

Trends in the Use of Natural Gas in U.S. Households 1987 to 2001

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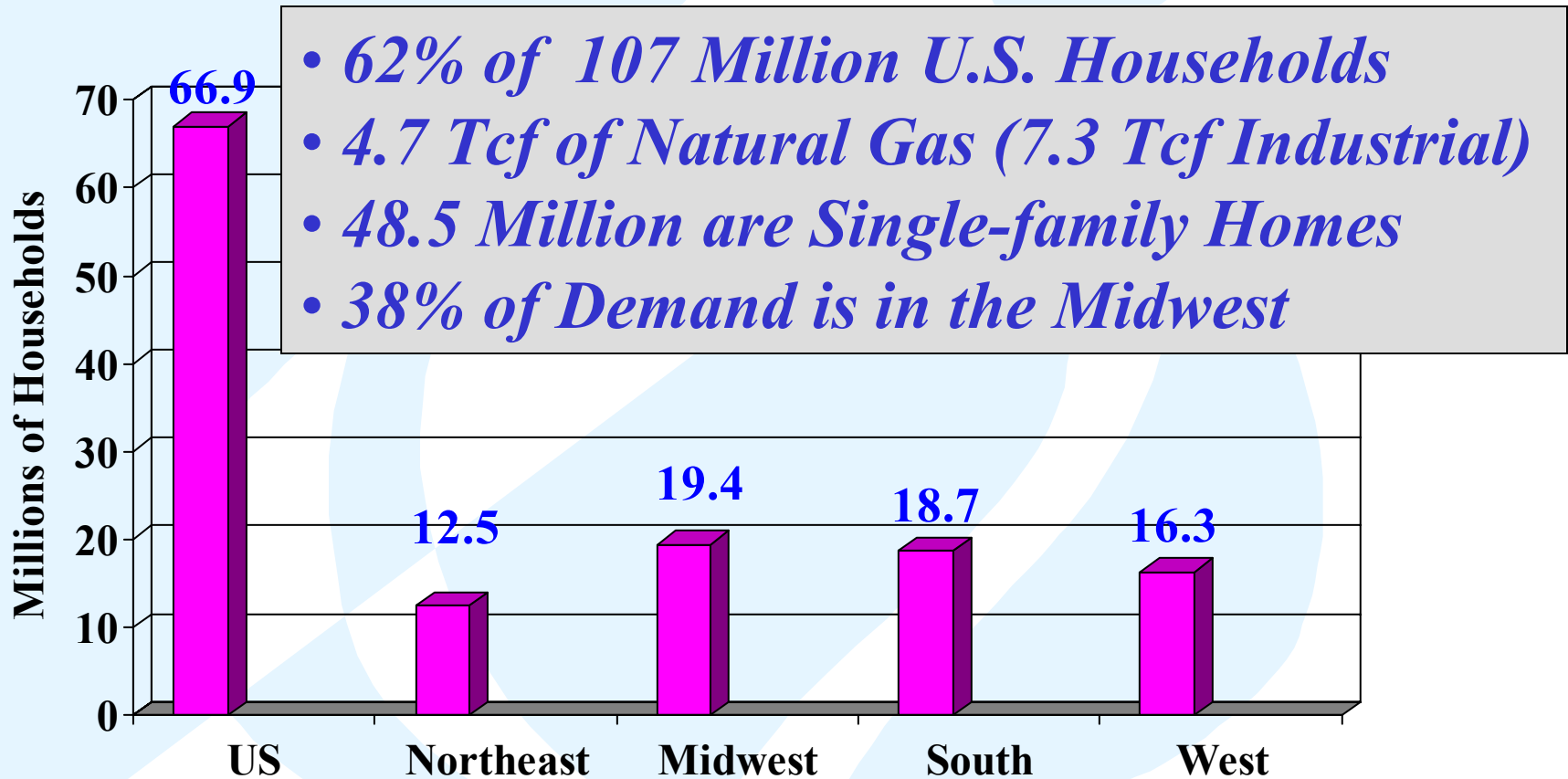
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“The opinions and conclusions expressed herein are solely those of the authors and should not be construed as representing the opinions or policy of any agency of the United States Government.”

Data Used: Residential Energy Consumption Survey

- National Survey – 1978 - 2001
- Approximately 5,000 Household Personal Interviews - Household and Housing Unit Data (Actually Measure Home)
- Rental Survey
- Suppliers Survey – Consumption and Expenditures
- End Use Estimation

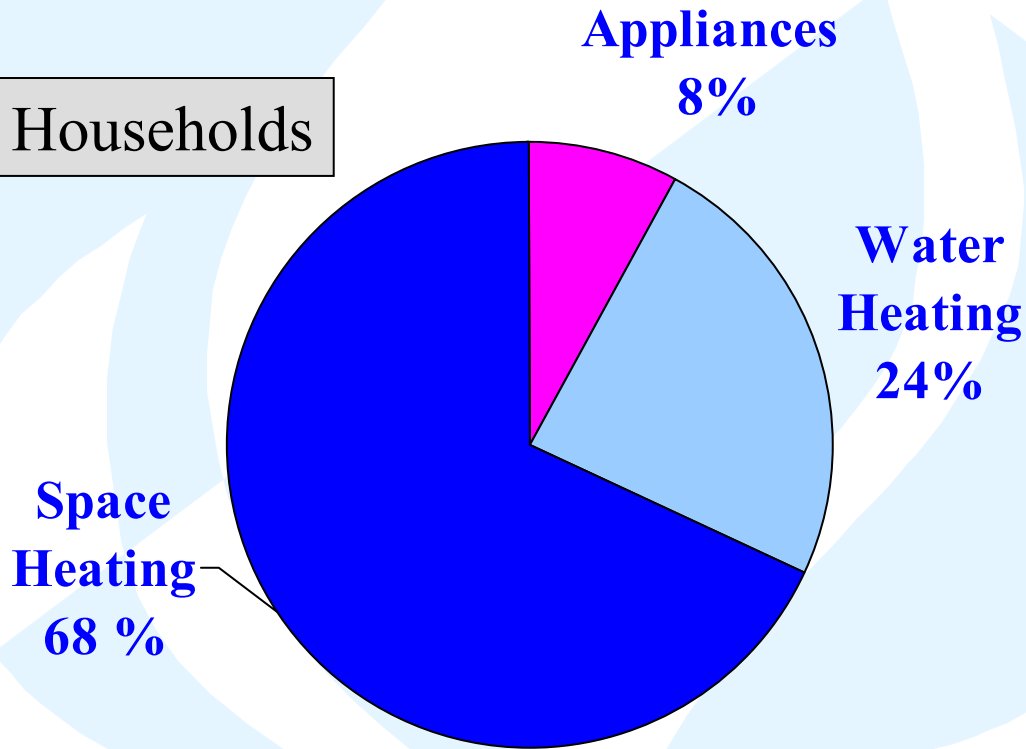
Number of Households Using Natural Gas, 2001



Source: EIA, 2001 RECS.

Natural Gas End-Use Demand in U.S. Households, 2001

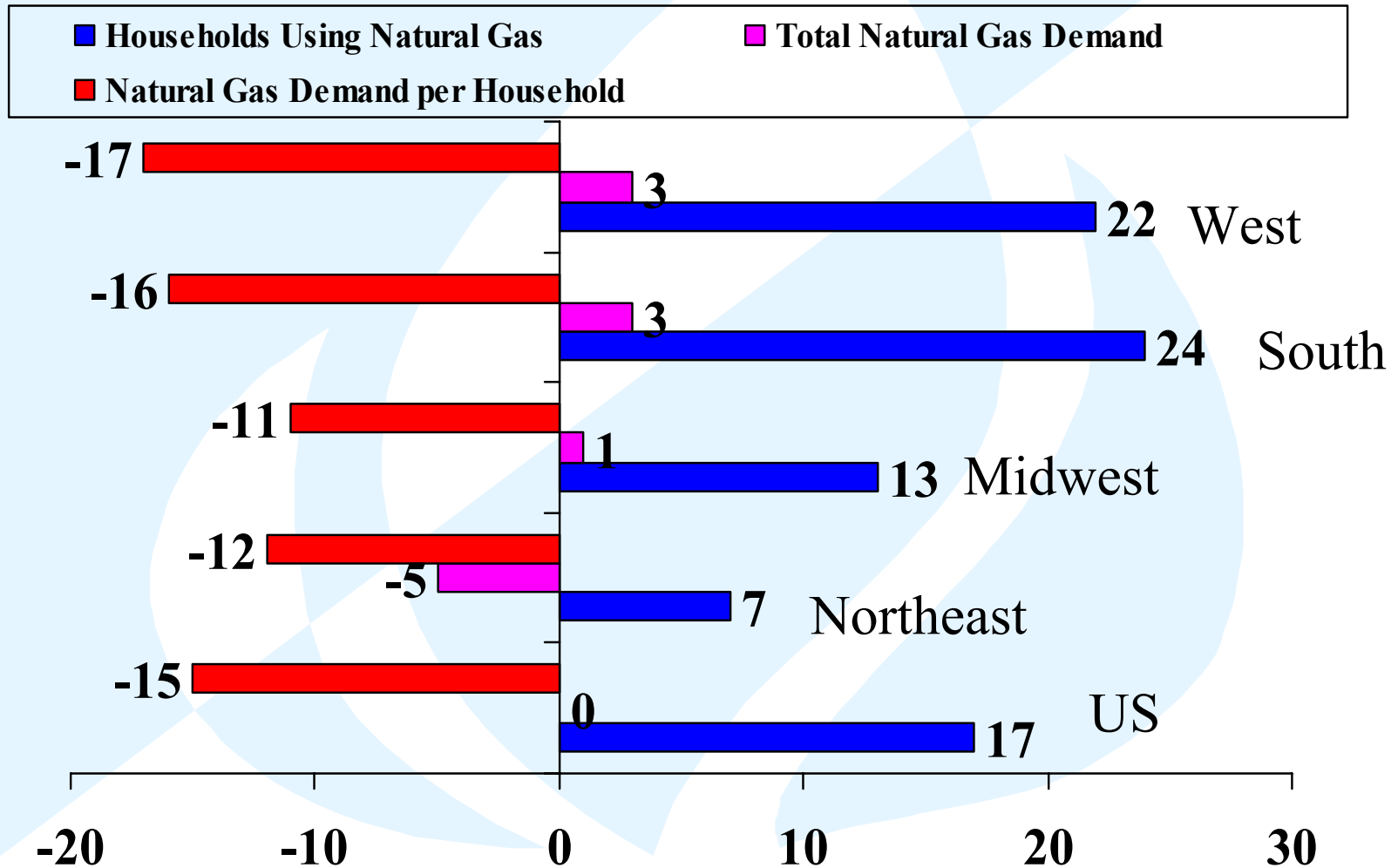
60.5 Million Households



Percent of Household Demand

Household Natural Gas Demand 1987 to 2001

82 Mcf to 70 Mcf per HH



FACTORS AFFECTING NATURAL GAS DEMAND

- Prices
- Weather
- Building Codes
- Appliance Efficiency Standards
- Household Characteristics such as income, and age of householders
- Others such as age and type of home, and etc.

Natural Gas Prices and Weather Indices 1987=1

	1990	1993	1997	2001
Space Heating Demand per Household	0.97	1.06	1.00	0.83
Natural Gas Real Prices	0.92	1.32	0.93	1.24
Average Heating Degree Days	0.94	1.13	1.10	0.99

1997 and 2001 Comparison

- 34 percent price increase
- Average HDD was 10 percent less
- Demand 18 percent less

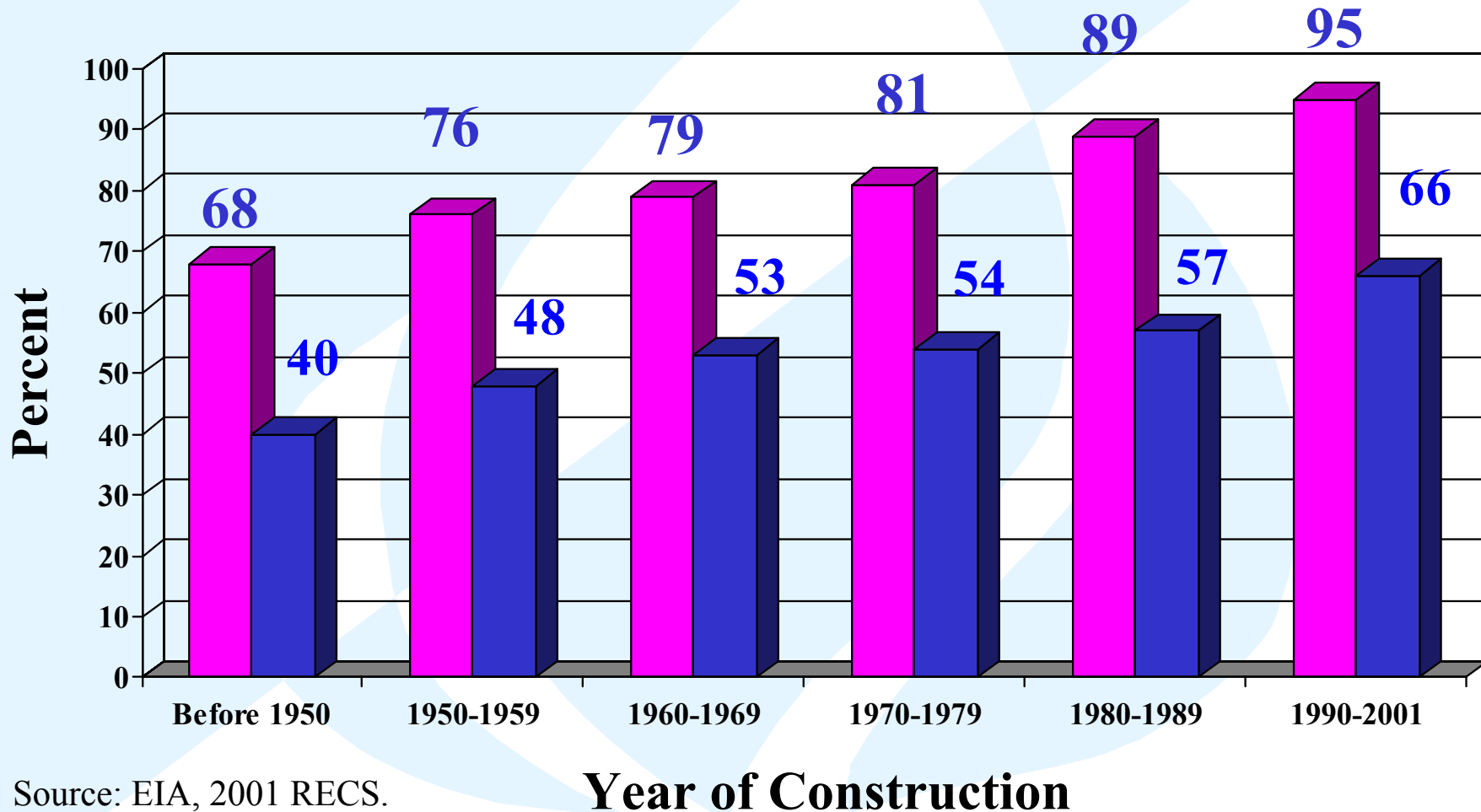
Notes: Real prices are in 2000 dollars; Heating-degree days are for households using natural gas space heat only.

Sources: Bureau of Economic Analysis – Table 1.1.9 Implicit Price Deflators; EIA, 1987, 1990, 1993, 1997, and 2001 RECS.

Building Codes

Householder's Perception of Insulation and Drafts in the Home, 2001

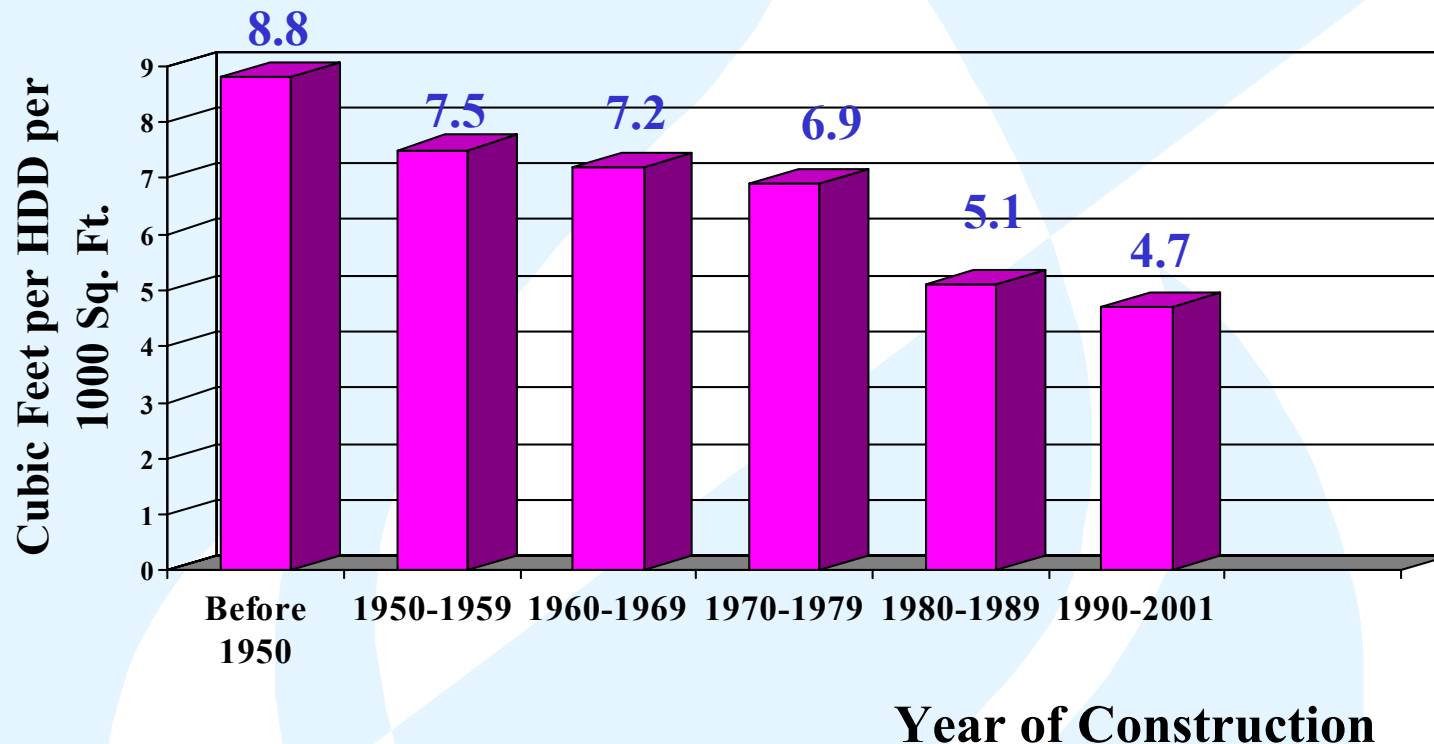
Well or Adequately Insulated Never Drafty



Source: EIA, 2001 RECS.

Building Codes and Appliance Efficiency Standards, 2001

Natural Gas Space Heating Intensity



The intensity for older home may have been higher if older homes' heating equipment had not been replaced.

Appliance Efficiency Standards, 2001

Year Home Constructed by Age of Space Heating Equipment

Percent

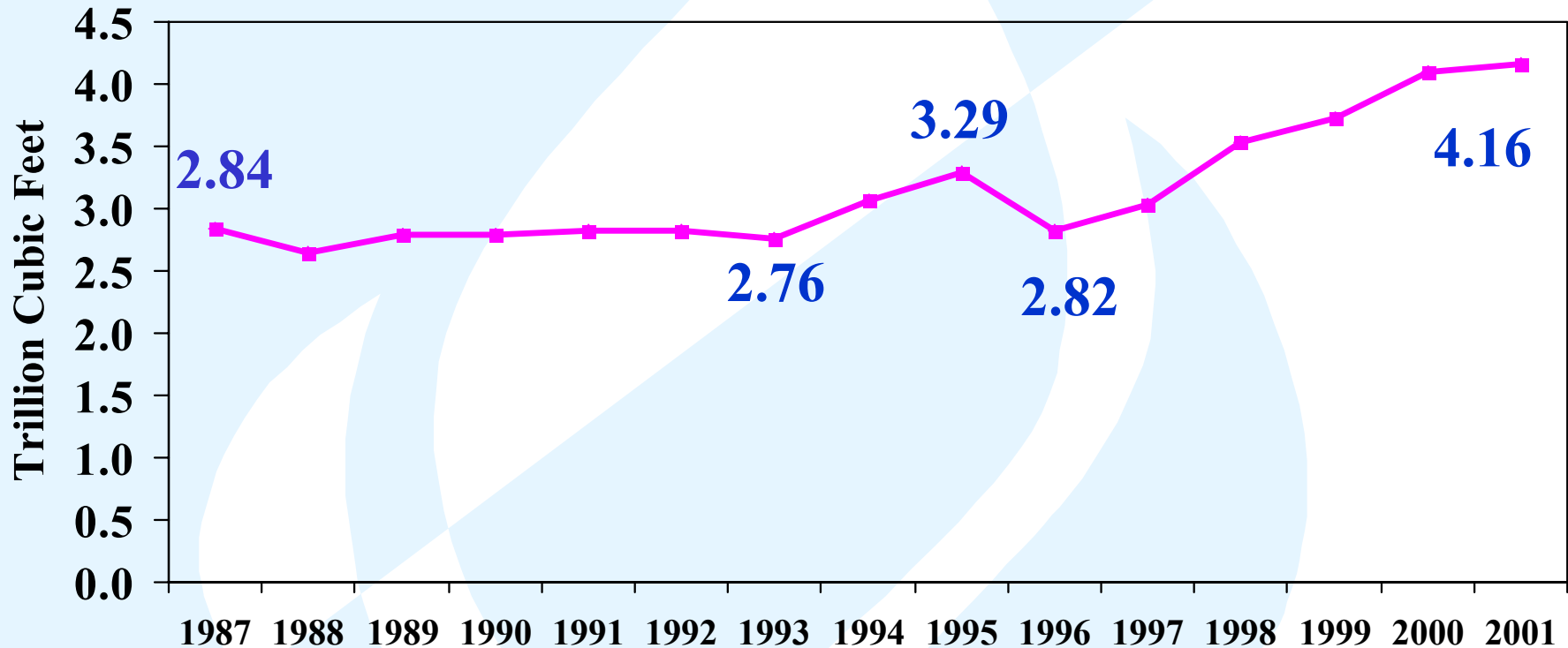
	< 10	10-19	>= 20	Don't Know
Before 1950	32	18	33	17
1950-1959	40	19	31	10
1960-1969	33	15	38	14
1970-1979	32	10	44	13
1980-1989	21	62	8	10
1990-2001	87	11	0	2

Source: EIA, 2001 RECS.

Many older homes replaced their space heating equipment with more efficient units.

Indirect Demand for Natural Gas

Natural Gas Used for Generation of Electricity, 1987-2001

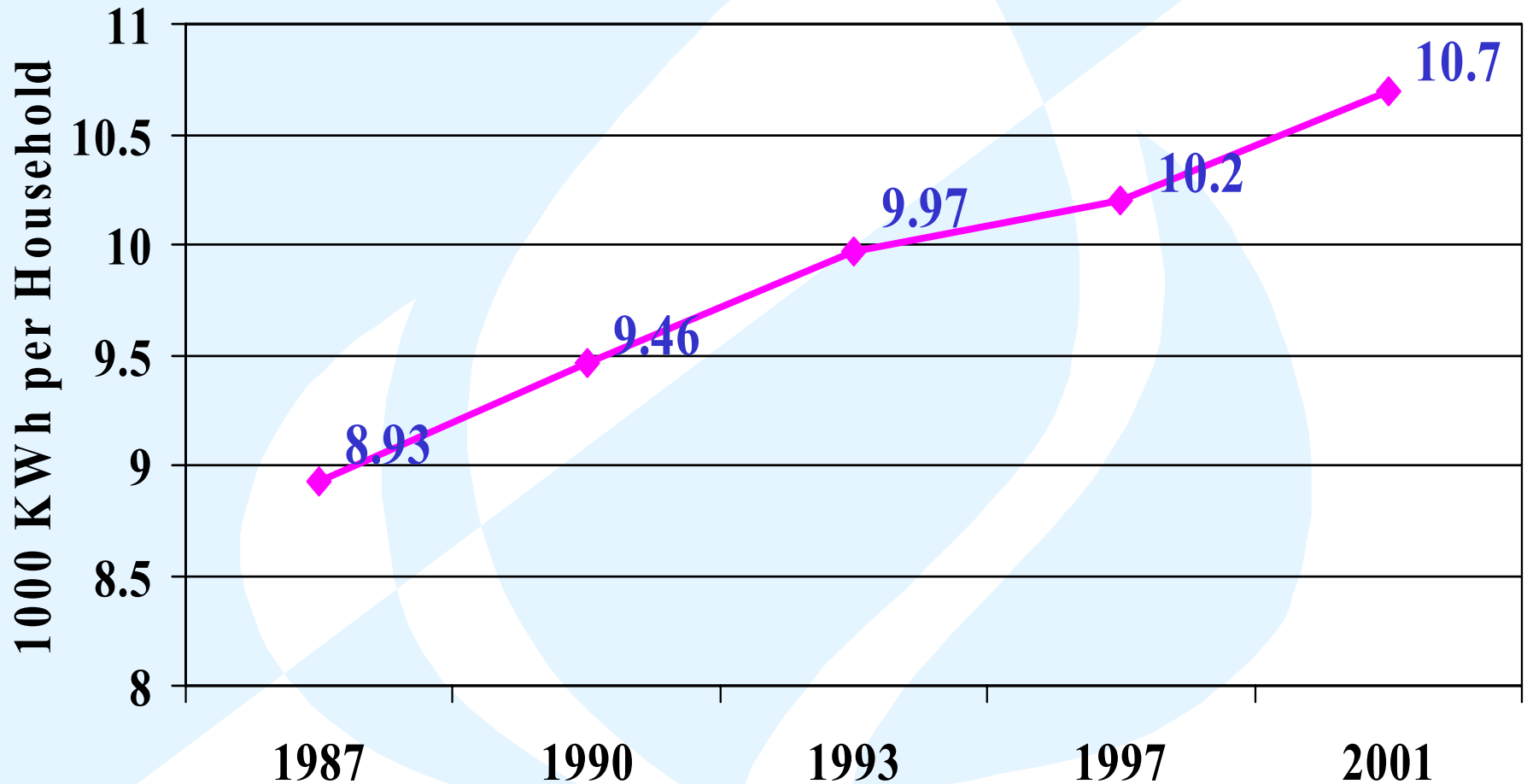


Note: Data represents utilities and independent power producers.

Source: EIA, Table 8.3 d, *Annual Energy Review 2002*.

Indirect Demand for Natural Gas

Average Electricity Demand in U.S. Households, 1987-2001



Indirect Demand for Natural Gas

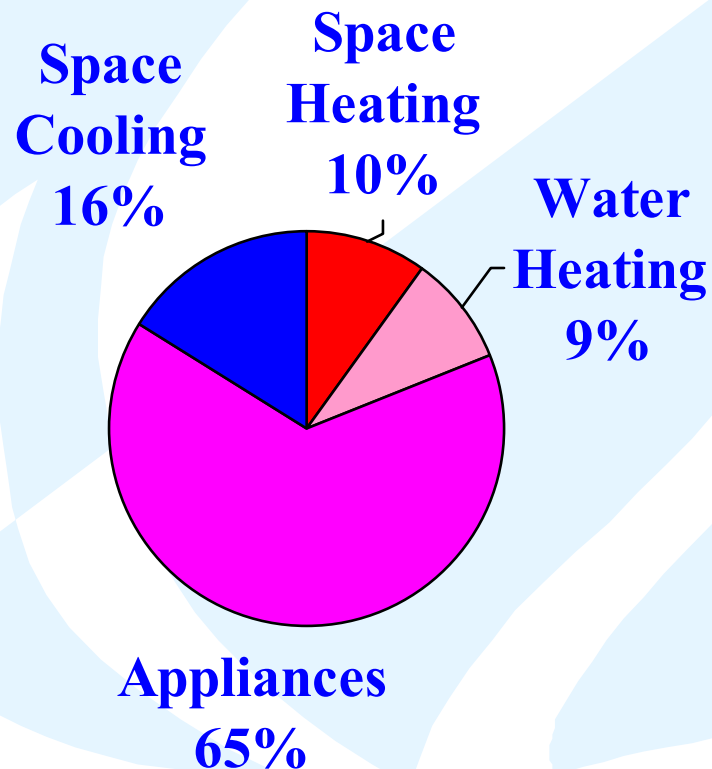
Household Electricity Consumption

- During the 1987-2001 period the number of households using electricity as a main space heating fuel increased by 73 percent--reflective of the rapid growth of heat pump use, mainly in the South and the West.
- In 1987, 63 percent of homes had air conditioning, compared with 76 percent in 2001. There was a change in the mix of air-conditioning from room to central air conditioning.
- In 2001, households used 42 percent more electricity for appliances than in 1987.

Source: EIA, 2001 RECS.

Indirect Demand for Natural Gas

Distribution of Household Electricity Consumption, 2001



Natural Gas Demand in the Future

- Between 2002 and 2025 EIA, projects household natural gas demand to increase by 0.9 percent per year.
- Natural gas demand for electricity generation is projected to grow even faster, 1.8 percent per year.
- Some of the natural gas-fired electricity generation will be for households' demand for electricity.

In the future, if this “indirect” demand continues and expands as is forecasted, there will be implications in terms of supply and price increases that will affect those who directly use natural gas in the household sector and other sectors as well.