

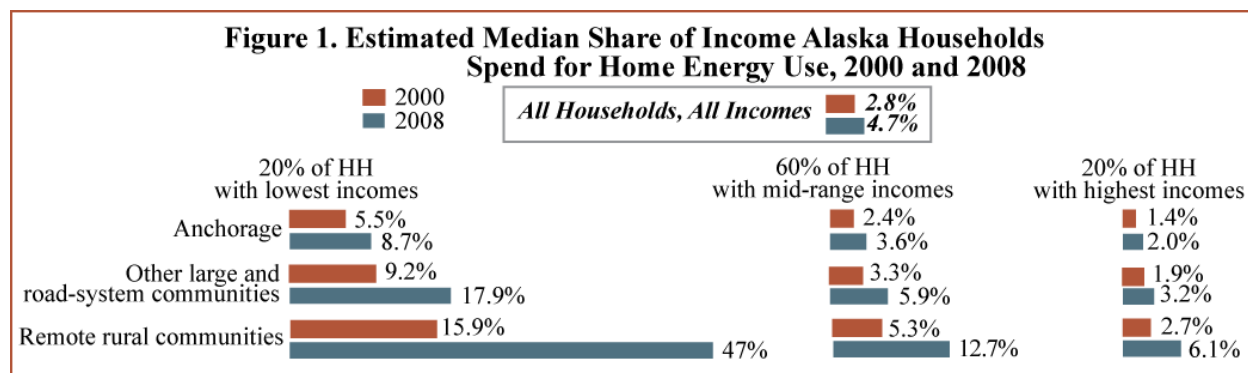
Summary: Estimated Household Costs for Home Energy Use, May 2008

Sharman Haley, Ben Saylor, and Nick Szymoniak Note No. 1 Revised June 24, 2008

This summary estimates how much of their income Alaska households spend for home energy uses, after years of rising energy prices.¹ We made the estimates at the request of State Senator Lyman Hoffman. We include costs for electricity, heat, and other home energy uses—but do not include costs for transportation fuel. Keep in mind that these are truly estimates. Because of time lags in data collection and reporting, actual consumer price data for 2008 are not available. To estimate consumer energy prices as of May 2008, we used statistical models of the relationship between oil prices and consumer prices. We also used the most recent data on per capita personal income from the Bureau of Economic Analysis to estimate 2007 annual household income.

These estimates are likely to overstate actual household expenditures. As energy costs rise, households find ways to consume less. How much less, we don't know. For these estimates, we used consumption households reported at the time of the 2000 U.S. Census. Also, the estimates here reflect what energy would cost households for a year, at May 2008 prices. Consumers of course haven't yet seen a full year at these prices, and we don't know where prices will go from here. Therefore, these estimates are really like a cost index—that is, they estimate what it would cost to buy a specific amount of energy, at specific prices. That's not the same as actual annual household expenditures.

Still, these estimates give a good picture of what households in different areas of the state and at different income levels currently must spend for home energy use. Figure 1 summarizes our estimates of the shares of household income spent for home energy use in 2008 and compares them with 2000 shares. Remember that energy sources differ around that state, as Figure 2 on the back page shows. Figure 1 breaks Alaska into three regions: (1) Anchorage; (2) other large or road-system communities; and (3) remote rural communities. It also estimates the share of household income Alaskans with different incomes pay: (1) the 20% of households with the lowest incomes; (2) the 60% with mid-range incomes; and (3) the 20% with the highest incomes.



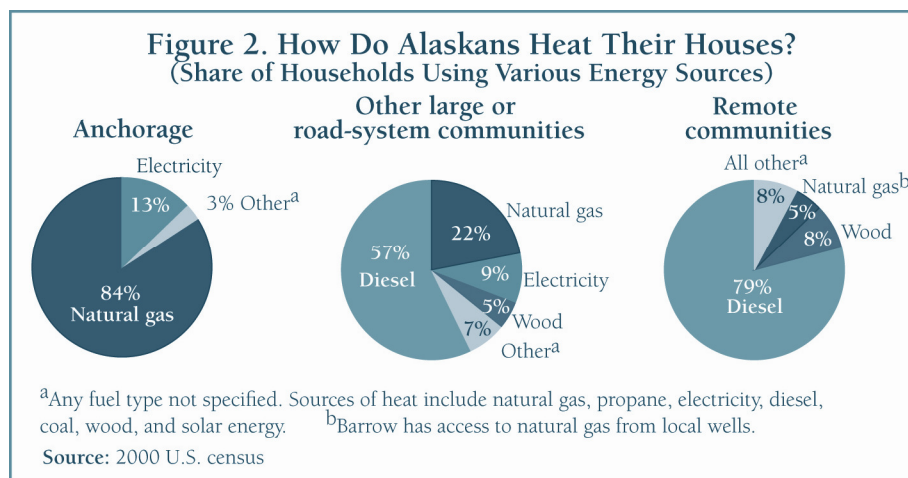
¹ This is a summary of a 10-page memo of the same title, available at: www.iser.uaa.alaska.edu/Publications/webnote/LLFuelcostupdatefinal.pdf. The analysis builds on an earlier study, by Ben Saylor and Sharman Haley, *Effects of Rising Utility Costs on Household Budgets*, 2000-2006, March 2007. See http://www.iser.uaa.alaska.edu/Publications/risingutilitycosts_final.pdf

Taken together, all Alaska households, at all incomes levels, typically spend an estimated 4.7% of their income for home energy, compared with 2.8% in 2000. But the variation across regions and income levels is big. Anchorage households in general spend the lowest percentage of income for energy—but the share among the poorest households was up from 5.5% in 2000 to 8.7% in 2008. Among the wealthiest Anchorage households, the share rose from 1.4% to 2%. Natural gas generates electricity and provides home-heating fuel for most Anchorage households (Figure 2). Prices of natural gas have risen sharply in recent years, but on an energy-equivalent basis, natural gas is still much less expensive than diesel (also called fuel oil). Also, incomes in Anchorage tend to be higher than in most rural places, especially in the most remote areas.

Households in other large and road-system communities typically spend—depending on their income level—anywhere from about 3% to 18% of income for home energy. That compares with about 2% to 9% in 2000. Households in some of these places have access to natural gas, but more than half rely on diesel. Many of those communities can get fuel delivered by road, which is generally less expensive than delivery by air or water.

Remote rural households, which rely mainly on diesel and can get fuel only by water or air, spend by far the biggest share of income for home energy. A recent ISER study found that prices for diesel in rural areas vary by as much as 100%, depending on how far the fuel has to travel, how difficult it is to reach specific communities, the amount of local storage capacity, the condition of local moorage and unloading equipment, and other factors.²

Remote households with the lowest incomes face the highest costs for home energy—an estimated 47% of their income, compared with about 16% in 2000. Remote households with higher incomes must spend an estimated 6% to 13% of their incomes for home energy. Keep in mind that incomes in some remote areas—especially southwestern Alaska—are much lower than the state average. In 2005, for example, per capita incomes in southwest Alaska were roughly one third to one half below the state average.



² Meghan Wilson, Ben Saylor, Nick Szymoniak, Steve Colt, and Ginny Fay, *Dollars of Difference: What Affects Fuel Prices Around Alaska?* ISER Research Summary No. 68, May 2008. Online at: http://www.iser.uaa.alaska.edu/Publications/researchsumm/RS_68.pdf