
Energy Efficiency Program Proposal

ENERGY STAR[®] New Homes Program

Program Overview

Description

Questar Gas Company (Questar Gas) is proposing to offer an ENERGY STAR® New Homes Program. The program will be delivered to the market and administered by Portland Energy Conservation Inc. (PECI). The program will be available to residential builders in the Questar Gas Utah service territory and include incentives for installing natural gas energy efficiency measures in newly constructed residences receiving service on the GS-1 or GSS rate schedules. A qualifying residence is a structure that has up to and including four separately metered residential dwelling units. Incentives under the program will be paid directly to a home builder or owner-builder (Builder) for ENERGY STAR whole house certification and/or installing specific energy efficient natural gas measures, including high efficiency natural gas space heating and water heating appliances.

The program is designed to leverage marketing and delivery directly to Utah home builders through Questar Gas Home Builder Marketing Representatives. Development, implementation, training, support and administration will be provided by PECI in coordination with Questar Gas. Incentives will be available direct to Builders upon completion of program requirements.

To the extent practical, the program has been designed in a manner to take advantage of synergies and coordination with Rocky Mountain Power's ENERGY STAR home builder program, including aligning the ENERGY STAR certification requirements for Builders and Home Energy Rating Systems (HERS).

Objective

The overall objective of the program is to help reduce customer energy consumption through the building of energy efficient, ENERGY STAR qualified homes and/or homes with energy efficient gas space and water heating equipment.

Specific objectives include:

1. Acquire cost effective savings for Questar Gas GS customers.
2. Ensure trade allies, residential customers and builders have a positive experience with their participation in the program.

The ENERGY STAR New Homes Program is one of several initial energy-efficiency programs offered by Questar Gas. The program will seek to increase customer awareness and use of energy-efficient practices and technologies in residential new construction to achieve cost-effective natural gas savings.

Program Design

Program Measures

Qualifying Dwellings

Separately metered newly constructed residences, in Questar Gas' Utah service territory and billed on a GS rate schedule are eligible to participate in the ENERGY STAR New Homes Program. A qualifying residence is a structure that has up to and including four separately metered residential dwelling units.

List of Qualified DSM Measures

Measure	Specification
High Efficiency Storage Water Heater	EF 0.63 or greater
Tankless Water Heater	EF 0.80 or greater
High-Efficiency Furnace	AFUE Rating of 90% or greater
ENERGY STAR Whole House Certification	HERS Index of 85 (previously 86 on the HERS scale) or lower

High Efficiency Standard Water Heaters

Builders can receive an incentive for installing a high efficiency gas water heater in new homes. In order to qualify, water heaters must have an Energy Factor (EF) of 0.63 or greater. Qualifying water heaters will range from 40 to 80 gallons in capacity.

Tankless Water Heaters

Builders can receive an incentive for installing a tankless water heater in a new home. In order to qualify, tankless water heaters must have an Energy Factor (EF) of 0.80 or greater.

High Efficiency Gas Furnaces

Builders can receive an incentive for installing a high efficiency gas furnace in a new home. In order to qualify, furnaces must have an AFUE of 90% or greater.

ENERGY STAR Certified Home

- An incentive will be paid for a dwelling unit that qualifies for an ENERGY STAR whole house certification. Field verification and an ENERGY STAR certificate will be required from the Builder before the ENERGY STAR whole house certification incentive will be paid. In order to receive both the ENERGY STAR whole house certification incentive and the appliance incentives, the ENERGY STAR whole house certification must be achieved without consideration of the high-efficiency gas space heating and water heating appliances. Homes that qualify for the ENERGY STAR certified incentive are aligned with the existing RMP program.

Base Incentive Package #1: For ductwork located in an unconditioned space

HERS Index of 85 or lower

- Achieve a maximum HERS Index score of 85 or less through a combination of envelope, system and equipment upgrades. The new HERS Index provides a score between 0 and 100, with the reference house assigned a score of 100 and a zero energy house assigned a score of 0.

Windows

- Install windows with a minimum U-value of 0.35 and a Solar Heat Gain Coefficient that meets the ENERGY STAR minimum for their climate zone.

Ducts

- Documentation of gross or net duct leakage of no more than 6% of the home's heated floor area in CFM measured at a test pressure of 50 Pascals (Pa) in the duct system. This documentation will include the testing of the duct system using a duct leak tester (such as Duct Blaster®), preferably near the time of duct work installation.

Base Incentive Package #2: For ductwork located in a conditioned space

- The requirements for Base Incentive Package #2 are identical to Base Incentive Package #1, except for the duct testing since the ductwork is located within a conditioned space.

Program Incentives

Builders will be paid the incentives listed below after all completed documentation for the measure is received by the program administrator. The incentive will be paid in the form of a check. Incentives will be sent to the Builder contact listed on the “Participating Builder Agreement” described later in this proposal.

Measure	QUESTAR GAS Incentive
High Efficiency Water Heater	\$50
Tankless Water Heater	\$300
High Efficiency Furnace	\$300
ENERGY STAR Whole House Certification	\$500

Incentive Limitations

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

- Incentives are limited to one ENERGY STAR Whole House Certification incentive and two (2) incentives each for the other three available measures per qualifying newly constructed, separately-metered dwelling unit (as further described above under the Qualified DSM Measures section) and will be tracked by Builder, premises number and address.
- Qualifying packages and/or measures receiving incentives under the program may not receive equipment purchase and installation incentives under any other Questar Gas DSM program.
- Dwelling unit must be located in Questar Gas’ Utah service territory and be a Questar Gas customer (i.e. meter set or account activated).

Projected Participants

Measure	Participants
High Efficiency Water Heater	3,338
Tankless Water Heater	260
High Efficiency Furnace	3,338
ENERGY STAR Whole House Certification	1,669

Builder Incentive Application Process

HERS Raters MOU

ENERGY STAR HERS Raters will be required to sign a Memorandum of Understanding (MOU) indicating their understanding of the program requirements including the completion and submission of the inspection and certification documentation.

Process Overview

- **Purchase Equipment** – Builder purchases qualified appliance and receives incentive form.
- **Equipment Installation** – Appliance is installed according to program installation guidelines by a qualified contractor, if required.
- **Submittal** – Builder submits the completed incentive form along with a copy of proof of purchase.
- **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** – A copy of the Builder invoice is required to verify the validity of the sales and purchase information.

Qualified model – The model qualification must be on the most current version of the ENERGY STAR qualified model list at time of purchase.

Date sold – The sale date must be within the valid dates of the program and home construction.

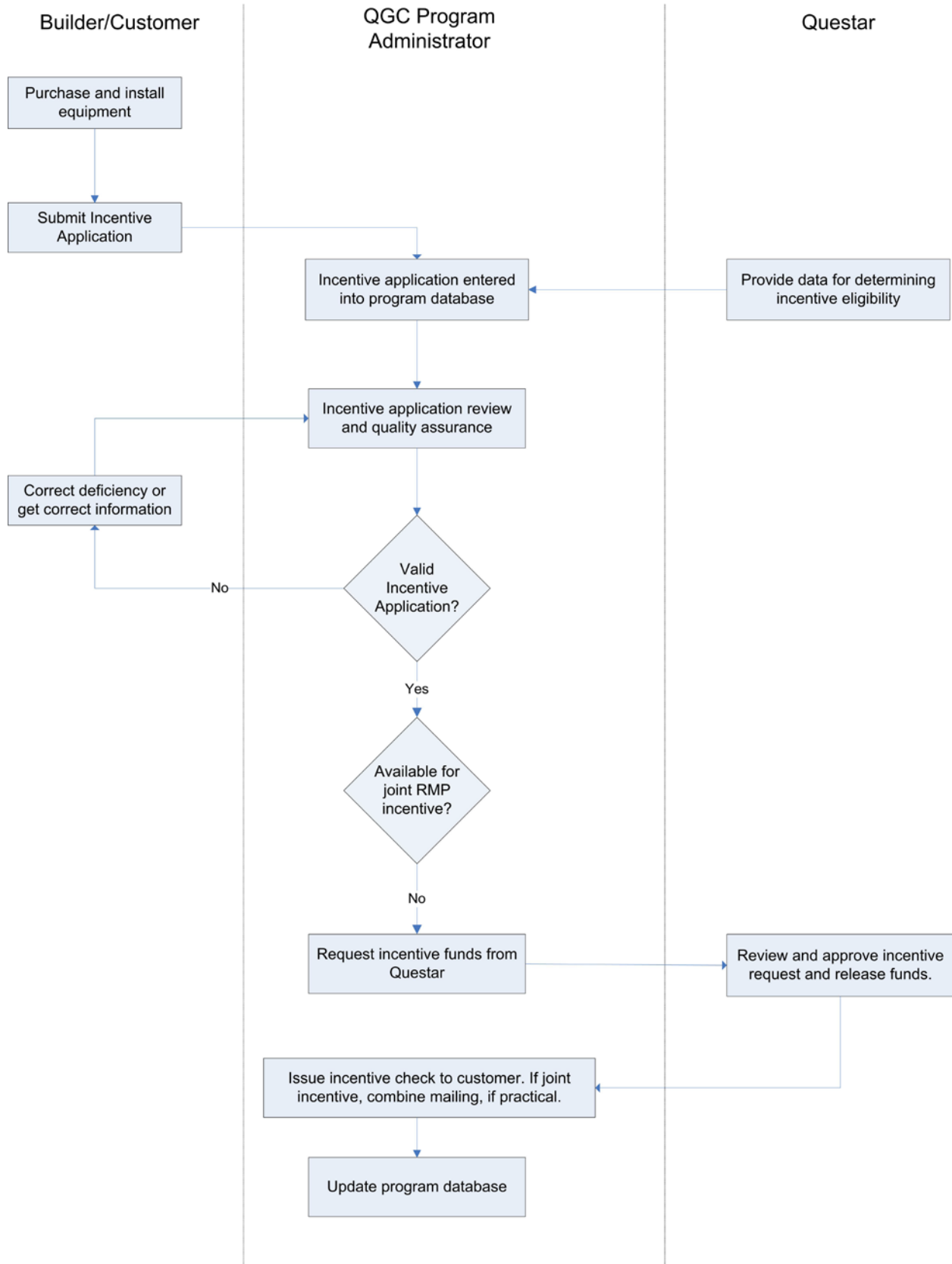
Serial number – Builder must provide the appliance serial number to prove uniqueness of each installation.

Correction – If incomplete incentive forms or faulty information is received, Builders are contacted immediately in order to correct the application and move it through the review and into the approval stage.

Approval – Payment for the Builder is approved after all information is received, entered, and the project passes the internal checklist review.

Payment – Payment is issued and sent to the Builder and the database is updated with payment information, every effort is made to stay within a 10 business-day turn-around from receipt to payment.

Customer Application Process



Marketing & Promotion

The program's strategic marketing plan is provided below. The plan includes: objectives, key messages, target audiences, marketing tools and resources, strategies and tactics. The implementation of this marketing plan will be closely coordinated with the Questar Gas' other programs and market transformation initiative.

In addition, as with all Questar Gas Demand Side Management programs, market transformation education and awareness advertising will incorporate the program into the overall energy-efficiency campaign advertisements and strategies.

Objectives

- Drive homebuyer demand for purchasing ENERGY STAR homes and energy-efficient upgrades.
- Increase Builder commitment to build and offer ENERGY STAR homes and energy-efficient upgrades.
- Develop program brand identity complementary of other Questar Gas programs.

Key Messages

Homebuyers

For the homebuyer audience, key messages will focus on the lifestyle benefits of ENERGY STAR homes and, as appropriate, energy efficient upgrades. These key messages will be used consistently throughout program marketing efforts and will be provided to industry partners for their marketing efforts.

- **Enhanced comfort** – Enjoy a home with even temperatures throughout – warmer in winter and cooler in summer – and free from drafts.
- **Peace of mind** – Relax knowing your home has been inspected, performance tested and certified by an independent, professional home energy analyst.
- **Healthier indoor air** – Tightly-sealed and performance-tested duct systems help keep the air inside your home clean.
- **Savings** – ENERGY STAR homes or high-efficiency equipment are a good investment, reducing your energy bills every month and offering the potential for higher resale value.
- **Good for the environment** – Choosing to live in a home that uses less energy helps protect our environment.

Builders

For the Builder audience, key messages will focus primarily on their bottom line and why ENERGY STAR or offering efficiency upgrades can be a valuable tool for growing their profitability.

- **Enhanced reputation as a quality builder** – ENERGY STAR offers market differentiation with a nationally recognized and trusted label for energy efficiency and quality.
- **Increased customer satisfaction** – High performance ENERGY STAR homes offer a high quality living and ownership experience for homebuyers, leading to repeat customers, reduced callbacks and more referrals.
- **Increased sales and profits** – Today's homebuyers demand and are willing to make an additional investment to enjoy immediate and long-term savings.
- **Marketing support and tools** – ENERGY STAR homebuilders can tap into a variety of tools, including cooperative marketing funds, home branding materials and sales tools.
- **Technical assistance and best practices** – Partnering with professional home energy raters and utility field staff helps Builders stay in the know on best practices based on sound building science.

Target Audiences

Primary: Homebuyers and Homebuilders

Secondary: Developers, Real Estate Professionals and Home Energy Raters

Tools and Resources

All marketing materials developed will follow approved program style guidelines for consistency and brand identity.

Homebuilder Recruitment Tools – Homebuilder Recruitment Kits, Homebuilder Welcome Kit, Tradeshaw banners, and Homebuilder Incentives List (ENERGY STAR New Homes and energy efficiency upgrades)

“How to Market Your ENERGY STAR Homes” Tool Kits – Comprehensive set of marketing resources customized for homebuilders and real estate professionals.

ENERGY STAR Branding Materials – yard signs, house and vehicle window clings, logo stickers, banners, door mats, and model/parade home call out cards.

ENERGY STAR Homebuyer Materials – The advantages of an ENERGY STAR home flyer, Homeowner Guide, Final Walk-Through Checklist, and Welcome Kit.

ENERGY STAR Sales and Sales Training Tools – The Advantages of an ENERGY STAR home flyer, Frequently Asked Questions, Energy Savings Calculator, Sales Training PowerPoint presentation.

ENERGY STAR New Homes Web site – a comprehensive web site of information and resources for homebuyers, homebuilders, home energy raters and other interested entities.

ENERGY STAR Cooperative Marketing Offers – Cooperative Marketing Fund, Cooperative Web Marketing Fund, Model Home Incentive, Parade of Home Incentive.

Strategies and Tactics

1. Provide homebuilders with tools to market ENERGY STAR homes:
 - Offer a suite of ENERGY STAR homes marketing materials easy to access and use. Materials offered will include: yard signs, house & vehicle window clings, logo stickers, banners and door mats.
 - Provide cooperative marketing funds to assist homebuilders in incorporating ENERGY STAR into their marketing platforms.
 - Develop a “Marketing Tool Kit for ENERGY STAR Homebuilders.” All order forms, offers, logos, key messages, etc. will be compiled on a CD for easy distribution and access.
2. Increase homebuyer awareness of and demand for ENERGY STAR homes.
 - Develop a “Marketing Tool Kit for ENERGY STAR Homebuilders.” All order forms, offers, logos, key messages, etc. will be compiled on a CD for easy distribution and access.
 - Pool funds with ENERGY STAR homebuilders for an annual consumer-focused ENERGY STAR ad campaign.
 - Secure matching advertising funds through participating in the annual U.S. EPA Outreach Partnership for ENERGY STAR homes.
 - Offer Cooperative Web Marketing Funds and content development assistance to Utah’s Top 10 ENERGY STAR homebuilders to ensure ENERGY STAR homes have a strong, enduring and accurate web presence.

- Offer an ENERGY STAR Model Home Incentive to encourage homebuilders to promote ENERGY STAR and to provide homebuyers an opportunity to see and experience ENERGY STAR homes.
 - Offer an ENERGY STAR Parade Home Incentive to encourage homebuilders to showcase ENERGY STAR homes within high-profile events.
3. Ensure that ENERGY STAR homebuyers understand the features, benefits and value of their new homes.
- Develop an ENERGY STAR Homeowner Guide, a simple manual to assist new homebuyers in understanding and maintaining the energy efficient features of their homes.
 - Provide a Final Walk-through Checklist for homebuilders and energy raters to orient new ENERGY STAR homebuyers.
 - Provide an ENERGY STAR Homebuyer Welcome Kit.
4. Educate real estate professionals about the sales advantages of ENERGY STAR homes.
- Offer sales training to real estate professionals associated with ENERGY STAR homebuilders.
 - Pursue the inclusion of ENERGY STAR Homes content within existing realtor continuing education credit programs and workshops.
 - Offer a suite of ENERGY STAR sales tools, including:
 - The Advantages of an ENERGY STAR home flyer – A summary of key features and selling points.
 - Frequently Asked Questions about ENERGY STAR homes – Q & A covering the most commonly asked questions.
 - ENERGY STAR Homes Saving Calculator – By inputting key home feature characteristics, homebuyers can estimate the savings to expect from an ENERGY STAR home compared to a home simply built to code standards.
 - Develop a “Marketing Tool Kit for ENERGY STAR Real Estate Professionals.” Electronic files of all resources available – materials noted above, as well as logos, key messages, and marketing materials order form – will be compiled on a CD for easy distribution and access.
 - Pursue the inclusion of “ENERGY STAR certification” as a searchable field in the Regional Multiple Listing Services in target markets.

Customer Service

Call Center

A fully staffed call-center provided by PECI will answer customer and trade ally questions through consultation, education and recommendations. Established customer service guidelines and protocols are in place to provide answers to commonly asked questions. Call center staff will be prepared with extensive information that includes facts on qualified products, specific benefits of efficient products, and current program incentive parameters. The call-center will be staffed during regular business hours (8:00 am – 5:00 pm Mountain Time) to respond to Builder inquiries.

Trade Allies will also have access to a separate toll-free hotline. Trade allies will be able to reach a PECI implementation team member to request information on incentives, qualified efficient products, contact information for a field representative, and any other program-related questions.

Expert Resource

An expert resource will be available to Builders to help them achieve energy-efficient building practices and a successful HERS rating. This will be provided to the Builders through a combination of their HERS Raters, the program's account representatives and target resources brought in for specific needs.

Website

Information on the Questar Gas Demand Side Management (DSM) website will increase ease of participation and customer service. Information will include:

- Program forms.
- Incentive information and qualifications for easy reference.
- Trade Ally materials including training information.
- Contact information to speak to a live person.

Other

The program will assess other customer service needs as they arise. Possible additions to the customer service toolbox could include:

- Bilingual materials.
- Trainings and exchange of informational materials with the Questar Gas call center

Trade Ally Management

The trade allies represent the critical link to delivering an effective and successful program in the market. Builders, contractors and HERS Raters become the face for the program and, in the case of the Builders, help sell the program to both their subcontractors and potential homebuyers for the program. Participating trade allies will be trained and provided materials to effectively communicate program requirements and benefits to consumers and subcontractors.

Vendors currently providing rating support to Rocky Mountain Power's existing ENERGY STAR Homes program will be contacted to discuss the program structure and how the existing network could be expanded and/or leveraged to support the program.

Recruitment

- Builder Information Kits will be the key marketing tool to use in recruitment efforts. Builder Information Kits will include enrollment forms, incentive information, marketing opportunities, participation requirements and information on ENERGY STAR qualified homes.

Delivery of the kits and further contact with homebuilders and potential trade allies will be made through a variety of resources including:

- Questar Gas Builder Account Representatives who will be the face of the program by promoting the program through their existing sales channels.
- Phone contact in addition to face to face meetings will be conducted to speed up enrollment.
- HERS Raters throughout the region will be trained so that they may introduce the opportunities and benefits to their trade ally customers.
- Builder breakfast events will be used to introduce program opportunities and benefits to a large number of builders at one time.
- Introductory letters and Builder Information Kits will be sent to existing Builders in the Questar Gas Utah service territory.

Training

The primary tool the program will use in order to ensure quality for both trade allies and consumers will be Trade Ally training. Trainings will be provided on many levels from one-on-one scenarios to large group trainings. Depending on the information being provided, training and information will be provided through Questar Gas Builder Marketing Representatives, HERS Raters and guest training specialists. Training topics will include:

- Education and assistance for builders regarding program participation.
- Information for builders on energy-efficient building practices.
- Marketing and sales support.

Quality Control

Inspections will be performed by the Questar Gas account representatives to maintain a high level of confidence in measure installation. The frequency of inspections will depend upon the measure. For ENERGY STAR homes, the raters provide the primary form of quality control. An independent random sampling of 10% of homes per builder will be performed. The appliance measures will be inspected for a minimum of the first three installations for a Builder in the program. Random samples and inspections of measure installations will be performed on at least 10% of the homes throughout the program period.

Projected Savings

Measure	Incentive	Unit Gross Savings (decatherms)	Participants	Total Annual Gross Savings (decatherms)	Total Incentives
High Efficiency Water Heater	\$50	2.70	3,338	9,013	\$166,900
Tankless Water Heater	\$300	10.2	260	2,652	\$78,000
High Efficiency Furnace	\$300	9.10	3,338	30,375	\$1,001,400
ENERGY STAR Whole House Certification	\$500	23.40	1,669	39,055	\$834,500
Totals			8,605	81,095	\$2,080,800

Implementation

The program implementation phase begins upon Public Service Commission approval. Questar Gas anticipates launching the implementation phase, within 10 days of program approval. Approximately 45 – 90 days will be necessary to implement the program including the development of all program materials and the initial market introduction. The timeline below provides estimates for implementation deliverables to be initiated upon program approval. Incentive activity is expected to be minimal during the early implementation of the program as the construction market has a longer lead time and activity is slower during winter months.

Timeline

The timeline reflects an estimated number of days each task will take from program approval.

Task	Deliverable	30 Days	60 Days	90 Days
Marketing	Style guidelines			
	Marketing material production			
Customer Service	Train call center staff			
Trade Ally Management	On-site training of trade allies			
	Deliver marketing materials			
Tracking & Measurement	Program database			
	Incentive processing systems			
	Standardized activity reports			
Reporting	Monthly invoice			
	Monthly savings & activity reports			
Questar Gas Coordination	Kick off meeting			
	Weekly management meetings			
Contractor Quality Control	Contractor qualification			

Administration

The program administration phase represents the on-going delivery of the program. All internal systems, processes and procedures will be created during the design and implementation phases and will be fine-tuned as the administration phase progresses. Program activity should ramp up as the program progresses.

Program Measurement & Evaluation

Program Budget

ENERGY STAR® Homes Program Budget					
Development	Marketing	Delivery	Incentives	Evaluation	Total
\$222,380	\$208,250	\$261,478	\$2,080,800	\$25,000	\$2,797,908
7.9%	7.4%	9.3%	74.4%	.9%	100.0%
ENERGY STAR® Homes Program Customer Savings					
Participants	Net Annual Dth Savings	Avoided Net Gas Cost per Year		Simple Payback	
8,605	65,406	\$511,944		5.47	

Tracking & Measurement

The program will develop a database to capture pertinent and required program information. The database will take into account any existing data collection systems existing within Questar Gas to create further synergies. The database will be designed to handle the processing and payment of Builder incentives.

The database will be designed to verify incentive eligibility, provide necessary information for program reporting and collect market information.

Data Tracking

Information collected in the database will include:

- Site data (address, electric provider, equipment fuel types, owner information, type of home etc.).
- Trade Ally information (Builder and contractors performing installations including Builder/company name and contact information).
- Home and appliance details (efficiency rating of products, models numbers, etc.).
- Cost data (as available).
- Deemed savings of installed measures.
- HERS score for ENERGY STAR homes.

Quality control

The database will be structured to allow for quality control in incentive processing including:

- Prevention of duplicate payments by checking for duplicate entry of site addresses, serial numbers, account numbers, etc.
- Check for completeness by verifying that all required data has been entered and information is within accepted data parameters.
- Project qualification verified through site location, and detailed product information (model numbers, etc.).

Cost Effectiveness

MEASURE	Total Resource Cost		Participant Test		Utility Cost Test		Ratepayer Impact Measure Test	
	NPV	B/C ¹	NPV	B/C ¹	NPV	B/C ¹	NPV	B/C ¹
Basic Energy Star Specifications - IECC plus 15% minimum, plus	\$4,978,078	2.0	\$9,795,282	2.7	\$7,381,320	4.1	\$5,041,103	2.1
High Efficiency Gas Water Heater - Home Builder	\$739,194	2.0	\$1,616,000	2.7	\$1,020,389	3.2	\$655,879	1.8
Tank Less Gas Water Heater - Home Builder	\$65,718	1.1	\$359,337	1.6	\$430,761	3.0	\$272,451	1.7
90% Plus AFUE Condensing Gas Furnace - Home Builder	\$1,464,265	1.3	\$5,359,569	1.8	\$3,713,825	2.3	\$2,118,532	1.5
Program Costs	-\$1,677,093	0.0	\$0	N/A	-\$1,677,093	0.0	-\$1,677,093	0.0
Totals	\$5,570,162	1.4	\$17,130,189	2.2	\$10,869,201	2.4	\$6,410,871	1.5

Program Evaluation

Questar Gas will perform evaluations over the life of the program. An in-depth, independent evaluation will be conducted once the program has been operating for a period of time in which customer savings can be reasonably and accurately evaluated (year two or three).

A limited evaluation will be conducted following the one year program anniversary. The cost for this limited evaluation is included in the program budget section shown above. The limited evaluation will focus primarily on awareness of the program, adoption rates by Builders, program process efficiency and Builder satisfaction with the program. Results from evaluations will be used to refine the program and to increase the accuracy of future DSM modeling.

¹ Net Present Value of Benefits divided by Net Present Value of Costs