

**TESTIMONY**  
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**THE AMERICAN PETROLEUM INSTITUTE**  
**BEFORE THE JUDICIARY COMMITTEE OF**  
**THE PENNSYLVANIA HOUSE OF REPRESENTATIVES**  
**NOVEMBER 27, 2001**

Mr. Chairman and members of the Committee, I am Rayola Dougher, Senior Policy Analyst, Policy Analysis and Statistics Department of the American Petroleum Institute, a national trade association representing more than 400 companies from all sectors of the U.S. oil and natural gas industry.

I would like to thank the Committee for the opportunity to present our views on the fluctuations in energy prices we've experienced over the last year.

Right at the start, however, I would like to say that the price changes that occurred were driven by the interplay between supply and demand. Our experience with these changes reveals that markets for petroleum work.

Two decades ago, when we experienced our last major price shock, we paid even more for petroleum products—when measured in today's dollars—than we do now. The average price of a gallon of gasoline in 1981 was \$2.64 and the price of a barrel of crude oil was about \$69. In the same year, the U.S. produced 45 percent more petroleum and consumed 20 percent less petroleum than we do today.

In the late 1970s and early 1980s, higher prices, a deep recession and a steep decline in consumption of petroleum products brought about major changes. This decline led to a severe recession in the industry. Thousands of workers were laid off and many expansion projects were cancelled.

The Windfall Profits Tax of 1980 drained \$73 billion dollars that otherwise would have been spent on new exploration, refining or marketing. Huge investments required for environmental controls sharply cut profits in the industry. These investments were never recovered and between 1981 and 1998, the rate of return in the refinery sector was just 4 percent, a third of the return earned by most industries.

Because of this, dozens of refineries and storage facilities, and thousands of gasoline stations, were closed. A number of companies were forced to merge to ensure they had more capital to make the huge investments required to explore for and produce oil. They also became more efficient, to the point that the real cost of a gallon of gasoline is now 52 percent lower nationwide than it was in 1981.

But we still have a petroleum supply system that is straining to meet consumer needs. Since 1985, demand for petroleum products has exceeded the refinery capacity. We now import about 2.5 million barrels of refined petroleum products each day – about 12 percent of demand. These imports are predicted by the U.S. Department of Energy to grow by as much as 140 percent over the next 20 years.

The price volatility that has disrupted markets over the last few years was caused in large part by a lack of excess refinery capacity and the proliferation of boutique fuels. Different U.S. jurisdictions require different kinds of fuels to meet environmental needs. Our industry must supply 16 different types of gasoline. These boutique fuels decrease the ability of the supply system to move gasoline from one area to another. Thus, any small change in demand or interruption in supply may set off another explosion of price volatility.

As winter approached last year, stocks of heating oil and diesel fuel were lower than usual. Then, the coldest weather in a decade caused demand for heating oil to shoot up. At the same time, higher natural gas prices caused utilities to burn distillate fuels to make electricity and demand for distillates rose dramatically. Refiners use distillate fuels to make heating oil and diesel fuel for trucks and cars.

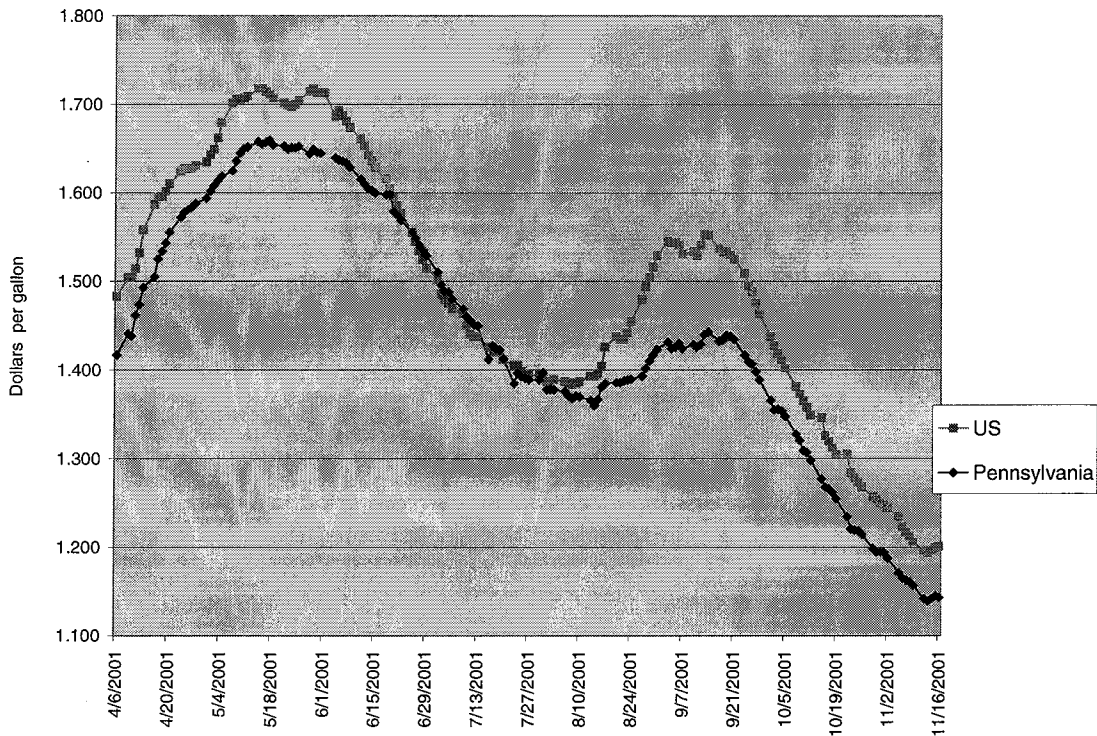
Because refineries were producing record amounts of distillate to meet this increased demand late into the winter season, they were not building inventories of gasoline for the summer. As a result, gasoline stocks were considerably below normal.

Finally, as spring arrived, many refineries also took time off to do needed maintenance, some of which was delayed by government requests to produce more distillate products earlier.

For all these reasons, refiners got a late start in producing the gasoline needed for the summer. Nationwide gasoline inventories in March were at their lowest level for that month in 40 years.

As the industry struggled in the face of insufficient refinery production capacity, production of gasoline dropped by 2 percent in the first quarter and demand rose by 2 percent. This imbalance led to the price increases for gasoline in early spring. Refineries

### AAA Retail Regular Gasoline Prices - PA and US



responded and supplied large amounts of gasoline and broke all previous production records for the second quarter of 2001.

After a surge of gasoline production, refineries found themselves with higher inventories. The result has been sharply falling prices amid a slowing U.S. economy throughout much of the summer and into the fall. By mid-November the average price for all types of gasoline nationwide was \$1.22 per gallon. This is 53 cents less than May's high of \$1.75 per gallon, 34 cents less than it was a year ago, and the lowest prices have been since July 1999.

As we head into the winter season, the fuel outlook appears much better this year than it was last year. Weakened global demand for crude oil has resulted in sharply falling prices, averaging \$18 compared to \$35 a year ago. This change is reflected in the prices for refined products. Heating oil prices have fallen from \$1.50 to \$1.20 over the same period. In addition, the average price for natural gas is \$1.70, compared to \$5.60 a year ago.

Lower demand this season has allowed inventories to recover. Inventories of key heating fuels, especially natural gas, are 13 % higher than they were a year ago. Heating oil inventories are about 26% greater than year-ago levels. In addition, under the assumption of normal winter weather, demand for heating fuels is expected to be lower this winter than last when we experienced the coldest weather in a decade.

For all these reasons, the U.S. Department of Energy<sup>1</sup> expects consumers will see lower heating bills this winter than last. So in the short term, the outlook is encouraging, at least as far as energy for the winter season is concerned. However, unless we address the underlying problems facing the oil and gas industry, we may be doomed to more frequent and more severe energy disruptions than we have endured in recent years.

Several factors are important to consider in determining how industry can maintain its ability to keep up with growing demand.

- *We must increase domestic energy production.* We are becoming more and more dependent on oil imports. This dependency now amounts to about 60 percent of U.S. oil demand; a number that the U.S. Department of Energy projects will rise to 64 percent by 2020. We have no choice but to diversify and increase the sources of our supplies, both domestic and foreign.
- *We must update and expand our energy infrastructure.* Our refining and delivery infrastructure is stretched to the limit. Refiners will be required to make massive investments over the next 10 years to expand refinery capacity to meet consumer demand and to comply with government regulations. A major new refinery has not been built in this country in well over 20 years. Meanwhile, complex, time-consuming permitting requirements impede the ability of refiners to expand or retrofit facilities in order to increase capacity. Further, regulations complicate the building of new pipelines to efficiently deliver energy to needed areas.
- *Significant changes need to be made to existing regulations.* The clean-air requirements that have resulted in 16 different types of gasoline in use across the country greatly reduce refinery flexibility. This means that minor disruptions and

scheduled downtime for maintenance can have a much more disruptive impact on the flow of supply. Recently enacted state laws that ban the use of MTBE (an oxygenate designed to reduce ozone pollution and carbon monoxide emissions) will present new challenges to the country's fuel production and distribution system, and it is feared may increase the number of boutique fuels. When federal, state, and local regulations are not coordinated, industry is forced to make costly operational changes that hurt their ability to efficiently and effectively meet the nation's energy needs.

- *Policy makers need to determine the impact of governmental decisions and actions on our energy security, much like environmental impact studies help protect the environment. A sound national energy strategy should insist that energy impact studies be developed to help policy makers and the public understand the potential impacts of actions and decisions on the nation's energy security.*

We all have a stake in the successful implementation of a National Energy Strategy. Keeping our businesses running, our industry producing, our homes comfortable, and being able to get to where we want to go is important to us all. Now, after the tragic events of September 11<sup>th</sup>, we'll need reliable supplies of fuel for U.S. armed forces. Guided by a sound energy strategy and by taking advantage of the latest technology that allows us to explore for and produce oil and natural gas with little or no adverse effect on the environment, we can have the reliable and affordable energy supplies we need and the quality environment we all deserve.

This concludes my testimony. I am happy to answer any questions.

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<sup>1</sup> U.S. Energy Information Administration, Department of Energy, "Winter Fuels Outlook: 2001/2002," [www.eia.doe.gov](http://www.eia.doe.gov).

# Energy Situation

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# The Energy Outlook

- Price changes driven by interplay between supply and demand
- In the short-term, the outlook is encouraging.
- In the long-term, underlying problems need to be addressed



# Outline

- Overview of energy in Pennsylvania
- Supply and demand
- Inventories and prices
- Energy policy

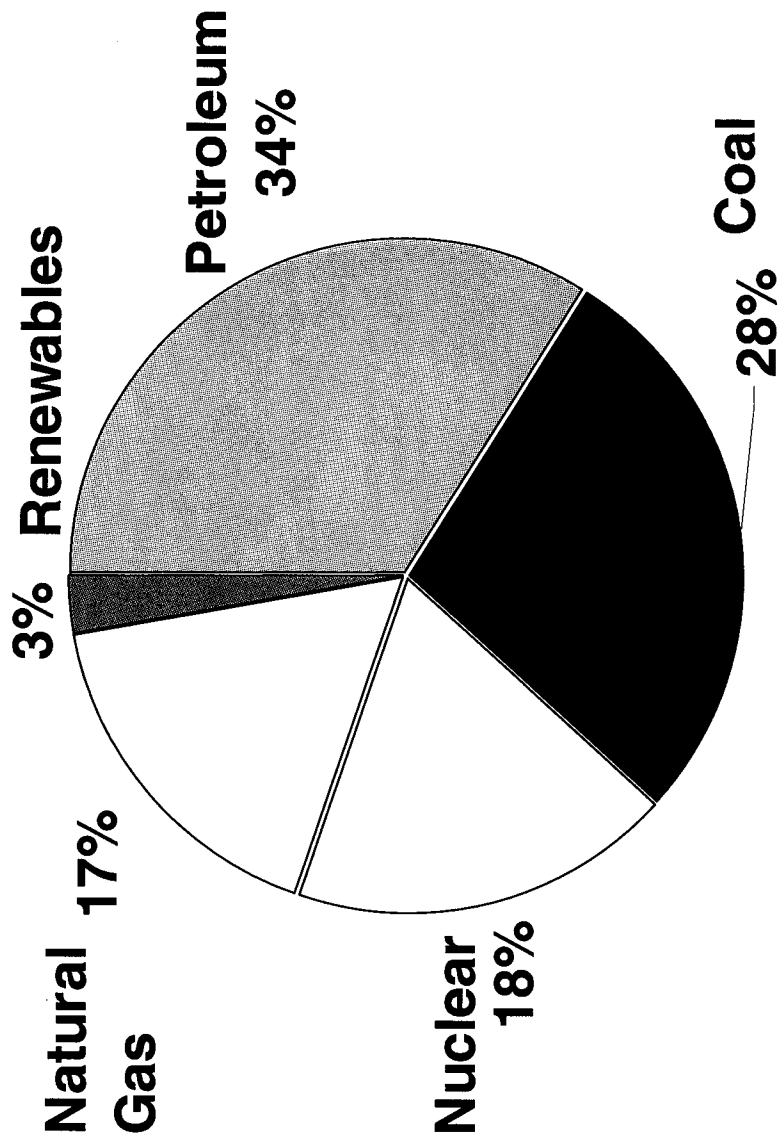
# Overview of Energy in Pennsylvania

- Population: 12,281,054, ranked 6th
- Total Energy Consumption: 3.7 quadrillion Btu, ranked 7th
- Per Capita Energy Consumption: 310 million Btu, ranked 39th
- Total Petroleum Consumption: 28.9 million gallons per day, ranked 6th

## Petroleum Supply (Upstream) & Refining & Marketing (Downstream)

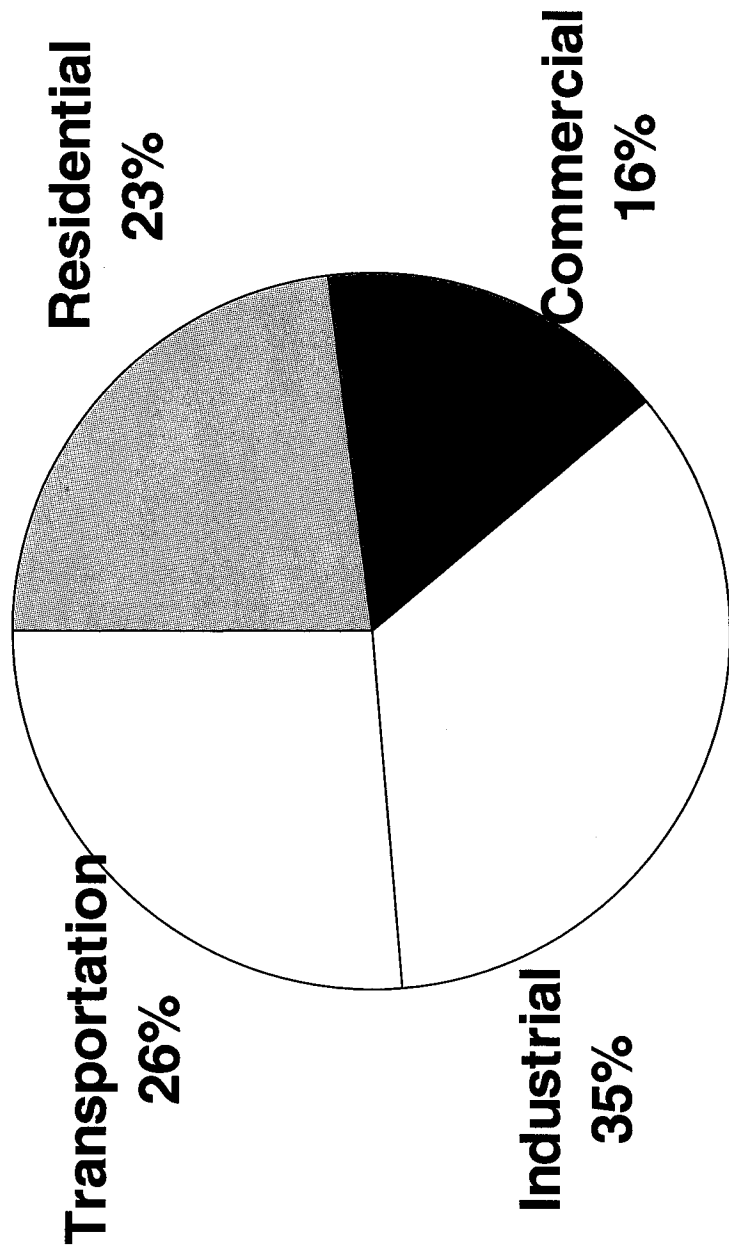
- Crude Oil Proved Reserves: 16 million barrels, ranked 23rd, less than 1% of U.S.
- Crude Oil Production: 4,000 barrels per day, ranked 24th
- Total Producing Oil Wells: 15,050
- Rotary Rigs in Operation: 9
- Refineries: 5 producing a total of 760,000 barrels per calendar day capacity (BCD)
- Gasoline Stations: 4,920 outlets, or 2.8% of U.S.

# Pennsylvania's Energy Consumption by Fuel Type (3,715 trillion BTUs)



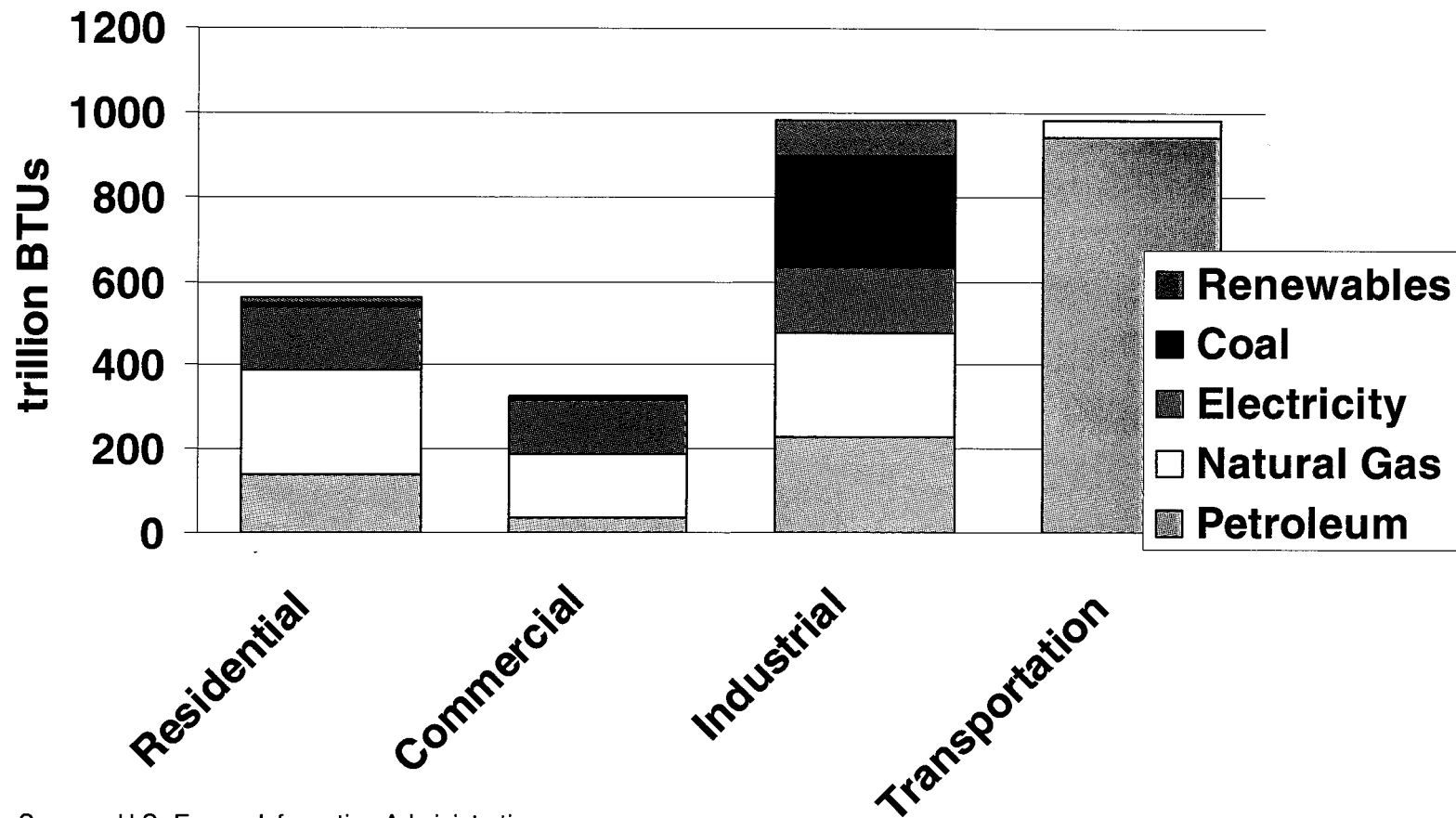
Source: U.S. Energy Information Administration

# Pennsylvania's Energy Consumption by Sector (3,715 BTU's)



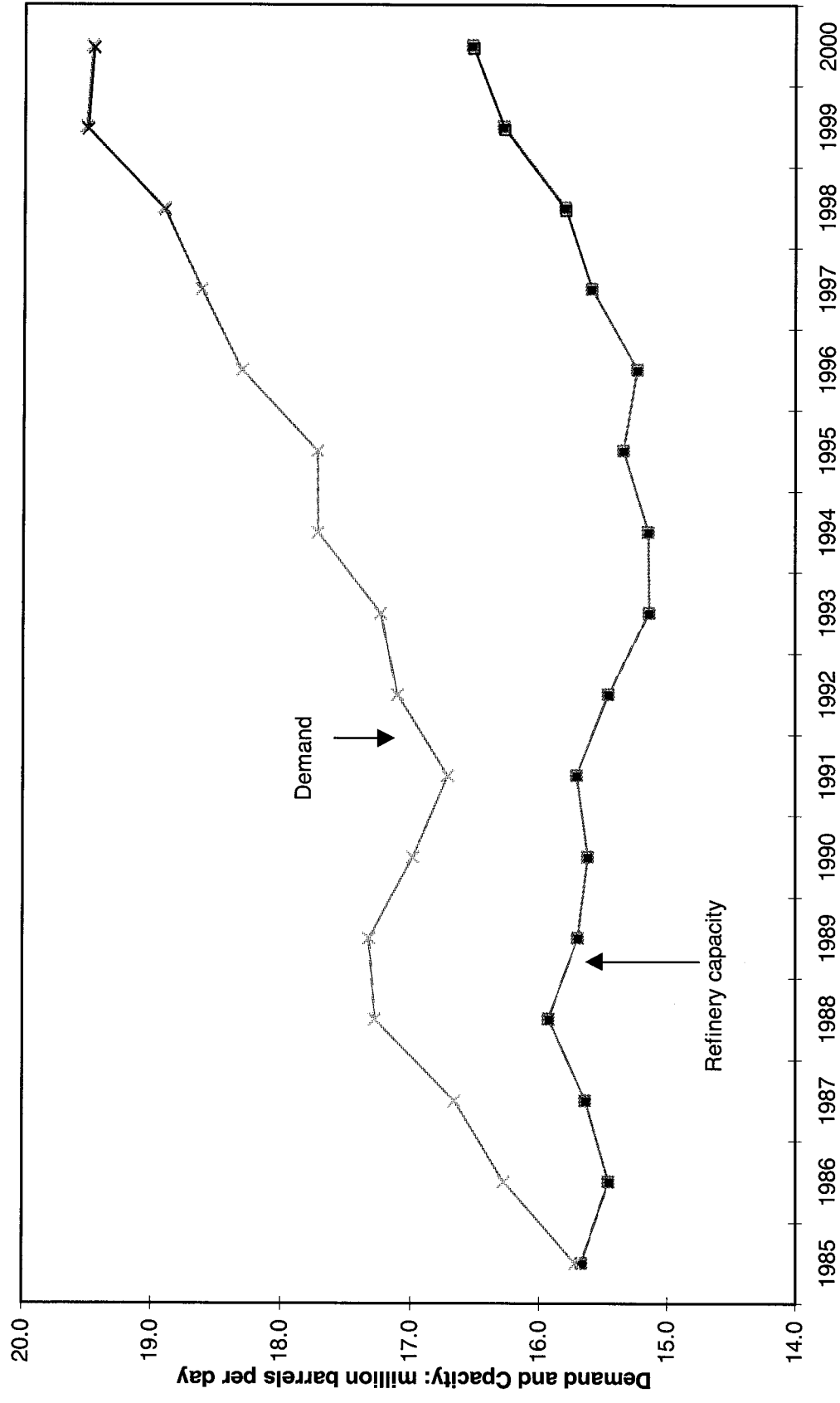
Source: U.S. Energy Information Administration

# Pennsylvania's Energy Consumption by Sector and Fuel Type



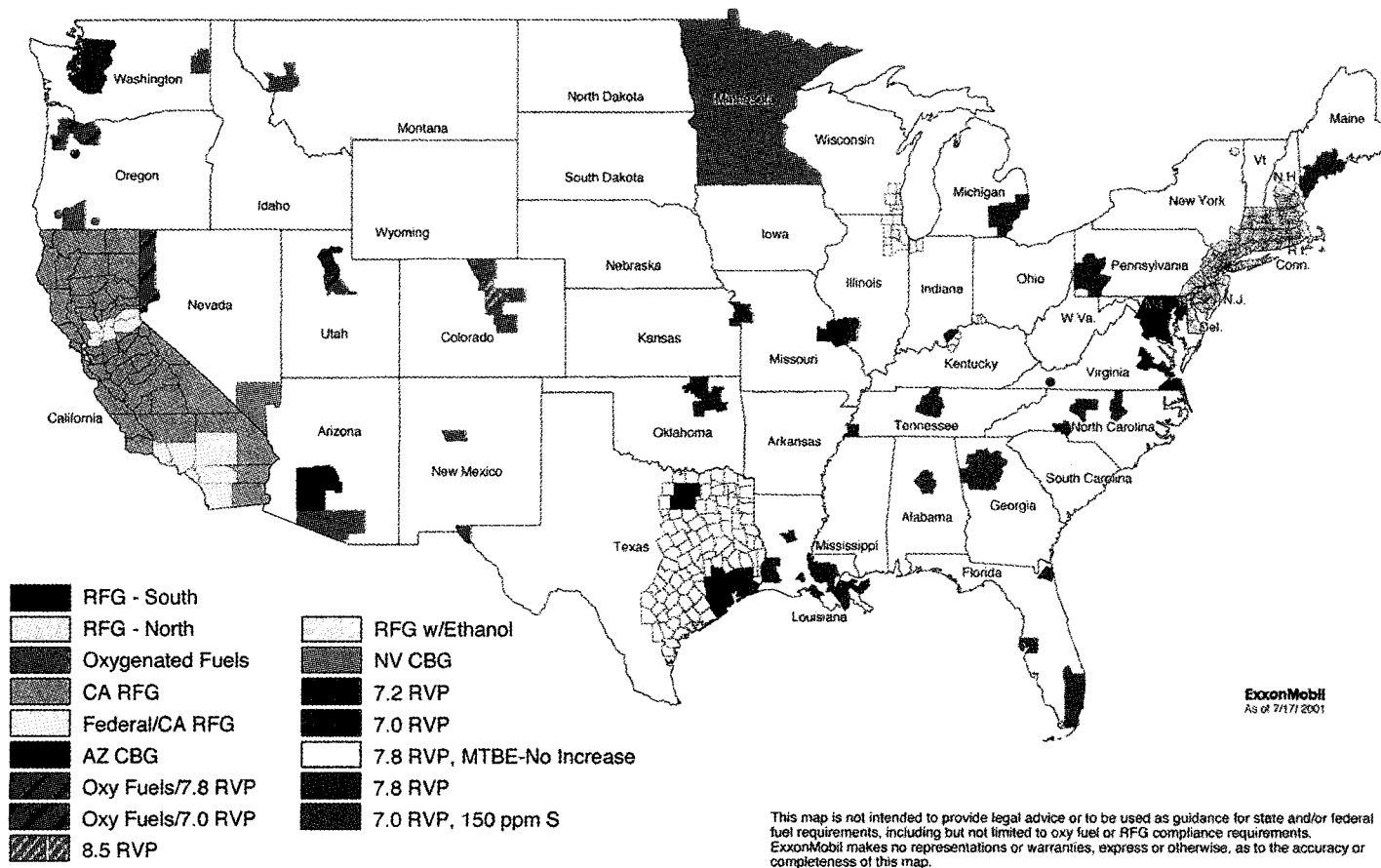
Source: U.S. Energy Information Administration

# US petroleum demand and refining capacity



# U.S. Gasoline Requirements

- Federal, state and local gasoline specification requirements have created a patchwork quilt of boutique fuel requirements



K.W. Gardner

ExxonMobil  
As of 7/17/2001

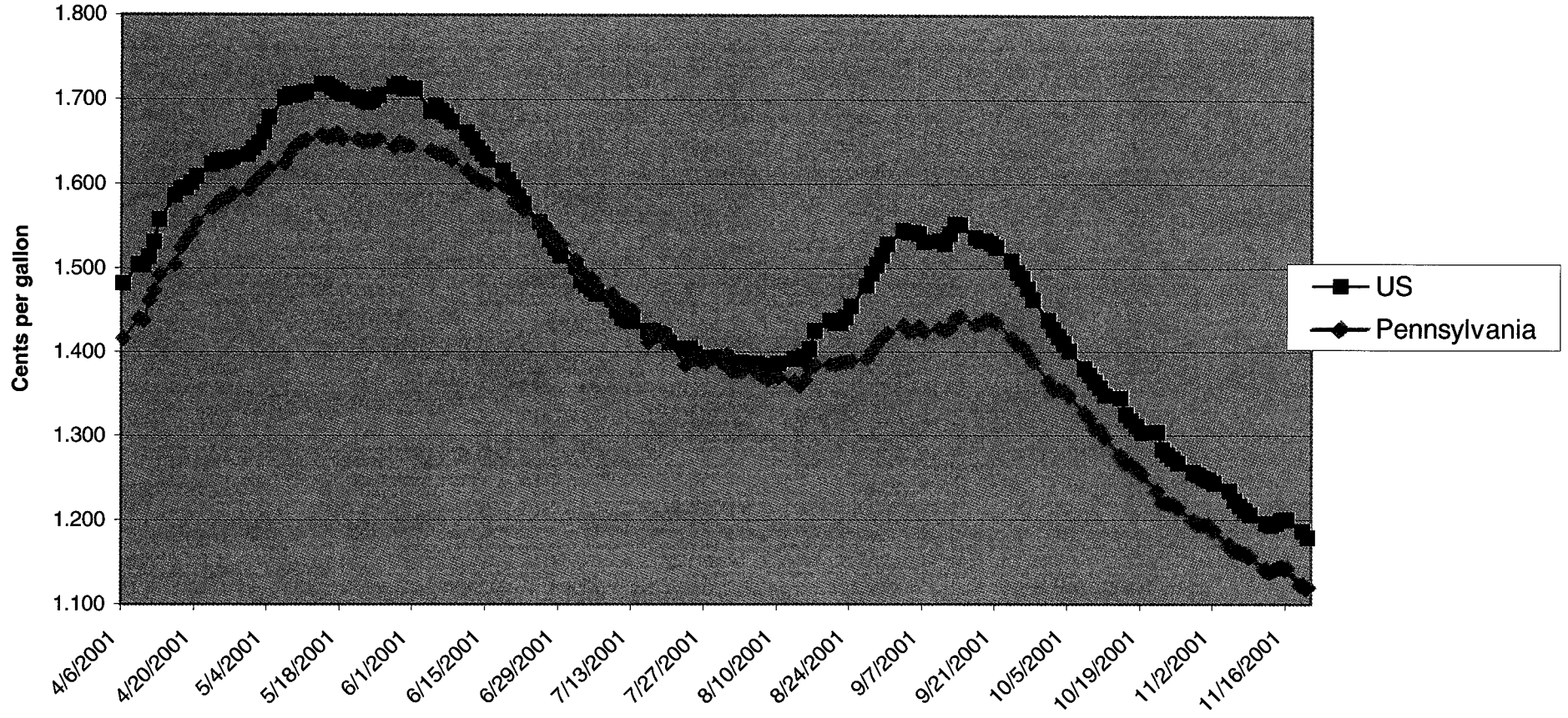
This map is not intended to provide legal advice or to be used as guidance for state and/or federal fuel requirements, including but not limited to oxy fuel or RFG compliance requirements. ExxonMobil makes no representations or warranties, express or otherwise, as to the accuracy or completeness of this map.



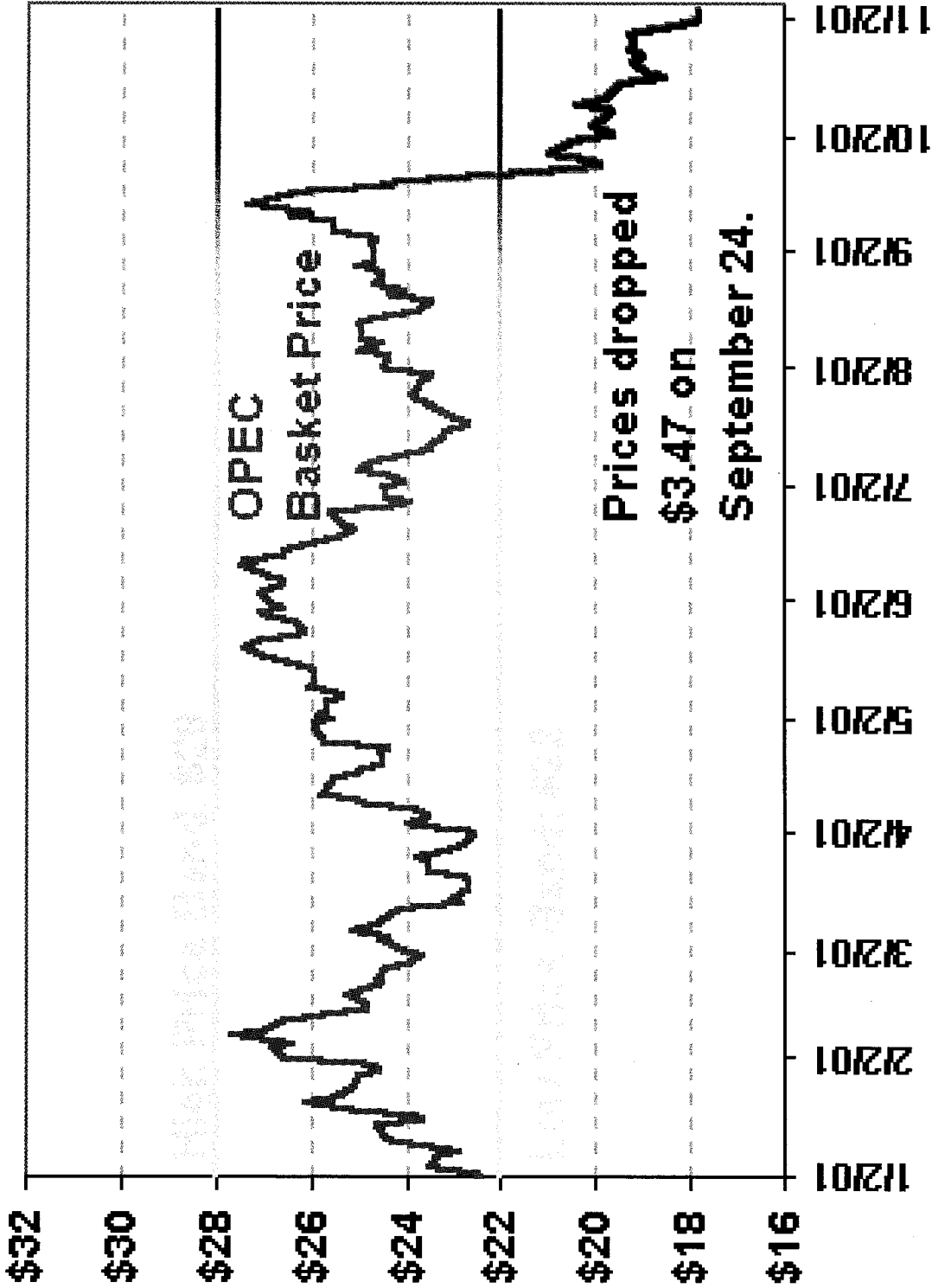
## Why were prices higher? Demand was greater than supply

- As winter approached last year, stocks of heating oil and diesel fuel were lower than usual
- Coldest weather in a decade
- Higher natural gas prices caused utilities to burn distillate fuels
- Refiners producing record amounts of distillate late into the season
- Not building inventories of gasoline for summer
- As spring arrived many refiners took time off to do needed maintenance
- Got late start producing gasoline for summer
- Nationwide inventories at lowest level in 40 years
- Production of gasoline down 2% in 1st quarter and demand rose by 2%
- Imbalance led to price increases for gasoline in early spring

AAA Retail Regular Gasoline Prices - PA and US

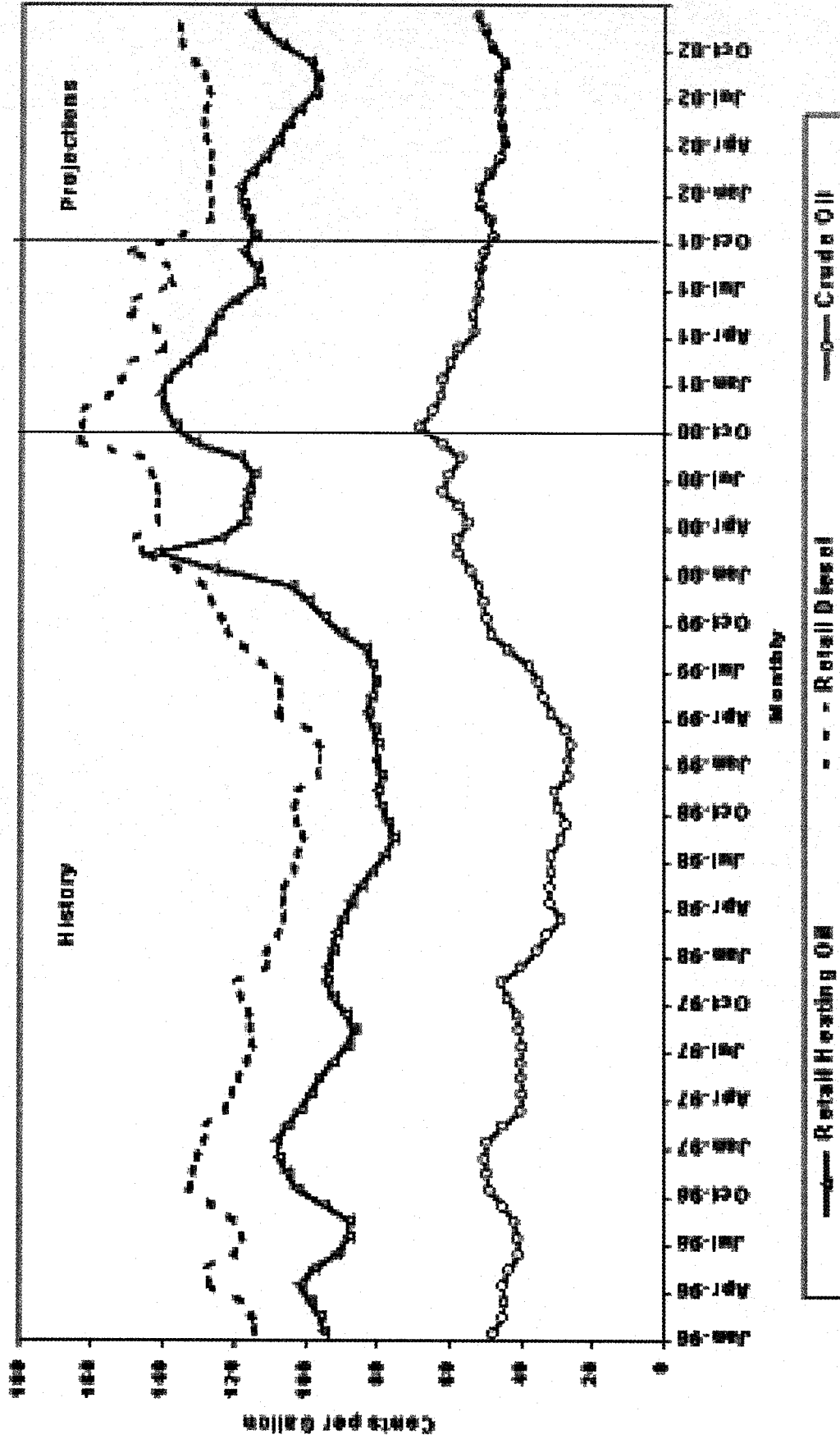


# OPEC Basket Prices and the Price Band, 2001



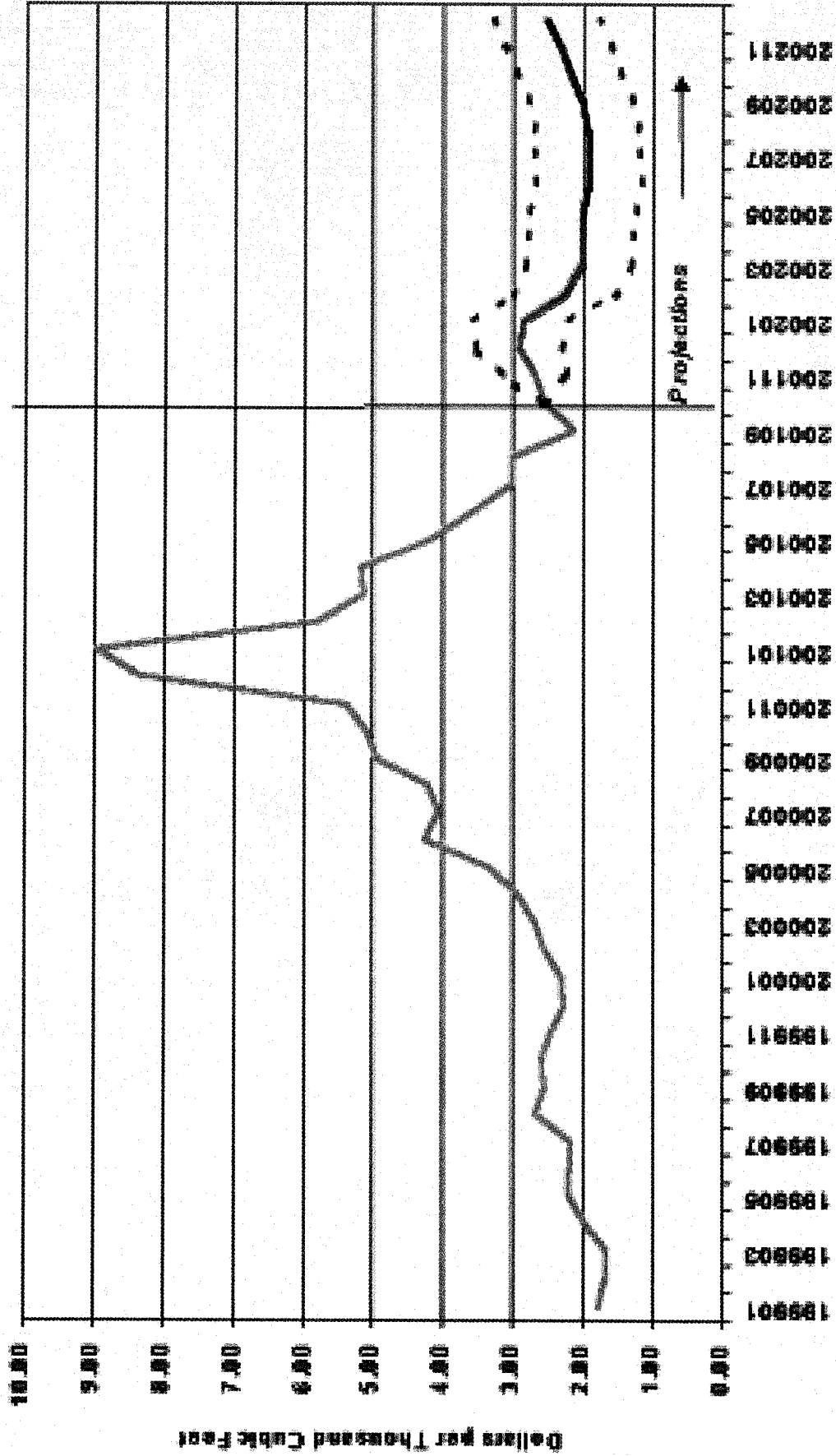
source: EIA/OPEC News Agency (official OPEC news source)

# Figure 8. Distillate Fuel Prices



Sources: History: EIA; Projections: Short-Term Energy Outlook, November 2001.

**Figure 10. Natural Gas Spot Prices  
(Base Case and 95% Confidence Interval)**

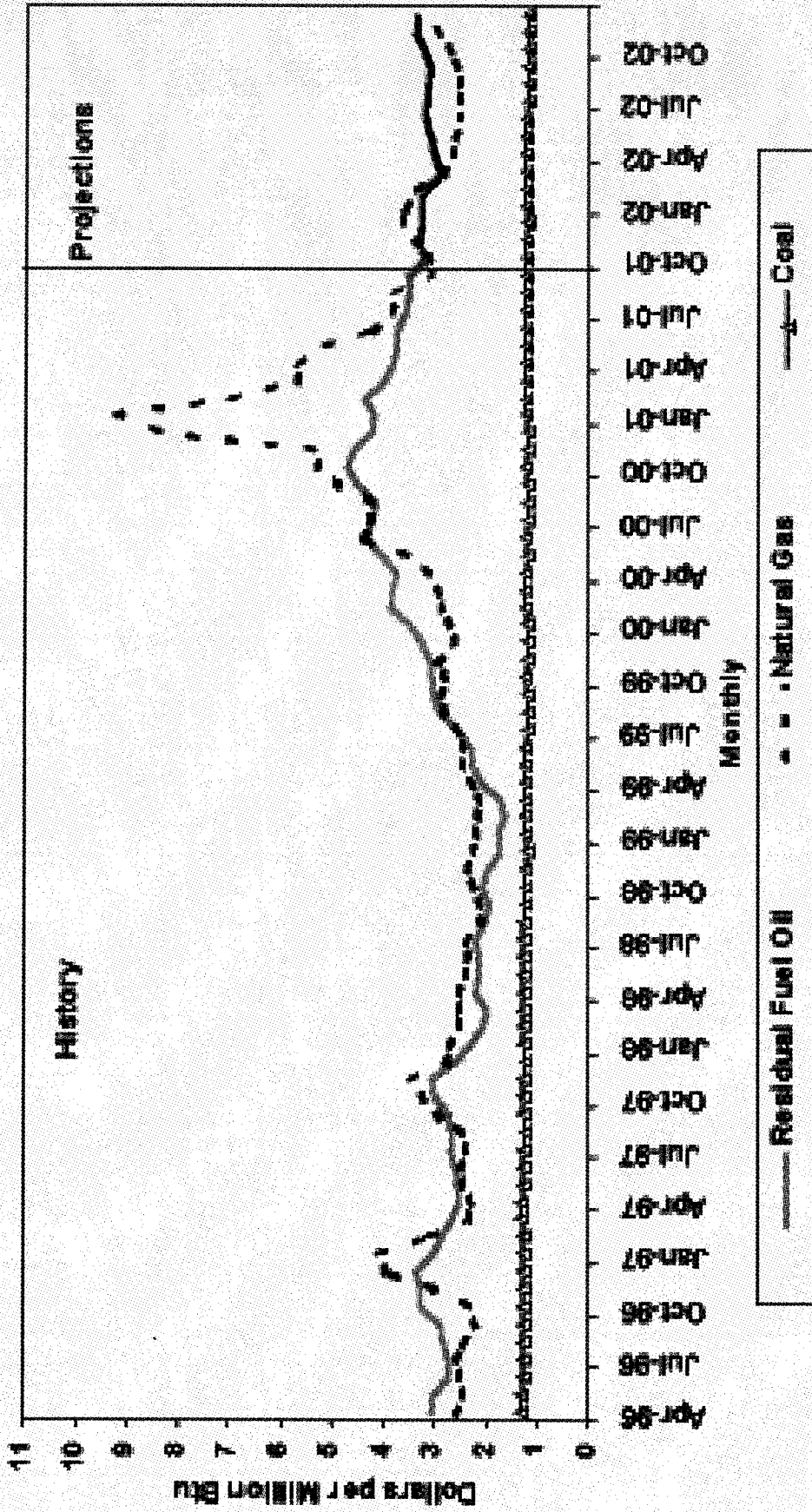


www.eia.doe.gov



Source: History: Natural Gas Week; Projections: Short-Term Energy Outlook, November 2001.

# Figure 11. Fossil Fuel Prices to Electric Utilities



Sources: History: EIA; Projections: Short-Term Energy Outlook, November 2001.



# Percent Change in Inventories from Last Year

	<b>Heating Oil</b>	<b>Natural Gas</b>	<b>Gasoline</b>
<b>National</b>	<b>23%</b>	<b>13%</b>	<b>7%</b>
<b>Mid-Atlantic</b>	<b>39%</b>	<b>10%</b>	<b>23%</b>

## Figure 2. Illustrative Winter Consumer Prices\* and Expenditures\*\* for Heating Fuels

	1999-2000	2000-2001	2001-2002
	Actual	Actual	Base Forecast
<b>Natural Gas (Midwest)</b>			
Consumption (mcf)	84.5	87.3	89.7
Avg. Price (\$/mcf)	6.29	9.49	6.98
Expenditures (\$)	532	823	626
<b>Heating Oil (Northeast)</b>			
Consumption (gals)	650	727	678
Avg. Price (\$/gal)	0.80	1.37	1.16
Expenditures (\$)	520	998	786
<b>Propane (Midwest)</b>			
Consumption (gals)	835	961	886
Avg. Price (\$/gal)	0.85	1.36	1.13
Expenditures (\$)	710	1,309	1,002

\* National average prices.

\*\* Based on typical per-household consumption by region.

Source: History: EIA; Projections: Short-Term Energy Outlook, November 2001.





# Addressing Underlying Problems

- We must increase domestic energy production
- We must update and expand our energy infrastructure
- We need to change existing regulations
- We need energy impact studies, much like environmental impact studies

# Conclusion

- Short-term outlook is encouraging, but unless we address the underlying problems facing the oil and gas industry, we may be doomed to more frequent and severe energy disruptions than we have endured in recent years.