

2021-2023 Energy Efficiency Program Suggestion Form

Instructions for submitting the 2021-2023 Energy Efficiency Suggestion Form

Black Hills Energy will file a new three-year energy efficiency plan with Colorado Public Utilities Commission in the Spring of 2020. As part of the planning process, Black Hills Energy is seeking measure and program-level input from stakeholders.

This Suggestion Form (see page two) is offered to interested stakeholders to suggest potential energy efficiency measures or programs for consideration. Stakeholders who submit suggestions have the responsibility to provide sufficient data to enable Black Hills Energy to analyze the proposal. The form is designed to solicit the suggestions in a common format.

If you are interested in offering a suggestion for consideration in the 2021-23 Plan, please complete the Program Suggestion Form and submit both the form and all supplemental data via email to Amy Fiala (Amy.Fiala@blackhillscorp.com) by 5:00 p.m. on January 17, 2020.

2021-2023 Energy Efficiency Program Suggestion Form

Program Name	Residential Program - Attic Insulation Rebate
Objective	To reduce energy loss thru the attic (up to 20%) and provide greater comfort to the homeowner.
Target Market	<ul style="list-style-type: none"> -Current Black Hills Energy Gas Customer in Colorado -Home is heated by natural gas -Home more than 5 years old -Home has no attic insulation or attic insulation R-13 or less installed
Program Duration	2021-2023
Program Description	<p>Proper attic insulation is crucial for an efficient and comfortable home. Many homes in Black Hills Energy's Colorado service areas have R-11 to R-13 value insulation installed in their attic (if attic insulation is installed at all).</p> <p>Black Hills Energy's gas territory for Colorado falls in climate zones 5, 6, and 7. The Department of Energy (DOE) recommends R-49 or R-60 attic insulation for these climate zones (5, 6, and 7).</p> <p>Thru the installation of proper attic insulation (R-49 or R-60) by a certified contractor, customers in Black Hills Energy served homes will instantly save up to 15% on their heating/cooling utility bills. The addition of an attic insulation rebate paired with the current Infiltration Control rebate will add another utility savings up to 15%. These significant savings will help offset the initial cost for the upgrades and the rebate will incentivize customers to begin the process. Customers with a low income or fixed income tend to benefit the most from this type of program.</p> <p>Additional non-energy benefits to the homeowner include increased comfort in the home, enhanced durability of the home structure, better indoor air quality and less wear and tear on existing HVAC system.</p>
Eligible Measures	Attic Insulation R-49 or R-60
Implementation Strategy	<ul style="list-style-type: none"> -Home Energy Evaluation (including Blower Door Testing) to confirm the home's current insulation and infiltration needs -Attic insulation upgrade completed by certified contractor
Marketing Strategy	Partner with Building Performance Institute-certified Building Analysts to perform home energy evaluations and, when R-13 or less insulation is found to be installed in the attic, the Building Analyst can encourage the upgrade of attic insulation to meet their particular climate zone's recommendation of R-49 or R-60. Through the home energy assessment report provided to the customer, the Building Analyst can help make homeowners aware of the attic insulation rebate available from Black Hills Energy.

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Incentive Strategy	<p>Require a blower door test to confirm eligibility (mirror current wall insulation rebate). Rebate amount encouraged at \$.50 per sq ft up to \$500.</p> <table border="1" data-bbox="350 352 1581 600"> <thead> <tr> <th colspan="3">ENVELOPE MEASURE RETROFIT* (Home energy evaluation is required prior to work being done in order to receive rebates)</th> </tr> <tr> <th>Equipment Type</th> <th>Efficiency Requirement</th> <th>Rebate Amount</th> </tr> </thead> <tbody> <tr> <td>Insulation (Wall)</td> <td>▪ ≥ R-13 or max fill</td> <td>\$.50 sq. ft up to \$850</td> </tr> <tr> <td>Insulation (Foundation/Basement)</td> <td>▪ ≥ R-15/19</td> <td>\$.50 sq ft up to \$250</td> </tr> <tr> <td>Insulation (Rim and Band Joist)</td> <td>▪ ≥ R-15/19</td> <td>\$.25 sq ft up to \$250</td> </tr> <tr> <td>Infiltration Control (weather-stripping, caulking, etc.)</td> <td>▪ Air sealing materials and diagnostic testing (pre and post blower door test required)</td> <td>70% of incremental cost, up to \$900</td> </tr> </tbody> </table> <p>Example house: 1,500 sf single story ranch on an enclosed crawl space Energy use estimates are: With R-13 in the attic, 613 therms of natural gas With R-49 in the attic, 483 therms of natural gas Reduction of 130 therms of natural gas, 21% savings per year. The R-13 attic house uses 63.4 MMbtu/yr The R-49 attic house uses 50.1 MMbtu/yr Savings of 13.3 MMbtu/yr , 21%</p>					ENVELOPE MEASURE RETROFIT* (Home energy evaluation is required prior to work being done in order to receive rebates)			Equipment Type	Efficiency Requirement	Rebate Amount	Insulation (Wall)	▪ ≥ R-13 or max fill	\$.50 sq. ft up to \$850	Insulation (Foundation/Basement)	▪ ≥ R-15/19	\$.50 sq ft up to \$250	Insulation (Rim and Band Joist)	▪ ≥ R-15/19	\$.25 sq ft up to \$250	Infiltration Control (weather-stripping, caulking, etc.)	▪ Air sealing materials and diagnostic testing (pre and post blower door test required)	70% of incremental cost, up to \$900							
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EM&V Requirements	To be eligible for the rebate, current attic insulation must be R-11 or less. Installed attic installation must be a minimum of R-49 R Value (14 inch thick) for Colorado customers																													
Administrative Requirements	Similar to other insulation rebates; customer must have natural gas heating as their primary heating source and have received an energy assessment with blower door test to be eligible for envelope measure incentives																													
Estimated Participation	<table border="1" data-bbox="345 1255 1284 1524"> <thead> <tr> <th>Defined Participation</th> <th>2021</th> <th>2022</th> <th>2023</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>30 customers</td> <td>30 customers</td> <td>30 customers</td> <td>90 customers</td> </tr> </tbody> </table>					Defined Participation	2021	2022	2023	Total																Total	30 customers	30 customers	30 customers	90 customers
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Other Program Metrics	<p>We recognize that often times, attic insulation is not cost-effective for residential programs. We recognize too though that utility companies can include measures that are not cost-effective so long as the program (as a whole) passes cost-effectiveness. Offering an attic insulation incentive encourages Black Hills Energy's gas customers to comprehensively insulate and seal their home while also improving the comfort of their home. According to the North American Insulation Manufacturers Association (NAIMA), 90 percent of single-family homes in the U.S. are under-insulated. According to American Residential Services, attic insulation provides the following non-energy benefits:</p> <p>Safer home structure Insulating the attic prevents water vapor from seeping in and eroding walls. It slows down heat buildup in the attic, which can cause the shingles on the roof to swell and crack. Attic insulation prevents ice dams from forming when melting snow refreezes on the roof's edge. Insulating an attic can prevent mold that thrives in moist, cool areas. Insulation stops these problems from occurring by mitigating the effects of condensation.</p> <p>Better indoor air quality Outdoor pollutants such as dust, dirt, mold, mildew and even worse can enter homes through air leaks caused by poor insulation. Insulating the attic prevents these pollutants from spreading throughout the home, allowing families to breathe easier and enjoy a cleaner indoor environment.</p> <p>Less HVAC wear and tear Older homes tend to be drafty, and poor insulation can cause heating and cooling systems to work overtime to maintain an even temperature. Proper attic insulation prevents cool air from lingering at the lower levels while heat rises, resulting in less and tear on HVAC units. With less heat gain in the summer and heat loss in the winter, attic insulation reduces the demand on the home's heating and cooling systems while maintaining comfortable indoor temperatures year-round.</p>

If this program has been implemented elsewhere, please provide the name of the utility or the state and contact information, if available.

Xcel Energy, Colorado

https://www.xcelenergy.com/programs_and_rebates/residential_programs_and_rebates/heating_and_cooling/insulation_rebates

Atmos Energy, Colorado

<https://www.atmosenergy.com/ways-to-save/colorado-rebates>

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