

Appendix A

# Energy Efficiency Services Program Descriptions

January 2010

# **Table of Contents**

GENERAL PROGRAM DESCRIPTION NOTES	1
Associated Appendices	1
Attachment 1	1
Program Descriptions	1
Commonly Used Terms	2
RESIDENTIAL PROGRAM DESCRIPTIONS	3
INFORMATION SERVICES	4
Purpose	
Description	
RESIDENTIAL LOW INCOME WEATHERIZATION	
Purpose	6
Description	6
Target Market	
Customer Incentives Overview	7
Marketing	8
ENERGY EDUCATION	9
Purpose	
Description	9
Target Markets	9
SINGLE FAMILY EXISTING	
Purpose	10
Description	10
Target Market	10
Customer Incentives	
Energy Efficiency Services' initial List of Measures, Incentives and Eligibility are included in Appendix A as Attachment 1	
Marketing	
SINGLE FAMILY NEW CONSTRUCTION	12
Purpose	12
Description	
Target Market	
Customer Incentives	
Marketing	13
FUEL CONVERSION FROM ELECTRIC TO NATURAL GAS	
Purpose	
Description	
Target Market	
Customer Incentives	
Marketing	15

MULTI FAMILY EXISTING	16
Purpose	
Description	
Target Market	
Customer Incentives Overview	
Marketing	
MULTI FAMILY NEW CONSTRUCTION	18
Purpose	
Description	
Target Market	
Customer Incentives	
Marketing	
PILOTS	
CONSUMER ELECTRONICS	21
HEAT PUMP AIR HANDLER/FURNACE FAN MOTOR UPGRADE	22
HEAT PUMP SIZING & LOCK OUT CONTROLS	23
HIGH EFFICIENCY NATURAL GAS FIREPLACE	
HOME INTELLIGENCE/AUTOMATION	
IC- & WAC-RATED CFL FIXTURES	
ITSCOOL	
MICRO-COMBINED HEAT AND POWER (CHP) SYSTEM - FREEWATT® PLUS SYSTEM	
OPOWER (FORMERLY POSITIVE ENERGY) HOME ENERGY REPORTS	
PREPAY BILLING SYSTEM	
RESIDENTIAL GRANTS	
COMMERCIAL AND INDUSTRIAL PROGRAMS	31
COMMERCIAL AND INDUSTRIAL RETROFIT	32
COMMERCIAL AND INDUSTRIAL RETROFIT	<b> 32</b> 32
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description	32 32 32
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market	<b> 32</b> 32 32 34
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview	<b> 32</b> 32 32 32 34 34
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market	<b> 32</b> 32 32 32 34 34
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview	<b> 32</b> 32 32 34 34 35
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview Marketing	32 34 34 35 34 35 34 35 34 35 34 35 35
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview Marketing COMMERCIAL AND INDUSTRIAL NEW CONSTRUCTION	32 32 32 34 34 35 36 36
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview Marketing COMMERCIAL AND INDUSTRIAL NEW CONSTRUCTION Purpose Description	
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview Marketing COMMERCIAL AND INDUSTRIAL NEW CONSTRUCTION Purpose	
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview Marketing COMMERCIAL AND INDUSTRIAL NEW CONSTRUCTION Purpose Description Target Market	
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview Marketing COMMERCIAL AND INDUSTRIAL NEW CONSTRUCTION Purpose Description Target Market Customer Incentives Overview Marketing	32      32      32      34      34      35      36      36      37      38      40
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview Marketing COMMERCIAL AND INDUSTRIAL NEW CONSTRUCTION Purpose Description Target Market Customer Incentives Overview	32      32      32      34      34      35      36      36      37      38      40
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview Marketing COMMERCIAL AND INDUSTRIAL NEW CONSTRUCTION Purpose Description Target Market Customer Incentives Overview Marketing	
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose	
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose	
COMMERCIAL AND INDUSTRIAL RETROFIT	
COMMERCIAL AND INDUSTRIAL RETROFIT. Purpose. Description. Target Market. Customer Incentives Overview. Marketing. COMMERCIAL AND INDUSTRIAL NEW CONSTRUCTION. Purpose. Description. Target Market. Customer Incentives Overview. Marketing. RESOURCE CONSERVATION MANAGER (RCM) Purpose. Description. Operations.	32    32    32    32    32    32    32    32    32    32    34
COMMERCIAL AND INDUSTRIAL RETROFIT	32      32      32      34      34      35      36      36      37      38      40      41      41      41      41      41      42      43      44
COMMERCIAL AND INDUSTRIAL RETROFIT	32    32    32    34    34    35    36    36    36    37    38    40    41    41    41    41    41    41    41    41    41    42    43
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose	
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose Description Target Market Customer Incentives Overview Marketing COMMERCIAL AND INDUSTRIAL NEW CONSTRUCTION Purpose Description Target Market. Customer Incentives Overview Marketing RESOURCE CONSERVATION MANAGER (RCM) Purpose Description Operations Customer Incentives Marketing SMALL BUSINESS LIGHTING Purpose Description	
COMMERCIAL AND INDUSTRIAL RETROFIT Purpose	

LED TRAFFIC SIGNALS	
Purpose	
Description	
Target Market	
Customer Incentives Overview	
Marketing	
LARGE POWER USER SELF-DIRECTED	50
Purpose	
Description	
Target Market	
Customer Incentives Overview	
Marketing	
COMMERCIAL AND INDUSTRIAL INCENTIVE PROGRAM	
Purpose	
Description	
Target Market	
Customer Incentives Overview	
Marketing	
NEEA & SUPPORT PROGRAMS	56
NORTHWEST ENERGY EFFICIENCY ALLIANCE (NEEA)	
Description	
COMMUNITY EFFICIENCY MANAGER	
Purpose	
Description	
Target Market	
ENERGY EFFICIENT TECHNOLOGY EVALUATION	59
Technology Evaluation	
LOCAL INFRASTRUCTURE AND MARKET TRANSFORMATION	
Purpose	
Description	
Target Market	
Customer Incentives	
Marketing	
ENERGY EFFICIENT COMMUNITIES	61
Purpose	
Description	
Target Markets	
-	
MAINSTREAMING GREEN	
Purpose	
Description	
Marketing	
CONSERVATION MARKET RESEARCH	
Objectives	
Description	

OTHER ELECTRIC PROGRAMS	64
NET METERING FOR CUSTOMER GENERATORS	65
Purpose	
Description	65
Target Market	
Customer Incentives	65
PRODUCTION METERING FOR CUSTOMER GENERATORS	66
Purpose	66
Description	66
Target Market	66
Customer Incentives	66
Marketing	66
SMALL SCALE RENEWABLE ELECTRICITY GENERATION	67
Purpose	
Description	67
Target Market	67
Customer Incentives	67
Marketing	67
DEMAND RESPONSE PILOTS	68
Purpose	68
Description	
Target Market(s)	68
Marketing Strategy	
Initial Pilots	69

# **General Program Description Notes**

# **Associated Appendices**

In addition to the program descriptions in this Appendix A, there are three other Appendices, which outline the following for each program:

Budgets and conservation savings (both gas and electric) goals	Appendix B
Cost effectiveness targets	Appendix C
Program evaluation plans	Appendix D

And can all be found at: PSE.com/ratereginformation

# Attachment 1

Specific measures that apply to end-use types in the below listed program descriptions are found in the Energy Efficiency Services' *List of Measures, Incentives and Eligibility,* which is Attachment 1 to this Appendix.

Calculated measure lives are also enumerated in Attachment 1.

Attachment 1 is available at:

http://www.pse.com/insidePSE/ratereginformation/Pages/RatesElecTariffsRules.asp x

# **Program Descriptions**

Following each program's title is the corresponding Conservation Schedule number. A number preceded by an E indicates that this is an electric Schedule. Similarly, a number preceded by a G indicates that this is a natural gas Schedule. Many conservation programs have the same Conservation Schedule number for both natural gas and electric service.

Conservation Schedules are available for public review at PSE.com. Program descriptions are organized in sequence according to their Schedule number.

# Commonly Used Terms

Unless otherwise noted in a specific Conservation Schedule, the following commonlyused terms, used throughout this document have the below noted meanings:

AIA	American Institute of Architect
ASHRAE	American Society of Heating, Refrigerating, and Air- Conditioning Engineers
BOMA	Building Owners and Managers Association
BPA	Bonneville Power Administration
СНР	Combined Heat & Power
CMS	Customer Management System
CRAG	Conservation Resource Advisory Group
DDC	Design Development and Construction
Direct Install Measure	A conservation measure that is installed by a PSE representative—rather than a PSE customer—into a qualifying structure.
ECM	Electronically Commutated Motor
EES	Energy Efficiency Services, a division of Puget Sound Energy
HID	High Intensity Discharge (related to lighting)
HVAC	Heating, Ventilation and Air Conditioning
kWh	Kilowatt Hour
NEMA	National Electrical Manufacturers Association
O&M	Operations and Maintenance
TRC	Total Resource Cost
UC	Utility Cost
ULI	Urban Land Institute
USGBC	U.S. Green Building Council
WAMOA	Washington Association of Maintenance and Operations Administrators

# RESIDENTIAL PROGRAM DESCRIPTIONS

# **INFORMATION SERVICES**

#### Residential Schedules E200, G206 Commercial/Industrial Schedules E260, G260

### Purpose

Provide customers with quality information that will assist them in making costeffective decisions relative to energy-efficiency investments. Motivate customers to participate in eligible EES programs and services while simplifying the process to take action. Provide guidance to customers on how and where to find appropriate solutions, e.g. products, retailers, product vendors, contractors, and installers.

### Description

The program consists of five components that compliment each other to provide information about customer programs and efficiency improvements tailored to customers' interests and energy-use concerns.

### **On-Line Tools & Customer Management System**

PSE's web site, PSE.com is available with information about energy efficiency and provides energy management tools to residential and business customers.

PSE's Customer Management System (CMS) is a database management system used by EES management to support delivery and results tracking of energy efficiency programs and services. Tracking customer program participation as well as tracking and evaluating the efficiency and effectiveness of promotions and implementation are key components of CMS.

# **Energy Advisors**

Energy advisors research, analyze, resolve and respond to customer inquiries, issues and requests related to energy efficiency and conservation. They promote and explain energy efficiency and renewable programs and their advantages. They represent the Company in an effort to promote and cross market products and services by presenting and providing educational materials to employees, organizations and community groups. Energy advisors receive training and instruction in departmental procedures and are expected to use good judgment in independently responding to recurring customer issues and/or complaints. Unique, difficult or unusual customer service issues are referred to the senior energy advisor.

Customers have access to speak directly to an Energy Advisor through a toll-free number, **1-800-562-1482**, Monday through Friday, 8am to 5pm.

# **Energy Efficiency Brochures/Collateral**

PSE provides brochures and how-to guides on various energy efficiency opportunities, including behavioral measures, low-cost equipment, weatherization measures, improvements and equipment upgrades. This information includes guidelines and savings estimates where appropriate. PSE brochures are available to customers in hard copy form and online at PSE.com. Brochures are also distributed at numerous customer events, Home shows and trade shows throughout the year and, as required by regulatory directives, included at prescribed intervals in customer bills.

# **Electronic Newsletters**

"Energy at Home" is a quarterly e-newsletter promoting Energy Efficiency Services to customers who elect to subscribe using an e-mail address. This free service contains articles about energy efficiency, timely seasonal tips, and links to PSE program information and rebates for energy efficient products. A similar quarterly "Energy in Business" e-newsletter features case studies of energy efficiency projects at PSE customer sites, as well as announcements of upcoming training opportunities. Energy Education Newsletter is a quarterly enewsletter offering student, teachers and sponsors on expanded ways to learn and take action on energy conservation tips, environmental events, student activities and upcoming energy efficiency projects.

### **Events**

PSE participates in trade shows, community events and homeowner/trade ally associations' venues that provide avenues, such as seminars and workshops, to attract PSE residential and business customers to the features/benefits of energy efficiency programs.

# **RESIDENTIAL LOW INCOME WEATHERIZATION**

Residential Schedules E201, G203

#### Purpose

Assist low-income residential customers with energy efficiency improvements and repairs for their homes.

## Description

Low Income Weatherization provides funding of many cost-effective home weatherization measures for low-income customers receiving gas and/or electric heat from PSE. Funds are used for single-family, multi-family and mobile home residences. Some measures which do not meet standard cost-effectiveness tests may also be approved.

In addition, this program provides funding for energy-related repairs and energy education. An energy-related repair is a repair that is necessary (1) to install a weatherization measure properly, (2) to protect the health and/or safety of the occupants, (3) to address an existing problem that weatherization could aggravate (for example, moisture/mold condition) or (4) to protect the integrity of the installed measure. Examples include but are not limited to:

- Repairing roof leaks,
- Removing unsafe knob-and-tube wiring,
- Cleaning up mold/mildew,
- Rodent exclusion,
- Installing proper bath and kitchen ventilation,
- Replacing malfunctioning furnace or water heater.

Energy education include those measures that would help customers understand how to benefit from measures installed in their home and to further reduce energy consumption through behavior modification.

Key stakeholders are low-income gas and electric customers; county and municipal low-income weatherization agencies in the PSE service area, Washington State Department of Commerce ("Department of Commerce" or "Commerce"), low-income rental property owners and participating weatherization contractors and suppliers.

#### Target Market

The elderly, disabled, and households with very young children receive priority in scheduling of the weatherization work. Program participation takes place through referrals from low-income and crisis service agencies. PSE customers who have difficulty paying heating bills are also referred to the appropriate serving agency when they apply for energy bill payment assistance. Income qualification for the low-income weatherization program takes place at the local weatherization agency or other designated agency. Local agencies assume responsibility for obtaining permission from rental property owners to install weatherization measures.

## **Customer Incentives Overview**

#### All Structures

Funding for measures and customer eligibility are outlined in PSE's conservation Tariffs. Funding is disbursed to local agencies for completed work. Payments are based upon prescriptive incentives for measures installed. Local agencies are permitted fixed percentages for administrative costs under the existing tariff.

There are no costs to eligible participants in the Low Income program. Under the Matchmaker agreement with Department of Commerce, PSE's low-income Tariffbased funding is combined with per capita public funding to support a "whole house" approach to weatherizing single and multifamily structures. Rental property owner funding is sometimes added for measures not funded by PSE or public money.

Applicable Low Income measure category headings include, but are not limited to:

Appliances Building Thermal Improvements Lighting Space Conditioning System Water Heating

Measure incentive eligibility criteria are based on, but not limited to, established, industry-standard cost effectiveness tests, structure type and its location within the PSE service territory, fuel type (gas or electric), product type and product quantity. A detailed list of Energy Efficiency Services Measures, Incentives and Eligibility are included as an Attachment to this Appendix A.

#### **Retrofit-- Multi-Family**

Prescriptive incentives will be applied to measures installed within units of multifamily residences. In addition to this, grant funding will be made available for common area measures installed. Agencies will determine the multi-family common area project and send a proposal to PSE for review. Common area projects shall be coordinated with the Company's Energy Efficiency group to provide the maximum incentives available. Projects and budgets will be approved by PSE and funding provided directly to agencies through PSE direct funding.

Common area measures that will be funded may include, but are not limited to:

Common Area Lighting Domestic Water Boiler Replacement Common Area HVAC Space Heating Boiler Replacement Solar Swimming Pool Heater Swimming Pool Heating Boiler

# Marketing

PSE provides a weatherization program brochure, which explains the program and basic eligibility requirements, and lists the agency contact phone numbers. This brochure is normally available to customers during many public events in which PSE participates. The brochure has been distributed to local agencies serving the low-income population.

Any additional promotion of the program will be done in close coordination with the local agencies. Over-promotion can lead to excessive backlogs of customers waiting for weatherization services, affecting overall program satisfaction and participation.

# ENERGY EDUCATION

Residential Schedules E202, G207

#### Purpose

Increase customer awareness of energy efficiency programs; promote energy savings through various educational programs; and educate the community on how the use of energy impacts the health of the Puget Sound ecosystem.

# Description

Puget Sound Energy's Energy Education programs inform, inspire and empower with the understanding that individual choices do make a difference. Programs delivered by Energy Education present environmental challenges in a positive context that highlight resource and energy conservation, and communicate opportunities to minimize impacts on ecosystems and climate change--all with the goal of increasing customer participation in eligible programs that support established energy saving goals.

PSE's Energy Education programs seek to provide a forum for positive customer/community interaction and involvement, develop new and maintain costeffective energy education programs that emphasize the Company's commitment to energy conservation and environmental stewardship. They focus on strengthening community-based programs by developing and preserving relationships with customers and other education and community-based organizations.

Programs include <u>Powerful Choices</u>, which offers school districts in PSE's gas and electric territory a comprehensive energy curriculum based on Washington State Essential Learning for sixth through eight grade students; <u>ITSCOOL</u>, a service learning fundraising program for middle and high school students and local organizations; <u>Hopelink</u>, <u>Native American</u>, <u>Habitat for Humanity</u> which support community education programs.

Key stakeholders include local schools, low-income populations, partner agencies and organizations, senior citizens, Native American groups and the general public.

# **Target Markets**

PSE's educational programs offer customers the opportunity to save money and energy with financial resources, low cost energy efficiency measures and educational outreach for local schools, low-income populations, seniors, Native American groups and the general public.

The Powerful Choices program reaches sixth through eighth grade students in PSE's service territory. Kilowatt-hour and therm savings counted for each student.

# SINGLE FAMILY EXISTING

Residential Schedule E214, G214

## Purpose

Acquire cost-effective energy savings from existing single-family (less than or equal to four units on a parcel) retrofit measures and services.

# Description

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

The Single Family Existing program encompasses a comprehensive suite of measures and delivery mechanisms aimed at securing high-value energy savings from this segment. The breadth of the program includes but is not limited to:

- Retail-based incentives on efficient lighting and appliance products
- Direct-to-consumer services such as appliance decommissioning, installation of CFL bulbs and efficient showerheads, and home performance evaluations
- Rebates for efficient heating and water heating equipment
- Discounted and rebated weatherization services

#### Target Market

The target market for this program includes, but is not limited to single family property owners or tenants, service contractors, retail partners, efficiency equipment suppliers, distributors and manufacturers.

#### **Customer Incentives**

Eligibility criteria are based on established cost effective tests. The incentives are effective January 1, 2010. A list of all requirements for incentive eligibility and participation can be found on individual incentive or program application forms. PSE's Energy Efficiency Services will maintain a comprehensive list of approved conservation measures in Energy Efficiency Services' List of Measures, Incentives, and Eligibility. PSE reserves the right to adjust incentives based on market variables.

Applicable Energy Efficiency Incentive measure category headings include, but are not limited to:

- Weatherization
- Space Heating
- Water Heating
- Appliances
- Refrigerator decommissioning
- Lighting
- HomePrint Home Performance Evaluation

Energy Efficiency Services' initial List of Measures, Incentives and Eligibility are included in this Appendix A as Attachment 1.

# Marketing

Puget Sound Energy will promote these programs through integrated marketing campaigns. These may include:

- qualitative and quantitative target market research
- Brochures, e-news articles and promotion via energy advisors and other PSE representatives
- bill inserts
- Cooperative advertising with product manufacturers or distributors
- paid advertising print, broadcast and radio, direct mail, and electronic media,
- point-of-purchase signage
- public relations and community event presence
- PSE's Contractor Referral Service, incentives, rebates, coupons, contractor discounts, and seasonal promotions.

# SINGLE FAMILY NEW CONSTRUCTION

Residential Schedule E215, G215

## Purpose

Acquire cost-effective energy savings from single-family new construction (less than or equal to four units on a parcel).

## Description

Based on the measure/product type and market factors, PSE may provide incentives to its customers at different points along the value chain. Market barriers vary dramatically from measure to measure, consequently PSE incentives may occur at the manufacturer, distributor, equipment supplier, contractor/builder, Building Performance Specialist, Performance Tester, verifier, retailer or consumer/home buyer level. Incentive amounts are based on regionally accepted energy savings estimates and incremental efficiency measure cost. Incentives may be subject to change in response to revisions in savings estimates, average incremental cost or changes in Federal appliance efficiency standards or State codes.

### Target Market

The target market for this program may include but is not limited to new construction single family property owners, service contractors, retail partners, and efficiency equipment suppliers, distributors and manufacturers.

# **Customer Incentives**

Measure incentive eligibility criteria are based on, but not limited to, established, industry-standard cost effectiveness tests, structure type and location within the PSE service territory, fuel type (gas or electric), product type and product quantity. The incentives are effective January 1, 2010, a detailed list of Energy Efficiency Services Measures, Incentives and Eligibility are included as an Attachment to this Appendix A. PSE may, at its sole discretion, adjust rebates based on market variables.

#### Type of rebate/incentive

Qualifying customers receive incentives by submitting a processing form and invoices/receipts, third party verification and certification of an ENERGY STAR® home, or receive an instant discount through participating trade allies. Incentive requests are screened for completeness of customer entries, and where required for submittal of additional documentation. Incentive processing complies with PSE internal audit standards.

# Marketing

Marketing outreach and positioning, may include, but are not limited to:

- Program collateral, brochures, newsletters
- Paid advertising: print, broadcast and radio
- Direct mail & bill insert campaigns
- Co-promotion with other utilities, local governments, agencies, and nonprofit organizations
- Industry outreach and education
- Public Relations: media interviews, article development and press releases
- Cooperative retail and wholesale trade ally marketing
- Sales person incentives (also referred to as "SPIFFS")
- PSE Website
- Community outreach: event participation, presentations, education
- Energy Efficiency Advisors, Hotline (phone staff)

# FUEL CONVERSION FROM ELECTRIC TO NATURAL GAS

**Residential Schedule E216** 

# Purpose

Acquire cost-effective electric energy savings from existing single-family (less than or equal to four units on a parcel) retrofit measures and services by converting to natural gas customers who use electricity as the primary source for their space heat and/or water heat uses.

# Description

PSE offers one-time incentives to eligible parties in order to encourage investments in conversions to highly efficient natural gas space heating and/or domestic water heating equipment. PSE provides incentives for replacing existing electric forced-air or baseboard space heating equipment and/or tank style water heating equipment with high efficiency natural gas space heating equipment and/or high efficiency natural gas domestic water heating equipment.

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

# **Target Market**

Existing Single Family Electric Service Customers on or near gas mains with specific ranges of annual electricity usage.

# **Customer Incentives**

Fuel conversion incentives are prescriptive and based upon the measure type installed and the kWh usage the measure offsets. Eligibility criteria are based on established cost effective tests and prior electrical usage as primary heating source for space and/or water heating. The incentives are effective January 1, 2010. A list of all requirements for rebate eligibility and participation can be found on individual rebate or program application forms.

Applicable Existing Single Family Premises measure category headings include, but are not limited to:

- Space Heating
- Water Heating

## Marketing

PSE promotes this program through an integrated campaign. This includes, but is not limited to, qualitative and quantitative target market research, educational materials, product/service brochures, bill inserts, paid advertising (includes co-op initiatives) such as print, broadcast and radio, direct mail, electronic media, public relations, community event presence, PSE's Energy Advisors, PSE's Contractor Referral Service, incentives, rebates and coupons.

# **MULTI FAMILY EXISTING**

Residential Schedule E217, G217

# Purpose

To increase the installation of cost effective energy efficient measures into existing electric & natural gas heated multifamily (MF) buildings in PSE's service area.

# Description

This program will provide financial incentives for energy efficient equipment installed in multifamily buildings (condominiums and apartment buildings). Eligible recipients include but are not limited to: property owners, contractors and equipment suppliers. These incentives will be either prescriptive measure incentives or calculated incentives. Calculated incentives will be based on standard energy efficient engineering practices. PSE will provide funding for the installation energy efficient measures as outlined in Attachment 1 to this Appendix A, the EES List of Measures, Incentives and Eligibility. These include, but are not limited to, energy efficient upgrades to building shell, appliances, lighting, HVAC and water heating system upgrades. This program may offer incentives for both the residential & commercial meters. MF structures typically have both in-unit and common area energyefficiency opportunities. This program will serve both areas.

# Target Market

The target market for this program includes multifamily property owners, managers, maintenance staff and equipment suppliers and contractors.

# **Customer Incentives Overview**

Measure incentive eligibility criteria are based on, but not limited to established, industry standard cost effectiveness tests, structure type and its location within the PSE service territory, fuel type (gas or electric), product type and product quantity. A detailed list of Energy Efficiency Services Measures, Incentives and Eligibility are included in the Attachment to this Appendix A.

# Marketing

The marketing positioning for the 2010 – 2011 program will start with close examination of the existing marketing plan and adjustments made based on current opportunities in this sector. The tools developed will include a variety of integrated promotional devices needed to contact and solicit program participants.

Marketing outreach and positioning, as identified in the supporting marketing plan, may include, but is not limited to:

- Qualitative and quantitative target market research
- Program collateral/ brochures
- Direct mail campaigns
- Event participation and sponsorship
- Program presentations
- Paid advertising: print, broadcast and radio
- PSE Website
- Co-promotion with other utilities, local governments, agencies and nonprofit organizations
- Community outreach and education
- Public Relations: media interviews, article development and press releases
- Electronic newsletters
- Cooperative trade ally marketing
- Energy Efficiency Advisors, Hotline (phone staff)
- Internal employee communications and training
- Evaluate ROI: measuring marketing outreach effectiveness

# MULTI FAMILY NEW CONSTRUCTION

Residential Schedule E218, G218

#### Purpose

PSE's multi-family new construction program will increase the installation of energy efficient measures into new electric & gas heated multifamily (MF) buildings constructed in the PSE service territory. High efficiency measures need to be specified and installed during construction. Otherwise, it may be up to 30 years before energy efficient changes to the buildings will take place.

This program will target structures with five or more residential units per building. These structures typically have both in-unit and common area energy-savings opportunities. These include, but are not limited to, energy efficient upgrades to building shell, appliances, lighting, HVAC and water heating systems.

Eligible customers include an owner, developer, or agent acting on behalf of responsible party of service receiving electricity or natural gas through PSE. This program will provide financial incentives to the above audience for both natural gas and electric residential and commercial meters. The incentives will be both prescriptive and calculated.

### Description

There are 3 distinct construction types in this market:

- Low/mid rise construction\*: These buildings typically have residential type meters that measure all the natural gas/electric consumption in the dwelling units. Commercial type meters measure the consumption in common spaces. These complexes are one to four floors of residential dwelling units.
- 2. High rise construction\*: These buildings typically have commercial type meters that measure the in-unit heating/water heating and common area consumption. Residential type meters typically measure the dwelling unit lighting, appliance and plug load. These complexes are five or more floors of residential dwelling units.
- 3. Assisted Living/Affordable Housing / Dormitory construction\*: These buildings typically have commercial type meters that measure the in-unit and common area consumption.

<sup>\*</sup> There may be any combination of meter mix in all three types of construction. PSE will work with each development team to determine the meter type mix. Once the meter type mix is confirmed, the appropriate PSE programs will be identified to serve that development.

This program will serve the residential meters in all three building construction types. PSE's commercial tariff programs serve most of the commercial meter upgrades in these types of construction. Where commercial meters measure the residential heat/water heating, energy efficient upgrades can be served with multifamily new construction prescriptive or calculated commercial incentives. An example may be a central boiler for domestic hot water.

PSE has structured this program to work in accord with our current commercial programs. PSE will provide a single "point of contact" to development teams for all energy efficient measure/upgrades. This will allow PSE to maximize the energy savings opportunity in each development and reduce multi-program confusion for the customer.

# Target Market

The target market for this program includes new construction multifamily property developers, architects, mechanical and electrical engineers, general contractors and equipment suppliers.

# **Customer Incentives**

Incentive schedules may be based on the building types described below:

**Low/midrise construction:** where residential meters serve space/water heating and plug load, residential incentives shall apply. For common areas in these buildings, commercial incentives may apply. Program staff may work closely with the EES Business Energy Management team to collaborate on potential custom calculated incentives identified during project evaluation.

**Hi-rise construction:** where commercial meters serve the unit space/water heat, commercial and/or residential incentives may apply. Where residential meters serve the in unit load, residential incentives shall apply. For common area meters located in these buildings, commercial incentives may apply. Program staff may work closely with the EES Business Energy Management team to collaborate on potential custom calculated incentives identified during project evaluation.

Assisted Living/Affordable housing/Dormitory construction: where commercial meters serve the unit space/water heat, commercial and/or residential incentives may apply. Where residential meters serve the space/water heating and plug load, residential incentives shall apply. For the common areas, commercial incentives may apply. Program staff may work closely with the EES Business Energy Management team to collaborate on potential custom calculated incentives identified during project evaluation.

Incentive schedules are identified by heat source. Calculated incentives will be offered based on standard energy efficient calculation practices. Incentives may be paid upon completion of work and submittal of required program documentation. Field inspections and audits will be conducted at random to ensure quality installations and verify completion of work. PSE's Energy Efficiency Services will maintain a comprehensive list of approved conservation measures in Energy Efficiency Services' List of Measures, Funding and Incentives.

# Marketing

The market constituents are developers, architects, general contractors, sub contractors and equipment suppliers that develop multifamily housing. To successfully market to this community, PSE will develop and distribute marketing materials using direct mail (solicitation letters), program presentations, as well as other marketing opportunities as identified in the program marketing plan. The PSE Multifamily Program Manager will take a leading role in promoting this program.

PSE will focus on a "customer approach" during the early design phase of these developments. Since multifamily new construction projects have very long construction cycles, it is extremely important to position early with development teams. When a developer makes a decision to include the energy-efficient upgrades, it may take up to two years for the measures to be installed and verified; therefore developers must make the decision early in order incorporate PSE products.

To generate and identify lead opportunities, PSE will leverage between internal and external partners.

- Internal partners include PSE Builder Representatives, Community Relations Managers, Customer Construction Services, EES Market Managers, and other internal staff.
- External partners include media outreach to obtain permit information through applicable publications and other industry periodicals. PSE may also work with city/county building departments located in PSE's service area to develop a process to secure early permit information. Other external relationship opportunities focus on collaboration with industry partners that may include, but not be limited to, the AIA Seattle, USGBC, ULI and Built Green organizations. These types of relationships could easily promote the MF NC program, giving it more visibility through sponsorship and advertising opportunities.
- Educational tools may include developing program information for building jurisdictions to circulate to applicants during the design review stage.

# **PILOTS**

Conservation Schedule E249, G249

# **CONSUMER ELECTRONICS**

#### NEEA Joint Utility Upstream Consumer Electronics Program

## Purpose

To work in conjunction with utilities across the west coast to gain distribution at retail and promote efficient TVs (currently those that are 30 percent more energy efficient than current ENERGY STAR® standards) to achieve measureable energy savings and to establish a baseline in the northwest for market share and cost effectiveness for TVs.

#### Description

Electronics/plug loads is the fastest growing end-use in the nation, estimated at 6% growth per year. This program provides relatively small but meaningful incentives to retailers and/or manufacturers to move more energy efficient televisions into the market (in this case, 30 percent more efficient than current ENERGY STAR® specifications). The incentives will provide a means to influence the product mix stocked and sold so that more energy efficient models end up in our customers' homes in place of less efficient models.

In addition to the incentives there is a consumer awareness component to this program. Participating retailers will have their relevant staff members trained on the benefits of participating models and stores will be detailed with signage and POP materials to make customers aware of which units qualify for the program and hence use less energy than average.

#### **Target Market**

PSE, through NEEA, will be offering incentives primarily to retailers within our electric service area, though incentivizing parties further upstream is also an option.

#### **Customer Incentives Overview**

Retailers receive an incentive for each qualifying television sold under the pilot.

#### Marketing

Retailers are engaged to implement the pilot. Retail staff are trained to relay the benefits of qualifying units to customers, and stores are detailed with signage and point of purchase materials.

# HEAT PUMP AIR HANDLER/FURNACE FAN MOTOR UPGRADE

#### Purpose

Identify energy savings potential by upgrading to a high efficiency, variable speed, brushless permanent magnet fan motor over less efficient fan motors for single-family homes.

#### Description

Installation of a high efficiency, variable speed, Brushless Permanent Magnet fan motor. This motor will replace less efficient existing Permanent Split Capacitor (PSC) motors. Installation will be by trained PSE technicians or existing contractor network. All PSE technicians and contractors participating in the program will be required to go through a technical training program that will be administered by PSE or a consultant hired on our behalf.

#### Target Market

PSE will offer this pilot to 1,500 single family homes throughout PSE's service territory. This measure is available to any customer currently using a furnace fan motor with PSC technology. The energy usage of the test group will be compared to control data and evaluated after 2010-2011.

#### **Customer Incentives Overview**

This pilot measure will provide a \$250 incentive for a high efficiency, variable speed, Brushless Permanent Magnet fan motor.

#### Marketing

A marketing plan will be identified with development of the pilot program.

# **HEAT PUMP SIZING & LOCK OUT CONTROLS**

#### Purpose

Identify energy savings potential through correct Heat Pump Sizing & Lock out Controls for existing single-family homes.

#### Description

This pilot measure will be delivered through an existing contractor network, to assure properly sized heat pump systems by following industry standard sizing recommendations, and by installing an outdoor control (thermostat) that will sense outdoor temperatures. This control will lock out inefficient auxiliary heat down to specified temperatures in order to achieve full energy saving potential of heat pump systems. Contractors participating in the program will be required to go through a technical training program that will be administered by PSE or a consultant hired on our behalf.

#### Target Market

PSE will offer this pilot to 1,000 single family homes throughout PSE's service territory. Our primary target will be homes heated with electricity as their primary heating source without other fuels as auxiliary. The energy usage of the test group will be compared to control data and evaluated after 2010-2011.

#### **Customer Incentives Overview**

This pilot measure provides a \$200 incentive, to be delivered through an existing contractor network.

#### Marketing

A marketing plan will be identified with development of the pilot program.

# HIGH EFFICIENCY NATURAL GAS FIREPLACE

#### Purpose

Identify energy savings potential through the installation of a high efficiency natural gas fireplace for single-family homes.

#### Description

High-efficiency direct vent gas fireplaces provide heat directly in the room. Advances in gas heating technology make these heat sources safe and easy to operate. Units must be direct vented with sealed combustion. PSE will utilize our existing contractor network for installation. These existing contractors participating in the program will be required to go through a training program that will be administered by PSE or a consultant hired on our behalf.

#### Target Market

PSE will offer this pilot to 500 single family homes throughout PSE's service territory. Customer must be an existing PSE natural gas customer currently heating their home with natural gas. Fireplaces must be installed within the home. The energy usage of the test group will be compared to control data and evaluated after 2010-2011.

#### **Customer Incentives Overview**

This pilot measure provides a \$200 rebate incentive for direct vent natural gas fireplaces that meet the Canadian P4 Fireplace Efficiency (FE) standard of 70 percent or better.

#### Marketing

A marketing plan will be identified with development of the pilot program.

# HOME INTELLIGENCE/AUTOMATION

#### Purpose

Identify energy savings potential by deploying communicating home intelligence/home automation devices.

#### Description

This pilot measure will provide PSE with information on the energy savings value of having integrated home energy use information, display, and controls. Many products available are capable of communication with the utility through mesh networks via metering or internet protocols. Intentions for this pilot will be to identify a product or products that allow homeowners to manage specific outlets, circuits, or appliances from a single dashboard device.

#### Target Market

PSE will offer this pilot to 500 single family residential homes throughout PSE's combined gas and electric service territory. Additional program targets may be set upon development of the program design.

#### **Customer Incentives Overview**

Incentives to the customer will be identified with the development of the pilot program. As a pilot program we will work towards an incentive that will ensure our ability to collect necessary program and evaluation data.

#### Marketing

A marketing plan will be identified with development of the pilot program.

# **IC- & WAC-RATED CFL FIXTURES**

#### Purpose

Identify energy savings potential by replacing recessed can lighting fixtures with IC-& WAC-rated CFL fixtures. The gains in energy savings will come from the reduction in space heating energy loss as a result of the fixture being air tight (reducing an identified and common source of air leakage in homes) and allowing for complete coverage of insulation in addition to the energy that a CFL fixture saves over standard fixtures.

#### Description

Homes will be identified, most likely through PSE's HomePrint program, to qualify for a per-fixture incentive to replace qualifying recessed can light fixtures with IC- & WAC-rated CFL fixtures. This will allow for a better thermal barrier around the fixtures as well as mitigate common lighting efficiency losses. Many of the fixtures to be replaced use R20, R30, or R40 lamps. These lamps will be replaced by the less expensive linear lamps found in CFL fixtures.

#### Target Market

PSE will offer this pilot to 1,000 single family homes throughout PSE's combined service territory. Customers must be PSE electric customers and heat with PSE natural gas to qualify. The energy usage of the test group will be compared to control data and evaluated after 2010-2011. Data collected may be used to extend the program to electrically heated homes in PSE's electric service territory if the measure is found to be cost effective.

#### **Customer Incentives Overview**

Incentives to the customer will be identified with the development of the pilot program. The program design will lead to what delivery is used for this incentive.

#### Marketing

A marketing plan will be identified with development of the pilot program. Participants will likely be identified through PSE's HomePrint program, or direct mail based on age of home.

# ITSCOOL

#### Purpose

ITSCOOL's mission is to empower the next generation of climate leaders to take action through selling and educating the community about compact fluorescent light bulbs.

#### Description

ITSCOOL will provide educational materials about climate change to K-12 and community groups. ITSCOOL participants may take part through a wide variety of youth groups, including environmental clubs, schools, PTAs, scout troops, church groups, and sports teams. Groups keep up to 62 percent of profit on CFL's sold at \$4.00 per bulb.

Youth and teen "agents" (sellers) receive training from their group leaders, then conduct door-to-door or event sales combined with educational community outreach interactions. Fundraiser groups are encouraged to launch their campaign with a media blitz and also hold one or more outreach events to educate customers and promote the fundraiser campaign within their community.

With the close of fundraiser sales, group orders are placed in batch with ITSCOOL and their partners. Payment is made when the order is placed. Bulbs and prizes are distributed to the fundraiser group, which has responsibility for customer delivery. ITSCOOL then provides prizes and reports on earth impact and productivity goals that can be shared with agents, the broader community, and local media in recognition of individual and group contributions. The ITSCOOL Program will provide incentives for community education and outreach as well as sales. Forms will be designed so that agents can track the homes or adults with whom they shared what they learned. Selected ITSCOOL prizes may be offered to reward the education component, apart from sales.

#### **Direct Marketing, Promotion and Outreach**

PSE's marketing campaign includes direct marketing, media, and educational events. In addition, PSE will market to participants of other PSE educational programs.

When a youth group signs up for ITSCOOL, its participation becomes a **fundraiser campaign.** Adult leaders take on responsibility for planning and managing the fundraiser campaign using the ITSCOOL curriculum materials.

# MICRO-COMBINED HEAT AND POWER (CHP) SYSTEM - FREEWATT® PLUS SYSTEM

#### Purpose

Identify energy savings potential through the installation of micro-combined heat and power (CHP) system, Freewatt® Plus System, for single-family homes.

#### Description

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

#### **Target Market**

PSE will offer this pilot to 10 single family homes within PSE's service territory. These 10 targeted homes are ideally close in proximity for monitoring and timeefficiency reasons. Homes should be close to the average size home and occupancy for our service territory. Natural gas must be available to the home. The energy usage and generation of the test group will be both individually monitored and compared to control data. All data will be evaluated for savings after 2010-2011.

#### **Customer Incentives Overview**

PSE will pay the incremental cost, through a hired consultant, for this pilot measure. The 10 PSE residential customers participating in this pilot measure will be responsible for paying the base furnish and install cost for a high efficiency natural gas furnace.

#### Marketing

This pilot program will not be marketed due to the limited number of participating customers.

# **OPOWER (FORMERLY POSITIVE ENERGY) HOME ENERGY REPORTS**

### Purpose

The Home Energy Report pilot is a no cost/low cost behavioral modification energy savings project. Determining if and to what degree energy savings can be quantified through the project will determine the level of success.

## Description

Home Energy Reports are customized reports mailed directly to PSE customers that help each residential customer better understand their home electric and gas consumption, motivate them to conserve and provide targeted calls to action tailored to help each customer save money and improve energy efficiency.

The Home Energy Reporting System employs data-mining and behavioral psychology on a proprietary technology platform. It is the product of more than 25 years of field-tested state university energy efficiency research and more than 15 years of consumer marketing, data mining and custom report generation experience.

The Home Energy Report is composed of carefully crafted components designed to work together to drive energy efficiency gains. Following is a brief description of some of the components and their characteristics. OPOWER will work to modify or customize existing components or build new components to meet the needs of Puget Sound Energy.

- 12-month Energy Comparison Report: Combines GIS data and historical energy data to show customers how their energy use compares to other residents who are most like them (age of house, sq ft. of house, on their block or in their zip code). This has been proven to be the single most effective piece of information to motivate consumers.
- Targeted Energy Savings Tips: For every season and city there are simple changes that customers can make to reduce their energy consumption. The design and language of our tips and messages are customized and based on many years of academic and clinical research performed by our team. The tips are targeted based a number of factors including housing data, demographic information (e.g. renter vs. home-owner), and energy consumption patterns.
- Progress Tracker: The Progress Tracker reinforces the positive aspect of energy savings by applauding customers who reduce their consumption and assisting customers who are not progressing. This component employs well researched injunctive messaging to reinforce norms.

#### Administrative & Customer Service Database Support Tool

Through Opower's proprietary technology platform, PSE's customer service and home energy audit staff and administrators will have access to personalized websites and reports about each customer enrolled in the Home Energy Report program. This additional information will allow customer service representatives to more easily provide recommendations and advice to PSE customers.

#### Target Market

The initial pilot will included 40,000 combined gas and electric single family households and ran for one year. Pilot was launched 3<sup>rd</sup> quarter 2008. Additional customers will be added in partnership with communities who are interested in bringing the reports to their constituents, and in order to further evaluate the pilot. Initial evaluation results are promising, and we will be continuing to run the Home Energy Reports as a pilot throughin 2010 to test for durability and longevity of savings.

#### **Customer Incentives Overview**

Customers do not receive a monetary incentive for participation. Rather, receiving the reports and access to the Energy Insider website are the incentives for participating in the program. The program may need to collect survey data for evaluation purposes and survey respondents are expected to receive an incentive for their participation.

#### Marketing

This is an opt-out program; customers will receive the reports automatically in the mail and will have the option to opt out of receiving future reports.

# PREPAY BILLING SYSTEM

#### Purpose

Identify savings potential and occupant behavior based on the installation of a prepay billing module and accompanying in-home display.

#### Description

PSE will use a non-meter-based prepay monitoring and billing system to help customers monitor and control electric consumption. The in-home display shows customers how much energy they have used, are currently using, and how much credit they have remaining. The program is expected to result in energy savings due to the occupants' heightened awareness. System(s) include advance alerts and warnings when the credit threshold is low and allows for traditional payment methods including web, phone, mail, and paystations.

#### **Target Market**

PSE will offer this pilot to single family electric customers within PSE's service territory. Participation will be voluntary. Additional program targets may be set upon development of the program design.

#### **Customer Incentives Overview**

Incentives to the customer will be identified with the development of the pilot program. As a pilot program we will work towards an incentive that will ensure our ability to collect necessary program and evaluation data.

#### Marketing

A marketing plan will be identified with development of the pilot program.

# **RESIDENTIAL GRANTS**

#### Purpose

Identify energy savings potential from custom grants for large residential energy retrofit projects or measures that save energy on a comprehensive level.

#### Description

This pilot measure will utilize advanced energy modeling and structure-specific data to identify the energy savings value of an identified project. The savings will be unique to each project and allow a program approach similar to that of the existing commercial retrofit custom grant program. Delivery of this program could potentially be integrated into PSE's HomePrint measure.

#### **Target Market**

PSE will offer this pilot to 30 residential electric single family existing customers. These may include dual fuel customers. Projects are expected to be include space heating and domestic hot water heating measures.

#### **Customer Incentives Overview**

Incentives to the customer will be identified with the development of the pilot program. Initial plans are to model the incentive after the commercial retrofit custom grant program.

#### Marketing

A marketing plan will be identified with development of the pilot program. Participants will likely be identified through PSE's HomePrint measure and Energy Advisors, and will likely target customers who are planning to perform a comprehensive energy retrofit to their home.

# COMMERCIAL AND INDUSTRIAL PROGRAMS
# COMMERCIAL AND INDUSTRIAL RETROFIT

Commercial/Industrial Schedule E250, G205

# Purpose

The purpose of the Commercial and Industrial Retrofit program is to encourage Puget Sound Energy's existing Commercial and Industrial (C/I) customers to use electric and natural gas efficiently by installing cost-effective energy-efficient equipment, adopting energy-efficient designs, and using energy-efficient operations at their facilities. In addition, incentives will be available for fuel switch measures that convert from electric to natural gas while serving the same end use.

# Description

PSE works with C/I customers to review energy consumption at the customer's facility, and to assess cost-effective energy savings or fuel switching opportunities from equipment, building shell, industrial process, or O&M improvements. These services are provided on the customer's behalf and, where specified by the customer, will be developed in conjunction with design engineers, contractors, and/or vendors. PSE will review third-party savings estimates and analyses. Where the project meets PSE cost-effectiveness funding criteria, PSE may provide grants toward energy savings projects. PSE works with the customer to make sure financial decision-makers at the customer's facility are aware of the cost-savings opportunities. Upon notice of installation or implementation, PSE will verify the project as complete and operational, and payment will be issued.

Efforts are made to align the program with other local utility and regional offerings.

All C/I customers receiving electricity or bundled natural gas service from PSE are eligible. Schedule 448, 449, 458, and 459 customers may utilize their Schedule 258 funding allocation for measures and services offered under the Commissioning of Existing Buildings program and C/I Process Improvement program. Projects must be approved for funding prior to installation/implementation.

The list outlined below includes representative measure categories.

- HVAC and Refrigeration
- Controls
- Process Efficiency Improvements
- Lighting Improvements
- Building Thermal Improvements
- Water Heating Improvements
- Building Commissioning
- Optimization

Customers may also be eligible for prescriptive measure rebates outlined in the electric and gas Commercial and Industrial Incentive Program; small business customers may also be eligible for prescriptive lighting rebates outlined in the Small Business Lighting Program.

Energy Efficiency incentives are also provided through the following services:

- Commissioning of Existing Buildings: The program shall emphasize identification and implementation of low-cost/no-cost energy savings recommendations which optimize operation. Partial funding for commissioning the existing energy-use systems is available based on a site assessment by PSE of the energy use of the building, the potential savings, the state of the controls and HVAC systems and the owner's ability and willingness to participate in the process and implement recommendations. Building eligibility and funding beyond the scoping/assessment phase will be based on PSE's reasonable expectation of cost effective savings. Initially, savings shall be estimated to be a percentage of the energy use prior to the commissioning. Based on cost effectiveness criteria, PSE may limit this service to larger buildings. The program shall have several elements: pre-qualification/assessment, commissioning plan, investigation, implementation, verification, O&M staff training, a systems manual and documentation of the first year performance and persistence of recommendations. The verification of recommendations implemented shall be done by a party independent of the implementer. The commissioning provider that the owner uses must be pre-approved by PSE and attend PSE training on the program. Program elements include items to improve the persistence of savings and reward actual energy saving performance. On-site O&M staff will be involved in the process and be provided formal training on the systems and how to continue to maintain changes and monitor energy use. Once cost-effective recommendations are implemented, a performance bonus can be provided if the first year actual savings is greater than the initial estimate and if the owner monitors their energy use as well as documents the persistence of the implemented recommendations.
- Commercial and Industrial Process Improvement: The focus of the program is on operational and/or equipment changes to improve the energy efficiency of industrial and commercial processes, not including building lighting, comfort conditioning, or retail refrigeration. The program consists of five key components: energy audits, project development, low cost projects, capital projects, and measurement and verification (M&V). Most energy audits to identify process efficiency opportunities will be conducted by PSE's Energy Management Engineers (EMEs), with assistance from customers. Data logging and standard engineering calculations will be used to estimate energy savings. There is no charge to the customer for this service. PSE will provide Performance Basis Incentives toward project development. Site-specific Basis Incentives and/or Prescriptive Basis Incentives will be provided for implementation of measures. Capital projects requiring major capital investment in new equipment or construction will receive higher incentives than low-cost projects for system commissioning, operational changes, and other low-cost process improvements.
- *Energy-use monitoring*: Upon completion of a retrofit project, PSE may offer the building occupant responsible for energy bills online energy-use access for the purposes of monitoring energy use and reviewing opportunities for further efficiency improvements.

# **Target Market**

Medium to large commercial and industrial customers present the greatest opportunity for cost effective projects under this program.

# **Customer Incentives Overview**

Incentives are effective January 1, 2010.

- Site-Specific Basis incentives, or "custom" incentives, rely on generally accepted engineering calculations and Measure costs provided by the Customer or the Customer's contractor. Electric and gas Measures may receive maximum incentive grants up to 70 percent of the Measure cost when the grant incentive does not exceed the cost-effectiveness standard, less program administration costs. Measures whose cost exceeds the cost-effectiveness standard will receive grants that are on a declining scale and will be less then 70 percent of the Measure cost. Generally, electric and gas Measures that have a Simple Payback of less than one year are not eligible for a Site-Specific Basis incentive, except that low cost Commercial and Industrial Process Efficiency Improvement Measures for system commissioning, operational changes, and other process improvements with less than one year Simple Payback may receive incentives, but less than projects requiring major capital investment in equipment or construction.
- Prescriptive Basis incentives are provided for Commissioning of Existing Buildings and for Measures that are eligible for rebates under Schedule 262E/262G, Commercial and Industrial Incentive Program. The incentive amount for a Measure is the same as that which is available under Schedule 262E/262G, but energy savings may be calculated based on actual Site-Specific conditions.
- Performance Basis incentives are available for development of Commercial and Industrial Process Improvements, based on actual performance of the implemented Measure, determined through direct energy measurements or indicators of performance.
- Energy-use monitoring: PSE may provide secure web site access to facility energyuse data for building occupants, free of charge for up to two years. More typically, access will be free of charge for one year to allow the occupant to verify building and/or measure performance according to energy-use projections. To be eligible, customers must be on a rate schedule with demand (kW) as well as energy (kWh) charges. Compatible metering and remote data retrieval capability must be in place at the customer's facility. PSE is not obligated to replace or upgrade nonconforming meters. Customers are expected use the monitored information to improve energy efficiency at the facility. Customers will demonstrate annual energy savings potential through energy management operations and maintenance as well as identification of further efficiency measures and equipment upgrades.

Incentives for short and long payback projects will be adjusted as needed, according to market conditions.

*Processing Incentives*: Customers provide PSE with project costs and estimated savings. Customers assume full responsibility for selecting and contracting with third-party service providers. Projects must be approved for funding prior to installation/implementation. A grant agreement will be required.

All Commercial and Industrial Retrofit incentives will be processed using a standard Grant Agreement, listing the Measure description, Measure Life, Measure cost, and Grant Amount. An attachment to the Grant Agreement will list specific Measure details, and will describe the process PSE will use to verify that the Measure is installed and performing efficiently.

The PSE Energy Management Engineer (EME) and the manager of C/I Conservation oversee all incentives and program operations. EMEs update project changes in the tracking system and review monthly results. The manager of C/I Conservation reviews the cost-effectiveness of all efforts. A review of results and refinement of program strategies are conducted annually.

Measure incentive eligibility criteria are based on, but not limited to, established, industry-standard cost effectiveness tests, structure type and its location within the PSE service territory, fuel type (gas or electric), product type and product quantity. A detailed list of Energy Efficiency Services Measures, Incentives and Eligibility are included as an Attachment to this Appendix A.

#### Marketing

Marketing efforts are based on consideration of specific market sub-segments, customer decision making, market penetration estimates and PSE engagement with relevant customer and trade groups.

Marketing will be conducted via some combination of the following:

- PSE will work through traditional customer and trade ally channels to target program participants; e.g. ASHRAE, BOMA, WAMOA, IFMA, conferences, referrals from other PSE employees, and word-of-mouth from customers.
- Case studies, press releases, general-interest articles in local publications and Puget Sound Energy's e-newsletter for business customers.
- Promotion via brochures, bill inserts and PSE.com

# COMMERCIAL AND INDUSTRIAL NEW CONSTRUCTION

Commercial/Industrial Schedule E251, G251

## Purpose

The purpose of the Commercial and Industrial New Construction Program is to encourage efficient design, building components and equipment in new buildings by working with customers, tenants, owners, designers and builders of new Commercial and Industrial (C/I) facilities. Provide incentives for installation of cost-effective energy efficient Measures to achieve savings beyond the applicable Energy Code.

# Description

Owners and developers of facilities to be served by PSE with electricity or natural gas are eligible for new construction incentives. Schedule 448, 449, 458, and 459 customers may utilize their Schedule 258 funding allocation for Commercial and Industrial New Construction Incentives.

PSE works with owner-assigned designers and developers of new C/I facilities or major remodels, to propose cost-effective energy efficient designs, and equipment/systems. To qualify for energy efficiency incentives, the building and/or equipment shall exceed the requirements of the Energy Code by at least 10%. The baseline building or component used to calculate energy savings is based on the currently effective, Washington State Energy Code, including amendments by local jurisdictions. Where no such code exists, standard industry practice as determined by PSE will be used to establish the baseline.

The list outlined below includes representative Measure category headings. The incentives are effective January 1, 2010. Detailed funding and Measures can be found in Energy Efficiency Services' List of Measures, Incentives and Eligibility.

- HVAC
- Domestic Hot Water
- Controls
- Process Efficiency Improvements
- Lighting Improvements
- Building Thermal Improvements
- Building Commissioning

There are four incentive paths, or approaches for New Construction projects. The paths are intended to provide Customers flexibility in meeting their project needs. There is also a commissioning incentive which can be used in combination with any of these paths.

- The energy model whole building approach involves Site-specific energy use simulation modeling. The required 10 percent minimum overall energy savings is determined by comparing the annual kBtu per square foot energy consumption of the Energy Code baseline facility and the proposed high efficiency facility. For innovative and large complex buildings PSE will work with an owner's designers and others in the integrated design approach to suggest, select and help fund designs and/or Measures that meet the savings goal. *Component* Measures or *prescriptive rebate* Measures may be added, with prior approval from PSE, only if there is no interaction with the equipment and systems included in the simulation model.
- The prescriptive whole building approach is available for offices, schools and retail buildings under 100,000 square feet. This approach includes several basic packages, plus optional enhanced Measures. *Prescriptive* equipment rebate Measures may be added, if they are not included in the selected basic packages or enhanced Measures. Additional Measures may be added using the *component approach*, where the proposed design under the *prescriptive whole building approach* establishes the baseline for calculating *component* Measures.
- The component approach uses Site-specific calculations for individual Measures and design elements that go beyond Energy Code requirements. Individual electric Measures selected for funding must be at least 10 percent more efficient than a baseline Measure meeting code in order to receive an incentive.
- The prescriptive rebate approach is available for equipment listed under the electric and gas Commercial and Industrial Incentive Program.
- Building Commissioning, performed by a commissioning agent who is independent of the design and construction team, as well as post-occupancy system optimization, systems manual, and staff training will be eligible for an incentive in addition to the design related incentives above. In addition, PSE may offer the building occupant responsible for energy bills online energy-use access for the purposes of monitoring energy-use, commissioning and reviewing opportunities for further efficiency improvements.

Efforts are made to align the program with other local utility and regional offerings.

PSE Energy Management Engineers (EME) and the manager of C/I Conservation oversee all incentives and program operations. EMEs update the project status in the tracking system and review results monthly. The manager of C/I reviews the cost-effectiveness of all efforts. A review of results and refinement of program strategies and/or Measures is conducted periodically. The economic growth rate and current inventory of building space is expected to continue to have an impact on new building starts for the next few years. Incentives will be adjusted according to market conditions.

# Target Market

Owners and developers of commercial or industrial facilities to be served by PSE with electricity or natural gas are eligible for new construction incentives.

## **Customer Incentives Overview**

Customers provide PSE with project scope, costs and estimated savings. Customers assume full responsibility for selecting and contracting with third-party service providers. A grant agreement or signed prescriptive Measure rebate application will be required.

Whole Building Approach incentives: PSE provides incentive for projects designed and built to be at least 10% more energy efficient than a Code baseline building built under the applicable Energy Code. Under the *prescriptive whole building approach* PSE will offer incentives for various energy efficient design packages. The list of Measures by package will be available on the program application forms. Under the *energy model whole building approach*, PSE will offer an increasing incentive amount for efficient designs that exceed the Energy Code baseline by 10%, prorated to a maximum incentive for buildings that exceed the Code baseline by 30% or more. The *energy model whole building approach* incentive, based on percent savings, may be reduced if it does not meet the Cost Effectiveness Standard.

Eligibility for Whole Building incentives: Whole Building Incentives are designed for buildings which will receive electric service from PSE and natural gas service from either PSE or another provider in the future. Projects to be served only with natural gas from PSE do not qualify for whole building incentives.

Projects using multiple energy sources, but to be served with electricity from PSE must demonstrate that the electricity-efficiency as well as the whole-building efficiency is improved by a minimum of 10 percent to qualify for an incentive. Low energy-intensity facilities using less than 30,000 BTU/sqft.-yr for HVAC, lighting and water heating as a Code baseline (e.g. warehouses, religious facilities) do not qualify for the *energy model whole building* incentives, but may use the *prescriptive whole building, component* or *prescriptive rebate approach*. In instances where project first-costs, site conditions, or operational parameters lead to a customer fuel choice that would offset gains from implemented efficiency Measures, incentives for fuel switching may be provided; however, choices that totally eliminate the need to provide an energy source to the site are not eligible.

Component Measure incentives: For energy-efficient Measures with a simple customer payback greater than one year, PSE provides grants toward the incremental installed cost of the Measure. Maximum grants will be based on the Company's cost-effectiveness criteria. Electric and gas Measures may receive incentive grants up to 100 percent of the incremental Measure cost where the grant incentive does not exceed the cost-effectiveness standard less program administration costs. Measures that exceed the cost-effectiveness standard will receive grants that are on a declining scale and will be less then 100 percent of the Measure Cost. In instances where project first-costs, site conditions, or operational parameters lead to a customer fuel choice that would offset gains from implemented efficiency Measures, incentives for fuel switching may be provided; however, choices that totally eliminate the need to provide an energy source to the site are not eligible.

- New Construction Prescriptive Rebates: Rebates for equipment listed under the electric/gas Commercial and Industrial Incentive Program are available for new construction except when required by the applicable Energy Code. Rebates are not available, however, when there is an energy interaction with Measures proposed under the energy model whole building approach, prescriptive whole building approach, or the component approach.
- Building Commissioning: Where funding for installed Measures is provided, PSE requires a copy of commissioning work items completed and presented in the final commissioning report, as required by the Energy Code. In addition, if the Customer engages the services of a commissioning agent who is independent of the design and construction team, then the Customer may be eligible for an incentive.

The commissioning agent is encouraged to be involved from the initial design of the project. If the commissioning agent conducts a design review, focusing on energy efficiency and integrated design that lead to reduced building energy loads, an additional incentive may be provided. PSE will consider the Measure cost as that portion of the commissioning agent services that will impact energy efficiency on the project. The savings shall be assumed to be a percentage of the building's actual energy use during the first year of occupancy. This percentage will be based on studies of the energy savings impact of commissioning.

To better assure long term efficient operation of the building, additional PSE support shall be provided in the first year of occupancy. During this post occupancy phase, the commissioning agent, using interval and monthly billing data from PSE as well as any customer energy DDC monitoring, shall analyze the building's energy use and assist in final optimization of the system. The commissioning agent shall prepare (or update if one already exists) a systems manual describing the major energy using building systems (HVAC, lighting, etc.), including control sequences, operating setpoints, schedules, and procedures for testing and verifying proper operation of the equipment and controls. As part of this post occupancy service, the owner's operation staff shall be trained in how to continue to monitor their energy use and run the building efficiently, using the systems manual as a reference.

Energy-use monitoring: Upon occupancy, the Company may provide secure web site access to facility energy-use data for building occupant, free of charge for up to two years. More typically, access will be free of charge for one year to allow the occupant to verify building and/or Measure performance according to energy-use projections. To be eligible, customers must be on a rate schedule with demand (kW) as well as energy (kWh) charges. Compatible metering and remote data retrieval capability must be in place at the customer's facility. PSE is not obligated to replace or upgrade nonconforming meters. Customers should use the monitored information to improve energy efficiency at the facility. Customers will demonstrate annual energy savings potential through energy management operations and maintenance as well as identification of further efficiency Measures and equipment upgrades.

Measure incentive eligibility criteria are based on, but not limited to, established, industry-standard cost effectiveness tests, structure type and its location within the PSE service territory, fuel type (gas or electric), product type and product quantity. A detailed list of Energy Efficiency Services Measures, Incentives and Eligibility are included as an Attachment to this Appendix A.

# Marketing

Marketing efforts are based on consideration of specific market sub-segments, customer decision making, market penetration estimates and PSE engagement with relevant customer and trade groups.

Marketing will be conducted via some combination of the following:

- PSE will work through traditional customer and trade ally channels to target participants, primarily architects, designers and engineering firms through AIA, ASHRAE and Cascadia Chapter of the US Green Building Council, and will rely on word-of-mouth from customers.
- Case studies, press releases, general-interest articles in local publications and Puget Sound Energy's e-newsletter for business customers.
- Promotion via brochures, bill inserts and PSE.com

# **RESOURCE CONSERVATION MANAGER (RCM)**

Commercial/Industrial Schedule E253, G208

# Purpose

The purpose of the Resource Conservation Manager program is to achieve customer cost reductions for major resource utility bills through behavioral changes, operational improvements, facility maintenance, and attention to utility-cost accounting. Savings result from changes in practices and do not require major investments in equipment.

# Description

PSE offers Resource Conservation Manager Services (RCM) to any school district, public-sector government agency, and commercial or industrial (C/I) customer, with a focus on larger customers with multiple facilities. Schedule 448, 449, 458, and 459 customers may utilize their Schedule 258 funding allocation for Resource Conservation Manager Services (RCM). The utility customer employs or contracts with someone who has designated "RCM" resource management responsibilities, including accounting for resource consumption and savings. This includes oil, propane, water, sewer, garbage and recycling data as well as electricity and natural gas.

Puget Sound Energy's RCM program is comprised of a "menu" of service features which can be tailored to meet the specific needs of the customer. Typical RCM support services include, but are not limited to the following:

# Program Start Up

- Assistance with designing and implementing an RCM program;
- Assistance in hiring or contracting a Resource Conservation Manager;
- Assistance in developing baselines, resource policy guidelines, and facility action plans;

#### **Resource Accounting Software**

- Assistance in the purchase and implementation of resource accounting software;
- Perform audits of existing databases to review for inclusion of all facilities, accounts, meters, etc., sufficient facility details, missing data, and overall data integrity.

# **Technical Assistance**

- Provide assistance with on-site walk-through audits to identify resource savings opportunities;
- Assist in analyzing and reporting savings relative to established baseline;

## **Education & Training**

- Provide training for Resource Conservation Manager and other facility personnel such as custodians and maintenance staff;
- Provide educational materials for classroom or building occupant use;
- Provide training stipend to support professional development in Building Operation or Energy Management. Training stipend is based on achieving the Building Operator Certification Levels I & II.

#### Energy Data Services

- Provide PSE billing data in electronic format for import into resource accounting software;
- Provide energy-use-metering services for web viewing of facility gas and electric meter data;

## **Incentive Programs**

- Provide a grant to partially fund a start-up RCM position, provided there is a mutual agreement that the customer will match the "start-up" funding support.
- Provide cash incentive programs for specific actions by occupants and staff which reduce energy consumption in individual facilities; and
- Provide cash incentives for customers who achieve a pre-established targeted amount of energy savings.

The program complements educational objectives included in Puget Sound Energy's Powerful Choices program as well as other commercial and industrial efficiency programs.

PSE is exploring ways to make RCM cost-effective for smaller customers. Shared RCM services among a group of smaller organizations has generated interest from local governments and other organizations with smaller facility portfolios. PSE efforts will continue to work with RCM consultants to develop this market.

PSE has also assisted customers in participating in EPA's Energy Star program. PSE will continue to help identify potential award targets, improve energy efficiency to meet award qualifications, coordinate the application and inspection process, and submit material to EPA for Energy Star awards.

Additionally, access to energy accounting software has allowed PSE RCM customers to facilitate greenhouse gas accounting and other climate change and sustainability initiatives. The value of this service routinely exceeds those stated in the RCM program scope of work.

# Operations

Puget Sound Energy's RCM program manager meets with interested customers to explain the RCM concept and encourage participation. An application form collects information on gas and electricity consumption and costs; costs for other energy sources; budgets for water, wastewater, solid waste; total square footage of all facilities; and estimated RCM salary. PSE works with the customer to make a preliminary estimate of the costeffectiveness of the program. Most organizations can reduce annual costs from 10 percent to 15 percent over a three-year period. First year savings are typically in the three percent to five percent range.

Customers enter into a three-year agreement and the salary guarantee is paid, if necessary, at the end of that period. PSE can also work with other utilities to coordinate program support and salary guarantees offered by supporting organizations.

The Company's RCM program manager coordinates implementation of resource accounting systems, training opportunities and quarterly meetings. Additional PSE staff time is required to assist and advise RCM customers as they learn about energy management issues and implement resource accounting programs. Each participating RCM reports savings results. PSE ties incentive funding and guarantees to submittal of quarterly and annual reports.

Savings are calculated using industry standard engineering practices and energy accounting methodologies. The annual savings are a variance from the previous year and given a three-year measure life. Savings are adjusted for weather, square footage or other relevant normalizing factors as necessary.

PSE supports efforts for recruiting and training qualified RCMs and key personnel. It is a challenge to maintain RCM staffing levels after the "easy" savings have been achieved. Persistence of savings is an issue, especially for behavioral measures. PSE has added performance-based incentives to encourage continued focus on RCM at the facilities and to meet end-of-year savings targets each year of the agreement.

Annual surveys are used to evaluate customer satisfaction, as input for additional offerings, and to improve marketability.

#### **Customer Incentives**

PSE continues to develop creative incentive options to increase RCM activities for a variety of customer segments.

- Resource Accounting Software PSE will assist in selection, purchase, and set-up of resource accounting software and support annual maintenance fees if the customer agrees to maintain the system and provide annual consumption reports.
- Initial Cash Incentive For qualifying organizations, PSE will pay a cash incentive determined as a percentage of the typical RCM salary to help get the program started with initial set-up of utility database and program organization. PSE will fund 35 percent of the time spent on establishing the RCM program during the first year provided the customer completes the database set-up, develops a resource management plan and outlines facility action plans for their buildings. Customers receive support tailored to their needs, including staff training, technical assistance, interval metering, salary guarantees, site-based incentives, and other services.

- Salary Guarantee For customers with a full-time equivalent energy baseline, PSE will provide a salary guarantee that the customers' total resource bill savings achieved by RCM activities relating to occupant and behavioral practices and improvements in operational and maintenance (O&M) practices exceed the salary of the RCM. If not, the difference will be paid to the customer up to the value of the natural gas and electrical savings achieved, as determined by weather corrected reduction of the customer's utility bills or by single measure calculations agreed to by PSE.
- Performance-Based Incentives PSE may provide cash incentives to customers who achieve a pre-established targeted amount of energy savings relating to occupant and behavioral practices and improvements in operational and maintenance (O&M) practices. Energy savings targets will be based on a typical 5 percent reduction from a 12-month baseline and actual savings will be calculated and verified by PSE staff as described below. Incentive amounts will meet the current commercial and industrial program cost-effective criteria.
- Site-Based Incentives PSE may award cash incentives directly to a customer for implementation of verifiable behavioral changes by building occupants, maintenance and custodial staff members.

## Marketing

PSE recruits participants through direct contact with administrators of school districts, colleges, municipalities, etc. Program awareness is also increased by contacts at trade associations and professional organizations, through partnerships with water departments, and using exhibits at seminars, workshops, and expositions. Interest in the RCM concept is growing around the region and nationwide as the program becomes recognized as an effective way to reduce operating costs

Interaction with C/I incentive programs provides both a source of leads for RCM marketing as well as a source of potential projects for retrofit measures identified through RCM activities.

# SMALL BUSINESS LIGHTING

Commercial/Industrial Schedule E255

# Purpose

The purpose of the Small Business Lighting program is to provide a menu of lighting retrofit rebate options that meet the needs of most small business customers and to maintain a network of lighting contractors and vendors that effectively serve small businesses.

# Description

This program is a Prescriptive Basis rebate program targeting lighting retrofits. It offers a variety of fixed-incentive lighting rebates, and is designed to streamline delivery to a wide variety of small commercial businesses and building types.

Participating customers complete an application and submit it to PSE for approval prior to installation. Customers may hire a contractor or use in-house personnel for the installation. Customers may also take advantage of other PSE rebate offerings. Projects do not have minimum or maximum dollar amounts, and installation can be in completed in phases.

The program also provides custom, Site-Specific Basis grants for small business lighting retrofit projects. These grants are similar to those provided the Commercial and Industrial Retrofit Program. If a proposed project is not appropriate for a prescriptive rebate, the project may qualify for a grant if it falls within the cost-effectiveness guidelines of the Retrofit program (described in the Schedule 250 Program Description).

Program challenges and uncertainties include: (1) general customer concern over energy costs and the general economic climate, (2) the amount of older-style lighting present in small business facilities, and (3) how interested lighting contractors are in bidding on and following through with small jobs.

Participating customers are asked to complete an evaluation form that rates their experience with the program. The form also gives them the opportunity to make suggestions and comments.

EES management will review program results monthly and compare to targeted program costs and energy savings. Retrofit options, marketing and the fulfillment process will be modified, as needed, to respond to developments in technology, customer acceptance and supplier/contractor pricing.

Lighting waste disposal documentation is required for projects that upgrade fluorescent lamps, HID lamps, and ballasts containing PCBs. Documentation is evaluated to ensure that disposal is through an acceptable waste recycling or storage facility.

# Target Market

Eligibility is limited to Schedule 24 and Schedule 8 electric customers (i.e. electrical demand less than 50 kW per month).

# **Customer Incentives Overview**

Rebates cover over a dozen efficient incandescent and fluorescent lighting conversions. Lighting controls rebates are also available through the Commercial and Industrial Incentives Program that is available for any size commercial or industrial customer.

Incentives are set at levels slightly above the custom grant under the electric/gas Commercial and Industrial Retrofit Program in order to:

- Better serve this hard to reach market segment
- Capture the small business manager's attention in an environment where many different projects compete for the manager's time.
- Cover a high percentage of the material cost for in-house (materials-only) installations.
- Enable contractors to achieve a sufficiently high sales closure rate to sustain interest in the program.
- Measures not listed on the Eligible Rebate Measures form may receive an incentive under the "Custom Analysis" line item on the rebate form.
- Custom Site-Specific Basis grants will be based on the Company's costeffectiveness standard. Grants for projects are made available as a percent of the measure cost as outlined in the electric/gas Commercial/Industrial Retrofit program.

A list of all requirements for eligibility and participation can be found on individual program application forms. Applicable Small Business Lighting measure category headings include, but are not limited to:

- Incandescent lamps & Fixtures and Exit Sign Replacements
- Higher Wattage Incandescent & HID, Retrofits & Fixtures
- 4' & 8' Fluorescents various

Measure incentive eligibility criteria are based on, but not limited to, established, industry-standard cost effectiveness tests, structure type and its location within PSE service territory, fuel type (gas or electric), product type and product quantity. A detailed list of Energy Efficiency Service Measures, Incentive and Eligibility are included as an Attachment to this Appendix A.

# Marketing

Marketing efforts are based on consideration of specific market sub-segments, customer decision making, market penetration estimates and PSE engagement with participating and non-participating lighting contractors.

Marketing will be conducted via some combination of the following:

- Energy Advisors, lighting contractors and vendors, and program administrators provide outreach and information for the program.
- Case studies, press releases, general-interest articles in local publications and Puget Sound Energy's e-newsletter for business customers.
- Promotion via brochures, bill inserts and PSE.com
- Cooperative promotion through Community Outreach & Education events
- Cooperative promotion through Community Outreach & Education engagements with municipalities and community organizations
- Event participation, sponsorship and/or announcements in Small Business Associations such as Chamber of Commerce, Retailers Associations and others

# LED TRAFFIC SIGNALS

Commercial/Industrial Schedule E257

# Purpose

The purpose of the LED Traffic Signal program is to increase replacement of existing traffic lights with energy-efficient LED traffic lights.

# Description

The program educates public-sector customers on the benefits of installing red, yellow and green LED traffic signals. PSE provides an LED informational packet along with a rebate application by mail or in person. Customers must receive electric service from PSE to qualify for the rebates, and customers with unmetered accounts must document all connected load at the intersection. New installations are not eligible for an incentive as the LED traffic lights are required by code.

# **Target Market**

The program targets public sector customers with traffic control authority (e.g., cities, counties, DoT's).

# **Customer Incentives Overview**

Applicable LED Traffic Signal measure category headings include, but are not limited to:

- RED & GREEN : Thru, Arrow and Walk Signal
- YELLOW: Eligible when bundled as part of a comprehensive replacement

A list of all requirements for eligibility and participation can be found on individual program application forms.

Measure incentive eligibility criteria are based on, but not limited to, established, industry-standard cost effectiveness tests, structure type and its location within PSE service territory, fuel type (gas or electric), product type and product quantity. A detailed list of Energy Efficiency Service Measures, Incentive and Eligibility are included as an Attachment to this Appendix A.

# Marketing

Marketing efforts are based on consideration of specific market segments. Marketing will be conducted via some combination of the following:

- PSE will continue to partner with the Association of Washington Cities.
- PSE will send direct mailings, and make personal contacts with customers to promote the program.

# LARGE POWER USER SELF-DIRECTED

#### Commercial/Industrial Schedule E258

# Purpose

The purpose of this program is to acquire cost-effective energy savings from large Commercial and Industrial (C/I) customers by providing incentives that support selfdirected energy efficiency projects that the Customers themselves propose.

# Description

This program solicits electric energy efficiency Measures through a Request for Proposal (RFP) process. C/I customers receiving electric service under Schedule 40, 46, 49, 448, 449, 458 or 459 receive a funding allocation based on electric usage and are responsible for proposing cost-effective Measures to utilize their allocation. Projects may include Site-Specific Basis incentives, Prescriptive Basis rebates, Building Commissioning of energy systems, Commercial and Industrial New Construction efficiency Measures, Resource Conservation Manager (RCM) program, and C/I Process Improvement Program. Proposals are evaluated by PSE engineering staff for technical soundness, cost-effectiveness, and compliance with Energy Code and tariff requirements. Customers sign a standard PSE Conservation Grant Agreement defining Measure cost and PSE incentive amount prior to implementation of Measures. All Measures are field verified by PSE before grant payments are made. Customers not designating Measures to fully utilize their allocation within 24 months of the RFP issue date forfeit their remaining balance to a competitive phase, in which remaining funds are available to all program participants via competitive bid.

Customers eligible for Schedule 258 are also eligible to receive incentive amounts equivalent to those offered for Prescriptive Basis Measures and Performance Basis Measures offered under Schedules 250, 251 and 262, and RCM services offered under Schedule 253. Customers receiving service under Schedules 40, 46 or 49 can opt whether or not to utilize their designated Schedule 258 allocation for these incentives. Customers receiving service under Schedules 448, 449, 458 or 459 must use their Schedule 258 allocation for these incentives.

Approximately 40 customers are eligible for this program. All of them will be notified of the opportunity via direct mailing of an introductory letter and RFP package. Customers having more than one Sch 258 eligible account may combine funding allocations and apply them to a measure implemented at a single site.

Sufficient training and program information will be provided to customers to facilitate the process of defining, submitting, and implementing conservation projects. Customer meetings will be held as needed for program initiation and updates. Also, email reminders and formal written correspondence will flag upcoming milestone dates and other critical information. A PSE Coordinator oversees all aspects of the process, from program planning through the final verification of installed Measures and the delivery of the grant payments. A dedicated project tracking system will ensure that customer projects reach the program milestones on schedule, and will signal any slow-down in project activity. When a project is detected to be off-schedule, PSE will work more closely with the customer to help facilitate the process and mitigate any obstacles preventing project implementation. Surveys will be sent to participating customers at the completion of each project to determine program satisfaction and process effectiveness. Internally, PSE will determine cost-effectiveness by reviewing actual program costs and energy savings compared to the budget figures.

Key stakeholders include the high voltage customers, Industrial Customers of Northwest Utilities (ICNU) association, vendors, contractors, engineering firms, and regulating authorities.

## Target Market

C/I customers receiving electric service under Schedule 40, 46, 49, 448, 449, 458 or 459 are eligible to participate in this program.

#### **Customer Incentives Overview**

Each eligible customer will be allocated an incentive amount proportional to the Electric Conservation Rider revenues they contributed to the Company's Conservation Program.

The incentive budget for Schedule 448, 449, 458 and 459 customers will be the electric Conservation Rider revenues less deductions made for the Company's administrative program costs (7½ percent) and for the Northwest Energy Efficiency Alliance (NEEA) budget line item (10 percent). The total Electric Conservation Rider revenue amount and customer allocation will be determined by the Company's State Regulatory and Cost of Service Department.

Energy efficiency Measures will be subjected to the Company's Total Resource Cost Test to determine the grant amount to be paid. For Measures with a Total Cost less than the Company's Avoided Cost (AC) for electricity, the maximum incentive is the lesser of the Total Measure Cost, or the Customer's remaining allocation balance. For Measures with a Total Cost over 100 percent of the AC, the incentive will be less than the Measure cost. When the incentive is limited by the remaining allocation balance, Schedule 40, 46 and 49 Customers may apply for incentives from another conservation program to supplement the Schedule 258 incentive, up to the maximum allowed by the other conservation program.

Measure incentive eligibility criteria are based on, but not limited to, established, industry-standard cost effectiveness tests, structure type and its location within PSE service territory, product type and product quantity. A detailed list of Energy Efficiency Service Measures, Incentive and Eligibility are included as an Attachment to this Appendix A.

# Marketing

Effort will be made to ensure that eligible customers have every opportunity to take advantage of the incentive allocation available to them. If it becomes evident early in the program duration that some customers are having difficulty initiating the program process, the Company will offer to provide extra assistance to identify projects and perform any required follow-through.

# COMMERCIAL AND INDUSTRIAL INCENTIVE PROGRAM

Commercial/Industrial Schedule E 262, G262

# Purpose

The purpose of the Commercial and Industrial Incentive program is to expedite the installation of specific electric and gas efficiency measures in commercial buildings and to streamline commercial and industrial retrofit program administrative costs by offering Prescriptive Basis incentives with standard savings values to our commercial and industrial customers.

# Description

PSE will offer fixed rebates for select, commonly applied measures to commercial customers. Rebates apply to specific measures with energy-savings that can reasonably be standardized over a wide variety of applications, and that have competitive market pricing to ensure cost-effectiveness. Incentive measures apply to, but are not limited to, the following:

- High Efficiency HVAC
- Variable Speed Drives
- Electronically Commutated Motors (ECMs)
- Controls
- NEMA Premium Efficiency Motors
- Premium HVAC Program, gas and electric
- Programmable Thermostats
- Commercial Washers, gas and electric
- Commercial Laundry Water Heating
- Commercial Kitchens, gas and electric
- Pre Rinse Spray Head, gas and electric
- Refrigerator, Freezer Cool Rebates
- Vending Miser Rebates
- Lighting Control Rebates
- LED Exit Signs
- Gas Boiler Tune-up

The Program Manager and Administrative Specialist collect tracking data, monitor program performance, and report results and trends. The Program Manager works with equipment suppliers/vendors and this program is coordinated closely with the electric and gas Commercial and Industrial Retrofit Program.

Program refinements and cost-effectiveness are reviewed with engineering staff and the C/I manager as necessary on an ongoing basis. Incentive measures, marketing and the fulfillment process may be modified, as needed, to respond to developments in technology, customer acceptance and/or changes in supplier/contractor delivery and pricing.

# Target Market

Rebate measures are targeted to appropriate commercial markets, including but not limited to: Large Office, Small Office, Large Retail, Small and Specialty Retail, Restaurants, Commercial Laundries, Hotels/Lodging, Groceries, Convenience Stores, Hospitals, HealthCare/ Assisted Living, Schools and Property Management.

Schedule 448, 449, 458, and 459 customers may utilize their Schedule 258 funding allocation for Measures and incentive amounts offered under this program.

## **Customer Incentives Overview**

In most cases, incentives are a flat dollar amount, usually for a "measure" or "device" that is a "stand alone" unit. Customers can generally select from among qualifying models (e.g. washing machines) or the product may be unique in the marketplace (e.g. single manufacturer for vending machine controllers). In other cases, rebates are a flat amount per "unit size" of the measure, where unit size may be "per ton" or "per horsepower". In several cases, PSE has worked with consultants on studies to develop incentives tied to square feet of conditioned space, because energy savings depend on the size of the building more heavily than the size of the equipment. For example, ECM Motors are rebated per square foot of conditioned space.

For measures with a flat rebate per unit amount, PSE uses regionally or nationally accepted energy savings estimates. Where not readily available, incremental costs are based on best determination of the "incremental" cost of the measure; that is the additional cost above a standard installation using a less efficient model. PSE monitors "incremental" cost in the marketplace and will adjust rebates as these costs change.

A list of all requirements for eligibility and participation can be found on individual program application forms.

Measure incentive eligibility criteria are based on, but not limited to, established, industry-standard cost effectiveness tests, structure type and its location within PSE service territory, fuel type (gas or electric), product type and product quantity. A detailed list of Energy Efficiency Service Measures, Incentive and Eligibility are included as an Attachment to this Appendix A.

#### Marketing

Marketing efforts are based on consideration of specific market sub-segments, customer decision making, market penetration estimates and PSE engagement with relevant customer and trade groups.

Marketing will be conducted via some combination of the following:

- Energy Advisors, selected contractors, supply houses, vendors, retailers and program administrators provide outreach and information for the program.
- Case studies, press releases, general-interest articles in local publications and Puget Sound Energy's e-newsletter for business customers.
- Promotion via brochures, bill inserts and PSE.com
- Cooperative promotion through Community Outreach & Education events
- Cooperative promotion through Community Outreach & Education engagements with municipalities and community organizations
- Event participation, sponsorship and/or announcements in Business and Customer Associations such as BOMA, WAMOA, Washington Restaurant Association and others.
- Cooperative advertising with Manufacturers to promote PSE rebates
- Cooperative promotion with water utilities for water-savings measures

# **NEEA & SUPPORT PROGRAMS**

# NORTHWEST ENERGY EFFICIENCY ALLIANCE (NEEA)

**Conservation Schedule E254** 

# Description

Puget Sound Energy has been a major financial supporter of the Northwest Energy Efficiency Alliance, and is represented through a position on the Alliance's Board of Directors. The primary function of the Alliance is market transformation for the benefit of energy efficiency at the manufacturing and retail level. PSE staff participates in review and development of Alliance funded projects. PSE leverages Alliance information to develop energy efficiency programs for the benefit of PSE Customers.

# COMMUNITY EFFICIENCY MANAGER

**Conservation Schedule E241** 

# Purpose

Provide grants to support eligible communities' energy efficiency efforts within the PSE service territory through the efforts of an Energy Efficiency Services' community energy manager.

# Description

The community energy manager is similar to a resource conservation manager described in Schedule 253—in that they will identify systems and applications that are in need of energy efficiency improvements. The community energy manager is an employee of the community, funded through the American Recovery and Reinvestment Act or other available sources. A CEM could, through meetings and other forms of outreach, drive local businesses and residents to PSE energy efficiency programs. Furthermore, by following up with clients who have received PSE Energy Efficiency services (such as a residential HomePrint audit or a small business assessment) they could increase actual measure implementation in their respective communities.

Responsibilities may include but are not limited to:

- Work with local businesses, residents, and municipal entities to implement PSE's rebates and programs
- Assist with Green Business recognition program development
- Promote PSE's education programs like Powerful Choices and Cool School Challenge to their communities
- Coordinate between community agencies, governments, and non-profits to provide a comprehensive menu of efficiency services and programs for varied target audiences
- Work with local low income agency to promote Low Income Weatherization
- Enlist and support existing non-profit organizations to include energy efficiency in their program offerings
- Support, promote, and/or organize local volunteer efforts relating to efficiency (example: PSE's CFL door-to-door bulb distribution)
- Facilitate relationships between local contractors who do energy efficiency retrofits and interested parties.

# Target Market

PSE will issue an RFP which includes criteria to ensure that the grants are used to leverage other EES programs. Criteria will include size of community, geographic location, ability to fund the remaining amount, ability to hire a local Community Energy Manager with the proper skills, other energy efficiency initiatives already implemented and more.

# ENERGY EFFICIENT TECHNOLOGY EVALUATION

Conservation Schedule E261, G261

# **Technology Evaluation**

PSE will review available literature to find information on new, energy efficient technologies and products. PSE will draw on the experience and research of others; e.g. E-Source, NEEA, WSU and other utilities. "New" measures must be significantly different from measures already qualifying for PSE program grants and/or rebates.

The focus of the research will be on practical, cost effective technologies and measures that can be immediately implemented. Technologies must be based on generally accepted engineering or scientific principles. Savings must be quantifiable, using generally accepted engineering calculations.

PSE will demonstrate actual performance, as needed, through laboratory tests or in customer installations. For demonstration projects, PSE may provide customer incentives of 70 percent of the installed measure cost. PSE may also provide funding for measurement and evaluation of the technology. Demonstration grants are not required to meet normal program funding requirements; however, preliminary calculations must show reasonable expectation that the measure will qualify using normal funding criteria.

All commercial and industrial customers receiving electricity and/or bundled natural gas service from PSE are eligible. The customer must be a willing participant and understand the risks and uncertainty. There is no PSE guarantee of savings or product suitability.

# LOCAL INFRASTRUCTURE AND MARKET TRANSFORMATION

Conservation Schedule E270, G270

# Purpose

Provide education, and/or services to develop long term energy-efficiency products and practices, which are designed to achieve long term kilowatt-hour (kWh) savings benefits for customers receiving electrical service. Conduct research in support of developing new conservation measures and programs.

# Description

Measures to be delivered will be developed on a project by project basis, primarily dealing with education about energy efficiency and information about Puget Sound Energy's energy efficiency services. Measures can include participation in conferences and energy efficiency trade shows aimed at reaching a broad array of customers and trade allies. The company may provide support or fees to energy efficiency industry, trade ally and customer associations with interest in education and promotion of energy efficiency benefits. Special, small-scale demonstration projects or engineering pilot tests of measures not included in current programs may be eligible, at the Company's discretion.

Under this program the company will receive indirect or longer term kWh savings benefits, difficult to measure in the short term. Support will be based on the ability to provide education and information on electricity savings to a wide variety of customers, in order to enhance the overall effectiveness of the Company's Electricity Conservation Programs.

# Target Market

The company may provide financial support for energy efficiency activities available to, or projects designed to benefit Puget Sound Energy's customers, undertaken by local energy efficiency organizations, including activities designed to leverage NEEAfunded projects in the Company's local service territory.

# **Customer Incentives**

PSE will provide grants of \$10,000 to 5 communities each year, 2010 and 2011. There will be deliverables tied to the funding to ensure close coordination with PSE programs in the use of Energy Efficiency programs.

# Marketing

PSE will replicate the existing RFP process to ensure consistency in program awareness. Information on the RFP will be circulated to municipal contacts through the Community Services Team and others who engage with municipalities. The PSE website will also be used to provide information on the grant program.

# ENERGY EFFICIENT COMMUNITIES

No Associated Conservation Schedule

# Purpose

Develop a new channel for increased participation in PSE's Energy Efficiency programs through direct contact with governments and community stakeholders. The program works with PSE's communities to identify and engage with underserved populations and leverage community resources to increase Energy Efficiency Services (EES) program participation.

# Description

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

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

# **Target Markets**

PSE's Energy Efficient Communities Program will have staff located in regional offices to provide an improved connection to the multiple community stakeholders that Energy Efficiency serves throughout the service area.

Energy Efficient Communities will also work closely with the Business Energy Management team to reach out to the underserved small business population to deliver consistent programs throughout the service area.

# MAINSTREAMING GREEN

No Associated Conservation Schedule

# Purpose

Meeting PSE's aggressive 2010-2011 Energy Efficiency targets will require convincing broad consumer audiences of why they need to actively participate in Energy Efficiency programs and then how they can get involved. We will continue to market to our traditional audience of "early adopters," but this segment is not large enough by itself to provide the energy savings needed to meet our new targets.

# Description

The Mainstreaming Green "Good Energy" campaign envisions messaging and communicating the "Why and How" of energy efficiency in addition to serving as a unifying platform of messages and images from which individual energy Efficiency Program promotional campaigns can launch. This unifying platform will allow Energy Efficiency promotions to lever one another and achieve the greatest value for the individual promotional investments. Business drivers that form the foundation of this effort are:

- Grow program participation, both residential and business
- Generate awareness
- Reach out to consumers and community
- Enable and empower self-service energy management
- Create stakeholder engagement and community
- Energize "trade ally" network recruitment, oversight and training

# Marketing

The Mainstreaming Green initiative is being undertaking in concert with and in addition to the marketing initiative within each of Energy Efficiency Services' Programs.

An integrated broad scale marketing communications platform that will drive customers to participate more deeply in programs through interactive

- On-line marketing and education, and
- Community outreach / social media engagement
- Media planning / promotion

Expanded online marketing and community development through social media will be engaged during the first half of 2010. Traditional media promotion and local community outreach will follow through second half of 2010.

# **CONSERVATION MARKET RESEARCH**

No Associated Conservation Schedule

# Objectives

Conduct a variety of research studies and analyses to support the energy efficiency portions of the Company's Integrated Resource Plan, program design and savings targets, and development of effective program promotion and customer communications.

# Description

There are three basic categories of research to be undertaken in 2010-2011.

<u>Demand-Side Resource Market Potential</u>: The Company will conduct an assessment of the long-term market potential for energy savings from energy efficiency and other demand-side resources, covering the twenty year period 2011-2030. The result of this market potential assessment will be the development of conservation supply curves that will be included in the Company's 2011 Integrated Resource Plan and be a key component in establishing program savings targets for 2012-2013.

Baseline Research for Program Design and Promotional Campaign Development: This research is designed to provide basic, foundational information about PSE customers that will be used as input to the Company's Integrated Resource Plan, as well as for the planning and design of programs and promotional campaigns. Over the next two years, the Company plans to conduct customer end use characteristics surveys for the residential and commercial sectors, leveraging regional efforts where appropriate.

<u>Program-Specific Market Research Support</u>: This research will support the development and evaluation of specific energy efficiency programs and promotion campaigns. Projects may include product and concept testing, community and other geographically specific target markets, customer satisfaction, web-based service usability, and campaign effectiveness studies

# **OTHER ELECTRIC PROGRAMS**

# NET METERING FOR CUSTOMER GENERATORS

Miscellaneous Schedule E150

## Purpose

To provide interconnection services for qualifying customer-generators in accordance with State legislation enacted into law in February 11, 1999 and amended June 8, 2000.

## Description

PSE provides interconnection services to qualifying customer generators who operate fuel cells, hydroelectric, solar or wind generators of no more that 100 kW. Service under this schedule is limited to a total of 11.2 MW of cumulative nameplate generating capacity, of which no less than 5.6 MW of cumulative nameplate generating capacity shall be attributable to net metering systems. Customer generation can be used to offset part or all of the customer-generator's electricity use under Schedules 7, 8, 11, 12, 24, 25, 26 or 29 of Electric Tariff G.

At the time a customer enrolls in the Net Metering program, they are also provided the necessary information to receive annual benefits from the Production Metering, or REAP, which is described in Schedule 151.

#### Target Market

All Customers who are within the Company's service territory and receive electric service under terms of the Company's electric Tariff G.

#### **Customer Incentives**

No direct customer incentives are provided under this tariff. Energy produced by customer generator systems directly reduces energy used in the home or business. When energy generated exceeds home or business electrical loads, the excess energy flowing to PSE is separately metered and credited to the customer at the retail rate for future use. The program's year runs May 1 to April 30 of the following year through 2020. Any excess credit as of April 30 is reset to zero when the new year begins.

# **PRODUCTION METERING FOR CUSTOMER GENERATORS**

#### Miscellaneous Schedule E151

## Purpose

To provide qualifying customer-generators with production payments in accordance with State legislation (SB 5101) and (SB 6170)

## Description

Production Metering is operated in conjunction with, and in addition to, the Net Metering program. At the time a customer enrolls in the Net Metering program, they are also provided the necessary information to receive annual benefits from Production Metering.

## Target Market

All qualified net metered customers, under terms of Schedule 150 and all qualifying Schedule 91 customers.

## **Customer Incentives**

Once a year customers are paid for all power generated up to the \$5,000.00 cap per the State's Renewable Energy Cost Recovery Program. This payment ranges from \$0.12 to \$1.08 per kWh generated.

#### Marketing

When customers interconnect for net metering they are also encouraged to participate in the production metering program. PSE assists customers with the annual paperwork process that is required by the state to receive a payment. PSE has a brochure for Customer Renewables used at various events. PSE also offers a production meter rebate of \$165.00 per customer under Schedule 248.

The Energy Advisors provide basic information to customers calling to inquire about renewable energy generation. Information on net metering is also accessible from the Home and Business Solutions global navigation header at PSE.com. Renewable energy businesses and organizations such as Solar Washington and Washington State University Energy Programs normally make customers aware of the new metering program when they inquire about renewable energy generators.

# SMALL SCALE RENEWABLE ELECTRICITY GENERATION

Conservation Schedule E248

## Purpose

To provide grants for small scale renewable energy demonstration and education projects; provide an incentive to customers who have installed renewable energy generation on eligible structures; and promote the acceptance of local energy development.

## Description

PSE will develop a grant program for educational renewable energy demonstration projects and other educational efforts which are tied in with a curriculum, or a commitment to energy efficiency. Further, PSE will encourage customers to make investments in small scale renewable electricity generating systems through educational materials and events.

## **Target Market**

Primarily schools and other educational opportunities.

## **Customer Incentives**

Rebates for production meters will be updated as market conditions change and may include, but are not limited to the following:

• A per-meter rebate amount for a Standard Production Meter for eligible generating systems.

## Marketing

PSE will develop marketing materials which explain the alternatives available to customers and promote the benefits of small scale renewables. Contractors and consultants will also be targeted with information including best practices and current regulations.
# DEMAND RESPONSE PILOTS

**Conservation Schedule E249A** 

### Purpose

The Company is developing, conducting and evaluating demand response pilot programs. These small-scale, limited pilots recruit and enroll customers on a voluntary basis. Incentive payments to customers are offered to achieve participation and feedback. It is an Electricity Conservation Program tied to the provisions of Schedule 83, including the expiration date and with funding provided through the existing Electric Conservation Service Rider.

### Description

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

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

Attributes to be evaluated include technologies, demand reduction performance, customer behavior and preferences, impact and integration of demand response with PSE operations, demand reductions achieved, energy savings achieved, local distribution system benefits derived, and cost-effectiveness of demand reductions. Small-scale demand response pilots are being offered on a voluntary basis to targeted customers. Residential, commercial or industrial customers receiving retail bundled service under Electric Tariff G have been recruited for participation in demand events. PSE has determined prospective participant eligibility.

There will be no rate impact to participants and financial incentives may be offered to customers who participate. This tariff (249A) is tied to the provisions of Schedule 83, with funding provided through the existing Electric Conservation Service Rider.

## Target Market(s)

Residential customers with electric space heat and water heat, and commercial and industrial customers with discretionary lighting, HVAC and/or process electric end use loads have been recruited. Residential customers served from targeted substation circuits, and having existing high speed home internet service, have been recruited.

### **Marketing Strategy**

Both residential and commercial/industrial pilots are being delivered by experienced services providers specializing in direct load control program implementation. Both pilots are carried out by the service providers under contract according to specific PSE implementation criteria.

These contractors are working closely with PSE to recruit participants, install load control equipment and communications and deliver planned demand reduction from the customer facility or residence when either a winter or summer peak demand event is called by the utility

Direct response mailings, telephone and personal contacts through PSE Business Account Managers offer low cost, effective mechanisms for recruitment for these pilots.

### **Initial Pilots**

PSE's commercial Load Control Pilot (LCP) is a two-year limited demand response program for large commercial electric service customers located throughout PSE service area. It became fully subscribed with 25 participating customers in the spring of 2009, and is currently anticipated to end following the 2010/11 winter season. Total cost of the commercial/industrial pilot is estimated to be \$1.7 million.

PSE's residential Demand Response Pilot (DRP) is a two-year limited program targeting direct load control of electric space and water heat in up to 700 single family homes on Bainbridge Island. The DRP will begin with the 2009/2010 winter season, and is currently planned to end following the 2011 summer season. Total cost of the residential pilot is estimated to be \$1.9 million.

PSE has also signed a letter of intent to collaborate with Pacific Northwest Laboratories (Richland) and BPA to test and evaluate an innovative residential electric water heater (load) control device, which can de-energize the water heater by switching the thermostatic control circuit on the appliance. This inexpensive control module will be fitted to a small number of residential water heaters and will be activated using predetermined voltage drop signal and/or characteristic voltage variation signature applied to the distribution circuit at the substation transformer.

# ATTACHMENT 1 Of Appendix A:

# LIST OF ENERGY EFFICIENCY MEASURES, INCENTIVES and ELIGIBILITY

Is contained as a separate document, located at:

http://www.pse.com/insidePSE/ratereginformation/pages/RatesElecTariffsRules.aspx?ta b=3&chapter=1



Attachment 1

# **Energy Efficiency Services**

Measures, Incentives and Eligibility

January 2010

EES Measures, Funding & Incentives Last Revised: 11/2/2009

### Table of Contents

GENERAL GUIDELINES FOR MEASURES, INCENTIVES AND ELIGIBILITY	1
DEFINITIONS OF ACRONYMS	2
INFORMATION SERVICES	4
On-Line Tools & Customer Management System	
Energy Advisors	
Energy Efficiency Brochures/Collateral	
Electronic Newsletters	
Events	
ENERGY EDUCATION	6
RESIDENTIAL MEASURES, FUNDING AND INCENTIVES	7
Residential Low Income	7
Eligibility	
Funding Categories	
Incentives	
Energy-Related Repairs Funding	
Single Family New Construction	
Eligibility	
Incentives	
SINGLE FAMILY EXISTING	
Eligibility	
Incentives	
Multi-Family New Construction	
Eligibility	
Incentives	22
MULTI-FAMILY EXISTING	
Eligibility	
Incentives	
Residential Fuel Conversion	
Eligibility	
Incentives	
COMMERCIAL AND INDUSTRIAL MEASURES, FUNDING AND INCENTIVES	
Commercial and Industrial Retrofit	
Eligibility	
Englouny Incentives	
Commercial and Industrial New Construction	
Eligibility	
Incentives	
SMALL BUSINESS LIGHTING MEASURES	
Eligibility	
Incentives	
LED TRAFFIC SIGNALS	
Eligibility	
Incentives	

COMMERCIAL AND INDUSTRIAL LARGE POWER USER SELF-DIRECTED	
Eligibility	
Incentives	
COMMERCIAL AND INDUSTRIAL INCENTIVES	
Eligibility	59
Incentives	59
RCM INCENTIVES	
Eligibility	69
General Description of Program Offerings	
Performance-Based Incentives	
Salary Guarantee	69
Site-Based Incentives	69
Training Stipend	
Program Renewal	
Direct Cash Incentives	
Direct Customer Incentives	
Savings Projections	
Value Added Services	
SMALL SCALE RENEWABLE ELECTRICITY GENERATION	
Eligibility	
Renewables Generating Grants	
NET METERING	
Eligibility	
Incentives	
RENEWABLE ENERGY ADVANTAGE PROGRAM	
Eligibility	
Annual Payments	
IEASURE LIFE CALCULATIONS	
RESIDENTIAL PROGRAMS	
LOW INCOME WEATHERIZATION PROGRAM SPECIFIC MEASURE LIFE	
COMMERCIAL AND INDUSTRIAL PROGRAMS	

# General Guidelines for Measures, Incentives and Eligibility

- 1. Definitions and terms used throughout this document are governed by the Company's Electric Tariff G and Natural Gas Tariff. Where there is a conflict, the Tariff definition shall prevail.
- 2. Specific terms and conditions are found on the applicable incentive forms, grant documents, rebate application forms and similar documents available from the Company. Some Measures noted in this document apply only to a particular Customer type or structure type. Some structure types do not have individual Measure/incentives available; rather, an incentive may be applied to the entire qualifying structure. <u>Please thoroughly read the incentive terms and conditions before investing in an energy efficiency Measure.</u>
- 3. Some incentive payments noted in this document may be divided in a manner consistent with the Company's incentive program objectives. In some cases, this may be between the qualifying party or parties receiving the Measure; for example, an installing contractor may receive a portion of an indicated incentive amount, with the end-use Customer receiving the balance of the indicated amount. Qualifying parties may include, but are not limited to, manufacturers, distributors, owners of structures, Customers, general contractors, verifiers, approved Washington State Agencies or similar entities.
- 4. The Company's energy advisors are available to answer specific questions, Monday through Friday, 8am to 5pm. Many rebate forms and additional program information are also available via the Company's website: http://pse.com/solutions/energyAdvisors.aspx.
- 5. The term <u>Maximum Amount</u>, noted in some programs, represents the total amount of funding available per household, dwelling unit, eligible party or parties or structure. Incentive amounts may vary, depending on market conditions, funding availability, energy efficiency level of the installed product(s) or measure, eligibility of the party installing the measure or other similar conditions.
- 6. Many of the indicated Measures require the services of or installation by a professional contactor. Before engaging an independent contractor, it is important to understand the terms and conditions of the Measures for which you may apply and ensure that the contractor meets the Company's qualifying standards.

Generally, contractor qualifications include, but are not limited to:

- Licensed, bonded and insured in the State of Washington,
- Willing to comply with training and inspection by the Company.

7. Some of the indicated Measures have very specific requirements that must be satisfied in order to qualify for the indicated incentive. These include, but are not limited to: structural Measures (insulation, windows, etc.), HVAC applications (heat pumps, air handlers, etc.), plumbing fixtures (water heaters, boilers, etc.) and so on. Qualifications listed in this document as a part of the Measure description are of a general nature only and are indented to provide an overview for the Customer. Additional information is available on PSE.com, via an energy advisor (1-800-562-1482) and is provided in the incentive application form.

Prior to committing to a potentially large investment, (a heat pump, water heater, windows, insulation, etc.) it is recommended that Customers visit PSE.com or call an energy advisor to obtain the complete list of qualifications for the Measure being considered.

- 8. Customers, eligible parties, owners or tenants with applicable owner permission assume all liabilities associated with contracting, work performance, ensuring applicable permits are obtained and paying independent contractors. The Company may provide contractor referral services for applicable Measures.
- 9. General terms and requirements for incentive qualification include, but are not limited to:
  - Purchase receipt or invoice, indicating the date of purchase,
  - Address (the physical location) of where the Measure is being installed,
  - Name of person(s) claiming the incentive,
  - The structure must be receiving natural gas or electric service from the Company at the time of incentive application.

AFUE	Annual Fuel Utilization Efficiency (standard federal efficiency rating)
AHU	Air Handling Unit
AIA	American Institute of Architect
ANSI	American National Standards Institute
ASHRAE	American Society of Heating, Refigerating, and Air-Conditioning Engineers
BOMA	Building Onwers and Managers Association
BPA	Bonneville Power Administration
CEE	Consortium for Energy Efficiency
CMS	Customer Management System
CRAG	Conservation Resource Advisory Group
DCV	Demand Control Ventilation
DDC	Design Development and Construction

# **Definitions of Acronyms**

# Acronyms, Continued

Direct Install Measure	A conservation measure that is installed by a PSE representative— rather than a PSE customer—into a qualifying structure.
ECM	Electronically Commutated Motor
EF	Energy Factor
FSTC	Food Service Technology Center
GPM	Gallons Per Minute
HID	High Intensity Discharge (applies to Lighting measures)
HSPF	Heating Seasonal Performance Factor
HVAC	Heating, Ventilation and Air Condioning
IPLV	Integrated Part Load Value
kWh	Kilowatt Hour
MEF	Manufacturers Efficiency Factor
NEMA	National Electrical Manufacturers Association
O&M	Operations and Maintenance
ODP	Open Drip-Proof (motors)
PTCS	Performance Tested Comfort Systems
PTHP	Package Terminal Heat Pump
SEER	Seasonal Energy Efficiency Ratio
TEFC	Totally Enclosed, Fan-Cooled (motors)
TRC	Total Resource Cost
UC	Utility Cost
ULI	Urban Land Institute
USGBC	U.S. Green Building Council
UL	Underwriters' Laboratory
VAV	Variable Air Volume
VFD	Variable Frequency Drive
WAMOA	Washington Association of Maintenance and Operations Administrators
WSEC	Washington State Energy Code

# **Information Services**

The following services apply in most cases to both Residential and Commercial Customers. Although specific rebates or financial incentives aren't elements in the Information Services Program, these services provide energy management tools and access to programs outlined in Attachment 1. This brief description provides an overview of the resources available to Customers.

The program consists of five components that compliment each other to provide information about customer programs and efficiency improvements tailored to customers' interests and energy-use concerns.

#### **On-Line Tools & Customer Management System**

PSE's web site, PSE.com is available with information about energy efficiency and provides energy management tools to residential and business customers.

PSE's Customer Management System (CMS) is a database management system used to support delivery and results tracking of energy efficiency programs and services. Tracking customer program participation as well as tracking and evaluating the efficiency and effectiveness of promotions and implementation are key components of CMS.

#### **Energy Advisors**

Energy Advisors research, analyze, resolve and respond to customer inquiries, issues and requests related to energy efficiency and conservation; and promote and explain energy efficiency and renewable programs and their advantages. They represent the Company in an effort to promote and cross market products and services by presenting and providing educational materials to employees, organizations and community groups. Employees work in a team environment and must be able to rapidly adapt to changes in services and programs. Employees receive training and instruction in departmental procedures and are expected to use good judgment in independently responding to recurring customer issues and/or complaints. Unique, difficult or unusual customer service issues are referred to the Senior Energy Advisor. Through a toll-free number, 1-800-562-1482, Monday through Friday, 8am to 5pm, customers have access to speak directly to an Energy Advisor.

#### **Energy Efficiency Brochures/Collateral**

PSE provides brochures and how-to guides on various energy efficiency opportunities, including behavioral measures, low-cost equipment, weatherization measures and improvements and equipment upgrades. This information includes guidelines and savings estimates where appropriate. PSE brochures are available to customers in paper form and online at the PSE Web site. Brochures are also distributed at numerous customer events, Home shows and trade shows throughout the year.

#### **Electronic Newsletters**

"Energy at Home" is a quarterly e-newsletter promoting Energy Efficiency Services to customers who elect to subscribe using an e-mail address. This free service contains articles about energy efficiency, timely seasonal tips, and links to PSE program information and rebates for energy efficient products. A similar quarterly "Energy in Business" e-newsletter features case studies of energy efficiency projects at PSE customer sites, as well as announcements of upcoming training opportunities. Energy Education Newsletter is a quarterly enewsletter offering student, teachers and sponsors on expanded ways to learn and take action on energy conservation tips, environmental events, student activities and upcoming energy efficiency projects.

#### Events

PSE participates in trade shows, community events and homeowner/trade ally associations' venues that provide avenues, such as seminars and workshops, to attract PSE residential and business customers to the features/benefits of energy efficiency programs.

# **Energy Education**

Education services apply in most cases to all classes of Residential Customers. Although specific rebates or financial incentives aren't elements in the Energy Education Programs, these services provide energy management tools. This brief description provides an overview of the resources available to eligible Customers.

The Company's Energy Education programs promote energy savings through various educational programs and educate the community on opportunities to minimize impacts on ecosystems and climate change--all with the goal of increasing customer participation in eligible programs to support established energy saving goals.

Programs include but are not limited to, Powerful Choices, which offers school districts in PSE's gas and electric territory a comprehensive energy curriculum based on Washington State Essential Learning for 6-8th grade students; ITSCOOL, a service learning fundraising program for middle and high school students and local organizations; Hopelink, Native American and Habitat for Humanity which support community education programs.

PSE's educational programs offer customers the opportunity to save money and energy with financial resources, low cost energy efficiency measures and educational outreach for local schools, low-income populations, seniors, Native American groups and the general public.

The Powerful Choices program reaches 6-8th grade students in PSE's service territory. Savings are reported based on the number of students taught multiplied by an established kilowatt-hour and therm savings counted for each student.

Information about how to participate in Education Programs is available through the Company's toll-free number—1-800-562-1482.

# **Residential Measures, Funding and Incentives**

# **Residential Low Income**

# Eligibility

#### Customers

Low-income Customers include owners, or tenants with appropriate owner consent, of single family, multi-family, manufactured or mobile homes where the occupant of the structure meets low income standards, receiving gas and/or electric heat from PSE and may qualify for Matchmaker funds under an agreement with the Washington State Department of Commerce (referred to as "Commerce" henceforth). Commerce, under agreement with PSE filed under Schedules 201 and 203, performs the following services, monitoring and inspections. Local Low Income agencies are contracted with PSE to perform customer income eligibility and other requirements published in the U.S. Department of Energy - Washington State Low-Income Weatherization Assistance Plan prepared by Commerce.

#### Structures

Measures apply to single-family, multi-family and mobile home residences, both existing and new construction.

# **Funding Categories**

Single Family, Multi-Family and Mobile Home Structure improvements, as detailed below, include the following improvement categories:

- Appliances
- Building Thermal Improvements
- Lighting
- Space Conditioning System
- Water Heating

The majority of measure funding falls into three categories; paid per *square or linear foot*, per *measure* (for example, a CFL bulb), per *structure* (for example, one furnace or water heater per home).

# Incentives

# **Electric Funding**

# Single Family, Existing

## Per Square-Foot Basis

Per Square-Poot Basis				
<u>Measures</u> Ceiling Insulation	R-Exist           0           1           2           3           4           5           6           7           8           9           10           11           19           5           6           7	, , ,	Max. Measure Payment \$1.82 \$1.77 \$1.71 \$1.66 \$1.63 \$1.60 \$1.57 \$1.54 \$1.51 \$1.48 \$1.45 \$1.42 \$0.95 \$1.01 \$1.08	
Duct Insulation	0	11	\$5.75	
Floor Insulation	0 0 0	19 25 30	\$1.87 \$2.04 \$2.20	
Wall Insulation	0	11	\$1.91	
Windows	single pane double pane	U value 0.30 U value 0.30	\$13.00 \$10.00	
Per 1 Cubic Feet	Minute per 50Pa (F	Pascal) Reduction	Max. Payment	
Structure Sealing			\$0.81	
Per- <i>Measure</i> Basi	s		Max. Payment	
<ul> <li>Compact Fluorescent Light Fixtures         <ul> <li>(outdoor)</li> <li>\$47.25</li> <li>(indoor)</li> </ul> </li> <li>Compact Fluorescent Screw-in Lamps</li> <li>Light Socket Conversion Assembly         <ul> <li>(compact fluorescent included)</li> <li>\$12.80</li> </ul> </li> <li>Refrigerator Replacement         <ul> <li>\$461.70</li> <li>(In accordance with US DOE protocol and Commerce requirements)</li> </ul> </li> <li>Duct Sealing with other measures (unconditioned spaces)         <ul> <li>\$472.50</li> <li>Energy-efficient Shower Head</li> <li>\$40.50</li> <li>Energy-efficient Aerator</li> <li>\$6.75</li> </ul> </li> </ul>				

Per Structure Basis Measures	Max. Payment
<ul> <li>Programmable Thermostat</li> <li>(one per structure with electric furnace or heat pump)</li> <li>Pipe Insulation (3 feet, or more, with minimum thermal value)</li> </ul>	\$202.50
of R-3 <ul> <li>Water Heater Insulation (minimum thermal value R-10)</li> </ul>	\$13.50 \$94.50

# Multi Family, New Construction and Existing

# Per Square-Foot Basis Measures

Measures Ceiling Insulation	<u>R–Exist</u> 0 1 2 3 4 5 6 7 8 9 10 11 19	R-New         38 </th <th>Max. <u>Payment</u> \$1.82 \$1.77 \$1.71 \$1.66 \$1.63 \$1.60 \$1.57 \$1.54 \$1.51 \$1.48 \$1.45 \$1.42 \$0.95</th>	Max. <u>Payment</u> \$1.82 \$1.77 \$1.71 \$1.66 \$1.63 \$1.60 \$1.57 \$1.54 \$1.51 \$1.48 \$1.45 \$1.42 \$0.95
	5 (max)	19 (min)	\$2.00
Duct Insulation	0	11	\$5.75
Floor Insulation	0 0 0	19 25 30	\$1.87 \$2.04 \$2.20
Tapered Rigid Boar	d 5 (max)	38 (min)	\$2.43
Wall Insulation	0	11	\$1.91
Windows	single pane double pane single pane double pane	U 0.30 U 0.30 U 0.25 (triple pane) U 0.25 (triple pane)	\$16.20 \$6.00 \$18.00 \$8.00

Per Measure Basis	Max. Payment
<ul> <li>Compact Fluorescent Light Fixtures (in-unit, tenant-contr</li> <li>Compact Fluorescent Screw-in Lamps</li> <li>Light Socket Conversion Assembly</li> </ul>	rolled) \$72.90 \$10.80
(compact fluorescent included) • Energy-efficient Shower Head	\$12.80 \$40.50
<ul> <li>Energy-efficient Aerator</li> <li>Refrigerator Replacement</li> <li>(In accordance with US DOE protocol and CTED require</li> </ul>	\$6.75 \$461.70 ments)
<ul> <li>Water Heater Pipe Insulation (3 feet or more, with minim thermal value of R-3)</li> <li>Water Heater Insulation (minimum thermal value of R-10)</li> </ul>	um \$13.50
Per Structure Basis Measures	Max. Payment
<ul> <li>Common Area Lighting*</li> <li>Common Area Projects (non-lighting measures)**</li> </ul>	Varies per fixture (see below) Grant payment

\* Please reference the Small Business Lighting tables, located in the Commercial/ Industrial section of this reference.

\*\* Based on cost and savings analysis, project payment based on PSE Cost Effective Standards

### **Mobile Homes**

#### Per Square-Foot Basis Measures

<u>Measures</u> Ceiling Insulation	<u>R–Exist</u> 7 (max)	<u><b>R–New</b></u> 26 (min)	<u>Max. Payment</u> \$2.39	
Floor Insulation	5 (max)	26 (min)	\$2.00	
Wall Insulation	2	11	\$1.59	
Windows	single pane double pane	U 0.30 U 0.30	\$12.00 \$10.00	
Per 1 Cubic Feet Structure Sealing	Minute per 50	Pa (Pascal) Reduction	<u>Max. Payment</u> \$0.81	
Per Measure Bas	is		Max. Payment	
<ul> <li>Compact Fluorescent Light Fixtures         <ul> <li>(outdoor)</li> <li>(indoor)</li> <li>(indoor)</li> <li>Compact Fluorescent Screw-in Lamps</li> <li>Light Socket Conversion Assembly</li> <li>(compact fluorescent included)</li> <li>Refrigerator Replacement</li> <li>\$461.70</li> </ul> </li> </ul>				
<ul> <li>(In accordance with US DOE protocol and Commerce requirements)</li> <li>Water Heated Pipe Insulation (3 feet or more, with minimum</li> </ul>				

thermal value of R-3) \$13.50

Per Structure Basis Measures	Max. Payment
<ul> <li>Duct Sealing with other measures (unconditioned spaces)</li> <li>Energy-efficient Shower Head</li> <li>Programmable Thermostat (one per structure with electric furnace or heat pump)</li> </ul>	\$472.50 \$40.50 \$202.50

# **Natural Gas Funding**

# Single Family, Existing

# Per Square-Foot Basis Measures

<u>Measures</u>	<u>R-Exist</u>	R-New	Max. <u>Payment</u>
Ceiling Insulation	0	38	\$1.82
	1	38	\$1.77
	2	38	\$1.71
	3	38	\$1.66
	4	38	\$1.63
	5	38	\$1.60
	6	38	\$1.57
	7	38	\$1.54
	8	38	\$1.51
	9	38	\$1.48
	10	38	\$1.45
	11	38	\$1.42
	5 (max)	19 (min)	\$1.42
Duct Insulation	0	11	\$5.75
Floor Insulation	0	19	\$1.87
	0	25	\$2.04
	0	30	\$2.20
Wall Insulation	0	11	\$1.91
Windows	single pane	U value 0.30	\$10.00
Structure Sealing			\$0.81/sq. ft.

Per Measure Basis	Max. Payment
Energy-efficient Shower Head	\$29.70
Per Structure Basis Measures	<u>Max. Payment</u>
<ul> <li>Duct Sealing (unconditioned spaces)</li> <li>Water Heater Pipe Insulation (3 feet with minimum thermal value of R-3)</li> </ul>	\$607.50 \$6.75
<ul> <li>Single Family and Mobile Homes only:</li> <li>Energy Star® qualified Gas Furnace</li> </ul>	\$691.00

# Multi Family, Existing

# Per Square-Foot Basis Measures

<u>Measures</u>	<u>R-Exist</u>	<u>R-New</u>	Max. <u>Payment</u>
Ceiling Insulation	0	38	\$1.82
	1	38	\$1.77
	2	38	\$1.71
	3	38	\$1.66
	4	38	\$1.63
	5	38	\$1.60
	6	38	\$1.57
	7	38	\$1.54
	8	38	\$1.51
	9	38	\$1.48
	10	38	\$1.45
	11	38	\$1.42
	5 (max)	19 (min)	\$1.42
Duct Insulation	0	11	\$5.75
Floor Insulation	0	19	\$1.87
	0	25	\$2.04
	0	30	\$2.20
Tapered Rigid Board	5 (max)	38(min)	\$2.43
Wall Insulation	0	11	\$1.91
Windows	single pane	U 0.30	\$9.00

Per Measure Basis	Max. Payment
Energy-efficient Shower Head	\$29.70
Per Structure Basis Measures	Max. Payment
<ul> <li>Water Heater Pipe Insulation (3 feet with minimum thermal value of R-3)</li> </ul>	\$6.75
Energy Star® Qualified Gas Furnace	\$600.00
<ul> <li>Common Area Projects (non-lighting measures)**</li> <li>**Based on cost and savings analysis, project payment based on PSE Cost Effective Standards</li> </ul>	Grant Payment

## **Mobile Homes**

# Per Square-Foot Basis Measures

<u>Measures</u>	<u>R-Exist</u>	<u>R-New</u>	Max. <u>Payment</u>
Ceiling Insulation	0	38	\$1.82
	1	38	\$1.77
	2	38	\$1.71
	3	38	\$1.66
	4	38	\$1.63
	5	38	\$1.60
	6	38	\$1.57
	7	38	\$1.54
	8	38	\$1.51
	9	38	\$1.48
	10	38	\$1.45
	11	38	\$1.42
	5 (max)	19 (min)	\$1.42
Floor Insulation	0	19	\$1.87
	0	25	\$2.04
	0	30	\$2.20
Wall Insulation	0	11	\$1.91

Structure Sealing

\$0.81/sq. ft.

Per Measure Basis	Max. Payment
Energy-efficient Shower Head	\$29.70
Per Structure Basis Measures	<u>Max. Payment</u>
<ul> <li>Duct Sealing (unconditioned spaces)</li> <li>Water Heater Pipe Insulation (3 feet with minimum thermal value of R-3)</li> </ul>	\$607.50 \$6.75
<ul> <li>Single Family and Mobile Homes only:</li> <li>Energy Star® qualified Gas Furnace</li> </ul>	\$691.00

# **Energy-Related Repairs Funding**

### **All Structures**

#### **Measures**

#### Health and Safety Repairs (including, but not limited to:)

- Removal of unsafe knob and tube wiring
- Proper containment of wiring splices in junction boxes
- Mold/mildew abatement
- Installation of carbon monoxide monitors
- Rodent exclusion
- Faulty electrical panel repair

#### Weatherization-Related Repairs (including, but not limited to:)

- Roof patching or repair
- Plumbing leak repair
- Crawlspace ventilation
- Mobile home skirt repair
- Ground Cover addition

#### Ventilation

- Installation of proper bath and kitchen ventilation
- Crawlspace ventilation
- Venting a furnace or gas-fired water heater

#### Furnace/Water Heater Repair, Maintenance, or Replacement

#### **Energy Education**

• In-unit and group consultations

# **Single Family New Construction**

# Eligibility

Measure eligibility includes, but is not limited to manufacturers, distributors, retailers, equipment suppliers, verifiers, Building Performance Specialists, Performance Testers, builder/owners or agents acting on behalf of responsible party of service, or the Customer at the time the single-family residential structure is being constructed, receiving electricity or natural gas through a PSE residential Schedule; Rates 7 (including 17, 27, 37 and 47), 8, 11 and 12.

Measures and incentives noted below for new construction apply for a free standing residential structure, or Energy Star® manufactured homes equal to or less than four dwelling units, that is newly constructed or is in a stage of construction which is not yet completed or ready for occupancy.

For Measures and incentives that apply to existing structures, please refer to the Single Family, Existing Program Measures.

# Incentives

### **Natural Gas Service**

<u>Measure</u>	Maximum <u>Amount / each</u>
Energy Star® Natural Gas Furnace	\$350.00
<ul> <li>Duct Sealing With Performance Testing:</li> <li>Insulation R-8 (ducts inside heated space exempt),</li> <li>Sealing – Mastic (tapes not allowed)</li> <li>Max. Leakage - &lt;0.06 CFM per sq. ft. or 75 CFM Total @ 50 Pa.</li> <li>Ducts inside the conditioned space with</li> </ul>	\$500.00/structure \$300.00
<ul> <li>All ductwork must be inside the heated space. (exception may apply to return air duct)</li> </ul>	<b>A</b> =0.00
Energy Star® Homes (Homes must be Certified Energy Star® Homes)	\$50.00
Energy Star® or Eco-rated Manufactured Home	\$150.00
High Efficiency Natural Gas Water Heater ( greater than or equal to 0.62 Energy Factor) Tankless Water Heater (Greater than or equal to 0.82 EF)	\$40.00 \$150.00
	<ul> <li>Energy Star® Natural Gas Furnace</li> <li>Duct Sealing With Performance Testing: <ul> <li>Insulation R-8 (ducts inside heated space exempt),</li> <li>Sealing – Mastic (tapes not allowed)</li> <li>Max. Leakage - &lt;0.06 CFM per sq. ft. or 75 CFM Total @ 50 Pa.</li> </ul> </li> <li>Ducts inside the conditioned space with Performance testing <ul> <li>All ductwork must be inside the heated space. (exception may apply to return air duct)</li> </ul> </li> <li>Energy Star® Homes (Homes must be Certified Energy Star® Homes)</li> <li>Energy Star® or Eco-rated Manufactured Home</li> <li>High Efficiency Natural Gas Water Heater (greater than or equal to 0.62 Energy Factor)</li> <li>Tankless Water Heater (Greater than or equal</li> </ul>

New Energy Star® or Eco-rated Manufactured Homes are only eligible for the Manufactured Homes incentive. They are not eligible to receive both the Manufactured Homes incentive in addition to another incentive listed above.

Only 1 heating duct incentive eligible per installation address. Aligns with Energy Star® homes Builder Option Package One (BOP 1) specification.

### **Electric Service**

		Maximum
<u>Category</u> Appliances	<u>Measure</u> Energy Star® Clothes Washer (Energy Star® qualified Washing machine greater than or equal to 2.0 MEF)	Amount / each \$50.00
	Energy Star® Clothes Washer (Energy Star® qualified Washing machine greater than or equal to 2.2 MEF)	\$75.00
	Energy Star® Clothes Washer (Energy Star® qualified Washing machine greater than or equal to 2.46 MEF)	\$100.00
	Energy Star® Refrigerator	\$50.00
Home Bonus	Energy Star® Homes (Homes must be Certified Energy Star® Homes NW or equivalent)	\$50.00
Lighting	Energy Star® CFL Bulbs & recycling	\$4.00
		(no charge to customer for direct installs)
	Energy Star® CFL Fixtures & recycling	\$20.00
	Energy Star® Linear Fixture (decorative only) & recycling	\$20.00
	Energy Star® CFL Ceiling Fan Fixtures	\$20.00
	Light socket conversion assembly; converts screw-in lighting sockets to plug-in type	\$4.00
Manufactured Homes	Energy Star® Manufactured Home	\$300.00
Space Conditioning (Tiered incentive)	Heat Pump 8.5 HSPF, 14 SEER -or- 9.0 HSPF, 14 SEER	\$200.00 \$350.00
Ventilation	Whole house ventilation	\$40.00

New Energy Star® or Eco-rated Manufactured Homes are only eligible for the Manufactured Homes incentive. They are not eligible to receive both the Manufactured Homes incentive in addition to another incentive listed above.

# **Single Family Existing**

# Eligibility

A manufacturer, distributor, equipment supplier, contractor or agent acting on behalf of responsible party of service, the Customer or tenant with applicable owner authorization, of an existing single-family structure receiving electricity or natural gas through a PSE residential Schedule; Rates 7 (including 17, 27, 37 and 47), 8, 11 and 12.

Existing single family structures of four or fewer dwelling units <u>excluding</u> newly constructed residential structures or those that are in the construction process.

Single family residential structures include free standing residences and manufactured homes.

Selected PSE-approved contractors, vendors or developers may be eligible for compensation to provide direct installation of specified measures—as a part of installation of a related measure. (for example, installing one or more Energy Star® CFL bulbs during an HVAC installation), as a part of a pilot program, a limited-time offering, or other circumstances determined by PSE.

One way that PSE advances the educational value of conservation is to provide complimentary promotional CFL bulbs as a part of home shows, community events, retail promotions or other conservation-focused events.

## Incentives

## **Natural Gas Service**

Category	Measure	Maximum Incentive / each
Evaluation	HomePrint Home Performance Evaluation	\$350.00
Heating	Energy Star® qualified Gas Furnace	\$250.00
	Energy Star® qualified Boilers (greater than or equal to 95% AFUE)	\$350.00

# Natural Gas service, Continued

Water Heating	Energy Star® Gas Water Heater (greater than or equal to 0.62 Energy Factor)	\$50.00
	Energy Star® tankless Water Heater	
	Tier 1 = greater than or equal to 0.82 EF	\$150.00
	Tier $2 =$ greater than or equal to 0.90 EF	\$200.00
	2.0 gpm or less shower heads – Gas Water Heat	Direct Install - No cost to eligible customers
	2.0 gallon per minute or less bathroom shower head (EPA WaterSense Labeled)	\$10.00
	Hot water pipe wrap; R3 value, installed	Direct Install as part of other programs: No cost to Customer
	Water heater temperature adjustment	No cost to eligible customers
Weatherization	Attic Insulation (R-10 or less to R-38)	\$400.00/unit
	Attic Insulation (R11-R19 to R38)	\$200.00/unit
	Floor Insulation (R-10 or less to R-30)	\$400.00/unit
	Wall Insulation (R-0 to R-13)	\$400.00/unit
	Duct Insulation (R-0 to R-11)	\$200.00/unit
	Duct Sealing, PTCS	\$200.00/unit
	Quality Assured Duct Sealing	Direct Install - No cost to eligible customers
Windows	Upgrade single-pane or double-pane with metal frame windows to a .30 U-factor or better. Specific insulation and sealing levels are required.	\$6.00/sq ft, Maximum of \$500.00 per structure.

Specific requirements for above incentives
Many structural Measures require qualified contractor installation in order to be eligible for the indicated incentive.

# **Electric Service**

Cotonomi	Magazina	Maximum
<u>Category</u>	Measure	Incentive / each
Appliances	Energy Star® Clothes Washer (Energy Star® qualified Washing machine greater than or equal to 1.8 MEF.	\$50.00
	Energy Star® Clothes Washer (Energy Star® qualified Washing machine greater than or equal to 2.0 MEF.	\$75.00
	Energy Star® Clothes Washer (Energy Star® qualified Washing machine greater than or equal to 2.2 MEF.	\$100.00
	Refrigerator Decommissioning (working condition, greater than or equal to 10 cubic feet.)	\$30.00
	Energy Star® Refrigerator (20% more energy efficient than minimum federal government standard, greater than or equal to 7.75 cubic feet)	\$50.00
	Energy Star® Freezer (10% more energy efficient than minimum federal government standard, greater than or equal to 7.75 cubic feet)	\$20.00
Evaluation	HomePrint Home Performance Evaluation	\$350.00
Heating	Heat Pumps	
	Tier 1 = 8.5 HSPF, 14 SEER	\$200.00
	Tier 2 = 9.0 HSPF, 14 SEER	\$350.00
	Ductless Heat Pumps using inverter technology	\$800.00
	Energy Star® Geothermal Heat Pump	\$1,500.00
	Forced-air-furnace to Heat Pump Conversion (greater than or equal to 8.5 HSPF, 14 SEER)	\$1,000.00
Lighting	Energy Star® CFL Bulbs & recycling	\$3.50
	Energy Star® indoor decorative CFL Fixtures & recycling	\$12.50
	Energy Star® CFL Ceiling Fan Fixtures	\$1.00

# **Electric Service, continued**

Category	Measure	Maximum Incentive / each Direct Install - No
Water Heating	Directly installed 2.0 gpm or less shower heads - electric water heat	cost to eligible customers
	2.0 gallon per minute or less bathroom shower head (EPA WaterSense Labeled)	\$10.00
	Hot water pipe wrap; R3 value, installed	Direct Install - No cost to eligible customers.
	Energy Star® Heat Pump Water Heater (greater than or equal to 2.0 EF)	\$250.00*
	* Incentive may occur at the manufacturer, distributor, contractor, retailer or consumer level. (Please see Section 3 of the General Guidelines, page 1 of this document.)	
	High Efficiency Electric Water Heater (greater than or equal to .94 EF)	\$50.00
	Waste Water Heat Recovery (Models with an efficiency of 42% or greater.)	\$250.00
	Water heater temperature adjustment	No cost to eligible customers
Weatherization	Manufactured home duct sealing	Direct Install - No cost to eligible customers
	Attic Insulation (R-10 or less to R-38)	\$400.00/unit
	Attic Insulation (R11-R19 to R-38)	\$200.00/unit
	Floor Insulation (R-10 or less to R-30)	\$400.00/unit
	Wall Insulation (R-0 to R-13)	\$400.00/unit
	Duct Insulation (R-0 to R-11)	\$200.00/unit
	Duct Sealing, PTCS	\$200.00/unit
	Quality Assured Duct Sealing	Direct Install - No cost to eligible customers
Windows	Upgrade single-pane, or double-pane windows with metal frames, to .30 U-factor or better	\$6.00/sq ft, Maximum of \$500.00 per structure

# Specific requirements for above incentives

• Many structural, HVAC and water heat Measures require qualified contractor installation in order to be eligible for the indicated incentive.

# Multi-Family New Construction

# Eligibility

Eligible customers include the owner, developer, or agent acting on behalf of responsible party of service receiving electricity or natural gas through PSE's residential schedules 7 (including 17, 27, 37 and 47) and 7A; and/or commercial schedules 8, 11, 12 and 24.

Incentives for new construction apply for a residential structure that is in a stage of construction which is not yet completed or ready for occupancy. They also apply for additions to structures and complexes. The relevant Measure will apply to that newly constructed portion of the structure.

Energy efficient upgrades for some in unit and common area loads may be served under PSE Commercial/Industrial programs. Please see measures listed in the Commercial/Industrial headings of this document or call PSE at 1 800 562-1482 for details.

Structures include building type Group R-1, R-2, and R-4 as enumerated in the Washington State Energy Code of 2006 Edition. These include, but are not limited to: apartments, condominiums, senior living residences, dormitories and similar structures with five or more attached dwelling units.

Selected PSE-approved contractors, vendors or developers may be eligible for compensation to provide direct installation of specified measures—as a part of installation of a related measure. (for example, installing one or more Energy Star® CFL bulbs showerheads, aerators, etc.), as a part of a pilot program, a limited-time offering, or other circumstances determined by PSE.

For Measures that apply to existing structures, please refer to the Multi-Family, Existing Program Measures.

# Incentives

# All Structure Types

# **Natural Gas Service**

<u>Category</u> Common Area Space Heating	Measure Add Heat Recovery in common spaces with hydronic heat and NO mechanical cooling for Low-Rise/Mid-Rise buildings (Minimum efficiency of 50%)	Incentive <u>Amount / each</u> \$0.08/total served common area sq. foot
	Add Heat Recovery in common spaces with hydronic heat and mechanical cooling for Low- Rise/Mid-Rise buildings (Minimum efficiency of 50%)	\$0.06/total served common area sq. foot
Envelope	Windows - Upgrade weighted U-Value of glazed areas in Low-Rise/Mid-Rise buildings to U-0.30 or better	\$1.00/sq. foot of glazed area
Residential Space Heating	Hydronic Heat in Low-Rise/Mid-Rise buildings using fully condensing boiler with external storage tank (efficiency greater than or equal to 0.93)	\$0.05/total served conditioned sq. foot
	Hydronic Heat in Low-Rise/Mid-Rise buildings using fully condensing water heater (efficiency greater than or equal to 0.93)	\$0.04/total served conditioned sq. foot
Water Heating	2.0 Gallon Per Minute or less shower heads with gas water heat	\$5.00
	Condensing Boiler with external storage tank (efficiency greater than or equal to 0.93)	\$0.121/total conditioned sq. foot of dwelling units
	Condensing Water Heater (efficiency greater than or equal to 0.93)	\$0.032/total conditioned sq. foot of dwelling units
Whole Building Space Heating	Fan coil, 4-pipe system in High-Rise buildings using fully condensing boiler (efficiency greater than or equal to 0.93)	\$0.005/total served conditioned sq. foot

• Many structural, HVAC and water heat Measures require qualified contractor installation in order to be eligible for the indicated incentive.

# **Electric Service**

<u>Category</u>	<u>Measure</u>	Incentive Amount <u>/ each</u>
Appliances	Energy Star® Clothes Washer Tier 1 MEF 2.0 and WF of 6.0 and below (Electric water heat, electric dryer)	\$50.00
	Energy Star® Clothes Washer MEF 2.2 and WF of 4.5 and below (Electric water heat and electric dryer)	\$75.00
	Energy Star® Clothes Washer MEF 2.46 or higher (Electric water heat and electric dryer)	\$100.00
	Energy Star® qualified Refrigerators	\$50.00
Common Area Lighting	Corridor Lighting Reduction (Minimum reduction of at least 10 percent below WSEC)	\$0.015/sq ft per % improvement (Min. 10% better than code)
	Bi-Level Stairwell Lighting (Buildings with greater than three floors)	\$70 per fixture per landing
	Garage Lighting Reduction (Minimum reduction of at least 10 percent below WSEC)	\$.005/sq ft per % improvement (Min. 10% better than code.)

# Multi-Family New Construction Electric Measures, continued

Common Area Space HeatingAir-to-Air Heat Pump - Convert from electric resistance heat in common area of Low-Rise/Mid- Rise buildings to an air-to-air heat pump with WSEC efficiency High Efficiency Heat Pump – Upgrade common area heat pump efficiency in Low-Rise/Mid-Rise buildings from WSEC minimum to a CEE Tier 2 qualified heat pump Add Heat Recovery in common spaces with electric resistance heating and No mechanical cooling for Low-Rise/Mid-Rise buildings only, (Minimum efficiency of 50%)\$0.33/ total served common area sq. footAdd Heat Recovery in common spaces with electric resistance heating and No mechanical cooling for Low-Rise/Mid-Rise buildings only, (Minimum efficiency of 50%)\$0.14/ total served common area sq. footAdd Heat Recovery in common spaces with electric resistance heating and mechanical cooling for High-Rise buildings, (Minimum efficiency of 50%)\$0.14/ total served common area sq. footAdd Heat Recovery in common spaces with electric resistance heat pump of High-Rise buildings, (Minimum efficiency of 50%)\$0.14/ total served common area sq. footAdd Heat Recovery in common spaces with source heat pump for High-Rise buildings, (Minimum efficiency of 50%)\$0.14/ total served common area sq. foot. (Maximum incentive of \$1,525.00 per Heat Exchanger)EnvelopeWindows - Upgrade weighted U-Value of glazed areas in Low-Rise/Mid-Rise buildings to U-0.30 or glazed area betterResidential Lighting HeatingEnergy Star@ qualified Hardwired CFL Fixtures - star@ total controlledResidential Space HeatingPackage Terminal Heat Pump - Convert from electric resistance heat in Low-Rise/Mid-Rise buildings to WSEC efficiency thru-wa			
area heat pump efficiency in Low-Rise/Mid-Rise buildings from WSEC minimum to a CEE Tier 2 qualified heat pumpcommon area sq. footAdd Heat Recovery in common spaces with electric resistance heating and NO mechanical cooling for Low-Rise/Mid-Rise buildings only, (Minimum efficiency of 50%)\$0.33/ total served common area sq. footAdd Heat Recovery in common spaces with electric resistance heating and mechanical cooling for High-Rise buildings, (Minimum efficiency of 50%)\$0.14/ total served common area sq. footAdd Heat Recovery in common spaces with electric resistance heating and mechanical cooling for High-Rise buildings, (Minimum efficiency of 50%)\$0.17/ total served common area sq. footAdd Heat Recovery in common spaces with electric resistance heating and mechanical cooling for High-Rise buildings, (Minimum efficiency of 50%)\$0.075/ total served common area sq. foot. (Maximum incentive of \$1,525.00 per Heat Exchanger)EnvelopeWindows - Upgrade weighted U-Value of glazed areas in Low-Rise/Mid-Rise buildings to U-0.30 or better\$1.55/sq. foot of glazed areaResidential LightingEnergy Star® qualified Hardwired CFL Fixtures – buildings to WSEC efficiency thru-wall heat pump (PTHP)\$400/residential dwelling unitVentilationGarage CO Demand Control Ventilation with VFD fan control\$600.00 per HP fan controlWater Heating2.0 gpm or less shower heads – Electric water\$5.00		resistance heat in common area of Low-Rise/Mid- Rise buildings to an air-to-air heat pump with	common area sq.
electric resistance heating and NO mechanical cooling for Low-Rise/Mid-Rise buildings only, (Minimum efficiency of 50%)common area sq. footAdd Heat Recovery in common spaces with 		area heat pump efficiency in Low-Rise/Mid-Rise buildings from WSEC minimum to a CEE Tier 2	common area sq.
electric resistance heating and mechanical cooling for High-Rise buildings, (Minimum efficiency of 50%)common area sq. foot. (Maximum 		electric resistance heating and NO mechanical cooling for Low-Rise/Mid-Rise buildings only,	common area sq.
source heat pump for High-Rise buildings, (Minimum efficiency of 50%)served common area sq. foot. (Maximum incentive of \$1,525.00 per Heat Exchanger)EnvelopeWindows - Upgrade weighted U-Value of glazed areas in Low-Rise/Mid-Rise buildings to U-0.30 or better\$1.55/sq. foot of glazed areaResidential LightingEnergy Star® qualified Hardwired CFL Fixtures – Tenant controlled\$20.00Residential Space HeatingPackage Terminal Heat Pump - Convert from electric resistance heat in Low-Rise/Mid-Rise buildings to WSEC efficiency thru-wall heat pump (PTHP)\$400/residential dwelling unitVentilationGarage CO Demand Control Ventilation with VFD fan control\$600.00 per HP \$600.00 per HPWater Heating2.0 gpm or less shower heads – Electric water\$5.00		electric resistance heating and mechanical cooling for High-Rise buildings, (Minimum	common area sq. foot. (Maximum incentive of \$1,525.00 per Heat
areas in Low-Rise/Mid-Rise buildings to U-0.30 orglazed areaResidential LightingEnergy Star® qualified Hardwired CFL Fixtures –\$20.00Tenant controlledTenant controlled\$400/residentialResidential SpacePackage Terminal Heat Pump - Convert from electric resistance heat in Low-Rise/Mid-Rise buildings to WSEC efficiency thru-wall heat pump (PTHP)\$400/residential dwelling unitVentilationGarage CO Demand Control Ventilation with VFD fan control\$600.00 per HPWater Heating2.0 gpm or less shower heads – Electric water\$5.00		source heat pump for High-Rise buildings,	served common area sq. foot. (Maximum incentive of \$1,525.00 per Heat
Tenant controlledResidential SpaceHeatingPackage Terminal Heat Pump - Convert from electric resistance heat in Low-Rise/Mid-Rise buildings to WSEC efficiency thru-wall heat pump (PTHP)\$400/residential dwelling unitVentilationGarage CO Demand Control Ventilation with VFD\$600.00 per HP fan controlWater Heating2.0 gpm or less shower heads – Electric water\$5.00	Envelope	areas in Low-Rise/Mid-Rise buildings to U-0.30 or	
Heatingelectric resistance heat in Low-Rise/Mid-Rise buildings to WSEC efficiency thru-wall heat pump (PTHP)dwelling unitVentilationGarage CO Demand Control Ventilation with VFD fan control\$600.00 per HPWater Heating2.0 gpm or less shower heads – Electric water\$5.00	Residential Lighting	•••	\$20.00
fan control Water Heating 2.0 gpm or less shower heads – Electric water \$5.00		electric resistance heat in Low-Rise/Mid-Rise buildings to WSEC efficiency thru-wall heat pump	-
	Ventilation	•	\$600.00 per HP
	Water Heating		\$5.00

• Many structural, HVAC and water heat Measures require qualified contractor installation in order to be eligible for the indicated incentive.

# **Multi-Family Existing**

# Eligibility

An owner, developer, contractor, equipment supplier or agent acting on behalf of responsible party of service, or the Customer of service of an existing multiple-family structure receiving electricity or natural gas through a PSE residential Schedule; Rates 7 (including 17, 27, 37 and 47), 8, 11, 12 and 24 or Schedule 7A.

Existing multiple family structures <u>exclude</u> those which were recently constructed or are in the construction process.

Structures include, but are not limited to: apartments, townhomes and condominium residences and similar structures with five or more attached dwelling units.

Multi-Family measures not listed may be individually considered for incentives, based on overall cost effectiveness and energy efficiency.

Selected PSE-approved contractors or vendors may be eligible for compensation to provide installation of specified measures—as a part of installation of a related measure. (For example, installing one or more Energy Star® CFL bulbs during an HVAC installation), as a part of a pilot program, a limited-time offering, or other circumstances determined by PSE.

# Incentives

# All Structure Types

### **Natural Gas Service**

Category	<u>Measure</u>	Maximum <u>Amount</u>
Building Envelope	Attic Insulation R-0 to 38	\$0.50/sq. foot
	Attic Insulation R-11 to 38	\$0.50/sq. foot
	Floor insulation R-0 to 30	\$0.50/sq. foot
	Floor insulation R-0 to 19	\$0.50/sq. foot
HVAC	Energy Star® qualified Gas Furnace	\$250.00 each
	Replace Existing Space Heat Boiler	Calculated incentive
Windows (Low and mid-rise structures only)	Window Replacement*; Single-Pane to High Efficiency Double-Pane. U value 0.30 or less.	\$4.00/sq. foot
	Window Replacement; Single-Pane to High Efficiency triple-Pane. U value 0.25 or less.	\$4.00/sq. foot
Water Heating	1.75 Gallon Per Minute or less shower heads and 1.0 gpm aerators	Direct Install: \$17.16
	Efficient Gas Water Heater, in unit (greater than or equal to 0.62 Energy Factor)	\$40.00 each
	Replace Existing Domestic Water Boiler	Calculated incentive
Pool Heaters	Add Solar Heating to existing system	Calculated Incentive Calculated
	replace existing boiler	Incentive

### Specific requirements for above incentives

- All installed measures and incentives require installation by a qualified contractor and a signed PSE program agreement prior to installation.
- All calculated incentives will be evaluated using currently accepted PSE commercial engineering calculations.

# **Electric Service**

		Incentive
<u>Category</u>	Measure	Amount / each
Appliances	Energy Star® Clothes Washer (Energy Star® qualified Washing machine (greater than or equal to 2.0 MEF)	\$50.00
	Energy Star® Clothes Washer (Energy Star® qualified Washing machine (greater than or equal to 2.2 MEF)	\$75.00
	Energy Star® Clothes Washer (Energy Star® qualified Washing machine (greater than or equal to 2.46 MEF)	\$100.00
	Energy Star® or High Efficient Refrigerator	\$50.00
Building Envelope	Attic Insulation R-0 to 38	\$0.50/sq. foot
	Attic Insulation R-11 to 38	\$0.50/sq. foot
	Attic Insulation R-19 to 38	\$0.50/sq. foot
	Floor insulation R-0 to 30	\$0.50/sq. foot
	Floor insulation R-11 to 30	\$0.50/sq. foot
	Floor insulation R-0 to 19	\$0.50/sq. foot
	Wall insulation R-0 to R-23	\$0.65/sq foot
HVAC	Mini Split Heat Pump Upgrade	\$500.00
Lighting	Common Area Upgrades	Calculated incentives
	In-Unit CFL Fixtures & recycling	\$20.00 per fixture
	In-Unit CFL Bulbs (installed) & recycling	\$7.45
Water Heating	Light socket conversion assembly installed; converts screw-in lighting sockets to plug-in type	\$4.00
	Common Area Lighting	\$3.00 to \$225.00 per fixture
	Directly installed 2.0 gpm or less shower heads	No charge to customer
	Hot Water Pipe Wrap; R3 value, installed, minimum 3 feet.	\$3.50/linear foot
	Solar Pool Heater upgrade	Calculated incentive

### Multi-Family Existing Electric Measures, continued

Windows (Low and mid-rise structures only)	Single-Pane to High Efficiency Double-Pane. U value 0.30 or less.	\$5.00/sq. foot
	Window Replacement; Single-Pane to High Efficiency triple-Pane. U value 0.25 or less.	\$7.00/sq foot
	Window Replacement; Double -Pane to High Efficiency Double-Pane. U value 0.30 or less.	\$5.00/sq. foot
	Window Replacement; Double-Pane to High Efficiency Triple-Pane. U value 0.33 or less.	\$7.00/sq. foot

### Specific requirements for above incentives

- All installed measures and incentives require installation by a qualified contractor and a signed PSE program agreement prior to installation.
- All calculated incentives will be evaluated using currently accepted PSE commercial engineering calculations.

# **Residential Fuel Conversion**

# Eligibility

A Customer or tenant with applicable owner authorization, of an existing single-family structure receiving electricity through a PSE residential Schedule; Rates 7 (including 17, 27, 37 and 47), 8, 11 and 12.

An existing (excluding those that were newly constructed or are in the construction process) one-to-four single family residential dwelling units using electricity (provided under terms of an above mentioned PSE Schedule) as its current primary source of space heating and/or water heating. Manufactured and mobile homes are ineligible.

Incentives will be provided for the conversion to natural gas of the following eligible electric space heating and water heating systems:

- Central forced-air heating systems
- Baseboard heating systems
- Tank-style water heaters

Minimum amounts of prior electric energy usage may be required to qualify for the rebate incentive. Minimum requirements can be found in the individual rebate or program application form.

Eligible electric equipment must be converted to eligible highly efficient natural gas equipment listed below to qualify for incentives.

## Incentives

### **Conversion from Electric Service to Natural Gas Service**

Category	Measure	Maximum Incentive / each
Space Heating	ENERGY STAR® qualified High Efficiency Gas Furnace that meets PSE's High Efficiency Rebate criteria	\$500.00 to \$2,500.00*
Water Heating	ENERGY STAR® qualified High Efficiency Gas Water Heater that meets PSE's High Efficiency Rebate criteria	\$950.00 to \$1,450.00**
Water Heating	ENERGY STAR® qualified High Efficiency Tankless Gas Water Heater that meets PSE's High Efficiency Rebate criteria	\$950.00 to \$1,450.00**

\* Space Heat Incentive based on prior electric usage and existing electric system \*\* Water Heat rebate is \$1,450.00 when installed in combination with Eligible Space Heat Equipment and \$950.00 when separately installed.

### **Specific requirements for Fuel Conversion incentives**

- For Space Heating, must be a PSE electric Customer who currently uses electric heating as primary source of space heat.
- For Water Heating, must be a PSE electric Customer who has an electric storage water heater and uses electricity as primary source for water heating.
- Rebate is subject to minimum kilowatt-hour amounts used by Customer as determined by PSE.
- The rebate applicant installs gas-only heating equipment to meet the entire space heating requirements of the dwelling.
- Rebate applicants are ineligible if a heat pump is installed in conjunction with natural gas equipment.
- Customer is responsible for complying with all applicable codes and regulations.
- Rebates are paid directly to the Customer.
- Rebate form must be submitted within 90 days of completion of energy efficiency measure(s) installation.
- PSE reserves the right to inspect fuel conversion measures and will coordinate inspection as applicable.
- Rebate is limited to 75 percent of Total Measure Cost.

Other requirements may apply.
# Commercial and Industrial Measures, Funding and Incentives

## **Commercial and Industrial Retrofit**

## Eligibility

All Commercial and/or Industrial Customers receiving electricity or bundled natural gas service from PSE are eligible. Schedule 448, 449, 458, and 459 customers may utilize their Schedule 258 funding allocation for measures offered under the Existing Building Commissioning program and Process Efficiency Improvement program. Projects must be approved for funding prior to installation/implementation.

Commercial and Industrial Retrofit incentives are calculated on an individual basis. They take the form of a grant, which is provided upon completion and verification of the project.

#### Incentives

The Retrofit program is a custom incentive program. It is not limited to any measure type or markets. It is intended to provide the customer flexibility in developing projects that will result in energy savings. Available Grants include, but are not limited to:

Measures	Incentive	<b>Eligibility</b>
Grants for Lighting	Based on cost and savings analysis, pay up to 50% of the project cost based on PSE Cost- Effective Standards.	Lighting Measures
Grants for non- lighting measures	Based on cost and savings analysis, pay up to 70% of the project cost based on PSE Cost- Effective Standards.	Non-Lighting Measures
Commissioning Incentive	See table and information that follows	Depends on services provided by PSE. See table and information that follows

#### Measure: Existing Building Commissioning

For existing building commissioning, incentives are designed to cover up to 100 percent of the Commissioning Agent's costs. The owner is required to commit up to a pre-set dollar amount to implement recommendations with a less than or equal to two year payback as well as provide up to 50 hours of Operations and Maintenance (O&M) staff time for participation in the process, including training.

Incentives are paid in three phases. Half of the incentive, for all phases except the performance bonus, is paid after the investigation phase is complete. The second half of the incentive is paid after the training/systems manual phase. The performance bonus incentive is paid after verification that the actual first year savings meet the minimum percent savings requirements and the savings recommendations are still in place. If, after the Scoping/Plan phase, it is determined that the building is an inappropriate candidate for savings through the program, only the scoping & plan incentive will be paid.

EXISTING BUILDING COMMISSIONING INCENTIVE/CUSTOMER COST SUMMARY			
Building's Utility Services			ces
Description	PSE All Services	PSE Electric Only (Other Gas)	PSE Gas Only (Other Elec)
Sco	oing & Plan Ince	ntive	
100% of Cost, up to:	\$3,000	\$2,000	\$2,000
Investigati	ion & Verificatio	n Incentive	
Maximum Percent of Investigation & Verification Cost	70%	40%	30%
Incentive up to:	\$0.25/sq.ft.	\$0.20/sq.ft.	\$0.10/sq.ft.
Implementation of	Recommendation	ons Customer Cos	st
Customer pays fo	r items with at lea	ast 2 year payback	
Maximum Required Customer Cost	\$0.15/sq.ft.	\$0.10/sq.ft.	\$0.10/sq.ft.
Training &	Systems Manua	al Incentive	
100% of Cost, up to:	\$5,000	\$3,000	\$3,000
1 Year Performance Bonus Incentive			
Minimum Annual Savings Required	10%	10%	15%
Maximum Percent of Investigation & Verification Cost	30%	20%	15%
Incentive up to:	\$0.10/sq.ft.	\$0.08/sq.ft.	\$0.05/sq.ft.

#### Measure: Process Efficiency Improvement

The project development grant is Performance Based and capped at a dollar amount that varies with facility energy usage. Site-specific Basis Incentives and/or Prescriptive Basis Incentives will be provided for implementation of measures. Capital projects requiring major capital investment in new equipment or construction will receive higher incentives than low-cost projects for system commissioning, operational changes, and other low-cost process improvements. Customers are eligible for Prescriptive Basis incentive amounts equivalent to those offered under the Commercial and Industrial Incentive Program.

Commercial and Industrial Process Improvement Incentives			
Incentive Maximum Incentive			
Project Development Grant			
Billed usage 1,000 to 2,500 MWH	\$0.05/kWh	up to 70% cost, capped at \$10,000/yr	
Billed usage 2,500 to 10,000 MWH \$0.05/kWh up to 70% cost, capped at \$25,000/yr			
Billed usage >10,000 MWH\$0.05/kWhup to 70% cost, capped at \$50,000/yr			
Project Development Incentive will be based on actual measured performance.			

Non-capital Project Grant	\$0.10/kWh	up to 70% cost
Capital Project Grant	\$0.35/kWh	up to 70% cost

## **Commercial and Industrial New Construction**

## Eligibility

Owners, Customers, tenants with appropriate owner consent and developers of facilities to be served by PSE with electricity or bundled natural gas are eligible for new construction incentives. Schedule 448, 449, 458 and 459 Customers may use their Schedule 258 allocation for Commercial and Industrial New Construction incentives. Projects must be approved for funding prior to installation/implementation.

#### Incentives

There are four incentive paths for New Construction projects. The paths are intended to provide Customers flexibility in meeting their project needs. There is also a commissioning incentive which can be used in combination with any of these paths:

Path	Incentive	<u>Eligibility</u>
(A) Energy Model Whole Building	<ul> <li>\$0.60 per sqft for projects 10% better then code and ramp up to</li> <li>\$1.80 per sqft for projects 30% better than code</li> <li>Hospitals:</li> <li>\$1.40 per sqft for projects 10% better than code and ramp up to</li> <li>\$4.20 per sqft for projects 30% better than code.</li> </ul>	PSE electric with other gas supplier incentives are \$0.30-\$0.90 per square foot; \$0.70- \$2.10 per square foot for Hospitals. PSE gas only service not eligible
(B) Prescriptive Whole Building	LEED & BPA Package: All building types: \$0.50/sqft PSE Package: Retail: \$1.00-\$2.00/sqft School: \$0.70-\$1.45/sqft Offices: \$0.55-\$2.60/sqft PLUS enhanced measures. See details of incentives and measures in table below.	PSE electric and PSE gas if gas heated; retail, school and office buildings less than 100,000 sqft.
(C) Component Approach	Based on incremental cost and savings analysis, pay up to 100% of the incremental cost based on PSE Cost-Effective Standards.	When doing in lieu of whole building approaches.
(D) Rebates Measure	See eligible measures list under Commercial & Industrial Incentives section.	See eligible measures list under Commercial and Industrial Incentive section.

Phase Phase	Incentive	Eligibility
	<u>(\$/Ft<sup>2</sup>)</u>	
Design Phase	\$0.10	All PSE service: Gas &/or Electric
Construction Phase	\$0.15	Service;
Post-Occupancy Phase	\$0.25	Independent CX Provider
Design Phase	\$0.08	PSE Electric Only Service, Other
Construction Phase	\$0.12	Gas Provider;
Post-Occupancy Phase	\$0.20	Independent CX Provider
Design Phase	\$0.02	PSE Gas Only Service, Other
Construction Phase	\$0.03	Electric Provider;
Post-Occupancy Phase	\$0.04	Independent CX Provider

#### New Construction Commissioning (CX) Incentives (\$/Ft<sup>2</sup> conditioned space):

## Commercial New Construction Prescriptive Whole Building Approach

List of Prescriptive Measures and Incentives

#### **PSE Prescriptive Package – Retail** Path A - Enhanced HVAC Controls

Main Path Measures	Incentives	
Retail Prescriptive Package includes only Path A. Select one	Gas Heat	Electric Heat
or more additional path measures and add optional enhanced		
measures to build a package and determine incentives.		
A. Enhanced HVAC Controls with Functional	\$ 0.80 / sqft	\$ 0.80 / sqft
Performance Testing	conditioned	conditioned
For All buildings	space	space
• Warm-up with outside air lockout		
• Demand Control Ventilation (DCV)		
• Thermostat with holiday scheduling		
Enhanced economizer control		
- Economizer lock out at outside air temperature		
above 70 F or at return air temperature		
<ul> <li>Integrated economizer for small packaged units</li> </ul>		
(cooling capacity <65,000 btu/h)		
PLUS:		
For Heat Pumps		
• Electric strip heat lockout above 35 F outside air		
temperature		

Additional Path Measures	Incer	ntives
To complete the package select at least one other path measure	Gas Heat	Electric Heat
1. <b>Improve wall insulation</b> to WSEC Zone 2 electric	\$ 0.20 / sqft	\$ 0.20 / sqft
resistance heat level (Zone 2 buildings heated by electric	conditioned	conditioned
resistance heat not eligible)	space	space
2. <b>Improve roof insulation</b> to WSEC Zone 2 electric	\$ 0.20 / sqft	\$ 0.20 / sqft
resistance heat level (Zone 2 buildings heated by electric	conditioned	conditioned
resistance heat not eligible)	space	space
3. Reduced lighting wattage at least 10% below WSEC	\$ 0.20 / sqft	\$ 0.20 / sqft
	conditioned	conditioned
	space	space
4. <b>High efficiency HVAC</b> - better than required by WSEC	\$ 0.20 / sqft	\$ 0.20 / sqft
(CEE Tier 1)	conditioned	conditioned
	space	space
5. <b>High efficiency windows</b> with better than required by	\$ 0.20 / sqft	\$ 0.20 / sqft
WSEC (U $\le$ 0.35)	conditioned	conditioned
	space	space
Enhanced Measures	Incentives	
OPTIONAL: add enhanced measures to receive additional	Gas Heat	Electric Heat
incentives		(Heat Pump)
Lighting Measures		
1. Additional interior lighting wattage reduction below	\$ 0.01 /	\$ 0.01 /
WSEC (beyond 10%)	0.01 watt per	0.01 watt per
	sqft reduction/	sqft reduction/
	sqft	sqft
	conditioned	conditioned
	space	space
3. Daylighting controls in high ceiling retail with skylights	\$ 1.30 / sqft	\$ 1.30 / sqft
to WSEC electric resistance heat level and functional	daylit space	daylit space
performance testing	<b>.</b>	<b>.</b>
4. Reduced lighting wattage in parking garages at least	\$ 0.005 /	\$ 0.005 /
10% below WSEC	% reduction /	% reduction /
	sqft garage	sqft garage
	space	space
Envelope Measures	φ.ο.ο.1. / . ο.	<b>\$ 0.01</b> / <b>0</b>
5. Higher efficiency windows - upgrade to $U \le 0.33$	\$ 0.01 / sqft	\$ 0.01 / sqft
	conditioned	conditioned
	space	space

HVAC Measures		
6. Higher Efficiency HVAC system	\$ 0.05 / sqft	\$ 0.13 / sqft
(CEE Tier 2)	conditioned	conditioned
	space	space
7. Electronically commuted motors (ECM)	\$ 0.12 / sqft	\$ 0.12 / sqft
for variable air volume (VAV) boxes	space served by	space served by
	box	box
8. NEMA Premium Efficiency motors beyond WSEC		
Totally Enclosed Fan Cooled (TEFC)		
1 – 5 HP	\$20/HP	\$20/HP
7.5 – 100 HP	\$7/HP	\$7/HP
125 – 200 HP	\$3/HP	\$3/HP
Open Drip-Proof Motors (ODP)		
1-5 HP	\$8/HP	\$8/HP
7.5 – 100 HP	\$4/HP	\$4/HP
125 – 200 НР	\$ 2 / HP	\$ 2 / HP
9. Parking garage ventilation CO control with Variable	\$ 600 / HP of	\$ 600 / HP of
Frequency Drive (VFD) and functional performance testing	controlled fans	controlled fans

#### PSE Prescriptive Package – Office Path A - Enhanced HVAC Controls

Main Path Measures	Incentives	
For the PSE Office Prescriptive Package, select main path	Gas Heat	Electric Heat
measure, one or more additional path measures, and optional		
enhanced measures to build a package and determine incentives.	<u> </u>	<b>*</b> • • • • • •
A. Enhanced HVAC Controls with Functional	\$ 0.30 / sqft	\$ 0.20 / sqft
Performance Testing	conditioned	conditioned
For All buildings	space	space
Optimum Start		
• Warm-up with outside air lockout		
Thermostat with holiday scheduling		
Enhanced economizer control		
- Economizer lock out at outside air temperature		
above 70 F or at return air temperature		
- Integrated economizer for small packaged units		
(cooling capacity <65,000 btu/h)		
PLUS:		
For Heat Pumps		
• Electric strip heat lockout above 35 F outside air		
temperature		
For VAV Systems		
• Supply air reset based on load rather than outside		
air temperature		
• Use fans and heat in VAV boxes, not central AHU		
fan and heat, in warm-up or in night set-back		
(exception: non-fan boxes if AHU uses minimum		
needed supply air and has outside air damper		
closed)		
For Hydronic Systems		
• CW & HW variable flow with VFD pumps and		
pressure control		
• CW & HW temperature reset based on load rather		
than outside air temperature		

Additional Path Measures	Incer	ntives
To complete the package select at least one other path measure	Gas Heat	Electric Heat
1. Improve wall insulation to WSEC Zone 2 electric	\$ 0.25 / sqft	\$ 0.40 / sqft
resistance heat level (Zone 2 buildings heated by electric	conditioned	conditioned
resistance heat not eligible)	space	space
2. Improve roof insulation to WSEC Zone 2 electric	\$ 0.25 / sqft	\$ 0.40 / sqft
resistance heat level (Zone 2 buildings heated by electric	conditioned	conditioned
resistance heat not eligible)	space	space
3. <b>Improve windows</b> to WSEC electric resistance heat	\$ 0.25 / sqft	\$ 0.40 / sqft
level (buildings heated by electric resistance heat not	conditioned	conditioned
eligible)	space	space
4. Additional window improvement beyond WSEC	\$ 0.25 / sqft	\$ 0.40 / sqft
electric resistance heat level ( $U \le 0.35$ )	conditioned	conditioned
	space	space
5. <b>Condensing boiler</b> for space heating with hot water	\$ 0.25 / sqft	\$ 0.40 / sqft
reset and oversized coils to ensure low return water	conditioned	conditioned
temperature and with functional performance testing	space	space
(hydronic systems only)	1	1
6. <b>Reduced lighting wattage</b> at least 20% below WSEC	\$ 0.25 / sqft	\$ 0.40 / sqft
	conditioned	conditioned
	space	space
7. <b>High efficiency HVAC</b> – better than required by WSEC	\$ 0.25 / sqft	\$ 0.40 / sqft
(CEE Tier 1; chiller 5% IPLV improvement)	conditioned	conditioned
	space	space
Enhanced Measures	Incer	ntives
OPTIONAL: add enhanced measures to receive additional	Gas Heat	Electric Heat
incentives	0	2
Lighting Measures		
1. Additional interior lighting wattage reduction below	\$ 0.01 /	\$ 0.01 /
WSEC (beyond 20%)	0.01 watt per	0.01 watt per
	sqft reduction/	sqft reduction/
	sqft	sqft
	conditioned	conditioned
	space	space
2. Reduced lighting wattage in parking garages at least	\$ 0.005 /	\$ 0.005 /
10% below WSEC	% reduction /	% reduction /
	sqft garage	sqft garage
	space	space
3. Bi-level occupancy controlled lighting in stairwells with		
functional performance testing (for buildings $\geq$ 3 stories)	\$70 / landing	\$70 / landing
Envelope Measures		
4. Higher efficiency windows - upgrade to $U \le 0.33$	\$ 0.025 / sqft	\$ 0.03 / sqft
	conditioned	conditioned
	space	space

HVAC Measures		
5. Higher Efficiency Air Cooled Chiller	\$ 0.023 /	\$ 0.023 /
(beyond 5% IPLV improvement)	5% IPLV	5% IPLV
	improvement/	improvement/
	sqft	sqft
	conditioned	conditioned
	space	space
6. Higher Efficiency HVAC system	\$ 0.02 / sqft	\$ 0.02 /sqft
(CEE Tier 2)	conditioned	for DX cooling;
	space	\$ 0.035 / sqft
		for heat pump
7. Electronically commuted motors (ECM)	\$ 0.12 / sqft	\$ 0.12 / sqft
for variable air volume (VAV) boxes	space served by	space served by
	box	box
8. NEMA Premium Efficiency motors beyond WSEC		
Totally Enclosed Fan Cooled (TEFC)		
1 – 5 HP	\$20/HP	\$20/HP
7.5 – 100 HP	\$ 7 / HP	\$ 7 / HP
125 – 200 HP	\$ 3 / HP	\$ 3 / HP
Open Drip-Proof Motors (ODP)		
1 – 5 HP	\$8/HP	\$8/HP
7.5 – 100 HP	\$4/HP	\$4/HP
125 – 200 HP	\$ 2 / HP	\$ 2 / HP
10. Parking garage ventilation CO control with Variable	\$ 600 / HP of	\$ 600 / HP of
Frequency Drive (VFD) and functional performance testing	controlled fans	controlled fans

#### PSE Prescriptive Package – Office Path B – Envelope to WSEC Zone 2

Main Path Measures	Incentives	
For the PSE Office Prescriptive Package, select main path measure, one or more additional path measures, and optional enhanced measures to build a package and determine incentives.	Gas Heat	Electric Heat
<ul> <li>B. Building Envelope Improvements <ul> <li>Improve wall insulation to WSEC Zone 2 electric resistance heat level</li> <li>Improve roof insulation to WSEC Zone 2 electric resistance heat level</li> <li>Improve windows to WSEC electric resistance heat level</li> </ul> </li> <li>(Zone 2 buildings heated by electric resistance heat not eligible)</li> </ul>	\$ 0.80 / sqft conditioned space	\$ 1.00 / sqft conditioned space

Additional Path Measures	Incer	ntives
To complete the package select at least one other path measure	Gas Heat	Electric Heat
1. Additional window improvement beyond WSEC	\$ 0.25 / sqft	\$ 0.40 / sqft
electric resistance heat level ( $U \le 0.35$ )	conditioned	conditioned
	space	space
2. <b>Condensing boiler</b> for space heating with hot water	\$ 0.25 / sqft	\$ 0.40 / sqft
reset and oversized coils to ensure low return water	conditioned	conditioned
temperature and with functional performance testing	space	space
(hydronic systems only)	1	1
3. <b>Reduced lighting wattage</b> at least 20% below WSEC	\$ 0.25 / sqft	\$ 0.40 / sqft
0 0 0	conditioned	conditioned
	space	space
4. <b>High efficiency HVAC</b> - better than required by WSEC	\$ 0.25 / sqft	\$ 0.40 / sqft
(CEE Tier 1; chiller 5% IPLV improvement)	conditioned	conditioned
(	space	space
5. Enhanced HVAC controls with functional performance	\$ 0.25 / sqft	\$ 0.40 / sqft
testing	conditioned	conditioned
	space	space
	<b>^</b>	*
Enhanced Measures OPTIONAL: add enhanced measures to receive additional		ntives
incentives	Gas Heat	Electric Heat
Lighting Measures		
1. Additional interior lighting wattage reduction below	\$ 0.01 /	\$ 0.01 /
WSEC (beyond 20%)	0.01 watt per	0.01 watt per
WBLe (beyond 2070)	sqft reduction/	sqft reduction/
	sqft	sqft
	conditioned	conditioned
	space	space
2. Reduced lighting wattage in parking garages at least	\$ 0.005 / %	\$ 0.005 / %
10% below WSEC	reduction / sqft	reduction / sqft
	garage space	garage space
3. Bi-level occupancy controlled lighting in stairwells with	guiuge spuce	guiuge space
functional performance testing (for buildings $\geq$ 3 stories)	\$70 / landing	\$70 / landing
functional performance testing (for bundlings - 5 stories)	\$707 fanding	\$707 funding
Envelope Measures		
4. Higher efficiency windows - upgrade to $U \le 0.33$	\$ 0.025 / sqft	\$ 0.03 / sqft
	conditioned	conditioned
	space	space
HVAC Measures		59400
5. Higher Efficiency Air Cooled Chiller	\$ 0.023 /	\$ 0.023 /
(beyond 5% IPLV improvement)	5% IPLV	5% IPLV
r	improvement/	improvement/
	sqft	sqft
		conditioned
	conditioned	conditioned space
6. Higher Efficiency HVAC system	conditioned space	space
6. Higher Efficiency HVAC system (CEE Tier 2)	conditioned space \$ 0.02 / sqft	space \$ 0.02 /sqft for
6. Higher Efficiency HVAC system (CEE Tier 2)	conditioned space	space

7. Electronically commuted motors (ECM)	\$ 0.12 / sqft	\$ 0.12 / sqft
for variable air volume (VAV) boxes	space served by	space served by
	box	box
8. NEMA Premium Efficiency motors beyond WSEC		
• Totally Enclosed Fan Cooled (TEFC)		
1 – 5 HP	\$20/HP	\$20/HP
7.5 – 100 HP	\$7/HP	\$7/HP
125 – 200 НР	\$3/HP	\$3/HP
Open Drip-Proof Motors (ODP)		
1 – 5 HP	\$8/HP	\$8/HP
7.5 – 100 HP	\$4/HP	\$4/HP
125 – 200 HP	\$ 2 / HP	\$ 2 / HP
9. Parking garage ventilation CO control with Variable	\$ 600 / HP of	\$ 600 / HP of
Frequency Drive (VFD) and functional performance testing	controlled fans	controlled fans

PSE Prescriptive Package – Office Path C – Condensing Boiler		
<b>Package Incentives</b> are based on the path chosen (A, B, or C building - gas or electric. Refer to the package incentive table options and incentives for the package of measures selected.	) and the main type	
Main Path Measures	Main Path Measures Incentives	
For the PSE Office Prescriptive Package, select main path measure, one or more additional path measures, and optional enhanced measures to build a package and determine incentives.	Gas Heat	Electric Heat
<b>C. Condensing Boiler for space heating</b> with hot water reset and oversized coils to ensure low return water temperature and with functional performance testing (hydronic systems only)	\$ 0.50 / sqft conditioned space	N/A
Additional Path Measures	Incentives	
To complete the package select at least one other path measure	Gas Heat	Electric Heat
1. <b>Improve wall insulation</b> to WSEC Zone 2 electric resistance heat level (Zone 2 buildings heated by electric resistance heat not eligible)	\$ 0.25 / sqft conditioned space	N/A
2. <b>Improve roof insulation</b> to WSEC Zone 2 electric resistance heat level (Zone 2 buildings heated by electric resistance heat not eligible)	\$ 0.25 / sqft conditioned space	N/A
3. <b>Improve windows</b> to WSEC electric resistance heat level (buildings heated by electric resistance heat not eligible)	\$ 0.25 / sqft conditioned space	N/A
4. Additional window improvement beyond WSEC electric resistance heat level ( $U \le 0.35$ )	\$ 0.25 / sqft conditioned space	N/A
5. Enhanced HVAC controls with functional performance testing	\$ 0.25 / sqft conditioned	N/A

6. <b>Reduced lighting wattage</b> at least 20% below WSEC	\$ 0.25 / sqft conditioned space	N/A
<ul><li>7. High efficiency HVAC - better than required by WSEC (CEE Tier 1; chiller 5% IPLV improvement)</li></ul>	\$ 0.25 / sqft conditioned space	N/A
Enhanced Measures	Incen	tives
OPTIONAL: add enhanced measures to receive additional incentives	Gas Heat	Electric Heat
Lighting Measures 1. Additional interior lighting wattage reduction below WSEC (beyond 20%)	\$ 0.01 / 0.01 watt per sqft reduction/ sqft conditioned	N/A
<ol> <li>Reduced lighting wattage in parking garages at least</li> <li>10% below WSEC</li> </ol>	space \$ 0.005 / % reduction / sqft garage space	N/A
3. Bi-level occupancy controlled lighting in stairwells with functional performance testing (for buildings $\geq$ 3 stories)	\$70 / landing	N/A
Envelope Measures		
4. Higher efficiency windows - upgrade to $U \le 0.33$	\$ 0.025 / sqft conditioned space	N/A
HVAC Measures		
<ol> <li>Higher Efficiency Air Cooled Chiller (beyond 5% IPLV improvement)</li> </ol>	\$ 0.023 / 5% IPLV improvement/ sqft	N/A
	conditioned space	
6. Higher Efficiency HVAC system (CEE Tier 2)	\$ 0.02 / sqft conditioned space	N/A
7. Electronically commuted motors (ECM) for variable air volume (VAV) boxes	\$ 0.12 / sqft space served by box	N/A

8. NEMA Premium Efficiency motors beyond WSEC		
• Totally Enclosed Fan Cooled (TEFC)		N/A
1 – 5 HP	\$20/HP	
7.5 – 100 HP	\$7/HP	
125 – 200 НР	\$3/HP	
Open Drip-Proof Motors (ODP)		
1 – 5 HP	\$8/HP	
7.5 – 100 HP	\$4/HP	
125 – 200 HP	\$2/HP	
9. Parking garage ventilation CO control with Variable	\$ 600 / HP of	
Frequency Drive (VFD) and functional performance testing	controlled fans	N/A

PSE Prescriptive Package –	- Schools	
Path A - Enhanced HVAC Con		
Package Incentives are based on the path chosen (A, B, or C)		
building - gas or electric. Refer to the package incentive table	below to determin	e package
options and incentives for the package of measures selected.		
Main Path Measures	Incentives	
For the PSE Schools Prescriptive Package, select main path	Gas Heat	Electric Heat
measure, one or more additional path measures, and optional		
enhanced measures to build a package and determine incentives.		
A. Enhanced HVAC Controls with Functional	\$ 0.60 / sqft	\$ 0.55 / sqft
Performance Testing	conditioned	conditioned
For All buildings	space	space
Optimum Start	_	_
• Warm-up with outside air lockout		
• Thermostat with holiday scheduling Enhanced		
economizer control		
- Economizer lock out at outside air temperature		
above 70 F or at return air temperature		
– Integrated economizer for small packaged units		
(cooling capacity <65,000 btu/h)		
PLUS:		
For Heat Pumps		
<ul> <li>Electric strip heat lockout above 35 F outside air</li> </ul>		
temperature		
For VAV Systems		
<ul> <li>Supply air reset based on load rather than outside</li> </ul>		
air temperature		
<ul> <li>Use fans and heat in VAV boxes, not central AHU</li> </ul>		
fan and heat, in warm-up or in night set-back		
(exception: non-fan boxes if AHU uses minimum		
needed supply air and has outside air damper		
closed)		
For Hydronic Systems		
• CW & HW variable flow with VFD pumps and		
pressure control		
• CW & HW temperature reset based on load rather		
than outside air temperature		

Additional Path Measures	Incer	ntives
To complete the package select at least one other path measure	Gas Heat	Electric Heat
1. <b>Improve wall insulation</b> to WSEC Zone 2 electric	\$ 0.10 / sqft	\$ 0.15 / sqft
resistance heat level (Zone 2 buildings heated by resistance	conditioned	conditioned
heat not eligible)	space	space
2. Improve roof insulation to WSEC Zone 2 electric	\$ 0.10 / sqft	\$ 0.15 / sqft
resistance heat level (Zone 2 buildings heated by resistance	conditioned	conditioned
heat not eligible)	space	space
3. <b>Improve windows</b> to WSEC electric resistance heat	\$ 0.10 / sqft	\$ 0.15 / sqft
level (buildings heated by electric resistance heat not	conditioned	conditioned
eligible)	space	space
4. Additional window improvement beyond WSEC	\$ 0.10 / sqft	\$ 0.15 / sqft
electric heat resistance level ( $U \le 0.35$ )	conditioned	conditioned
	space	space
5. Condensing boiler for space heating with hot water	\$ 0.10 / sqft	\$ 0.15 / sqft
reset and oversized coils to ensure low return water	conditioned	conditioned
temperature and with functional performance testing	space	space
(hydronic systems only)	1	*
6. <b>Reduced lighting wattage</b> at least 20% below WSEC	\$ 0.10 / sqft	\$ 0.15 / sqft
	conditioned	conditioned
	space	space
7. <b>High efficiency HVAC</b> - better than required by WSEC	\$ 0.10 / sqft	\$ 0.15 / sqft
(CEE Tier 1; water source heat pump 5% improvement;	conditioned	conditioned
chiller 5% IPLV improvement)	space	space
Enhanced Measures	Incer	ntives
OPTIONAL: add enhanced measures to receive additional	Gas Heat	Electric Heat
incentives		
Lighting Measures		
1. Additional interior lighting wattage reduction below	\$ 0.01 /	\$ 0.01 /
WSEC (beyond 20%)	0.01 watt per	0.01 watt per
	sqft reduction/	sqft reduction/
	sqft	sqft
	conditioned	conditioned
	space	space
2. Daylighting controls in gym with skylights to WSEC	\$ 0.60 / sqft	\$ 0.42 / sqft
electric resistance heat level and functional performance	of daylit space	of daylit space
testing	_	_
3. Reduced lighting wattage in parking garages at least	\$ 0.005 /	\$ 0.005 /
10% below WSEC	% reduction /	% reduction /
	sqft garage	sqft garage
	space	space
Envelope Measures		
4. Higher efficiency windows – upgrade to $U \le 0.33$	\$ 0.02 / sqft	\$ 0.03 / sqft
	conditioned	conditioned
	space	space

HVAC Measures		
5. Higher Efficiency Air Cooled Chiller (beyond 5% IPLV	\$ 0.03 /	\$ 0.03 /
improvement)	5% IPLV	5% IPLV
	improvement/	improvement/
	sqft	sqft
	conditioned	conditioned
	space	space
6. Higher Efficiency HVAC system	\$ 0.01 / sqft	\$ 0.08 / sqft
(CEE Tier 2; water source heat pumps for each additional	conditioned	conditioned
5% improvement)	space	space
7. Electronically commuted motors (ECM)	\$ 0.12 / sqft	\$ 0.12 / sqft
for variable air volume (VAV) boxes	space served by	space served by
	box	box
8. Condensing Boiler for domestic hot water heating	Elem. School:	Elem. School:
with functional performance testing	\$0.003 / sqft	\$0.003 / sqft
	conditioned	conditioned
	space;	space;
	Middle School:	Middle School:
	\$0.005 / sqft	\$0.005 / sqft
	conditioned	conditioned
	space	space
9. Demand Control Ventilation (DCV) in library with	\$ 0.90 / sqft	\$ 1.25/ sqft
functional performance testing	of library	of library
10. NEMA Premium Efficiency motors beyond WSEC		
• Totally Enclosed Fan Cooled (TEFC)		
1 – 5 HP	\$20/HP	\$20/HP
7.5 – 100 HP	\$ 7 / HP	\$7/HP
125 – 200 HP	\$3/HP	\$ 3 / HP
Open Drip-Proof Motors (ODP)		
1 – 5 HP	\$8/HP	\$8/HP
7.5 – 100 HP	\$4/HP	\$4/HP
125 – 200 HP	\$ 2 / HP	\$ 2 / HP
11. Parking garage ventilation CO control with Variable	\$ 600 / HP of	\$ 600 / HP of
Frequency Drive (VFD) and functional performance testing	controlled fans	controlled fans

PSE Prescriptive Package - Path B – Envelope to WSEC Z		
<b>Package Incentives</b> are based on the path chosen (A, B, or C building - gas or electric. Refer to the package incentive table options and incentives for the package of measures selected.	) and the main type	
Main Path Measures	Incer	ntives
For the PSE Schools Prescriptive Package, select main path measure, one or more additional path measures, and optional enhanced measures to build a package and determine incentives.	Gas Heat	Electric Heat
<b>B. Building Envelope Improvements</b>	\$ 0.80 / sqft	\$ 0.85 / sqft
Envelope Improvements	conditioned	conditioned
• Improve wall insulation to WSEC Zone 2 electric resistance heat level	space	space
• Improve roof insulation to WSEC Zone 2 electric resistance heat level		
<ul> <li>Improve windows to WSEC electric resistance heat level</li> </ul>		
(Zone 2 buildings heated by electric resistance heat not eligible)		
Additional Path Measures	Incer	ntives
To complete the package select at least one other path measure	Gas Heat	Electric Heat
1. Additional window improvement beyond WSEC	\$ 0.10 / sqft	\$ 0.15 / sqft
electric resistance heat level ( $U \le 0.35$ )	conditioned	conditioned
	space	space
2. Condensing boiler for space heating with hot water	\$ 0.10 / sqft	\$ 0.15 / sqft
reset and oversized coils to ensure low return water	conditioned	conditioned
temperature and with functional performance testing	space	space
(hydronic systems only)		
3. Reduced lighting wattage at least 20% below WSEC	\$ 0.10 / sqft	\$ 0.15 / sqft
	conditioned	conditioned
	space	space
4. <b>High efficiency HVAC</b> - better than required by WSEC	\$ 0.10 / sqft	\$ 0.15 / sqft
(CEE Tier 1; water source heat pump 5% improvement;	conditioned	conditioned
chiller 5% IPLV improvement)	space	space
5. Enhanced HVAC controls with functional performance	\$ 0.10 / sqft	\$ 0.15 / sqft
testing	conditioned	conditioned
	space	space

Enhanced Measures	Incer	ntives
OPTIONAL: add enhanced measures to receive additional	Gas Heat	Electric Heat
incentives		
Lighting Measures		
1. Additional interior lighting wattage reduction below	\$ 0.01 / sqft	\$ 0.01 / sqft
WSEC (beyond 20%)	conditioned	conditioned
	space	space
2. Daylighting controls in gym with skylights to WSEC	\$ 0.60 / sqft	\$ 0.42 / sqft
electric resistance heat level and functional performance	of daylit space	of daylit space
testing		
3. Reduced lighting wattage in parking garages at least	\$ 0.005 /	\$ 0.005 /
10% below WSEC	% reduction /	% reduction /
	sqft garage	sqft garage
	space	space
Envelope Measures		
4. Higher efficiency windows – upgrade to $U \le 0.33$	\$ 0.02 / sqft	\$ 0.03 / sqft
	conditioned	conditioned
	space	space
HVAC Measures		
5. Higher Efficiency Air Cooled Chiller	\$ 0.03 /	\$ 0.03 /
(beyond 5% IPLV improvement)	5% IPLV	5% IPLV
	improvement/	improvement/
	sqft	sqft
	conditioned	conditioned
	space	space
6. Higher Efficiency HVAC system	\$ 0.01 / sqft	\$ 0.08 / sqft
(CEE Tier 2; water source heat pumps for every 5%	conditioned	conditioned
improvement)	space	space
7. Electronically commuted motors (ECM)	\$ 0.12 / sqft	\$ 0.12 / sqft
for variable air volume (VAV) boxes	space served by	space served by
	box	box
8. Condensing Boiler for domestic hot water heating	Elem. School:	Elem. School:
with functional performance testing	\$0.003 / sqft	\$0.003 / sqft
	conditioned	conditioned
	space;	space;
	Middle School:	Middle School:
	\$0.005 / sq.ft	\$0.005 / sq.ft
	.conditioned	.conditioned
	space	space
9. Demand Control Ventilation (DCV) in library with	\$ 0. 90 / sqft	\$ 1.25/ sqft
functional performance testing	of library	of library

10. NEMA Premium Efficiency motors beyond WSEC		
• Totally Enclosed Fan Cooled (TEFC)		
1 – 5 HP	\$20/HP	\$20/HP
7.5 – 100 HP	\$7/HP	\$7/HP
125 – 200 HP	\$3/HP	\$ 3 / HP
Open Drip-Proof Motors (ODP)		
1 - 5 HP	\$8/HP	\$8/HP
7.5 – 100 HP	\$4/HP	\$4/HP
125 – 200 НР	\$2/HP	\$ 2 / HP
11. Parking garage ventilation CO control with Variable	\$ 600 / HP of	\$ 600 / HP of
Frequency Drive (VFD) and functional performance testing	controlled fans	controlled fans

#### PSE Prescriptive Package - Schools Path C – Condensing Boiler

Main Path Measures	Incentives		
For the PSE Schools Prescriptive Package, select main path measure, one or more additional path measures, and optional enhanced measures to build a package and determine incentives.	Gas Heat	Electric Heat	
<b>C. Condensing Boiler for space heating</b> with hot water reset and oversized coils to ensure low return water temperature and with functional performance testing (hydronic systems only)	\$ 0.60 / sqft conditioned space	N/A	
Additional Path Measures	Ince	ntives	
To complete the package select at least one other path measure	Gas Heat	Electric Heat	
1. <b>Improve wall insulation</b> to WSEC Zone 2 electric resistance heat level (Zone 2 buildings heated by electric resistance heat not eligible)	\$ 0.10 / sqft conditioned space	N/A	
2. <b>Improve roof insulation</b> to WSEC Zone 2 electric resistance heat level (Zone 2 buildings heated by electric resistance heat not eligible)	\$ 0.10 / sqft conditioned space	N/A	
3. <b>Improve windows</b> to WSEC electric resistance heat level (buildings heated by electric resistance heat not eligible)	\$ 0.10 / sqft conditioned space	N/A	
4. Additional window improvement beyond WSEC electric resistance heat level ( $U \le 0.35$ )	\$ 0.10 / sqft conditioned space	N/A	
5. Enhanced HVAC controls with functional performance testing	\$ 0.10 / sqft conditioned space	N/A	
6. <b>Reduced lighting wattage</b> at least 20% below WSEC	\$ 0.10 / sqft conditioned space	N/A	

	¢0.10 / 0	
7. <b>High efficiency HVAC</b> - better than required by WSEC	\$0.10 / sqft	
(CEE Tier 1; water source heat pump 5% improvement;	conditioned	N/A
chiller 5% IPLV improvement)	space	
Enhanced Measures	Incen	
OPTIONAL: add enhanced measures to receive additional	Gas Heat	Electric Heat
incentives		
Lighting Measures		
1. Additional interior lighting wattage reduction below	\$ 0.01 /	N/A
WSEC (beyond 20%)	0.01 watts per	
	sqft reduction/	
	sqft	
	conditioned	
	space	
2. Daylighting controls in gym with skylights to WSEC	\$ 0.60 / sqft	N/A
electric resistance heat level and functional performance	of daylit space	
testing		
3. Reduced lighting wattage in parking garages at least	\$ 0.005 / %	N/A
10% below WSEC	reduction / sqft	
	garage space	
Envelope Measures		/ .
4. Higher efficiency windows - upgrade to $U \le 0.33$	\$ 0.02 / sqft	N/A
	conditioned	
	space	
HVAC Measures	¢ 0 02 / 50/	
5. Higher Efficiency Air Cooled Chiller	\$ 0.03 / 5%	N/A
(beyond 5% IPLV improvement)	. IPLV	
	improvement/	
	sqft	
	conditioned	
( High on Efficience IIVAC sustain	space	N/A
6. Higher Efficiency HVAC system	\$ 0.01 / sqft conditioned	N/A
(CEE Tier 2; water source heat pumps for every 5%		
improvement) 7. Electronically commuted motors (ECM)	space	N/A
7. Electronically commuted motors (ECM) for variable air volume (VAV) boxes	\$ 0.12 / sqft	1N/A
ior variable all volume (vAv) boxes	space served by	
8. Condensing Boiler for domestic hot water heating	box Elem. School:	
with functional performance testing	\$0.003 / sqft	
with functional performance testing	conditioned	
	space;	N/A
	Middle School:	1 N/ <i>I</i> <b>1</b>
	\$0.005 / sqft	
	conditioned	
9. Demand Control Ventilation (DCV) in library with	space \$ 0.90 / sqft	N/A
functional performance testing	of library	1 N/ <i>L</i> N
runenonal performance usung	or notary	

10. NEMA Premium Efficiency motors beyond WSEC		
• Totally Enclosed Fan Cooled (TEFC)		
1 – 5 HP	\$20/HP	N/A
7.5 – 100 HP	\$7/HP	
125 – 200 HP	\$3/HP	
Open Drip-Proof Motors (ODP)		
1-5 HP	\$8/HP	
7.5 – 100 HP	\$4/HP	
125 – 200 НР	\$2/HP	
11. Parking garage ventilation CO control with Variable	\$ 600 / HP of	N/A
Frequency Drive (VFD) and functional performance testing	controlled fans	

LEED Prescriptive Program Package NBI Core Performance Package Requirements			
Core Performance Measures	Incentive		
<b>Requires installation of all 13 Core Performance Measures</b>			
1. Energy Code Compliance			
2. Continuous Air Barrier			
3. Minimum IAQ performance	\$ 0.50 / sqft of conditioned		
4. Below-Grade Exterior Performance	space		
5. Opaque Envelope Performance	-		
6. Fenestration Performance			
7. Lighting Controls			
8. Lighting Power Density			
9. Mechanical Efficiency Requirements			
10. Dedicated Mechanical Systems			
11. Demand Control Ventilation			
12. Domestic Hot Water System Efficiency			
13. Fundamental Economizer Performance			
Details at: http://www.newbuildings.org; http://www.usgbc.org			

	BPA Package for Offices – Energy Smart Design				
	For Offices Only           Office Package Measures         Incentive				
Re	equires installation of all 7 Office Package Measures				
1.	Cooling Efficiency CEE Tier 2				
2.	Higher efficiency windows – upgrade to $U \le 0.35$				
3.	Window Solar Heat Gain Coefficient (SHGC) $\leq 0.30$	\$ 0.50 / sqft of			
4.	Enhanced economizer with functional performance testing	conditioned space			
5.	Integrated design of HVAC system with checklist				
6.	Lighting wattage reduction to 0.75 watts/sqft				
7.	Occupancy sensors where not required by code for				
	lighting loads >100 watts				
Details	at: <u>http://www.bpa.gov/esd</u>				

.....

## Small Business Lighting Measures

#### Eligibility

Electric Customers with an estimated or actual Demand of 50 kilowatts or less monthly and residential & farm general service electric Customers, rate Schedules 24 or 08 Facilities only.

#### Incentives

In addition to the measures listed below the small business rebate includes a Custom Analysis option for measures that are not available on the list. The Custom Analysis option provides a method to include less-common retrofits in a cost-effective manner, similar to PSE's standard Small Business Lighting rebates. Custom analysis option incentives are capped at 70 percent of the measure cost or not more than the amount meeting PSE's standard cost effectiveness tests.

## Lighting

Measure	Amount	Eligibility
Compact Fluorescent Lamps		Purchasing and installing a qualified CFL or specialty lamp where an incandescent lamp could be used.
	(A) \$3.00/unit	ENERGY STAR® qualified lamps less than 26W
	(B) \$6.00/unit	ENERGY STAR® qualified specialty lamps ranging from 26W to 39W
	(C) \$6.00/unit	ENERGY STAR® qualified specialty lamps equal to or less than 39W (Including qualifying cold cathodes with warranties of at least 2 years and which produce at least 35 lumen per Watt)
	(D) \$12.00/unit	ENERGY STAR® qualified lamps (including specialty lamps) equal to or greater than 40W

Measure	Device/Unit Is Replacing:	Amount	Eligible Replacements
Incandescent Replacement	l Fixtures and Exit Sign s		
	Incandescent fixture, 100W or less combined	\$35.00/fixture	New CFL fixture or hardwired kit with replaceable lamp, 25 total input watts or less.
	Incandescent fixture, 100W or greater combined	\$55.00/fixture	New CFL fixture or hardwired kit with replaceable lamp, 26 total input watt or more.
	Incandescent fixture, 120W or greater combined	\$70.00/fixture	New linear fluorescent fixture, one or two lamp and one electronic ballast.
	Exit sign, incandescent or CFL lamp(s)	\$50.00/fixture	New LED exist sign (not a kit) Energy Star® listed.
	ge Incandescent and High harge Replacements		
	Incandescent or mercury vapor fixture great than 175 input watts	\$90.00/fixture	New High Intensity Discharge (HID) fixture: HPS or MH (50 – 100W)
	High Intensity Discharge (HID) fixture primarily metal halide	\$125.00/ fixture	Pulse start metal halide – Must have great than 25 percent input wattage reduction.
	HID fixture greater than 100 input watts.	\$110.00/ fixture	New CFL fixture greater than 40 input watts
	HID fixture greater than 175 input watts.	\$130.00/ fixture	New CFL fixture greater than 80 input watts
	Incandescent or HID firxture greater than 175 input watts.	\$110.00/ Fixture	New four-lamp F32T8 fixture with electronic ballast(s).
	HID fixture greater than 400 input watts.	\$225.00/ Fixture	New six-lamp F32T8 fixture with electronic ballasts.
	HID fixture greater than 400 input watts.	\$225.00/ Fixture	New four-lamp F54T5HO fixture with electronic ballast(s).

Measure	Device/Unit Is Replacing:	Amount	Eligible Replacements
	l prescent – High performance llast retrofits only		
	F40T12, One or two-lamp fixture with one magnetic ballast	\$50.00/fixture	"Lamp-for-lamp": F32T8 lamp(s). Low ballast factor ballast required.
	F40T12, Three or four-lamp fixture with two magnetic ballasts	\$55.00/fixture	"Lamp-for-lamp": F32T8 lamp(s). Low ballast factor ballast required.
	F40T12, Four-lamp fixture with two magnetic ballasts	\$60.00/fixture	Reduce lamps to two F32T8 lamps and one electronic ballast.
linear high pe	 ht-foot fluorescent – New rformance T8 fixtures and is (NRTL-Listed)		
	F40T12, One or two-lamp fixture, one magnetic ballast.	\$50.00/fixture	One or two F32T8 lamp(s). <i>Low ballast factor</i> required.
	F40T12, Three or four-lamp fixture, magnetic ballasts.	\$70.00/fixture	Lamps reduced to two or three F32T8. <i>Low ballast factor</i> ballast recommended.
	F96T12 One lamp fixture, one magnetic ballast	\$70.00/fixture	Two F32T8 lamps and one electronic ballast. <i>Low ballast factor</i> ballast required.
	F96T12 Two lamp fixture, one magnetic ballast	\$85.00/fixture	Two F32T8 lamps and one electronic ballast. <i>Low ballast factor</i> ballast required.
	F96T12 Two lamp fixture, one magnetic ballast	\$70.00/fixture	Four F32T8 lamps and one electronic ballast. <i>Low ballast factor</i> ballast required.
	F96T12 HO Two lamp high- output fixture, one magnetic ballast	\$90.00/fixture	Four F32T8 lamps and one electronic ballast.
	F96T12 HO Two lamp high- output fixture, one magnetic ballast	\$95.00/ Fixture	Four F32T8 lamps <i>with reflector</i> and one electronic ballast.

Measure	Amount	Eligibility
Lighting Controls		
	\$40.00	Occupancy sensor (including fixture mounted) or timer control, controlling 100W to 199W.
	\$80.00	Occupancy sensor (including fixture mounted) or timer control, controlling 200W or more.

## **LED Traffic Signals**

## Eligibility

Customers must receive electric service from PSE to qualify for the Incentives, and Customers with unmetered accounts must document all connected load at the intersection. New installations will not be eligible for an incentive as the LED traffic lights are required by code. Only retrofits of existing incandescent traffic signals are eligible for incentives.

#### Incentives

TYPE OF SIGNAL	INCENTIVE AMOUNT
12" Red Ball	\$ 10.00 each
12" Red Arrow	\$ 10.00 each
8" Red Ball	\$ 10.00 each
Red Ped. Crossing Signal	\$ 10.00 each
12" Green Ball	\$ 20.00 each
8" Green Ball	\$ 20.00 each
12" Green Arrow	\$ 20.00 each
Yellow Module – Any Size	\$ 5.00 each

Note 1: Additional \$5/yellow if Yellow Thru light is replaced in conjunction with Red & Green

## Commercial and Industrial Large Power user Self-Directed

#### Eligibility

Customers receiving electrical service from the Company under Schedules 40, 46, 49, 448, 449, 458 or 459 (or their equivalent) of Electric Tariff G with cost-effective electric energy efficiency projects are eligible to respond to the Company's Requests for Proposals (RFPs). The RFPs outline all project funding criteria.

Incentives are calculated on an individual basis. They take the form of a grant, which is provided upon completion and verification of the project and may pay up to 100% of the project cost, based on PSE Energy Efficiency Cost Effectiveness Standards.

#### Incentives

The program is a custom incentive program. It is not limited to any measure type or markets. It is intended to provide the customer flexibility in developing projects that will result in energy savings.

Grants may be paid for projects in the following areas. Categories include, but are not limited to:

#### HVAC and Refrigeration:

HVAC – unitary HVAC – central Heat Recovery Systems Chillers Economizers

#### **Process Efficiency Improvements:**

Refrigeration Systems Motor and Drive Systems Fan, Compressor and Pump Systems or Stations High Efficiency Motors Other Process Modifications

#### Building Thermal Improvements:

Roof and Ceiling Insulation Exterior Roof Insulation Wall Insulation Insulated Windows Duct Insulation

**Commissioning:** Commissioning Energy Systems

#### C/I Process Improvement Program

#### Controls:

Energy Management Systems Lighting Control Systems Process and Other Efficiency Control Systems

#### Lighting Improvements:

Fluorescent Luminaires Compact Fluorescent Luminaires HID Luminaires LED and EL Exit Signs

#### Water Heating Improvements:

Water Heaters Piping Insulation Low Flow Devices

## Resource Conservation Management (RCM)

## **Commercial and Industrial Incentives**

## Eligibility

Any Customer, Owner, or Tenant with appropriate owner consent, who purchase or arrange for the installation of qualifying products, of a commercial or industrial facility receiving bundled natural gas service or electric service under the Company's Schedules 24, 25, 26, 29, 31, 40, 43, 46 or 49 (or their equivalent). Schedule 448, 449, 458, and 459 customers may utilize their Schedule 258 funding allocation for Commercial and Industrial Incentives.

#### Incentives

#### Appliances

Measure	Amount	Eligibility
High-Efficiency Clothes Washers	\$200.00/unit	CEE qualified
Dishwashers	energy source for wa outlined by the table is purchased. Some lease result in the cu the lease period. When the energy for PSE will pay the eligi corresponds to the cu provided by PSE. In applicable instance provides the energy for Snohomish County, I County PUD provide	ve a rebate based on dishwasher type and the ther heating and/or a booster heater as below when an Energy Star® Qualified model leased equipment may also qualify when the stomer owning the equipment at the end of water heating and the booster is different, the customer the rebate amount that component of the equipment using energy es, PSE will coordinate with the utility that for the opposite energy use (for instance, in PSE provides the natural gas and Snohomish s the electricity) and the water utility for ential incentives when those utilities have es.

Dishwashers	Water	Booster	Electric	Gas	Total
Type Under Counter, Low Temp	Heat Type	Туре	Rebate*	Rebate*	Rebate
Under Counter, Low Temp	E	-	\$250	<b>\$</b> 252	\$250
Under Counter, High Temp	G	-	<b>\$</b> 500	\$250	\$250
	E	E	\$500	<b>*</b>	\$500
Under Counter, High Temp	G	E	\$150	\$350	\$500
Under Counter, High Temp	E	G	\$350	\$150	\$500
Under Counter, High Temp	G	G		\$500	\$500
Door Type, Low Temp	E	-	\$1,000		\$1,000
Door Type, Low Temp	G	-		\$1,000	\$1,000
Door Type, High Temp	E	E	\$1,000		\$1,000
Door Type, High Temp	G	E	\$350	\$650	\$1,000
Door Type, High Temp	E	G	\$650	\$350	\$1,000
Door Type, High Temp	G	G		\$1,000	\$1,000
Single Tank Conveyor, Low Temp	Е	-	\$1,000		\$1,000
Single Tank Conveyor, Low Temp	G	-		\$1,000	\$1,000
Single Tank Conveyor, High Temp	E	Е	\$1,500		\$1,500
Single Tank Conveyor, High Temp	G	Е	\$500	\$1,000	\$1,500
Single Tank Conveyor, High Temp	E	G	\$1,000	\$500	\$1,500
Single Tank Conveyor, High Temp	G	G		\$1,500	\$1,500
Multi Tank Conveyor, Low Temp	Е	-	\$1,500		\$1,500
Multi Tank Conveyor, Low Temp	G	-		\$1,500	\$1,500
Multi Tank Conveyor, High Temp	Е	Е	\$2,000		\$2,000
Multi Tank Conveyor, High Temp	G	Е	\$500	\$1,500	\$2,000
Multi Tank Conveyor, High Temp	Е	G	\$1,500	\$500	\$2,000
Multi Tank Conveyor, High Temp	G	G	+ ,	\$2,000	\$2,000
	U		*plus \$30 deale	er incentive for u	
			and door type units		er invoice at point of sale.
*plus \$50 dealer incentive for single and multi tank conveyor units if taken off dealer invoice at point of sale.					

## **Cooking Equipment**

Measure	Amount	Eligibility
Steamers	\$750.00/unit	Energy Star® Qualified
Deep Fat Fryer	\$250.00/electric unit \$750.00/gas unit	Energy Star® Qualified

## Cooking Equipment, Cont.

Measure	Amount	Eligibility
Hot Food Holding Cabinet		
18 cubic feet and larger	\$500.00/unit	Energy Star® Qualified
>12 to <18 cubic feet	\$500.00/unit	Energy Star® Qualified
7 to 12 cubic feet	\$250.00/unit	Energy Star® Qualified
Commercial Natural Gas or Electric Convection Ovens:	\$1,000.00/oven cavity* * Plus \$50 dealer incentive if taken off dealer invoice at point of sale.	A list, based on the Food Service Technology Center (FSTC) will be made available to commercial kitchen equipment dealers and will be posted on the Company's website.
Electric Combi Oven	\$2,000.00/unit*	
	* Plus \$50.00 dealer incentive if taken off dealer invoice at point of sale.	
Single or Double-Rack Oven	\$2,000.00/unit*	
	* Plus \$50.00 dealer incentive if taken off dealer invoice at point of sale.	

## Controls

<u>Measure</u>	<u>Amount</u>	Eligibility
Vending Machine Controller/Customer Installed	\$80.00 per controller.	Customers who purchase the vending machine controller and install the device inhouse.
Vending Machine Controller/Direct Install	Provided at no cost to customer	Direct install program that installs the vending machine controller at the Customer's site at no cost to Customers.

#### Controls, Cont.

Measure	Amount	Eligibility
Thermostat Controllers for Portable Classrooms (3 options)		For any eligible portable classroom:
	A) Up to a maximum of \$250.00/unit	365-Day Programmable Thermostat Incentive is 100% of thermostat cost up to maximum.
	B) Up to a maximum of \$300.00/unit	365-Day Programmable Thermostat with integral occupancy sensor that controls ventilation OR lighting Incentive is 100% of cost up to maximum.
	C) Up to a maximum of \$350.00/unit	365-Day Programmable Thermostat with integral occupancy sensor that controls ventilation AND lighting Incentive is 100% of cost up to maximum.
Seven Day Programmable Thermostats	\$50.00 per thermostat	<ul> <li>Programmable unit replaces a non- programmable,</li> </ul>
		<ul> <li>Must be able to maintain settings during periods of power loss,</li> </ul>
		<ul> <li>Controls must allow seven-day programming, manual override,</li> </ul>
		<ul> <li>Must be capable of "optimal start" (automatically varies start-up times).</li> </ul>
Occupancy Sensors (OS) and Timer Controls		
Option A:	\$40.00/installed unit	OS & Timer, controlling 100-199 Watts.
Option B:	\$80.00/installed unit	OS & Timer, controlling greater than or equal to 200 Watts.
PC Power Management Software	\$8.00 per regulated PC + Monitor system	Limited to networked desktop systems, to be installed on customers' servers

## **Drives & Motors**

Measure	Amount	Eligibility
Variable Speed Drives	\$100.00 per motor HP for HVAC fan and HVAC pump applications	Where not required by Energy Codes. Eligible applications are HVAC fan motors and HVAC pump motors in closed-loop systems.
Electronically-Commutated Motors for HVAC related fans	\$0.12 per square foot	Where not required by code.

#### Drives and Motors, Cont.

Measure	Amount		Eligibility	
NEMA® Premium Efficiency Motors	\$20.00 1-5 hp /hp		TEFC motors meeting NEMA premium standards	
	\$7.00/ hp	7.5-100 hp		
	\$3.00/ hp	125-200hp		
	\$8.00/ hp	1-5 hp	ODP Motors meeting NEMA premium standards	
	\$4.00/ hp	7.5-100 hp		
	\$2.00/ hp	25-200hp		
Green Motor Rewinding	\$2.00 per rated horsepower of the rewound motor		15 to 5,000 horsepower. Incentive provided to rewinding shop, who will agree to provide half to the motor owner.	

## Hospitality

Measure	Amount	Eligibility
Hospitality Restroom Lighting Controls	\$10.00/unit	Electric customers who purchase qualifying lighting products for restrooms within guest rooms with a minimum connected load of 50W.
Hospitality HVAC Occupancy Controls	\$75.00/unit	Unoccupied set point differential must be at least eight (8) degrees Fahrenheit.
Hospitality High Efficiency Terminal Heat Pumps	\$150.00/unit	Commercial electric customers who purchase qualifying Packaged Terminal Heat Pumps and install them in PSE service territory.

## HVAC

Measure	Amount	Eligibility	
High Efficiency Heat Pumps and Air Conditioners— <b>New</b> <b>Applications.</b>	\$30.00/ton	Must meet CEE Tier I qualifications.	
High Efficiency HVAC		PSE customers receiving bundled natural	
Installation—Retrofit		gas service under Schedules 31, 36, or 41,	
Applications		or electric service under Schedules 24, 25, or 26 and using an operational heating and/or cooling system to provide conditioned air to an eligible facility; meets CEE Tier I or better qualifications.	

#### HVAC, Cont.

HVAC Ret	HVAC Retrofit		Rebate per Ton	Rebate per Ton
	All equipment the new equipment has been purchased to replace must be removed.		CEE Tier I	CEE Tier II
	Retrofit System Heat Pump Dual Fuel Heat Pump		\$100 \$300	\$150 \$350
		Gas Pack	\$500	\$550
Existing System	*Electric/Electric	Retrofit System		
ting	ric/E	Heat Pump	\$500	\$550
Exist	Electi	Dual Fuel Heat Pump	\$500	\$550
	*	Gas Pack	\$500	\$550
	tric			
	Gas/Electric	Retrofit System		
	Gas	Gas/Electric	\$100	\$150

\*Note: Electric/Electric systems are those which are designed to provide heating solely through electric resistance.

Measure	Amount	Eligibility
Premium HVAC Service	Three Incentive categories; Retail, Specialty Retail and Office, each with an incremental variety of service offerings, ranging from \$50.00* to \$1,870.00 per unit, depending on system size; under 20 tons and over 20 tons. *Some incentive packages are provided concurrently and in addition to others.	Customers receiving electricity and/or bundled natural gas service under electric schedules 24, 25, or 26 and natural gas schedules 31, 36, or 41. Based on the level of Premium Services and amount of equipment repair or replacement required at the site. Details can be obtained at the Company's website: <u>http://www.pse.com/SOLUTIONS/FORBUSI</u> <u>NESS/pages/comRebates.aspx?tab=3&amp;cha</u> <u>pter=4</u> .

## Lighting

Measure	Amount	Eligibility
Compact Fluorescent Lamps		Purchasing and installing a qualified CFL or specialty lamp where an incandescent lamp could be used.
	(A) \$3.00/unit	ENERGY STAR® qualified lamps less than 26W
	(B) \$6.00/unit	ENERGY STAR® qualified lamps less than 26W
	(C) \$6.00/unit	ENERGY STAR® qualified specialty lamps equal to or less than 39W (Including qualifying cold cathodes with warranties of at least 2 years and which produce at least 35 lumen per Watt)
	(D) \$12.00/unit	ENERGY STAR® qualified lamps (including specialty lamps) equal to or greater than 40W

 $^*$  Qualifying dealers, retailers or other vendors who are under agreement with PSE may earn up to 25¢ per lamp if rebate taken at point of sale.

## Lighting, Continued

Ceramic Metal Halide Lamps	Self ballasted parabolic aluminized reflector (PAR) ceramic metal halide (CMH) lamps		
22 – 28 Watts	\$25.00 per lamp Underwrit		iters Laboratories® certified.
LED Exit Signs			
Option A	\$50.00 per fixture	Complete removal and replacement of t entire exit sign, including its component and enclosure.	
LED Exit Sign Retrofit Kit	\$30 per fixture retrofitted       Commercial, industrial or agricultural customer receiving electric service un any electric Schedule, with the except Schedule 258.         Includes internal sign components or Hardwired kits only, meeting previous Energy Star® specifications, noted b where the original bases for the incandescent or CFL lamps are disat removed.		receiving electric service under ric Schedule, with the exception of 258. internal sign components only. d kits only, meeting previous tar® specifications, noted below, e original bases for the cent or CFL lamps are disabled or
	Energy-Efficiency Characteristic		Performance Specifications
	Input power demand		5 watts or less per sign
	Power factor (for electrically- powered, internally-illuminated signs only) Reliability Characteristics Manufacturer warranty for defects in materials and manufacturing Product Listing		Any leading power factor is satisfactory. A lagging power factor not less than 0.7 is satisfactory.
			Specification
			Replacement of defective parts for 5 years from date of purchase
			Listed in accordance with UL 924
# Refrigeration

Measure	Amount	Eligibility	
Solid Door Refrigerator	\$125.00 - \$175.00 per unit* * Plus \$30.00 dealer incentive if taken off dealer invoice at point of sale.	CEE <sup>®</sup> Tier II refrigerator, depending on size, number of doors.	
Solid Door Freezer	\$150.00 - \$200.00 per unit* * Plus \$30.00 dealer incentive if taken off dealer invoice at point of sale.	CEE Tier II freezer, depending on size, number of doors.	
Glass Door Refrigerator		Models qualified by the Food Service Technology Center	
	(A) \$125.00/unit*	less than 19.0 cu ft	
	(B) \$150.00/unit*	19.1 to 30.0 cu ft.	
	(C) \$175.00/unit*	30.1 to 60.0 cu ft.	
	(D).\$200.00/unit*	Over 60.0 cu ft	
	* Plus \$30.00 dealer incentive if taken off dealer invoice at point of sale.		
Commercial Ice Makers		Ice makers that meet PSE's Super Efficient	
(Ice Harvest Rate)		Ice Maker kWh/lb of ice made in 24 hours cut off as outlined in the table below:	
500 lbs. and under	\$300.00/unit*		
Over 500 lbs.	\$600.00/unit*		
	* Plus \$30.00 dealer ind	centive if taken off dealer invoice at point of sale.	

# Refrigeration, Cont.

### **Commercial Ice Makers**

Ice Harvest Rate	Up to	201-	301-	401-	501-	1001-	over
(Pounds per 24 hr period)	<u>200</u>	300	400	500	1000	1500	<u>1500</u>
	lbs	lbs	<u>lbs</u>	lbs	lbs	<u>lbs</u>	<u>lbs</u>
Kilowatt-hour per pound of							
ice							
Water-cooled ice making							
heads	5.2	5.2	4.7	4.4	4.1	3.8	3.4
Water-cooled, self-							
contained unit	5.2	5.2	4.7	4.4	3.9	2.9	2.4
Air-cooled ice making							
heads	6.6	6.6	6.1	5.5	5.4	5	4.7
Air-cooled remote							
condensing unit	6.6	6.6	6.1	5.5	5.4	5	4.7
Air-cooled self-contained							
unit	6.6	6.6	6.1	5.5	5.4	4.5	4

# Water; Heat & Management

Measure	Amount	Eligibility
Pre-rinse spray heads 1.6, 1.0 or 0.6 gallons per minute	Installed at the Customer's site at no charge.	Hot water applications only. Food service entities who use electricity or natural gas to heat water.
Aerators 0.5 gpm	Installed at the Customer's site at no charge.	Available only where there are hot water applications for customers who use electricity or natural gas to heat water.
Gas Boiler Tune-Ups	Cost of the tune-up, to a maximum of \$600.00 per boiler	300,000 BTU/Hr or larger boilers, equipped with power burners.
Natural Gas High-Efficiency Water Heaters and Boilers in Full-Service Restaurants	Water Heaters: \$4.71/MBH (1,000 Btu/hr) Boilers: \$6.11/MBH	PSE full-service restaurant customers receiving bundled natural gas service under rate schedule 31,36 or 41 with water heaters or boilers, having a greater than or equal to 92% efficiency factor, whose load includes a commercial dishwasher.
Natural gas hot water boilers serving Commercial laundries or multifamily laundry rooms	\$6.00/MBH	The installed water heater shall have a minimum thermal efficiency of 94% as tested in accordance with ANSI Z21.10.3 <i>Gas Water Heaters – Volume III, Storage</i> <i>Water Heaters With Input Ratings Above</i> 75,000 Btu Per Hour, Circulating and Instantaneous.

# **RCM Incentives**

### Eligibility

Any school district, public-sector government agency and commercial or industrial (C/I) Customer with facilities receiving electric service under Electric Tariff G from PSE. Schedule 448, 449, 458, and 459 customers may utilize their Schedule 258 funding allocation for Resource Conservation Management (RCM) Incentives.

## **General Description of Program Offerings**

**Resource Accounting Software** - PSE will assist in selection, purchase, and set-up of a resource accounting software and annual technical support maintenance fees if the Customer agrees to maintain the system and provide annual consumption reports.

**Initial Cash Incentive** - For qualifying organizations, PSE will pay a cash incentive determined as a percentage of the typical RCM salary to help get the program started with initial set-up of utility database and program organization. PSE will fund 35 percent of the time spent on establishing the RCM program during the first year provided the Customer completes a set of four deliverables. Customers receive support tailored to their needs, including staff training, technical assistance, interval metering, salary guarantees, site-based incentives, and other services.

**Performance-Based Incentives** - PSE may provide additional cash incentives to Customers who achieve a pre-established targeted amount of energy savings in years two and three of a three-year program. The savings must relate to occupant and behavioral practices and improvements in operational and maintenance (O&M) practices. Energy savings targets are established each year and are based on a 5 percent reduction over the previous 12-months energy profile. Actual savings are calculated and verified by PSE staff.

**Salary Guarantee** - PSE will provide a salary guarantee that the Customers' total resource bill savings achieved by RCM activities relating to occupant and behavioral practices and improvements in operational and maintenance (O&M) practices exceed the salary of the RCM. If not, the difference will be paid to the Customer up to the value of the natural gas and electrical savings achieved, as determined by weather corrected reduction of the Customer's utility bills or by single Measure calculations agreed to by PSE.

**Site-Based Incentives** - PSE may award cash incentives directly to a Customer's facility for implementation of verifiable behavioral changes by the building occupants, maintenance and custodial staff members.

**Training Stipend** - Each RCM customer will be allocated a cash stipend for professional development. The Customer will be allowed flexibility to apply this allowance as they see necessary to enhance the skills and knowledge of their RCM or other participating staff.

**Program Renewal** - Customers can choose to renew their RCM program with PSE for a second three-year term. By signing a Renewal Contract, the Customer can continue to receive all value-added PSE RCM support services and have the opportunity to receive additional cash incentives for energy reductions beyond their initial third year baseline.

#### **Direct Cash Incentives**

The table below summarizes the 2010-2011 Grant and Services package for the RCM program. A description of each menu item follows providing details of the service and required deliverables.

Program Element	Term	Formula / Notes	10-11 RCM Grant
1. RCM Program Start-Up Incentive	1 Year	35% of First Year, up to \$28,000. Prorated up or down relative to customer-specific profile. Minimum eligibility is defined by Auto Fund parameters.	\$28,000
2. Performance Grant - Year 2	1 Year	35% paid at 5% O&M savings below previous 12-months; prorated for partial FTE.	\$28,000
3. Performance Grant - Year 3	1 Year	35% paid at 5% O&M savings below previous 12-months; prorated for partial FTE allocation.	\$28,000
4. RCM Salary Guarantee	3 Years		TBD
5. RCM Training Allowance	3 Years	Training stipend to allow for RCM participation in BOC Level 1& 2 training; allowing flexibility for RCM to choose other accredited training if desired. Tuition paid directly to Registrar; prorated for FTE allocation.	\$2,000
6. Site-Based Incentives	3 Years	Paid at end of project with documented plan, methods and results; prorated for FTE allocation.	\$2,500
TOTAL (includes sales tax)			\$88,500

#### DIRECT CUSTOMER INCENTIVES - figures based on 1 full-time equivalent (FTE)

#### INDIRECT INCENTIVES (soft costs)

Valu	ue-added Services	Term	Formula / Notes	10-11 RCM Value
1.	Resource Accounting Software	3 Years	PSE has distributor license for UM Pro from LBP. LPB minimum cost per software license is \$7,500.	\$7,500
2.	Software Maintenance and Technical Support for Years 2 & 3	2 Years	LPB minimum cost for annual technical support is \$1,400 per year.	\$2,800
3.	Utility Manager Database Set Up	1 Year	Assume 40 facilities with .5 hrs per facility	\$600
4.	Historical PSE Billing Data	1 Year	Assume 40 facilities with .25 hrs per facility	\$300
5.	Monthly Data Downloads	3 Years	Assume one hour per customer per month	\$1,080
6.	Annual Savings Analysis	3 Years	Assume .1 hour per facility per year	\$360
7.	Energy Interval Services	3 Years	Assume 40 facilities with 2 accounts each: 50% on cellnet with available data	\$18,000
8.	Energy Center - Online Materials	3 Years	Estimate average 2 hour per customer per year plus base- support for Resource Managemnt Plans, Facility Action Plans, etc.	\$840
9.	Three for Free - Technical Audits	1 Year	Three audits at 1.5 days per audit plus assistance with Factility Action Plan help	\$1,420
10.	RCM Training Series	3 Years	For all 8 courses at \$100/class.	\$800
	TOTAL (includes sales tax)			\$22,800

Total of 3 Year Agreement - Cash plus Support Value

\$111,300

# **Direct Customer Incentives**

### 1. RCM Program Start-Up Incentive

This is a one-time incentive that pays for 35% of the time spent on establishing an RCM program during the first year, up to \$28,000. The actual grant amount will be determined by the customer's organizational profile including total utilities budget and facility square footage. Start-up incentives can be prorated for smaller or larger organizations down to a minimum of .25 FTE. The incentive rate is \$7,000 per 0.25 FTE.

The start-up incentive will be paid provided the customer completes the following deliverables:

- 1. Populate and maintain a Utility Manager Resource Accounting Database
- 2. Hires an RCM or dedicates staff time to RCM activities
- 3. Completes a Resource Management Plan
- 4. Completes Facility Action Plans for all buildings

These deliverables are outlined in the scope of work and are estimated to be completed in the first six to nine months of the agreement. The incentive can be paid at the end of the first six months provided the Scope of Work has been completed.

#### 2. Performance Grant 1

Once the customer has completed the start-up deliverables outlined in item 1, and has achieved their year-one targeted PSE energy savings as outlined in their scope of work, they will be eligible to receive additional cash incentives for achieving further energy savings. The energy-savings target for the first performance grant is a <u>5</u> <u>percent</u> reduction over the customer's first year. Puget Sound Energy will provide a cash incentive equal to the Start-up Incentive once the customer achieves this pre-established PSE gas and electric target. Only savings achieved relative to occupant and behavioral practices and improvements in operation and maintenance (O&M) practices will be considered for the performance grant. To determine performance grant savings, energy usage will be adjusted for facility upgrades (ECMs), weather, and other major facility changes. The performance incentive will not be prorated for achieving lower or higher energy savings targets.

#### 3. Performance Grant 2

The second performance incentive will operate under the same conditions as the first except that the target will be the projected savings for year three, which is an additional 5% reduction.

#### 4. RCM Salary Guarantee

For customers with a minimum of (1) FTE, Puget Sound Energy will provide a guarantee that the total resource bill savings achieved by RCM activities will exceed the RCM salary costs over the three-year term of this Agreement. If not, the difference will be paid to the customer up to the value of the PSE electricity and natural gas savings achieved during that period (as specified in PSE Resource Conservation Manager Tariffs). Savings will be determined by PSE based on annual usage and savings data submitted by the customer.

### Savings Projections

The following table is an estimate of the savings potential from implementation of 1.0 Full-Time Equivalent (FTE) of resource management activities at an average RCM customer's facility. These figures are based on the average customer as described in Appendix A.

Savings Projection (From Base Year)	kWh	Therms	Resou	rce Cost Savings
Year 1 - 3%	619,688	21,216	\$	61,725
Year 2 - 5%	1,600,859	54,809	\$	221,181
Year 3 - 5%	2,532,973	86,722	\$	473,482
Energy Cost Savings			\$	756,388
RCM Program Costs			\$	(249,520)
RCM Program Grants			\$	96,020
NET SAVINGS	4,753,520	162,747	\$	602,888

### 5. RCM Training Stipend

Each RCM FTE will be allocated a budget for training. The budget is based on the cost of completing Building Operator Certification (BOC) coursework levels 1 & 2; but can be applied to any other equivalent accredited RCM-related training course with PSE approval. The RCM will be responsible for registration and will request that the training institute invoice PSE directly for our portion of the costs up to the RCM allotted amount. The RCM will submit a copy of their class project to PSE upon completion and agrees to present their project to other RCM customers.

Puget Sound Energy has negotiated a discounted tuition rate for RCM customers to take the Building Operator Certification (BOC) courses. The BOC has agreed to offer each PSE RCM customer two (2) discounted registrations; one tuition will be dedicated to the customer's RCM and the second can be used for any other staff. The discount will be roughly 38 percent off the standard \$1,375 rate, or \$1,000.

### 6. Site-Base Incentives

These are small cash incentives that are awarded directly to a facility for implementation of verifiable behavioral changes by building occupants and/or maintenance and custodial staff. Awards of up to \$500 per facility and up to \$2,500 per customer will be granted for implementation of RCM recommended activities. The customer must submit a proposal to PSE which outlines specific action items to be taken at specific facilities that will result in measurable savings. The activities should be carried out as per the plan, and a final report which details the effectiveness of these measures should be submitted to PSE for final payment.

#### 7. Renewal Grants

For customers who have reached the end of their initial 3-year RCM agreement, PSE will offer a Renewal contract for an additional three (3) year term. The Renewal contract will include a performance grant, and continued payment of Utility Manager technical support in addition to continued access the RCM program's value-added services such as monthly data downloads. The performance grant will follow the same guidelines as defined for years two and three of the initial contract, but the baseline will reflect the most appropriate 12-month period, typically the previous 12 months but could also be an earlier period if the customer's program has been stalled or non-existent for a period of time. The customer will have the full three-year period to achieve the performance outlined in the Renewal grant

### Value Added Services

There are a number of support activities that PSE provides to each RCM customer as a part of their RCM agreement. While these program elements do not relate to a cash incentive, they are specific project-oriented tasks that relate to a value of service that can be quantified for each customer based on their organization profile. A description of each major service is provided below.

### 1. Resource Accounting Software

PSE will provide the customer with the Utility Manager Resource Accounting software. The software will be delivered to the customer with a basic set up including facility information and PSE accounts, and will be populated with historical PSE billing data. Once the software is delivered to the customer, the customer is expected to complete the setup with organization structure, building information, utility companies, and account numbers for all electricity, gas, water, wastewater, and solid waste accounts. This set up is a required deliverable for the start-up grant. The customer agrees to submit a copy of their database to PSE on an annual basis.

### 2. Utility Manager Database Set Up

PSE staff will work with the customer to develop a comprehensive list of the customer's PSE gas and electric accounts and to marry these up to the correct facility. Once this list is developed; PSE will complete the initial setup of Utility Manager with the customer's facilities and PSE accounts and meters.

### 3. Historical PSE Billing Data

PSE staff will pull historical billing histories for the customer's PSE accounts and will populate the initial UM database with this information. Once the database has been populated with PSE data, the file will be transferred to the customer for their completion and ongoing maintenance.

### 4. Monthly PSE Data Downloads

Once the customer has possession of their UM database, PSE will begin the process of sending monthly updates on PSE billing data. These files are transferred to the customer via email in a format that is ready to import into their Utility Manager database. The files are meant for energy management purposes and are not intended to facilitate payment of any PSE invoice.

#### 5. Software Maintenance

PSE will provide annual Technical Support for the customer's Utility Manager Software. This service is valued at \$2,400 for years 2 and 3 of the RCM contract. The customer agrees to maintain their database by updating utility data on a monthly basis and agrees to submit a copy of their database to PSE on an annual basis.

### 6. Energy Interval Data

PSE's Energy Interval Service is an internet-based energy information and management tool that helps customers see and interpret utility-use patterns using interval data from gas and electric revenue meters. The system provides timely access to meter and cost data any time of day, seven days a week over a secured website. The value of this service is that customer can identify how much, how often, and when power or gas is used at given intervals of time. Data is typically available for viewing the following day. PSE will provide the customer with access to the interval data system for all qualifying meters.

#### 7. Annual Savings Analysis

PSE will work with the customer to calculate O&M savings after each 12-month period of their RCM contract. Adjustments will be made for major capital improvements, change in use, weather, and other factors that may have had a significant impact to facility energy use.

#### 8. On-line Tool Box

An on-line technical support and materials center has been developed to help RCMs with their program implementation. Each customer with an active RCM agreement will be provided with a username and password for access to this secure website. The site hosts all PSE program materials that have been developed for implementation and reference and allows for RCMs to communicate with each other in a chat room like setting.

#### 9. Three for Free Audits

For each RCM FTE, PSE will provide an initial three (3) facility audits to jumpstart you on the process of completing your Facility Action Plans. The site visits will act as both training and technical assistance such that through this process, and along with the RCM training series, each RCM will gain the knowledge necessary to perform their own detailed facility audits. During these first walkthroughs, the RCM will learn how to gather the information necessary to complete the second deliverable of the Start up Grant, their Facility Action Plans. The number of site visits will be prorated for based on FTE.

#### **10. RCM Training Series**

To support your organization's resource conservation efforts, PSE has designed a series of courses to help you learn more about building energy and resource consuming systems and the tools that will help you be effective in your role as a resource conservation manager. There are eight (8) core classes offered and a number of advanced and specialized courses. Most training classes are scheduled to be held at the Bellevue PSE campus, but can be customized for and offered at customer's facilities.

# Small Scale Renewable Electricity Generation

# Eligibility

Any Customer with a Premises receiving service under Electric Tariff G of the Company and

- a. who generates electricity using solar or wind energy or biogas from animal waste as a fuel and meets the terms of both Schedule 150 and Schedule 151 of this tariff is eligible for Incentives under this schedule, or
- b. is a non-residential Customer who has been selected and awarded a grant under this schedule.

### **Renewables Generating Grants**

The Company may, at its discretion, award grants, provide remuneration or otherwise fund eligible small-scale (1-2 kilowatt generating capacity), school- based renewable energy projects. The Company plans to award multiple grants each year.

Primary selection criteria for grant approval include, but are not limited to:

- Educational benefit: The project should demonstrate renewable energy generating technology that facilitates student learning, understanding and acceptance of renewable energy resources,
- Geographic diversity: Project grants will consider the proximity to existing or planned demonstration projects funded by a grant within the Company's service territory,
- Energy efficiency: The school must demonstrate a commitment to energy efficient practices including, but not limited to, utilizing an on-staff Conservation Resource Manager,
- Broad support: The project must be championed by at least one teacher at the school and include the support of the administration and governing board.
- Project characteristics: the technology utilized, size and other characteristics of the generating project will be considered.

# Net Metering

# Eligibility

Customer-Generators who operate fuel cells or produce electricity and used and useful thermal energy from a common fuel source or who generate electricity using hydroelectric, solar, or wind energy or biogas from animal waste as fuel, with a total capacity of no more than 100 kilowatts (kW) and the generation is located on their own premises. Such generator must operate in parallel with PSE's transmission and distribution facilities. Detailed availability is outlined in PSE's Schedule 150.

### Incentives

Customers installing qualifying systems, which include production metering as outlined in PSE's net metering and Renewable Energy Advantage Program tariffs, are eligible to receive incentives in the following amounts:

•	Standard Production Meter for generating system: Each successive Standard Production Meter for	\$165.00
	generating system:	\$70.00
•	Advanced Production Metering for generating system: Each successive Advanced Production Meter for	\$525.00
•	generating system:	\$430.00

# Renewable Energy Advantage Program

# Eligibility

Customer-Generators who receive electric service from the Company and operate a qualifying Generation System on their Premises. Where the Generation System will be interconnected with the Company's distribution system such interconnection shall be under the provisions of a separate interconnection (net metering) agreement. If the Generation System is interconnected with the Company's transmission or distribution system, service under this schedule is not available except during the effectiveness of an interconnection agreement between the Customer-Generator and the Company.

The Customer-Generator must own the real property on which the Generation System is located.

Generation Systems that operate on real property where the Company provides Electric Service, but the Generation System is not interconnected to the Company's distribution system are also eligible. Generation Systems installed on real property that are not and will never be served by the Company are not eligible for service under this schedule.

Detailed eligibility requirements are enumerated in PSE's Schedule 151.

# **Annual Payments**

The underlined component in the below table is the driver of the Payment Factor

Customer-Generated Power	Base Rate	<u>Payment</u> Factor	Price per <u>kWh</u>
Solar modules and inverter manufactured in Washington state	\$0.15	3.6	\$0.54
Solar modules manufactured in Washington state	\$0.15	2.4	\$0.36
Solar or wind generating equipment with an inverter manufactured in Washington state	\$0.15	1.2	\$0.18
Anaerobic digester or other solar equipment without components manufactured in Washington state	\$0.15	1.0	\$0.15
Wind generator equipped with blades manufactured in Washington state	\$0.15	1.0	\$0.15
All other electricity produced by wind	\$0.15	0.8	\$0.12

Incentive payments will be made once annually and are computed using the price per kWh from the above table, multiplied by the total kWh generated during the payment period. The payment period is from July 1 of one year through June 30 of the next year.

Hybrid systems, such as a combination of solar and wind, will be paid at the lowest price per kWh, unless each distinct part of the system is separately metered.

If a Customer-Generator adds a new portion to the existing system (For instance, a new 1 kW array of solar panels manufactured in Washington), the lower payment factor will apply, unless the new portion of the system is separately metered.

# **Measure Life Calculations**

# **Residential Programs**

Measure/Incentive/Initiative	Maximum Measure Life, Years
Boilers, Energy Star®	20
CFL Energy Star® qualified, any exterior application	9
CFL Fixture Energy Star® qualified	15
CFL Portable Fixture Energy Star® qualified, table or floor	9
CFL, Energy Star® Bulb- Specialty, Hard to Reach	5
Clothes Washers, Energy Star®	14
Compact Fluorescent Light (CFL) Bulb Energy Star® qualified, any in	terior
application	5
Dishwashers, Energy Star®	9
Duct leakage testing and duct sealing	20
Duct Sealing	20
Freezers	20
Fireplace, High Efficiency, Natural Gas	25
Fuel Conversion—Space and Water Heat	30
Furnace, Energy Star® Natural Gas	18
Heat Pump – ductless using inverter technology	20
Heat Pump – Energy Star® qualified (air-source, split systems)	18
Heat Pump – Geothermal, Energy Star®	30
Heat pump replacement for an electric furnace	18
HomePrint Audit	3
Insulation, Attic (R-11 or less to R-38)	30
Insulation, Duct (R-0 to R-11)	30
Insulation, Floor (R-0 to minimum R-19, up to R-30)	30
Insulation, Wall (R-0 to R-13)	30
Light socket, CFL conversion assembly	15
Manufactured Home, Energy Star® certified	30
Multifamily Lighting Measures (including lighting reduction)	12
Powerful Choices for the Environment, Electric and Natural Gas	8
Refrigerator Decommissioning	6
Refrigerator, Energy Star®	22
Replacement Doors	30
Showerheads, Energy Efficient Residential in <u>Multifamily</u> units	6
Showerheads, Energy Efficient Residential all dwelling types	10

# **Residential Programs, continued**

Measure/Incentive/Initiative	Maximum Measure Life, Years
Waster Water Heat Recovery	30
Water Heater Pipe Insulation (Minimum 3 feet)	15
Water heater, Natural Gas, Energy Star®	12
Water Heater, Tankless, Natural Gas, Energy Star®	20
Water Heater, Heat Pump Water Heater, Energy Star®	15
Water Heater, High Efficiency, Electric Storage	13
Windows- Single pane upgrade to class 33 or greater *	30
Whole house ventilation	15

\* Windows will be funded only when bundled with other qualifying weatherization Measures.

# Low Income Weatherization Program Specific Measure Life

Unless otherwise noted below, all measure life figures in the above table apply to the Company's Low Income Weatherization program.

Faucet Aerators, Low Income Weatherization	6
Programmable Thermostat, Low Income Weatherization	15
Refrigerator Replacement (also know as "decommissioning" or "early retirer	nent") 6
Structure Sealing	25
Tapered Ridge Board, R-05 max to R-38 min	30
Water Heater Insulation	12

# **Commercial and Industrial Programs**

Measure/Incentive/Initiative	Maximum Measure Life, Years
Building Thermal Improvements:	
Duct Insulation	15
Exterior Roof Insulation	15
Insulated Windows	30
Roof and Ceiling Insulation	24
Wall Insulation	24
Commissioning and Optimization:	
Commissioning/Optimization of Energy Systems	5
Controls:	
HVAC Controls and Energy Management Syster	ns 10
Lighting Control Systems	10
PC Power Manager	3
Process and Other Efficiency Control Systems	10
Vending Machine Controller	10
HVAC and Refrigeration:	
Boilers—Steam	30
BoilersHot water	24
Chillers	20
Economizers	10
Evaporative assist cooling for HVAC equipment	15
Heat Recovery Systems	15
High Efficiency HVAC Retrofit Applications	15
HVAC – central	15
Premium HVAC Service	2
HVAC – unitary	15
Lighting Improvements:	
Compact Fluorescent Luminaires	12
Fluorescent Luminaires	12
HID Luminaires	12
LED and EL Exit Signs	12
LED Luminaires	12
Locking Screw-in CFL	12
Screw-in CFL	3
LED Traffic Signals	
Signal Head Red 12" ball	6
Signal Head Red 12" arrow	5
Signal Head Red 8" ball	6
Signal Head Green 12" ball	7
Signal Head Green 12" arrow	16
Signal Head Green 8" ball	7
Signal Head Yellow 12" ball	16
Signal Head Yellow 12" arrow	16
Signal Head Yellow 8" ball	16
Large Pedestrian Module	4
Small Pedestrian Module	4

# Commercial and Industrial Programs, continued

Measure/Incentive/Initiative	Maximum Measure Life, Years
New Construction Whole Building Analysis	
Prescriptive Whole Building Measure Packages	14, 20 or 24 years depending on the measures In the package
Energy Model Whole Building Approach	15
Process Efficiency Improvements:	
Fan, Compressor and Pump Systems or Station	ıs 15
Motor and Drive Systems	15
Process Optimization	5
Other Process Modifications	15
Reciprocating Engines	15
Refrigeration Systems	15
Restaurant/Kitchen Equipment:	
Connectionless Steamer	10
Deep Fat Fryer	8
Dishwashers	
Conveyor type	20
Door type	15
Under counter	10
Freezers	20
Hot Food Holding Cabinet	12
Pre-Rinse Spray Heads	5
Refrigerators, Solid or Glass Door	20
Water Heating Improvements:	
Low Flow Devices	10
Piping Insulation	15
Water Heaters	7
Other:	
Clothes Washers, Multifamily, High-use	8
Transformers	15
Gas Boiler Tune-Up	2
Green Motor Rewinds	10
Ice Makers	12

#### EES Conservation Rider/Tracker Savings Goals and Budgets, 2010 - 2011

201/62/02     Low Income     3.000 \$     4.7/86.000     \$ 11.03.000 \$     5.03000       201/62/02     Enrogy, Education     3.000 \$     4.2501.000 \$     7.00.000 \$     5.2000.000 \$       214.0214     Single Family New Construction     7.00.00 \$     4.251.000 \$     1.945.000 \$     4.435.000 \$       217.0217     Man Family Existing     1.000 \$     2.238.000 \$     9.000 \$     2.896.000 \$     1.945.000 \$     2.896.000 \$     2.986.200 \$     9.000 \$     2.896.200 \$     9.000 \$     9.000 \$     9.000 \$     9.000 \$     9	Schedule Nos.	Program Name	MWH Elec Tariff Savings	Electric Tariff Budget	Therm Savings	Gas Tariff Budget	Total Tariff Budget
201/C203     Low Income     3.000 \$     4.708.000     \$ 1.135.000 \$     5.032.000       201/C203     Energy Education     3.000 \$     4.200.000     \$ 1.435.000 \$     \$ 0.200.000       214.0214     Single Family Mex Construction     7.000     \$ 4.201.000     \$ 4.201.000     \$ 1.435.000 \$     \$ 4.201.000       214.0214     Single Family Mex Construction     7.000     \$ 4.201.000 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
2020237     Energy Elevation     3.000     \$     1.28.000     \$     7.0000     \$     2.2000       21402214     Single Family New Construction     7.000     \$     2.418.000     2.418.000     \$     4.438.000     \$     4.438.00     \$     5.030.00     \$     5.030.00     \$     5.030.00     \$     5.030.00     \$     5.030.00     \$     5.030.00     \$     5.030.00     \$     5.030.00     \$     5.030.00     \$     5.030.00     \$     5.030.00     \$     5.030.00     \$     5.030.00	E200/G206	Residential Energy Efficiency Information					
214/02144     Single Samly Exeling     228,000     \$         4.201,000     \$         1.47,2000     \$         1.47,2000     \$         7.720,000     \$         4.241,000     3         1.945,000     \$         4.363,32        216 Carlo Consention     17/00     \$         4.487,000     \$         1.945,000     \$         1.945,000     \$         4.487,000     \$         1.945,000     \$         4.487,000     \$         1.945,000     \$         1.945,000     \$         1.945,000     \$         1.945,000     \$         1.945,000     \$         1.945,000     \$         1.945,000     \$         1.945,000     \$         1.945,000     \$         1.945,000     \$         1.945,000     \$         1.945,000     \$         2.920,10     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$         7.283,000     \$	E201/G203						
211G2E15     Single Family New Construction     7.000     \$     2.418.000     380.0000     \$     1.945.000     \$     4.487.000       216     Gias Convention     17.000     \$     4.487.000     \$     0     0     \$     4.487.000     \$     4.487.000     \$     5.000     \$     2.482.000     \$     5.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.482.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$	E202/G207						
216     Cast Conversion     17,000     \$     4.487,000     0     0     0     \$     4.487,2000       2176217     Muli Family Existing     33,000     \$     10,000     \$     66,000     \$     2,846,200     \$     10,000     \$     66,000     \$     2,846,200     \$     36,000     \$     38,7000     \$     2,846,000     \$     38,7000     \$     2,846,000     \$     38,7000     \$     2,846,000     \$     38,7000     \$     2,846,000     \$     38,7000     \$     2,846,000     \$     3,85,2000     \$     3,85,2000     \$     3,87,2000     \$     2,27,000     \$     2,27,000     \$     2,27,000     \$     2,27,000     \$     2,27,000     \$     2,27,000     \$     2,27,000     \$     2,27,000     \$     2,27,000     \$     2,27,000     \$     2,20,000     \$     3,00,000     \$     3,00,000     \$     3,00,000     \$     3,00,000     \$     3,00,000     \$     3,00,000     \$     3,00,000 </td <td>E214/G214</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	E214/G214						
217G217     Muli Faniy Kesting     33.000     \$10.2000     \$10.2000     \$40.000     \$     686.000     \$     11.000.       224G218     Muli Faniy Kesting     2.000     \$     2.235.000     \$     5.268.000     \$     2.284.2       224G244     Pilots, ectualing:     2.000     \$     2.244.000     \$     2.260.00     \$     2.284.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     2.282.000     \$     9.730.000     \$     9.730.000     \$     9.730.000     \$     9.730.000     \$     9.730.000     \$     9.730.000     \$     9.730.000     \$     9.730.000     \$     9.730.000     \$     9.730.000     \$     9.730.000     \$     7.300.000     \$     7.300.000     \$     7.300.000     \$     7.300.000     \$     7.300.000     \$     7.300.000     \$     7.300.000     \$     7.300.000     \$     7.300.000     \$     7.300.000     \$							
218/C216     Multi Family New Construction     5.000     \$     2.324.00     \$     5.000     \$     2.442.2       248/C249     Home Energy Reports     12.000     \$     2.324.000     \$     2.230.000     \$     2.230.000     \$     2.240.00     \$     2.240.00     \$     2.240.00     \$     2.240.00     \$     2.240.00     \$     2.260.00     \$     2.260.00     \$     2.260.00     \$     2.200.00     \$     2.200.00     \$     2.200.00     \$     2.200.00     \$     2.200.00     \$     2.200.00     \$     2.200.00     \$     2.200.00     \$     2.200.00     \$     5.500.00     \$     5.500.00     \$     5.500.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.300.00     \$     7.3	E216						
240(226)     Pilote, excluding:     2,000     \$     234,000     \$     337,000     \$     2,261.0       Total, Residential Programs     320,000     \$     1,240.00     \$     22,000     \$     2,200.01     \$     2,200.01     \$     2,200.01     \$     2,200.01     \$     2,200.01     \$     2,200.01     \$     2,200.01     \$     2,200.01     \$     2,200.01     \$     2,200.01     \$     2,200.01     \$     7,330.0       250/0216     Commercial Industrial Netrodit     16,000     \$     6,000.00     \$     1,000.00     \$     5,000.00     \$     1,200.00     \$     7,300.0       257     LED Trafic Signals     1,000.00     \$     2,600.00     0     0     \$     6,600.00     \$     0,000.00     \$     3,600.00     \$     0,600.00     \$     0,600.00     \$     3,600.00     \$     0,600.00     \$     2,600.00     \$     2,600.00     \$     4,600.00     \$     2,600.00     \$     2,600.00     \$     4,600							
Home Energy Reports     12000     \$ 12100     \$ 22000     \$ 72000							
Total, Residential Programs     320.000     \$ 75,330,000     4,054,000     \$ 22,027,000     \$ 97,330,000       Business Efficiency Programs	E249/G249						, , , ,
Business Efficiency Programs     38.5 aNW     500000     5000000     5000000     5000000     5000000     \$0000000     \$0000000     \$000000		Home Energy Reports	<u>12,000</u>	<u>\$ 1,541,000</u>	525,000	<u>\$ 720,000</u>	<u>\$</u> 2,261,000
Business Efficiency Programs     146,000     4000     850,000     850,000     \$50,000,000		Total, Residential Programs		\$ 75,303,000	4,054,000	\$ 22,027,000	\$ 97,330,000
Z50/G205     Commercial/Industrial Retroit     114.0.00     \$     48.000,000     \$     5.000,000     \$     5.000,000     \$     5.000,000     \$     5.000,000     \$     5.000,000     \$     7.300,000     \$     \$     \$     \$     \$			50.5 airiv				
251/0251     Commercial/Industrial New Construction     13.000     \$     5600.000     220.000     \$     1,700.000     \$     7,300.000       253     Resource Conservation Manager     26,000     \$     600.0000     \$     0,600.000     \$     3,800.000     \$     3,800.000     \$     0,000     \$     8,600.000     \$     6,000.00     \$     6,00			140.000	¢ 40.000.000	050.000	¢ 5 000 000	¢ 50.000.000
253     Resource Conservation Manager     26,000     \$ 2,600,000     \$ 0,000.00     \$ 1,000,000     \$ 3,600.00       255     Small Business Lighting Rebate     27,000     \$ 5,600,00     0     0     \$ 5,600.00       257     LED Traffic Signals     1,000     \$ 5,600,00     0     0     \$ 5,600.00       258     Large Power User- Self Directed Program     6,000     \$ 4,250,00     0     \$ 4,000.00     \$ 4,000.00     \$ 4,600.000     \$ 3,300,000     \$ 1,000.00     \$ 5,000.00     \$ 4,000.00     \$ 5,000.00     \$ 4,000.00     \$ 5,000.00     \$ 4,000.00     \$ 5,000.00     \$ 4,000.00     \$ 5,000.00     \$ 4,000.00     \$ 5,000.00							
255     Small Business Lighting Rebate     27.000 \$     6.600.000     0     0     0     8.600.00       257     LED Triffic Signals     0.000 \$     5.000     0     0     \$     5.000       258     Large Power User - Sell Directed Program     6.000 \$     2.500.00     0     \$     4.000.00     \$     2.500.00     2.500.00     \$     4.000.00     \$     6.250.00       282/G262     Commercial Rebates     330.000     \$     4.000.00     \$     6.250.00     \$     1.000.00     \$     6.250.00       282/G262     Commercial Rebates     2.000.00     \$     9.260.000     \$     9.200.000     \$     6.157.00       261     Total, Com'l & Ind'l Programs     2.000     \$     9.200.00     \$     9.200.00     \$     9.250.00       254     NW Energy Efficiency Alliance     47.000     \$     9.250.00     \$     9.250.00     \$     1.000.00     \$     9.250.00       261/G261     Efficiency Support Programs     47.000     \$     9.250.00     \$							
257     LED Traffic Signals     1,000 §     5,000,00     0     0     §     5,000,00       283     Large Power User: Self Directed Program     6,000 §     2,200,000     0     \$     4,000,000     \$     4,000,000     \$     4,000,000     \$     4,000,000     \$     4,000,000     \$     4,000,000     \$     4,000,000     \$     4,000,000     \$     4,000,000     \$     4,000,000     \$     4,000,000     \$     4,000,000     \$     9,220,0000     \$     4,000,000     \$     9,220,0000     \$     9,220,0000     \$     9,220,0000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     9,220,000     \$     1,45,00     \$ <td></td> <td></td> <td></td> <td>+</td> <td></td> <td></td> <td></td>				+			
Z58     Large Power User - Self Directed Program     6,000 \$     2,200,000     0     0     \$     2,500       260/2620     Commercial Renders (Efficiency Information     0     \$     4600,000     \$     400,000     \$     5,700,000     \$     5,700,000     \$     5,700,000     \$     5,700,000     \$     \$     5,700,000     \$     \$     5,700,000     \$     \$     5,700,000     \$     \$     \$     5,700,000     \$     \$     \$     \$     5,700,000     \$     \$     \$     \$     5,700,000     \$     \$     \$     \$     \$     5,700,000     \$							
280/3280     Commercial Reargy Efficiency Information     0     \$     425,000     0     \$     400,000     \$     625,000       282/3282     Commercial Rebates     360,000     \$     7,000,000     \$     9,200,000     \$     9,200,000     \$     9,200,000     \$     9,200,000     \$     9,200,000     \$     9,200,000     \$     9,200,000     \$     9,200,000     \$     9,200,000     \$     9,200,000     \$     9,250,000     \$     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,250,000     \$     9,050,000     \$     9,050,000     \$     9,050,000     \$     \$     9,050,000     \$     \$     9,050,000     \$     1,050,000		LED Traffic Signals					
282/G282     Commercial Rebates     350,000     \$ 1,100,000     \$ 5,700,0       Total, Com'l & Ind'l Programs     285,000     \$ 72,375,000     \$ 0,000,00     \$ 9,200,000     \$ 81,575,00       Regional Efficiency Programs     29,1 aMW			,			-	. , , ,
Total, Com'l & Ind'l Programs     255,000     \$     72,375,000     \$,000,000     \$     9,200,000     \$     81,575,0       Regional Efficiency Programs     23.1 atWW     9     9,250,000     \$     1,250,000     \$     1,250,000							+ ,
Regional Efficiency Programs     29.1 aMW     M     m	E262/G262						
Regional Efficiency Programs     AT.000     \$ 9,250,00     \$ 9,250,00       Total, Regional Programs     47,000     \$ 9,250,00     \$ 9,250,00       Total, Regional Programs     64,000     \$ 9,250,00     \$ 9,250,00       Efficiency Support Programs     64,000     \$ 9,250,00     \$ 9,250,00       Efficiency Support Programs     5.4 atW     \$ 9,250,00     \$ 9,250,00       Efficiency Support Programs     \$ 145,000     \$ 145,000     \$ 145,000       261/G261     Energy Efficient Technology Evaluation     \$ 145,000     \$ 145,000     \$ 145,000       270/G270     Local Infrastructure & MkI Transformation     \$ 123,000     \$ 97,000     \$ 320,00       Communities     \$ 689,000     \$ 176,000     \$ 873,00     \$ 873,000     \$ 873,000       Energy Efficient Green) Communities     \$ 596,000     \$ 596,000     \$ 596,000     \$ 596,000     \$ 596,000     \$ 1500,00       Market Research     \$ 900,000     \$ 600,000     \$ 427,000     \$ 1,895,02     \$ 618,02       Program Evaluation     \$ 1,468,000     \$ 427,000     \$ 1,895,02     \$ 618,02     \$ 618,00     \$ 2,212,000		Total, Com'l & Ind'l Programs		\$ 72,375,000	5,000,000	\$ 9,200,000	\$ 81,575,000
NW Energy Efficiency Alliance     47.000     \$ 9,250,000     \$ 9,250,000       Total, Regional Programs     47,000     \$ 9,250,000     \$ 9,250,000       Efficiency Support Programs     54 adW         Z41     Community Efficiency Manager     \$ 145,000     \$ 100,000     \$ 145,000       Z51/G261     Energy Efficient Cychnology Evaluation     \$ 220,000     \$ 100,000     \$ 220,000       Z51/G261     Energy Efficient Cychnology Evaluation     \$ 123,000     \$ 100,000     \$ 220,000       Conservation Supply Curves     \$ 698,000     \$ 175,000     \$ 220,000     \$ 000,000     \$ 670,00       EES Market Integration     \$ 1456,000     \$ 304,000     \$ 760,00     \$ 670		Regional Efficiency Programs					
Total, Regional Programs     47,000     \$ 9,250,000     \$ 9,250,000       Efficiency Support Programs     5.4 aWW	E254		47.000	\$ 9.250.000			\$ 9,250,000
Efficiency Support Programs     5.4 aMW     Image: Constraint of the second sec	-						-
241   Community Efficienty Manager   \$ 145,00   \$ 145,00     261/G261   Energy Efficient Technology Evaluation   \$ 220,000   \$ 100,000   \$ 320,0     270/G270   Local Infrastructure & Mkt Transformation   \$ 123,000   \$ 97,000   \$ 220,000     Conservation Supply Curves   \$ 688,000   \$ 175,000   \$ 8730,00     Conservation Supply Curves   \$ 688,000   \$ 175,000   \$ 8730,00     EES Market Integration   \$ 456,000   \$ 304,000   \$ 760,0     Mainstreaming Green   \$ 900,000   \$ 600,000   \$ 1,500,0     Market Research   \$ 1,928,000   \$ 427,000   \$ 1,895,0     Program Evaluation   \$ 1,928,000   \$ 427,000   \$ 1,895,0     Program Support   \$ 618,000   \$ 2,123,000   \$ 9,275,00     Total, Support Programs   \$ 7,152,000   \$ 2,123,000   \$ 9,275,00     Contenting Green   \$ 7,152,000   \$ 3,3350,000   \$ 197,430,00     Total, Support Programs   \$ 2,123,000   \$ 2,123,000   \$ 3,3350,000   \$ 9,275,00     Cottal Efficiency Programs   \$ 2,123,000   \$ 3,3350,000   \$ 9,275,00   \$ 3,3350,000   \$ 9,275,00		Total, Regional Trogramo		• 0,200,000			• 0,200,000
241   Community Efficienty Manager   \$ 145,00   \$ 145,00     261/G261   Energy Efficient Technology Evaluation   \$ 220,000   \$ 100,000   \$ 320,0     270/G270   Local Infrastructure & Mkt Transformation   \$ 123,000   \$ 97,000   \$ 220,000     Conservation Supply Curves   \$ 688,000   \$ 175,000   \$ 8730,00     Conservation Supply Curves   \$ 688,000   \$ 175,000   \$ 8730,00     EES Market Integration   \$ 456,000   \$ 304,000   \$ 760,0     Mainstreaming Green   \$ 900,000   \$ 600,000   \$ 1,500,0     Market Research   \$ 1,928,000   \$ 427,000   \$ 1,895,0     Program Evaluation   \$ 1,928,000   \$ 427,000   \$ 1,895,0     Program Support   \$ 618,000   \$ 2,123,000   \$ 9,275,00     Total, Support Programs   \$ 7,152,000   \$ 2,123,000   \$ 9,275,00     Contenting Green   \$ 7,152,000   \$ 3,3350,000   \$ 197,430,00     Total, Support Programs   \$ 2,123,000   \$ 2,123,000   \$ 3,3350,000   \$ 9,275,00     Cottal Efficiency Programs   \$ 2,123,000   \$ 3,3350,000   \$ 9,275,00   \$ 3,3350,000   \$ 9,275,00		Efficiency Support Programs					
Energy Efficient Technology Evaluation     \$     220,000     \$     100,000     \$     320,00       270/G270     Local Infrastructure & MkI Transformation     \$     123,000     \$     97,000     \$     220,00       270/G270     Local Infrastructure & MkI Transformation     \$     123,000     \$     97,000     \$     220,00       Conservation Supply Curves     \$     698,000     \$     175,000     \$     873,00       EES Market Integration     \$     456,000     \$     304,000     \$     760,00       Mainstreaming Green     \$     990,000     \$     600,000     \$     1,500,00       Market Research     \$     1,928,000     \$     420,000     \$     1,895,0       Program Evaluation     \$     1,468,000     \$     427,000     \$     1,895,0       Total, Support Programs     \$     7,152,000     \$     2,123,000     \$     9,275,0       Subtotal Efficiency Programs     622,000     \$     164,080,000     9,054,000     \$     3,3350,000     \$	E241	Community Efficiency Manager		\$ 145,000			\$ 145,000
270/G270   Local Infrastructure & Mkt Transformation   \$ 123,000   \$ 97,000   \$ 220,00     Conservation Supply Curves   \$ 698,000   \$ 175,000   \$ 873,000     EES Market Integration   \$ 456,000   \$ 304,000   \$ 760,00     Mainstreaming Green   \$ 596,000   \$ 304,000   \$ 760,00     Mainstreaming Green   \$ 97,000   \$ 600,000   \$ 1,500,00     Market Research   \$ 1,928,000   \$ 420,000   \$ 2,348,00     Program Evaluation   \$ 1,468,000   \$ 427,000   \$ 1,895,00     Program Support   \$ 1,468,000   \$ 2,123,000   \$ 9,275,00     Total, Support Programs   622,000   \$ 164,080,000   \$ 33,350,000   \$ 197,430,00     Market Efficiency Programs   622,000   \$ 164,080,000   \$ 33,350,000   \$ 197,430,00     Coher Electric Programs   622,000   \$ 164,080,000   \$ 33,350,000   \$ 197,430,00     Coher Electric Programs   \$ 343,000   \$ 33,350,000   \$ 197,430,00     Coher Electric Programs   \$ 343,000   \$ 33,350,000   \$ 33,350,000     Coher Electric Programs   \$ 343,000   \$ 33,350,000   \$ 343,000     248a	E261/G261	Energy Efficient Technology Evaluation		\$ 220,000		\$ 100,000	\$ 320,000
Conservation Supply Curves     \$     698,000     \$     175,000     \$     873,00       EES Market Integration     \$     4456,000     \$     304,000     \$     760,00       Energy Efficient (Green) Communities     \$     596,000     -     \$     596,000       Mainstreaming Green     \$     900,000     \$     600,000     \$     1,500,00       Market Research     \$     1,928,000     \$     420,000     \$     2,348,00       Program Evaluation     \$     1,468,000     \$     427,000     \$     1,898,00       Program Support     \$     618,000     \$     -     \$     618,000       Subtotal Efficiency Programs     \$     7,152,000     \$     3,3350,000     \$     197,430,00       Conservation Support     \$     \$     7,152,000     \$     3,3350,000     \$     197,430,00       Conservation Support     \$     \$     343,000     \$     \$     3,3350,000     \$     \$       Conservation     \$     \$     3	E270/G270			\$ 123,000		\$ 97,000	\$ 220,000
Energy Efficient (Green) Communities   \$ 596,000   \$ 596,000   \$ 596,000     Mainstreaming Green   \$ 900,000   \$ 600,000   \$ 1,500,0     Market Research   \$ 1,928,000   \$ 420,000   \$ 2,348,0     Program Evaluation   \$ 1,488,000   \$ 427,000   \$ 1,895,0     Program Support   \$ 618,000   \$ 2,123,000   \$ 9,275,0     Total, Support Programs   \$ 7,152,000   \$ 2,123,000   \$ 9,275,0     Subtotal Efficiency Programs   622,000   \$ 164,080,000   9,054,000   \$ 33,350,000   \$ 197,430,00     Cher Electric Programs   622,000   \$ 164,080,000   9,054,000   \$ 33,350,000   \$ 343,00     150   Net Metering   \$ 343,000   \$ 343,000   \$ 343,000   \$ 343,000     248   Small-Scale Renewables   \$ 839,000   \$ 839,000   \$ 839,000   \$ 839,000     249a   C/I Load Control Pilot   \$ 884,000   \$ 884,000   \$ 884,000   \$ 884,000     249a   Residential Demand Response Pilot   \$ 664,000   \$ 864,000   \$ 664,000     End   End   End   End   End   End						\$ 175,000	\$ 873,000
Mainstreaming Green   \$ 900,000   \$ 600,000   \$ 1,500,0     Market Research   \$ 1,928,000   \$ 420,000   \$ 2,348,0     Program Evaluation   \$ 1,468,000   \$ 427,000   \$ 1,895,0     Program Support   \$ 618,000   \$ 2,123,000   \$ 6618,000     Total, Support Programs   \$ 7,152,000   \$ 2,123,000   \$ 9,275,00     Subtotal Efficiency Programs   622,000   \$ 164,080,000   9,054,000   \$ 197,430,00     Cher Electric Programs   71.0 aMW		EES Market Integration		\$ 456,000		\$ 304,000	\$ 760,000
Market Research   \$ 1,928,000   \$ 420,000   \$ 2,348,0     Program Evaluation   \$ 1,468,000   \$ 427,000   \$ 1,895,00     Program Support   \$ 618,000   \$ 427,000   \$ 1,895,00     Total, Support Programs   \$ 618,000   \$ 2,123,000   \$ 9,9275,00     Subtotal Efficiency Programs   622,000   \$ 164,080,000   9,054,000   \$ 33,350,000   \$ 197,430,00     Cher Electric Programs   71.0 aMW   -   -   -   -   -     150   Net Metring   \$ 343,000   \$ 343,000   \$ 343,000   \$ 343,000   \$ 343,000     248   Small-Scale Renewables   \$ 884,000   \$ 884,000   \$ 884,000   \$ 884,000   \$ 884,000     249a   Residential Demand Response Pilot   \$ 664,000   \$ 884,000   \$ 884,000   \$ 884,000		Energy Efficient (Green) Communities		\$ 596,000			\$ 596,000
Program Evaluation     \$ 1,468,000     \$ 427,000     \$ 1,895,0       Program Support     \$ 618,000     \$ - 618,000     \$ 618,000		Mainstreaming Green		\$ 900,000		\$ 600,000	\$ 1,500,000
Program Support     \$     618,000     \$     \$     618,00       Total, Support Programs     \$     7,152,000     \$     2,123,000     \$     9,275,00       Subtotal Efficiency Programs     622,000     \$     164,080,000     9,054,000     \$     33,350,000     \$     197,430,00       Other Electric Programs     71.0 aWW     -		Market Research		\$ 1,928,000		\$ 420,000	\$ 2,348,000
Program Support     \$     618,000     \$     \$     618,00       Total, Support Programs     \$     7,152,000     \$     2,123,000     \$     9,275,00       Subtotal Efficiency Programs     622,000     \$     164,080,000     9,054,000     \$     33,350,000     \$     197,430,00       Other Electric Programs     71.0 aWW     -		Program Evaluation		\$ 1,468,000		\$ 427,000	\$ 1,895,000
Total, Support Programs     \$ 7,152,000     \$ 2,123,000     \$ 9,275,00       Subtotal Efficiency Programs     622,000     \$ 164,080,000     9,054,000     \$ 33,350,000     \$ 197,430,000       Other Electric Programs     71.0 aMW						\$ -	\$ 618,000
Other Electric Programs71.0 aMWImage: Constraint of the second sec		Total, Support Programs				\$ 2,123,000	
Other Electric Programs71.0 aMWImage: Constraint of the second sec							
Other Electric ProgramsImage: Constraint of the second		Subtotal Efficiency Programs		\$ 164,080,000	9,054,000	\$ 33,350,000	\$ 197,430,000
Net Metering     \$ 343,00     \$ 343,00       248     Small-Scale Renewables     \$ 839,00     \$ 839,00       249a     C/L Load Control Pilot     \$ 884,00     \$ 884,00       249a     Residential Demand Response Pilot     \$ 664,000     \$ 664,000			71.0 aww				
248     Small-Scale Renewables     \$     839,00     \$     839,00       249a     C/I Load Control Pilot     \$     884,00     \$     884,00       249a     Residential Demand Response Pilot     \$     664,000     \$     664,000							
249a C/I Load Control Pilot \$ 884,00 \$ 884,00   249a Residential Demand Response Pilot \$ 664,00 \$ 664,00							•
249a   Residential Demand Response Pilot   \$   664,000   \$   664,000     Image: Control of the second secon				+			+
Subtotal Other Electric Programs   \$ 2,730,000   \$ 2,730,000	E249a	Residential Demand Response Pilot		<u>\$</u> 664,000			\$ 664,000
		Subtotal Other Electric Programs		\$ 2,730,000			\$ 2,730,000

GRAND TOTAL All EES Programs	71.0 aMW	\$ 166,810,000	9,054,000	\$ 33,350,000	\$ 200,160,000

PSE LIW Funding \$

600,000



# APPENDIX C:

# **Program Cost Effectiveness**

January 1, 2010

# **Table of Contents**

Program Cost Effectiveness	1
Definition of Terms and Calculations	1
Exhibit I. Electric Program Cost Effectiveness, 2010-2011	4
Exhibit II. Gas Program Cost Effectiveness, 2010-2011	5
Exhibit III. Levelized Fixed Charge Rate	6
Exhibit IV. Electric Cost Effectiveness Standard	
Exhibit V. Gas Cost Effectiveness Standard	8

# **Program Cost Effectiveness**

Puget Sound Energy (PSE) has proposed conservation program energy savings targets and Budgets for the period January 1, 2010 through December 31, 2011. PSE estimates the cost effectiveness of these programs using a Utility Cost Test and a Total Resource Cost Test.

The analysis includes cost and energy savings estimates for measures funded under electric and gas schedule numbers 200 through 270. The Utility Cost (UC) Test ensures that PSE's costs are less than the value of the energy savings benefits. The values of the energy savings, or avoided costs, are referred to as the Cost Effectiveness Standard (CES). With the exception of some specific exploratory pilots, all programs are expected to pass the Utility Cost Test with the levelized benefit/cost ratio (CES/UC) greater than or equal to 1.0.

Also with the exception of some exploratory pilots, all programs are expected to pass the Total Resource Cost (TRC) Test using one of three methods described below. Pilot programs, particularly those that are seeking to explore potential undeveloped markets or new technologies, are not expected to be cost effective in the short term.

# **Definition of Terms and Calculations**

The following terms are used in Exhibits I - V.

<u>Utility Cost Test (UC Test)</u> measures the net value of energy efficiency programs to the sponsoring utility. The UC Test is a cost-effectiveness calculation that demonstrates whether the utility energy savings benefits exceed the costs incurred by the utility.

<u>Total Resource Cost Test (TRC Test)</u> measures the net value of energy efficiency programs to society as a whole. The TRC Test is a cost-effectiveness calculation that demonstrates whether the total benefits exceed the total costs, including costs incurred by PSE (UC), the customer (CC), and any other contributing party (OC), as well as any non-energy benefits or costs (NEBs).

<u>Measure Life</u> is the number of years energy savings are expected from a measure. Where multiple measures are involved, a weighted average measure life is calculated for the program.

<u>End-Use Type</u> denotes the end-use load shape associated with a measure. The CES value changes as illustrated in Exhibits IV and V, based on the Measure Life and the End-Use Type. A program may have measures with more than one End-Use Type. In such cases, a type representative of the bulk of the energy savings attributable to the program is used. If no single measure has a majority of the energy savings of a program, a conservative End-Use Type is used.

<u>KWh and Therm Savings</u> are expressed as first year savings values based on projected program activity for the two-year period, January 1, 2010 through December 31, 2011.

<u>Utility Cost (UC)</u> is Puget Sound Energy's cost of implementing programs, including administrative costs, funding of incentives, and program marketing, research and evaluation.

<u>Customer Cost (CC)</u> is PSE's best estimate of the installed measure cost paid by the customer (beyond utility incentives covering a portion of measure cost). Estimates may

## Appendix C: Program Cost Effectiveness

be based on historical program data, trade ally information and projected incentive funding levels.

<u>Other Contributions</u> (OC) are generally third party costs that contribute to the TRC of the program.

<u>Non-Energy Benefits or Costs</u> (NEBs) are documented benefits or costs attributable the installation of a measure but not associated with energy savings. They may be used in the calculation of TRC. NEBs may be quantified, based on information where available and able to be specified by measure. Water use reduction or O&M savings or costs are common examples of NEBs. Non-quantifiable NEBs may include legislative or regulatory mandates, support for regional market transformation programs, and benefits from low income energy efficiency.

Total Resource Cost (TRC) is the summation of UC, CC, OC and Quantified NEBs.

<u>Levelized Fixed Charge Rate</u> is applied to the UC and TRC to calculate the levelized UC and TRC, by Measure Life.

<u>Cost Effectiveness Standard (CES), Electric</u> shows the full value to PSE of the energy & capacity saved, per kWh for the End-Use Type and the Measure Life. The electric CES was developed by calculating an Avoided Capacity Cost value and an Avoided Energy Cost value per kWh. The sum of avoided costs for Capacity and Energy is the electric CES.

Forecast annual weighted average hourly prices starting in 2010 was the basis of the Levelized Avoided Cost values. In addition, the following factors apply:

- T&D Line Loss Reduction: 7.9%, Residential and 6.4%, Commercial<sup>1</sup>
- Nominal Discount Rate: 8.25%<sup>2</sup>
- GDP Inflation: 2.5%<sup>3</sup>
- Planning Adjustment: 23%<sup>4</sup>
- NW Power Act Conservation Credit: 10%<sup>5</sup>

Total Annual Capital and Fixed Costs of Capacity was the basis of the Levelized Avoided Capacity Cost values. In addition, the following factors apply:

- Deferred T&D Cost Credit: \$45.56/kW-yr<sup>6</sup>
- Northwest Power Act Conservation Credit: 10%<sup>5</sup>

<sup>&</sup>lt;sup>1</sup> T&D Line Loss based on PSE 2009 GRC of Service Energy Allocations; 7.9% for residential, and 6.4% for commercial/industrial.

<sup>&</sup>lt;sup>2</sup> Nominal Discount Rate equal to PSE weighted average long run cost of capital. Discount rate used to calculate the Levelized Avoided Costs, starting in year 2010 and ending in year 2039.

<sup>&</sup>lt;sup>3</sup> GDP Inflation Rate is from PSE system load forecast used in 2009 IRP Process. GDP Inflation applied to year 2030 though 2039, beyond the 20 year forecast of Annual Weighted Hourly Prices.

<sup>&</sup>lt;sup>4</sup> Planning Adjustment calculated by estimating the difference between an all markets portfolio, adjusted for firm capacity needs, to an all supply resource portfolio. This premium is equal to the market plus 23%.

<sup>&</sup>lt;sup>5</sup> Conservation Credit of 10% authorized by the Northwest Power Act.

<sup>&</sup>lt;sup>6</sup> Deferred T&D Credit of \$45.56 kw-yr was developed in October 2009, based on PSE analysis of the avoidable portions of T&D capital expenditures for 1990-2008.

- Reserve Margin Credit: 15%<sup>7</sup>
- Nominal Discount Rate: 8.25%<sup>2</sup>
- GDP Inflation: 2.5%<sup>3</sup>

<u>Cost Effectiveness Standard (CES), Natural Gas</u> shows the full value to PSE of the energy saved, per Therm for the End-Use Type and the Measure Life. Forecast monthly shaped system costs starting in year 2010 was the basis of the Levelized Avoided Cost values. In addition, the following factors apply:

- Distribution Capacity Costs: \$0.1648/Dth<sup>8</sup>
- Northwest Power Act Conservation Credit: 10%<sup>5</sup>
- Nominal Discount Rate: 8.25%<sup>2</sup>
- GDP Inflation: 2.5%<sup>3</sup>

<u>UC Benefit/Cost Ratio (CES/UC):</u> This ratio must be greater or equal to 1.0, or reasonably expected to be greater that 1.0 over the projected life of program. The energy savings benefits must be greater than the utility costs incurred for PSE's customers to benefit.

<u>TRC Benefit/Cost Ratio (CES/TRC)</u>: The value of energy savings plus non-energy benefits must be greater than the total costs incurred. Because the utility can not always reliably quantify the non-energy benefits, PSE continues to use a proxy total resource cost test as developed and described in PSE's 1993 Schedule 83 filing. Three methods are used to apply the TRC Test:

- 1. CES/TRC > 1.0: If the CES alone is greater than the TRC, the programs is cost effective.
- 2. (CES + Quantified NEBs)/TRC > 1.0: If the sum of CES and Quantified NEBs are greater than TRC, the program is cost effective.

When either condition 1 or 2 are met, method 3 is not used.

3. Reliance on non-quantifiable NEBs, within limits: Programs where there are significant, but not quantifiable NEBs, use a proxy. First, the UC Test must be satisfied. Second, in some cases where there are desirable benefits to society which may include legislative or regulatory mandates, support for regional market transformation programs, and benefits from low income energy efficiency, or experimental, pilot programs. In recognition that these non-quantifiable NEBs exist and are significant, PSE reviews TRC not to exceed 150% of the CES (CES/TRC>=0.67. Utility incentives for measures with a CES/TRC less that 1.0 and greater that 0.67 are designed to decline, to insure that ratepayers, a) do not pay for non-cost effective measures, and b) obtain energy savings inexpensively.

<sup>&</sup>lt;sup>7</sup> Reserve Margin Credit of 15% is consistent with PSE planning standards.

<sup>&</sup>lt;sup>8</sup> Distribution Capacity Cost is based on a marginal cost from engineering models of increasing capacity.

# Exhibit I. Electric Program Cost Effectiveness, 2010-2011

								Quantified Non-			Levelized	Cost Eff.		TRC
Sch.		Meas	Electric End-				Other	Energy Benefit	Total Resource	Levelized	Total	Standard	UC B/C	B/C
No.	Program Name	Life	Use Type	kWh Savings	Utility Cost	Customer Cost	Contributions	or Cost	Cost		Resource Cost	Value	Ratio	Ratio
E200	Information Services	-	na	-	\$ 3,268,000	s -	s -	\$-	\$ 3,268,000	\$ -	\$-	\$-	na	na
E201	Low Income	16	SFSH	3,000,000	\$ 4,798,000	\$ -	\$ 420,000	\$ -	\$ 5,218,000	\$ 550,757	\$ 598,969	\$ 589,626	1.07	0.98
E202	Energy Education	10	LIGHTING	3,000,000	\$ 1,300,000	\$-	\$ 114,000	\$-	\$ 1,414,000	\$ 195,929	\$ 213,110	\$ 359,793	1.84	1.69
E214	Single Family Existing	10	LIGHTING	238,000,000	\$ 42,501,000	\$ 44,100,000	\$-	\$ 9,306,000	\$ 77,295,000	\$ 6,405,508	\$ 11,649,461	\$ 28,543,576	4.46	2.45
E215	Single Family New Construction	10	LIGHTING	7,000,000	\$ 2,418,000	\$ 211,000	\$	\$ 23,000	\$ 2,606,000	\$ 364,427	\$ 392,761	\$ 839,517	2.30	2.14
	Natural Gas Conversion	30	SFSH	17,000,000	\$ 4,497,000	\$ 2,814,000	\$ 2,105,000	\$-	\$ 9,416,000	\$ 408,916		\$ 2,274,057	5.56	2.66
	Multi Family Existing	13	LIGHTING	33,000,000	\$ 10,320,000	\$ 8,095,000	\$	\$ 777,000	\$ 17,638,000	\$ 1,323,715		\$ 4,090,428	3.09	1.81
	Multi Family New Construction	14	LIGHTING	5,000,000	\$ 2,336,000	\$ 308,000	\$-	\$ 55,000	\$ 2,589,000	\$ 287,477		\$ 625,926	2.18	1.96
E249	Pilots excluding:	12	HP		\$ 2,324,000		\$-	\$-	\$ 2,474,000	\$ 312,390		\$ 415,964	1.33	1.25
	Home Energy Reports (Pilot)	1	LIGHTING	12,000,000	\$ 1,541,000		\$ 700,000	\$-	\$ 2,241,000	\$ 1,668,133		\$ 1,098,517	0.66	0.45
	Total Residentail EfficiencyPrograms	11	LIGHTING	320,000,000	\$ 75,303,000	\$ 55,678,000	\$ 3,339,000	\$ 10,161,000	\$ 124,159,000	\$ 10,676,456	\$ 17,603,258	\$ 38,823,820	3.64	2.21
	Commercial/Industrial Retrofit	12	CILTG	146,000,000	\$ 48,000,000		\$-	\$-	\$ 74,844,000	\$ 6,452,107		\$ 21,462,642	3.33	2.13
	Commercial/Industrial New Construction	15	CILTG	13,000,000	\$ 5,600,000	\$ 202,000	\$	\$-	\$ 5,802,000	\$ 664,266	\$ 688,227	\$ 1,969,454	2.96	2.86
	Resource Conservation Manager	3	CIHEAT	26,000,000	\$ 2,600,000		\$-	\$-	\$ 3,318,000	\$ 1,013,441		\$ 5,084,934	5.02	3.93
	Small Business Lighting Rebate	12	CILTG	27,000,000	\$ 8,600,000	\$ 2,222,000	\$-	\$-	\$ 10,822,000	\$ 1,156,003		\$ 3,969,119	3.43	2.73
	LED Traffic Signals	7	FLAT	1,000,000	\$ 50,000		\$	\$-	\$ 302,000	\$ 9,686			11.93	1.98
	Large Power User - Self Directed Program	12	CILTG	6,000,000	\$ 2,500,000	\$ 668,000	\$-	\$-	\$ 3,168,000	\$ 336,047	\$ 425,839	\$ 882,026	2.62	2.07
	Commercial Energy Efficiency Information	-	na	-	\$ 425,000		\$-	\$-	\$ 425,000	\$-	\$ -	\$-	na	na
E262	Commercial Prescriptive Incentives	10	CIREF	36,000,000	\$ 4,600,000	\$ 12,685,000	\$-	\$-	\$ 17,285,000	\$ 693,286	\$ 2,605,097	\$ 4,542,085	6.55	1.74
	Total Business Efficiency Programs	11	CILTG	255,000,000	72,375,000	43,591,000	-	-	\$ 115,966,000	\$ 10,261,324	\$ 16,441,655	\$ 37,079,795	3.61	2.26
	NW Energy Efficiency Alliance	8	LIGHTING	47,000,000	\$ 9,250,000		\$-	\$-	\$ 18,500,000	\$ 1,624,940		\$ 5,486,730	3.38	1.69
	Total Regional Efficiency Programs	8	LIGHTING	47,000,000	9,250,000	9,250,000	-	-	\$ 18,500,000	\$ 1,624,940	\$ 3,249,880	\$ 5,486,730	3.38	1.69
	Community Efficiency Manager	-	na	-	\$ 145,000		\$-	\$-	\$ 145,000	\$-	\$-	\$-	na	na
	Energy Efficient Technology Evaluation	-	na	-	\$ 220,000	\$-	\$-	\$-	\$ 220,000	\$-	\$-	\$-	na	na
	Local Infrastructure & Mkt Transformation	-	na	-	\$ 123,000	\$-	\$-	\$ -	\$ 123,000	\$ -	\$ -	\$-	na	na
	Conservation Supply Curves	-	na	-	\$ 698,000	\$-	\$-	\$-	\$ 698,000	\$-	\$ -	\$-	na	na
	EES Market Integration	-	na	-	\$ 456,000	\$-	\$-	\$-	\$ 456,000	\$-	\$-	\$-	na	na
	Energy Efficient (Green) Communities	-	na	-	\$ 596,000	\$ -	\$ ·	\$ -	\$ 596,000	\$ -	\$ -	\$ -	na	na
	Mainstreaming Green	-	na	-	\$ 900,000	\$-	\$-	\$ -	\$ 900,000	\$ -	\$ -	\$ -	na	na
	Market Research	-	na	-	\$ 1,928,000		\$ -	\$ -	\$ 1,928,000	\$ -	\$ -	\$ -	na	na
	Program Evaluation	-	na	-	\$ 1,468,000		\$ -	\$ -	\$ 1,468,000	\$ -	\$ -	\$ -	na	na
	Program Support	-	na	-	\$ 618,000		ş -	\$ -	\$ 618,000	\$ -	\$ -	\$ -	na	na
	Total Efficiency Support Programs	-	na	-	\$ 7,152,000		\$-	\$-	\$ 7,152,000	\$-	\$ -	\$-	na	na
	Total Electric Efficiency Programs	11	LIGHTING	622,000,000	164,080,000	108,519,000	3,339,000	10,161,000	265,777,000	\$ 23,263,256	\$ 37,681,852	\$ 75,463,801	3.24	2.00
				71.0 aMW		_								
E150	Net Metering			-	\$ 343,000									
	Small-Scale Renewables			-	\$ 839,000	]								
	C/I Load Control Pilot			-	\$ 884,000									
	Residential Demand Response Pilot			-	\$ 664,000									
	Total Other Programs			-	\$ 2,730,000									
	Total All EES Electric Programs				\$ 166,810,000									

# Exhibit II. Gas Program Cost Effectiveness, 2010-2011

								Quantified Non-				Cost Eff.		
Sch.		Meas	Gas End-Use				Other	Energy Benefit	Total Resource	Levelized	Levelized TRC	Standard	UC B/C	TRC B/C
No.	Program Name	Life	Туре	Therm Savings	Utility Cost	Customer Cost	Contributions	or Cost	Cost	Utility Cost	Cost	Value	Ratio	Ratio
G203	Low Income	25	SH	54,000	\$ 1,135,000	ş -	\$ 180,000	ş -	\$ 1,315,000		\$ 125,829	\$ 84,337	0.78	0.67
G206	Information Services	-	na	-	\$ 1,248,000	\$-	\$-	\$-	\$ 1,248,000	\$-	\$-	\$-	na	na
	Energy Education	10	SH	129,000	\$ 700,000		\$ 61,600		\$ 761,600		\$ 114,784	\$ 169,350	1.61	1.48
	Single Family Existing	22	SH	2,816,000	\$ 14,730,000			\$ 220,000	\$ 32,510,000				2.91	1.32
	Single Family New Construction	20	SH	360,000	\$ 1,945,000			\$-	\$ 3,797,000		\$ 393,955	\$ 537,288	2.66	1.36
	Multi Family Existing	24	SH	91,000				\$ 15,000	\$ 1,427,000				2.12	1.02
	Multi Family New Construction	17	SH	43,000	\$ 506,000		\$-	\$ 106,000	\$ 486,000				1.10	1.15
G249	Pilots excluding:	11	SH	36,000	\$ 357,000		\$-	\$-	\$ 357,000	\$ 50,615			0.95	0.95
	Home Energy Reports	1	SH	525,000			\$ 300,000		\$ 1,020,000	\$ 779,400	\$ 1,104,150	\$ 500,360	0.64	0.45
	Total Residential Efficiency Programs	19	SH	4,054,000	\$ 22,027,000	\$ 20,694,000	\$ 241,600	\$ 341,000	\$ 41,901,600	\$ 2,062,117	\$ 4,128,009	\$ 5,327,922	2.58	1.29
	Commercial/Industrial Retrofit	16	FLAT	850,000	\$ 5,000,000		-	-	\$ 7,371,214		\$ 846,134	\$ 1,116,455	1.95	1.32
G208	Resource Conservation Manager	3	CISH	600,000	\$ 1,000,000	\$ 343,609	-	-	\$ 1,343,609	\$ 389,785	\$ 523,719	\$ 673,654	1.73	1.29
G251	Commercial/Industrial New Construction	15	CISH	250,000	\$ 1,700,000	\$ 240,730	-	-	\$ 1,940,730	\$ 201,652	\$ 230,207	\$ 359,542	1.78	1.56
G260	Commercial Energy Efficiency Information	-	na		\$ 400,000		-	-	\$ 400,000	\$-	\$ -	\$-	na	na
G262	Commercial Prescriptive Incentives	5	FLAT	3,300,000	\$ 1,100,000	\$ 2,168,012	-	-	\$ 3,268,012	\$ 277,320	\$ 823,895	\$ 3,607,012	13.01	4.38
	Total Business Efficiency Programs	7	FLAT	5,000,000	\$ 9,200,000	\$ 5,123,565	\$ -	\$-	\$ 14,323,565	\$ 1,442,702	\$ 2,423,955	\$ 5,756,663	3.99	2.37
G261	Energy Efficient Technology Evaluation	-	na	-	\$ 100,000	-	-	-	\$ 100,000	\$ -	\$-	\$ -	na	na
G270	Local Infrastructure & Mkt Transformation	-	na	-	\$ 97,000	-	-	-	\$ 97,000	\$-	\$-	\$-	na	na
	Conservation Supply Curves	-	na		\$ 175,000	-	-	-	\$ 175,000	\$-	\$-	\$-	na	na
	EES Market Integration	-	na		\$ 304,000	-	-	-	\$ 304,000	\$-	\$ -	\$-	na	na
	Mainstreaming Green	-	na	-	\$ 600,000	-	-	-	\$ 600,000	\$-	\$ -	\$ -	na	na
	Market Research	-	na	-	\$ 420,000	-	-	-	\$ 420,000	\$ -	\$ -	\$ -	na	na
	Program Evaluation	-	na	-	\$ 427,000	-	-	-	\$ 427,000	\$	\$-	\$-	na	na
	Total Efficiency Support Programs	-	na	-	\$ 2,123,000	\$ -	\$ -	\$ -	\$ 2,123,000	\$ -	\$ -	\$ -	na	na
	Total Gas Efficiency Programs	12	FLAT	9,054,000	\$ 33,350,000	\$ 25,817,565	\$ 241,600	\$ 341,000	\$ 58,348,165	\$ 3,504,819	\$ 6,551,964	\$ 11,084,585	3.16	1.69

# Exhibit III. Levelized Fixed Charge Rate

## LEVELIZED FIXED CHARGE RATE FOR CONSERVATION COST EFFECTIVENESS STANDARD, 2010-2011

Discount Rate: 8.25%

	Levelized
	Fixed
	Charge
Number	Rate
of Years	(%)
1	108.250
2	56.269
3	38.979
4	30.360
5	25.211
6	21.796
7	19.372
8	17.567
9	16.175
10	15.071
11	14.178
12	13.442
13	12.827
14	12.306
15	11.862
16	11.479
17	11.146
18	10.856
19	10.601
20	10.375
21	10.176
22	9.998
23	9.839
24	9.697
25	9.569
26	9.454
27	9.350
28	9.256
29	9.170
30	9.093

# Exhibit IV. Electric Cost Effectiveness Standard

### \$/kWh

Measure	s	F Space	Μ	IF Space	R	esidential	R	esidential	Re	esidential	R	esidential	с	ommercial	c	Commercial	Commerc	ial	Co	mmercial	Con	nmercial	
Life		Heat		Heat	н	leat Pump	w	ater Heat	L	ighting	F	Plug Load		Cooking		Cooling	Heating		L	ighting	Refri	igeration	Flat
		SFSH		MFSH		HP		WH	L	LIGHTING		PLUG		CICOOK		CICOOL	CIHEAT			CILTG	(	CIREF	FLAT
1	\$	0.140	\$	0.113	\$	0.167	\$	0.109	\$	0.092	\$	0.094	\$	0.084	\$	0.060	\$ 0.1	83	\$	0.112	\$	0.096	\$ 0.091
2	\$	0.143	\$	0.115	\$	0.170	\$	0.111	\$	0.093	\$	0.096	\$	0.086	\$	0.061	\$ 0.1	86	\$	0.114	\$	0.098	\$ 0.093
3	\$	0.153	\$	0.125	\$	0.180	\$	0.120	\$	0.102	\$	0.105	\$	0.095	\$	0.069	\$ 0.1	96	\$	0.124	\$	0.107	\$ 0.102
4	\$	0.159	\$	0.130	\$	0.185	\$	0.125	\$	0.107	\$	0.110	\$	0.100				202	\$	0.129	\$	0.113	\$ 0.107
5	\$	0.164	\$	0.134	\$	0.189	\$	0.129	\$	0.110	\$	0.114	\$	0.103	\$			206	\$	0.133	\$	0.116	\$ 0.111
6	\$		\$	0.137	\$	0.193	\$	0.132	\$	0.113	\$	0.116	\$	0.106	\$				\$	0.136	\$	0.119	\$ 0.114
7	\$	0.172	\$	0.140	\$	0.196	\$	0.134	\$	0.115	\$	0.119	\$	0.108	Ŧ		Ŧ -	-	\$	0.138	\$	0.121	\$ 0.116
8	\$	0.175	\$	0.142	\$	0.199	\$	0.136	\$	0.117	\$	0.120	\$	0.109	Ŧ			-	\$	0.140	\$	0.123	\$ 0.117
9	\$	0.178	\$	0.144	\$	0.201	\$	0.138	\$	0.118	\$	0.122	\$	0.111	\$		\$ 0.2	19	\$	0.142	\$	0.125	\$ 0.119
10	\$	0.181	\$	0.146	\$	0.204	\$	0.140	\$	0.120	\$	0.124		0.112			\$ 0.2	22	\$	0.144	\$	0.126	\$ 0.121
11	\$		\$	0.148	\$	0.206		0.141	\$	0.121	\$	0.125		0.114					\$	0.145	\$	0.128	\$ 0.122
12	\$		\$	0.149	\$	0.208	\$	0.143	\$	0.123	\$	0.127	\$	0.115					\$	0.147	\$	0.129	\$ 0.124
13	\$		\$	0.151	\$	0.210		-	\$	0.124	\$	0.128	\$	0.116					\$	0.149	\$	0.130	0.125
14	\$	0.191	\$	0.152	\$	0.212	\$		\$	0.125	\$	0.129	\$	0.118			\$ 0.2	-	\$	0.150	\$	0.132	\$ 0.126
15	\$		\$	0.154	\$	0.214	\$	0.147	\$	0.126	\$	0.131	\$	0.119					\$	0.151	\$	0.133	0.128
16	\$	0.197	\$	0.155	\$	0.216	\$	0.149	\$	0.128	\$	0.132	\$	0.120			+		\$	0.153	\$	0.134	\$ 0.129
17	\$		\$	0.157	\$	0.218	•		\$	0.129		0.133		0.121	\$		Ŧ -		\$	0.154	\$	0.135	\$ 0.130
18	\$		\$	0.158	\$	0.220	*		\$	0.130	\$	0.134		0.122	•			-	\$		+	0.137	\$ 0.131
19	\$		\$	0.159	\$	0.221	\$		\$	0.131	\$	0.135		0.123			+ -		\$		\$	0.138	\$ 0.132
20	\$	0.206	\$	0.161	\$	0.223	\$	0.154	\$	0.132	\$	0.136			\$		+ -		\$	0.158	\$	0.139	\$ 0.133
21	\$	0.208	\$	0.162	\$	0.225	\$	0.155	\$	0.133	\$	0.137	\$	0.125				-	\$	0.159	\$	0.140	\$ 0.134
22	\$		\$	0.163	\$	0.226	\$		\$	0.133		0.138	\$	0.125					\$		+	0.141	\$ 0.135
23	\$	0.212	\$	0.164	\$	0.228	\$		\$	0.134	\$	0.139	\$	0.126				-	\$	0.161	\$	0.142	\$ 0.136
24	\$		\$	0.165	\$	0.229	\$		\$	0.135	\$	0.140	•	0.127			+ -		\$		•	0.142	0.136
25	\$		\$	0.166	\$	0.230	\$	0.158	\$	0.136	\$	0.140	\$	0.127	\$			-	\$		•	0.143	0.137
26	\$	-	\$	0.167	\$	0.232		0.159		0.136		0.141	\$	0.128				53				0.144	0.138
27	\$		\$	0.168	\$	0.233	\$		\$	0.137	\$	0.142		0.129				-	\$	0.165	•	0.145	0.138
28	\$		\$		\$				\$	0.138		0.142		0.129					\$	0.165		0.145	0.139
29	\$	0.222	\$	0.169	\$	0.235	\$	0.161	\$	0.138	\$	0.143	•	0.130	•		+ -	-	\$		•	0.146	\$ 0.140
30	\$	0.223	\$	0.170	\$	0.236	\$	0.162	\$	0.139	\$	0.144	\$	0.130	\$	0.096	\$ 0.2	58	\$	0.167	\$	0.146	\$ 0.140

# Exhibit V. Gas Cost Effectiveness Standard

\$/Therm

	_		_		•					
		s Space	-	es WH &	Co	m Space		m WH &		_
Year	Heat	Existing	Ар	pliances		Heat	C	ooking		Flat
4	\$	SH	\$	WH 0.862	\$	CISH 0.978	\$	CIWH	\$	FLAT
1		0.953						0.846		0.864
23	\$ \$	1.021	\$ \$	0.926	\$ \$	1.047	\$ \$	0.909	\$ \$	0.927
		1.097		1.003		1.123		0.987		1.004
4 5	\$ \$	1.150	\$ \$	1.056	\$ \$	1.176	\$	1.040	\$ \$	1.058
	<u></u> \$	1.189	<u>\$</u> \$	1.092	\$ \$	1.215	\$	1.075	Դ Տ	1.093
6	<u>ծ</u> \$	1.216	<u>\$</u> \$	1.117	Դ Տ	1.242	\$	1.101	•	1.118
7	<u></u> \$	1.242	<u> </u>	1.140	Դ Տ	1.270	\$	1.123	\$ \$	1.141
8	<u>ծ</u> \$	1.268	<u> </u>	1.162	•	1.296	Դ Տ	1.145	Դ Տ	1.163
9 10	<u></u> \$	1.291	<u></u> \$	1.183 1.204	\$ \$	1.319 1.342	Դ Տ	1.166	Դ Տ	1.184
	<u>ֆ</u> \$	1.313	<u> </u>		<del>л</del> \$	-	Դ Տ	1.187	Դ Տ	1.205
11 12	<u></u> \$	1.333	<u> </u>	1.223 1.241	Դ Տ	1.362	Դ Տ	1.206 1.225	Դ Տ	1.224
12	<u>ֆ</u> \$	1.352 1.372	<u>ֆ</u> \$	1.241	э \$	1.382 1.401	Դ Տ	1.225	Դ Տ	1.243 1.262
13	<u>ֆ</u> \$		<u>ֆ</u> \$	1.260	э \$		Դ \$		Դ Տ	
14	<u>ֆ</u> \$	1.389	<u>ֆ</u> \$	1.276	э \$	1.419 1.438	Դ Տ	1.261 1.278	Դ Տ	1.279 1.297
15	<u>ֆ</u> \$	1.408 1.426	<u>ֆ</u> \$	1.290	э \$	1.436	Դ \$	1.278	Դ Տ	
10	<u>ֆ</u> \$	1.420	<u>ֆ</u> \$	1.312	Դ Տ	1.456	Դ Տ	1.295	Դ Տ	1.313 1.330
17	ֆ \$	1.442	<u>ֆ</u> \$	1.346	Դ Տ	1.473	ֆ \$	1.329	Դ Տ	1.348
10	<u>ֆ</u> \$	1.401	<u>ֆ</u> \$	1.340	Դ Տ	1.494	ֆ \$	1.329	Դ Տ	1.340
20	<u>э</u> \$	1.477	<u>ֆ</u> \$	1.302	э \$	1.532	թ \$	1.344	Դ Տ	1.303
20	<u>э</u> \$	1.508	\$ \$	1.392	Գ Տ	1.549	ֆ \$	1.300	Գ Տ	1.394
21	φ \$	1.500	\$	1.406	φ \$	1.566	\$	1.388	э \$	1.408
22	\$	1.536	\$	1.420	φ \$	1.582	Ψ \$	1.401	φ \$	1.400
23	\$	1.549	\$	1.433	φ \$	1.597	φ \$	1.414	φ \$	1.434
25	\$	1.562	\$	1.445	\$	1.611	\$	1.426	\$	1.447
25	\$	1.574	\$	1.457	φ \$	1.625	γ \$	1.438	э \$	1.458
20	\$	1.586	\$	1.468	\$	1.639	\$	1.449	\$ \$	1.470
28	\$	1.597	\$	1.479	\$	1.651	Ψ \$	1.460	\$ \$	1.481
20	\$	1.608	\$	1.489	Ψ \$	1.664	\$	1.470	Ψ \$	1.491
30	\$	1.618	\$	1.499	\$	1.675	Ψ \$	1.480	\$ \$	1.501



# APPENDIX D:

# **Energy Efficiency Services Evaluation Plan**

January 1, 2010

# Table of Contents

1.		. 1
2.	Managing Program Evaluation	. 1
	Evaluation Processes	.2
	Prioritization of Evaluation Projects	.2
	Standardized Approach to Program Evaluations	.4
	The Program Evaluation Toolbox	.4
	2010-2011 Evaluation Budget	.5

# Table of Figures

FIGURE 1: SIMPLIFIED PROGRAM EVALUATION PROCESS	. 3
FIGURE 2: PROJECTED EVALUATION BUDGETS	. 5

# 1. INTRODUCTION

This document summarizes the 2010-2011 Evaluation Plan developed by the Evaluation Group for Puget Sound Energy's portfolio of electric and gas energy efficiency programs. The overall role of the Evaluation Group (EG) at Puget Sound Energy (PSE) is to:

- Evaluate the degree to which PSE is successful in meeting its energy savings targets (MWh and Therms),
- Identify ways to optimize program delivery and,
- Minimize the risk associated with the Company's portfolio of energy efficiency programs developed to achieve the 2010-2011 energy savings targets.

In preparing this plan, the Evaluation Group at PSE has developed a structured process that serves to:

- Assess the overall needs for program evaluation in a systematic manner, and
- Allocate limited financial and staff resources accordingly.

This plan summarizes the program evaluation prioritization strategy for 2010 and 2011. Specific evaluation plans for PSE's Energy Efficiency Services (EES) programs will be updated annually and refined with further clarification of the protocols and expectations of the Conservation Resource Advisory Group (CRAG) and Washington Utility and Transportation Commission (WUTC) staff.

# 2. MANAGING PROGRAM EVALUATION

In developing this plan, the Evaluation Group (EG) has been influenced by the following assumptions:

- All programs and/or measures will be prioritized to determine which will be formally evaluated: The EG will prioritize programs and measures to ensure that the highest priority activities and projects are undertaken. Priority will be assigned along several dimensions including amount of overall savings attributed to measures, currency of evaluations related to measure, confidence in evaluation findings and/or source of savings, and newness of measure/program. Evaluations will be performed by in-house staff or third party contractors. In order to determine the unique evaluation needs of each program, the Evaluation Group will identify and document program specific issues that are significant to program success.
- Coordination is key: Specific energy efficiency evaluation efforts will require close coordination with PSE management, program managers/staff and stakeholders (e.g. CRAG). In addition, the EG will be coordinating with other bodies such as the Regional Technical Forum (RTF)<sup>1</sup>, the Northwest Energy Efficiency Alliance (NEEA)<sup>2</sup> and the Puget Sound Research & Evaluation Network (PSREN)<sup>3</sup>, to identify common evaluation objectives and pool resources as needed.
- **The Stakes are High:** It is understood that goals for 2010-2011 remain at a high level compared to years past. Incentive mechanisms of any nature will continue warranting specific accounting of energy savings. Also, as energy efficiency is treated as a resource

<sup>&</sup>lt;sup>1</sup> The Regional Technical Forum (RTF) is an advisory committee established in 1999 to develop standards to verify and evaluate conservation savings.

<sup>&</sup>lt;sup>2</sup> The Northwest Energy Efficiency Alliance is a private non-profit organization funded by Northwest utilities, the Energy Trust of Oregon and the Bonneville Power Administration.

<sup>&</sup>lt;sup>3</sup> PSREN is currently comprised of staff from Puget Sound Energy, Seattle City Light, Snohomish County PUD and Tacoma Power.

in PSE's Integrated Resource Plans, these factors place a requirement on the EG to most effectively assess energy savings and evaluate implementation efforts.

### **Evaluation Processes**

It is critical that the EG take a systematic approach to the measurement and verification of savings and to providing real-time value to implementation teams. In order to accomplish this, the EG has adopted a process that will prioritize evaluation work and projects.

### **Prioritization of Evaluation Projects**

All measures and/or programs will be prioritized for the 2010-2011 period. The prioritization will be along four major dimensions:

- 1. Pilot and new programs and measures will be given high priority for evaluation so that empirical data may be used to establish source of savings documentation and fine tune program delivery. Further, the managers of pilot and new programs and measures depend on research and evaluation to further solidify the design and impact of their measures and programs.
- 2. The relative contribution of each program and/or measure to overall portfolio savings is a key consideration for program evaluation. Programs and measures will be prioritized according to their relative energy savings contribution to total energy savings.
- 3. A two-pronged consideration of the currency of the last evaluation and the strength of that evaluation will be used to establish the priority of a measure or program being evaluated in the 2010-2011 biennium.
- 4. Consideration will be given to regional interests in the evaluation of programs and measures to seek opportunities to pool resources.

These four dimensions will be applied using the following process to prioritize evaluation activities:

- 1. Pilots and new programs will undergo both impact and process evaluation as needed. Pilots and new program measures may be exempt from this evaluation if the measure/program is equivalent to another measure/program that has undergone a relevant evaluation that satisfies the program manager's need for impact and process evaluation data.
- 2. Evaluations that started in the 2008-2009 biennium and are not completed will be given top priority to allow project completion.
- 3. Each measure/program will be ranked in descending order of savings contribution to total energy savings based on the 2009 calendar year for the measure/program. This ranking will be performed separately for the electric and natural gas energy sources. Consideration of a program's or measure's expected contribution to 2010-2011 total energy savings will be factored in as well. Programs with the highest contribution to total energy savings will be given priority after pilots and new measures/programs.
- 4. Measures/programs with evaluation results that were developed in the past four years or since January 2006 will be removed from the savings ranking unless the results are called into question by the EG, management or stakeholders. Process and impact evaluation results are not interchangeable so measures/programs with current process evaluations will still be prioritized for impact evaluations and vise-versa.

Evaluation prioritization will generate two lists, an electric and natural gas list of evaluation priorities. Evaluation resources will be divided between electric and natural gas consistent with the evaluation budgets allocated between the two energy sources. A prioritized list of

measures/programs will be created and evaluations will be performed according to the priority to the extent that is possible with the budget and staffing of the EG.

This evaluation process is represented in Figure 1.



FIGURE 1: SIMPLIFIED PROGRAM EVALUATION PROCESS

### **Standardized Approach to Program Evaluations**

Program-specific evaluation plans will be organized internally and will be reviewed and approved by Key program stakeholders. Each program evaluation project scope of work will be outlined as follows:

- Review of Existing Program Data general program information including past and forecast budget, savings targets, and performance metrics
- Identification of Key Program/Measure Considerations Any special considerations that assist in framing the history of the program or other evaluation scoping issues
- Review of Key Performance Elements Identified Technical/Economic, Market and Organizational elements
- **Determining Key Evaluation Research Questions** Outstanding questions that arise from the identified risks that will drive the evaluation strategies
- **Defined Evaluation Strategy & Project Plan** The strategies frame the near-term evaluation needs. These are articulated in a specific impact evaluation or process evaluation plan where appropriate
- Clearly Defined Outcomes Reporting, documentation, and dissemination of information

### The Program Evaluation Toolbox

Scopes of work for evaluation projects will generally include one or more of the following research activities depending on what will best answer specific research questions and provide accurate and useful results:

- Data Analysis/File Review Generally, program tracking, customer or market data is available to inform need for further data collection, or to form the basis of sampling methodology. It is often the first step in any impact or process evaluation.
- Staff Interviews Along with Data Analysis/File Review, surveys or interviews with key PSE staff are often an initial step, and can help direct evaluation scopes of work by revealing what is known, and gaps in organizational knowledge. Outcomes often result in development of or updates of process flows and program logic models.
- **Tailored Best Practice Review** A thorough review of regional, national or worldwide program and marketing practices can be useful to inform decisions regarding program strategies and planning.
- **Metering** Specialized instrumentation used to monitor energy use or hours of operation is used to verify energy savings. Metering is often costly because it requires on-site installation and removal of metering equipment.
- **Billing and/or Econometric Analysis** Analysis of weather adjusted energy use from billing or metered data, examining energy use in ex-anti and ex-post periods, often comparing a treatment group and a control group. This analysis may also statically compare billing data to engineering estimates. Econometric analysis is complimented by consumer survey data to assist in the control of exogenous variables such as changes in square footage of treated area, operational characteristics or tenant occupancy.
- **Customer Surveys** To augment billing analysis, to assess customer satisfaction, or better understand customer or end-use characteristics, surveys of participating and non-

participating customers may have a place in impact or process evaluation scopes of work.

- **Trade Ally Surveys** Where a better understanding of market actors and business practices is needed for optimization of program delivery, surveys or key informant interviews with market actors such as contractors, distributors or manufacturers may be required.
- Engineering Analysis New measures and programs often lack sufficient empirical data to verify and validate important assumptions. In this case, engineering analysis may be used to develop interim assumptions that allow program staff a basis on which to build a program. Engineering analysis will be later followed up with empirical research when the data is available for collection.

## 2010-2011 Evaluation Budget

The forecast Evaluation budget for electric programs in 2010 and 2011 is \$1,468,283, and the natural gas evaluation budget is \$427,349. Figure 2 shows the projected Electric and Natural Gas budgets for 2010-2011.

#### Figure 2: Estimated Program Evaluation Budget, 2010-2011

Electric Program Evaluation	\$1,468,000
Gas Program Evaluation	\$ 427,000
Total Program Evaluation	\$1,895,000