

Abstract

Income, Energy Efficiency and Emissions: The Critical Relationship

The findings of this report support the need to take into account household income when developing policies and programs to reduce residential energy consumption and the resulting greenhouse gas emissions. Many programs that are appropriate for higher income households—loans, grants, rebates, education and technical assistance—are also appropriate for the lower income population. However, lower income programs also have an opportunity to leverage federal and state programs designed to make housing more affordable, including tax-exempt mortgage bonds, low income housing tax credits, weatherization grants, and related sources of funding.

Household energy use varies considerably by income and type of dwelling:

- Lower-income households (those with incomes up to 80 percent of the median) make up about 43 percent of the U.S. population and consume 36 percent of total energy in the residential sector. Higher-income households (those with incomes of more than 120 percent of the median) represent 38 percent of U.S. households and consume 45 percent of energy in the residential sector. The relationship between greenhouse gas emissions and income is almost identical to that for energy.
- Lower-income households live in homes that average 1,480 square feet, compared to higher-income households which occupy homes that average over 2,700 square feet. Households with income below 80 percent of median income consume 28 percent more energy per square foot of living space than households with income above 120 percent of median income. Lower-income households tend to be older, less-well insulated and have older less-energy efficient appliances and space heating systems. The combination of these features account for much of the higher per square foot energy use in these households.
- Lower-income households devoted 8 percent of their annual income to paying their energy bills (an average of \$1,542) while higher-income households devoted only 2 percent of their annual income to paying energy bills even though their bills were close to 50 percent higher than those of average lower-income household (an average of \$2,317).

Policy options discussed in this report include:

- Developing and adopting a new energy efficiency mortgage product designed to offer an alternative to conventional mortgages for all households;
- Requiring energy efficiency measures as a condition of federal and state first-time homebuyer programs that are financed from the proceeds of tax-exempt bonds.
- Requiring multi-family developers to (1) meet high energy efficiency standards as a prerequisite for receiving funds from the proceeds of the Low Income Housing Tax Credit (LIHTC) program and tax-exempt bonds, or (2) set high and specific standards in the Qualified Allocation Plans that states use to distribute this Low Income Housing Tax Credit benefit to housing developers.
- Increasing core funding for the federal programs that can help to sustain lower-income home ownership. This is especially important for very-low-income households who have fewer resources available to pay back loans, even when subsidized.

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A copy of the paper can be downloaded from the EPC website: www.energyprograms.org.

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