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# Energy Efficiency Program Proposal

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## ThermWise<sup>®</sup> Weatherization Rebates Program

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# Program Overview

## Description

The ThermWise® Weatherization Rebate program targets residences receiving service on the GS rate schedule. A qualifying single-family residence is an existing structure that has up to four residential dwelling units. A qualifying multifamily residence is an existing dwelling having five or more residential dwelling units. To qualify for insulation and duct related rebates, customers will be required to have measures installed by a ThermWise® Authorized Contractor.

For qualifying multifamily residences, a pre-qualification inspection will be required. This program will offer incentives for qualifying weatherization measures. Weatherization measure delivery will leverage the marketing access and existing delivery channels of local businesses, wholesalers and retailers.

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# Program Design

## Program Measures

### Qualifying Customers

Existing single-family or multifamily residences in Questar Gas Utah service territories that are billed on the GS rate schedule are eligible to participate in the ThermWise® Weatherization Rebates program.

### Measure Eligibility

Table 1 illustrates the low-cost energy-efficiency measures and eligibility requirements under the weatherization program.

**Table 1. Weatherization Energy-Efficiency Measures**

	<b>Windows<sup>1,3</sup></b>	<b>Wall Insulation<sup>2,3,4,7</sup></b>	<b>Attic Insulation<sup>2,3,4,5,7</sup></b>	<b>Floor Insulation<sup>2,3,4,7</sup></b>	<b>Programmable Thermostat<sup>6</sup></b>	<b>Duct Sealing &amp; Insulation<sup>2,4</sup></b>
Baseline requirement	Existing home with gas heat	Existing home with gas heat	Existing home with gas heat	Existing home with gas heat	Existing home with gas heat and existing non-programmable thermostat	Existing home with gas heat that meets the program criteria
Efficiency requirements	U-factor of .30 or lower	Increment of R-11 or higher	Tier 1 – Minimum increment of R-19 or higher with a post installation R-value of at least R-38 but not more than R-60  Tier 2 – An additional increment of at least R-11 with at least R-38 but not to exceed R-60	Increment of R-19 or higher	Shall have at least two different programming periods (for weekday and weekend programming) and at least four possible temperature settings (i.e., wake, day, evening and sleep settings).	Must be done to Questar Gas 2011 Duct Sealing & Insulation Specification
Measure lifetime (yrs)	25	35	35	35	15	10
Installation by pre-qualified contractor required <sup>4</sup>	No	Yes	Yes	Yes	No	Yes

<sup>1</sup> Including sliding glass patio doors, but excluding all other doors (storm doors, wood and/or metal doors with windows). Energy performance of window assemblies and glazing products must be rated in accordance with NFRC. Site built windows or glass only will not qualify for a rebate in the residential weatherization program.

<sup>2</sup> Floor, wall and attic insulation and duct measures will be available in homes that have not had the measure rebated with the ThermWise® program in previous years. This measure will be available on a one-time basis per measure per premise. The exception to these rules will be in the event that additional attic insulation is recommended by a ThermWise® or Home Performance with Energy Star audit for a premise which was previously rebated for attic insulation. In the case of such a recommendation, the homeowner will be eligible to participate in the Tier 2 attic insulation measure without additional participation in the Tier 1 measure.

<sup>3</sup> Eligible installations must be between a heated space and an unconditioned space or area outside of the building envelope. An unconditioned space is defined as an area or room within a building that is not being heated or cooled, that has no fixed opening directly into an adjacent conditioned space, or which is outside of the building envelope.

<sup>4</sup> If "Yes," this measure must be installed by a ThermWise® Authorized Contractor.

<sup>5</sup> This measure will be eligible for a tiered rebate by adding a second rebate of \$0.07 per square foot when the total new insulation installed equals R-30 or above; any rebate paid through the program must have a final R-value of at least R-38 but not more than R-60. An installation of R-11 alone would not qualify for the 2<sup>nd</sup> tier. The exception to this rule will be in the event that additional attic insulation is recommended by a ThermWise® or Home Performance with Energy Star audit for a premise which was previously rebated for attic insulation. In the case of such a recommendation, the homeowner will be eligible to participate in the Tier 2 attic insulation measure without additional participation in the Tier 1 measure.

<sup>6</sup> Programmable thermostat will only be available to customers where an in-home or mail-in audit is completed.

<sup>7</sup> Do-it-yourself installations for insulation measures are also eligible if verified by a ThermWise Home Energy Audit.

## Program Rebates

Weatherization energy-efficiency measures are outlined below in Table 2 and include the associated available incentive per unit. These measures will be available to residential customers based on measure eligibility requirements.

**Table 2. Weatherization Energy Efficiency Measures Incentives**

Program Measure	Incentive \$	Incremental Customer Cost	Unit
<b>Windows</b>	\$.95	\$1.30	sq. ft.
<b>Wall Insulation</b>	\$.30	\$.64	sq. ft.
<b>Attic Insulation</b>	All completed projects must have minimum insulation levels of R-38 but not greater than R-60  Tier 1 -\$.20 -requires R-19	\$.40	Tier 1 - \$0.20 sq. ft.
	Tier 2 - \$.07 Combined with Tier 1 to add R-11 or greater to achieve at least an R-38	\$.20	Tier 2 - \$0.07 sq.ft.
<b>Floor Insulation</b>	\$.20	\$.42	sq. ft.
<b>Programmable Thermostat</b>	\$30	\$39	each
<b>Duct Sealing and Insulation</b>	<b><u>Single Family</u></b>  \$100 per job plus \$5.25/linear ft. not to exceed a total rebate of \$450	\$657	each
	<b><u>Multifamily</u></b>  \$100 per job plus \$5.25/linear ft. not to exceed a total rebate of \$250		

## Rebate Limitations

In addition to the requirements in Table 2, the following requirements apply to rebate application payments for the program:

- Rebates are limited to existing homes with natural gas as the primary source of heat.
- Insulate and seal 100% of exposed ductwork in unconditioned spaces.
- Duct sealing must reduce duct leakage to the outside by 50%, with at least a 100 CFM leakage reduction.
- Ducts must be pressure tested to a minimum pressure of 25 Pascals.
- Ducts must be sealed using mastic and/or industry-standard products.
- Duct insulation materials must have an R-value of R-6 or greater and include a vapor/air barrier.
- Rebate is scaled based upon the size of the system.
- Rebates are only available for one per-premise.
- Adhere to internal program specifications developed for duct sealing and duct insulation.
- Comply with all local codes and ordinances, specifically Chapter 11 of the 2006 IRC
- Continue pre-inspection on all multifamily jobs.
- Customers will be required to have insulation and duct measures installed by a ThermWise® Authorized Contractor in order 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 territories and be a Questar Gas residential customer (i.e. meter set or account activated).
- Programmable thermostat rebate eligibility requires a completed ThermWise® Home Energy Audit.
- Questar Gas will only offer a rebate for one attic measure per premise, except in the case where additional attic insulation is recommended by a ThermWise® Home Energy Audit or Home Performance with Energy Star audit. In the case of such a recommendation, the customer will be eligible to participate in the Tier 2 attic insulation measure.
- Questar Gas will only offer a rebate for one wall and one floor insulation measure per premise. Any additional installation(s) will not be eligible for rebates from Questar Gas Company with the exception stated above.
- Rebate checks will be made payable to the Questar Gas customer account name on record, not necessarily the name provided by the customer in the rebate application, and mailed to the mailing address listed on the Questar Gas customer account. Exceptions may be made through the Property Owner Addendum.
- A Questar Gas customer must install attic insulation meeting Tier 1 requirements before the customer qualifies for a Tier 2 rebate. An installation of R-11 alone will not qualify for a Tier 2 rebate. The exception to this rule will be in the event that additional attic insulation is recommended by a ThermWise® or Home Performance with Energy Star audit in a premise which was previously rebated for attic insulation. In the case of such a recommendation, the homeowner will be eligible to participate in the Tier 2 attic insulation measure without additional participation in the Tier 1 measure.

## Projected Participants

Table 3 summarizes the ThermWise® Weatherization Rebates program's expected customer participation for each measure and savings estimates.

**Table 3. Weatherization Energy Efficiency Measure Participation Estimates**

Single Family (1-4 units)								
	Windows	Wall Insulation	Attic Insulation Tier 1	Attic Insulation Tier 2	Floor Insulation	Programmable Thermostat	Duct Sealing & Insulation	Total
	#	#	#	#	#	#	#	
Unit Savings (Dth/unit/yr)	0.0412	0.0053	0.0053	0.0013	0.0068	2.66	13.48	
Estimated Participants	16,787	2,215	37,215	16,002	1,655	286	1,396	<b>75,556</b>
	sq. ft.	sq. ft.	sq. ft.	sq. ft.	sq. ft.	Each	System	
Units per Participant	50	747	1,352	1,344	845	1	1	
Estimated Units	831,964	1,654,605	50,314,680	21,506,688	1,398,475	286	1,396	
Savings Estimates (Dth/yr)	341,110	8,769	266,668	27,959	9,789	761	9,402	<b>673,860</b>
Multifamily (5 or more units)								
	Windows	Wall Insulation	Attic Insulation Tier 1	Attic Insulation Tier 2	Floor Insulation	Programmable Thermostat	Duct Sealing & Insulation	Total
	#	#	#	#	#	#	#	
Unit Savings (Dth/unit/yr)	0.0412	0.0053	0.0053	0.0013	0.0068	N/A	8.00	
Estimated Participants	150	10	2,250	250	10	N/A	600	<b>3270</b>
	sq.ft.	sq.ft.	sq.ft.	sq.ft.	sq.ft.	Each	System	
Units per Participant	200	1,650	1,000	1,000	1,000	N/A	1	
Estimated Units	30,000	16,500	2,250,000	250,000	10,000	N/A	600	
Savings Estimates (Dth/yr)	1,230	87	11,925	325	70	N/A	2,400	<b>18437</b>

## Customer Application Process

### Process Overview

**Purchase Measure** – Customer purchases qualified measure and receives a rebate form.

**Measure Installation** – Qualifying measure is installed according to program guidelines by a ThermWise® Authorized Contractor, if required.

**Submittal** – Customer submits the completed rebate form along with a copy of proof of purchase and documentation that the measure 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 is required to verify the validity of the sales and purchase information.

- **Qualifying Measure** – The qualifying measure 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) 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 to advance the application to 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.

## Projected Savings

Table 3 presents the estimated gross customer savings for the weatherization measures.

## Implementation

The program is currently in the marketplace so all existing implementation activities will continue without delay upon Commission approval effective January 1, 2011.

## 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. Some modifications may be required due to program changes for 2011.

## Tracking & Measurement

Due-diligence application review activities will include 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.
- The requested incentive amount.

Questar Gas and Nexant 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.
- Pre-existing type.
- Pre-existing inches.
- Pre-existing R-value
- New product type.
- Total number of bags of insulation.
- Total combined R-value of existing and newly installed insulation.
- Total square footage of new insulation.

The verification process will balance the need for random sampling, 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.