

Trends in Electricity Usage for Appliances

John Cymbalsky

John.Cymbalsky@eia.doe.gov

Energy Information Administration

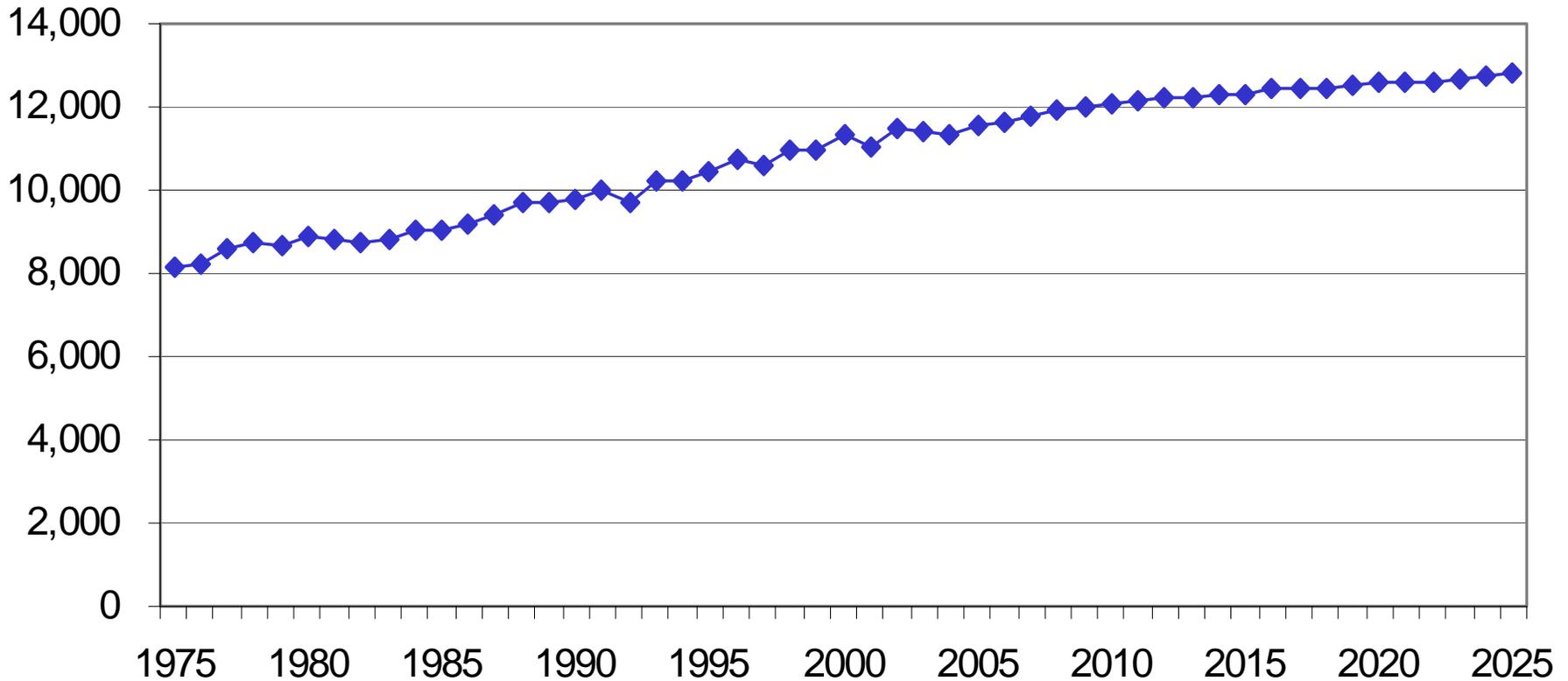
April 27, 2005

Information on Appliance Intensity at EIA

- Data from Residential Energy Consumption Survey 2001 (RECS)
 - Appliance intensity is residual of estimated use by heating, cooling, water heating, refrigeration.
 - Lighting intensity from 1993 survey.
 - Applies outside estimates for smaller appliances.
- Forecasts from Annual Energy Outlook 2005 (AEO)
 - Uses RECS intensity estimates for all end-uses but lighting.
 - Forecasts 13 electric end-uses explicitly (heating, cooling, water heating, refrigeration, cooking, clothes dryers, clothes washers, dishwashers, TVs, PCs, lighting, freezers, furnace fans).
 - Remaining uses grouped into electric motors, heating elements, and electronics.

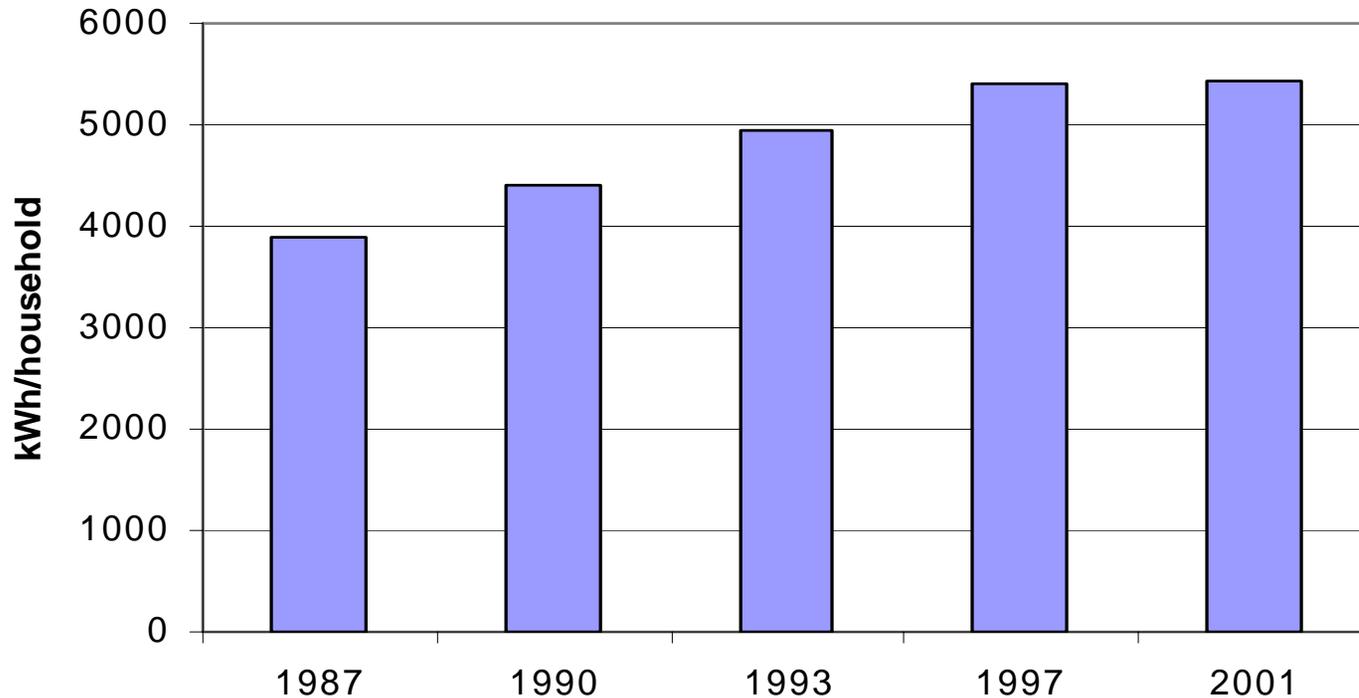
Electricity Use per Household Increasing

Electricity Use per Household, 1975-2025 (kWh)



Electricity Usage for Appliances Increasing

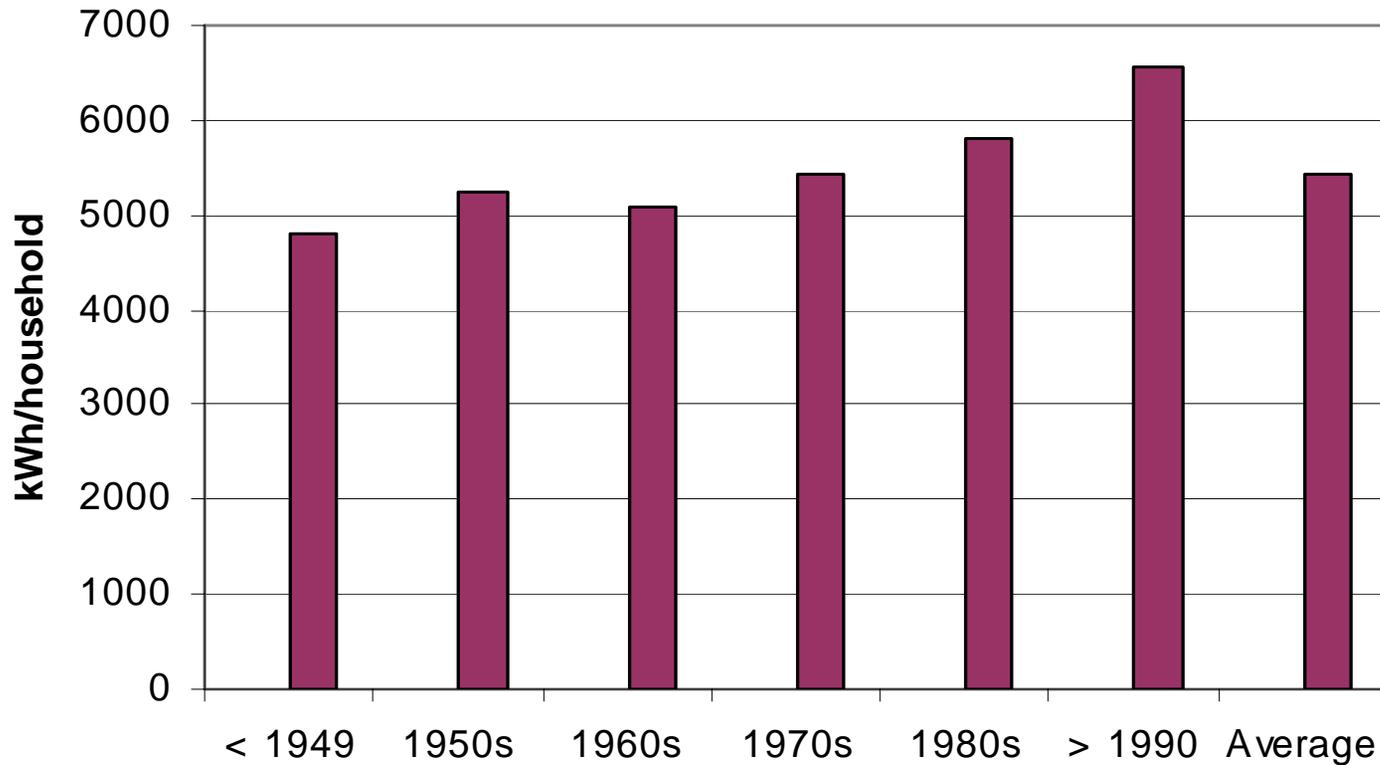
Electricity Usage for Appliances, 1987-2001



- Appliances include everything except heating, cooling, water heating, and refrigerators.

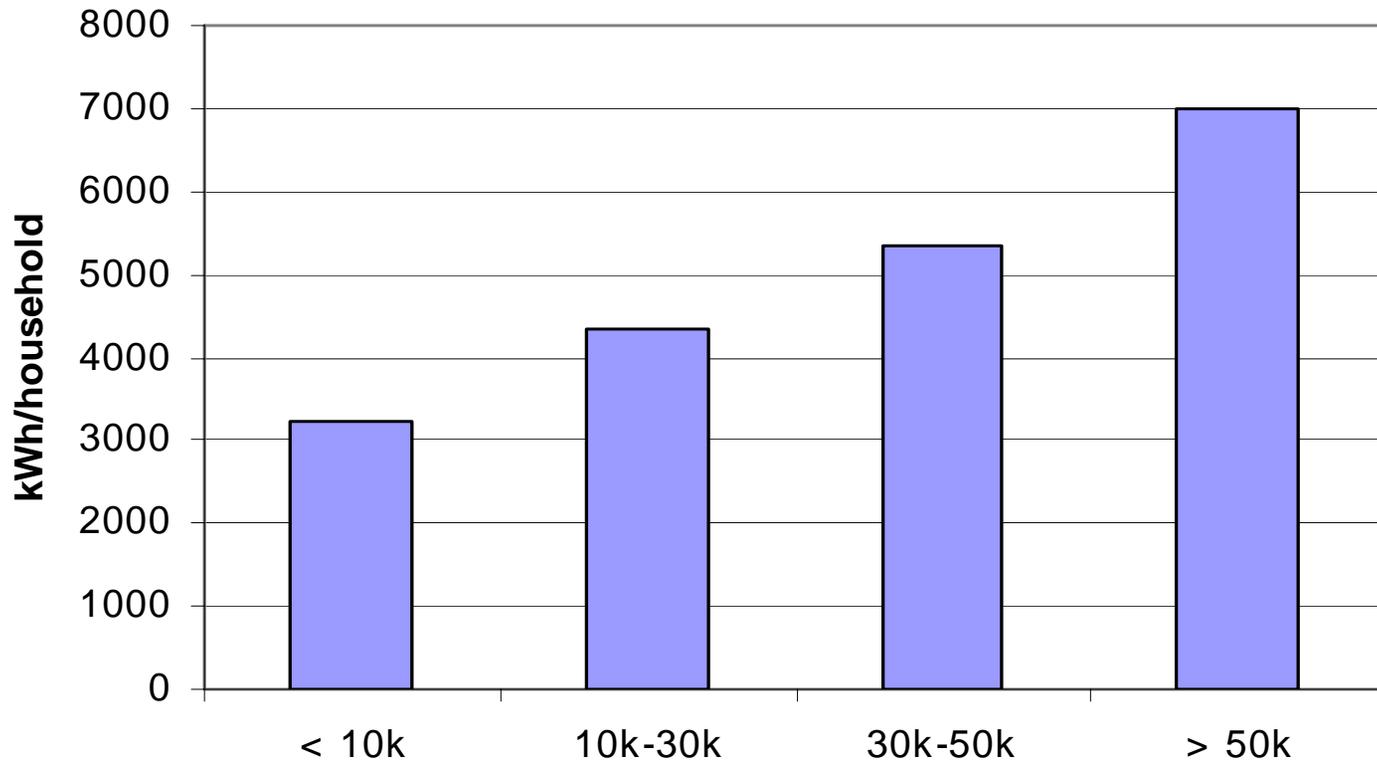
More Electricity Used for Appliances in Newer Homes

Electricity Usage for Appliances by Vintage, 2001



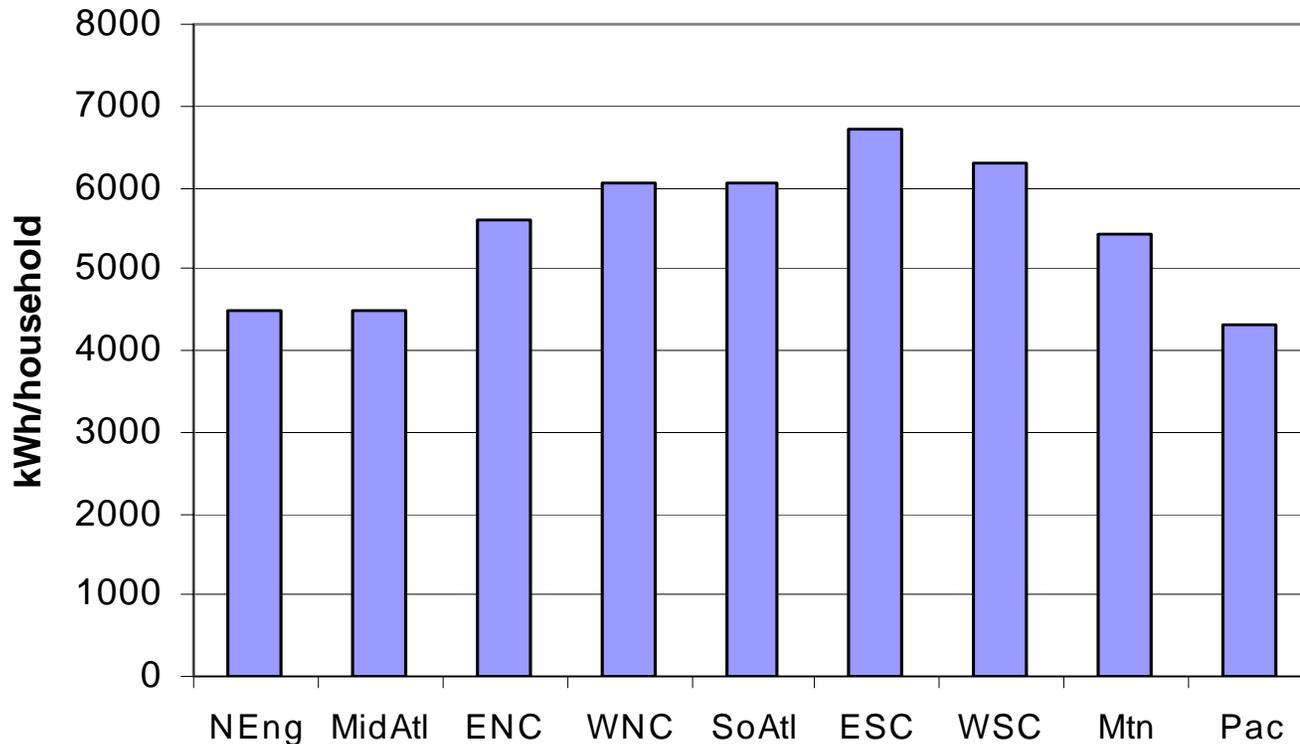
Appliance Usage Increases with Income Level

Electricity Usage for Appliances by Income, 2001



Appliance Usage Varies by Census Division

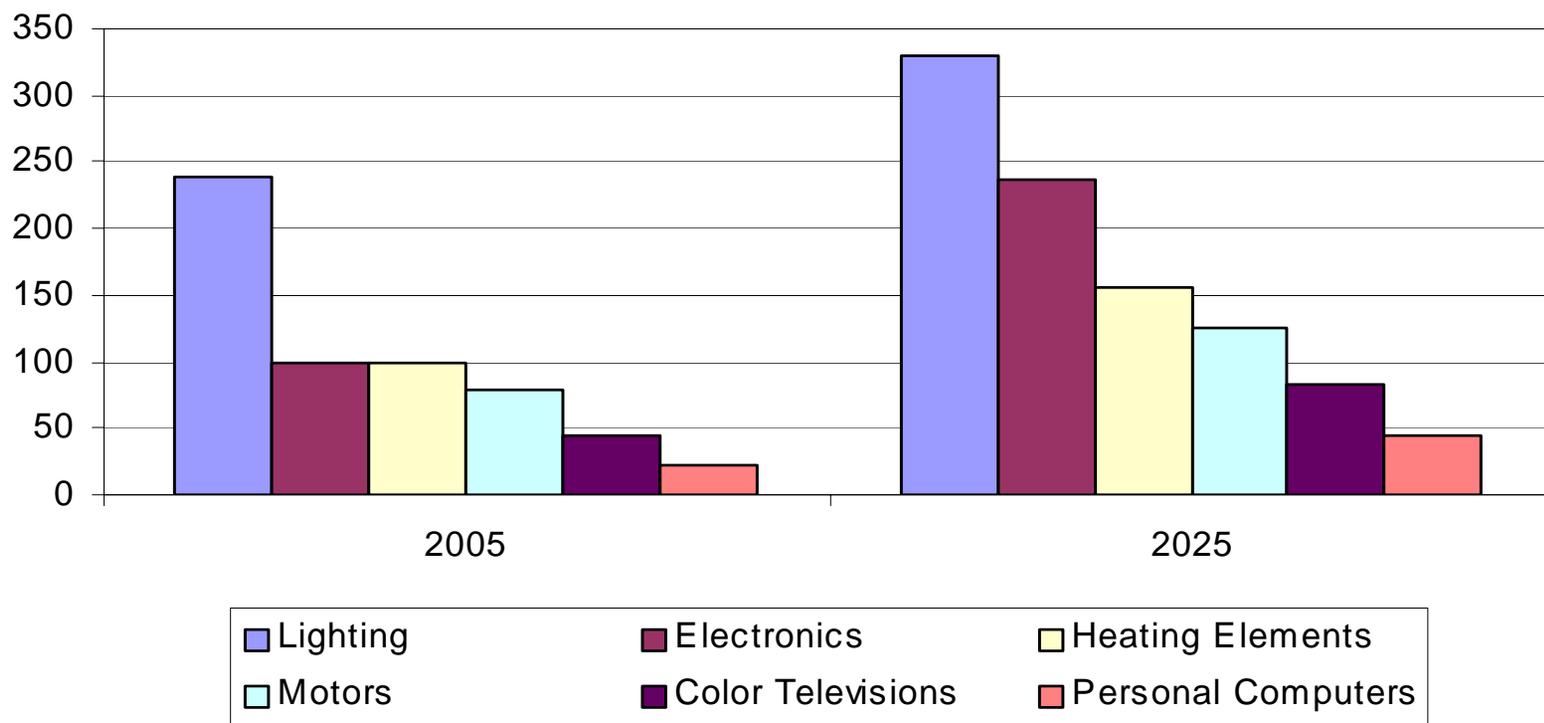
Electricity Usage for Appliances by Census Division, 2001



- Census divisions with lower electricity prices are more likely to use electric appliances/lighting more intensively.

LAMEL Usage Grows Fastest in AEO2005 Reference Case Forecast

LAMEL Consumption, 2005 and 2025 (bkWh)



Assumptions Regarding Economic Growth and Efficiency Impact Projections for LAMEL

Electricity Use for LAMEL in 2005 and 2025, bkWh

