical training to the region, providing and distributing thousands of sales collateral to Puget contractors, and coordinating with PSE to develop project marketing.

- 3. The NEEA consumer electronics initiative increases the market share of energy-efficient retail electronics within the Northwest. In the PSE service territory, the initiative increased market availability and consumer adoption of the most energy-efficient TVs, computers and monitors.
  - NEEA is working with major "big box" retailers to reward sales of highly-efficient TVs, computers and monitors—including ENERGY STAR version 5.0 TVs—two years before the spec goes into effect. NEEA has initiated upstream incentive plans for retailers to participate in 2010 Consumer Electronics initiative.
  - NEEA builds consumer awareness of high-efficiency TVs, computers and monitors by increasing retail stocking and through retailer and marketing interaction within PSE's territory. NEEA facilitated numerous retailer trainings and point-of-purchase labeling in 68 participating retail locations.
  - To promote energy-efficiency standards, NEEA actively participates in national initiatives to raise voluntary specifications and standards for consumer electronics, as described in the within the Codes and Standards section of this report.

### **Industrial Initiatives**

Within the industrial sector, NEEA works to set industry-wide goals working with industry groups to adopt Strategic Energy Management, and coordinates regional stakeholders to advance best practices. Outcomes of these initiatives are described below.

- 1. In 2010 NEEA increased outreach of the Strategic Energy Management initiative to companies with fewer than 500 employees. In the Puget Sound Energy service area, as part of the Superior Energy Performance Training pilot sponsored by NEEA and the U.S. Department of Energy, one food processing facility comprising 1.3 percent of the target market has been embedding NEEA's Continuous Energy Improvement (CEI) system in their operations since 2008. Following a facility walkthrough by Washington State University that determined opportunities for efficiency improvement within the compressed air system and refrigeration, the company worked to raise employee awareness and behavior change through multiple internal communication channels—demonstrating an ongoing commitment to strategic energy management.
- 2. NEEA has developed Continuous Energy Improvement (CEI) as widely-accessible energy efficiency methodology and validated energy savings in participating industrial facilities that averaged two percent year over year. To help ensure persistence of savings within 14

facilities in the PSE service area, NEEA delivered targeted industrial training to empower 31 regional employees with the energy expertise to accelerate and sustain energy improvement opportunities uncovered by earlier CEI work.

3. In Q1 the Oregon Association of Nurseries joined an executive level energy intensity goal-setting project to become the second industry group after the Northwest Food Processors Association to undertake an energy intensity reduction effort. Also as of Q1, Northwest hospitals with 30 percent of total beds have adopted strategic energy management plans with energy savings goals of 10-30 percent.

### **Commercial Initiatives**

Within the commercial sector, NEEA builds both demand and supply of energy-efficient products and services. NEEA increases market capacity to deliver and support energy-efficient products, services and practices by expanding skills and knowledge within professional communities. By working with leaders in key industries to demonstrate the competitive and economic value of energy-efficient business practices, we also stimulate the demand for efficient products, services and practices.

- 1. NEEA's BetterBricks<sup>32</sup> commercial initiative equips professionals to understand the power of energy efficiency to make a real difference in buildings and business.
  - In our focus on office real estate, NEEA promotes energy-efficient design and operations
    of commercial buildings. In the PSE service area, we continue to work with Puget Sound
    commercial real estate firms such as Wright Runstad, Metzler North America, Henbart and
    Vulcan in planning and implementation of energy efficiency business strategies.
  - In building operations, NEEA continues to work with service contractors MacDonald Miller, McKinstry, Sunset Air and Merit Mechanical to develop their energy efficiency service packages. These service contractors work on buildings throughout the Puget Sound market and provide building tune up and enhanced operations and maintenance services.
  - In healthcare, in a partnership with state healthcare engineering associations, the national chapter of the American Society of Healthcare engineers and ENERGY STAR, NEEA developed the ASHE Energy Efficiency Commitment (E2C) Campaign. This program challenges healthcare facility directors to benchmark the energy performance of their building and work to improve their ENERGY STAR-related scores 10 percent over the next 18 months with operational improvements. Several healthcare facilities in the PSE service territory are participating including Bastyr University and Swedish Medical Center.
  - In new building design, the Integrated Design Lab in the Puget Sound, supported by NEEA, worked on 37 projects in PSE's territory. As a result, Swedish Hospital Issaquah is targeting to use 40 percent less energy than a typical Northwest hospital.

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<sup>&</sup>lt;sup>32</sup> From NEEA's website, <a href="http://www.betterbricks.com/DetailPage.aspx?ID=7">http://www.betterbricks.com/DetailPage.aspx?ID=7</a>: "The goal of BetterBricks is to help business professionals understand the power of energy efficiency to make a real difference in their buildings and in their business. It's about how to make buildings work harder and smarter."

 NEEA sponsored the Puget Sound West Coast Energy Management Congress and helped develop several education tracks on energy management best practices. NEEA's BetterBricks commercial initiative hosted the "2010 BetterBricks Awards" honoring energy efficiency leaders in the commercial building market. The event was attended by over 175 utility and building professionals. Winners included PSE customers and service providers.

As with NEEA's industrial initiatives, these voluntary programs prime the markets in order to later "lock in" savings through codes and standards.

# **Emerging Technologies Initiatives**

NEEA provides a mechanism for the region to invest in emerging technologies in a way that minimizes risks to any single funder and maximizes potential benefits. NEEA "fills the pipeline" with emerging technologies that have not yet been widely commercialized. We leverage our unique regional role to influence the design of energy-efficient products, services and practices. We find, develop and help commercialize these opportunities for wider market adoption.

- 1. In Q1, 2010 NEEA formed an Emerging Technologies group and developed a Regional Energy Efficient Technology Roadmap with the Regional Emerging Technologies Advisory Committee comprised of senior managers from utilities, the Bonneville Power Administration and national laboratories. The Roadmap prioritizes top emerging technology opportunities and will provide an avenue for their visibility, funding and market adoption.
  - Informed by the Roadmap, NEEA's Emerging Technologies project portfolio represents potential savings of 2,000 aMW over the next 20 years. Planned projects include an agricultural energy efficiency market survey, heat pump water heater manufacturer engagement project, high performance windows market barriers study, and pump refurbishment standards development initiative. We continue build this "pipeline" of emerging technologies alongside other regional and national efforts. NEEA's goal of market change and the region's collective energy efficiency goals depend on a continuous pipeline of commercially available new energy efficiency technologies and practices. Additional information about these projects is available at the NEEA website: <a href="http://www.nwalliance.org/ourwork/emergingtech.aspx">http://www.nwalliance.org/ourwork/emergingtech.aspx</a>
- 2. Through strategic intervention, NEEA worked with the region's utilities and energy efficiency organizations to develop a new Northern Climate Specification for heat pump water heaters that will allow the units to regain energy performance in cooler climates. NEEA and its partners are working with manufacturers to encourage adoption of the specification and transition this technology into the Northwest residential marketplace.
- 3. In Q1 NEEA re-opened an unsolicited proposal process to engage the region in dialogue and facilitate stakeholder innovation about emerging technology opportunities.

#### **Partner Services Initiatives**

NEEA is committed to delivering services that support its funders and regional stakeholders' energy efficiency efforts. Throughout NEEA's 2010-2014 business planning process and other recent regional planning activities, stakeholders consistently expressed the desire for greater communication, collaboration and resources that would help the region expedite the delivery and adoption of energy efficiency.

In response to these needs, in 2010 NEEA formed a Partner Services group to support the region's utilities and other energy efficiency organizations to promote energy efficiency through market research, collaboration and information sharing. The following are the key initiatives of the Partner Services Group:

- NEEA and Bonneville Power Administration will launch a regional energy efficiency online community to facilitate information sharing, best practices and practical resources by early 2011. During Q1-Q2 NEEA developed joint business requirements informed by stakeholder outreach. This website will provide NEEA partners efficient access to market data, research, evaluations, program materials and best practices, as well as information on emerging technologies, regional program summaries, trainings and conferences.
- 2. NEEA's will facilitate interaction and communication among stakeholders through an upcoming Annual Energy Efficiency Conference in Q4, 2010, now in planning stages.
- 3. In order to conduct and coordinate regional market research and facilitate knowledge-sharing, NEEA re-established the Northwest Research Group in Q1.

These initiatives will help increase the efficiency of stakeholder efforts by taking advantage of economies of scale associated with regional information services, events and training; provide services for utilities with fewer resources to deliver on the promise of regional equity; and provide a mechanism for the region to share information and accelerate learning.

### **Codes & Standards Initiatives**

Since 1997, NEEA has supported code development, training, and education in Washington in partnership with the Department of Commerce, the WSU Energy Extension Program and the Northwest Energy Efficiency Council. Codes and standards can be viewed as the end game of NEEA's market transformation effort by "locking in" savings through regulatory requirements. NEEA is currently ramping up codes and standards work to reflect increased utility and state interest related to I-937, SB5854 and the governor's Climate Action Taskforce. Activities and outcomes for the reporting period follow.

 As a regional convener, NEEA facilitated multiple meetings between Washington utilities, BPA and other stakeholders on current and pending energy code issues and opportunities for utility participation. These helped formulate consensus approaches to I-937 and inform utilities about the contentious code adoption process and subsequent delay of the energy code.

- 2. In NEEA's role to promote energy-efficient codes and standards, we funded more than 70 residential trainings with 1500 participants in Q1-Q2. Three trainings were held in Puget Sound Energy facilities, with the training on general code attracting 200 attendees. In May, NEEA funded three webinars on the commercial energy code that were attended by several hundred participants. These will be followed up with topic-specific trainings.
- 3. NEEA is taking an increasing role in federal standards development. We recently hired a new staff member whose main responsibility is federal standards, and are actively participating in a variety of rule makings including furnace fans, walk-in coolers and heat pumps.
- 4. We are national thought leaders in codes and standards. "The Future of Energy Codes," a publication co-authored by NEEA Manager of Codes & Standards David Cohan, is being used as the basis for the Codes & Standards Working Group of the U.S. DOE-funded Zero Energy Commercial Buildings Consortium. We are beginning to drive a national dialogue on outcome-based codes which are based on actual building performance rather than predicted performance.

### **Evaluation Activities and Accomplishments**

NEEA is committed to having both its current and past initiatives evaluated by objective third party contractors in order to continuously validate and improve its market transformation work. NEEA's Market Research and Evaluation group issued the following third party reports during Q1-Q2 2010.

1. 2009-10 Residential Lighting Market Research Study

This is the second lighting tracking study of Compact Florescent Lights (CFLs) conducted since NEEA discontinued funding the ENERGY STAR Consumer Products Lighting Project in early 2008. In the Northwest, overall sales of residential ENERGY STAR CFLs declined by one-fourth between 2008 and 2009. Sales in 2009 were just under 18.2 million lamps, similar to the number sold in 2007. CFL suppliers expressed concern that a depressed economy has slowed the pace of CFL sales, and cite this decline within economically depressed areas as well as areas without utility incentives. With regard to availability and diversity of CFLs, there was a slight drop in shelf space dedicated to CFLs (5 percent), but a larger drop in all lighting shelf space (13 percent) between 2008 and 2009. Almost all Northwest lighting retailers are stocking CFLs. Based on self-reported data, awareness of CFLs remains high (96 percent), up from 86 percent in 2006.

Further, the purchaser base has also increased since 2006 (67 vs. 81 percent). Currently purchasers cite an average of 11 CFLs installed in their homes and an additional five in storage. The evaluation contractor concludes that sales in the Northwest were still higher than in the rest of the nation. Additionally it is noted that CFL sales surpassed most expectations in 2008 and may represent an anomalous spike in sales between 2007 and 2009. The rate of increase over the past several years may not in fact have been sustainable (by 69 percent between 2006 and 2007 and by 34 percent between 2007 and 2008) even during a robust economy. In fact recent sales may reflect a "leveling off" of the CFL market.

- 2. Northwest ENERGY STAR Homes Market Progress Evaluation Report #7
  The seventh Market Progress Evaluation Report of Northwest ENERGY STAR Homes concludes that the program continued to make progress toward market transformation in the new homes market in 2009. Market share increased from 8 percent (in 2008) to 11.5 percent at the end of 2009 (the program goal was 14 percent).
  - Homebuyer awareness of the ENERGY STAR label for homes increased steadily since the program began in 2004 through 2009 (19 vs. 51 percent). Builders are using the label to differentiate themselves. Program builders interviewed for this evaluation said that the ENERGY STAR label provided them a sales advantage in a slow, competitive housing market.
- 3. Northwest Ductless Heat Pump Pilot Project Market Progress Evaluation Report #1
  The first Market Progress Evaluation report of the Northwest Ductless Heat Pump Pilot Project (pilot), the evaluation concludes that the pilot exceeded its installation goal of 2,500 units across the region. As of Dec. 2009, 3,899 ductless heat pumps (DHPs) were installed region wide. The pilot also succeeded in its initial goal to displace rather than replace existing electric heat. Sixty-five percent of installations were single systems (one compressor with a single indoor unit) in the main living area. Nearly all participants (99 percent) interviewed said they used their units to displace existing electric heating equipment, and that it was now their primary heating source. Participants also reported high levels of satisfaction with DHPs, the installation process and ease of locating an installer (between 80-90 percent said they were "very" or extremely satisfied.") In addition, the majority of installer respondents reported high ratings regarding pilot trainings and orientation sessions.

## Regulatory / Compliance Interaction

NEEA is committed to serving its regional stakeholders across diverse geographic areas and markets. We encourage stakeholder participation in our processes. During the reporting period, Puget Sound Energy staff interacted with NEEA as follows:

- NEEA Board Meetings: PSE Vice President of Energy Efficiency Services and NEAA Board Member Calvin Shirley attended the Q1 Board of Directors meeting February 25 in Seattle, WA and Q2 Board of Directors meeting May 26, 2010 in Portland, OR.
- NEEA Advisory Committees and public meetings: Chao Chen attended the NEEA Industrial Advisory Committee Feb. 23 and May 11. Todd Starnes attended the NEEA Residential Advisory Committee March 4; Rem Husted, Mandy Davis and Dennis Rominger attended this committee's meeting May 18. Bob Stolarski attended the Regional Portfolio Advisory Committee Jan. 2 and April 22. Eric Brateng attended the NEEA Cost Effectiveness Advisory Committee June 2 and March 3.

NEEA staff participated in these activities with regulatory bodies during the reporting period:

 WUTC Commissioners workshop, docket 100829: Jeff Harris, NEEA Director of Emerging Technologies, presented to WUTC Commissioners June 21, 2010, in Olympia. PSE Vice President of Energy Efficiency Services and NEAA Board Member Calvin Shirley; and Sarah Hall, NEEA Communications Manager, attended.

- WUTC Shareholder Incentives workshop, docket 100052: Jeff Harris of NEEA attended this workshop June 30, 2010, as did Cal Shirley of PSE.
- Washington State Building Code Council: NEEA Manager of Codes and Standards David Cohan gave testimony at the State Building Code Council. He was part of a discussion group convened by the governor's office to facilitate communication between efficiency advocates and homebuilder organizations on code-related issues.

#### **Additional Information**

Along with abundant news on energy efficiency initiatives in the region, NEEA organizational reports are available online. See the Q1 2010 Report and 2006-2009 Annual Reports.

The NEEA Board of Directors will meet August 25, 2010 in Boise, Idaho and the public is invited. Please contact Lis Saunders at 503-827-8416 for meeting time and location details.

## Regional Technical Forum (RTF)

## **Background**

In 1996, Congress required the Northwest Power Planning Council (Council)<sup>33</sup> to convene a Regional Technical Forum (RTF) to develop standardized protocols for verifying and evaluating conservation. Congress further recommended that the RTF's membership include individuals with technical expertise in conservation program planning, implementation, and evaluation and that its services be made available to all utilities in the Northwest.

At its April 1999 meeting the Council voted to form the RTF to facilitate the development of the conservation and renewable resources identified in the Council's Plan and to assist the Bonneville Power Administration in implementing a Conservation and Renewable Resources Rate Discount. Specifically, the four goals adopted by the Council for the RTF corresponding to its original charge from Congress and the Comprehensive Review are to:

- Develop standardized protocols for verification and evaluation of energy savings and the performance of renewable resources.
- Track regional progress toward the achievement of the region's conservation and renewable resource goals.
- Provide feedback and suggestions for improving the effectiveness of the conservation and renewable resource development programs and activities in the region.
- Conduct periodic reviews of the region's progress toward meeting its conservation and renewable resource goals at least every 5 years, acknowledging changes in the market for energy services and the potential availability of cost-effective conservation opportunities.

Consistent with these goals, the RTF would also be called upon to make recommendations to Bonneville to facilitate the operation of the conservation and renewable resources discount program. These recommendations would include:

- A list of eligible conservation measures and programs, the estimated savings associated with those measures and programs, and the estimated regional power system value associated with those savings.
- A process for updating the list as technology and standard practices change and an appeals process through which customers can demonstrate that different savings and value estimates should apply.
- A set of protocols by which the savings and system value of measures/programs not on the list could be estimated. These would include complex commercial or industrial projects.
- Criteria for eligible renewable resource projects.
- Recommended protocols for measurement and evaluation of savings or production.

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<sup>&</sup>lt;sup>33</sup> At the time, the Northwest Power Planning Council, now the Northwest Power and Conservation Council.

The Council Chairperson (Tom Eckman, the Council's Manager of Conservation Resources), in consultation with the Chair of the Power Committee and Director of the Power Division, appoints the RTF's members.

#### **Members and Invitees**

The RTF has 28 Voting members and approximately 45 Corresponding members. A current list of Voting and Corresponding members may be found on the RTF website:

http://www.nwcouncil.org/rtf/

#### The RTF and PSE

Where possible and applicable, EES will use RTF Deemed measure savings in order to comply with the May, 2002 Rate Case Stipulation Agreement:

#### Section G, Program Evaluation Criteria:

19. PSE and the Advisory Committee shall rely on the following evaluation strategies to determine the energy savings from programs:

- Regional Technical Forum's "deemed" savings lists for electricity measures, or
- Advisory Committee review and adoption of evaluation protocol for energy efficiency programs.)

The committee may revise this list in the future.

PSE is a funding provider of the RTF and regularly engages the RTF and other constituents in savings analyses. PSE has provided and will continue to provide measure savings data for RTF input when applicable. Some measures have deemed savings values or deemed savings protocols that are specific to the PSE service region, which are compared to RTF values. PSE shares these data with the RTF to provide additional data points for analyses.

#### **January Through June Accomplishments and Activities**

PSE is participating with the RTF effort to refine Ductless Heat Pump savings values. PSE also provided valuable input to the RTF in the revision of CFL savings values at the beginning of the year. In addition, PSE is active in the RTF's Fuel Conversion subcommittee.

## **The Northwest Research Group**

Recently the Northwest Research Group (NWRG) was formed to bring together research and evaluation staff from Northwest utilities to share research findings, methodologies and identify common needs where parties can benefit from combining efforts. Two meetings have been held so far in 2010.

Staff from PSE, Seattle City Light, Snohomish County PUD, Avista, Idaho Power, Pacific Corp, Energy Trust of Oregon (ETO), Northwest Energy Efficiency Alliance (NEEA), and the Washington and Idaho utility commissions have attended. The current chair of the NWRG is a NEEA staff member. To date, the group has benefited from regional input for NEEA's Residential Building Stock Assessment and the Non-Residential Building Stock Assessment. Participants look forward to greater awareness of research and evaluation activities throughout the region.

## **EFFICIENCY SUPPORT ACTIVITIES**

## **Efficiency Support Activities Overview**

Comprised of marketing, research, support, community interaction, administrative and evaluation activities, this sector provides critical input, information and services to a variety of EES programs. We ensure that efficiency programs are cost-effective and that a regular schedule of review is established for them. We also help program management target their efficiency messaging; through market research and establishment of exciting, compelling messaging. It is with this sector's input that a significant portion of PSE's IRP is developed and published. These support functions are specific enough to warrant separate entries in PSE's Appendix B, the biennial budgets and goals table.

The overall sector is meeting all expectations at this point of 2010. Expenditures overall are at 50 percent through the first half and research, evaluation, marketing and community projects are on track. Several community alliances have been established, with excellent progress on ARRA-related projects. The efforts within this sector have also developed effective marketing programs, completed significant evaluation projects and refined internal support processes.

## **Program Performance**

Table 24 provides a year-to-date summary of expenditures and energy savings for Support Activities.

**Table 24: Support Activities Year to Date Performance** 

	Through June 2010	Year to Date	Jan. '10 - Jui	ne '10 Actua	ls	2	2010 Budge	et & Goal
	_			% of	% of			
Schedule	Programs	Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric		Electric (MWh				Elect	ric
Gas	Gas		Gas (Therms	5)			Gas	3
E241	Community Efficiency Manager	\$ -	n/a	0.0%	n/a	\$	72,500	n/a
E261	Energy Efficient Technology Evaluation	\$ 6,650	n/a	6.0%	n/a	\$	110,000	n/a
E270	Local Infrastructure, Mkt Transformation	\$ 54,671	n/a	89.1%	n/a	\$	61,330	n/a
	Conservation Supply Curves	\$ 87,815	n/a	21.0%	n/a	\$	418,800	n/a
	EES Market Integration	\$ 77,408	n/a	34.0%	n/a	\$	228,000	n/a
	Energy Efficient Green Communities	\$ 101,884	n/a	46.7%	n/a	\$	218,210	n/a
	Mainstreaming Green	\$ 17,867	n/a	3.0%	n/a	\$	600,000	n/a
	Market Research	\$ 264,846	n/a	30.4%	n/a	\$	869,866	n/a
	Program Evaluation- Elec	\$ 504,633	n/a	69.2%	n/a	\$	729,403	n/a
	Program Support	\$ 83,906	n/a	27.6%	n/a	\$	304,503	n/a
	Total Electric	\$ 1,199,682	C	33.2%	0.0%	\$	3,612,612	0
G261	Energy Efficient Technology Evaluation	\$ 6,590	n/a	13.2%	n/a	\$	50,000	n/a
G270	Local Infrastructure, Mkt Transformation	\$ 14,805	n/a	30.4%	n/a	\$	48,653	n/a
	Conservation Supply Curves	\$ 23,969	n/a	22.8%	n/a	\$	105,000	n/a
	EES Market Integration	\$ 47,527	n/a	31.3%	n/a	\$	152,000	n/a
	Energy Efficient Green Communities	\$ 39,100		53.8%	n/a	\$	72,737	
	Mainstreaming Green	\$ 11,109	n/a	2.8%	n/a	\$	400,000	
	Market Research	\$ 63,093	n/a	33.3%	n/a	\$	189,654	n/a
	Program Evaluation and Research- Gas	\$ 126,300	n/a	52.3%	n/a	\$	241,701	n/a
	Total Gas	\$ 332,494	C	26.4%	n/a	\$	1,259,745	0

Figure 35 is a representation of proportions of EES Support Activities spending for electric and gas.

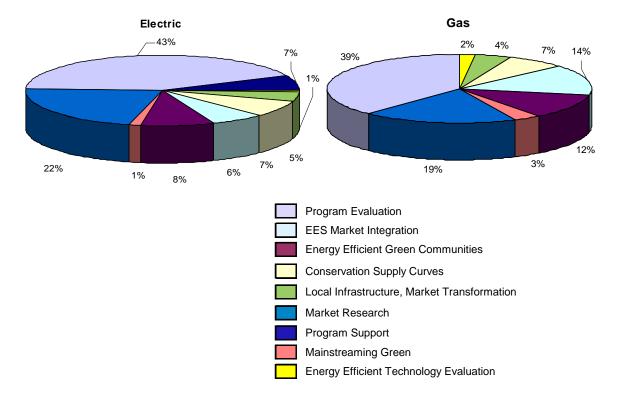


Figure 35: Support Activities expenses as percents of totals

EES support activities are those that are necessary to implement conservation measures, perform evaluation, measurement and Verification (EM&V) functions, increase consumer awareness of EES programs and review potential new energy efficient technologies. The activities described in the following pages are set apart from the Residential and Business Sectors because they influence and impact a wide variety of EES initiatives and are not program-specific.

These activities do not directly result in electric or natural gas savings, although they do have a significant bearing on savings, insofar as identifying target customers, influencing energy efficiency behavior, evaluating installation rates and billing histories, validating savings assumptions and ensuring accurate compilation and reporting of EES results.

It is noteworthy that three of these activities have a corresponding Schedule: 241, 261 and 270. This is because, although there are no associated savings claims, they directly affect customers by either offering a service, information or a benefit and they have a specific budget line item in the Company's Appendix B; Budgets and Savings Goals.

## **Community Efficiency Manager**

Schedules E241/G241

Funding for the Community Efficiency Manager was suspended in 2010, pending a review of ARRA funding effects on demand for this service in the PSE territory. The program may be restored and funded at a future date, pending a review with the Company's Stakeholders.

## **Energy Efficient Technology Evaluation**

Schedules E261/G261

#### **Description**

The purpose of Energy Efficiency Technology Evaluation is to identify new, energy efficient technologies and products for our program offerings. Ideally, we would identify cost effective technologies and measures with significant savings potential, which are commercially available. However, there are many emerging technologies that range from "commercially available, but not used in the Northwest," to "conceptual" or "prototypical" technologies still in the development phase.

It is relatively simple to determine whether new, commercially available technologies are suitable, as long as generally accepted engineering calculations can be used, and manufacturers can provide reliable data. For example, vendors frequently approach us with new, improved products, claimed to save more energy than their older models, or their competition. Usually these proposals are evaluated by the Energy Management Engineer who is managing the project, who then shares his/her experience with others in the group.

Some technologies are not so simple to evaluate. Those that are truly new typically have little experiential history, or there is no generally accepted method to calculate the performance. Clearly, it would be risky to broadly offer incentives through our programs - risky with regard to uncertain savings and risky for our customers due to unforeseen product issues. If the potential savings look significant, we may try the technology on one or two projects, especially if we are working with a customer who understands the risks and would like to be an "early adopter." Sometimes the most prudent approach is to monitor the progress of the technology, especially if the savings potential appears limited. Our effort is not intended for basic research, or product development, but to identify technologies that are available and suitable for our programs.

The most challenging situations arise when vendors propose products that are "too good to be true." Often their savings claims are supported by testimonials from satisfied customers, with little or no reliable test data. Many technologies, such as transient voltage suppressors, power factor correction devices and paint with high R-Value, have been known for years to save little or no energy, but the vendor may insist that his product is different, even though it may only have a different name on the box. Fortunately we have experience with many of these products, or can readily find others who have had experience. It is important, however, to distinguish between the bogus claims and those that might truly be the new emerging technology that deserves attention.

#### **Program Performance**

Table 25 provides a year-to-date summary of expenditures and energy savings for the Technology Evaluation activity.

**Table 25: Technology Evaluation Year to Date Performance** 

	Through June 2010		Year to Date	Jan. '10 - Jun	e '10 Actua	ıls	2010	Budge	et & Goal
					% of	% of			
Schedule	Programs		Dollars	Savings	Budget	Savings	Dolla	ırs	Savings
Electric	Electric	Electric (MWh)						Elect	ric
Gas	Gas		(	Gas (Therms)				Ga	S
E261	Energy Efficient Technology Evaluation	\$	6,650	n/a	6.0%	n/a	\$ 11	0,000	n/a
G261	Energy Efficient Technology Evaluation	\$	6,590	n/a	13.2%	n/a	\$ 5	0,000	n/a

#### **January through June Accomplishments and Activities:**

#### Electric

Enhanced control for small commercial rooftop systems: A few products have been introduced which enhance the functionality of the conventional wall thermostat for rooftop heating/cooling equipment. Some enhanced features include improved economizer operation, demand controlled ventilation, fan cycling or variable speed fan operation, and Web-based access to remotely adjust setpoints and schedules. While not as powerful as a Building Energy Management control system, these enhanced controls appear to be a reasonable, cost effective option for small to medium size commercial buildings. Vendors have suggested a few sites in PSE's service territory, but none have been installed yet.

Heat recovery unit for rooftop equipment: Air to air heat exchangers are not a new technology; however, one manufacturer has a model that is intended to be a cost effective option for individual rooftop units. Heat recovered from exhaust air is used to preheat outside ventilation air, with effectiveness claims exceeding 90 percent. We have one customer who is interested in trying the technology.

Farm Worker Housing project update: Construction of the sustainable and energy efficient demonstration houses is delayed, awaiting additional funding; PSE's contribution is being held in trust.

E Source: A portion of our budget is allocated to monthly E Source dues, since E Source is an important source of information on energy efficient technologies.

#### Gas

Enhanced control for small commercial rooftop systems: See comment above.

Heat recovery unit for rooftop equipment: See comment above.

E Source: A portion of our budget is allocated to monthly E Source dues, since E Source is an important source of information on energy efficient technologies.

Puget Sound Energy

## **Local Infrastructure & Market Transformation**

Schedules E270/G270

#### **Description**

PSE participates with or utilizes the services of many organizations to support the local delivery, management, and promotion of a broad range of energy efficiency programs. Measures primarily deal with education and information about energy efficiency and Puget Sound Energy's energy efficiency services. These can include participation in conferences and energy efficiency trade shows aimed at reaching a broad array of customers and trade allies. Similar to but narrower than Program Support, the Local Infrastructure and Market Transformation budget line item gives visibility to the annual membership dues PSE pays to trade associations and research organizations who support ongoing development and implementation of the wide variety of both Residential and Business energy management programs. There are no other substantive charges to this line item.

#### **Program Performance**

Table 26 provides a year-to-date summary of expenditures and energy savings for the Infrastructure and Market Transformation activity.

Table 26: Infrastructure and Market Transformation Year to Date Performance

	Through June 2010	Year to Date Jan.	ls	2010 Budget & Goal				
				% of	% of			
Schedule	Programs	Dollars Sa	avings	Budget	Savings	D	ollars	Savings
Electric	Electric	Electr	ric (MWh)				Electr	ric
Gas	Gas	Gas	(Therms)				Gas	3
E270	Local Infrastructure, Mkt Transformation	\$ 54,671 n/a		89.1%	n/a	\$	61,330	n/a
G270	Local Infrastructure, Mkt Transformation	\$ 14,805 n/a		30.4%	n/a	\$	48,653	n/a

#### January through June Accomplishments and Activities:

Specifically, expenses include electric-pertinent and general program support segment dues for E-Source, CEE (Consortium for Energy Efficiency), Electric League of the Pacific Northwest, and BOMA (Building Owners and Managers Association). All of these organizations provide a variety of benefits to EES. These include advocacy for energy efficiency, a variety of training and education opportunities for PSE staff and our customers and trade allies, market research, and technology assessments.

One example of a unique benefit involves BOMA of Seattle & King County and the implementation of their <u>kiloWatt Crackdown</u> Program. BOMA challenges the commercial real estate community to reduce energy, save costs, and position commercial office buildings for the future. The current program will recognize and reward buildings that will save the most energy in 2010 and 2011.

Participants are asked to benchmark their energy use utilizing the ENERGY STAR Portfolio Manager tool. Qualifying buildings are then eligible to receive a free scoping study and a list of energy-saving opportunities.

Multiple awards will be given in multiple categories in the spring of 2011 and 2012. This program provides multiple benefits to PSE: it 'raises the bar' re: awareness of energy efficiency among commercial customers, provides valuable marketing of PSE EE resources, offers concrete technical support and data analysis in helping customers understand and prioritize no and low cost energy efficiency opportunities.

The first annual kiloWatt Crackdown, launched in early 2008, involved 53 competing properties, representing over 18 million square feet or 20 percent of the Puget Sound office market. The combined energy savings from the participating buildings is equal to the annual electric consumption of 1,000 Northwest homes or over 700,000 gallons gasoline.

## **Mainstreaming Green and Market Integration**

## Description

The Mainstreaming Green and Market Integration initiatives are designed to significantly improve the ability of the Energy Efficiency effort to communicate the "Why and How" of energy efficiency. This is being accomplished in two ways:

## Market Integration

The Market Integration initiative consists of salary costs of employees working on Mainstreaming Green-related items. This is being done to increase the transparency of the work being done on marketing-related items. These include the enhancement of the energy efficiency web capability and the Re-Energize effort (both detailed below).

## Mainstreaming Green

Mainstreaming Green consists of unified graphic standards, research and the initiative to make the PSE Energy Efficiency web tools effective in delivering electricity and gas savings, especially as we progress toward anticipated higher targets in the future. Research has shown that PSE customers are more web-savvy than average and have high expectations of doing business on the web. The web enhancement plan under Mainstreaming Green is designed to provide significant new tools for customers to be able to do this. Figure 36 illustrates the incorporation of the Re-Energize platform into the PSE.com website.



Figure 36: Mock up of PSE.com Website Incorporating Re-Energize Concept

Specifically, the new web tools will fully-integrate and more effectively organize on-line messaging, merchandising and the ability to up-sell energy-efficiency products and services to PSE's residential and business customer base, community partners and trade allies. This site will also allow for on-line, self-service customer rebate and application transactions. The new capability includes:

- o Fillable rebate application forms, sign-up forms and info request forms
- o Searchable retailer, contractor, etc. lists and maps, by zip, city, etc.
- o Interactive house, featuring dynamic rebate and promotion information
- Easy to use, more sophisticated navigation
- Integrated Aclara home and business energy use calculators
- Content ratings and content merchandising functions
- Newsfeed and featured blog content and integrated social media tools

The updated features within the energy efficiency section of the website will help EES to capitalize on advanced online marketing opportunities not currently available within PSE's current web environment. Dynamic, energy efficiency-identified content pages and features will also eventually allow EES to measure, track and quantify customer browsing and buying preferences and energy usage, in order to provide targeted, relevant information and education about energy efficiency and customer renewables, using a variety of analytical tools.

The second component of Mainstreaming Green involves research, Re-Energize umbrella graphic standards and outreach. Figure 37 is one example of a Re-Energize graphic.





The Re-Energize graphic standards are designed to make all PSE Energy Efficiency promotions consistent so all programs can better leverage the attention other programs generate with customers. This results in doors being opened more easily when new program promotions are put before customers. The Re-Energize graphic standards are now being utilized on program promotions.

Originally, the outreach component of Mainstreaming Green anticipated the need for paid advertising to generate additional customer attention for energy efficiency and establish the Re-Energize umbrella in the minds of PSE customers so customers would be familiar with it when follow-on promotions arrived. The paid advertising component has been cancelled because federal stimulus funding and the overall economic downturn have significantly increased customer interest in energy efficiency, negating the need for an incremental PSE effort to get customers' attention.

Research was utilized in the development of the web and the Re-Energize components of Mainstreaming Green and was utilized to test the Re-Energize final product before it was implemented.

## **Program Performance**

Table 27 provides a year-to-date summary of expenditures for the Mainstreaming Green and Market Integration activities.

Table 27: Mainstreaming Green and Market Integration Year to Date Performance

	Through June 2010		Year to Date	ıls	2010 Budget & Goal				
Schedule	Dragrama		Dollars	Savings	% of Budget	% of Savings	_	Oollars	Savings
Electric	Programs  Electric			Electric (MWh)		Savings		Electi	
Electric	Electric			Electric (IVIVVII)				Electi	IC
Gas	Gas			Gas (Therms)				Gas	•
	Mainetane aris a One e	Ι φ	47.007	- 1-	0.00/	- 1-	٨	000.000	- /-
	Mainstreaming Green	\$	17,867	n/a	3.0%	n/a	\$	600,000	n/a
	Mainstreaming Green	\$	11,109	n/a	2.8%	n/a	\$	400,000	n/a
	EES Market Integration	\$	77,408	n/a	34.0%	n/a	\$	228,000	n/a
	EES Market Integration	\$	47,527	n/a	31.3%	n/a	\$	152,000	n/a

#### January through June Accomplishments and Activities:

## Mainstreaming Green:

Re-Energize umbrella graphic standards and web plan complete. Program promotions now utilize the standards and reflect the consistent energy efficiency message. Advertising originally anticipated as part of this campaign in 2010 has been cancelled. Work to implement the web plan has begun.

## Market Integration:

PSE EES labor dollars to support Mainstreaming Green development and implementation are on-track.

## **Energy Efficient Communities**

No Associated Conservation Schedule

#### **Description**

Puget Sound Energy's Energy Efficient Communities (EEC) program aims to increase participation in PSE's Energy Efficiency programs by linking up local governments with EES programs to increase efficiency in their facilities, their residents' homes and their businesses. The program partners with cities, counties and other community entities to discover locally-appropriate ways of engaging the communities by leveraging PSE's resources, community knowledge and partner support.

With communities taking responsibility for their energy usage and carbon emissions, they are looking to partner with PSE expertise. There is great emphasis on energy efficiency in the American Recovery and Reinvestment Act of 2009 with local governments receiving funds for said purpose. PSE is working with its communities to help them utilize their Federal stimulus dollars to work in tandem with PSE's programs. With local governments directly receiving these funds, there is ample opportunity to create new delivery mechanisms that can utilize a Federal resource to make PSE's programs go further with our customers and achieve more savings.

### **Program Performance**

Table 28 provides a year-to-date summary of expenditures and energy savings for the Energy Efficient Communities program.

**Table 28: Energy Efficient Communities Year to Date Performance** 

	Through June 2010		Year to Date Jan	ıls	2010 Budget & Go					
				% of						
Schedule	Programs		Dollars S	Savings	Budget	Savings	D	ollars	Savings	
Electric	Electric	Electric (MWh)						Electric		
Gas	Gas		Gas (Therms)					Gas	3	
	Energy Efficient Green Communities	\$ 101,884 n/a 46.7% n/a					\$	218,210	n/a	
	Energy Efficient Green Communities	\$	39,100 n/a		53.8%	n/a	\$	72,737	n/a	

#### January through June Accomplishments and Activities:

To date the Energy Efficient Communities program staff has worked with approximately 47 cities and counties that received stimulus funding for energy efficiency projects. The program staff has been the conduit to PSE's Energy Efficiency programs, to ensure the funds are utilized for cost effective measures. Some of the projects communities have utilized or plan to utilize their funds for include OPower's Home Energy Reports pilot expansion, HVAC system upgrades for municipal buildings, Resource Conservation Manager Program, Variable frequency drive retrofits for city water pump stations and more. The EEC program has also been working closely with four recipients of the Washington State University Extension Energy "Community Energy Efficiency Pilot Program," also funded through the stimulus package.

These organizations are utilizing and promoting PSE's residential and commercial efficiency programs, including HomePrint home energy assessments, small business lighting program, and other residential and commercial incentives. These programs provide more hands-on support for customers, and therefore help guide them through the energy assessment, contractor referrals, utility incentives and project financing to help increase the measure installation in homes and businesses.

The Energy Efficient Communities program has also worked on linking up communities with EES programs such as the CFL recycling box program in local city halls and other public buildings, Green Power promotion, and ensuring municipal customers are aware of what EES programs PSE has to assist them in reaching their energy efficiency goals.

## **Conservation Market Research and Conservation Supply Curves**

## Description

The focus of the EES Conservation Market Research function is on more acquiring more granular data on residential and commercial/industrial customer characteristics, customer satisfaction with energy efficiency services, community-level analyses and evaluating the effectiveness of the Mainstreaming Green program. We collect and analyze information about customers that is relevant for the development of programs, educational materials and promotional campaigns that will be effective in encouraging program participation.

Through various techniques such as surveys and focus groups, market research provides understanding of customer perceptions, motivations and barriers to adoption of energy-efficient behavior, as well as demographic, structural, and end use equipment characteristics. Market research is also called upon for analysis of community attitudes, behavior, and energy usage trends, necessitating more geographically targeted research.

As EES expands its efforts to respond to the increasing demand to provide value to communities, Market Research has been called upon to provide a significantly increased amount of analysis based on a community's behavior and energy usage trends, necessitating more geographically targeted research.

The research plan is built using a "bottom up" approach. As a part of the program planning efforts that occur prior to biennial conservation filings, Market Research works closely with program evaluation, marketing communications, and program implementation to identify research needs that support the effective development, delivery, and evaluation of energy efficiency programs. These program research needs are then coordinated, leveraged, and result in a slate of research projects.

Market research is planned in close coordination with the program evaluation, marketing communications, and program implementation functions to ensure that there is no duplication and that market research activities are responsive to the needs of EES.

Market research expenses are driven by the customized nature of the work and the large sample sizes required for results to be valid for multiple market segments and geographic areas. Commercial/industrial customer characteristics are particularly costly to collect because some on-site visits will likely be necessary. Lastly, it will be necessary to conduct research on new and expanded initiatives to gauge customer perceptions and measure their effectiveness.

#### Components

Baseline Research for Program Design and Promotional Campaign Development: This research will consist of several studies designed to provide basic, foundational information about PSE customers that will be used as input to the Company's Integrated Resource Plan, as well as for the planning and design of programs and promotional campaigns. Examples of this research are end use characteristics studies and research aimed at understanding customer decision-making with respect to taking energy efficiency actions.

<u>Program-Specific Market Research Support</u>: This research will support the development and evaluation of specific energy efficiency program promotion and communications campaigns, including message testing, campaign target markets, and campaign effectiveness studies, as appropriate. This type of research is focused on specific programs or promotional initiatives and often involves analysis of existing bases and qualitative research from focus groups.

The Conservation Supply Curve function focuses on identifying the amount of energy savings potential that is technically and economically achievable over the 20-year planning horizon of PSE's Integrated Resource Plan (IRP). The IRP, which is filed every two years, is the basis for PSE's electric and gas energy resource acquisition strategy, including our energy efficiency programs. PSE has been conducting these analyses since 2003. Starting this year, the conservation potential from PSE's most recent IRP (completed in 2009) was used to derive the ten-year conservation potential and two year electric conservation target required to comply with the Washington Energy Independence Act (commonly referred to as I-937). PSE's next IRP and conservation potential assessment are due in 2011.

#### Components

<u>Demand-Side Resource Market Potential</u>: The Company will conduct an assessment of the long-term market potential for energy savings from energy efficiency and other demand-side resources, covering the twenty year period 2012-2031. The result of this market potential assessment will be the development of conservation supply curves that will be included in the Company's 2011 Integrated Resource Plan and be a key component is establishing program savings targets for 2012-2013.

# **Program Performance**

Table 29 provides a year-to-date summary of expenditures and energy savings for the Market Research and Supply Curves activities.

Table 29: Market Research and Supply Curves Year to Date Performance

	Through June 2010							2010 Budget & Goal	
					% of	% of			
Schedule	Programs		Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric			Electric (MWh)				Elect	tric
Gas	Gas			Gas (Therms)				Ga	S
	Market Research	\$	264,846	n/a	30.4%	n/a	\$	869,866	n/a
	Market Research	\$	63,093	n/a	33.3%	n/a	\$	189,654	n/a
	Conservation Supply Curves	\$	87,815	n/a	21.0%	n/a	\$	418,800	n/a
	Conservation Supply Curves	\$	23,969	n/a	22.8%	n/a	\$	105,000	n/a

## January – June Accomplishments and Activities:

#### **Conservation Market Research**

Base studies on residential customer barriers to adoption of energy efficiency and impacts of incentive levels on consumer interest in purchasing energy-efficient equipment were completed. Tactical research studies include focus groups on customer perceptions about the Re-energize concept for Mainstreaming Green and profiling Bainbridge Island customer characteristics and energy use to support community energy initiatives

Currently underway is a residential characteristics study, which will collect basic end use appliance and building characteristics data from approximately 5,000 customers using a mail/online survey. The results will provide statistically representative data at the county level. This study will be complimented by PSE's participation in the region-wide Residential Building Stock Assessment being conducted by NEEA, which will collect detailed end use information using on-site visits. In addition to the homes that would be visited as part of the overall regional sample, PSE will be over-sampling an additional 100 homes in order to have more detailed data bout its service area.

#### **Conservation Supply Curves**

PSE engaged Cadmic Group to conduct the conservation supply curve assessment, which will determine the amount of achievable savings potential is available to offset long-term resource needs for the 2011 IRP. In addition to updating the previous conservation supply curves with updated information, PSE will be refining its analysis of peak impacts and the ramp rates for acquiring the conservation potential over time. The analysis is currently in progress.

## **Program Support**

#### Description

This function includes administrative activities necessary to enable and enhance the strategic and tactical execution of the wide variety of both Residential and Business programs.

Program Support is not listed in Appendix A because it is not a "program" in the conventional sense. This budget line item includes administrative activities that are necessary to enable and enhance the strategic and tactical execution of the wide variety of both Residential and Business programs.

The Program Support budget category includes labor costs by New Program Development staff responsible for developing and improving program delivery processes in Customer Energy Management.

Typical functions include internal and external review, adoption/rejection, development and integration of: new EE industry research, end-use technologies and applications; pre-pilot program proposals; construction codes; equipment standards; software and similar tools applications. Other examples include: support for biennial and strategic program planning; coordinating IRP DSM RFP and related development and bidding activity; supporting work with regional EE organizations and initiatives; and managing program benchmarking studies, best practices, continuous improvement and related support activities.

The majority of charges (labor) to this line item in the first half of 2010 have been by a single dedicated staff member.

## **Program Performance**

Table 30 provides a year-to-date summary of expenditures and energy savings for the Program Support activity.

**Table 30: Program Support Year to Date Performance** 

	Through June 2010	Year to Da	te Jan. '10 - Jur	als	2010 Budget & Goal		
Schedule	Programs	Dollars	Savings	Budget	Savings	Dollars	Savings
Electric	Electric		Elec	ctric			
Gas	Gas		Gas (Therms)	)		G	as
	Program Support	\$ 83,90	6 n/a	27.6%	n/a	\$ 304,500	3 n/a

#### **January through June Accomplishments and Activities:**

2010 accomplishments to date include extensive work with the Small Business Lighting program to improve program processes, design and implement a training program for participating contractors, and redesign the program tracking and reporting processes. Program support services also managed the assessment and bidder response for Demand Side Management proposals received through our 2009 Integrated Resource Plan.

Similarly they provided coordination of EES roles in the development of Generating Plant and T&D system efficiency improvement proposals called for by Merger Stipulation 47. Support staff also worked closely with the Energy Advisors group to identify and adopt improvements to internal business practices and customer services in the first half of 2010.

## **Program Evaluation**





Evaluation



#### **Description**

The EES New Program Development and Evaluation Team are committed to the verification of claimed energy savings and the continual improvement of energy efficiency service delivery to customers. The Evaluation Team validates the cost effectiveness of both Residential and Business programs. Utility Cost and Total Resource Cost benefit-to-cost ratios are the two primary cost-effectiveness tests performed.

The Evaluation staff manage the evaluation of programs and measures with input from program staff to develop the evaluation plans, including evaluation criteria, accumulation of customer data, conducting customer surveys performing other evaluation methodologies and make program recommendations. These include savings claim figures, delivery methods, incentive levels and actual savings verification. As outlined in the tables below, the Evaluation staff develops a strategic evaluation plan, which ensures that all programs receive review on cyclic basis. The details of how the evaluation plan is developed are outlined in PSE's Appendix D, Evaluation Plan.

The Evaluation staff is also closely engaged in the Measure Metrics process. Using the Evaluation Report Response (ERR), the Evaluation staff ensures that study results are implemented in the program. Once an evaluation study is complete, the findings are reviewed with the program staff, along with key recommendations. The program staff then complete their input on the ERR, indicating what actions will be taken as a result of the findings. This ensures a closed-loop system.

Key evaluation data are archived in the Measure Metrics system, such as measure cost, measure life, incentive value and delivery method. The Evaluation staff also tracks a measure's "sunset date", which indicates that a particular measure is due for a renewed review.

In addition, PSE is monitoring Regional Technical Forum (RTF) work on Commercial Refrigeration, and the Direct Use of Natural Gas. A member of the evaluation staff continues to serve on the RTF, attending meetings and providing input to RTF discussions. PSE relies on the RTF for many of its Deemed measures. The RTF also practices the use of a sunset date for RTF approved measures to ensure that measures are updated within a reasonable timeframe.

PSE regularly provides critical evaluation data for the RTF and has been asked to review RTF data from time to time. PSE's evaluation presented data to the RTF that resulted in an adjustment of Retail CFL savings.

## **Program Performance**

Table 31 provides a year-to-date summary of expenditures and energy savings for the New Program Development and Evaluation activities.

Table 31: New Program Development and Evaluation Year to Date Performance

	Through June 2010	Year to	Date Jan. '10 - Ju	als	2010 Budget & 0		
				% of			
Schedule	Programs	Dollars	Savings	Budget	Savings	Dollars	Savings
Electric	Electric		Elec	tric			
Gas	Gas		Gas (Therms)				as
	Program Evaluation	\$ 504	633 n/a	69.2%	n/a	\$ 729,403	n/a
	Program Evaluation	\$ 126	300 n/a	52.3%	n/a	\$ 241,701	n/a

## **January through June Accomplishments and Activities:**

The 2010 – 2011 Evaluation Plan, presented at the June 22<sup>nd</sup> CRAG meeting, identified Impact and Process Evaluations for 27 new and existing programs and measures. Completion of some evaluations, as indicated, may be deferred to 2012 – 2013 pending timing of program marketing and customer participation rates. An updated listing of evaluation projects for 2010-2011 is shown in Table 32. At this time it appears that impact evaluation of Gas Fireplaces and Tankless Water Heaters will be delayed until 2012 due to low customer participation.

**Table 32: Evaluation Project Status** 

					١	_				010-2011	2010-2		<b>.</b> .	Estimated	
Cust. Sector	Schedule	Program/Measure Description	Project Name	Study Type	Lead Analyst	Program	(3rd Party)	Regional Partner?	_	stimated htract Cost	Estima Contract		Start Date	Completion	Status
Sector					Analyst	Manager	(3rd Party)	Partner?		LECTRIC)	(GAS		Date	Date	
New Pil	ot Programs	s & Measures							(	LLOTRIO	(OAC				
Res		Home Energy Reports	OPOWER - 1st Year Evaluation	Impact	Wilhelm	Simcox	NA		\$		S	-		Apr-10	Complete
1103	L243/0243	Fromo Energy Reports	Blueline / In-Home Display Monitor	impact	***************************************	Giilloox			Ť		_			Apr-10	Complete
Res	E249	Blueline / In-Home Display Monitor	Evaluation	Impact & Process	Wilhelm	Simcox	TBD		s	70.000	s	- 1	Aug-10	Sep-10	Pendina
- 1100			Commercial Demand Response	,					Ť	,					
C&I	E249A	Commercial Demand Response <sup>1</sup>	Evaluation	Impact & Process	Brateng	McCormick	Navigant		\$	87,250	\$	- 1		Sep-10	In Progress
				Persistence &			, and								
Res	E249/G249	Home Energy Reports	OPOWER - 18 month Evaluation	Impact	Wilhelm	Simcox	KEMA		\$	61,152	\$ 2	,208	Aug-10	Oct-10	In Progress
		Micro-Combined Heat & Power <sup>2</sup>	Micro-Combined Heat & Power												
Res	G249	(FreeWatt© Plus)	Evaluation	Impact & Process	Brateng	Smith	TBD		\$	50,000	\$	- 1		Mar-11	Pending
Res	E249/G249	Home Print	Home Print Process Evaluation	Process	Wilhelm	Worthy	TBD		\$	49,000	\$ 2	,000	Jan-11	Jun-11	Pending
			Custom Residential Grants			,									
Res	E249/G249	Custom Residential Grants	Evaluation	Impact & Process	Brateng	Smith	TBD						TBD	Aug-11	Pending
			Residential Demand Response												
Res	E249	Residential Demand Response <sup>1</sup>	Evaluation	Impact & Process	Brateng	Chamberlain	TBD		\$	90,000	\$	- 1		Sep-11	In Progress
Res	E249	Ductless Heat Pumps	Ductless Heat Pumps Evaluation	Impact & Process	Feinstein	Rominger	Ecotope	NEEA	\$	-	\$	-		Nov-11	In Progress
Res	E249	Consumer Electronics <sup>2</sup>	Consumer Electronics Evaluation	Impact & Process	Brateng	Simcox	TBD	NEEA			\$	-	TBD	Dec-11	Pending
			Small Business Outreach Process												
C&I		Small Business Outreach	Evaluation	Process	Feinstein	Dickson	NA						Apr-10	TBD	Pending
Res	E249	ECM Fan Motors	ECM Fan Motor Pilot Study	Impact & Process	Wilhelm	Rominger	TBD				\$	-	May-01	TBD	Pending
Existing	Programs	& Measures													
									١.						
C&I	E250	VFD Market Assessment Study	VFD Market Assessment Study	Mkt Assessment	Feinstein	Dickson	Summit Blue		\$	16,757	\$	-	Oct-09	Mar-10	Complete
							Innovative		١.						
Res	E214	Project Porchlight	Project Porchlight Follow-up	Impact	Wilhelm	Simcox	Research		\$	4,250	\$	-		May-10	Complete
_			Gas Water Heater Impact												
Res	G215	Gas Water Heaters	Evaluation	Impact	Wilhelm	Rominger	KEMA				\$ 37	,069		Jun-10	Complete
_			Mfd Housing Weatherization						l_	=	_				
Res	E214	Mobile Home Weatherization	Impact Evaluation	Impact	Brateng	Taylor	TBD		\$	70,000	\$		TBD	Oct-10	Pending
	E000/0000	0	Commercial Sprayhead Metering		Wilhelm	Dickson	SBW		\$	44.000	s				
C&I	E262/G262	Commercial Sprayheads	Study PC Power Management Impact	Impact	vviineim	Dickson	SBW		Þ	44,800	\$	-	May-10	Dec-10	In Progress
C&I	E250	DO D M	Evaluation	l	Feinstein	Dickson	Cadmus		s	170.000	s		Jul-10	Jan-11	I- D
		PC Power Management (Software) MF Weatherization	MF Retrofit Evaluation	Impact & Process	Wilhelm	Forde	SBW		\$	107,000		,984	May-10		In Progress
Res	EZ1//GZ1/	IVII VVCAUICIIZAUOTI	IVII INGILOTIL EVATUATION	impact & Process	vviirieim	roide	SDVV		à	107,086	4: ب	,304	iviay-10	Mar-11	In Progress
Res	E214/G245	SF Weatherization	SF Weatherization Evaluation	Impact	Brateng	Taylor	TBD		s		s			Jun-11	Pending
Res	LZ14/GZ15	or vveatherization	Residential Duct Sealing	iiiipdUl	braterig	i ayıor	עסו		a a		φ.	-		Juli-11	rending
Res	E214/G215	Residential Duct Sealing	Evaluation	Impact & Process	Wilhelm	Taylor	Navigant		s	67.856	\$ 12	,018	Jun-10	Jul-11	In Progress
1/69	L214/G215	residential Duct Sealing	Residential Rebate Process	impact & F100888	AA III ICIIII	i ayıuı	ivavigailt		g.	07,000	ψ 121	,,010	Juli-10	Jui-11	iii Flogress
Res	Multiple	Residential Rebates	Evaluation	Process	Brateng	Rominger	TBD		1				TBD	TBD	Pending
1,63	ividitiple	Tresidential Trebates	Refrigerator Decommissioning	1 100633	Diatelly	rxonninger	100		1			$\dashv$	טטו	100	rending
Res	E250	Refrigerator Decommissioning	Process Evaluation	Process	Wilhelm	Simcox	TBD		s	20.000	s	. [	TBD	TBD	Pending
		Trongolator Descriminasioning	100000 Evaluation	1 100000	**!	Ciiilloox	. 50	Totals	Š	730,901		.279	.50	. 55	. c.iding
				1				. 0	, ,	. 55,561	1 200	,			

<sup>1 -</sup> Demand Response Pilot Evaluation costs are tracked within DR cost accounting hence excluded in the total here.
2 - Possible pilot program - not yet approved.

#### **Special Projects and Support Roles**

In addition to the projects listed above the evaluation staff is involved in special projects and support roles. Of note, PSE has engaged Research into Action to conduct a review of evaluation functions and roles within EES and provide recommendations to improve the effectiveness of program evaluation at PSE. Also note PSE's estimated funding contribution to RTF activities. Table 33 provides additional details of additional projects undertaken by the Evaluation group this year.

**Table 33: Evaluation Special Project Status** 

Task Name	Project Lead	Completion Date	Contractor (3rd Party)	Status	2010-2011 Estimated Cost (ELECTRIC)	2010-2011 Estimated Cost (GAS)
Other Projects						
Industrial Program M&V Guidelines	Feinstein	02/26/10	NA	Complete	\$	\$ -
ARRA Grant Research	Feinstein	04/09/10	NA	Complete	\$ -	\$ -
Diffusion Modeling	Feinstein	06/23/10	Cadmus	Complete	\$ 59,006	\$ 19,669
Program Metrics	Feinstein	10/31/10	NA	In Progress	\$ -	\$ -
			Research			
Evaluation Process Project	Feinstein	12/31/10	Into Action	In Progress	\$ 56,000	\$ 24,000
Program Planning/Implementation Manual	Wilhelm	12/31/10	NA	In Progress	\$ -	\$ -
Ongoing Support Roles				-	\$ -	\$ -
		1/2 Year &				
Program & Measure Cost Effectiveness	Brateng	Annual	NA	Ongoing	\$ -	\$ -
NEEA	Brateng	NA	NA	Ongoing	\$ -	\$ -
RTF	Brateng	NA	NA	Ongoing	\$ 312,000	\$ -
Energy Codes	Feinstein	NA	NA	Ongoing	\$ -	\$ -
NW Research Group	Brateng	NA	NA	Ongoing	\$ -	\$ -
Measure Metrics	Brateng	NA	NA	Ongoing	\$ -	\$ -
					\$ 427,006	\$ 43,669

## OTHER ELECTRIC PROGRAMS

## **Other Electric Programs Overview**

There are four electric conservation programs for which savings are not claimed; Net Metering, Small Scale Renewables and two Demand Response pilots.

Net Metering and Small Scale Renewables primarily focus on customer-side generation, including solar, wind, anaerobic digesters (biogas, etc.) and small-scale hydro. These systems are smaller than 2 megawatts (MW).<sup>34</sup> The Commercial/Industrial Load Control Pilot and the Residential Demand Response Pilot are differentiated from the other pilots due to their longevity, specificity and potential effect on the overall utility.

PSE has seen an incredible rise in the number of net metering customer applications during the first half of the year and the response to our solar school initiative has been gratifying. The Demand Response pilots have been very successful, with results meeting expectations.

The January through June performance for each program in the Other Electric Programs Sector is indicated in Table 28.

#### **Program Performance**

Table 34 provides a year-to-date summary of expenditures and energy savings for Other Electric Programs.

**Table 34: Other Electric Program Year to Date Performance** 

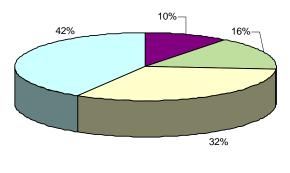
	Through June 2010	Year to Date	Jan. '10 - Jun	e '10 Actua	ıls	2010 Budget & Goal		
				% of	% of			
Schedule	Programs	Dollars	Savings	Budget	Savings		Dollars	Savings
Electric	Electric		Electric (MWh)				Elect	ric
Gas	Gas		Gas (Therms)				Ga	S
E150	Net Metering	\$ 83,042	n/a	49.8%	n/a	\$	166,753	n/a
E248	Small Scale Renewables	\$ 129,064	n/a	32.4%	n/a	\$	398,039	n/a
E249A	C/I Load Control Pilot - Elec	\$ 263,219	n/a	55.3%	n/a	\$	476,000	n/a
E249A	Demand Response Pilot Programs - Elec	\$ 336,184	n/a	95.7%	n/a	\$	351,400	n/a
	Total Electric	\$ 811,509	n/a	58.3%		\$	1,392,192	n/a

-

<sup>&</sup>lt;sup>34</sup> Larger systems fall under the considerations of PSE's Schedule 91, Cogeneration and Small Power Production.

Figure 38 represents proportions of EES Other Electric programs' spending.

Figure 38: Other Electric Programs expenses as percents of totals



- Net Metering
- Small Scale Renewables
- C/I Load Control Pilot Elec
- Demand Response Pilot Programs

## **Net Metering**

Schedule E150, in conjunction with:

## **Production Metering**

Schedule 151

## Description

Schedule 150, Net Metering for Renewable Energy Services, became effective February 11, 1999. Subsequently, Schedule 150 was revised on June 8, 2000 in response to legislative action<sup>35</sup>, which modified certain aspects of the net metering program.

As revised, the schedule applies to customers who operate fuel cells or hydroelectric, solar or wind generators of no more that 100 kW.<sup>36</sup> Service under this schedule is limited to a total of 4.5 MW of cumulative nameplate generating capacity, of which no less than 2.25 MW of cumulative nameplate generating capacity shall be attributable to net metering systems that use either solar, wind, or hydroelectric power as its fuel. Customer generation can be used to offset part or all of the customer-generator's electricity use under Schedules 7, 24, 25 or 29 of Electric Tariff G.

Figure 39 is an illustration of net metered locations within the PSE service territory as of this reporting date.

#### **Program Performance**

Table 35 provides a year-to-date summary of expenditures and energy savings for the Net Metering program.

**Table 35: Net Metering Program Year to Date Performance** 

	Through June 2010	Year to Dat	e Jan. '10 - Jun	als	2010 Bu	dget/Goal		
Schedule	Programs	Dollars	Savings	Budget	Savings	Dollars	Savings	
Electric	Electric		Electric (MWh)					
Gas	Gas		Gas (Therms)			G	ias	
E150	Net Metering	\$ 83,042	2 n/a	49.8%	n/a	\$ 166,75	3 n/a	

<sup>&</sup>lt;sup>35</sup> On March 27, 2000, Engrossed House Bill 2334 relating to the definition of net metering systems and amending RCW 80.60.010, 80.60.020 and 80.60.040 was signed into law. The revised law became effective June 8, 2000.

<sup>&</sup>lt;sup>36</sup> Revisions to Schedule 150, including increasing the maximum generator capacity to 100kW became effective June 12, 2006.

**Customer Generation** SystemType Hybrid: Solar/Micro Hydro - 1 Hybrid: Solar/Wind - 4 Micro Hydro - 4 Solar Array - 575 Wind Turbine - 27 **TOTAL CUSTOMERS: 611** 

Figure 39: Map of Net Metered Customers

### January through June Accomplishments and Activities:

PSE added 109 new Net Metered customers in Q1 and Q2, 2010. That brings the total customer count to to 657. Together they represent over 2.6 MW of capacity. 94 percent are Solar PV. The remaining 6 percent represent wind and micro-hydro. Of the new Net Metering customers, all are electing to participate in the State's Renewable Energy Production Incentive Program.

#### **Small-Scale Renewables**

Schedule E248

#### Description

Small Scale Renewables, Schedule 248 was added to Schedule 120 funding when the Residential Exchange Credit was cancelled by the Ninth Circuit Court in May, 2007.

This program will first provide a solar rebate equal to the cost of the required production meter under terms of PSE's Production Metering schedule. Second, PSE will develop a grant program for small scale renewable energy education demonstration projects which are tied in with both a curriculum and energy efficiency services. Further, PSE will encourage customers to make investments in small scale renewable electricity generating systems.

Under terms of Schedule 248, PSE rebated back the cost of Production Meters for net metered customers, so there is no additional cost from PSE for the customer when interconnecting a renewable energy system. \$20,115 was rebated back to customers on this program in 2009.

## **Program Performance**

Table 36 provides a year-to-date summary of expenditures and energy savings for the Small Scale Renewables program.

Table 36: Small Scale Renewables Year to Date Performance

	Through June 2010	Year to Date Jan. '10 - June '10 Actuals			2010 Budget/Goal		
				% of	% of		
Schedule	Programs	Dollars	Savings	Budget	Savings	Dollars	Savings
Electric	Electric		Electric (MWh	)		Elec	tric
Gas	Gas	Gas (Therms)		Gas			
E248 Small Scale Renewables		\$ 129,06	4 n/a	32.4%	n/a	\$ 398,039	0

#### January through June Accomplishments and Activities:

Renewable Energy Education Program

Starting in 2010 the solar schools grant program was renamed the Renewable Energy Education Program to include the potential for wind power demonstration in schools. The program mission is to educate the public about renewable energy and continues to implement live web weather and power monitoring data, teacher training, classroom curriculum and an extensive renewable energy science kit for the classroom.

To extend program funds, applicants were selected based on their ability to provide in-kind contributions for projects. Seven schools were selected to receive between \$5,000 and \$20,000 for solar grants in 2010. Five of these awardees contributed significantly toward the installation of their own photovoltaic generation systems. All awardees have taken advantage of at least one PSE energy efficiency program, and are either in or are partnered with a local school district.

These 2010 projects will be located at Griffin Elementary School near Olympia, Tahoma High School in Covington, Vashon Island High School, 21 Acres Center for Local Food in Woodinville (partnered with both Cascadia Community College and Northshore School District), the Town of La Conner Wastewater Treatment and Compost Facility, Sunrise Elementary School in Redmond and Echo Glen School, a juvenile rehabilitation facility in Snoqualmie. Both the Vashon Island High School and 21 Acres projects will host electric vehicle charging station monitoring in conjunction with their solar demonstration projects.

Dedication ceremonies were held at three recently completed solar demonstration sites at Coupeville Middle and High Schools on Whidbey Island, Liberty High school in the Issaquah School District and Hazen High School in the Renton School District. The Liberty High project is unique in that they received at grant from Issaquah Schools Foundation for \$10,000 for a dual axis solar tracking array. Liberty students will compare the results to a similar installation at nearby Hazen High School with a fixed tilt solar array. Typically, these are high visibility events with a PSE Vice President, Mayors, School Superintendents, as well as local, State and Federal government officials in attendance. Figure 40 illustrates renewable energy education demonstration project locations.

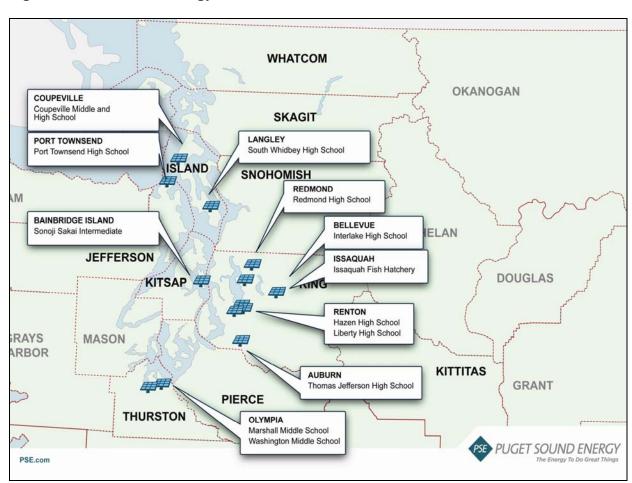


Figure 40: Renewable Energy Education Demonstration Sites

## **Demand Response Pilots**

Schedule E249A

#### Description

PSE's 2007 and 2009 Integrated Resource Plans (IRP) present achievable estimated demand response capacity potential for residential, commercial and industrial customer sectors. Pilots under this schedule are being undertaken to strengthen the Company's capability to responsively and effectively offer cost-effective demand response options to all customer classes in the future. At the outset, some members of the CRAG expressed a preference for demand response pilots involving "direct load control" by the Company, as opposed to pilots which involve pricing signals to elicit demand response from consumers.

The Company's primary focus is to pilot direct load control during times of high peak loads, focusing on the customer communication needed, as well as the information and incentives needed to get the customer to agree to respond. PSE will evaluate the effects of these pilot demand response options on its electrical system.

Attributes being evaluated include technologies, demand reduction performance, customer behavior and preferences, impact and integration of demand response with PSE operations, demand reductions achieved, energy savings achieved, and local distribution system benefits derived.

#### **Program Performance**

Table 37 provides a year-to-date summary of expenditures and energy savings for the Demand Response Pilots program.

**Table 37: Demand Response Pilots Year to Date Performance** 

	Through June 2010	Year to Date Jan. '10 - June '10 Actuals			2010 Budget/Goal			
					% of	% of		
Schedule	Programs		Dollars	Savings	Budget	Savings	Dollars	Savings
Electric	Electric	Electric (MWh)		Electric				
Gas	Gas	Gas (Therms)		(	as			
E249A C/I Load Control Pilot - Elec		\$	263,219	n/a	55.3%	n/a	\$ 476,00	00 n/a
E249A Demand Response Pilot Programs		\$	336,184	n/a	95.7%	n/a	\$ 351,40	00 n/a

### January through June Accomplishments and Activities:

Tables 38 and 39 indicate the types of Demand Response pilot participants by business and load type, organized by city.

Table 38: Commercial/Industrial Load Control Pilot Participants, January - June

Custome r	Туре	Nominated Winter kW	Nominated Summer kW	City
1	Hospitality	150	250	SeaTac
2	Education	75	100	Auburn
3	Manufacturing - Food	250	250	Kent
4	Manufacturing - Metal Products	200	300	Kent
5	Office Building - Large	200	300	Bellevue
6	Education	300	300	Kirkland
7	Manufacturing - Aggregate Products	150	150	Snoqualmie
8	Manufacturing - Aggregate Products	300	300	DuPont
9	Education - Large campus	250	300	Auburn
10	Large Office Building	225	75	Bellevue
11	Education - Large Campus	300	300	Lacey
12	Manufacturing - Chemicals	25	40	Anacortes
13	Education - Large Campus	250	300	Des Moines
14	Manufacturing - Medical Technology	100	175	Redmond
15	Manufacturing - Extruded Building Products	300	300	Kent
16	Education - Large campus	125	300	Bothell
17	Office Building - Large	250	250	Bellevue
18	Office Building	200	250	Bellevue
19	Office Building	150	60	Bellevue
20	Office Building - Large	250	250	Bellevue
21	Office Building	60	60	Eastgate
22	Office Building	35	35	Bellevue
23	Office Building - Government	20	35	Auburn
24	Manufacturing - Food	150	150	Bellevue
25	Education - Large Campus	300	300	Bellingham

4615 5130 Total Nominations - MW **4.6 5.1** 

Table 39: Residential Demand Response Pilot Participants, January - June

Device Type	End Point	Winter kW Potential	Summer kW Potential	Approx Number of Participants
Load Switch	Hot Water Heaters	289	289	482
Load Switch	Baseboard Heat / Wall Fan	56	N/A	56
Load Switch	Electric Forced Air Furnace	45	N/A	45
Load Switch	Air Conditioner	N/A	0	0
Thermostat	Heat Pump	222	222	222

Total Load Potential - MW 0.6 0.5

## January through June Accomplishment and Activities

#### **Commercial/Industrial Load Control Pilot**

Five pilot curtailment events were called during the 2009-10 (November thru February) winter season. December 8th and 9<sup>th</sup> events took place under severe cold weather conditions. Nominated capacity for both events was 2.92 MW or about 70 percent of maximum due to selected test geography. Curtailment performance (unaudited) was 7.0 MW on 12/8, or 241 percent, and 4.2 MW on 12/9, or 141 percent, of the 2.92 MW nominated capacity. An evaluation contractor for this pilot, Navigant, was selected from respondents to a national competitive RFP in January this year, and a detailed approach and plan was developed with them in February. Navigant's work on the process and impact components of the evaluation has been ongoing though June.

## **Residential Demand Response Pilot**

The residential DR program has 515 enrolled customers on Bainbridge Island. The first winter season of the residential pilot concluded in February 2010, with two additional demand response events called on the mornings of January 27th and February 9th, with approximately 380 customers participating in each event. Reporting and data collection improved in February with the contractor's "Apollo" management system, but the 2009-2010 winter season evaluation will rely heavily on customer 15-minute interval data collected via PSE's AMR meters. Approximately 80 percent of end points (thermostats, load switches) respond to curtailment signals and the team continues to work on ways to improve participation and reduce technology barriers. The first summer season of the pilot runs May through September, though the months of May and June proved unseasonably cool and no events were called.

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### 2010 STAKEHOLDER RELATIONSHIPS

# Washington Utilities and Transportation Commission

## **PSE Filings**

#### I-937

The Company filed its Ten-Year Conservation Potential and its Biennial Conservation Target, Docket number UE-100177 on January 29, in compliance with RCW 19.285 and WAC 480-109.

#### Schedule 120

With the successful conclusion of the WUTC Staff investigation (Docket # U-091954), the Commission approved the Company's Schedule 120 at the March 25 Commission open meeting.

### Schedule 254 (NEEA)

The Company, at the Commission's request during the December 2009 biennial filing, clarified cost-effectiveness calculation standards in its NEEA Schedule in early May 2010. Additional clarification was requested and the Company filed its amended Schedule 254 as this report started publication.

#### I-937

On June 18, per Commission Order number 4, PSE re-filed its Ten-Year Conservation Potential and its Biennial Conservation Target, based on the Company's 2009 IRP.

# **WUTC Investigation**

PSE's December, 2009 biennial filing of its 2010 – 2011 conservation tariff was approved by the Commission with the condition that WUTC Staff be allowed to open an investigation—under Docket number U-091954—of the Company's filing and appendices, focusing primarily on four areas:

- 1. NEEA funding, savings and governance
- 2. Home Energy Reports pilot program
- 3. Information-only activities
- 4. Providing additional details to substantiate 2010-2011 budgets.

As a condition of approval of the Company's Schedule 120 in March 2010, it was necessary that WUTC Staff was satisfied with the additional details provided.

The Company provided the CRAG detailed responses to all questions pertaining to each area over the course of January through March 2010, as outlined below:

- January 27: several NEEA documents to the CRAG.
- February 2: budget summaries, detailed work papers and seven Home Energy Report program documents to the CRAG.
- February 9: summaries, highlights and details relative to information-oriented programs.
- February 18: responses to additional Fuel Conversion program, Home Energy Report follow-up and budget clarification and cost-effectiveness questions to the CRAG.

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All questions raised during the investigation were satisfactorily addressed 37 and the Company's 2010 budget was allowed to go into effect.

### **WUTC Compliance**

EES published and distributed its biennial notification in a Conservation Report Card, illustrated in Figure 41, in May 2010 to all customers, in compliance with the 2002 General Rate Case Stipulation Agreement, section M.44.

3

<sup>&</sup>lt;sup>37</sup> Exeprted from WUTC Staff's March 25 open meeting memo in reference to Docket U-091954, paragraph 1: "Staff investigated several aspects of the company's program descriptions, budgets, cost-effectiveness, and evaluation, particularly in relation to Northwest Energy Efficiency Alliance (NEEA) programs and Home Energy Reports. <sup>37</sup> Staff is satisfied that the NEEA programs in which the company invested are cost-effective. ...[].

And excerpted from paragraph 2: "Concerning Home Energy Reports, staff is satisfied that the company has justified this program for inclusion in its 2010 budget."

## Figure 41: EES Biennial Notification: Conservation Report Card

# 2008-2009 Energy Efficiency Performance Report Card

Your efforts in saving energy have helped raise the region's focus on environmental responsibility and stewardship.

In 2008 and 2009, you made your homes and businesses even more energy efficient, helping to make Puget Sound Energy a leader in energy efficiency.

Every other year, we evaluate how effective we are at doing our part to encourage you to save energy. We match the amount of energy saved against set targets. Over the 2008-2009 period, your efforts exceeded the targets. Here are the results.



KEY MEASUREMENT	TARGET	2008-2009 PERFORMANCE	ACHIEVE
Electricity savings	53.3 average megawatts	66.4 average megawatts—enough electricity to serve more than 49,000 homes in one year.	V
Natural gas savings	5.6 million therms	8.9 million therms— enough natural gas to serve more than 10,000 homes in one year.	V

\* During 2008-2009 Puget Sound Energy was required by state regulators to meet a certain threshold of cost-effective energy savings. If electric conservation goals were not met, PSE could have incurred a penalty of more than \$10 million per year and up to \$750,000 per year if natural-gas conservation goals were missed.

Since the electric conservation goals were exceeded at the noted levels above, PSE qualified for incertives of \$4.24 million in 2008 and \$4.38 million in 2009 under its pilot electric incertive program approved by the Washington Utilities and Transportation Commission.

In 2010, we will continue to provide you ways to help you achieve greater energy efficiency in your homes and businesses. Here are some of the ways.

#### For homes

PSE offers a wide array of rebates and incentives for home improvements and equipment that reduce energy use and lower bills.

Many of these same measures could also qualify for as much as \$1,500 in federal tax credits and \$100 from Washington state's appliance rebate program for energy efficient clothes washers.

In addition to saving money through rebates, lower bills and tax credits, customers can lower their carbon footprint by using less energy and support the local jobs that service energy conservation programs like these.

#### For businesses

PSE offers rebates and incentives to businesses that make qualifying energy-efficient upgrades and improvements to their facilities.

We also offer incentives for energy-efficient construction.

We have more than a dozen rebate programs with more than 100 options for commonly applied efficiency upgrades.

PSE's grant program helps businesses and organizations fund energy efficiency measures applied to the construction and upgrades of buildings and facilities. Our grants can provide businesses with a custom incentive and funding up to 100 percent of the installed cost for any energy-efficiency project for upgrades of existing buildings or new construction.

Our grants also help fund a Resource Conservation Manager, an energy expert, to help your business or organization implement energy-efficiency measures to bring about reduced use of energy.

Visit PSE com or call a PSE Energy Advisor at 1-800-562-1482 to find out more about rebates and incentives for purchasing energyefficient products like lighting, heating, and water heating equipment for residences and technical assistance and custom incentives for businesses.

Through your efforts, we intend to continue the momentum for achieving energy savings. Over the next 20 years, the energy savings achieved by our customers is expected to offset the need for building four midsized, 250-mega watt power plants.



PSE PUGET SOUND
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# Conservation Resource Advisory Group

# Background

The Conservation Resource Advisory Group (CRAG), was formed as a condition of the 2001 General Rate Case Stipulation Agreement and was put into effect in 2002. It consists of 15 stakeholders and represents a wide variety of interests, including consumers, industry, regional concerns and includes members of the Washington Utilities and Transportation Commission Staff. The CRAG works closely with EES on a variety of conservation initiatives, most notably conservation tariff filings, savings goal setting and long-term conservation strategies.

#### **CRAG** Vision

In May of 2010, the CRAG and PSE agreed that there is mutual benefit in working towards a common vision. It is the cornerstone to establishing a superior collaborative, whose primary goal is to enhance services provided to PSE ratepayers. Development began on a vision statement, working within the context of the 2002 Stipulation Agreement.

Members actively participate in CRAG processes and provide advice on PSE decisions so that ratepayer funds are being used to achieve all cost-effective energy conservation in the most prudent, beneficial manner.

#### **CRAG Activities**

#### Field Trips

In May, a small group of CRAG members participated in a Residential Sector field trip, where duct sealing, blower door testing and ductless heat pumps were observed. An EES Manager hosted the group in his home, where the group donned protective outerwear and convened in the home's crawlspace to observe duct sealing operations. The group then observed, on a Forward Looking Infrared Radar (FLIR) camera, the effects of air leaks presented during the blower door test.

After reconvening at the PSE corporate office, a ductless heat pump system was demonstrated.

In June, that same group, along with WUTC Staff members, observed several Business Sector measures at two PSE customer sites, including the LOTT (Lacey, Olympia, Tumwater & Thurston) Alliance Budd Inlet waste treatment facility, where EES provided a grant for the installation of a new generator that uses formerly discharged methane for fuel to generate electricity. The lead EME also provided background on energy-efficient aeration blowers that were scheduled to be installed within the near future. After a short tour of the facility, the group then traveled south to Tumwater, were they reconvened at Cardinal Glass. There, they observed energy-efficient pumps used to create vacuum in chambers that apply silver and anti-reflective coatings. These pumps were installed with the help of a PSE grant.

#### Seminars

On April 14, a small group of CRAG members participated in a meeting to review Measure Metrics processes and how they interface with Evaluation and Program Implementation processes. A key takeaway was that the Company employs a closed-loop process of managing its conservation measures, their savings claims and the accuracy of their reporting.

#### Audits

On March 8, a member of Public Counsel and a member of the WUTC Staff conducted a simple audit of Residential sector programs. There were no audit findings at the conclusion of the exercise.

## **CRAG Correspondence**

EES notified the CRAG of its first quarter revision of Attachment 1, which focused on adding electric and gas Weatherization measures and clarifying Business Sector offerings in early April 2010. EES also updated its Business Sector program descriptions (Appendix A) concurrent with the Attachment 1 revision.

These documents were updated on the PSE.com website the following business day.

In May, EES began the process of prioritizing CRAG communications. Subject lines now contain indicators such as "\*\*\*Action Requested\*\*\*", "\*\*\*Follow-up Needed\*\*\*" or "\*\*\*Information Only\*\*\*". An executive summary approach is also used, so that busy CRAG members can quickly ascertain the nature of a particular communication.

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Jan – June 2010 Semi-Annual Report of Energy Conservation Accomplishments

## **CRAG Meetings**

May 6 meeting summary:

The first CRAG meeting of the year was facilitated by an expert in creating collaboration and focused on building upon past successes. The group spent the day identifying developmental areas, creating collaboration and agreeing that together, we can achieve a Best in Class organization.

#### **Key Outcomes**

Establishment of a CRAG draft vision<sup>38</sup>:

Members have confidence that ratepayer funds are being used for all cost-effective energy conservation in the most prudent, beneficial manner.

Ensure effective participation of CRAG members [by],

- Better scheduling of CRAG meetings,
- Include a thematic approach to meetings,
- · Clarify meeting objectives and outcomes,
- · Provide as much meeting material prior to meetings,
- Considering offering webinars, teleconferences, etc.

Encourage more effective communications at meetings [by],

Recording minutes without attribution.

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<sup>&</sup>lt;sup>38</sup> The CRAG Vision Statement was further refined in subsequent meetings & emails, resulting in the final version, presented on page 142.

June 22 meeting summary:

Our second meeting of the year continued the momentum established in May, with a higher-thanexpected CRAG member turnout, with active participation all around. Members expressed enthusiasm for the renewed focus and process commitment demonstrated by PSE. There was general consensus that the meeting was productive and the issues discussed were topical and relevant.

## **Key Outcomes**

Establishment of CRAG meeting standardization:

Previous meeting summarization, Review of the CRAG action item status, Electronic polling for setting 2011 meetings, Key points on CRAG roles.

#### Review of key strategic issues:

Decoupling, which the group agreed to discuss in more detail in upcoming meetings, EM&V; definitions, goals and standards, 2010 year-end forecasts; should PSE curtail conservation achievement efforts or exceed budgeted

#### Deliverables:

Meeting summary, PSE internal Home Energy Report one-year evaluation report, Updated CRAG vision statement<sup>39</sup>.

<sup>&</sup>lt;sup>39</sup> The current CRAG vision statement is noted at the top of page 142.

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## **CONCLUSION**

This concludes the Energy Efficiency Services 2010 Semi-Annual Report of Energy Conservation Accomplishments.

Please refer to the Report's Exhibits for additional EES details:

Exhibit 1: EES tables of electric and gas energy conservation expenditures and savings to date,

Exhibit 2: EES list of prescriptive and selected calculated measures,

Exhibit 3: EES portfolio cost-effectiveness.

EES looks forward to providing our 2010 annual report in the first quarter of 2011.

Respectfully submitted,



Puget Sound Energy Energy Efficiency Services