

# Energy Efficiency and Natural Gas Utilities

## Natural Gas Utilities Advance Energy Efficiency Goals

*By investing in the efficiency of buildings and appliances, promoting smart energy choices and subsidizing energy-saving efforts for low-income families, natural gas utilities are helping their customers save money and reduce their carbon footprint, while maintaining the comfort and productivity of their homes and businesses.*

### Natural Gas Utilities Fund Programs That Save Customers Energy and Money

America's natural gas utilities have demonstrated their commitment to promoting cost-effective and practical approaches to increasing energy efficiency. In 2010, utilities invested nearly \$838 million in natural gas efficiency programs. They have budgeted nearly \$1.2 billion for the 2011 program year.<sup>1</sup>

As part of these programs, utilities provide valuable tools, incentives and information to help their customers understand and reduce their energy usage. These include:

- Offering low-interest financing, cash rebates and other financial subsidies for high-efficiency natural gas appliance purchases and whole home or building efficiency improvements
- Providing home energy audits, weatherization kits, programmable thermostats, and telephone hotlines
- Supplying information on insulation and high-efficiency appliances
- Connecting customers with experienced and reliable appliance and service providers
- Providing web-based information resources and energy usage calculators.

Utility-funded gas efficiency programs helped customers save nearly 81 trillion British Thermal Units (Btu) and avoid 4.2 million metric tons of carbon dioxide emissions in 2010—averaging 10 percent of natural gas usage and \$62 of savings in annual energy costs for residential customers.

### Utility Energy Efficiency Programs Assist Low Income Customers

The average low and fixed income family spends 13.5 percent of its annual household income on energy—almost twice more than the 7.2 percent spent by the average non-low income U.S. household.<sup>2</sup> Nearly half of low income families use natural gas to heat their homes, and they benefit from assistance offered to them by many natural gas utilities in the form of:

- Bill payment assistance
- Free home energy audits and low- or no-cost equipment replacement
- Weatherization assistance, reducing a home heating bill by 32 percent or an average of \$358 per year (a service provided by natural gas utilities in 73 percent of natural gas efficiency programs and by the federal Weatherization Assistance Program)<sup>3</sup>

<sup>1</sup>See *Natural Gas Efficiency Programs Report—2010 Program Year*, American Gas Association, December 2011, [http://www.aga.org/Kc/analyses-and-statistics/studies/efficiency\\_and\\_environment/Pages/Natural-Gas-Efficiency-Programs-Report-2010.aspx](http://www.aga.org/Kc/analyses-and-statistics/studies/efficiency_and_environment/Pages/Natural-Gas-Efficiency-Programs-Report-2010.aspx)

<sup>2</sup>See *LIHEAP Home Energy Notebook for Fiscal Year 2009*, U.S. Department of Health and Human Services, Washington DC, September 2011, [http://www.acf.hhs.gov/programs/ocs/liheap/guidance/information\\_memoranda/FY2009\\_LIHEAP\\_Notebook.pdf](http://www.acf.hhs.gov/programs/ocs/liheap/guidance/information_memoranda/FY2009_LIHEAP_Notebook.pdf)

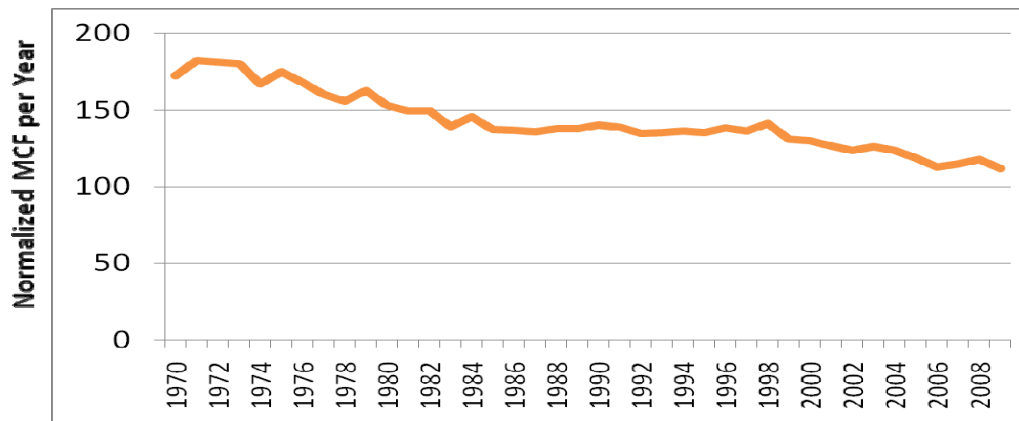
<sup>3</sup>See *Energy Bill Payment Assistance to Low-Income Household Increases, but the Need for Help Continues*, American Gas Association, October 2010, <http://www.aga.org/Kc/analyses-and-statistics/studies/demand/Pages/Energy-Bill-Payment-Assistance-Low-Income-Household.aspx>

## Natural Gas Use in Home and Commercial Appliances Is the Efficient Choice

Nearly 64 million (or about half of) American homes are heated with natural gas. Natural gas utilities provide the efficient energy source that helps customers reduce their total energy consumption, particularly in residential and commercial (R&C) end-use applications.

- Gas use efficiency has improved tremendously over the past four decades, with appliance technology improvements resulting in natural gas furnaces and boilers that can achieve 97 percent efficiency.<sup>4</sup>
- The average American home consumes 40 percent less natural gas than it did 40 years ago. Since 1970, the drop in natural gas use per residential and commercial customer has averaged a percentage point a year.

Declining Use per Natural Gas R&C Customer Since 1970



- On a national basis, natural gas is three times more efficient than electricity in providing energy for end-use applications. While 92 percent of the energy content of natural gas is delivered to customers as useful energy, on average, less than a third of the energy used in the production of electricity reaches homes and businesses.

## Residential Natural Gas Consumers Are Leaders in Energy Conservation

Natural gas usage per household has decreased even as overall demand for energy has risen. This trend is due in part to installation of tighter-fitting windows and doors, better insulation, increased attention to thermostat control, and the development of increasingly more efficient natural gas appliances. These improvements translate into big energy savings:

- Residential customers can reduce their energy use by 49 percent, when they replace older furnaces and boilers with high-efficiency natural gas appliances.<sup>5</sup>
- Customers that lower their thermostats by 10 to 15 degrees for eight hours a day can save 5 to 15 percent on their energy bill.<sup>6</sup>
- Additional savings occur when insulation, doors, and windows are upgraded.

## Natural Gas Efficiency Programs Save Energy and Reduce Carbon Emissions

By funding natural gas efficiency programs, utility customers saved 81 trillion Btu of energy and offset 4 million tons of carbon dioxide emissions in 2010. This represents a 53 percent increase from the 53 trillion Btu of energy savings and 2.8 million metric tons of avoided CO<sub>2</sub> emission achieved in 2009.

<sup>4</sup>See Directory of Certified Product Performance, Air Conditioning, Heating and Refrigeration Institute (AHRI), <http://www.ahridirectory.org/ahridirectory/pages/home.aspx>

<sup>5</sup>This is based on replacing an older furnace or boiler that has an efficiency rating of 0.65 AFUE with a newer natural gas appliance that has a 0.97 AFUE rating.

<sup>6</sup>See U.S. Department of Energy, A Consumer's Guide to Energy Efficiency and Renewable Energy, [http://www.energysavers.gov/your\\_home/space\\_heating\\_cooling/index.cfm/mytopic=12720](http://www.energysavers.gov/your_home/space_heating_cooling/index.cfm/mytopic=12720)