

➤ High Efficiency Air Conditioning

A. Description

The High Efficiency Air Conditioning (HEAC) product comprehensively addresses energy efficiency opportunities related to central air conditioners (AC), air source heat pumps (ASHP), mini-split heat pumps (dMSHP), ground source heat pumps (GSHP), and the Western Cooling Control (WCC).

The HEAC product is comprised of five measures, each meeting a different need in the cooling marketplace.

- **Standard AC/ASHP systems with Quality Installation (QI)** - 13 to 14.99 Seasonal Energy Efficiency Ratio (SEER) – Defined as new central AC and ASHP systems with “matched” indoor and outdoor components, in new or existing homes. Equipment must be Air-Conditioning, Heating, & Refrigeration Institute (AHRI) performance-certified at standard rating conditions. Approximately 75 – 80% of new AC systems purchased are in this efficiency range.

According to energy.gov¹, approximately 27% of the rated efficiency of a new system can be achieved through Quality Installation (QI). QI is a process, based on standards developed by the Air Conditioning Contractors of America (ACCA) which contractors must follow to ensure that the total energy savings potential of newly installed equipment is realized. QI includes sealing all visible ducts, having at least 400 cubic feet per minute (CFM) of air flow per cooling ton, using ACCA’s Manual D (load calculation) and Manual S (equipment sizing) standards to determine the right size and type of equipment for each customer’s unique home, and charging the new system with refrigerant to within 3 degrees of the manufacturer’s recommended sub-cool target temperature. Only participating trade partners who have a technician with North American Technician Excellence (NATE) certification² in AC or ASHP can offer this rebate.

- **High Efficiency AC/ASHP systems with Quality Installation (QI)** – Defined as new central AC and ASHP systems with “matched” indoor and outdoor components, and with thermostatic expansion valves (TXVs), in new or existing homes, that meet certain energy efficiency standards as outlined in Section G below, are eligible for a rebate. The intent of the rebate is to encourage consumers to purchase units that meet or exceed the ENERGY STAR® high efficiency standard of at least 15 SEER and 12.5 Energy Efficiency Ratio (EER). Only participating trade partners who have a technician with North American Technician Excellence (NATE) certification in AC or ASHP can offer this rebate.

¹https://www.energystar.gov/ia/home_improvement/downloads/ESQI_factsheet.pdf?a0fa-c969

²www.natex.org

- **Mini-Split Heat Pumps (MSHP)** – The mini-split heat pump equipment serves residential customers who either cannot install traditional split, central air conditioning systems, or have hard-to-heat/cool areas of their homes, or who simply prefer this technology. To be eligible to participate, residential electric customers must purchase and install a unit that has a rated efficiency of 15 SEER, 11 EER, and 9 Heating Seasonal Performance Factor (HSPF). The unit must be used for cooling and heating purposes. There is not a QI component, and NATE certification is not a requirement. Any trade partner can offer this rebate.
- **GSHP with Quality Installation (QI)** – The GSHP equipment measure serves a small market niche of consumers who seek out the most highly efficient technology. To be eligible to participate, residential electric customers must purchase and install a unit that is ENERGY STAR® certified. The ENERGY STAR® certified GSHP performance criteria are a minimum of 3.3 Coefficient of Performance (COP) and 14.1 EER. Equipment must be AHRI performance-certified at standard rating conditions. Rebates will be given for GSHPs that are installed as closed-loop systems and are used for both heating and cooling. Only participating trade partners who have a technician with NATE certification in GSHP can offer this rebate.
- **Western Cooling Control** – The Western Cooling Control (WCC) device effectively increases the capacity of a central AC or ASHP unit by capturing cooling energy left in the refrigerant within, as well as the water condensed on, the cooling coil after a cooling cycle has completed. Due to the fact that many newer cooling units have built-in features that provide similar benefits to the WCC device, this measure is available only to customers with units installed in 2009 or prior. There is not a QI component to this measure; NATE certification is not a requirement. Any trade partner can offer this rebate.

B. Targets, Participants & Budgets

Targets and Participants

Participation and energy savings levels for this product are based on increased marketing efforts to the most cost effective measures within the product, and working through trade partners and stakeholders to engage customer participation.

Budgets

The budget forecast is based upon forecasted participation. Contractors are paid a QI incentive at all SEER levels, further encouraging their support of the product and a financial interest to continue quality installation practices. There is a trade incentive for mini-split heat pumps as well, for the purpose of encouraging participation in this cost-effective rebate offering. The budget also includes costs for verifying a percentage of the new equipment installations in the field to ensure they meet ACCA quality installation standards and expected energy savings; for advertising and marketing; and for other administrative expenses including labor and contractor training.

C. Application Process

The application process differs by type of rebate. Standard and High Efficiency AC and ASHP systems with QI share one rebate application form, whereas GSHP, dMSHP, and the WCC have separate application forms.

The most recent version of the rebate application forms are provided to participating contractors who have met the Company's participation requirements. The Company may reject applications made using outdated application forms. Customers can directly access application forms for rebate measures that do not require using a participating contractor; those forms are available on the Company's [web site](#).

All information requested on the rebate applications must be provided in order for the rebate process to be completed. Information needed on the invoice is specified on the back of each rebate application form; this information must be provided in order for the rebate process to be completed.

When corrections are needed to rebate applications, the Company sends a request to the contractor. If no response is received, open tickets are closed after 120 days, and the customer is notified. Applications may be resubmitted.

D. Marketing Objectives & Strategies

The HEAC product seeks to increase awareness and the demand for the QI process within the Company's service area, help customers and participating contractors offset costs associated with QI and high efficiency equipment/solutions, reduce customers' energy costs, and increase their comfort. To support these goals, the Company plans to implement the following marketing strategies to increase product awareness:

- Use of the HVAC contractor community as the primary marketing channel. The Company's Channel Manager is responsible for conducting trade partner training, meetings, telephone calls, emails, and newsletters to keep the trade informed and engaged in the product. In addition, a qualified contractor list is available on the Company's website and participating contractors are expected to assist in promoting the product. The Company provides brochures for contractors to distribute to customers as well.
- Company marketing and advertising strategies will be used to create customer awareness. This may include bill inserts, bundled marketing campaigns, community newsletters, webinars, promotional booths at public events, radio and/or television advertising, sponsorships.
- The Company's website also includes information regarding the product and is updated as needed to more effectively reach customers. This includes information on proper equipment sizing and airflow, product details and where to find qualified contractors. The site also hosts webpages designed specifically for contractors to obtain information about the product.

E. Product-Specific Policies

The technician's NATE certification can be used by one contractor company only, for the purpose of qualifying the company to offer high efficiency rebates.

Contractors who do not comply with the product requirements and guidelines are not allowed to participate in the product. Requirements may include taking and passing Company-provided training classes, for the purpose of increasing the energy savings and/or increasing customer satisfaction with the rebate process.

These rebates are available to residential Xcel Energy account holders with electric service provided by Xcel Energy. Additional qualifications are found in Section A, Description, and as follows:

To be eligible for a MSHP rebate, the unit must be used for cooling and heating purposes; therefore, mini-split air conditioners (cooling only units) do not qualify. The AHRI certificate must be in the residential category of "Variable-speed Mini-Split and Multi-Split Heat Pumps." Multiple head mini-split systems qualify.

To be eligible for a GSHP rebate, customers must purchase a qualifying unit. High efficiency equipment rebates will not be paid without QI from an approved contractor. Contractors must have a NATE-certified or International Ground Source Heat Pump Association (IGSPHA) accredited technician on staff, attend all required trainings conducted by the Company, follow all program guidelines, and be approved by the Company.

To be eligible for the WCC device rebate, the existing furnace must have been installed in 2009 or prior.

To be eligible for the Standard AC equipment with QI, High-efficiency AC/ASHP equipment with QI, and GHSP with QI rebates:

- The customer must use a registered contractor with a NATE-certified technician for the installation of the new system. These contractors have agreed to the terms of the product and meet the requirements related to quality installation practices. A list of registered contractors can be found on the Xcel Energy website.³
- The "matched system" must be listed in AHRI's Residential Directory.⁴ This directory is used to identify product classification, determine efficiency ratings, and confirm matched systems.
- In order to verify that the equipment has been properly installed, the contractor must commission the new system when the outdoor temperature is sufficient to create a steady state – as specified in the Xcel Energy QI guidelines based on

³<http://www.xcelenergy.com/cotrades>

⁴<https://www.ahridirectory.org/ahridirectory/pages/home.aspx>

ACCA standards.⁵ There is a section within the customer rebate application to indicate the quality installation process is being followed. Testing can only occur when the outside temperature is 67 degrees or higher, or 60 degrees is acceptable if the Field Diagnostic Services, Inc. (FDSi) diagnostic tool is used. The equipment installation and testing for QI must be completed before the rebate application is submitted for processing by the Company.

- For AC systems, the use of a furnace’s variable speed fan to increase the SEER rating above the nominal rating is allowed for determining rebate eligibility, provided that the overall furnace and air conditioning combination rating can be found in the AHRI’s Residential Directory (www.ahridirectory.org). The furnace does not have to be new, in order to use it for an increased efficiency rating. The homeowner or contractor must supply the furnace model number and serial number on the application and invoice.
- Customers using natural gas furnaces as the primary source of heating will experience dekatherm energy savings as a result of the duct sealing element of the AC Quality Installation

F. Stakeholder Involvement

The Company considers stakeholders for the HEAC product to be the HVAC contractors and distributors, the Colorado Energy Office (CEO), local municipalities within the PSCo service territory, and environmental organizations. Stakeholders are invited to share their product suggestions during the Company’s quarterly DSM Roundtable Meetings. In addition, Xcel Energy is a member of the Consortium for Energy Efficiency (CEE), and monitors and participates in its initiatives related to residential HVAC equipment.

G. Rebates & Incentives

Rebates are payable to residential Xcel Energy account holders with electric service from Xcel Energy, or to an alternate rebate recipient of their choosing. All measures must meet all requirements to receive the rebate. The rebate is paid according to the lesser value of the technical requirements of various measures, including SEER, EER, HSPF, and COP.

The Company will also pay incentives associated with customer rebates to participating, registered contractors in good standing, per the table below.

<u>Measure type</u>	<u>Efficiency minimums</u>	<u>Customer rebate</u>	<u>Contractor incentive</u>
Standard AC with QI	under 15 SEER and 12.5 EER	\$300	\$100
High efficiency AC with QI	15 SEER, 12.5 EER	\$500	\$50
MSHP	15 SEER, 11 EER, 9 HSPF	\$300	\$100
GSHP with QI	15 SEER, 14.1 EER, 3.3 COP	\$300/heating ton	\$50
WCC device	Furnace older than 2010	\$35	\$0

⁵ <http://www.acca.org/quality-standard/qi/>

Homeowners may receive the equipment rebate directly or may provide written permission for the rebate to be paid directly to the contractor or to another designated alternate rebate recipient. Builders, as the original purchaser of equipment, are eligible to receive an equipment rebate; however, the rebate will only be issued once so builders should coordinate with the homeowners as to who will receive the rebate. The QI incentive is paid to the contractor company when the account holder, or alternate rebate recipient, is paid the rebate.

Customers who receive a rebate through another DSM product (e.g., Home Performance with ENERGY STAR® or ENERGY STAR® New Homes) for the same equipment are not eligible to receive a rebate through this product. By accepting a rebate, the customer agrees to reasonably accommodate M&V consultants.

Rebate applications must be submitted by July 31 of the year following purchase and installation to qualify for a rebate.