



# Fact Sheet

## Energy Use in Mobile Homes

A Challenge for Housing, Energy, and Climate Policy

June 2009

Affordable housing advocates and industry representatives alike have referred to the approximately 2 million mobile homes produced before 1976 and still in use today in all 50 states as the “worst housing stock” in the United States. Most of these homes are found in economically depressed, rural areas and shelter a majority of Americans who are near the poverty level. The highest concentrations of manufactured housing built in 1979 or earlier are found in the South (about 1 million units), followed by the West (about 750,000 units). The disrepair of these structures threatens more than neighborhood real estate values. Leaking roofs, collapsing floors, kerosene-heated interiors, and other conditions jeopardize the health and safety of mobile home residents, many of whom are elderly and disabled. Produced more than three decades ago with little consideration for energy efficiency, these structures have deteriorated over time and are now energy sieves. Heating and cooling energy escapes through unsealed windows and non-insulated walls, creating an uncomfortable living environment with an oversized carbon footprint. According to the U.S. Department of Energy’s Residential Energy Consumption Survey, manufactured homes built before 1980 consume an average of 84,316 BTUs per square foot, 53 percent more than all other types of homes. Housing experts report it is not uncommon for some of the lowest-income households to see their energy bills absorb half or more of their income, but, for many reasons, they fall through the cracks of federal government assistance. Pre-1976 mobile homes are generally in such bad condition that traditional energy conservation techniques do not work. The Department of Energy’s Weatherization Assistance Program will not touch them, and they are typically outside urban program areas. The only way to improve housing livability and affordability for those who reside in old mobile homes—and to stop this vast waste of energy—is to entirely replace these homes with more energy efficient units.

### Innovative Solutions

Housing programs in Kentucky, Maine, Montana, and other states are working now to replace old mobile homes with new, energy efficient models that reduce the monthly utility bills for low-income households. Partnerships and national networks such as the *Energy Programs Consortium*, *I’M HOME* (Innovations in Manufactured Homes), *NeighborWorks® America* and funders such as the *Ford Foundation* are supporting these efforts and also addressing financing and community issues. Recognizing that the problem is national in scope, Rep. Baron Hill (D-IN) and Sen. Jon Tester (D-MT) have introduced the Energy Efficient Manufactured Housing Act of 2009 (**H.R. 1749/S. 1320**). This legislation would authorize grants to state agencies to provide low-income owners of pre-1976 mobile homes with rebates of up to \$7,500 toward the purchase of new ENERGY STAR qualified manufactured homes that are at least 15 percent more efficient than current minimum codes. Combined with other state assistance programs and low-interest financing to cover upfront costs, these families and individuals will benefit from much lower utility bills over the life of the home. Because the potential of this strategy for reducing energy use and related greenhouse gas emissions is so great, the House version of this legislation has been included in the House Energy and Commerce Committee’s reported version of the climate change bill, the American Clean Energy and Security Act of 2009 (**H.R. 2454**).

## Types of Factory Built Homes

- **Mobile homes** are an historical artifact; they are all at least 33 years old.
- They were succeeded in the marketplace by **manufactured homes** built under a national standard known as the HUD Code. The Federal Manufactured Housing and Construction Standards (24 CFR 3280), administered by the U.S. Department of Housing and Urban Development (HUD), went into effect on June 15, 1976.
- The HUD Code sets a floor for strength and durability, transportability, fire resistance, energy efficiency and quality of manufactured homes. It also sets performance standards for the heating, plumbing, air-conditioning, and thermal and electrical systems. The HUD Code is the only federally regulated national building code. On-site additions to manufactured homes, such as garages, decks and porches must be built to local or state building codes.
- **Modular homes** are produced in sectional units, transported to a site, and assembled. These homes are built to the state/local building code where the home will be located.
- Producing homes in manufacturing facilities offers the advantage of precision, consistency, and the opportunity for quality control. Factory-built homes can be produced in less time than site-built homes, and the production schedule is not affected by inclement weather.

## Other Key Facts\*

- 55 percent of households who live in manufactured homes built before 1980 have income below 150% of the poverty level
- Florida, Texas and North Carolina have the highest number of manufactured housing units (pre and post 1979).
- 52 percent (1,378,209) of households living in manufactured homes built in 1979 or earlier have an income of \$0-\$19,999.
- 35 percent (934,473) of households living in manufactured homes built in 1979 or earlier have an income of \$20,000 - \$39,000.
- \$24,640: Average income of households living in a manufactured home built before 1980
- New Hampshire and Utah have the highest percentage -89 percent of households in these states who live in pre 1980 manufactured housing have income below the state median.
- Hawaii and Rhode Island have the lowest percentage -72 percent of households in these states who live in pre 1980 manufactured housing have income below the state median.
- Tennessee has the highest percentage (91 percent) of households with incomes below the national median in manufactured housing built in 1979 or earlier. Kentucky is close behind with 90 percent. Arkansas, West Virginia, and Missouri also are close behind, each with 89 percent. 91 percent of households in TN who live in pre 1980 manufactured housing have income below the national median, etc.
- Alaska has the lowest percentage -59 percent of these households who live in pre-1980 manufactured housing have income below the national median. Rhode Island and Connecticut are next with 70 percent.
- Hawaii, Rhode Island and Connecticut have the least number of manufactured housing units (pre and post 1979).

## ENERGY STAR Qualified Manufactured Homes

ENERGY STAR guidelines provide information on designing, producing, selling, and installing energy-efficient manufactured homes and appliances under the ENERGY STAR program. To earn an ENERGY STAR label and to qualify for a tax credit under the Energy Policy Act of 2005, a manufactured home must meet strict guidelines for energy efficiency set by the U.S. Environmental Protection Agency and be 15 percent more energy efficient than homes built to the minimum energy code. They include additional energy-saving features and appliances that usually make them 20 to 30 percent more efficient than most homes built today, whether factory built or site built. To achieve this high level of efficiency, an ENERGY STAR qualified home uses:

- Effective Insulation – Properly installed, climate-appropriate insulation in floors and walls to ensure even temperatures throughout the house, less energy consumption and increased comfort
- High-Performance Windows – Advanced technologies for energy-efficient windows such as protective coatings and improved frame assemblies to keep the heat in during winter and out during summer. The windows also block damaging ultraviolet sunlight that destroys and discolors carpets and furniture.
- Tight Construction and Ducts – Sealing holes and cracks to reduce drafts, moisture, dust, pollen, and noise to improve comfort and indoor air quality while reducing utility bills
- High Efficiency Heating and Cooling Equipment – More efficient and durable than standard equipment, highly efficient HVAC systems use less energy for operation and increase home comfort.
- Lighting and Appliances – ENERGY STAR qualified products – lighting fixtures, compact fluorescent bulbs, ventilation fans, and appliances (such as refrigerators, dish washers, and washing machines)

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