Thermostat Optimization

A. Description

The Thermostat Optimization product is designed to provide residential customers year-round savings through the use of smart thermostat technology. The product incentivizes residential customers to purchase and install smart thermostats that have earned the ENERGY STAR® Connected Thermostat certification, resulting in year-round electric and natural gas savings.

ENERGY STAR lists the following key product criteria as requirements for certified smart thermostats1:

- Work as a basic thermostat in absence of connectivity to the service provider;
- Give residents some form of feedback about the energy consequences of their settings;
- Provide information about heating, ventilating and air conditioning ("HVAC") energy use, such as monthly run time;
- Provide the ability to set a schedule; and
- Provide the ability to work with utility programs to prevent brownouts and blackouts, while preserving consumers’ ability to override those grid requests.

The concept of realizing energy savings by programming a thermostat is straightforward: scheduling temperature setting changes (setbacks) during times when home occupants are away or asleep ensures no energy is wasted when no one is home or awake. Thermostats meeting the ENERGY STAR Connected Thermostat specification have demonstrated the ability to achieve energy savings through HVAC equipment runtime reductions, specifically an 8% or higher reduction in heating equipment runtime and a 10% or higher reduction for cooling equipment runtime.

These runtime reductions are achieved by smart thermostats through a variety of methods, starting with the ease of scheduling. These devices make it easier to program efficient setback schedules compared to their non-communicating predecessors. Additionally, customers can make temporary or daily changes to setback schedules without having to reprogram the device, and devices can automatically return customers to their normal setback schedule to avoid wasted energy from an inefficient set point. There are other advanced features available from certain devices, such as motion sensors that can direct thermostats to go into a more efficient mode when no motion is detected in the home, or allowing customers to enter temporary vacation schedules which take advantage of additional savings opportunities without having to completely reprogram.

1 https://www.energystar.gov/products/heating_cooling/smart_thermostats/key_product_criteria
the thermostat. The smart thermostat market is relatively young and these advanced features are expected to grow as manufacturers continue to innovate.

B. Targets, Participants & Budgets

**Targets and Participants**
Thermostat Optimization participation targets are based on past performance of the Smart Thermostat Pilot and AC Rewards products. The offering will be available to all residential customers in single-family homes with central air-conditioners. The Company will continue evaluating potential for customers in other dwelling types or cooling systems, such as multifamily buildings or customers with heat pumps, for potential eligibility in the future.

**Budgets**
Product costs are driven primarily by participant rebates, attributable to the customer offer which provides up to a $50 rebate to each approved participant. Product administration costs are the secondary budget driver and include internal labor to manage the day-to-day operations of the product. There are minimal Marketing costs included.

C. Application Process

The Company plans to make the Thermostat Optimization product available initially through existing channels and programs, for example the Xcel Energy Store Online Marketplace and Home Energy Squad® and other products. The Thermostat Optimization product will leverage existing application processes when other channels are used to streamline customers’ application experience, as well as investigate other channel options such as those that may offer “instant” point-of-purchase rebates with participating retailers.

D. Marketing Objectives & Strategies

The Company plans to directly promote the Thermostat Optimization product to customers using a variety of marketing strategies, including but not limited to:

- e-mail;
- A web-page for interested customers to explain how to apply and the benefits of participating;
- Bill onserts;
- Co-marketing with other DSM products;
- In-store materials at participating retail stores; and
- Engaging contractors who install smart thermostats.
The Company also plans to work with thermostat manufacturers to co-market eligible products and the customer incentive. This includes manufacturers providing online promotion of the product’s rebates and in-store materials at participating retail locations.

E. Product-Specific Policies

To be eligible for the Thermostat Optimization offering, participants must be a residential customer of Public Service in single-family homes. For customers with electric service, participants must have central air conditioning; for gas-only customers, participants must have central gas heating.

Devices must be certified as ENERGY STAR Connected Thermostat products and meet all product criteria to be eligible for the Thermostat Optimization product offering.

F. Stakeholder Involvement

Public Service has worked closely with a number of external stakeholders since the inception of the Smart Thermostat Pilot in 2014. The Company maintains active relationships with leading smart thermostat manufacturers, software vendors, consultants, and evaluators, and will continue to interact frequently with all parties as the product, technology, and product market grows.

G. Rebates & Incentives

The Thermostat Optimization product will offer up to a $50 rebate to participants upon purchase and installation of an eligible smart thermostat.