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# Energy Efficiency Program Proposal

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## ThermWise<sup>SM</sup> Business Rebates Program

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# Program Overview

The ThermWise Business Rebate program is a comprehensive program that offers rebates to Questar Gas Company (Questar Gas) GS commercial customers through a contracted program administrator, Nexant, Inc. (Nexant). Rebates are available for purchasing and installing qualifying gas-efficiency measures at separately metered 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 and gas dryers, programmable thermostats, high-efficiency gas unit heaters, gas infrared heaters, boiler controls and tune-ups, and food service equipment.

The program is designed to leverage the marketing access and existing delivery channels of local businesses, wholesalers and retailers. Primary program delivery functions have been contracted to Nexant. Questar Gas will support the program delivery by identifying customer installation opportunities, marketing activities and assisting customers with program requirements where applicable.

The ThermWise Business Rebate program is one of several energy-efficiency programs offered by Questar Gas. This program will seek to increase customer awareness of energy-efficient commercial technologies as well as achieving cost-effective natural gas savings.

# Program Design

## Qualifying Customers

Separately metered commercial customers in Questar Gas' Utah service territory and billed on a GS rate schedule are eligible to participate in the ThermWise Business Rebates program.

## Measure Eligibility

Table 1 lists the ThermWise Business Rebates program's energy-efficiency measures and the related size and eligibility requirements for each.

**Table 1. Business Energy Efficiency Measures**

Measure	Size Category	Minimum efficiency requirements
High-Efficiency <i>Storage</i> Gas Water Heater	<=75,000 Btu/hr input	>=0.62 EF
	> 75,000 Btu/hr input	>=82% Thermal Efficiency
High-Efficiency <i>Tankless</i> Gas Water Heater	<200,000 Btu/hr input	>= 0.82 EF
	>200,000 Btu/hr input	>= 82% Thermal Efficiency
High-Efficiency Clothes Washer	Residential Clothes Washer Used in a Business.	MEF of 1.72 to 1.99 (effective Jan. 1, 2009 – June 30, 2009)
		MEF of 1.80 to 1.99 (effective July 1, 2009)
	ENERGYSTAR Commercial High Efficiency Clothes Washer (Coin-op/Laundromat)	MEF= 2.0+
Gas Clothes Dryer	All	Moisture Sensor Installed
Low Flow Pre-Rinse Spray Valve	-	1.6 GPM (retrofit only)
High-Efficiency Gas Furnaces	<300,000 Btu/hr input	ENERGY STAR Furnace (90+ AFUE)
		CEE Tier II (92+ AFUE)
		CEE Tier III (94+ AFUE)
Gas Boilers (hot water)	<300,000 Btu/hr input	AFUE>=85%
	>300,000 Btu/hr input	Thermal Efficiency >= 90%
Gas Boilers (steam)	<300,000 Btu/hr input	AFUE>=85%
	>300,000 Btu/hr input	Thermal Efficiency >= 82%
Direct Contact Gas Water Heater	All	Thermal Efficiency >90%
High-Efficiency Gas Unit Heater	<300,000 Btu/hr input	83% <=Thermal Efficiency < 90%
		Thermal Efficiency >= 90%
Gas Infrared Heating System	-	Infrared Heating System (must replace existing natural

Measure	Size Category	Minimum efficiency requirements
		gas non-infrared heating systems or be installed as part of new construction project)
Programmable Thermostat	-	ENERGY STAR Thermostat (where not required by code)
Boiler Outside Air Reset Control	-	Boiler Outside Air Reset Control
Boiler Tune-up	Existing natural gas boiler	Perform a qualifying tune-up that complies with the boiler tune-up program requirements and yields an improvement in combustion efficiency (Only one tune-up rebate per boiler within a 2-year period)
ENERGY STAR Commercial Gas Fryer	-	50% Combustion Efficiency
ENERGY STAR Gas Steam Cooker	-	38% Combustion Efficiency
High Efficiency Gas Convection Oven	-	40% Combustion Efficiency
High Efficiency Gas Combination Oven	-	40% Combustion Efficiency
High Efficiency Gas Griddle	-	38% Combustion Efficiency
Building Shell - Windows	Site-Built Window	U-value of 0.30 or less (Glazing Only Rating)
	Pre-fabricated Window Assembly	U-value of 0.35 or less (Entire Window Assembly Rating)
Building Shell - Roof Insulation	-	Incremental addition of R-5 or higher above code
Building Shell- Wall Insulation	-	Incremental addition of R-3.7 continuous insulation or higher above code

Table 2 lists the ThermWise Business Rebate program’s incentive levels and estimated incremental customer costs for each energy-efficiency measure. Incentive levels and incremental customer costs 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 2. Energy Efficiency Measure Incentives and Incremental Customer Costs**

Measure	Size Category	Minimum efficiency requirements	Unit	Rebate (\$/unit)	Incremental customer cost (\$/unit)
High-Efficiency Storage Gas Water Heater	<=75,000 Btu/hr input	>=0.62 EF	unit	\$50.00	\$100.00
	> 75,000 Btu/hr input	>=82% Thermal Efficiency	kBtu/hr Input	\$2.00	\$6.78
High-Efficiency Tankless Gas Water Heater	<200,000 Btu/hr input	>= 0.82 EF	kBtu/hr Input	\$2.00	\$4.24
High-Efficiency Tankless Gas Water Heater	>200,000 Btu/hr input	>= 82% Thermal Efficiency	kBtu/hr Input	\$2.00	\$4.24
High-Efficiency Clothes Washer	Residential Clothes Washer Used in a Business.	MEF of 1.72 to 1.99 (effective Jan. 1, 2009 – June 30, 2009) MEF of 1.80 to 1.99 (effective July 1, 2009)	unit	\$50.00	\$97.51
	Residential Clothes Washer Used in a Business.	MEF= 2.0+	unit	\$75.00	\$120.21
	ENERGYSTAR Commercial High Efficiency Clothes Washer (Coin-op/Laundromat)	1.72 MEF + WF=8.0 or less	unit	\$150.00	\$300.00
Gas Clothes Dryer	All	Moisture Sensor Installed	unit	\$30.00	\$50.00
Low Flow Pre-Rinse Spray Valve	-	1.6 GPM (retrofit only)	unit	\$25.00	\$50.00
High-Efficiency Gas Furnaces	<300,000 Btu/hr input	ENERGY STAR Furnace (90+ AFUE)	unit	\$200.00	\$675.00
		CEE Tier II (92+ AFUE)	unit	\$300.00	\$777.00
		CEE Tier III (94+ AFUE)	unit	\$400.00	\$876.00
Gas Boilers (hot water)	<300,000 Btu/hr input	AFUE>=85%	kBtu/hr Input	\$2.00	\$5.08
	>300,000 Btu/hr input	Thermal Efficiency >= 90%	kBtu/hr Input	\$3.25	\$6.50
Gas Boilers (steam)	<300,000 Btu/hr input	AFUE>=85%	kBtu/hr Input	\$2.00	\$5.08
	>300,000 Btu/hr input	Thermal Efficiency >= 82%	kBtu/hr Input	\$2.00	\$5.08
Direct Contact Gas Water Heater	All	Thermal Efficiency >90%	kBtu/hr Input	\$1.10	\$2.17
High-Efficiency Gas Unit Heater	<300,000 Btu/hr input	83% <=Thermal Efficiency < 90%	kBtu/hr Input	\$1.25	\$2.50
		Thermal Efficiency >= 90%	kBtu/hr Input	\$6.00	\$12.00
Gas Infrared Heating System	-	Infrared Heating System (must replace existing natural gas non-infrared heating systems or be installed as part of new construction project)	kBtu/hr Input	\$5.00	\$11.43

Measure	Size Category	Minimum efficiency requirements	Unit	Rebate (\$/unit)	Incremental customer cost (\$/unit)
Programmable Thermostat	-	ENERGY STAR Thermostat (where not required by code)	unit	\$25.00	\$51.99
Boiler Outside Air Reset Control	-	Boiler Outside Air Reset Control	unit	\$250.00	\$ 835.00
Boiler Tune-up	Existing natural gas boiler	Perform a qualifying tune-up that complies with the boiler tune-up program requirements and yields an improvement in combustion efficiency (Only one tune-up rebate per boiler within a 2-year period)	unit	\$300.00	\$600.00
ENERGY STAR Commercial Gas Fryer	-	50% Combustion Efficiency	Unit	\$1,000.00	\$3,796.00
ENERGY STAR Gas Steam Cooker	-	38% Combustion Efficiency	Unit	\$1,000.00	\$6,221.00
High-Efficiency Gas Convection Oven	-	40% Combustion Efficiency	Unit	\$1,000.00	\$3,144.00
High-Efficiency Gas Combination Oven	-	40% Combustion Efficiency	Unit	\$1,000.00	\$21,797.00
High Efficiency Gas Griddle	-	38% Combustion Efficiency	Unit	\$300.00	\$4,575.00
Building Shell - Windows	-Site-Built Window	U-value of 0.30 or less (Glazing Only Rating)	Sq. Ft.	\$0.28	\$0.55
	Pre-fabricated Window Assembly	U-value of 0.35 or less (Entire Window Assembly Rating)	Sq. Ft.	\$0.28	\$0.55
Building Shell - Roof Insulation	-	Incremental addition of R-5 or higher above code	Sq. Ft.	\$0.04	\$0.07
Building Shell-Wall Insulation	-	Incremental addition of R-3.7 continuous insulation or higher above code	Sq. Ft.	\$0.03	\$0.06

## Rebate Limitation

The following requirements apply to rebate application payments for the program:

- Customers may receive only one (1) boiler tune-up rebate per boiler for the period of two years.
- Measures which are required by code are not eligible for rebates through the Business Rebates Program. Customers may be required to document that their installation exceeds code requirements prior to receiving a rebate.
- Rebates for infrared heating systems must replace existing natural gas non-infrared heating systems or be installed as part of a new construction project.

- Energy performance of window assemblies and glazing products must be rate in accordance with NFRC. Skylights are not eligible to receive incentives. Site-built window systems must have a non-metal frame or include a thermal break within the frame to qualify for rebates.
- Qualifying measures receiving rebates under the program may not receive equipment purchase and installation rebates under any other Questar Gas DSM program.
- Dwelling unit must be located in Questar Gas' Utah service territory and be a Questar Gas commercial GS customer (i.e. meter set or account activated).

Table 3 summarizes the ThermWise Business Rebate program's expected customer participation for each measure.

**Table 3. Program Participants**

Measure	Size Category	Minimum efficiency requirements	Participation 2009
High-Efficiency <i>Storage</i> Gas Water Heater	<=75,000 Btu/hr input	>=0.62 EF	12
	> 75,000 Btu/hr input	>=82% Thermal Efficiency	8
High-Efficiency <i>Tankless</i> Gas Water Heater	<200,000 Btu/hr input	<= 0.82 EF	8
	>200,000 Btu/hr input	>= 82% Thermal Efficiency	7
High-Efficiency Clothes Washer	Residential Clothes Washer Used in a Business.	MEF of 1.72 to 1.99 (effective Jan. 1, 2009 – June 30, 2009) MEF of 1.80 to 1.99 (effective July 1, 2009)	8
	Residential Clothes Washer Used in a Business.	MEF= 2.0+	8
	ENERGY STAR Commercial High Efficiency Clothes Washer (Coin-op/Laundromat)	1.72 MEF + WF=8.0 or less	8
Gas Clothes Dryer	All	Moisture Sensor Installed	10
Low Flow Pre-Rinse Spray Valve	-	1.6 GPM (retrofit only)	200
High-Efficiency Gas Furnaces	<300,000 Btu/hr input	ENERGY STAR Furnace (90+ AFUE)	40
		CEE Tier II (92+ AFUE)	84
		CEE Tier III (94+ AFUE)	35
Gas Boilers (hot water)	<300,000 Btu/hr input	AFUE>=85%	15
		Thermal Efficiency >= 90%	12
Gas Boilers (steam)	<300,000 Btu/hr input	AFUE>=85%	1
		Thermal Efficiency >= 82%	2
Direct Contact Gas Water Heater	All	Thermal Efficiency >90%	5
High-Efficiency Gas Unit Heater	<300,000 Btu/hr input	83% <=Thermal Efficiency < 90%	8
		Thermal Efficiency >= 90%	8
Gas Infrared Heating System	-	Infrared Heating System (must replace existing natural gas non-infrared heating systems or be installed as part of new construction project)	500
Programmable Thermostat	-	Energy Star Thermostat (where not required by code)	120
Boiler Outside Air Reset Control	-	Boiler Outside Air Reset Control	50
Boiler Tune Up	Existing natural gas boiler	Perform a qualifying tune-up that complies with the boiler tune-up program requirements and yields an improvement	150

Measure	Size Category	Minimum efficiency requirements	Participation
		in combustion efficiency (Only one tune-up rebate per boiler within a 2-year period)	
ENERGY STAR Gas Commercial Fryer	-	50% Combustion Efficiency	8
ENERGY STAR Gas Steam Cooker	-	38% Combustion Efficiency	8
High-Efficiency Gas Convection Oven	-	40% Combustion Efficiency	8
High-Efficiency Gas Combination Oven	-	40% Combustion Efficiency	8
High-Efficiency Gas Griddle	-	38% Combustion Efficiency	8
Building Shell - Windows	Site-Built Window	U-value of 0.30 or less (Glazing Only Rating)	7
	Pre-fabricated Window Assembly	U-value of 0.35 or less (Entire Window Assembly Rating)	6
Building Shell - Roof Insulation	-	Incremental addition of R-5 or higher above code	7
Building Shell-Wall Insulation	-	Incremental addition of R-3.7 continuous insulation or higher above code	10
		<b>Total</b>	<b>1,364</b>

## Process Overview

**Purchase Equipment** – Customer purchases qualified appliance and receives a rebate form.

**Equipment Installation** – Qualifying measure is installed according to program guidelines.

**Submittal** – Customer submits the completed rebate form along with a copy of proof of purchase and documentation that the equipment meets the program's minimum efficiency requirements (if applicable).

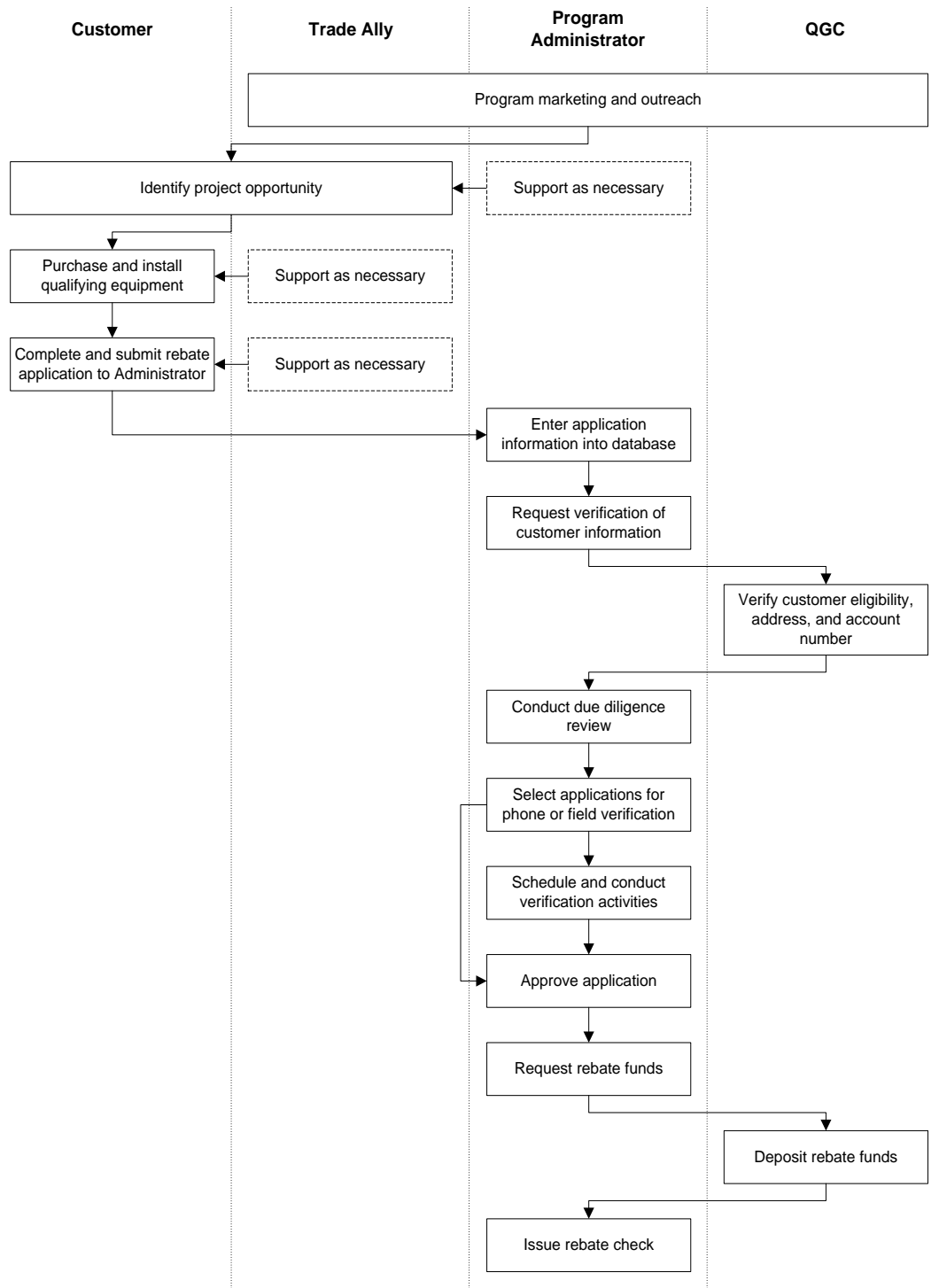
- **Receipt and Data Entry** – Program staff date stamp and enter data into the program database.
  - **Internal Checklist Review** – Data is reviewed for accuracy and qualification.
  - **Copy of invoice/Proof of Payment** – A copy of the customer invoice or proof of payment is required to verify the validity of the sales and purchase information.
- **Qualifying equipment** – The qualifying equipment must meet or exceed the minimum efficiency requirements in Table 1. Questar will require appropriate documentation to confirm eligibility of the measure.
  - **Date sold** – The sale date must be within the valid dates of the program.
  - **Quantity** – Customer must provide valid documentation of the quantity (e.g. square footage, kBtu input, and number of units) of each eligible measure.
  - **Correction** – If incomplete rebate forms or faulty information is received, customer will be contacted in order to correct the application and move it through the review and into the approval stage. The rebate will not be processed until appropriate information and/or documentation is provided.
  - **Approval** – Payment for the customer is approved after all information is received, entered, and the project passes the internal checklist review.
  - **Payment** – Payment is issued and sent to the customer and the database is updated with payment information.



## Application Process

Figure 1 illustrates the intended ThermWise Business Rebate program delivery process, showing the expected involvement and responsibilities of the customer, the trade allies, the program administrator, and Questar Gas.

**Figure 1. Business Customer Application Process**



Questar Gas will provide marketing and promotional support for the ThermWise Business Rebate program to encourage customer participation and help program cost effectiveness. Initial marketing strategies will include:

- On-line brochure and associated program information placed on Questar Gas' dedicated energy-efficiency website.
- Placement of point-of-purchase brochures and advertising with applicable appliance and equipment dealers and contractors.
- Education and awareness meetings with participating trade allies on program aspects.
- Notification in company newsletters and bill inserts (when applicable) of program information and availability.
- Referrals and customer awareness assistance from the Questar Gas Commercial and Industrial Account Management Department (where applicable).
- Cross-marketing with other Questar Gas energy-efficiency programs and activities, i.e. consumer and trade shows, special promotions, direct sales and rebate check inserts.
- Possibly some targeted direct mail advertising based on Standard Industrial Classification (SIC) code and/or business type.
- In addition, as with all Questar Gas Demand Side Management (DSM) programs, market transformation education and awareness advertising will incorporate the ThermWise Business Rebate program into the overall energy-efficiency campaign advertisements and strategies.

The trade allies represent a critical link to delivering an effective and successful program to the market. Retailers, salespersons and distributors become the face and the sales force of the ThermWise Business Rebate program. The program will continue to develop and maintain a strong trade ally network to help ensure high customer participation and a cost-effective program.

#### Trade Ally Identification & Recruitment

The following processes to identify, screen, and recruit trade ally participants will be put in place.

**Step 1.** Identify vendors and contractors that serve the area and develop a targeted list of the most influential and active. Examples of sources that will be used to identify and populate the Trade Ally Network include:

- Questar Gas account executives, project managers, and consultants.
- Existing contacts with national and regional equipment distributors.
- Attendance at applicable customer meetings, trade shows, and professional associations.
- Local chamber of commerce offices.
- Telephone directory and web searches.

**Step 2.** Develop and hold targeted program overview sessions to describe the program, available opportunities and benefits and the participation process for potential trade ally members.

#### Qualification of Trade Ally Applicants

Interested vendors and contractors identified through the recruitment process will be required to complete and submit a trade ally application and participation agreement. In the review of applications received, Nexant will screen all applicants to maintain the integrity of the trade ally network. Examples of items that will be considered during the trade ally application evaluation process include, but are not limited to:

- Experience and qualifications of key individuals.
- Current licensing and status with respective State of Utah Department of Commerce offices or other governing bodies.
- Number and type of complaints on file with licensing agencies and other sources (e.g. Better Business Bureau).
- References.

All related information and findings from the trade ally application and agreement process will be summarized on an evaluation form and filed with the original application for future reference and reporting needs.

#### Alliance Participant Maintenance

Work closely with new trade allies to identify and support efforts to initiate projects and become comfortable with the process. Maintain an updated listing of all trade ally participants for distribution to interested customers, account representatives, customer service operators, as well as the general public. This list will also be placed on ThermWise.com.

#### Alliance Support and Project Facilitation

Develop and maintain the following functions to support trade ally participants and help meet program-savings goals:

- Dedicated program email addresses where trade allies can submit inquiries or request additional support and information.
- Dedicated toll free phone numbers to reach the program coordinator.
- Ensuring the availability of customer-oriented marketing materials and updating existing information and develop new pieces as necessary.
- Maintaining regular email and phone communication.
- Offering and conducting annual program training sessions.
- Holding regular face-to-face meetings with targeted trade ally participants.
- Providing assistance with determining customer eligibility, qualifying equipment, and available rebates.
- Supporting trade ally efforts to identify viable energy savings opportunities and estimate the potential energy and cost savings for the customer.
- Helping trade allies leverage the availability of other available rebates to further improve customer paybacks.
- Updating program materials as needed.

Table 4 presents the ThermWise Business Rebate program deemed annual savings per measure and the estimated total program savings (based on participation) for each measure.

**Table 4. Business Measure Savings Estimates (Dth/yr)**

Measure	Size Category	Minimum Efficiency Requirement	Deemed Annual Savings (Dth/installation)	Total Savings (Annual Dth)
High-Efficiency Storage Gas Water Heater	<=75,000 Btu/hr input	>=0.62 EF	1.23	14.76
	> 75,000 Btu/hr input	>=82% Thermal Efficiency	.18 kBtu/hr	98.48
High-Efficiency Tankless Gas Water Heater	<200,000 Btu/hr input	<= 0.82 EF	.14 kBtu/hr	84.69
	>200,000 Btu/hr input	>= 82 Thermal Efficiency	.14 kBtu/hr	294.00
High-Efficiency Clothes Washer	Residential Clothes Washer Used in a Business.	MEF of 1.72 to 1.99 (effective Jan. 1, 2009 – June 30, 2009) MEF of 1.80 to 1.99 (effective July 1, 2009)	1.58	12.64
		MEF= 2.0+	2.04	16.32
	ENERGY STAR Commercial High Efficiency Clothes Washer (Coin-op/Laundromat)	1.72 MEF + WF=8.0 or less	7.70	61.60
Gas Clothes Dryer	All	Moisture Sensor Installed	1.02	10.20
Low Flow Pre-Rinse Spray Valve	-	1.6 GPM (retrofit only)	33.60	6720.00
High-Efficiency Gas Furnaces	<300,000 Btu/hr input	ENERGY STAR Furnace (90+ AFUE)	14.20	568.00
		CEE Tier II (92+ AFUE)	16.20	1360.80
		CEE Tier III (94+ AFUE)	18.10	633.50
Gas Boilers (hot water)	<300,000 Btu/hr input	AFUE>=85%	.18 kBtu/hr	269.40
	>300,000 Btu/hr input	Thermal Efficiency >= 90%	.34 kBtu/hr	1221.48
Gas Boilers (steam)	<300,000 Btu/hr input	AFUE>=85%	.18 kBtu/hr	17.96
	>300,000 Btu/hr input	Thermal Efficiency >= 82%	.07 kBtu/hr	44.68
Direct Contact Gas Water Heater	All	Thermal Efficiency >90%	.23 kBtu/hr	8015.00
High-Efficiency Gas Unit Heater	<300,000 Btu/hr input	83% <=Thermal Efficiency < 90%	.06 kBtu/hr	111.96
		Thermal Efficiency >= 90%	.17 kBtu/hr	97.12
Gas Infrared Heating System	-	Infrared Heating System (must replace existing natural gas non-infrared heating systems or be installed as part of new construction project)	.48 kBtu/hr	14440.00
Programmable Thermostat	-	Energy Star Thermostat (where not required by code)	11.50	1380.00
Boiler Outside Air Reset Control	-	Boiler Outside Air Reset Control	74.10	3705.00
Boiler Tune Up	Existing natural gas boiler	Perform a qualifying tune-up that complies with the boiler tune-up program requirements and yields an improvement in combustion efficiency (Only one tune-up rebate per boiler within a 2-year period)	48.86	7329.00
ENERGY STAR Commercial Gas Fryer	-	50% Combustion Efficiency	40.40	323.22
ENERGY STAR Gas Steam	-	38% Combustion Efficiency	35.30	282.40

Measure	Size Category	Minimum Efficiency Requirement	Deemed Annual Savings (Dth/installation)	Total Savings (Annual Dth)
Cooker				
High-Efficiency Gas Convection Oven	-	40% Combustion Efficiency	32.30	258.40
High-Efficiency Gas Combination Oven	-	40% Combustion Efficiency	40.30	322.40
High-Efficiency Gas Griddle	-	38% Combustion Efficiency	8.80	70.40
Building Shell - Windows	Site-Built Window	U-value of 0.30 or less (Glazing Only Rating)	.014 sq ft	491.74
	Pre-fabricated Window Assembly	U-value of 0.35 or less (Entire Window Assembly Rating)	.014 sq ft	707.02
Building Shell - Roof Insulation	-	Incremental addition of R-5 or higher above code	.002 sq ft	152.41
Building Shell-Wall Insulation	-	Incremental addition of R-3.7 continuous insulation or higher above code	.001 sq ft	124.71
<b>Total</b>				<b>49,239</b>

The program is currently in the marketplace so all existing tasks will continue without delay assuming program approval. New tasks will be implemented within 30-45 days after program approval, making the necessary changes to reflect new and changed measures.

The program administration represents the on-going delivery of the program. All internal systems, processes and procedures have been created and are in place. Some modifications may be required due to program changes for 2009.

All pertinent ThermWise Business Rebates program rebate information will be tracked in a database developed for the program. The database will provide a near-real time listing of current customer applications, customer information, equipment information, customer costs, savings, and rebates by technology.

Moreover, program related information will be tracked and available for reporting, including number of program participants and measure participation.

Due-diligence application review activities will include, at a minimum, verification of the following items:

- Customer account number.
- Installation address for submitted account number.
- Valid equipment installation date.
- Equipment eligibility.
- Equipment capacity and efficiency ratings, where applicable.

- Requested incentive amount.

Questar Gas will augment the application process quality control measures with random telephone and field inspections to ensure program integrity. These verification activities will serve to verify the following information:

- Installation address.
- Equipment make and manufacturer.
- Equipment model number.
- Equipment size.

The verification process will balance the need for randomness, the need to maintain a robust sample size, and the need to verify the compliance of multiple equipment installers. Nexant will target these additional quality assurance and quality control measures on approximately 5% of all submitted applications.