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# **Energy Efficiency Program Proposal**

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ThermWise<sup>®</sup> Business Rebates Program

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# Program Overview

## Description

Dominion Energy Utah (Dominion Energy or the Company) is proposing to continue offering the ThermWise Business Program to Dominion Energy commercial GS customers in Utah. The ThermWise Business Rebate program is a comprehensive program that offers rebates to Dominion Energy GS commercial customers. Rebates are available for purchasing and installing qualifying natural gas-efficiency measures in commercial units. Qualifying measures include those that target cost-effective natural gas savings including retrofits of existing systems and first time installations. Rebates will be paid directly to participating customers.

Program measures include high-efficiency space and water-heating applications, high-efficiency clothes washers, high-efficiency gas unit heaters, gas infrared heaters, boiler controls and tune-ups, demand control ventilation systems, food service equipment, building shell and weatherization measures.

The program is designed to leverage the marketing access and existing delivery channels of local businesses, wholesalers and retailers. Dominion Energy will identify customer installation opportunities, marketing activities, and assist customers with program requirements where applicable.

# Program Design

## Program Measures

### Qualifying Customers

Commercial customers in Dominion Energy’s Utah service territory and billed on a GS rate schedule are eligible to participate in the ThermWise Business Rebates program.

### Measure Eligibility

For a complete list of minimum efficiency requirements and rebate amounts, see section 2.12 of the Company’s Utah Tariff (DEU Energy Efficiency Exhibit 1.9).

## Prescriptive Rebates, Projected Participation and Savings

Table 1 lists the ThermWise Business prescriptive program’s incentive levels, projected participation, and natural gas savings for each energy-efficiency measure. Incentive levels are shown by either unit or per connected-equipment input shown in terms of kBtu to allow for a more customized offering per customer application.

**Table 1. Business Energy Efficiency Incentives, Projected Participation and Savings**

Measure	Projected Participation	Total Projected Savings (annual Dth)
Business Custom	20	20,000
Storage Water Heater ( $\leq$ 75 kBtu)	5	15
Storage Water Heater (> 75 kBtu)	50	4,350
Tankless Gas Water Heater (< 200 kBtu)	5	140
Tankless Gas Water Heater ( $\geq$ 200 kBtu)	25	1,785
Clothes Washer – Commercial	1	7
Modulating Gas Dryer	1	32
Gas Dryer Moisture Sensor	1	11
High Efficiency Pre-Rinse Spray Valve	25	270
Smart Thermostat	200	1,400
Natural Gas Furnace $\geq$ 95% AFUE	500	5,885
Natural Gas Furnace with ECM $\geq$ 95% < 97.5% AFUE	200	2,354
Natural Gas Furnace with ECM $\geq$ 97.5% AFUE	10	139
Natural Gas Boiler (hot water) 85% AFUE (<300,000 Btu/h)	25	8,980
Natural Gas Boiler (hot water) 90% TE ( $\geq$ 300,000< 2,500,000 Btu/h)	75	18,750
Natural Gas Boiler (hot water) 90% TE ( $\geq$ 2,500,000 Btu/h)	115	69,000
Natural Gas Boiler (steam) 85% AFUE (<300,000 Btu/h)	1	372
Natural Gas Boiler (steam) (Except Natural Draft $\geq$ 300,000 Btu/h)	2	756
Natural Gas Boiler (steam) (Natural Draft $\geq$ 300,000 Btu/h)	10	6,484

Measure	Projected Participation	Total Projected Savings (annual Dth)
Combined Space/Water Heater	5	94
Direct Contact Gas Water Heater	1	62
Gas Unit Heater (Non Condensing) 83% TE	10	110
Gas Unit Heater (Condensing) 90% TE	10	458
Gas Infrared Heating System	50	3,610
Modulating Gas Infrared Heating System (new const. or replacing non-IR system)	40	3,190
Modulating Gas Infrared Heating System	20	203
Condensing Roof Top Units (RTUs)	1	154
Boiler Outside Air Reset Control	30	2,223
Boiler Tune-up – Tier 1	25	490
Boiler Tune-up – Tier 2	25	1,221
Boiler Tune-up – Tier 3	50	3,600
Gas Commercial Fryer	25	1,514
Gas Commercial Fryer (Used)	15	909
Gas Steam Cooker	2	177
Gas Steam Cooker (Used)	2	177
Gas Convection Oven	25	1,320
Gas Convection Oven (Used)	15	792
Gas Combination Oven	8	322
Gas Combination Oven (Used)	8	322
Gas Griddle	5	75
Gas Griddle (Used)	5	75
Charbroiler	5	375
Charbroiler (Used)	5	375
Gas Conveyor Oven	2	177
Gas Conveyor Oven (Used)	2	177
Roof Insulation (Retrofit)	50	1,610
Wall Insulation (Retrofit)	5	181
Condensing Gas Storage Water Heater	3	31
Hybrid Gas Storage Water Heater 90% TE	5	51
Solar Assisted Pool Heater	1	69
Demand Control Ventilation System Tier 1	50	1,360
Demand Control Ventilation System Tier 2	5	680
Pipe Insulation (Hot Water)	10	421
Pipe Insulation (Steam)	5	780
Energy Recovery Ventilator	40	364
Direct-Fired Heater	75	12,420
Green Certified New Building	0	0
<b>TOTAL Business Program prescriptive rebates</b>	<b>1,911</b>	<b>180,899</b>

## **2019 Proposed New Measure Descriptions**

### **1) Used foodservice equipment**

Secondhand sales of restaurant and kitchen equipment account for a large portion of sales of kitchen equipment. Since used equipment is not eligible under the current incentive offering, a large portion of the restaurant industry is not benefitting from this program. Extending the rebate structure to used or secondhand sales of equipment would encourage many kitchens and restaurants to select more energy-efficient models when purchasing used equipment.

### **2) Combined Heat and power**

Combined Heat and Power (CHP), also known as cogeneration, is a technology that produces both electric and thermal energy, reducing the losses that come from separate heat and power generation. The electric energy is used on-site to offset power purchased from the grid, while the thermal energy can be used to generate steam or hot water for process heating, space heating, to drive an absorption chiller, or other applications. CHP systems are more efficient than separately generating electricity and power and also provide electric resiliency or backup generation. CHP is considered a form of distributed power generation.

### **3) Direct-Fired Heaters**

Direct Fired High-Temperature Heating and Ventilation (HTHV) units heat supply air to a temperature above 150°F by exposing the air stream directly to the burner flame and blowing it into the space. They are alternatives to standard unit heaters or dedicated outside air (DOA) makeup ventilators. Direct Fired HTHV units are suited for applications such as hangars, garages, warehouses, loading docks, maintenance and manufacturing areas, kitchens and restaurants, or other buildings with large open interiors and significant air leakage. Direct Fired HTHV heaters have the added benefit of reducing thermal stratification in buildings with tall ceilings.

### **4) Prescriptive ERV**

Energy Recovery Ventilation (ERV) is essentially an air-to-air heat exchanger that uses building exhaust air to preheat incoming ventilation air, reducing energy required to condition the ventilation air. Experience from numerous streamlined custom projects seen in 2017 and 2018 gives solid ground for deemed costs and savings for future projects that will reduce the engineering effort applied to each project. Moving it to prescriptive would also be easier for customers and contractors.

### **5) Green Certified New Buildings**

Green certified commercial buildings are designed to achieve energy savings above state energy code. This is designed to provide a rebate for certified whole building performance that is not captured in standalone business program offerings. Eligible green certifications include but are not limited to LEED, Energy Star, Green Globes, and the State of Utah High Performance Building Standard. Building construction must have been completed within past 18 months and the building must be heated with natural gas served on a General Service account. The proposed rebate is \$0.05 per square foot, not to exceed \$15,000

### **6) O<sub>2</sub> trim controls**

O<sub>2</sub> trim control systems work in tandem with linkageless controls to optimize combustion efficiency in boilers. O<sub>2</sub> trim control systems consist of an O<sub>2</sub> sensor and a pressure gauge on the stack, which monitors flue gas excess air (EA). It feeds this information to a controller, which adjusts the fuel flow and combustion dampers to optimize combustion efficiency. Trim controllers can maintain tighter EA ratios across all firing conditions and are increasingly available for smaller boilers.

### **7) Linkageless controls**

Linkageless controls are the first of two retrofit improvements to increase combustion efficiency on older boilers. Baseline boilers with linked controls have a single mechanical actuator that controls ("links") both the fuel valve and the combustion air damper together. They are tuned to deliver the recommended 10% excess air (EA) at high fire conditions, but do not maintain this ideal EA ratio at

other firing conditions because the linked actuators cannot respond independently. Linkageless controls is a retrofit to install separate actuators on these two lines, allowing dynamic adjustment of air supply to the burner which enables higher combustion efficiency at a wider range of operating conditions.

#### **8) Commercial Find and Fix (Simplified Commercial Energy Management)**

- Rocky Mountain Power offers a simplified Commercial Energy Management program
- Simple one day audit generates streamlined verified gas and electric savings report
- Measures apply low deemed cost (~\$5 to \$7 per Dth saved)
- Rebate of \$0.50 per therm saved (\$0.05/dth)
- Measure will be streamlined custom
- This will can help balance portfolio cost effectiveness
- Demonstrates collaboration with gas and electric utility

#### **9) Streamlined High Performance Envelope**

- Simple post purchase application that allows customers to capture rebates for wall insulation, roof insulation, and window upgrades in new and existing buildings
- Pays at custom rebate of \$1.00 per therm saved
- Incremental costs can be applied

### **Commercial Benchmarking**

The Commercial Benchmarking service will provide customers on a Commercial GS rate schedule with technical guidance to identify natural-gas saving opportunities and provide recommendations on the appropriate ThermWise for Business Rebates program to pursue. This service will ensure that eligible customers with a potential for savings are actualizing the benefits offered by the natural-gas savings measures and ThermWise for Business Rebates program, resulting in savings for both the customer and the Company. In particular, Commercial Benchmarking will be a targeted customer outreach service, focused on customers with significant savings potential that do not otherwise have the in-house technical resources to determine and/or pursue such opportunities. The Commercial Benchmarking service will actualize these savings and benefits for both the customer and the Company.

The Commercial Benchmarking service provides customers with an assessment of their facility's energy consumption and benchmarks the energy use relative to the national population of similar buildings, based on the Commercial Building Energy Consumption Survey (CBECS) data. CBECS data is collected through a survey conducted by the U.S. Department of Energy. It consists of the energy performance of buildings across a wide spectrum of space types. The benchmarking service entails a utility data review and preliminary facility audit. The utility bill data will be compared to CBECS data to determine whether the building is more or less efficient than the average, comparable building. Based on the initial findings of the utility data review and facility audit, in addition to the customer's load and complexity of systems, the Consultant will either align the customer with a Trade Ally or Preferred Contractor to pursue prescriptive measures, or recommend a "Lite Audit" or "Heavy Audit". The Consultant will also work with the Company to provide recommendations to the customer regarding natural-gas saving measures to consider and the correlating ThermWise Business Rebates program/s to pursue.

The Lite Audit, or Assessment, is intended for small and medium commercial businesses. The audit will utilize a tablet-based tool preconfigured with prescriptive measures and other custom recommendations. The Consultant has already designed and effectively implemented similar tools for other utility DSM programs. The audit tool will generate a benchmarking report for the customer, including the natural-gas saving opportunities identified. The Consultant's existing tablet-based audit tool will be reconfigured to align with the specific measures and metrics of the Company's ThermWise for Business Rebates Programs.

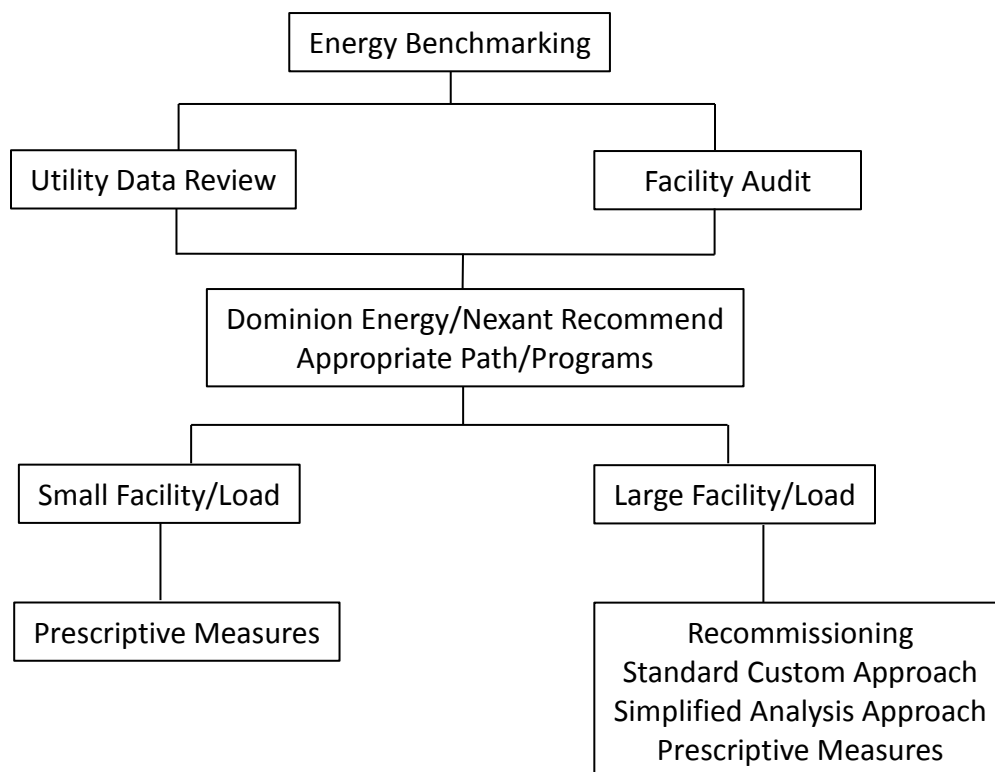
The Heavy Audit, or Assessment, is intended for large customers on the GS commercial rate schedule. The Consultant will perform a custom on-site assessment intended to recommend capital improvements and/or

recommissioning measures. Following a Heavy Audit, the Consultant will also recommend the appropriate path for the customer to pursue for Prescriptive, Standard Custom, and Simplified Analysis measures identified.

To assess projects for eligibility for the Commercial Benchmarking Service, the customer must submit an application with the following information:

- Identification of the project site and account information, including most recent utility bill
- A description of the facility and its energy-using systems

## ThermWise for Business Programs Energy Benchmarking



### Custom Rebates, Projected Participation and Savings

The Company provides a custom rebate opportunity with the goal of obtaining verifiable, cost-effective, and long-term natural gas savings. The program is designed to provide rebates to those business customers who do not qualify through the prescriptive measures offered in the ThermWise Business Rebates Program and includes both Simplified Analysis Rebates, as well as custom rebates. Program participants submit project proposals for a firm quantity of natural gas reduction through the installation of energy-efficiency measures after review and approval by Dominion Energy. Rebates paid to a third party will require a third party release form. For further detail on custom rebates, rebate structure, and limitations see Section 2.12 of the Company's Utah Tariff (DEU Energy Efficiency Exhibit 1.9).

Table 2 lists the projected participation and natural gas savings for custom rebates in 2019.

**Table 2. Custom Rebates Projected Participation and Savings**

Measure	Projected Participation	Total Projected Savings (annual Dth)
TOTAL Business Program custom measures	20	20,000

## **Implementation**

This program is currently in the marketplace. Upon Commission approval, implementation activities will begin for the new program year in order to launch January 1, 2019.

## **Administration**

The program administration represents the on-going delivery of the program. All internal systems, processes and procedures have been created and are in place.