

WEATHERIZATION

Purpose:

The purpose of OG&E's Hard-to-Reach Residential Weatherization measure is to improve comfort and reduce energy costs by upgrading the thermal envelope and appliances in Hard-to-Reach, energy inefficient homes . These suggested improvements may include the following :

- Attic insulation
- Floor insulation
- Wall insulation
- Duct insulation
- Duct sealing/repair
- Sill box insulation
- Foundation insulation
- Air infiltration
- Window sealing
- Window replacements
- Storm windows
- Low flow shower heads
- Furnace replacements
- Furnace tune-ups
- Air conditioner replacements
- Air conditioner tune-ups
- Heat pump replacements
- Heat pump tune-ups
- Refrigerator replacements
- Lighting retrofits
- Water heater tank insulation
- Water heater pipe insulation
- Water heater replacement
- Smart thermostats

The list of above mentioned improvements may be modified, deleted and new improvements may be added as necessary to satisfy the requirements of the measure . Residential Hard-to-Reach and low-income programs are common throughout the U.S .,with several programs following a "piggyback" model similar to that proposed by OG&E. Arkansas recently adopted a very similar program, and a comparable model in Texas has been functioning since the early nineties . Utilities in Colorado and New Mexico also operate, or have proposed before their commissions, programs with similar attributes .

Goals:

OG&E will contract with various weatherization agencies for the purpose of

- 1) identifying hard to reach customers who meet federal poverty guidelines and
- 2) perform actual work on customer premises .

Following screening it is the goal of OG&E to complete weatherization objectives stated above for 365 homes in 2008 and 1460 homes in 2009.

Implementation Plan :

The Weatherization measure is designed to work through partnerships with entities such as Habitat for Humanity, the Chickasaw Tribe of Oklahoma, other Oklahoma Tribes, various community action agencies and other weatherization programs to reach potential participants. These weatherization service

providers will use either of two tools to evaluate single family, mobile home or apartment units for cost-effective demand program measures:

- The National Energy Audit Tool (NEAT), and its mobile home counterpart, to calculate a savings to investment ratio (SIR) for prospective measures in a qualified home.
- An online tool based on deemed savings values OG&E established for the Hard-to-Reach program class.

A supplemental spreadsheet and online script tool will calculate avoided cost benefits for measures not included in the NEAT audit, such as Compact Fluorescent Lighting and potential electrical appliance replacements . The service providers will use available tools to evaluate measures that cumulatively produce a SIR of 1 .0 or greater . All results from local evaluations of measures will be emailed or uploaded to OG&E's data tracking system. OG&E's system will be used to monitor program expenditures, kW, kWh, and (if appropriate) gas therm savings associated with each measure and site . Based on the incentive estimates, the contractor can determine whether the combination of OG&E incentive, customer contribution, and other grant funds are sufficient to fund the measure . The contractor will record all installed measures either using NEAT inputs or the supplemental spreadsheet form, and transfer the data to OG&E for processing and payment.

The incentive amounts will be determined by actual kW and kWh savings per home. Customers whose incomes fall at or below 150% of Federal Poverty Guidelines will be eligible for one-half of the total installed cost of eligible weatherization, appliance, and heating/cooling equipment, with a maximum payment of \$2,000 per single family home or mobile home, and \$750 per multifamily unit . OG&E will validate savings calculations, calculate the incentive, assign selected customers for random inspections, and produce monthly reports of program progress.

Eligibility

Participating customers must either be homeowners who purchase retail electricity from OG&E on a residential tariff or be owners of multifamily units whose population rental units are 75% occupied by customers certified as Hard-to-Reach per program guidelines. OG&E's proposed eligibility corresponds to 150% of the Federal Poverty Guideline as published each year in the Federal Register. Customers meeting DOE Weatherization Assistance Program funding guidelines are categorically income eligible .

Target severely energy-inefficient hard to reach homes using the following selection criteria :

- Residential heating or cooling customers
- Site-constructed or mobile homes
- Occupied by the current owner for at least one year
- Homes built prior to 1983 must meet three of the following seven criteria, and homes built from 1983 to 1996 must meet four of the following seven criteria. Homes built in 1997 or later do not qualify .

- 1 . Attic insulation equal to or less than R-12
2. Wall insulation equal to R-0
- 3 . Floor insulation equal to R- 0
4. Single pane windows with no storm windows attached
- 5 . Heating system less than 70% efficient
6. Cooling system with SEER of 8 or less
7. Air infiltration problems identified through :
 - a) visual inspection of ductwork, walls, floors, ceilings, doors, and windows ; or
 - b) pre-blower door test resulting in:
 - i) greater than 2,200 CFM at 50 pascal (Pa) (for households of five persons or less) ; or
 - ii) greater than 2,700 CFM at 50 Pa (for households of more than five persons)

- Pre and post carbon monoxide (CO) readings must meet the health and safety regulation specified by U.S. Department of Energy (DOE) .

The Weatherization measure is modeled on DOE Weatherization Assistance Program (WAP); however, it is open to all OG&E residential customers living in homes meeting the above selection criteria . DOE WAP protocols, standards, and quality control provisions will be followed . An energy audit will be performed at a cost of \$400, including blower door test, and recommend eligible cost effective measures to the customer using National Energy Audit Tool (NEAT) or Manufactured Housing Energy Audit (MHEA) .

Incentives and Cost-effectiveness Inputs

Incentives may not exceed 50% of the installed measure cost and must produce a whole house or apartment unit SIR of 1 .0 or greater. An incentive cap of \$2,000 per home or mobile home, and \$750 per multifamily unit has been established for this measure, although the participant average is expected to be much lower . Incentives are based on kW and kWh savings achieved per the NEAT and OG&E's supplemental spreadsheet/script tool. Savings to investment ratio calculations will be based on the individual measure life estimates contained in the NEAT tool (developed by Oak Ridge National Laboratory) . Additional inputs include the utility discount rate of 15% and total resource and societal discount rate of 5% .

The total incentive amount will be dictated by the mix of measures for a particular home, taking into account the estimated load factor and measure life of the individual measures . For purposes of the cost-effectiveness analysis, an average 2,000 kWh/year savings was assumed with an average 10 year life and a projected \$0 .40/kWh present value benefits . Retaining 10% of the total benefit for administrative cost, the resulting average perparticipant incentive is calculated as \$720.

Gas benefits are included in the Total Resource Cost Test and Societal Cost Test calculations . Reduced gas savings is assumed to provide sufficient avoided cost benefits to facilitate the customer's half of the installation cost since use of the NEAT audit tool will not select measures that are less than cost-effective. Present value alternative fuel supplier (gas utility) benefits for an average 10 year measure life were estimated at \$5 .28 per therm . The analysis also assumed 144 therms savings per participant, resulting in a total per participant avoided gas benefit of \$760 .

For purposes of the cost-effectiveness analysis, all participants were treated as single-family residential customers . A first full-year participation of 365 customers was used in calculating measure impacts and cost-effectiveness .

Marketing Plan

The target market for the Hard-to-Reach Weatherization measure is OG&E residential customers occupying single-family or multifamily homes and meeting specified income guidelines. Marketing will target Hard-to-Reach households through social service network agencies, non-profit organizations, and churches . OG&E call center personnel will be provided information on the program to help easily direct potential participants to the weatherization contractors . To ensure the program is achieving its intended goal of improving comfort, OG&E will send satisfaction survey cards randomly to participants to support both process evaluation and onsite inspections.

Evaluation of Measure:

Deemed Savings as stated in testimony and exhibits by Witness Brooks will be the standard for evaluation of results .