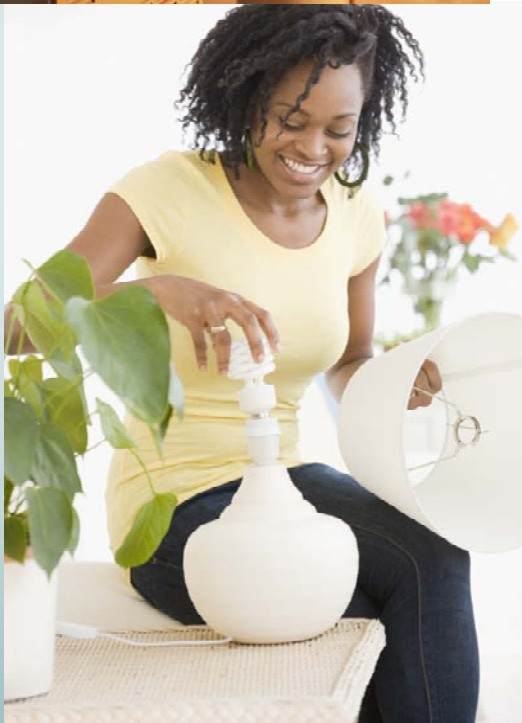


# Customer Solutions Energy Efficiency



## 2012 Semi-Annual Conservation Acquisition Report



**PUGET SOUND ENERGY**

*The Energy To Do Great Things*

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Upper right: a next-generation LED lamp. Image courtesy of Philips®, used with permission.

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## List of Exhibits

- Exhibit 1: Expenditures compared to budgets, savings compared to goals
- Exhibit 1, Supplement 2: Savings adjustments through June 30, 2012
- Exhibit 9: Order Compliance Checklist
- Exhibit 10: NEEA Semi-Annual Report

## A Comment on Exhibit Naming

As noted in PSE's 2011 Annual Report of Energy Conservation Accomplishments,<sup>1</sup> the organization and naming tenets of report and plan Exhibits and Attachments has evolved since the filing of Puget Sound Energy's ("PSE's" or "the Company's") 2011 Annual Conservation Plan (ACP) in Docket number UE-100177. The first significant change was the re-naming of "Appendices" to that of "Exhibits" in that document. That Exhibit naming tenet was continued in developing the 2012-2013 Biennial Conservation Plan (BCP). PSE's 2011 Annual Report of Energy Conservation Accomplishments used the same naming convention. A direct benefit from maintaining this naming convention is that for the first time, stakeholders were able to directly compare information from a planning document to its corresponding results report the following year.

And now in this Semi-Annual report, to maintain continuity, PSE will carry on the same Exhibit naming numbering principles as found in the 2012-2013 BCP.

It is important to note that some of the Exhibits are inappropriate for a mid-year status review; most are more representative of planning documents. For instance, Exhibit 7 of the BCP is the Marketing Plan; Exhibit 6 is the Evaluation Plan; these have no bearing on this status update. Thus, for this status update, Exhibits 2 through 8 are omitted.

There are also elements of Exhibits that add detail, are germane to progress reports, or can stand alone. This additional information is labeled "Supplements".<sup>2</sup> The only Supplement included in this progress report, Supplement 2 to Exhibit 1, noted in the Table of Contents on page ii.

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<sup>1</sup> Filed February 15, 2012, Docket number UE-970686.

<sup>2</sup> For example, Supplement 1 to Exhibit 1 is the actual-vs-budget cost element detail by program. This Supplement is included in PSE's annual conservation reports.

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## Executive Summary

### Overview

PSE presents this 2012 Semi-Annual Conservation Acquisition Report in compliance with Order (8)(a) of the Commission's Order 01, Docket number UE-111881.<sup>3</sup> The report is also consistent with the Second Supplemental Commission Order, Docket number UE-970686.<sup>4</sup>

The start of 2012 saw the beginning of a new organization within the Company; Customer Solutions. This division is focused on maximizing customer satisfaction, improving our customer-oriented operations, and continuing the outstanding results accomplished by our Energy Efficiency staff. In addition to two new organizations within Customer Solutions; Continuous Improvement, and Products & Services, the core that comprised the former Energy Efficiency Services ("EES") now makes up Customer Solutions, Energy Efficiency ("CS/EE").

Half way through 2012, CS/EE is on track to meet or exceed the annual conservation goals of 38.4 average megawatts (aMW) and 4.88 million therms that were approved by the Washington Utilities and Transportation Commission (WUTC or Commission) as a part of the 2012-2013 biennial target.<sup>5</sup> After the Commission approved the Company's biennial acquisition target of 666,000 MWh on June 14, 2012 with Orders, pursuant to WAC 480-109-010(4)(c), that conservation energy target was deemed to be all cost-effective, reliable, feasible, and available conservation that the Company must pursue for the 2012-2013 biennium.

Circumstances that have had an impact on the Company's conservation acquisition to date include reductions in contractor and agency staffs, reduced or eliminated federal tax credits, and increased material costs. Also placing downward pressure on achieving our 2012 savings goals is adjusted savings values<sup>6</sup> for several prescriptive measures; residential CFLs for example. As the marketplace continues to add new CFLs to less-used living spaces, the aggregate savings value per lamp has decreased over the past two years. Consequently, Residential Retail CFLs make up a smaller percentage of the Residential Energy Management's (REM's) portfolio than it did at this time last year.<sup>7</sup>

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<sup>3</sup> [PSE must file the following:] (a) Semi-annual Conservation Acquisition Report, comparing budget to actual kWh's and dollar activity, by August 15, 2012 as specified in UE-970686.

<sup>4</sup> (The Commission orders) That Puget Sound Energy is required to submit semi-annual reports on the progress of electricity conservation programs delivered under Schedule 83, Electricity Conservation Service, within 45 days of the end of the second and fourth quarters, until such time as the tariffed services are no longer offered.

<sup>5</sup> Approved in Docket No. UE-111881, June 14, 2012.

<sup>6</sup> It is important to note that in order to ensure the highest degree of savings accounting accuracy, PSE aligns its prescriptive savings that are based on RTF UES values annually, rather than biennially.

<sup>7</sup> At over 20 percent, 39,400 MWh, Residential Retail CFLs make up a smaller percentage of the overall Portfolio savings than in 2011 (43,800 MWh, and over 30 percent during the same timeframe in 2011).

Highlights of adjustments implemented since the beginning of 2012 include a greater emphasis on LED lamps. As LED lamps become more cost-effective, their consumer demand increases, and upgraded verification process developed by PSE contributes to additional projects. LED lamps now make up a greater percentage of the overall portfolio savings. Appliances and showerheads have also expanded their offerings, and new residential air sealing measures are already showing promise. New tools, both internal and customer-focused, also contribute to maximizing our delivery of energy efficiency measures. Contracted programs in both Commercial/Industrial Retrofit and Rebate programs are already contributing to conservation savings.

There are very few remaining American Recovery and Reinvestment Act (ARRA) projects to complete<sup>8</sup> within the PSE territory, including fewer commercial stimulus-driven projects as customers have completed their “shovel ready” efficiency projects with initial rounds of stimulus funding.

Despite the hurdles, as of the end of June, 2012, PSE achieved 46.0 percent of its electric savings goal (336,600 MWh) and 32.1 percent of its natural gas savings goals (4.88 million therms). Electric expenditures are tracking well with savings achievement, at 42.4 percent of the \$98.1 million budget and natural gas expenditures are 44.8 percent of the \$13.4 million budget. Table 1 provides the overall portfolio six-month savings and expenditure results. Figures above one million are rounded to the nearest thousand for reference simplicity. Actual figures are noted in Exhibit 1. Electric and gas savings adjustments made throughout the first half of the year are listed in Exhibit 1, Supplement 2.

Consistent with Order 2:

“... Specifically, the conditions regarding the need for a high degree of transparency, and communication and consultation with external stakeholders, diminish neither Puget Sound Energy’s **operational authority**<sup>9</sup> nor its ultimate responsibility for meeting the biennial conservation target approved herein.”,

PSE’s standard practice is to continuously monitor its program performance, closely gauge market conditions, and adhere to continuous improvement and adaptive management principles to adjust its program offerings, maximizing conservation savings.

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<sup>8</sup> Please see the Energy Efficiency Communities discussion on page 35.

<sup>9</sup> Order number 2, Docket number UE-111881, Order 01; emphasis added.



**Table 1: Overall Six-month Customer Solutions, Energy Efficiency Results**

Jan. - June 2012	Savings	Expenditures
Electric (MWh)	154,740 *	\$41,652,000
Goal/Budget	336,600 (38.4 aMW)	\$98,136,000
Percent	46.0%	42.4%
Gas (Therm)	1,565,000	\$6,001,000
Goal/Budget	4,877,000	\$13,398,000
Percent	32.1%	44.8%

\* 154,740 MWh divided by 8,760 hours = 17.66 aMW

Savings are stated in terms of first-year annual figures, at the customer meter, without line losses.

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## Compliance

Throughout this report, references to WUTC orders 1 through 12, paragraphs 30 through 41, Order 01 in Docket number UE-111881, approving Puget Sound Energy's 2012-2021 Achievable Conservation Potential and 2012-2013 Conservation Target Subject to Conditions, Sections A through J of the 2010 Electric Settlement Agreement, Docket No. UE-100177, and applicable Sections of the 2002 General Rate Case Stipulation Agreement, Docket number UG-011571<sup>10</sup> may be cited where applicable within program progress discussions.

This section, and the Glossary of Commonly Used Terms section contain the only citation of the complete, formal name of those orders and conditions. In the following discussions, the report will only reference "Section", "condition", or "order" to avoid repetition and unnecessary verbiage.

### Customer Solutions, Energy Efficiency Order Compliance

Table 4 lists 2012 completed activities that are consistent with the applicable Sections, conditions, and Orders that represent PSE deliverables. Ongoing or incomplete deliverables are omitted from the table. There are also Sections and orders that describe deliverables that can be considered "ongoing" or "standard business practices". For instance, Section F(12), states that Schedule 449 customers are eligible for self-direction. This is a deliverable with which PSE complied in 2011 and its status remains unchanged. Therefore, in Exhibit 9, the Order Compliance Checklist, this deliverable is marked as "completed". Other examples include but are not limited to Sections G, H, J, and orders 3(a), 5, 6(b). Although considered completed, these too, are omitted from Table 4.

PSE shares compliance status with its Conservation Resource Advisory Group (CRAG) during each of its regularly-scheduled meetings by providing an updated version of Exhibit 9. The most current version of the Order Compliance Checklist, Exhibit 9, is included in this report.










In order to maximize clarity and business transparency while providing a more accurate assessment of PSE's current compliance status, PSE added a new icon, the hourglass, to the report. This icon represents deliverables that are "in progress". They are also combined with the checkmark in particular deliverables. This usage indicates that a particular deliverable is ongoing, and was also completed for a particular iteration.

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<sup>10</sup> In Order 05 of Docket number UE-100177, consolidating deliverables outlined in Dockets UE-011570, UG-011571 and UE-100177, ¶13, page 6, the Commission ordered that "... The 'Settlement Terms for Conservation' that the parties filed on June 6, 2002, as Exhibit F to the Settlement Stipulation shall continue in effect in Docket UG-011571."

An example is order 3(c), which indicates that PSE must provide the Conservation Resource Advisory Group (CRAG) with electronic copies of tariff filings at least two months prior to their effective date. The checkmark in Exhibit 9 indicates that PSE complied with that deliverable when it provided the CRAG copies of revised Schedules 83 and 183, for instance.<sup>11</sup> The hourglass, though, indicates that there may be upcoming instances of that deliverable.

**Table 4: Completed Sections, Conditions and Orders through June 30, 2012**

Section	Activity Status, UG-011571	
M(44)	Completed--PSE completed mailings of its Natural Gas 2010-2011 customer report card in June, 2012.	
Condition	Activity Status, UE-100177	
I(17)	Completed--PSE exceeded its 2010-2011 electric biennial conservation target, thus avoiding penalties.	
K(6)(g)	Completed--PSE provided the final report of the Third-party review of 2010-2011 electric savings in the 2010-2011 Biennial Conservation Report on June 1, 2012.	
K(8)(g)	Completed--PSE filed 2011 Annual Report. (One of five 2012-specific conditions in the 2010 Electric Settlement Agreement.)	
K(8)(h)	Completed--PSE filed its 2010-2011 Biennial Conservation Report on June 1, 2012, and posted an electronic copy on its website.	
Order	Activity Status, UE-111881	
(3)(a)(viii)	Completed--PSE provided all CRAG members with electronic copies of the 2011 Annual Report and the 2010-2011 Biennial Conservation Report.	
(3)(b)	<i>(1/2 check mark in Exhibit 9)</i> Through June 30, there have been two CRAG meetings, with two more (October 4 and December 6) scheduled.	
(8)(a)	Completed--This report satisfies order (8)(a). <i>(Marked with hourglass in Exhibit 9, as check marks are only added after 30 post-delivery.)</i>	
11(c)	PSE's Schedule 120 filing was made on March 1, 2012.	
12(a)	PSE filed its petition for Declaratory Order on July 6, 2012.	

(Orders [6][g], [8][g] through [8][i] have deliverable dates in 2014.)

The following pages provide detailed discussion on revisions, updates and progress toward goals and budgets outlined in the 2012-2013 Biennial Conservation Plan.

<sup>11</sup> On April 9, PSE provided the CRAG a mark-up copy of Schedules 83 and 183, which address the repayment of conservation grants.

## Residential Energy Management

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

REM offers a variety of direct benefits including mail-in rebates, point-of-sale (POS) discounts for energy-efficient products, no-charge measures such as showerheads and directly-installed CFL lamps, and services such as refrigerator decommissioning.

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

### 2012 Progress through June

The majority of Residential programs performed well through the first two quarters with the entire residential portfolio. Low Income Weatherization is one exception where reduced agency funding is causing below forecasted savings by 25-40 percent.

Residential lighting and residential showerheads are exceeding savings targets, while expenditures are below budget and the HomePrint Assessment program launched a new digital reporting tool in the first quarter. Residential LEDs are 4 percent of the residential lighting savings and continue to gain market share. The lack of federal tax credits and increased material costs are negatively affecting the Weatherization and Space & Water Heat programs.

Multifamily conservation performed well in the first half of 2012 with a solid pipeline of jobs, and the introduction of the air sealing program. The Fuel Conversion program continues to deal with economic and local municipality challenges. The TV Turn-in program was suspended when initial saving estimates proved to be less than expected. Table 5 provides program-level views of expenditures through June 2012. Table 6 provides a six-month view of conservation savings for the Sector. Updates, revisions, or variations from the 2012-2013 BCP are discussed in each program section.

**Table 5: Residential Energy Management, Expenditures**

2012 Expenditures		2012 Semi-annual View		2012 Budget
Schedule	Programs	Total	% of Budget	
Electric	Electric			Electric
Gas	Gas			Gas
E201	Low Income	\$ 749,118	25.4%	\$ 2,946,378
E214	Single Family Existing	\$ 10,684,387	35.2%	\$ 30,332,921
E215	Single Family New Construction	\$ 598,700	53.9%	\$ 1,111,043
E216	Single Family Fuel Conversion	\$ 215,375	26.8%	\$ 803,973
E217	Multifamily Existing	\$ 5,731,447	83.2%	\$ 6,887,604
E218	Multifamily New Construction	\$ 325,983	52.8%	\$ 617,485
E249	Pilots	\$ -		\$ -
	<b>Total Electric Programs</b>	<b>\$ 18,305,009</b>	<b>42.9%</b>	<b>\$ 42,699,404</b>
G203	Low Income	\$ 121,328	20.1%	\$ 604,593
G214	Single Family Existing	\$ 2,340,366	43.0%	\$ 5,442,844
G215	Single Family New Construction	\$ 56,541	18.3%	\$ 309,171
G217	Multifamily Existing	\$ 261,841	115.6%	\$ 226,525
G218	Multifamily New Construction	\$ 63,330	17.9%	\$ 353,589
G249	Pilots	\$ 479		\$ -
	<b>Total Gas Programs</b>	<b>\$ 2,843,886</b>	<b>41.0%</b>	<b>\$ 6,936,722</b>

**Table 6: Residential Energy Management, Savings**

2012 Savings		2012 Semi-annual View		2012 Goal
Schedule	Programs	Total	% of Goal	
Electric	Electric			Electric
Gas	Gas			Gas
				MegaWatt-Hours
				Therms
E201	Low Income	460	21.9%	2,100
E214	Single Family Existing	57,581	45.9%	125,400
E215	Single Family New Construction	492	32.8%	1,500
E216	Single Family Fuel Conversion	655	26.2%	2,500
E217	Multifamily Existing	13,327	79.3%	16,800
E218	Multifamily New Construction	623	62.3%	1,000
E249	Pilots	0		0
	<b>Total Electric Programs</b>	<b>73,138</b>	<b>49.0%</b>	<b>149,300</b>
G203	Low Income	6,791	16.1%	42,300
G214	Single Family Existing	639,949	36.8%	1,739,615
G215	Single Family New Construction	538	1.7%	31,900
G217	Multifamily Existing	55,571	222.3%	25,000
G218	Multifamily New Construction	3,804	7.1%	53,600
G249	Pilots	0		0
	<b>Total Gas Programs</b>	<b>706,653</b>	<b>37.3%</b>	<b>1,892,415</b>

REM program details are contained in Exhibit 3 of the 2012-2013 Biennial Conservation Plan, filed under Docket number UE-111881.

## Single Family Existing

### *Schedules E/G 214*

#### Residential Retail Lighting

The first two quarters of 2012 exceeded the program's mid-year forecasts, while staying within budget expectations. Strategies to achieve these targets included:

1. LED promotions, one of which includes multi-pack LED products available at participating retail stores throughout PSE's service territory. These types of offers give PSE customers a great way to start shifting to LED bulbs.
2. CFL promotions, one of which is a partnership with GE, Fred Meyer, and Haggen stores that provides greater discounts on select CFL products in conjunction with the GE radio ads playing during Seattle Mariners baseball games. Fred Meyer and Haggen were both able to provide an end cap display for the discounted items.
3. Using a "pop-up" retailer in a variety of public and private spaces that lasts from one day to a week. Pop-up retail blends retail with event marketing. It is a temporary retail venue, selling only energy-efficiency products. It allows PSE and partner businesses to create a unique environment that engages customers, as well as generates a feeling of relevance and interactivity.
4. Educating retail sales associates and others that come into contact with PSE customers on a daily basis on the primary messages that sell energy-efficient lighting products. Providing in-store and on-line tools to assist in selecting the proper lighting choice that meets each customer's lifestyle.

#### TV Turn-In Decommission and Replacement

The Retail Channel discontinued exploration of the TV Turn-in Decommission and Replacement program. This was a potential program that the Retail Channel started investigating as part of the 2012-13 planning process. During exploration, a double counting issue was discovered with the original proposal. Other options were investigated to operate the program cost effectively but under current market conditions it was determined that any program redesign would not be cost-effective and/or would have limited market potential.

## HomePrint

The HomePrint Assessment program launched a new web-based contractor tool in February 2012 to streamline data collection and reporting processes. Authorized Specialists are able to utilize the tool to qualify customer eligibility prior to scheduling an appointment. Once in the home, the Specialist can log all required field data, including number of direct install measures provided, secure the customer's electronic signature, and submit all data to PSE for measure savings and incentive processing. This final step delivers a dynamic report of the assessment findings to the customer outlining a summary of energy-saving recommendations, plus information on PSE energy-efficient product rebates, contractor referrals, and other helpful energy efficiency tips.

Through June 2012, over 1,500 HomePrint Assessments have been completed, reflecting continuing market demand and an engaged contractor network.

## Refrigerator/Freezer Decommissioning

The refrigerator/freezer decommissioning launched three delivery options:

1. PSE's standard direct to consumer option - the PSE customer calls directly to schedule their unit pick-up.
2. A QuickLink option – at select retailers, the PSE customer is verified in-store and schedules their pick-up upon the purchase of their new unit.
3. A mid-stream option – at limited retailers, the retailer is utilized for unit collection in which customers are enrolled “instantly.”

The rebate was reduced to \$20 at the start of 2012. Although still ahead of 2011's mid-year achievement, the reduced rebate has slowed customer participation and has put us below forecast for this measure. Various promotions, including limited time offers, are planned for the remaining of 2012 to increase customer participation.

## Refrigerator Replacement

Refrigerator Replacement units are slightly below forecasts. An increase in select marketing that is needed for this measure is planned for the remainder of 2012. This select marketing consists of bag stuffers at thrift stores and partnering with service agencies and businesses.

## Appliances

The Retail Channel continues to offer the new refrigerator measures that were launched in the third quarter of 2011, as well as ongoing clothes washer measures. Both measures are slightly below forecasts at this point of the year.



## Showerhead Replacements

Showerhead electric and gas savings have exceeded mid-year forecasts. PSE continues three delivery models for showerheads that provide PSE customers expanded offerings in regards to styles, colors, and flow rates ranging from 1.5 to 2.0 gallons per minute (gpm). Delivery options include:

1. An online e-tailer website where PSE customers purchase showerheads (and other energy efficiency measures) directly through a PSE branded website.
2. Instant rebates offered through select retail outlets.
3. Engaging PSE customers with a low-flow showerhead when they pledge to install it within their home. This delivery gives PSE a personal touch where we are able to answer customer questions and engage in other energy-efficiency messages.

## Weatherization

In quarter 1 of 2012 the Weatherization program launched a revised duct sealing measure in response to an impact evaluation conducted in 2011. This measure now incorporates both duct sealing and duct insulation into one measure. Additionally, the rebate was adjusted to cover 50 percent of the measure cost up to \$500. Formerly, it was offered as a free measure.

This adjustment resulted in some reduction in jobs completed while training and new processes were put in place, but implementation is ramping up and the market is responding well to the adjustment. Although American Reinvestment and Recovery Act (ARRA) stimulus funding is still available in our region, the absence of federal tax credits along with other fluctuations in market conditions continue to result in lower than normal participation levels in our weatherization rebate programs.

## Space and Water Heating

There were several revisions to both the electric and gas space heating programs in 2012. For gas space heat, a new integrated space & water heating measure was added to account for new technology in the market. The efficiency requirement and incentive for the gas furnace measure were increased. Also, the gas fireplace measure was fully implemented as a rebate in 2012; this measure is exceeding its forecast to date.

On the electric side, the electric heat pump sizing/lockout measure was fully implemented in 2012 and is on pace with projected installations. A new Tier 3 heat pump measure was also added in the first quarter of 2012 and is already outpacing projections due to an engaged market place. Finally, the ductless heat pump measure continues to exceed forecasts, which is a good indication that customers are becoming more aware of the technology.

Despite some advances, as is the case in the Weatherization program, these programs are also affected by the absence of federal tax credits along with other fluctuations in market conditions. Our gas space heat and electric water heat rebate programs experienced lower than normal participation levels in the first two quarters.

## Fuel Conversion

### *Schedules E216*

The majority of the savings for the program continue to come from electric to gas water heater conversions. This is due to the ease of converting water heaters when there is already gas service to the house. In quarter 2 of 2012 PSE developed a joint awareness campaign with a third party implementer that focuses on customer safety while communicating the benefits of the conversion program to potential electric water heating customers that have natural gas service. Results continue to be lower than planned due to macroeconomic, local municipal charges (jurisdictional permitting processes, construction design issues), and other first cost issues.

## Residential Business to Business Channel

During the first quarter of 2012, the Multifamily Channel, which consisted of the Multifamily Existing, Multifamily New Construction, Single Family New Construction and Low Income Weatherization programs, was renamed the Residential Business to Business Channel. This name change more accurately reflects the kinds of work the program staff perform.

While our residential customers ultimately benefit from these programs with lower energy costs, better housing and more comfortable homes, the primary focus of the channel remains a constituency of business partners that directly affect cost-effective conservation measures.

- Our Low Income Weatherization program works through 11 social service agencies to help fund weatherization projects.
- Single Family New Construction works with home builders, and HVAC and lighting contractors.
- Multifamily Retrofit facilitates measure installations with property owners, property managers, contractors on a wide variety of structures within a designated campus area. Program staff often engage energy management engineers in the Business Energy Management sector to effect measures in multi-use buildings.
- The Multifamily New Construction Program works with property developers, architects and engineers.

## Low Income Weatherization

### *Schedules E201, G203*

The PSE Low Income Weatherization program has seen reduced production in the 2012 relative to 2011 due to agency downsizing in the first quarter. Agency downsizing was a direct response to the end of the economic stimulus ARRA infusion of funds to agencies. Conversely, the State passed a budget to increase 2012-13 Energy Matchmaker funding which will afford social service agencies an opportunity to increase production capacity the latter half of 2012 and the first half of 2013.

During the first two quarters of 2012, PSE worked with social service agencies and the Energy Project to explore ways to sustain a consistent level of program production regardless of State and Federal funding activity.

New measures were added to the 2012 program including ENERGY STAR® mechanical ventilation, smart strips, and LED lighting.

## Single Family New Construction

### *Schedules E/G 215*

The 2009 Washington State Energy Code as well as the new avoided cost of natural gas impacted several single-family new construction incentives for the 2012/13 tariff cycle. The program's first-half performance relative to gas savings is 2 percent of goal.

Program staff is pursuing a number of steps to address lower-than expected gas savings. The focus for the first half of this year has been to educate builder partners on the new changes to the program; including the Advanced Lighting Package, (ALP 80). PSE continues to collaborate with our partners to install all applicable energy efficient upgrades to ENERGY STAR® products. Program staff have concentrated on medium to large builders that install the majority of these upgrades. Our goal was to show the continued value of energy efficient "green building" programs, and how builders can exceed code requirements by installing ENERGY STAR® products and appliances with lower incentives.

Builder outreach has begun to increase participation, with the majority of local production builders taking advantage of and expanding their levels of participation in our incentive programs. Eight of the top ten regional builders are participating in the ALP 80 program in 100 percent of their homes. Additionally, our partnership with the ENERGY STAR® Homes Program in the Puget Sound continues to provide a significant amount of savings to our program.

## Multifamily Existing

### *Schedules E/G 217*

Based on increased customer participation through the first two quarters, and the project pipeline, the program staff has re-forecasted the year end savings targets upward.

We continue to work closely with the Business Energy Management group to evaluate commercial measures in apartment complexes. These measures are packaged with the residential measures to provide the customer with a single point of contact for the entire project. Commercial measures include ground source heat pumps, solar pool heaters, whole building water heaters and boilers.

We introduced Air Sealing to our program this year. Air sealing measures are appropriate for both previously insulated and not previously insulated buildings. Measures include air sealing floors, attics, dense packing exterior walls and weather-stripping exterior doors. A process evaluation is underway as we learn more about the measure performance. This will enable the program staff to better understand what data to collect for an impact evaluation.

## Multifamily New Construction

### *Schedules E/G 218*

The Multifamily New Construction market started strong in first half of 2012 and has already achieved 62 percent its 2012 electric conservation target. In addition to the program gaining further visibility in the development community, the multifamily market potential is projecting to be very strong for the next four years.

The Multifamily New Construction market is strong in our natural gas service territory, especially in the city of Seattle. However, many new projects will not complete construction until 2013. The program's gas savings performance at mid-year is approximately 7 percent of its goal. It is estimated that the program will conclude 2012 at approximately half the 2012 therm goal.

Even with a reduction in the number of incentives due to lower avoided natural gas costs, a strong 2013 is still expected to exceed its forecast and produce a biennium at or above the two-year forecast.

## Business Energy Management

The Business Energy Management (BEM) Sector is often also referred to as the “Commercial/Industrial” Sector. The Business Sector serves a diverse set of clientele. BEM programs serve small, medium and large commercial customers, industrial facilities and industrial processes, government entities such as school districts, utilities such as water and sewer treatment plants, and military bases. There are also programs that serve agricultural customers such as farms, food storage and food processing.

PSE provides 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 comprehensive commissioning 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.

### 2012 Progress through June

For the BEM Sector, the start of 2012 saw the beginning of new programs in accordance with the 2012-2013 Biennial Conservation Plan, continuing education achievements among department staff, and process improvement implementation.

Since the start of 2012, BEM has introduced four new specialty programs geared towards engaging with and offering incentives to “hard to reach” sectors. The four programs launched were the Small Business Direct Installation Program (SBDI), Data Center Energy Efficiency Program (DCEEP), Industrial System Optimization Program (ISOP), and the Simplified Building Tune-up Program (SBTU.) The implementation of these new programs demonstrates PSE’s adaptive management to address changing market conditions and customer needs. These program changes respond to identified market needs and opportunities for program expansion into sectors with additional savings potential available through alternative program delivery mechanisms, improvements in technology, or increased focus on operational efficiency.

The BEM Sector completed a Third Party Portfolio level evaluation of schedules E250/G205, E257 & E258. Results and responses to findings were presented to the CRAG in March. It is noteworthy that a realization rate of over 100 percent of savings claimed under these programs in 2009 and 2010 was reported in the evaluation. BEM staff also put forth significant effort in supporting a Third Party Review of 2010-2011 program results, which verified that PSE was in compliance with the Energy Independence Act (EIA) of 2006, RCW 19.285 and WAC 480-109.

The BEM Sector also hosted the West Coast Energy Management Congress in May, a two-day conference and expo that serves as the largest energy conference and technology expo held in the western U.S. specifically for business, industrial and institutional energy users.

The conference brought together the top experts in all areas of the field to increase new product awareness and to educate our customers about energy efficiency, facility optimization and

sustainability. The conference also served as a networking opportunity for our trade allies, customers and energy efficiency program staff.

The BEM Sector continues to develop the skills and proficiency of existing program staff along with adding new expertise to the group. Since the beginning of the year, BEM has hired three additional Energy Management Engineers (EME's) to work with commercial/Industrial customers; one to provide technical support to RCM customers with complex facilities and systems, and two engineers focused on custom grant incentive delivery. Additionally, five BEM staff members became AEE (Association of Energy Engineers) Certified Lighting Efficiency Professionals (CLEP), recognizing them as distinguished leaders in the field of lighting efficiency and as demonstrating high levels of experience, competence, and proficiency in the area of effective lighting efficiency solutions within the commercial, industrial, institutional and governmental market sectors. One EME received a LEED Green Associate credential which denotes basic knowledge of green design, construction and operations. Another member of the BEM staff received their Building Operator Certification Level One which is a nationally recognized, competency-based training and certification program providing a thorough overview of critical building systems.

BEM has contracted data logging and data delivery services for projects where monitoring of energized electrical circuits is necessary for baseline determination and post-installation measure verification. This was done to enhance verification practices and ensure quality of electrical monitoring data. It also ensures proper safety procedures are followed and no risk is placed on the customer or PSE staff.

PSE has incorporated the BEM Dashboard into multiple programs (C/I Retro, N/C, 258, Rebates). The Dashboard provides a comprehensive overview of program performance and key process performance metrics such as QC Reviewer turnaround times. The Dashboard provides quick data extractions into MS Excel from PSE's project tracking software and allows for quick analysis of project status, proactive workload balancing, historical comparisons and provides enhanced forecasting tools.

Table 7 provides program-level views of expenditures through June 2012. Table 8 provides six-month conservation savings for the Sector. Updates, revisions or variations from the 2012-2013 Biennial Conservation Plan are discussed in each program section.

**Table 7: Business Energy Management, Expenditures**

2012 Expenditures		2012 Semi-annual View		2012 Budget
Schedule	Programs	Total	% of Budget	
Electric	Electric			Electric
Gas	Gas			Gas
E250	C/I Retrofit	\$ 8,572,385	42.7%	\$ 20,084,250
E251	C/I New Construction	\$ 851,405	38.5%	\$ 2,214,170
E253	Resource Conservation Manager - RCM	\$ 428,569	21.5%	\$ 1,993,900
E255	Small Business Lighting Rebate	\$ 2,818,754	37.3%	\$ 7,548,030
E258	Large Power User - Self Directed 449 (Takala)	\$ 1,440,995	87.1%	\$ 1,653,936
E258	Large Power User - Self Directed Non 449 (Takala)	\$ 1,720,617	49.0%	\$ 3,514,614
E261	Energy Efficiency Technology Evaluation	\$ -		\$ -
E262	Commercial Rebates	\$ 2,316,361	47.9%	\$ 4,832,280
	<b>Total Electric Programs</b>	<b>\$ 18,149,087</b>	<b>43.4%</b>	<b>\$ 41,841,180</b>
G205	C/I Retrofit	\$ 1,683,165	58.1%	\$ 2,895,320
G208	RCM	\$ 232,082	20.7%	\$ 1,119,120
G251	C/I New Construction	\$ 462,475	75.9%	\$ 609,350
G261	Energy Efficiency Technology Evaluation	\$ -	0.0%	\$ 27,300
G262	Commercial Rebates	\$ 102,794	16.0%	\$ 640,900
	<b>Total Gas Programs</b>	<b>\$ 2,480,517</b>	<b>46.9%</b>	<b>\$ 5,291,990</b>

**Table 8: Business Energy Management, Savings**

2012 Savings		2012 Semi-annual View		2012 Goal
Schedule	Programs	Total	% of Goal	
Electric	Electric			Electric
Gas	Gas			Gas
E250	C/I Retrofit	28,668	41.9%	68,500
E251	C/I New Construction	2,374	67.8%	3,500
E253	Resource Conservation Manager - RCM	7,493	37.5%	20,000
E255	Small Business Lighting Rebate	9,517	39.5%	24,100
E258	Large Power User - Self Directed 449 (Takala)	2,507	47.5%	5,280
E258	Large Power User - Self Directed Non 449 (Takala)	3,080	27.5%	11,220
E261	Energy Efficiency Technology Evaluation	-		0
E262	Commercial Rebates	18,262	67.1%	27,200
	<b>Total Electric Programs</b>	<b>71,902</b>	<b>45.0%</b>	<b>159,800</b>
G205	C/I Retrofit	286,871	60.0%	478,000
G208	RCM	305,139	30.5%	1,000,000
G251	C/I New Construction	60,843	60.8%	100,000
G261	Energy Efficiency Technology Evaluation	-		0
G262	Commercial Rebates	205,254	14.6%	1,407,000
	<b>Total Gas Programs</b>	<b>858,107</b>	<b>28.7%</b>	<b>2,985,000</b>

BEM program details are contained in Exhibit 3 of the 2012-2013 Biennial Conservation Plan, filed under Docket number UE-111881.



## Commercial/Industrial Retrofit

### Schedules E250, G205

PSE revised its electric and gas funding formulas for the 2012-2013 program period. Maximum incentive levels remained the same. The effects of the funding formula change are the reduction, or in some cases elimination, of funding for long-payback, less cost-effective measures as required to maintain portfolio cost-effectiveness. While there is a significant time lag between a program change and its effects, PSE is monitoring impact on program participation and cost effectiveness to assess the net effects of these funding formula changes and determine if subsequent changes may be required.

#### Electric

As of June 2012, Commercial/Industrial (C/I) Retrofit Electric (Schedule E250) achieved approximately 45 percent of the savings target for the year. A large number of projects tend to be calendar-year-driven by customer budget cycles and therefore a greater quantity of energy savings is traditionally captured in the second half of the calendar year.

C/I Retrofit Electric is running under mid-year budgets primarily due to fewer Direct Benefit to Customer (conservation grant) payments than planned for early 2012.

The Energy Smart Grocer Program was front loaded with much of the initial audit work and marketing in the first half of the year. The program is slightly behind savings targets, but is still on track to achieve the year-end goal. The program is tracking slightly ahead of budget. A data upload tool has been developed to directly load contractor data into the CSY database.<sup>12</sup> The tool has greatly streamlined program data entry and reduced the potential for errors associated with manual entry of data.

PSE began offering an Enhanced Lighting Program in late 2011 which offered increased incentives for more comprehensive lighting projects which include all cost-effective interior and exterior lighting upgrades, as well as installation of lighting controls. Through the end of June, 2012, 20 projects have been completed through the program resulting in over \$580,000 of incentive payments.

Economic stimulus-driven projects have been fewer this year, contributing less than 7percent of electric savings claimed in the first half of 2012. Comprehensive Building Tune-Up (CBTU) – formerly the Building Energy Optimization Program (BEOP), contributed to savings targets in the first half of 2012 and continues to experience growth from the large office and hospital sectors.

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<sup>12</sup> Please see page 43 of the 2011 Annual Report of Energy Conservation Accomplishments (Filed under Docket No UE-970686) for a complete view of Energy Efficiency system interactions.



CBTU program results were presented to an international audience at the society-level American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Annual Meeting in San Antonio, TX.

As recommended by the recent program process evaluation performed by Navigant Consulting, to increase participation in the C/I Retrofit and other programs, PSE has completed six energy efficiency project case studies for several business types during the first half of 2012. Case studies are particularly valuable in that they provide real-world examples of energy efficiency projects that created a more profitable business, a better customer perception of energy efficiency and a more comfortable working environment. Case studies completed to date represent a variety of BEM programs including Building Tune Ups, New Construction Grants, Resource Conservation Management Grants and Custom Retrofit Grants, in addition to a variety of non-residential customers including healthcare, hospitality, commercial office and retail, state government and community/cultural organization. The new case studies have been used as flyers, event displays, handouts distributed at customer organizations, articles in the BEM quarterly newsletter and slide content for BEM staff use in presentations.

C/I Retrofit Electric (E250) launched three new contracted programs in the first half of 2012 in accordance with the 2012-2013 Biennial Conservation Plan. All programs are in the initial ramp-up stage and have not contributed to energy savings realized in the first half of 2012. The three programs launched are Data Center Energy Efficiency Program (DCEEP), Industrial System Optimization Program (ISOP), and the Simplified Building Tune-up Program (SBTU):

**Data Center Energy Efficiency Program (DCEEP)** - This contracted program was initiated in early January 2012. Initial efforts revolved around marketing the program to potential participants and developing Measurement & Verification (M&V) methods that would apply throughout the program's duration. The marketing efforts have so far led to ten facility audits being performed and three signed implementation agreements. There are five participation agreements and four implementation agreements currently in progress. Due to the initial marketing efforts required, the nature of the projects and customers involved, no savings were forecasted for the first part of the year. The budget is currently on target. By the end of 2012, both the budget and savings are anticipated to be higher than originally forecasted due to customer demand and the size of projects developed.

**Industrial System Optimization Program (ISOP)** This contracted program was initiated in March 2012. The program focuses on industrial customers with energy intensive systems. Since the inception of the ISOP program, efforts have been made in creating marketing materials, customer implementation agreement forms and outreach has been made to potential participants. A total of ten customers have received initial scoping visits. The contractor has written eight scoping reports to date. Interest in an implementation agreement has been expressed by three of the participants after the scoping reports have been issued.

**Simplified Building Tune-up Program (SBTU)** - The Simplified Building Tune-Up Program is currently in the marketing and ramp-up phase. The contractor managing the program has been conducting outreach to identify qualifying customers interested in enrollment into the program.

Currently there are 15 customers enrolled in the program out of an anticipated participation rate of 75 customers over the 2012-2013 period. PSE is working with the contractor to increase marketing efforts using the PSE Community and Business Services Department to provide program information to their business contacts, presenting the program using a webinar to local contractors, attending Building Owners and Managers Association (BOMA) meetings and promoting the program in the BOMA monthly newsletter.

## Gas

As of June 2012, C/I Retrofit Gas (Schedule G205) is currently ahead of its 2012 savings target with 60 percent of the year end goal achieved. The program budget is closely tracking savings achievements.

Fifty percent of the savings achieved has come from the completion of six large gas savings projects, all of which are public facilities. The largest gas savings project completed through June has been a city shop facility partially funded by Federal stimulus funding. Multiple gas savings projects have also been completed at a large military installation.

## Commercial/Industrial New Construction

### *Schedules E/G 251*

## Electric

As of June 2012, the new construction program is above the mid-year savings target. The year-to-date savings comprise of approximately half from refrigeration measures, one third from commissioning measures, and the remainder from lighting, process, equipment, whole building, and controls measures. The program expenditures are below the mid-year budget, due to completion of highly cost-effective projects, but it is anticipated the program will exceed both budget and savings targets by year-end based on the projects in progress, with expenditures anticipated to track closely with achieved energy savings since customer incentive payments are the key budget driver.

## Gas

The new construction gas program is above the mid-year target. Approximately 80 percent of the year-to-date savings are from the result of a large new corrections facility project, with the remaining 20 percent from whole building measures. The program is over the mid-year budget, but costs are well aligned with the year-to-date savings performance of the program.

In June, PSE selected Navigant Consulting to evaluate the New Construction Program and began negotiating the work plan (specific scope and details of the evaluation). Our expectations from this evaluation include:

- Assess how an increasingly stringent Energy Code will continue to impact program offerings and potential,
- Identify the pillars of best practice commissioning programs so that we can align our program accordingly, and
- Evaluate the impact of primary program measures (Whole Building Approach, Component Approach, and Commissioning).

## Resource Conservation Manager

### *Schedules E253, G208*

As of June 2012, the Resource Conservation Manager program has 98 engaged customers managing energy and resources in over 144 million square feet of space. Six customers are participating in a shared RCM program, and forty-four customers are in the renewal phase of their grant. The number of RCM customers is stable compared to last year.

The RCM program continues to support training opportunities for customers and program staff. Four customers and two staff members have taken part in Building Operator Certification Level One training in 2012. RCM program staff has also devoted time and resources to investigating potential improvements to program mechanics and documentation. The RCM data team identified and eliminated inactive Energy Interval Service (EIS) users and meters, which led to a significant reduction in expenditures to EIS.

A third-party consultant (SBW Consulting) completed a review of the PSE 2010-2011 electric conservation savings, which included an in-depth review of the RCM program. Program staff members were heavily involved in providing data, documentation, and answering questions for SBW. The review was completed to determine the veracity of PSE's reported electric energy savings, and assess evaluation, measurement and verification practices. In response to SBW's review, the RCM program has assisted in developing an RFP to complete a thorough program evaluation on an accelerated schedule.

### **Electric**

The RCM electric program is below the target level for savings and budget. With staffing increases and a return to customer focus now that the SBW third party review is completed, the electric program is anticipated to meet targeted savings by the end of the year if the current savings analysis methodology continues to be used. However, the program anticipates completing the year below its electric budget. A significant number of customers have grant years ending in the second half of the year.

## Gas

The RCM gas program is also below the target level for savings and budget. It is typical for the RCM program to be below target savings and budget at mid-year due to the significant quantity of customers reporting savings in the second half of the year. This is especially apparent in gas savings due to the many school districts with gas heat participating in the RCM program. The grant year for school districts typically closes in late summer, at which time true-ups are performed.

## Small Business Lighting

The Small Business Lighting Rebate program continues to draw contractor interest and is delivering smaller projects at a low cost to small businesses. Contractor training on the program brings in 10 to 15 new and existing contractors per month to educate and answer questions related to paperwork submission, PSE inspections, and other areas of interest related to the current market.

In June, the Small Business Lighting Program hosted a contractor training and appreciation event to recognize outstanding contractor achievements which contributed to the program goals and to introduce a revised and improved Small Business Lighting project application. Over 100 contractors attended and awards were given to 9 lighting contractor companies for providing PSE customers with quality efficient lighting projects resulting in high energy savings. The improved Small Business Lighting application introduced at the event requires more thorough documentation from contractors, requiring them to identify all efficient lighting opportunities on site. The new application enables the contractor to offer a more comprehensive project proposal to the customer, maximizing cost-effective lighting conservation opportunities and incentives.

The project tracking dashboard<sup>13</sup> developed for this program in 2010 continues to support improvements in project management by enabling the program management to view project statuses and give “real time” budget and savings information reports. The Small Business Lighting team also began transitioning to the new verification strategy, identified in PSE’s 2012 Verification Plan, that will enhance the inspection and verification of projects completed under the program.

## Large Power User, Self-Directed

### *Schedules E258*

Through June 2012, the 258 Large Power User Self-Directed program has achieved 34 percent of its 2012 conservation goal. The program tracked slightly under the savings target in the first half of 2012 due to some projects, which are near completion, not closing before the end of June.

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<sup>13</sup> Different from the BEM dashboard, discussed on page 16.

Through June 2012, the 258 Large Power User Self-Directed program has spent 61 percent of its 2012 conservation budget. With the program changes that took effect in late 2011, journal entries were made and charged to this program in early 2012 to reflect the administration and market transformation costs associated with this program cycle since its start in 2010.

With 2012 originally being scheduled as the end of the non-competitive phase of the program, there are many projects scheduled to close this year as customers utilize their incentive allocations. It appears likely the program will achieve, and possibly exceed, its conservation goal and originally targeted incentive budget for the year. With an additional year before the end of the non-competitive phase, more projects are being developed and customers are on track to utilize incentive allocations, during the non-competitive phase, to the same or greater levels as in previous program cycles.

## Energy Efficiency Technology Evaluation

### *Schedules E/G 261*

A family housing project was completed in April located in the city of Mount Vernon, Skagit County. A multifamily development of 42 townhouses and flats was developed providing housing to workforce/farm worker families at 50 percent and 60 percent of median income. Sustainable and energy efficient construction practices were employed. This project helped create new jobs and support economic development in Skagit County.

PSE provided a “seed grant” several years ago, to demonstrate support and encourage innovations in efficiency in this showcase project. The initial concept was a small, 2 bedroom, 1 bath unit with combined living/cooking/eating area and a deck for migrant farm workers. What evolved, with the support of additional financing, was a group of townhouses that were suitable for a wider variety of low-income families.

PSE employees continue to participate in monthly conference calls with a Regional Technical Forum (RTF) committee to help Bonneville Power Administration (BPA) develop a program for “variable capacity heat pumps,” including ductless heat pumps and variable refrigerant flow types of systems. Through this participation, PSE contributes to the regional effort, and enhances PSE’s awareness and understanding of new technologies.

There were no expenses reported for this program in the first half of 2012. There were no incentive payments or material costs; employee time was minimal due to other staffing needs.

## Business Rebates

### Schedules E/G 262

#### Electric

In the first half of 2012, PSE's Commercial Rebate electric portfolio achieved 67 percent of the annual savings target at 48 percent of annual budget. Many of the Schedule 262 programs are seeing an increase in participation and/or large corporations and school districts utilizing the programs to implement energy efficient measures.

The PC Power Management Program is nearing 200 percent of its program savings target and budget for 2012. Most of these savings came from a single large corporation taking advantage of the program. The success of the project even prompted the corporation to implement this program throughout their international operations.

Higher than anticipated consumer demand for LED lamps and ease of product qualification through the Lighting Design Lab Regional LED list has contributed to an increase in projects received in the Commercial Lighting Rebate program.

The High Efficiency Heat Pump and A/C program also saw very high participation during the first half of the year, greatly exceeding the program's mid-year targets. Most of the savings were due to one multi-site project from a school district that replaced electric resistance heat at multiple schools.

Outreach efforts through participation at regional events such as the Washington Lodging Association Trade Show and the Northwest Food Service Show have been rewarded with increased participation, particularly in the Hospitality Program. Hosting and assisting with contractor presentations on new technology and the development of targeted marketing materials have increased the program's visibility to a larger number of PSE hospitality customers.

The Commercial Lighting Markdown program is expected to continue to grow quickly as new vendors were added to the program in the first half of 2012. A data upload tool has been developed for the Markdown Program to directly load contractor data into the CSY database. The tool greatly streamlines program data entry and reduces the potential for errors associated with manual entry of data.

The first few months of the year started slow in the Commercial Kitchen Program but picked up considerably in the second quarter. This may be due to a continued lag in the market. If the trend continues PSE will be on track to meet the savings target for this program.



## Contracted Programs

**Small Business Direct Install:** The program kicked off with a very successful effort in May that focused on the northern community of Ferndale. Over 81 percent of businesses visited and surveyed signed up for the program and installations for this community were initiated in June. With additional community-focused efforts scheduled for 2012 and expanded outreach efforts by the contractor, PSE anticipates being able to achieve the forecasted savings for this program for 2012.

**Cooler Miser Direct Install Program:** This program was initiated with a limited quantity of installations in the first half of 2012 which utilized provisional energy savings. An evaluation of achieved savings was initiated which will be used to determine more-precise unit energy savings and cost-effectiveness prior to proceeding further with the program.

**Green Motor Rewind:** PSE offers this incentive to support a national collaborative, but participation in the program has decreased throughout North America and there has been limited participation for several years in PSE's service area. Several marketing efforts have been recently undertaken through the national Green Motor Rewind group, providing added recognition for participation, which may have an impact on future program participation.

## Gas

In the first half of 2012, PSE's Commercial Rebate gas portfolio is at 16 percent of budget and 15 percent of the 2012 savings goals. PSE anticipates that outreach efforts and acceleration in the Pre-Rinse Spray Head Program will help the program meet the 2012 natural gas savings goals.

Commercial Kitchen Program gas measures started slow in 2012 for the same reasons described in the electric measures section. PSE anticipates that outreach efforts made through participation in events such as the Northwest Food Service Show will encourage more participation.

**The Premium HVAC Service Program performance in early 2012 has** greatly exceeded program goal and has come in under budget in relation to the savings. Therm savings were over target as some gas-only projects were received.

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## Regional Efficiency Programs

In 2012, PSE added Generation, Transmission and Distribution to the Regional Efficiency Programs group, along with Northwest Energy Efficiency Alliance (NEEA). Although generation, transmission and distribution are not necessarily “regional”<sup>14</sup> in scope, classifying this program in either the Residential Energy Management or Business Energy Management sector would not have been an accurate representation of its focus. Similarly, PSE wanted to avoid unnecessary clutter and complicated references in its Exhibit 1, Energy Conservation Rider/Tracker Savings Goals & Budgets document.

### 2012 Progress through June

Table 9 provides Regional Efficiency Programs expenditures through June 2012. Table 10 provides six-month conservation savings results for the group. Updates, revisions or variations from the 2012-2013 Biennial Conservation Plan are discussed in each program section.

**Table 9: Regional Expenditures**

2012 Expenditures		2012 Semi-annual View		2012 Budget
Schedule	Programs	Total	% of Budget	
Electric	Electric			Electric
	E254 Northwest Energy Efficiency Alliance	\$ 2,079,756	39.5%	\$ 5,260,640
	E292 Production & Distribution Facilities	\$0		\$ -
	Subtotal	\$ 2,079,756	39.5%	\$ 5,260,640

**Table 10: Regional Savings**

2012 Savings		2012 Semi-annual View		2012 Goal
Schedule	Programs	Total	% of Goal	
Electric	Electric			Electric
	E254 Northwest Energy Efficiency Alliance	9,700	50.0%	19,400
	E292 Production & Distribution Facilities	0	0.0%	8,100
	Subtotal	9,700	35.3%	27,500

NEEA program details are contained in Exhibit 3 of the 2012-2013 Biennial Conservation Plan, filed under Docket number UE-111881.

<sup>14</sup> Whereas NEEA conservation initiatives impacts the entire Northwest region; Washington, Wyoming, Idaho, and Oregon, PSE generation, transmission and distribution efforts affect only Washington state.

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## Northwest Energy Efficiency Alliance

### *Schedules E254*

NEEA is a non-profit regional organization that collaborates with BPA, PSE, and over 100 other northwest utilities to maximize energy efficiency engagement. Using its regional reach to maximize measure evaluations, and accelerate innovation and adoption of energy efficient products, NEEA works “upstream” to help expand and accelerate CS/EE programs.

In partnership with PSE, NEEA has provided a report of first and second quarter of 2012 activities, attached to this report as Exhibit 10. The report details NEEA initiatives year-to-date, with discussion and highlights on those that affect PSE and its customers. PSE wishes to acknowledge and convey its thanks for the considerable effort made by the NEEA staff in compiling this report for inclusion in PSE’s Semi-annual Report of Conservation Acquisition.

Additional organization background, annual reports, and updated news articles are available on NEEA’s website:

[www.NEEA.org](http://www.NEEA.org)

## Production & Distribution Facilities

### *Schedules E 292*

Through June 2012, the Generation and Distribution Efficiency program has achieved no savings towards its 2012 conservation goal. This is due to this program being new and the anticipated ramp up time.

It should be noted this program is likely to under-achieve its savings goal in 2012. This is due to the program not receiving conservation Rider funding under Schedule 120 as had been planned in the 2012-2013 Biennial Conservation Plan. This decrease in program funding has reduced what the program can achieve in 2012. Work was done to gather data and characterize the electrical circuits where distribution efficiency will be implemented. Through this work, refined savings estimates were made using the energy savings methodology described in the RTF’s Simplified Voltage Optimization (VO) Measurement and Verification Protocol. These new estimates may prove lower than the estimates used for 2012-2013 program planning, but the confidence associated with them is higher given the data and RTF methodology.

## Energy Efficiency Portfolio Support

The organization of this group underwent a re-alignment at the start of 2012, which is represented in the attached Exhibit 1.<sup>15</sup> Many of the activities and functions listed under this heading were formerly classified as Support Activities. The new depiction is intended to represent those functions and activities that support overall CS/EE initiatives and goals, rather than program-specific tasks. Deliverables include cost-effectiveness analyses, assistance with efficiency messaging and a significant contribution to PSE's IRP.

It is important to note that the functions themselves, their budgeted expenditures, or their charters did not change from 2011 as a result of these relocations.

### Functions and Activities Migrated to Portfolio Support

The functions formerly called *Information Services* were first segregated into their component parts:

- Energy Advisors,
- Events,
- Brochures,
- Education.

And moved from Residential Energy Management and Business Energy Management to Portfolio Support. These functions and activities are also no longer distinguished between REM and BEM. These all come under the heading of *Customer Engagement & Education* in the Portfolio Support section.

Mainstreaming Green and Marketing Integration was also moved from 2011's *Support Activities* to Portfolio Support and put under the heading *Web Experience*, along with OnLine Tools and E-News, which were also formerly included in *Information Services*.

The Energy Efficient Communities program maintained its location in the "support" group. Also receiving a new name was the former Local Infrastructure and Market Transformation, which many constituents found ambiguous. In order to more accurately represent the function's charter, *Trade Ally Support* also stays in the "support" category.

Lastly, the functions of Strategic Planning and Market Research were split into separate functions. Market Research was also re-named Marketing Research and remains in the "support" grouping.

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<sup>15</sup> This structure is also represented in Exhibit 1 of the 2012-2013 BCP, filed under Docket number UE-111811.

Relocating from the former Support Activities to a new category Research & Compliance are:

- Program Evaluation,
- Strategic Planning (formerly Strategic Planning and Market Research),
- Conservation Supply Curves,
- Program Support.

PSE reviewed this evolution with the CRAG in its July 21, 2011 meeting.<sup>16</sup> As noted above, these modifications are presented in this report's Exhibit 1.

## 2012 Status through June

Table 11 provides Support Activities function views of expenditures through June 2012. Updates, revisions or variations from the 2012-2013 Biennial Conservation Plan are discussed in each program section.

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<sup>16</sup> CRAG members receive an electronic copy of the MS Powerpoint presentation slide deck and a meeting summary by email within a business week of each CRAG meeting.

**Table 11: Portfolio Support, Expenditures**

2012 Expenditures		2012 Semi-annual View		2012 Budget
Schedule	Programs	Total	% of Budget	
Electric	Electric			Electric
Gas	Gas			Gas
	Customer Engagement and Education	\$ 619,848	37.9%	\$ 1,635,405
	<i>Energy Advisors</i>	\$ 360,566	34.8%	\$ 1,036,907
	<i>Events</i>	\$ 184,725	44.6%	\$ 414,363
	<i>Brochures</i>	\$ 21,630	39.9%	\$ 54,250
	<i>Education</i>	\$ 52,927	40.7%	\$ 129,885
	Web Experience	\$ 362,291	36.9%	\$ 982,558
	<i>Mainstreaming Green</i>	\$ 244,665	38.5%	\$ 635,950
	<i>Market Integration</i>	\$ 117,626	33.9%	\$ 346,608
	Energy Efficient Communities	\$ 100,269	35.5%	\$ 282,827
	Trade Ally Support	\$ 32,517	70.2%	\$ 46,300
	Marketing Research	\$ 233,611	41.2%	\$ 567,191
	<b>Total Electric</b>	<b>\$ 1,348,536</b>	<b>38.4%</b>	<b>\$ 3,514,281</b>
	Customer Engagement and Education	\$ 162,399	66.3%	\$ 244,795
	<i>Energy Advisors</i>	\$ 115,284	74.5%	\$ 154,772
	<i>Events</i>	\$ 23,017		\$ 62,631
	<i>Brochures</i>	\$ 5,286	64.7%	\$ 8,169
	<i>Education</i>	\$ 18,811		\$ 19,223
	Web Experience	\$ 73,882	50.1%	\$ 147,442
	<i>Mainstreaming Green</i>	\$ 39,932	41.7%	\$ 95,650
	<i>Market Integration</i>	\$ 33,950	65.6%	\$ 51,792
	Energy Efficient Communities	\$ 33,449	79.1%	\$ 42,263
	Trade Ally Support	\$ -	0.0%	\$ 18,000
	Marketing Research	\$ 34,315	40.5%	\$ 84,752
	<b>Total Gas</b>	<b>\$ 304,045</b>	<b>56.6%</b>	<b>\$ 537,252</b>

Program details for this group are contained in Exhibit 3 of the 2012-2013 Biennial Conservation Plan, filed under Docket number UE-111881.

## Customer Engagement & Education

### *Energy Advisors*

PSE implemented an internal process improvement in the first quarter named, “The Embedded Energy Advisor Plan”. It was created to develop partnerships and collaboration between Program and Customer Experience staff. Customer perspective and feedback are integrated into program planning and development which enhance efficiency and customer satisfaction. Energy advisors are educated in the program design, specifically around guidelines, cost effectiveness, and the implementation decision process. Exposing the strategic planning process to the energy advisors provide them with comprehensive information to better communicate and support the programs to our customers.

## Events

### Residential

PSE receives more event requests in the month of April than any other month of the year. Primarily driven by the high degree of interest in Earth Day celebrations, we participated in 20 events and partnered with several key contractors and third party vendors. These events provided PSE staff, and our partners with the opportunity to provide our customers with in-depth information about conservation program services. It is always gratifying to see the enthusiasm of our customers and communities when they ask us to be a part of their activities, and increase their energy awareness.

### Single Family New Construction and Multifamily Retrofit

The Residential Business to Business (RB2B, discussed on page 12) Channel is positioned as a key industry partner working with organizations like the Master Builders Association's Built Green® chapters and Sustainable Connections that highlight PSE's energy efficiency programs at various green building focused events.

The Sustainable Connections "Imagine This Home and Landscaping Tour" is one such event in which PSE's new construction team was deeply involved. This two-day tour, held in June at various locations throughout Whatcom County, attracted over 1,500 attendees walking through 10 homes and the Sustainable Living Expo. As a key partner and sponsor, the PSE team and displays were strategically located at two separate locations showcasing ways to save energy, the benefits in buying a Northwest Energy Star Homes (NRESH) home, distributing new construction and home weatherization rebates, renewables, and offering an educational interactive engagement for children.

This year's tour features even more of the best in green building and smart growth practices with examples: affordable energy efficiency retrofits, solar panel installations, a huge green roof, innovative use of eco-friendly building materials, amazing stories of cost savings from energy efficiency upgrades, sustainable design and more.

### Business

The expertise of Business Energy Management (BEM) and PSE's offerings were showcased at the West Coast Energy Management Congress, held in Seattle in May. This noteworthy event, hosted by PSE in 2012, attracted over 1,600 energy professionals from all over the western United States. Attendees took advantage of the high-quality educational sessions, which began with a keynote address from Cal Shirley, Vice-President, Customer Solutions, entitled "Enlightened or Obsolete". PSE's prominent presence on the tradeshow floor included a "Re-Energized" display with materials on BEM programs and case studies on energy efficiency projects.

Other successful events included "Brighten Your Business" promotions that took place in both Olympia and Bainbridge Island. These types of events are instrumental in increasing awareness of PSE's commercial lighting rebates, and how energy efficient lighting can help businesses reduce energy expenses in our service territory.

### *Online Tools and E-Newsletter Report*

Functional activities are meeting expectations through the first half of 2012.

### *Brochures*

In the first two quarters, PSE added the Efficient Home Electronics brochure which focuses more on consumer electronics, to the suite of existing Energy Efficiency brochures. We also updated the Controlling Moisture brochure to reflect current content and the Re-Energize brand. Other brochures include Energy-Saving Tips, Investing in Energy Efficiency, Energy Cost Guide, Appliances, Lighting, Heating, Water Heating and Insulation.

### *Education*

PSE and Hopelink<sup>17</sup> partnered to provide an Energy Efficiency Education program, Save Energy, Save Money workshops to low income adults with limited English speaking skills (over 60 percent of attendees spoke English as a second language). At the completion of the workshop:

- Just over 90 percent of attendees feel they know more about saving energy and money.
- Over 80 percent of attendees feel they know more about energy safety.
- The top three actions clients will change in their daily routines are:
  - Using CFL light bulbs.
  - Turning the light/s off when leaving a room.
  - Telling friends and family about energy safety.

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<sup>17</sup> <http://www.hope-link.org>

## Web Experience

The major functions comprising Web Experience include:

### *Mainstreaming Green*

#### **No Associated Conservation Schedule**

and

### *Market Integration*

#### **No Associated Conservation Schedule**

Over the past two years, Mainstreaming Green and Market Integration functions have continued to evolve and mature into activities and functions that involve web development, web content management, online tools, web analytics, and E-news. As noted on page 29, these functions were relocated into the Portfolio Support group under the heading of Web Experience in the 2012-2013 BCP.

Through the first six months of 2012, the Web Experience functions financed the remainder of development of the second phase of the Customer Solutions/Energy Efficiency web program, launched in 2011. PSE.com's "Savings & Energy Center" features improved user experience, with more intuitive navigation and new customer-centric tools, including the interactive rebate finder, CFL recycling and retailer locator maps and integrated social media tools and multimedia channels. Most funds spent during this period were allocated to PSE IT labor and vendor costs associated with technical development, online infrastructure and security projects, with a very small percentage allocated to software and image licensing to support Customer Solutions/Energy Efficiency marketing programs.

Through the remainder of the year, the Web Experience group will underwrite the architecture and planning phase for additional online tools to be developed in 2012, including:

- Personalized energy usage dashboards to help Customers manage home and business usage and demand in a centralized "Energy Center".
- Personalized promotions, rebates, coupons and offers and targeted content based on Customer's profile and propensity to participate.
- Fillable rebate application forms; trackable online rebate processing.
- Sophisticated web use tracking and analytics analysis.

In 2012, the Market Integration budget is allocated to energy-efficiency marketing labor costs only.



## Energy Efficiency Communities

### *No Associated Conservation Schedule*

The Energy Efficiency Communities group continues its work of direct to customer outreach for energy efficiency (EE) programs throughout the PSE service area. Of note is high engagement in the outreach role for Rock the Bulb: The ReEnergize Tour. Its focus areas include:

- For PSE's more rural residential electric customers,
- Small business direct install program outreach and customer follow up,
- The ReEnergize the Community efficiency pledge campaign,
- Commercial and residential rebates promotion,
- And multiple engagements with local customers and communities,

to provide guidance on participation in EE programs.

The team ensures that when customers in the communities they serve have questions about EE programs, they are guided to the right program leads to participate in the incentives offered.

The EE Communities group also continues to link various communities with interest in EE to the variety of EE programs PSE has available. Examples of continued community engagement include the RePower Kitsap initiatives, the Whatcom Community Energy Challenge and the Eastside Green Business Challenge in the central King County area. Although the American Recovery and Reinvestment (ARRA) funding through the Washington State University Energy Extension's Community Energy Efficiency Pilot Program has ended, the program was granted state funding to continue their work for one year (July 2012 – June 2013). The EE Communities team remains engaged in ensuring these grant recipients are aware of the existing EE programs PSE has available to the customers they are working with on their community-based EE projects.

A new initiative for the team is increasing the awareness of PSE employees about the reasons why PSE has EE programs and services, as well as the breadth of programs the department offers. This is with non-Customer Solutions/Energy Efficiency staff that have contact with customers<sup>18</sup> and their community groups, as well as the overall PSE employee base. Awareness-raising activities include an employee energy fair, local office brown bags, trainings and regular updates on program changes.

Two more team members were added mid-year to provide more comprehensive service to the King, Snohomish and Whidbey Island service areas.

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<sup>18</sup> For instance, Gas First Response Field Service Technicians.

## Trade Ally Support

Energy efficiency programs continue to benefit from ongoing proactive relationships with broad-based trade allies including: the Building Owners and Managers Association (BOMA) of Seattle and King County; Northwest Energy Efficiency Council (NEEC); and the Electric League of the Pacific Northwest. For example, Electric League relationships were helpful in PSE establishing a formal presence on the Washington State Building Code Council Energy Code Technical Advisory Group this spring and summer. In this role we were proactive and effective supporting desired results on updated submetering language in the code. Annual membership dues for the three organizations named above were paid through this line item in the first quarter of 2012.

## Marketing Research

### *No Associated Conservation Schedule*

A Communications Study was completed in the first half of 2012, which looked at customer preferences for media and communication methods to learn about energy efficiency and PSE offerings and where customers go to get more information. PSE also completed development of an energy advisor follow-up survey to measure customer satisfaction with how their call was handled, which is being conducted semi-monthly.

A Geospatial Information System (GIS) database was built for 2012 that contains monthly usage data for all PSE metered customers that can be mapped. This serves as a foundation for identifying target markets for program promotion, as well as support for community energy efficiency initiatives.

PSE is an active participant in the region-wide Residential Building Stock Assessment (RBSA) being conducted by NEEA, which used on-site visits to collect detailed end use information, including approximately 300 homes in PSE's service area. PSE also participated in initial planning sessions for NEEA's Commercial Building Stock Assessment. The residential study will be completed in late 2012 and the commercial study will be completed in late 2013 or early 2014.

## Research & Compliance

Similar to the re-alignment of the Portfolio Support section, some conservation functions were moved into the Research & Compliance group. These include:

- Conservation Supply Curves,
- Strategic Planning (formerly Strategic Planning and Market Research),
- Program Evaluation,
- Program Support.

### 2012 Status through June

Table 12 provides Research & Compliance function views of expenditures through June 2012. Updates, revisions or variations from the 2012-2013 Biennial Conservation Plan are discussed in each program section.

**Table 12: Research & Compliance, Expenditures**

2012 Expenditures		2012 Semi-annual View		2012 Budget
Schedule	Programs	Total	% of Budget	
Electric	Electric			Electric
Gas	Gas			Gas
	Conservation Supply Curves	\$ 156,841	37.0%	\$ 423,659
	Strategic Planning	\$ 29,767		\$ 350,289
	Program Evaluation	\$ 921,100	45.6%	\$ 2,021,028
	Verification Team	\$ 191,122		\$ -
	Program Support	\$ 95,983	25.5%	\$ 376,970
	<b>Total Electric</b>	<b>\$ 1,394,813</b>	<b>44.0%</b>	<b>\$ 3,171,946</b>
	Conservation Supply Curves	\$ 39,447	62.3%	\$ 63,306
	Strategic Planning	\$ 7,933		\$ -
	Program Evaluation	\$ 281,641	55.4%	\$ 508,480
	Verification Team	\$ 35,018		\$ -
	Program Support	\$ 8,433	14.0%	\$ 60,435
	<b>Total Electric</b>	<b>\$ 372,473</b>	<b>58.9%</b>	<b>\$ 632,221</b>

Program details for this group are contained in Exhibit 3 of the 2012-2013 Biennial Conservation Plan, filed under Docket number UE-111881.

### Conservation Supply Curves

#### No Associated Conservation Schedule

PSE began work on the conservation potential assessment for the 2013 IRP. Projected technical, achievable conservation potential will be developed by the Cadmus Group, which PSE will incorporate into its electric and gas resource portfolio analyses.

During the first half of 2012, Cadmus Group collected basic input data and commenced review of the conservation measures to be included in the conservation potential assessment.

## Strategic Planning

### *No Associated Conservation Schedule*

Strategic Planning encompasses a variety of policy and long term planning support activities. The work includes Integrated Resource Plan (IRP) and program planning support, regulatory filings, and legislative review. Conservation Strategic Planning is under budget. \$130,000 was set aside for supplemental end use equipment saturation research for the IRP, which was determined to not be needed. The labor time associated with this discontinued research has also been devoted to other activities.

## Program Evaluation

### *No Associated Conservation Schedule*

2012 Evaluation activities are on-track with the Evaluation Plan filed as part of the Company's 2013-13 Biennial Conservation Plan filing, approved by the Commission on June 14.

Studies completed in the first half of 2012 include a comprehensive impact, process, and market evaluation of the Commercial/Industrial Retrofit, Large Power User, and LED Traffic Light programs, as well as an impact evaluation of the Home Energy Report program for the 2011 program year. The results of these evaluations were presented to the CRAG in March. Evaluations were also completed for the Low Income Weatherization program and the Bainbridge Residential Demand Response Pilot.

The independent one-time Third Party Review of PSE 2010 and 2011 Electric Conservation Program Savings, consistent with condition K(6)(g) of the 2010 conservation settlement agreement in Docket UE-100177, was completed and filed with the Company's Biennial Conservation Achievement Report in June.

Evaluation work is also underway on the following:

- Refrigerator Decommissioning impact and process evaluation
- Refrigerator Early Replacement impact and process evaluation
- Refrigerator Rebate impact and process evaluation
- Tankless Water Heater impact and market evaluation
- Heat Pump impact, and market evaluation
- Multifamily Air Sealing evaluation data requirements and protocols
- Residential Single-Family standard evaluation practices and protocols
- Energy Efficient Communities process evaluation

- Commercial/Industrial New Construction impact, process, and best practices evaluation
- Commercial/Industrial Resource Conservation manager impact, process, and best practices evaluation (originally scheduled to begin in 2013, but moved up based on recommendation from the Third Party Review of PSE 2010 and 2011 Electric Conservation Program Savings)
- Snohomish County Starbucks Commercial Behavior Modification Pilot impact and process evaluation (PSE is providing data and technical assistance to Snohomish PUD, and in return will have access to all study results).

### **Verification Team**

The Verification Team (VTeam) consists of four dedicated CS/EE staff members who conduct on-site inspections for rebated equipment in residential & Small Business Lighting programs. The VTeam confirm the measure quantities and model numbers to verify the installation of measures, including those installed and reported by trade allies, PSE contractors, and other third parties. Verification of energy efficiency installations is conducted through review of documentation, phone surveys, and onsite inspections. The VTeam continues its progress in optimizing systems and processes to fulfill overarching responsibility for verification and quality assurance. Enhancements include job assignments systems, a tracking database, verification forms, and the Verification Manual.<sup>19</sup> As of the end of June the VTeam conducted over 600 field verifications.

### **Program Support**

#### ***No Associated Conservation Schedule***

The primary mission for New Program Development staff (under Program Support budgets) includes ongoing support for existing EE programs and implementation staff, along with development or assessment of new EE measures, programs and markets.

In alignment with overarching PSE safety concerns, New Program Development supported Business Energy Management in submitting an RFP and selecting a contractor to provide sub-metering/data-logging services for large custom C/I projects. The contractor was required to have the appropriate safety training for accessing electrical panels inside customers' facilities as well as the technical expertise to gather quality measurement data. Having an appropriately trained contractor provide this service removes PSE employee exposure to potential safety risks associated with this activity.

Other efforts include cost-effectiveness assessment for customer-owned un-metered street lights to upgrade to more efficient LED fixtures. Initial results, based on estimated market prices, show High Pressure Sodium to LED fixture upgrades for conventional pole-mounted cobra head fixtures are marginally not cost-effective.

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<sup>19</sup> The CRAG received a copy of the current iteration of the Verification Manual following its June 21 CRAG meeting.

We are continuing assessment in looking for a representative small number of projects that may pass cost-effectiveness tests under real market conditions and ongoing declines in LED fixture prices.

A streamlined in-house tool for calculating cost-effectiveness for any general EE measure or program was also developed in 2012. The tool is a valuable device for program design and development staff to test cost effectiveness potentials for new and updated programs and measures.

New Program Development staff also developed a commercial and residential energy efficiency program for the small remote community of Point Roberts. Our avoided costs there (exclusively BC Hydro) are comparatively higher than our normal resource portfolio; therefore, we are taking a focused approach to assure we cover all cost-effective potential as completely and efficiently as possible. Program services will include Energy Smart Grocer, Small Business Direct Install, HomePrint, and Duct Sealing/Direct Install.

## Other Electric Programs

At the beginning of 2012, the Residential Demand Response pilot program was completed, as all pertinent data was collected and reported. Some residual expenses associated with thermostat replacements and equipment removal in participating customer homes accrued to the account through the first half of the year.

The C/I Load Control Pilot also underwent a change at the beginning of 2012. A new Schedule, 271, was created for Commercial/Industrial Demand Response programs. As a result, the Other Electric Program group consists of Net Metering, Renewable Energy Education, and C/I Demand Response programs.

### 2012 Status through June

Table 13 provides program-level views of expenditures through June 2012. Updates, revisions or variations from the 2012-2013 Biennial Conservation Plan are discussed in each program section.

**Table 13: Other Electric Programs, Expenditures**

2012 Expenditures		2012 Semi-annual View		2012 Budget
Schedule	Programs	Total	% of Budget	
Electric	Electric			Electric
E150	Net Metering	\$ 156,922	53.6%	\$ 292,518
E248	Renewable Energy Education	\$ 44,632	31.3%	\$ 142,463
E271	C/I Load Control	\$ 88,718	7.5%	\$ 1,176,490
E249A	Residential Demand Response Pilot	\$ 84,886	226.4%	\$ 37,490
	<b>Total Electric</b>	<b>\$ 375,158</b>	<b>22.8%</b>	<b>\$ 1,648,961</b>

Detailed descriptions of these programs are contained in Exhibit 3 of the 2012-2013 Biennial Conservation Plan, filed under Docket number UE-111881.

### Net Metering

#### Schedule E150

In the first half of 2012, PSE added 152 interconnected customers, bringing the total to over 1,200 within the PSE service territory. Table 14 lists the generating type and kilowatt capacity of the cumulative totals of interconnected renewable systems.



**Table 14: Cumulative Net Metered Customers  
June 30, 2012**

Generator Type	Cumulative Totals	
	Customers	Kilowatts
Solar PV	1,163	5,804
Wind	43	109
Other	8	38
<b>TOTAL</b>	<b>1,214</b>	<b>5,951</b>

Kilowatts are stated in terms of generating capacity.

"Other" includes micro-hydro, and hybrid systems.

## Renewable Energy Education

### Schedule E248

With the help of a local architect, students designed and fabricated a working solar power display on a mobile trailer at Explorations Academy in Bellingham. Grand Ridge Elementary in the Issaquah Highlands installed the first and only wind demonstration project supported by PSE. A YouTube video of tower raising has 300+ views in 30 days, after school was already out for the summer. At Green River Community College in Auburn, students began fabrication of an 18 foot tall Solar Leaf holding solar modules. The leaf is to be installed outside the newly renovated sciences building near "Red Square" on campus. Campfire USA at Camp Sealth on Vashon designed and installed a small wind and solar demonstration project on their boat dock. Four dedications for these schools are slated for fall of 2012. A KidWind Challenge event was held in Kittitas County.

PSE conducted middle and high school teacher training workshops in preparation for 26 teams and 115 students who studied wind power for four weeks culminating in the building of working table top turbines. A Saturday event supported by the Mechanical Engineering Department was held at Central Washington University. Poster presentations were made by teams on their design strategies with subsequent wind tunnel testing in PSE's specially designed and branded wind tunnel. A video of the event is in production.

## Commercial/Industrial Load Control

### Schedule E271

In October 2011, PSE issued an RFP to provide program design and implementation for demand-side capacity reductions from targeted Commercial/Industrial customers.

While the 2011 IRP recommended this resource acquisition strategy, the decision to acquire resources, the timing, and the quantity of capacity of such additions are based on actual resource availability and cost in the marketplace, and on PSE's ongoing need. PSE is currently conducting a thorough analysis of the RFPs and considering options for a demand response program.

## Residential Demand Response Pilot

### *Schedule E249A*

PSE's Residential Demand Response (DR) Pilot was designed to assess the peak demand reduction achievable through the control of residential space and water heating equipment, and to assess the level of customer acceptance of that control. The pilot was successful in that it produced detailed estimates of load reductions by device type and relative seasonal/time of day load reduction information as follows:

- In the winter season, impacts averaged approximately 0.7 kW for water heater controls to nearly 2 kW for electric furnaces and nearly 3 kW for heat pumps.
- Morning events tended to produce more load reduction than did afternoon events and winter events more reduction than summer events.
- The average aggregate load curtailment for winter morning events was approximately 0.7 MW, and for summer events was approximately 0.1 MW.

The following provides key findings with regard to customer acceptance:

- 79 percent of those surveyed indicated that they were very or somewhat satisfied with the program
- Adding demand response control capability to heat pumps in customer homes is layered with both technical and participant comfort risks.
- Two way communications between the load management software and control hardware installed in each home must maintain a high degree of connectivity to ensure reliable load sheds and restorations without need to engage customers in the process of troubleshooting or scheduling technical service visits to their homes.

PSE found residential direct load control (particularly in a winter peaking climate) was a challenging and complex undertaking, even with the most current technology available. The current plan for residential DR is to monitor the marketplace and advances in DR technology.

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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 have the below noted meanings.<sup>20</sup> Definitions or glossaries contained in other CS/EE documents, policies or guidelines referring to specific processes or unique functions shall have the meanings noted in those documents, policies or guidelines.

### Definitions

<b>Calculated Savings</b>	This savings type is different than deemed (or UES) values (described below). This term indicates that there is a pre-approved, stipulated input 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).
<b>Channel</b>	Within an CS/EE 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.
<b>Conditions (see also Orders)</b>	Also “2010 Electric conservation Settlement Agreement Terms and conditions” or “Energy Independence Act conditions”. Specific deliverables and stipulations by which the Company must operate or produce through the course of operating and managing energy efficiency programs. In addition to compliance requirements outlined in the 2010 Settlement Terms Sections A through J and L, the conditions are listed under Section K of the Agreed Conditions for Approval of Puget Sound Energy, Inc’s 2010-2011 Biennial Electric Conservation Targets Under RCW 19.285 Docket No. UE-100177. Effective June 14, 2012, the conditions outlined in Section K were supplanted by Commission Orders 1 through 12 in Docket number UE-111881, Order 01.

<sup>20</sup> Some acronyms, such as “ECM” have a different connotation outside the purview of PSE or conservation activities. Outside of EES, on in evaluation context, “ECM” may mean “Electric Conservation Measure”. Within EES’s BEM sector, though, it means “Electronically Commutated Motor”.

Definitions, continued

<b>Custom Savings</b>	This savings type applies to conservation projects where a PSE EME performs specific evaluation and review of a unique customer site to determine savings values—therms or kWh—that apply only for that site. For this type of measure, there is insufficient information, the occurrence is too infrequent or it cannot be specifically defined to justify development of a Calculated or Deemed protocol.
<b>Deemed Measure</b>	As in a measure’s deemed value; A savings (or cost) value that applies to a unit of specific measure, regardless of where or how the measure is installed. Measures for which it is possible to “deem” per unit energy savings, cost and load shape based on program evaluation data and engineering estimates. (For instance, one residential interior CFL lamp has a deemed value of 24 kilowatt-hours per year.) This classification applies to both RTF and PSE deemed (noted on the following page). The RTF is in the process of replacing this term with “UES”; Unit Energy Savings.
<b>Direct Benefit to Customer (DBtC)</b>	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.
<b>Direct Install Measure</b>	A conservation measure that is installed by a PSE representative—rather than a PSE customer—into a qualifying structure.
<b>EIA</b>	Energy Independence Act. A 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. The EIA was also sometimes colloquially referred to as “I-937”.
<b>Measure</b>	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>21</sup> Measures must also meet cost-effectiveness standards.

<sup>21</sup> Schedule 83, section 4, Definitions, #m. Schedule 183, section 4, #l.

Definitions, continued

<p><b>Orders (see also Conditions)</b></p>	<p>Specific deliverables and stipulations by which the Company must operate or produce through the course of operating and managing energy efficiency programs. In addition to compliance requirements outlined in the 2010 Settlement Terms Sections A through J and L, of Docket number UE-100177, Orders 1 through 12 are listed in Order 01, Approving Puget Sound Energy's, 2012-2021 Achievable Electric Conservation Potential and 2012-2013 Conservation Target Subject to Conditions, Docket Number UE-111881. Effective June 14, 2012.</p>
<p><b>Program</b></p>	<p>Programs may consist of a single measure, an assortment of related measures or a suite of measures that are related strictly by delivery type, channel, or customer segment.</p>
<p><b>PSE Deemed</b></p>	<p>Relative to measure savings types (Custom, Calculated, PSE Deemed or RTF Deemed), these measures are supported by PSE engineering calculations or evaluation studies, in compliance with order (6)(c) in Docket number UE-111881.</p>
<p><b>RTF Deemed (see also UES)</b></p>	<p>Relative to PSE savings types (Custom, Calculated, PSE Deemed or RTF Deemed), supported by RTF analyses, in compliance with order (6)(b) in Docket number UE-111881.</p>
<p><b>Savings</b></p>	<p>Savings (both gas and electric) 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. Electric savings are counted at the customer meter, not the busbar. Gas savings are counted at the customer gas meter.</p> <p>It is important to note that all measures have an associated life, during which the noted annual savings accumulate. Each measure has a different life, as determined by rigorous evaluation.</p>
<p><b>System</b></p>	<p>In this document, System may have the following meanings:</p> <ol style="list-style-type: none"> <li>1) 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> <li>2) 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>

## Acronyms

<b>ACP</b>	Annual Conservation Plan
<b>AEE</b>	Association of Energy Engineers
<b>ALP</b>	Advanced Lighting Package. Referenced in the Single Family New Construction program discussion.
<b>aMW</b>	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.
<b>ARRA</b>	American Recovery and Reinvestment Act
<b>ASHRAE</b>	American Society of Heating, Refrigerating and Air Conditioning Engineers
<b>BCP</b>	Biennial Conservation Plan
<b>BEM</b>	Business Energy Management
<b>BEOP</b>	Building Energy Optimization Program (within the BEM Sector).
<b>BOMA</b>	Building Owner and Managers Association
<b>BPA</b>	Bonneville Power Administration
<b>CBTU</b>	Comprehensive Building Tune-Up (program in the BEM Sector).
<b>CFL</b>	Compact Fluorescent Lamp
<b>CHP</b>	Combined Heat & Power
<b>CLEP</b>	Certified Lighting Efficiency Professional
<b>CRAG</b>	Conservation Resource Advisory Group
<b>CS/EE</b>	Customer Solutions, Energy Efficiency
<b>CSY</b>	Customer Solutions database; used to process custom grants and select prescriptive rebates within CS/EE.
<b>DCEEP</b>	Data Center Energy Efficiency Program (within the BEM Sector).
<b>DHW</b>	Domestic Hot Water
<b>DR</b>	Demand Response
<b>EC Motor (ECM)</b>	Electronically Commutated Motor
<b>EE</b>	Energy Efficiency
<b>EIS</b>	Energy Interval Service
<b>EME</b>	Energy Management Engineer
<b>EM&amp;V</b>	Evaluation, Measurement and Verification

## Acronyms, continued

<b>ERR</b>	Evaluation Report Response. A form used to complete an evaluation study's resultant actions.
<b>GIS</b>	Geospatial Information System
<b>GPM</b>	Gallons Per Minute
<b>HID</b>	High Intensity Discharge (lamp type)
<b>HVAC</b>	Heating, Ventilation and Air Conditioning
<b>IRP</b>	Integrated Resource Plan
<b>ISOP</b>	Industrial System Optimization Program (within the BEM Sector.)
<b>kWh</b>	Kilowatt Hour. 1,000 watt-hours = 1 kWh, which is equivalent to 10 100-watt incandescent lamps being turned on for one hour.
<b>LED</b>	Light Emitting Diode (typically, a lamp type)
<b>LEED</b>	Leadership in Energy and Environmental Design
<b>LIW</b>	Low Income Weatherization (program)
<b>MEF</b>	Manufacturer's Energy Factor (applies primarily to appliances)
<b>MWh</b>	Megawatt-hour. 1,000 kWh = 1 MWh
<b>NEEA</b>	Northwest Energy Efficiency Alliance
<b>NEEC</b>	Northwest Energy Efficiency Council
<b>NWESH</b>	Northwest Energy Star Homes
<b>O&amp;M</b>	Operations & Maintenance
<b>RBSA</b>	Residential Building Stock Assessment
<b>RB2B</b>	Residential Business to Business Channel. Comprised of Multifamily Existing, Multifamily New Construction, Low Income Weatherization, and the Single Family New Construction programs. Formerly referred to as the Multifamily Channel.
<b>RCW</b>	Revised Code of Washington.
<b>REM</b>	Residential Energy Management
<b>RTF</b>	Regional Technical Forum, an advisory committee and a part of the Northwest Power and Conservation Council. The RTF develops standardized protocols for verifying and evaluating conservation.
<b>SBDI</b>	Small Business Direct Install (program within the BEM Sector, Commercial Rebates).
<b>SBTU</b>	Simplified Building Tune-Up (program within the BEM Sector.)



Acronyms, continued

<b>TRC</b>	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>22</sup>
<b>UC</b>	Utility Cost: The Company’s costs of administering programs included, but not limited to, costs associated with incentives, audits, analysis, technical review and funding specific to the Measure or program and evaluation. <sup>23</sup>
<b>UES</b>	Unit Energy Savings. Formerly “Deemed”, the RTF is replacing the term with UES.
<b>VO</b>	Voltage Optimization
<b>WAC</b>	Washington Administrative Code
<b>WSEC</b>	Washington State Energy Code
<b>WUTC</b>	Washington Utilities and Transportation Commission

<sup>22</sup> Schedule 83, section 4, Definitions, #z. Schedule 183, section 4, #x.

<sup>23</sup> Schedule 83, section 4, Definitions, #bb. Schedule 183, section 4, #z.

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## Conclusion

This concludes Customer Solutions/Energy Efficiency's 2012 report mid-year status of electric and gas conservation savings and expenditures. PSE appreciates the opportunity to collaborate with CRAG members throughout the year. We additionally appreciate the input and cooperation of our regional partners, other PSE divisions, and our constituents.

Most importantly, our thanks to PSE customers, who trust the dedicated men and women of Customer Solutions/Energy Efficiency to prudently use the funds that they provide in helping the Company move towards achieving our 2012 and 2012-2013 biennial goals and provide the highest level of customer service in the Northwest.

The CS/EE staff looks forward to a productive and constructive remainder of 2012!

Respectfully submitted,



Puget Sound Energy  
Customer Solutions, Energy Efficiency