

## ➤ Computer Efficiency – Product Changes

Public Service Company of Colorado proposes this 60-Day Notice to make the following changes to its Computer Efficiency Product to expand upon its current rebate offerings and update the measurement and verification (M&V) requirements for the existing upstream measures. The company does not anticipate these changes will significantly impact total rebates or net energy savings in 2012 and 2013.

1. The company is proposing to add a new measure to the product for Network Personal Computer Power Management (PC Power Management) as a new prescriptive measure. This measure pays a prescriptive rebate for customers who install PC Power Management software at a centralized location to control desktop PCs remotely. This measure is not for laptops or notebook computers, but must be qualifying desktop computers. Desktop computers that qualify must be located within PSCo's electric territory and the software must block the end user from overriding the software once it is installed. The measure is being added to simplify the customer purchasing process by offering a standard prescriptive rebate after purchase rather than requiring a custom analysis and pre-approval prior to purchase as it is done currently. This measure is also offered by many western utilities including: PG&E, Southern California Edison, BC Hydro, and Idaho Power, and the measure is being requested by the I.T. trade in our territory.
2. Change the M&V requirements of the upstream incentives. In our 2012/2013 Colorado DSM plan we proposed a custom M&V process for the power supplies. It was technically difficult for the computer manufactures to receive and track customer opt-ins for a direct third party audit from their ordering systems. The customers who purchased the more efficient computers were typically not aware of the incentives paid to the computer manufacturers and are reluctant to be contacted about their purchase when they did not receive a direct rebate. We are proposing the following changes based on other products within our portfolio and successful M&V procedures in other jurisdictions. The changes are:
  - a. Current M&V reporting requirements for manufacturers:
    - Ship to zip code tracking
    - Make and model
    - Quantity shipped per model
  - b. New Additional Requirements:
    - The M&V third-party administrator will receive weekly or monthly reports from manufacturers and compile data of qualifying units which will be forwarded to PSCo.
    - Assignment of qualifying desktop units to groups for determination of efficiency level and appropriate rebating.
    - The third-party administrator will utilize a tracking database.
    - PSCo will receive a monthly report from the third-party administrator.
3. In addition to adding technical assumptions for this new measure, a change has been made to the technical assumptions for all measures within the Computer Efficiency Product. The original technical assumptions included the assumption that some single shift computers were not operating during weekends (Saturdays and Sundays). Upon further analysis, it was determined that these computers were normally turned off at the close of business on Friday and turned on at the start of business Monday morning. Therefore, additional hours for Friday evenings and

Monday mornings were added to the “Off” hours of operation. This results in a reduction to the baseline operating hours which also causes a reduction to proposed and associated savings. The Deemed Savings tab of the technical assumptions was updated to reflect the resulting changes and is being posted with this 60-Day Notice.

**Computer Efficiency As Filed (w/o PC Power Management)**

2012 Participants (-)	2012 Units (-)	2012 NET Gen kW (kW)	2012 NET Gen kWh (kWh)	2012 Rebate Budget (\$)	2013 Participants (-)	2013 Units (-)	2013 NET Gen kW (kW)	2013 NET Gen kWh (kWh)
2,666	27,290	1,004	7,342,230	\$42,000	2,818	28,990	1,074	7,849,377

**Computer Efficiency As Proposed (w/o PC Power Management)**

2012 Participants (-)	2012 Units (-)	2012 NET Gen kW (kW)	2012 NET Gen kWh (kWh)	2012 Rebate Budget (\$)	2013 Participants (-)	2013 Units (-)	2013 NET Gen kW (kW)	2013 NET Gen kWh (kWh)
2,666	27,290	928	6,785,381	\$42,000	2,818	28,990	992	7,253,637

## ➤ Computer Efficiency Product

### A. Description

The Computer Efficiency Product offers incentives to desktop personal computer (PC) manufacturers and low-end server manufacturers that produce and sell PCs with high efficiency power supplies to business customers in Xcel Energy's Colorado electric service territory and to business customers who implement a Virtual Desktop Infrastructure (VDI) strategy referred to in this document as Desktop PC Virtualization.

#### 1) Upstream Manufacturer Incentives

The upstream manufacturer incentive components provide incentives to desktop personal computer (PC) manufacturers that design, install and deliver desktop computers with energy efficient power supplies to business customers in Xcel Energy's Colorado electric service territory.

This upstream component is administered through a third party, Ecova, Inc. (formerly Ecos Plug Load Solutions), ~~Ecos Plug Load Solutions (PLS)~~ that develops and promotes their programs on behalf of utilities across North America. When units are shipped to qualified zip codes (as confirmed by the manufacturer) ~~PLS~~ Ecova pays the manufacturer incentives and provides a report and invoice to Xcel Energy for reimbursement.

Manufacturers who sign a participation agreement and turn in a claim form to ~~PLS~~ Ecova can receive incentives. The incentives and savings are prescriptive in nature. The PC incentive amounts are based on 56% of the incremental cost to the manufacturers for installing high efficient power supplies. The budget was developed by estimating the number of participants and multiplying by total cost per participant. The manufacturers use this incentive to promote their efficient computers and to increase their number of products offered with high efficient power supplies.

#### 2) Desktop PC Virtualization

This end-use customer component provides rebates to business customers who implement a Virtual Desktop Infrastructure (VDI) strategy. This strategy involves installing a VDI device instead of the traditional desktop PC. The VDI device has a lower operating wattage and uses less energy than traditional desktop computers. The VDI device communicates with a server to enable access to software applications and for the user to store data on the server rather than on their local hard drive.

This component is administered by Public Service and follows the methodology of Public Service's other prescriptive measures. Customers can apply for a prescriptive rebate of \$60 per VDI installed. Rebate amounts are based on 52% of the incremental cost to the customer for the change-over to the VDI system. The budget was developed by estimating the number of participants and multiplying by total cost per participant.

#### 3) PC Power Management

This end-use customer measure provides rebates to business customers who install power management software that remotely controls a computer's power management strategy from data centers or other central locations. The software, which manages the computer's power management

settings, is locked and the computer user cannot override the power management settings. The prescriptive rebate is only for applications on desktop PC's and excludes installations on laptops, tablets and other hardware and is limited to computers used during a typical single shift work week. The computers being controlled by the power management software must be located in Xcel Energy's electric service territory to qualify for the rebate.

This component is administered by Public Service and follows the methodology of Public Service's other prescriptive measures. Customers can apply for a prescriptive rebate of \$5 per computer controlled. Qualifying computers need to be operated in a single shift. Rebate amounts are based on 45% of the incremental cost to the customer for the licensing and installation cost of the software.

## *B. Goals, Participants & Budgets*

### Goals and Participants

#### 1) Upstream Manufacturer Incentives

Demand kW and energy kWh impact goals were determined from equipment wattages levels determined by Public Service based on information from PLS Ecova and ENERGY STAR®. Participant levels for the upstream manufacturer incentives were determined by PLS Ecova based on their program experience in our Minnesota service territory.

The baseline technology PC is a computer meeting ENERGY STAR 3.0 specifications. The energy efficient technology is a computer meeting 80 Plus Bronze, Silver, Gold or Platinum criteria. Currently only computers meeting ENERGY STAR 5.0 meet these requirements. The overall net-to-gross (NTG) ratio is set at 0.88 based on the estimated market penetration of Bronze, Silver, Gold, and Platinum 80 Plus power supplies in Colorado as determined by PLS Ecova. Other utilities around the country are using an NTG of 1.0 for their corresponding programs.

#### 2) Desktop PC Virtualization

As with the Upstream Manufacturer Incentive, the baseline technology for Desktop PC Virtualization is a desktop computer meeting ENERGY STAR 3.0 specifications. The net-to-gross ratio is set at 0.92 based on applying a market penetration percentage of efficient computers at five baseline levels.

#### 3) PC Power Management

As with the Upstream Manufacturer Incentive, the baseline technology for PC Power Management is a desktop computer meeting ENERGY STAR 3.0 specifications. The net-to-gross ratio is set at 0.88 to align with the Computer Efficiency program weighted average NTG. The incremental energy savings for this measure is based on the difference in hours in each operating state (active, idle, sleep and off) caused by the computer controls. Within the technical assumptions the assumed computer wattages improve over time as computers are assumed to be upgraded to ENERGY STAR 4.0 and 5.0 specifications during the lifetime of the measure.

The number of participants per year for Desktop PC Virtualization and PC Power Management was estimated by Public Service's customer base and market potential based on vendor comments on market size.

### Budget

For the Computer Efficiency Product, rebates, program administration, labor and promotions drive most of the budget.

- Program Administration and Delivery: [PLS Ecova](#) charges an administrative fee per each unit shipped (manufacturer incentive measure only). Internal administrative labor charges were determined by estimating the number of full-time employees needed to manage the product and execute the marketing strategy and incentive process. Manufacturer incentives that are retained by the manufacturer for promotion and product development are budgeted in this category.
- Advertising, Promotions and Consumer Education: The estimated promotional budget anticipates costs for contribution to the general conservation advertising campaign.
- Participant Rebates: The estimated participant rebates accounts for cost offsets to the incremental capital costs included in the technical assumptions. These rebates may take the form of a direct rebate to program participants, or a reduction in the ultimate cost the program participant's pay for the equipment.
- Measurement & Verification: The estimated M&V budget anticipates costs for both third-party customer on-site visits as well as third-party customer follow up communications detailed in Section G.

### C. *Application Process*

Manufacturers learn of the upstream incentives and the benefits through marketing by [PLS Ecova](#). Interested manufacturers can sign up to participate in the program by contacting [PLS Ecova](#) directly.

End-use customers will learn about the prescriptive rebates for [Desktop Virtualization and PC Power Management](#) through marketing by Public Service. Customers will apply for rebates through an application process managed by Public Service. Applications for the products are available ~~both~~ on Xcel Energy's website. The application process for the prescriptive products is similar to our other prescriptive products. Customers may apply for rebates by completing the application and providing a detailed invoice and specification sheet for the newly installed equipment. The customers may submit for a rebate after the equipment has been purchased and installed. The equipment must be new and meet all the qualifications detailed on the application. After the customer has installed the equipment, the application and invoice must be submitted to Public Service within twelve months of the invoice date. Once the paperwork is completed and submitted, rebate checks will be mailed to the customer as indicated on the application within six to eight weeks. Participants in the product may submit their application to their account manager or the Business Solutions Center.

### D. *Marketing Objectives, Goals, & Strategy*

The primary marketing efforts for the manufacturer incentives will revolve around [PLS Ecova](#) connecting with computer manufacturers to continue increasing program participation with additional manufactures. Public Service will educate the benefits of purchasing high efficient computing to our business customers through newsletters, Business Solution Center representatives, and our website.

[Desktop Virtualization and PC Power Management](#) product challenges include customer awareness, incremental customer costs, and transforming manufacturer mind-set around the technology. Public

Service will promote the technology through the trade, newsletters, Business Solution Center representatives, and our website.

~~The Computer Efficiency Product also intends to continue to develop prescriptive rebates to add to the portfolio including power management and high efficient monitors.~~

#### *E. Product-Specific Policies*

For the upstream manufacturer incentive, manufacturers must submit a rebate claim form to ~~PLS~~ Ecova within 12 months of unit delivery to receive a rebate.

For the end-use customer rebates, all equipment rebated through the measure must be new and meet all measure rules and requirements and the application must be submitted within twelve months of the invoice date.

#### *F. Stakeholder Involvement*

Public Service consulted with equipment vendors for guidance when designing the Computer Efficiency Product for Colorado. These vendors provided insight into the types of products to rebate and the incremental and total equipment costs to be expected. Public Service will also rely on the trade to help promote the product to customers.

#### *G. Rebate Levels*

##### 1) Upstream Manufacturer Incentives

It is unclear how much of the incentive paid to manufacturers is passed on to program participants in the form of reduced purchase cost. Because of this it was assumed that the incentives paid to manufacturers should not be included as a rebate. If there is evidence found that the incentive paid to manufacturers results in purchase costs lower than the incremental cost assumed in the technical assumptions, this reduction will be accounted as a rebate.

The incentive structure is listed below:

- \$5 incentive for ENERGY STAR 5.0 / 80 Plus Bronze desktop power supplies
- \$10 incentive for ENERGY STAR 5.0 / 80 Plus Silver desktop power supplies
- \$15 incentive for ENERGY STAR 5.0 / 80 Plus Gold desktop power supplies
- \$20 incentive for ENERGY STAR 5.0 / 80 Plus Platinum desktop power supplies

The proposed rebate levels average 56% of the incremental cost to the computer manufacturers. This level balances the cost-effectiveness of the product with the influential value to the manufacturer and a payback less than 3 years.

##### 2) Desktop PC Virtualization

Business customers are paid \$60 per desktop PC removed from their system and replaced with a “thin-client” or “zero-client” device.

The proposed rebate is 52% of the average incremental cost. This level provides a payback to the customer less than 3 years.

3) PC Power Management

Business customers are paid \$5 per PC controlled remotely by power management software, and the proposed rebate is 45% of the average incremental cost.

## ➤ Evaluation, Measurement & Verification Plan

### **a. Prescriptive Product Exceptions**

#### **Computer Efficiency - Upstream Incentives**

The Computer Efficiency Product offers incentives to desktop personal computer (PC) manufacturers and low-end server manufacturers that produce and sell PCs with high efficiency power supplies to business customers in Xcel Energy's Colorado electric service territory. ~~A third-party product implementer manages the tracking of these shipments of qualifying units into our service territory and another third party will complete follow-up phone surveys to a sample of participants to confirm whether the unit was installed or returned. The third party determines the installation rate from the survey results, which will then be applied to the gross savings for the calendar year. The Computer Efficiency Product is designed to increase the manufacturing and sale of personal computers with a high efficient power supply in our Colorado service territory. Public Service partners with manufacturers to spur the design production of high efficient computers and to reduce the manufacturing costs and the sales price of qualifying computers.~~

~~Public Service tracks the quantity and model number of the computers sold through a third party administrator and pays incentives to the manufacturer.~~

#### **Measurement and Validation Process**

- ~~1. Participating manufacturers will provide weekly or monthly sales reports, listing the model, quantity, ship to zip and number of computers sold to the third-party administrator, Ecova.~~
- ~~2. Participating manufacturers will provide weekly or monthly reports listing customer returns to be credited to the third-party administrator, Ecova.~~
- ~~3. To determine the efficiency and rebate level, each model will be assigned to one of four groups based on the efficiency of the model's power supply by the third party administrator, Ecova.~~
- ~~4. The third-party administrator will enter the information into a tracking system. The administrator will submit monthly reports containing the data tracked to Public Service.~~
- ~~5. Public Service will verify quantity sold, zip codes, efficiency levels, incentive levels and calculate energy savings from the monthly reports provided by Ecova.~~
- ~~6. Installation rate is assumed to be 100% because computers are purchased to be put into service and are not inventoried for long periods due to their high cost and short shelf-life.~~

#### **Computer Efficiency – Desktop PC Virtualization and PC Power Management**

For incentives to customers who install virtual desktop infrastructure (VDI) or PC Power Management a third party verifier will conduct field inspections for a sample of projects to determine that the measures are properly installed and have the potential to generate savings. This will follow the standard M&V process of prescriptive products.