

# Bayard Energy Study 1983

## EXECUTIVE SUMMARY

- In 1982 Bayard used 232 billion Btus of energy—including energy for transportation, residential and business uses. This total is equivalent to the energy contained in 1.86 million gallons of gasoline, about 1294 gallons for each of the 1435 residents in the community.
- The 1982 total retail energy costs in Bayard were estimated to be \$1.6 million, about \$1143 per resident.
- By 1990 rising energy prices, coupled with a modest increase in energy consumption, will increase the Bayard energy bill to almost \$3 million per year if little or no conservation programs are established in the community. This higher cost may decrease local productivity by as much as \$2 million in the Bayard area.



STATE OF NEBRASKA

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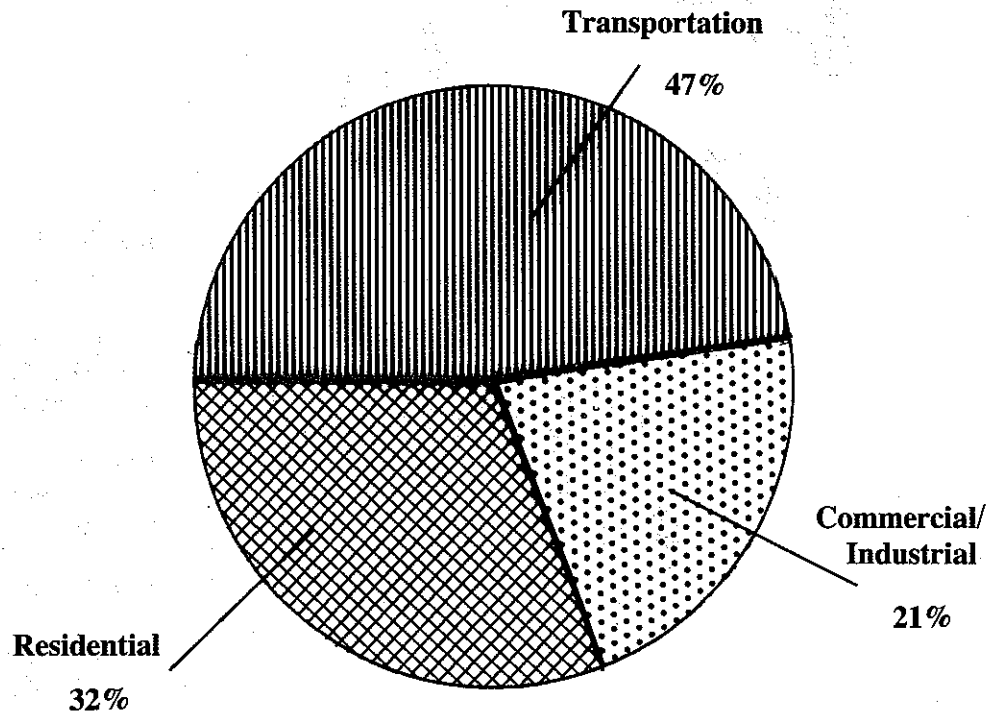
## OVERALL ENERGY USE

When measured in common units, the total yearly energy consumption was estimated to be 232 billion Btus in 1982. This is equivalent to the energy contained in 1.86 million gallons of gasoline. The total includes the energy needed for such things as transportation uses, residential heating and cooling, and business or industrial consumption. In terms of actual measures, the estimated 1982 retail sales to Bayard homes and businesses included:

- 971,641 ccf (hundred cubic feet) of natural gas
- 865,000 gallons of transportation fuels
- 7,544,799 kilowatt-hours of electricity
- 12,000 gallons equivalent of miscellaneous fuels

## CONSUMPTION BY SECTOR

In terms of how all of this energy is used, 47% is needed for the various cars and trucks used in the Bayard area, 32% is consumed by the 530 homes in Bayard, and the remainder, 21%, goes for powering the business and industrial sector.



## BAYARD'S ENERGY BILL

The cost for Bayard residents and businesses for all of the energy purchased in 1982 was approximately \$1.6 million.

## HOUSEHOLD ENERGY COSTS

As illustrated below, energy costs can take a big bite out of any household budget. In 1982 it is estimated that a typical Bayard household may have spent \$1,824 or more for all of its energy needs:

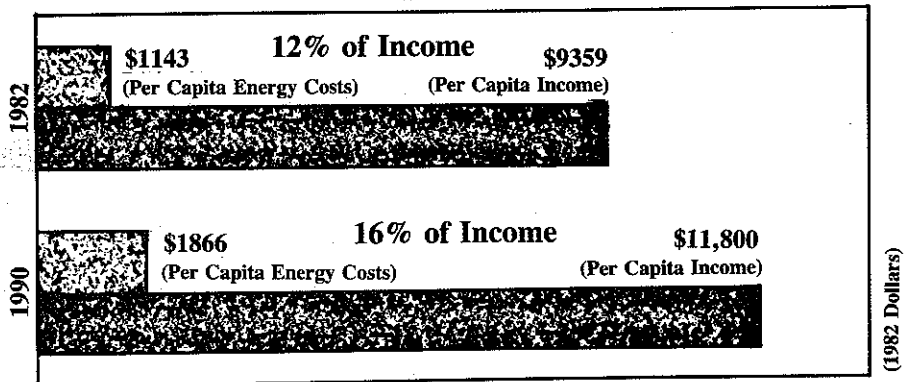
●● 7800 kilowatt-hours of electricity at 3.2¢/kwh	= \$250
●● 1200 ccf (hundred cubic feet) of natural gas at \$.332/ccf	= \$386
●● 950 gallons of gasoline at \$1.25/gallon	= <u>\$1188</u>
<b>ANNUAL TOTAL</b>	<b>= \$1824</b>

Even with modest conservation steps that are likely to take place in most households, it is projected that by 1990 higher energy prices will force families and other households to pay as much as \$2,900 for basically the same energy needs.

## PER CAPITA CONSUMPTION

Per capita energy sales (including both business and residential uses) to the 1435 people living in Bayard amounted to about 162 million Btus, equivalent to the energy contained in 1,294 gallons of gasoline. This is approximately 82% of the statewide average.

### Energy Costs as a Percentage of Personal Income in Bayard



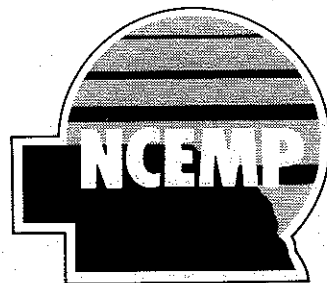
Although Bayard appears to be slightly less energy-intensive than the state as a whole, energy costs continue to be a major expense to the local economy, consuming approximately 12% of the total personal income in the community.

Based on an estimated per capita income of \$9359 in 1982, almost \$1143 went to pay the residential and commercial energy bills.

## ECONOMIC IMPACTS

Without any major shifts in the way energy is used in Bayard, total energy use is expected to increase 13% by 1990. Prices, however, will jump 59% in that time. Combining these effects means that by 1990 the total Bayard energy bill will go from \$1.6 million to almost \$3 million.

Not only will this take a bigger bite out of the personal income in 1990, as shown above, but total economic activity will be approximately \$2 million less than if the energy bill stayed at the 1982 level. This is because as more and more of the total dollars are paid for energy, other sectors of the economy—generally the most productive ones such as manufacturing and agriculture—will have fewer dollars available to produce the necessary consumer goods. This, in turn, lowers the area's economic productivity.



**Nebraska Community  
Energy Management Program**