

ECONOMIC OPPORTUNITY STUDIES

Summary: Energy Use of Low-Income* Households

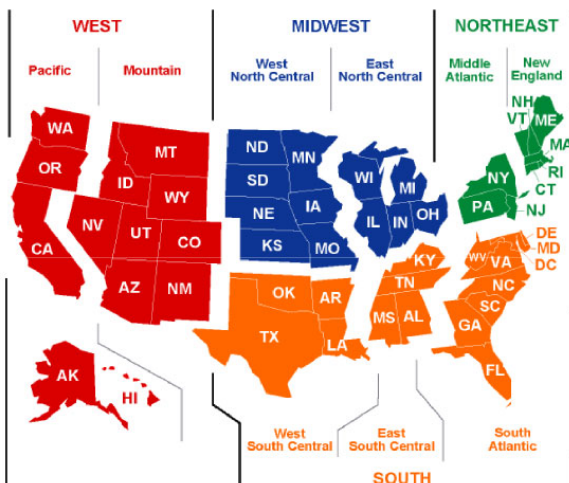
By Census Region

Jade T. Burr and Thomas M. Halloran

The differences among U.S. household types and regions create a wide range of needs and demands even among low-income households. Average energy consumption data for Census regions and household types can be used to guide energy efficiency investments; it can be matched with information on fuels and their prices to compare energy burdens and identify opportunities for reducing energy usage.

- ☀ Low-income households that consume the most energy live in the Northeast and the Midwest. Consumers in the South and West use the least energy.
- ☀ Apartments in 5+ unit buildings for most housing stock categories use less than half as much energy as single-family detached homes in the same region.
- ☀ Space heating is the single largest energy use in the Northeast and Midwest.
- ☀ Cooling is less than 10% of total energy usage in all Census regions except for some housing types in the South.
- ☀ Energy used for refrigeration, lighting and appliances exceeds energy used for space heating and cooling combined in the West and South.

Census Regions and Divisions



Data Source: U.S. Department of Energy, Residential Energy Consumption Survey 2009.

Highest Average Annual Energy Use:
123 MBTU Single-family detached houses, Midwest

Lowest Average Annual Energy Use:
33 MBTU Apartments in (5+ unit building), West

Highest Average Annual Energy Use for Heating: 68 MBTU Single-family detached houses, Northeast

Lowest Average Annual Energy Use for Heating: 9 MBTU Apartments (5+ unit building), West

Highest Average Annual Energy Use for Cooling: 9 MBTU Single-family detached houses, South

Lowest Average Annual Energy Use for Cooling: 0.7 MBTU Apartments in (2-4 units), West

*"Low-income" households are those eligible for the federal Weatherization Assistance Program (WAP). Measurements are in MBTU per year (1 MBTU = 1000 British Thermal Units).

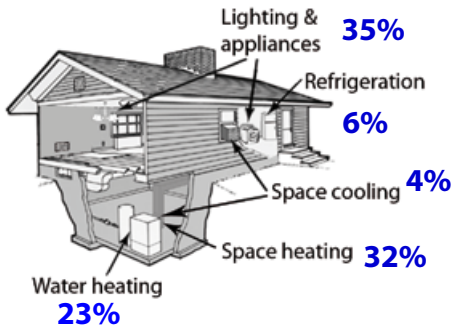
ECONOMIC OPPORTUNITY STUDIES

Low-Income Households' 2009 Average Energy Usage: Total & Percent by End Use*

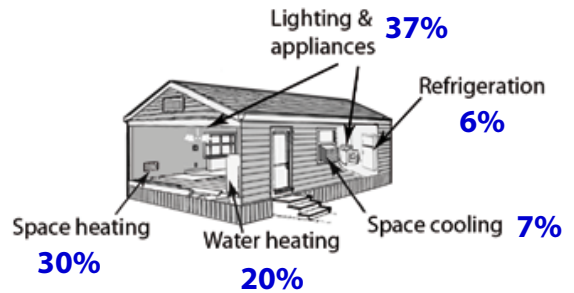
West Census Region



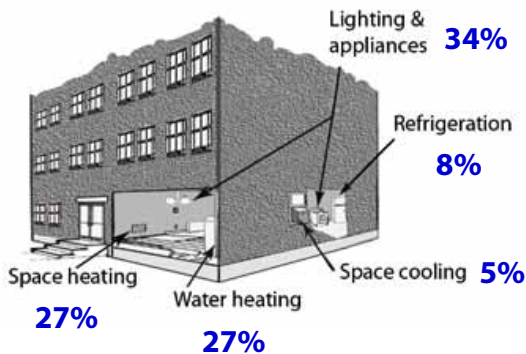
☀️ Single-Family Detached House
Average Annual Energy Use: **80 MBTU**



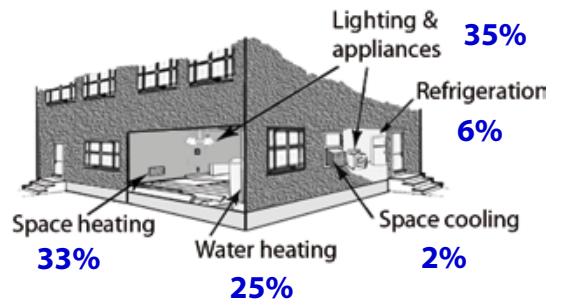
☀️ Mobile Home
Average Annual Energy Use: **61 MBTU**



☀️ Apartment in 5+ Unit Building
Average Annual Energy Use: **33 MBTU**



☀️ Apartment in 2-4 Unit Building
Average Annual Energy Use: **49 MBTU**



*Methodology notes: This analysis is based on end-use data for DOE WAP-eligible households from the 2009 Residential Energy Consumption Survey. Measurements are in MBTU per year (1 MBTU = 1000 British Thermal Units). Estimates with a sample size less than 400,000 are not included in the data.

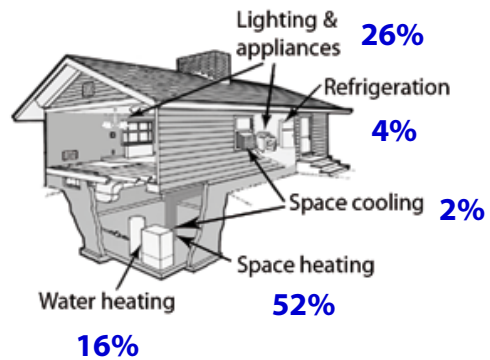
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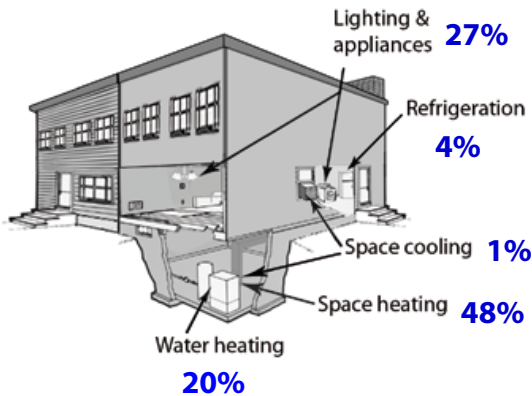
Midwest Census Region



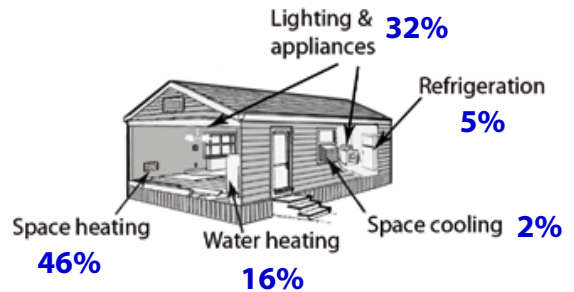
☀️ Single-Family Detached House
Average Annual Energy Use: **123 MBTU**



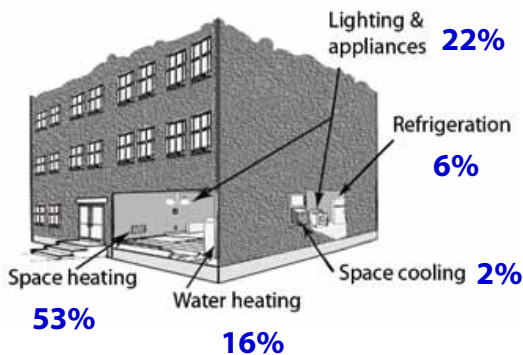
☀️ Single-Family Attached House
Average Annual Energy Use: **102 MBTU**



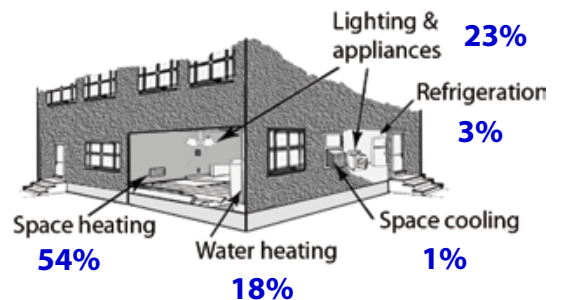
☀️ Mobile Home
Average Annual Energy Use: **93 MBTU**



☀️ Apartment in 5+ Unit Building
Average Annual Energy Use: **51 MBTU**



☀️ Apartment in 2-4 Unit Building
Average Annual Energy Use: **112 MBTU**



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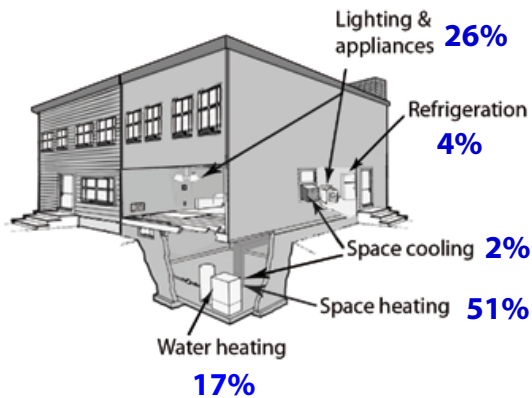
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Low-Income Households' 2009 Average Energy Usage: Total & Percent by End Use*

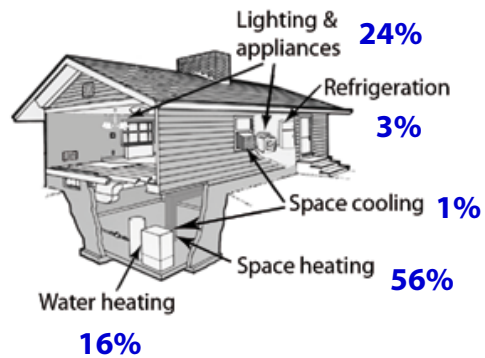
Northeast Census Region



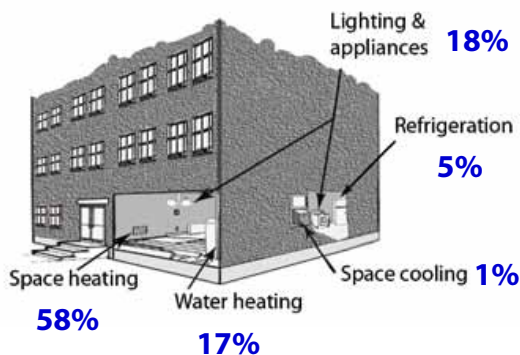
☀️ Single-Family Attached House
Average Annual Energy Use: **101 MBTU**



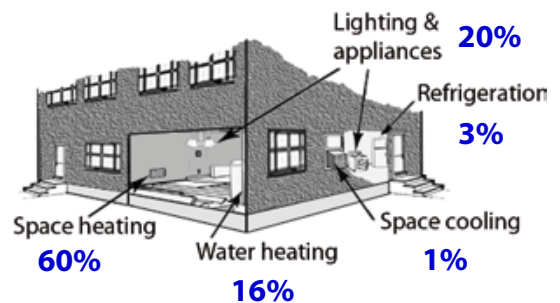
☀️ Single-Family Detached House
Average Annual Energy Use: **121 MBTU**



☀️ Apartment in 5+ Unit Building
Average Annual Energy Use: **63 MBTU**



☀️ Apartment in 2-4 Unit Building
Average Annual Energy Use: **101 MBTU**



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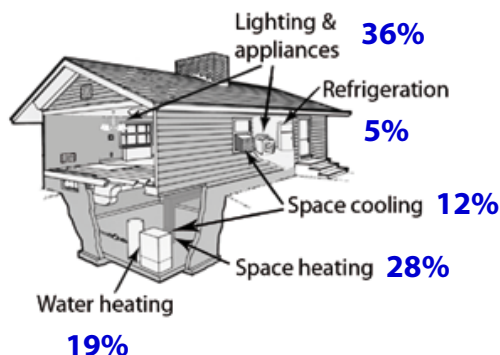
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Low-Income Households' 2009 Average Energy Usage: Total & Percent by End Use*

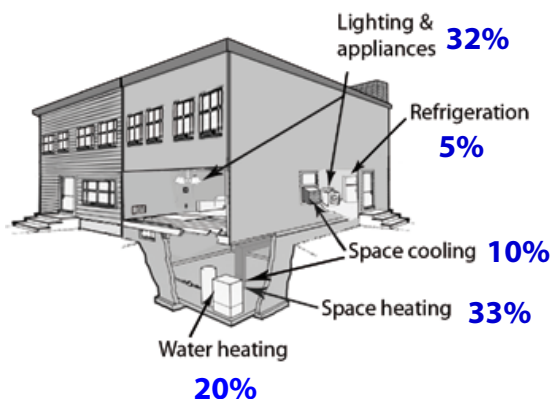
South
Census Region



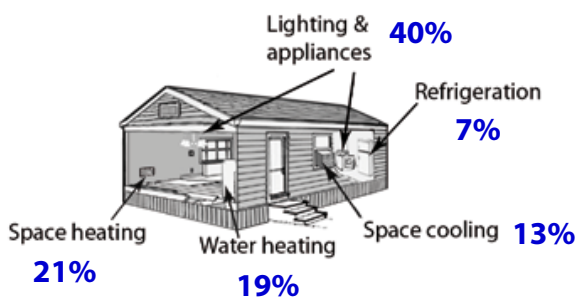
☀️ Single-Family Detached House
Average Annual Energy Use: **81 MBTU**



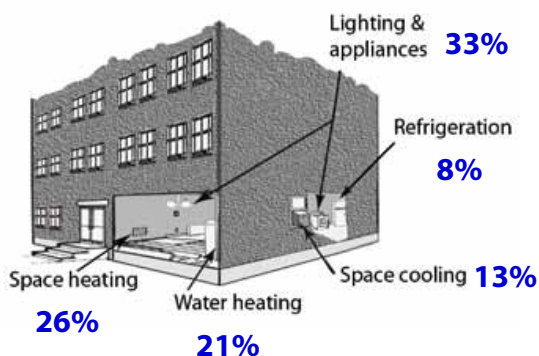
☀️ Single-Family Attached House
Average Annual Energy Use: **69 MBTU**



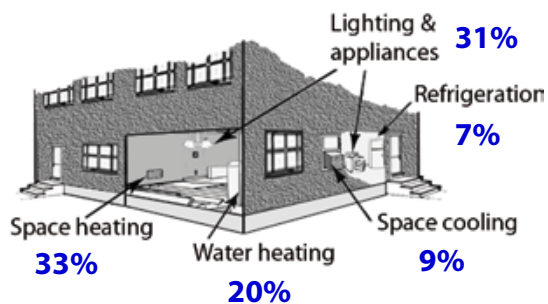
☀️ Mobile Home
Average Annual Energy Use: **61 MBTU**



☀️ Apartment in 5+ Unit Building
Average Annual Energy Use: **40 MBTU**



☀️ Apartment in 2-4 Unit Building
Average Annual Energy Use: **50 MBTU**



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