

Petroleum and Natural Gas Situation

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www.gasolineandyou.org

www.naturalgasfacts.org

A banner with a red background. On the left, the text "Gasoline Information" is written in white, with "Information" in a larger, bold font. On the right, there is a close-up photograph of a hand holding a blue gas pump nozzle, which is inserted into a red gas tank. The background of the photo is a solid red color.

**Gasoline
Information**

► Find out more here

What is needed in a National Energy Policy?

- **Conservation and energy efficiency are important but are insufficient alone.**
- **Renewable energy is an important but small source of energy. Until it's cost is reduced, it will continue to be a small source.**
- **Even with improved efficiency and more renewable energy, we will still need more conventional energy – oil, coal, natural gas and nuclear.**

Robustness, Redundancy and Diversity

EIA Forecast of Winter Fuel Costs – October 2004

Table WF1: Selected Average Consumer Prices and Expenditures for Heating Fuels During the Winter

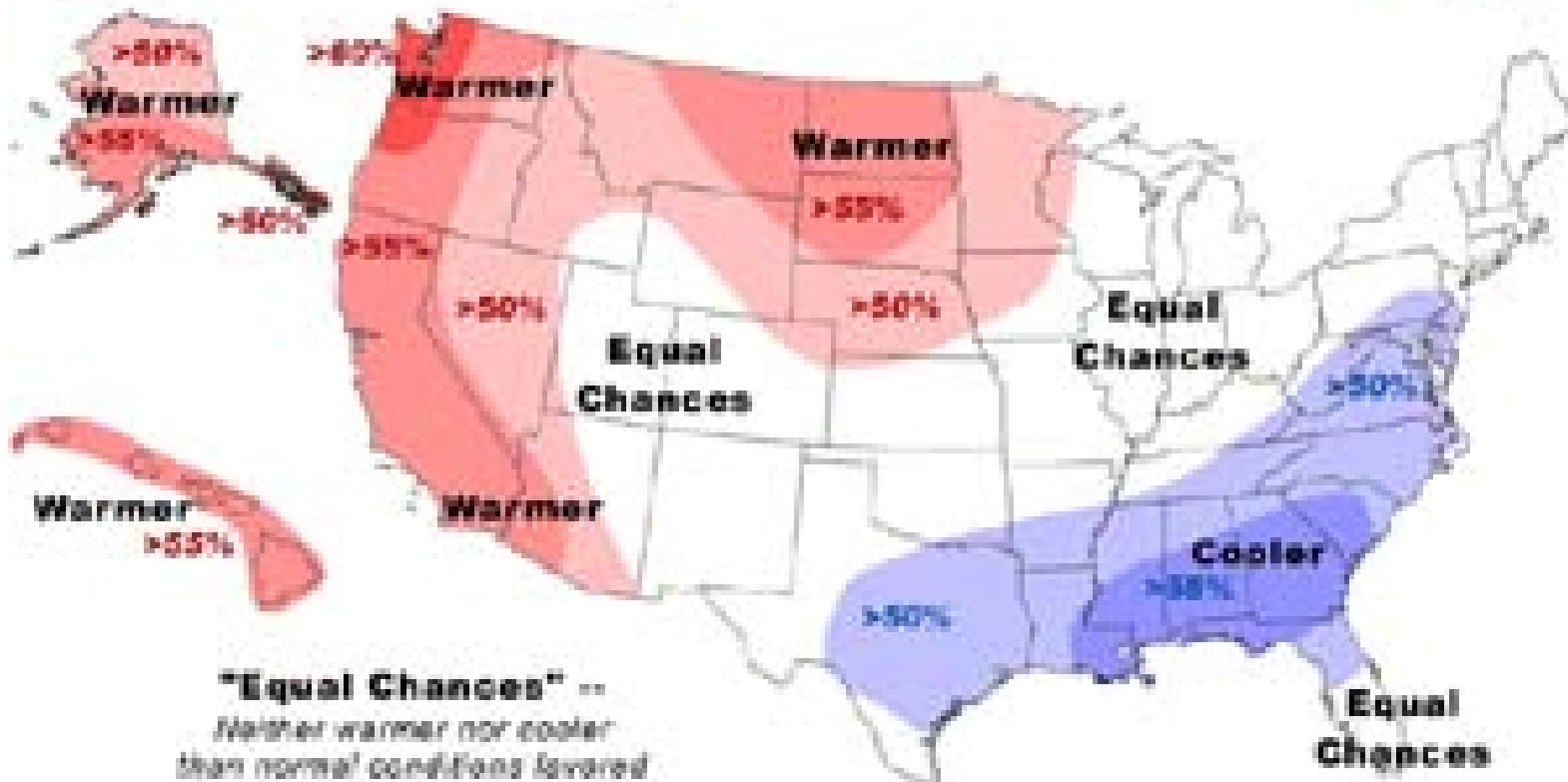
| | Average 1998-2000 | Actual 2001-2002 | Actual 2002-2003 | Actual 2003-2004 | Projections 2004-2005 | % Change |
|--------------------------------|----------------------|---------------------|---------------------|---------------------|--------------------------|-------------|
| Natural Gas (Midwest) | | | | | | |
| Consumption (mcf*) | 88.8 | 81.3 | 94.9 | 89.1 | 92.3 | 3.7 |
| Avg. Price (\$/mcf) | 7.61 | 7.41 | 8.40 | 9.77 | 10.86 | 11.2 |
| Expenditures (\$) | 676 | 602 | 797 | 870 | 1003 | 15.3 |
| Heating Oil (Northeast) | | | | | | |
| Consumption (gallons) | 673 | 577 | 743 | 700 | 698 | -0.3 |
| Avg. Price (\$/gallon) | 1.12 | 1.10 | 1.34 | 1.36 | 1.75 | 28.8 |
| Expenditures (\$) | 754 | 637 | 995 | 953 | 1223 | 28.4 |
| Propane (Midwest) | | | | | | |
| Consumption (gallons) | 877 | 803 | 940 | 882 | 914 | 3.7 |
| Avg. Price (\$/gallon) | 1.10 | 1.11 | 1.20 | 1.30 | 1.53 | 17.3 |
| Expenditures (\$) | 965 | 888 | 1124 | 1147 | 1396 | 21.6 |

Consumption based on typical per household use for regions noted. Prices are retail national averages.
*thousand cubic feet.

NOAA Winter Outlook



Temperature Outlook Winter (Dec. - Feb.) 2004/05 Conditions Compared to 1971-2000 Normal



Déjà vu, All Over Again

2003

Early 2003

- Cold winter
- Venezuela shutdown
- Nigerian strikes
- Iraq
- High crude oil prices
- California MTBE ban transition start

Summer 2003

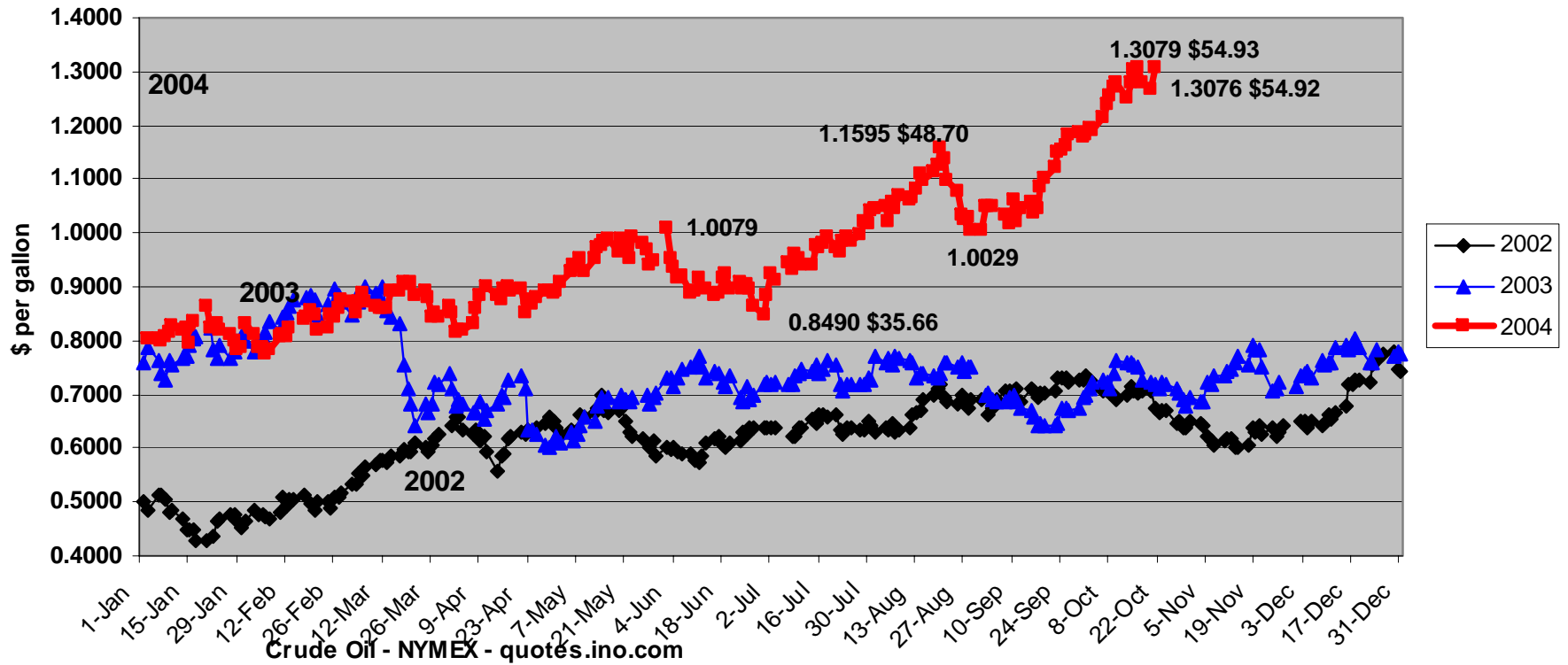
- Blackout
- Pipeline problems
- Strong demand
- Japanese nuclear outages

2004

- OPEC cuts
- Cold winter
- Japanese nuclear outages
- Venezuela uncertainty
- Iraq uncertainty
- Nigerian uncertainty
- Terrorist attacks
- Norwegian Strikes
- Yukos
- Strong economic growth
- Dollar depreciation
- High crude oil prices
- High natural gas prices
- Lower sulfur gasoline
- California finishes MTBE ban transition
- Mississippi river accident
- Refinery outages
- Strong gasoline demand
- NY/CT MTBE bans
- Hurricanes

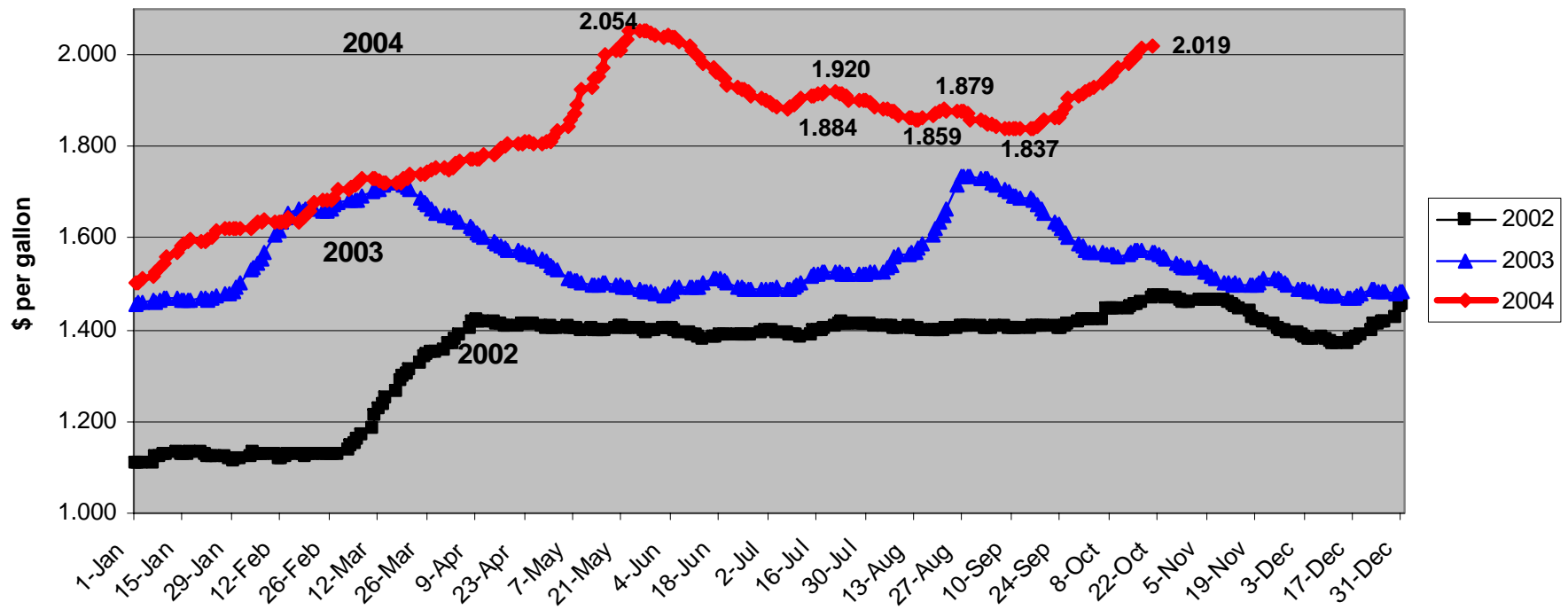
Crude oil futures prices - NYMEX

Crude Oil Prices 2004, 2003, 2002 - NYMEX



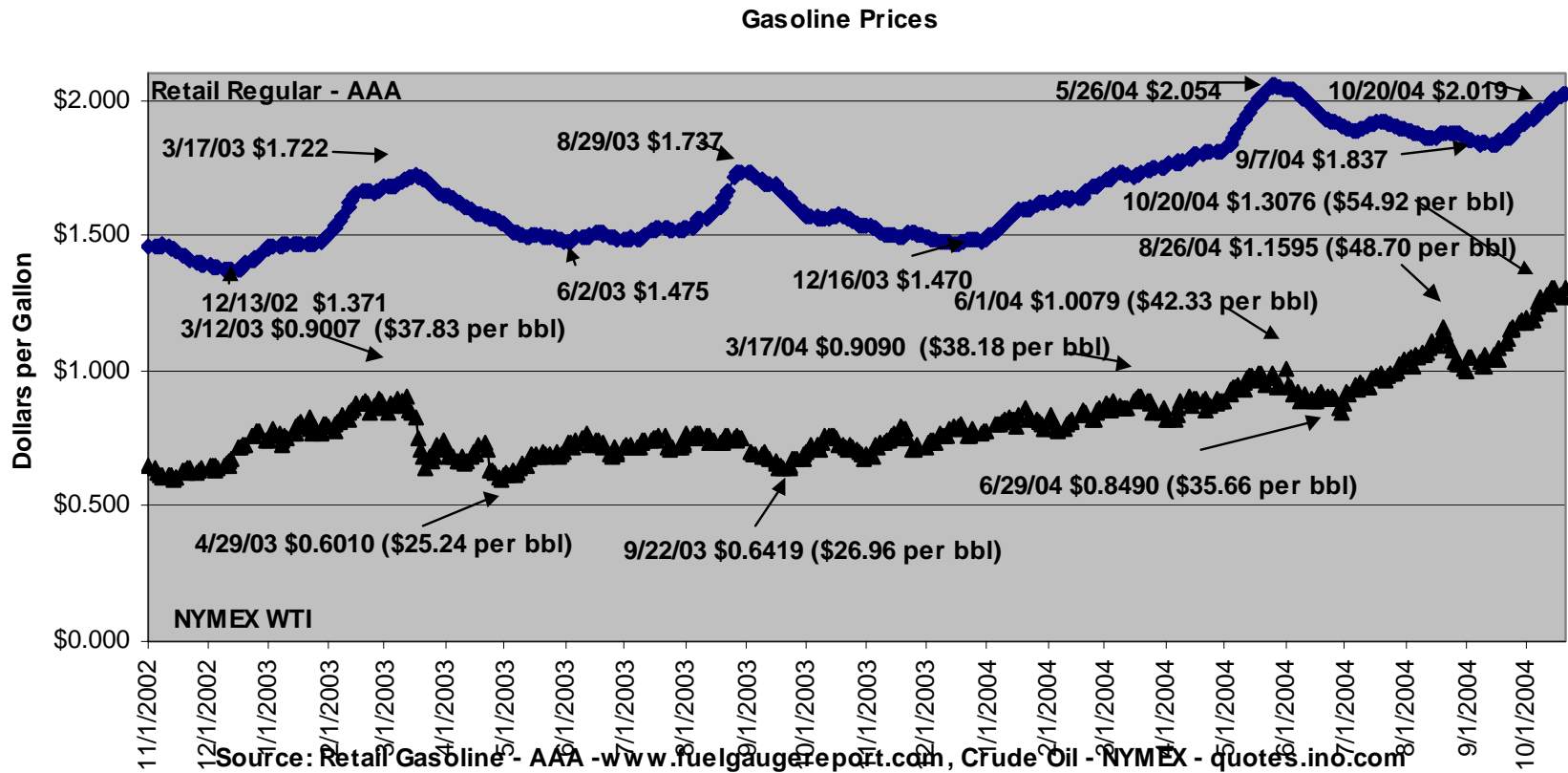
Gasoline - Retail

Regular Gasoline Prices 2003 versus 2002
Source: AAA

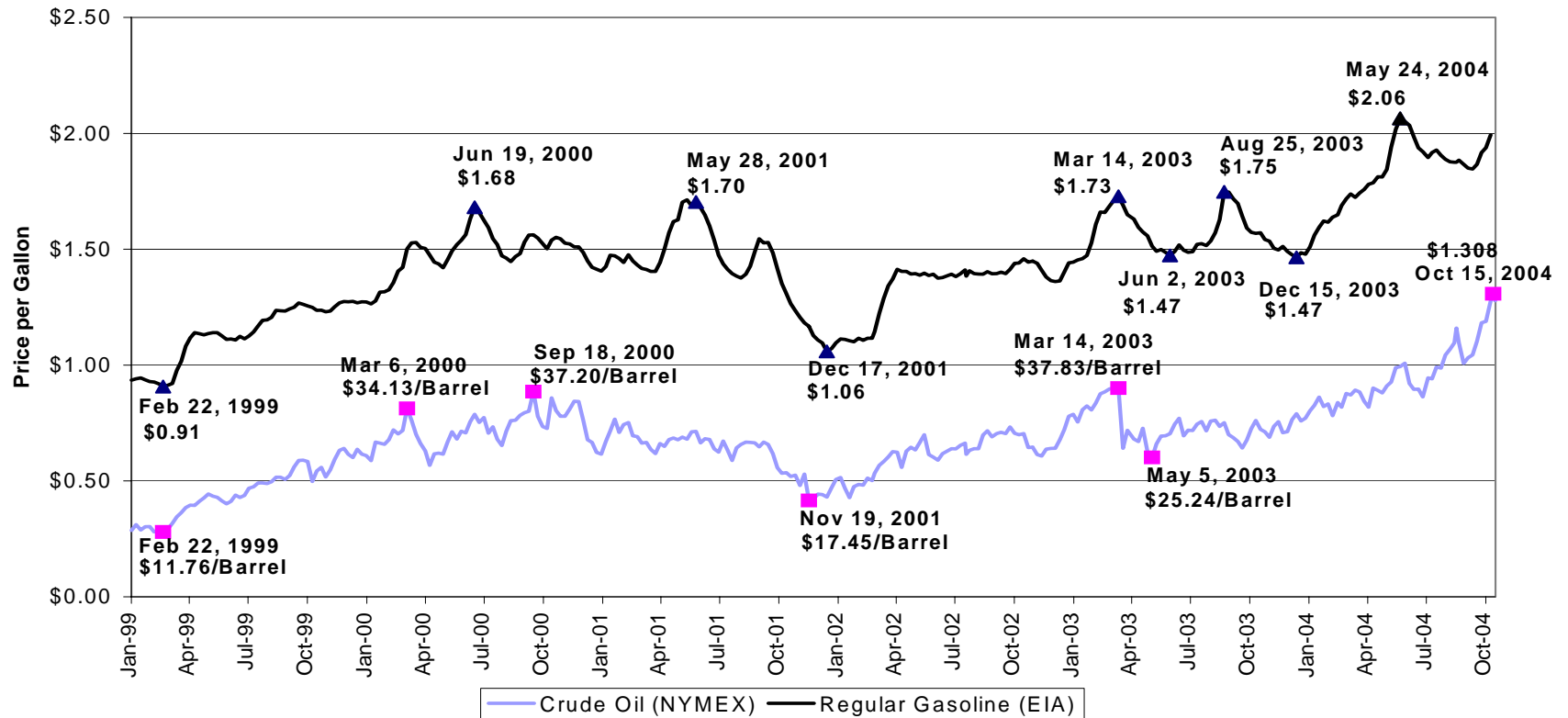


Source: Retail Gasoline - AAA - www.fuelgaugereport.com

Gasoline and crude oil prices

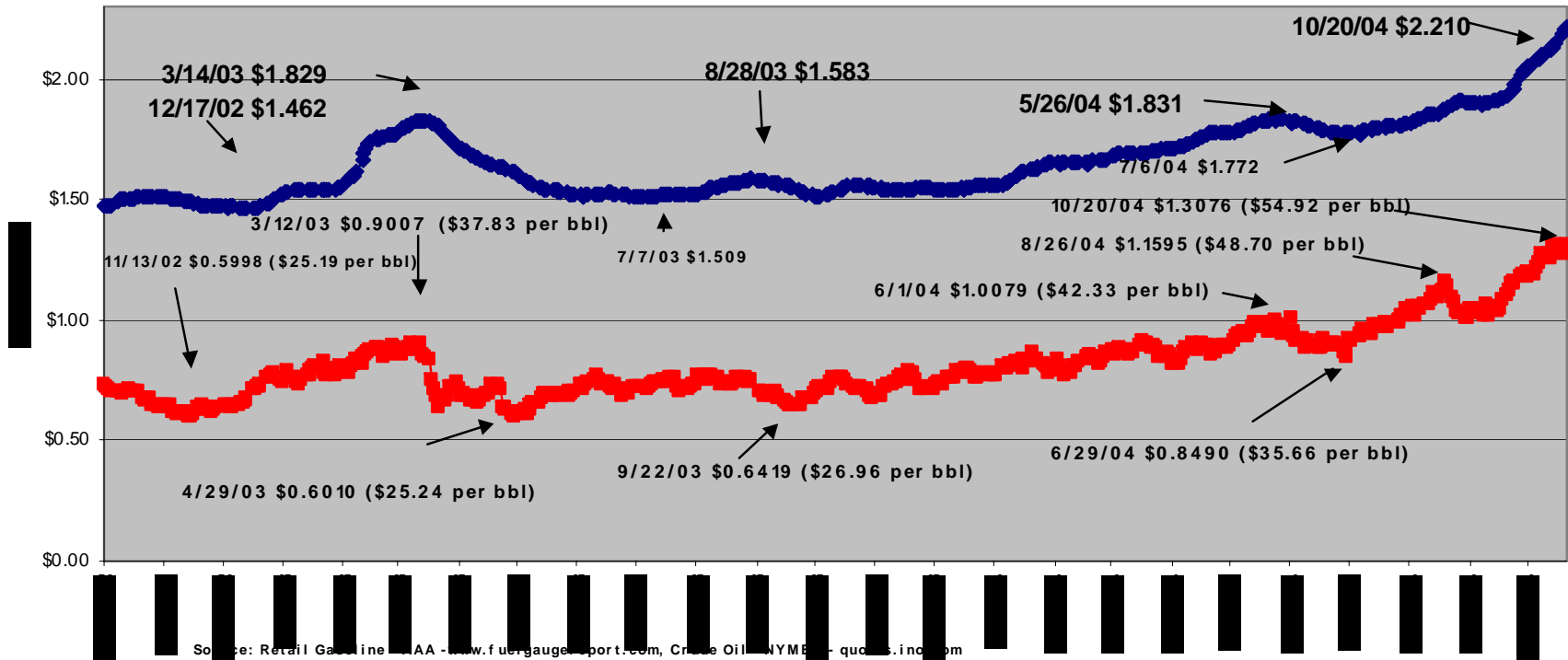


Crude oil and gasoline prices – from lows to highs



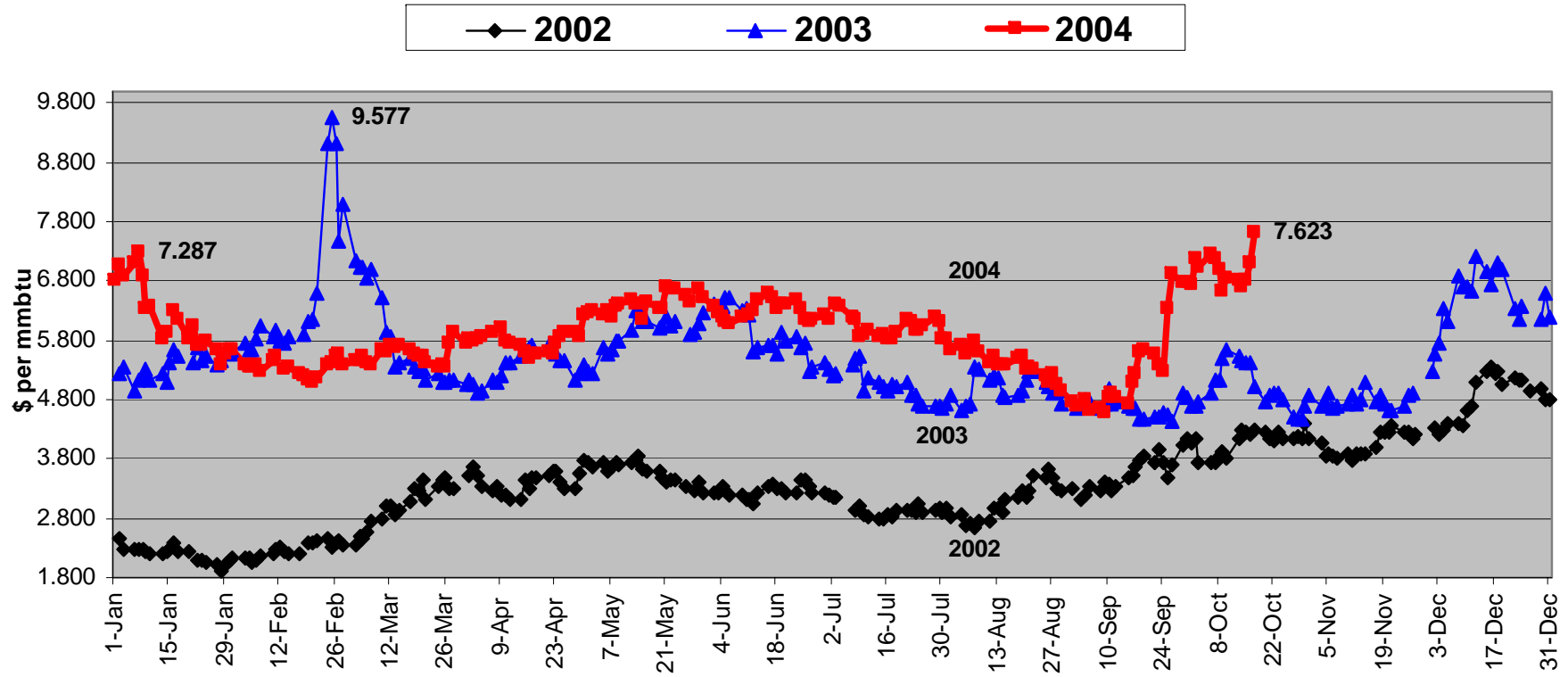
Diesel and crude oil prices

Diesel and Crude Oil Prices



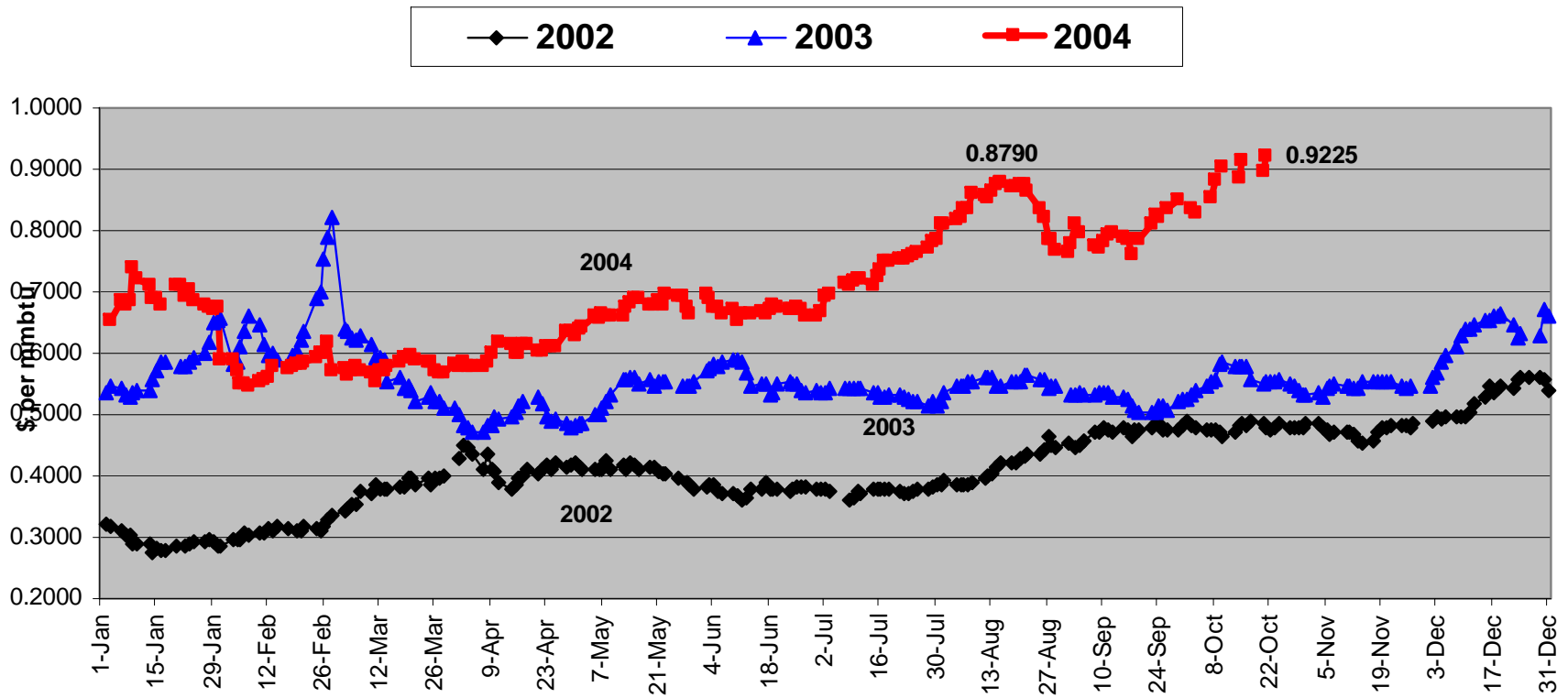
Natural gas prices have been above year ago levels

Natural Gas Prices 2004, 2003, 2002 - NYMEX



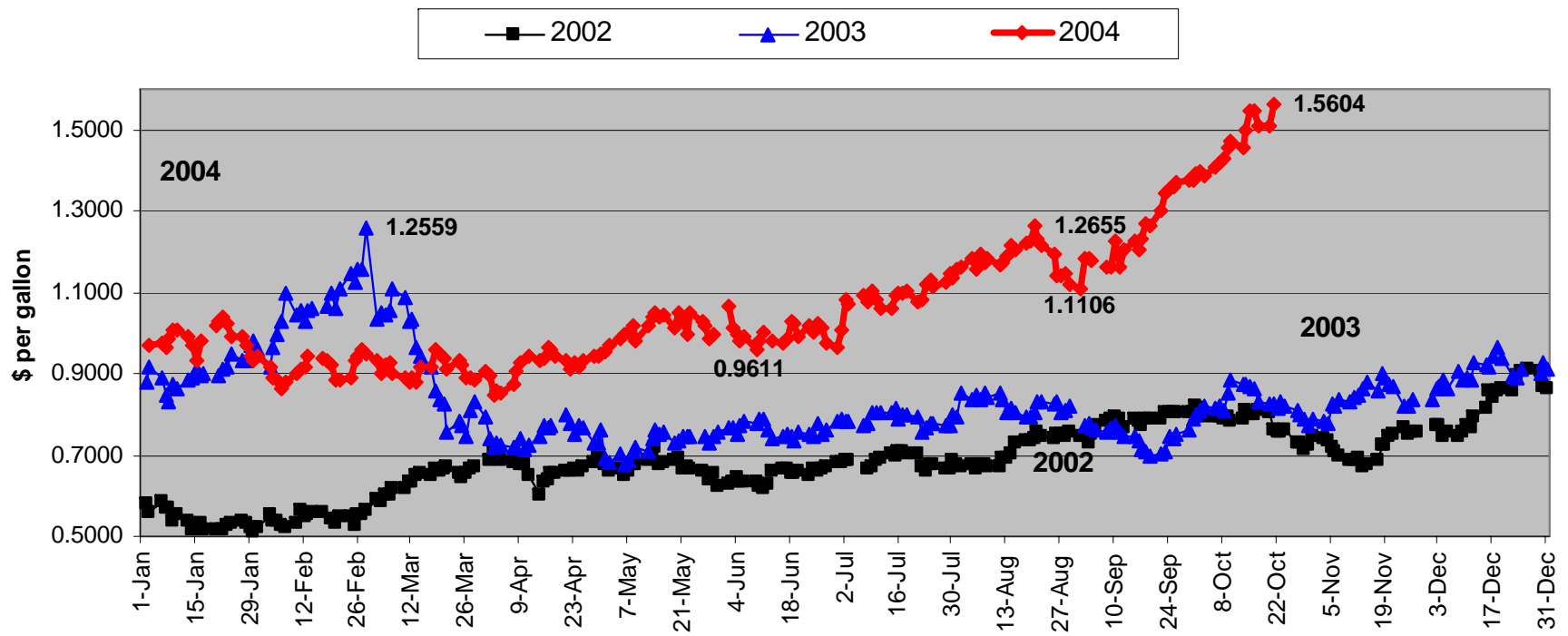
NYMEX propane futures prices are at or near record levels

Propane Prices 2004, 2003, 2002 - NYMEX



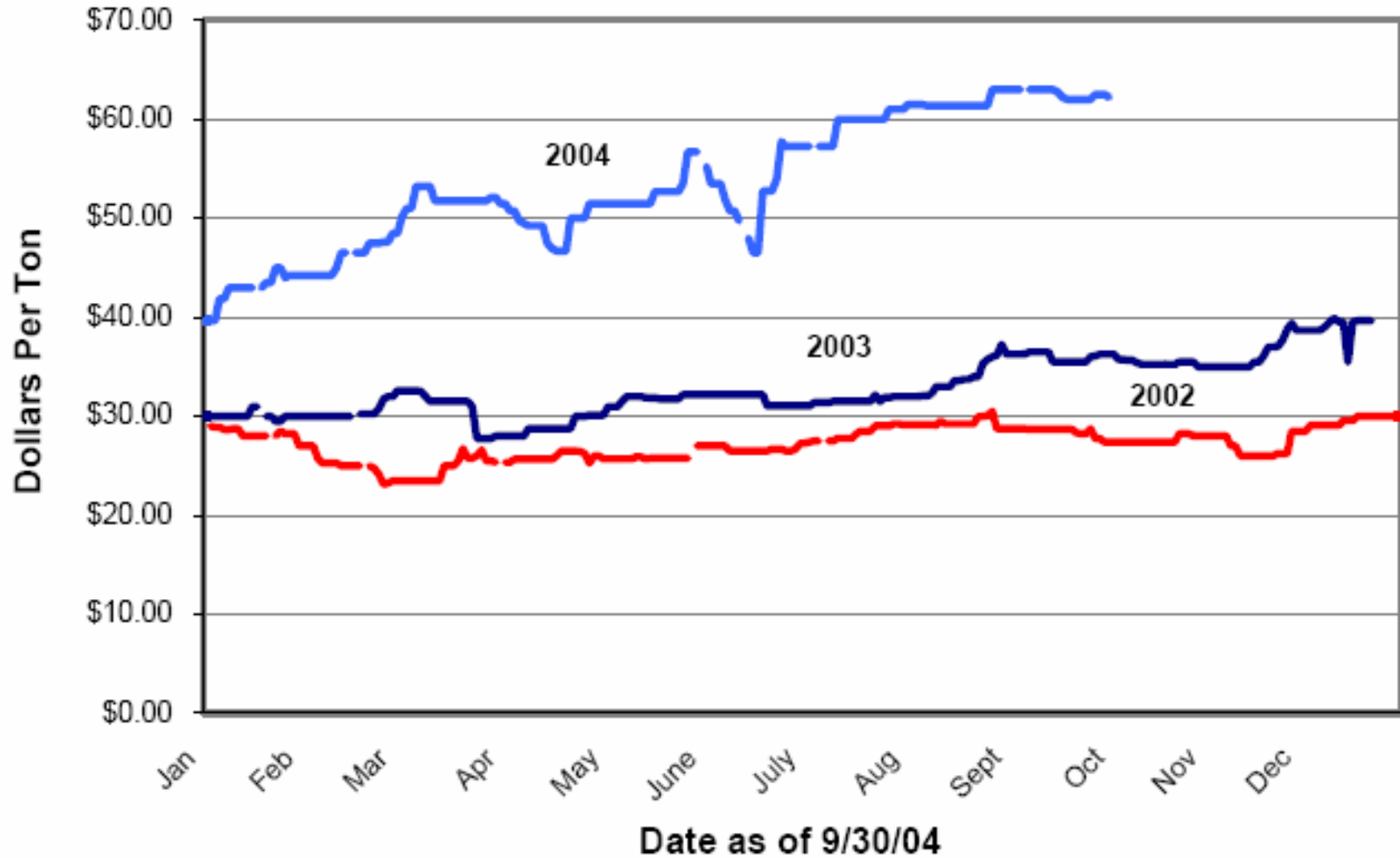
NYMEX heating oil prices are at record levels

NYMEX Heating Oil Prices 2004, 2003 and 2002



NYMEX coal prices

NYMEX Central Appalachian Coal Futures Near-Month Contract
Final Settlement Price



OPEC Capacity - EIA

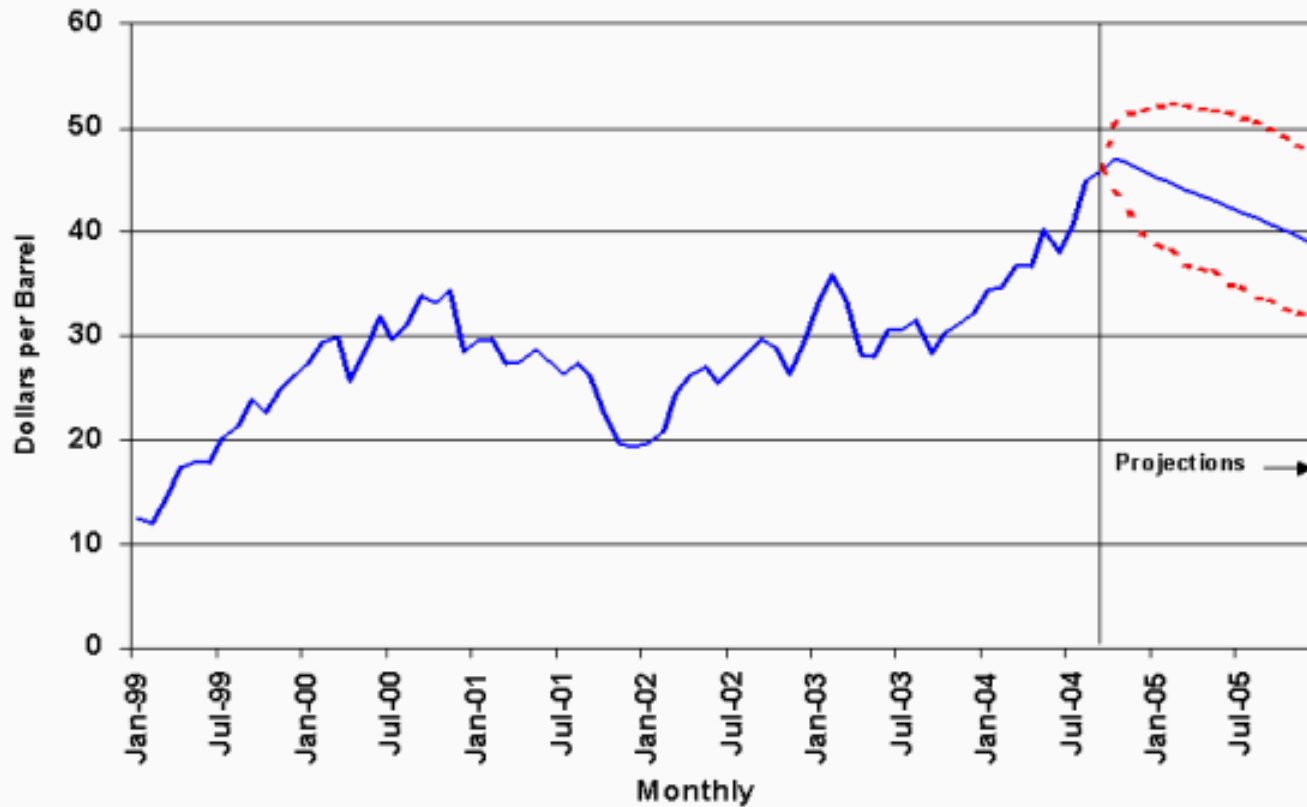
Table 3a. OPEC Oil Production

(Energy Information Administration\Short-Term Energy Outlook --October 2004)

| | 8/1/2004 | 9/1/2004 | Aug-04 | September-04 | | | | |
|--------------------------|------------------|------------------|---------------|---------------|---------------|---------------|--------------------------------|--------------|
| | OPEC 10 Quota | OPEC 10 Quota | | Production | Capacity | High Range | Surplus Capacity High Range | |
| Algeria | 830 | 830 | 1,250 | 1,250 | 1,250 | | 0 | |
| Indonesia | 1,348 | 1,348 | 945 | 940 | 940 | | 0 | |
| Iran | 3,817 | 3,817 | 3,900 | 3,900 | 3,900 | | 0 | |
| Kuwait | 2,087 | 2,087 | 2,400 | 2,400 | 2,400 | | 0 | |
| Libya | 1,392 | 1,392 | 1,550 | 1,550 | 1,550 | | 0 | |
| Nigeria | 2,142 | 2,142 | 2,400 | 2,300 | 2,300 | | 0 | |
| Qatar | 674 | 674 | 850 | 850 | 850 | | 0 | |
| Saudi Arabia | 8,451 | 8,451 | 9,500 | 9,500 | 10,000 | 10,500 | 500 | 1,000 |
| UAE | 2,269 | 2,269 | 2,500 | 2,500 | 2,500 | | 0 | |
| Venezuela | 2,992 | 2,992 | 2,500 | 2,500 | 2,500 | | 0 | |
| OPEC 10 | 26,000 | 26,000 | 27,795 | 27,690 | 28,190 | 28,690 | 500 | 1,000 |
| Iraq | | | 1,800 | 2,300 | 2,300 | | 0 | |
| Crude Oil Total | | | 25,595 | 29,990 | 30,490 | 30,990 | 500 | 1,000 |
| Other Liquids | | | 3,904 | 3,904 | | | | |
| Total OPEC Supply | | | 33,499 | 33,894 | | | | |

EIA Crude Oil Forecast

Figure 1. West Texas Intermediate Crude Oil Price (Base Case and 95% Confidence Interval*)



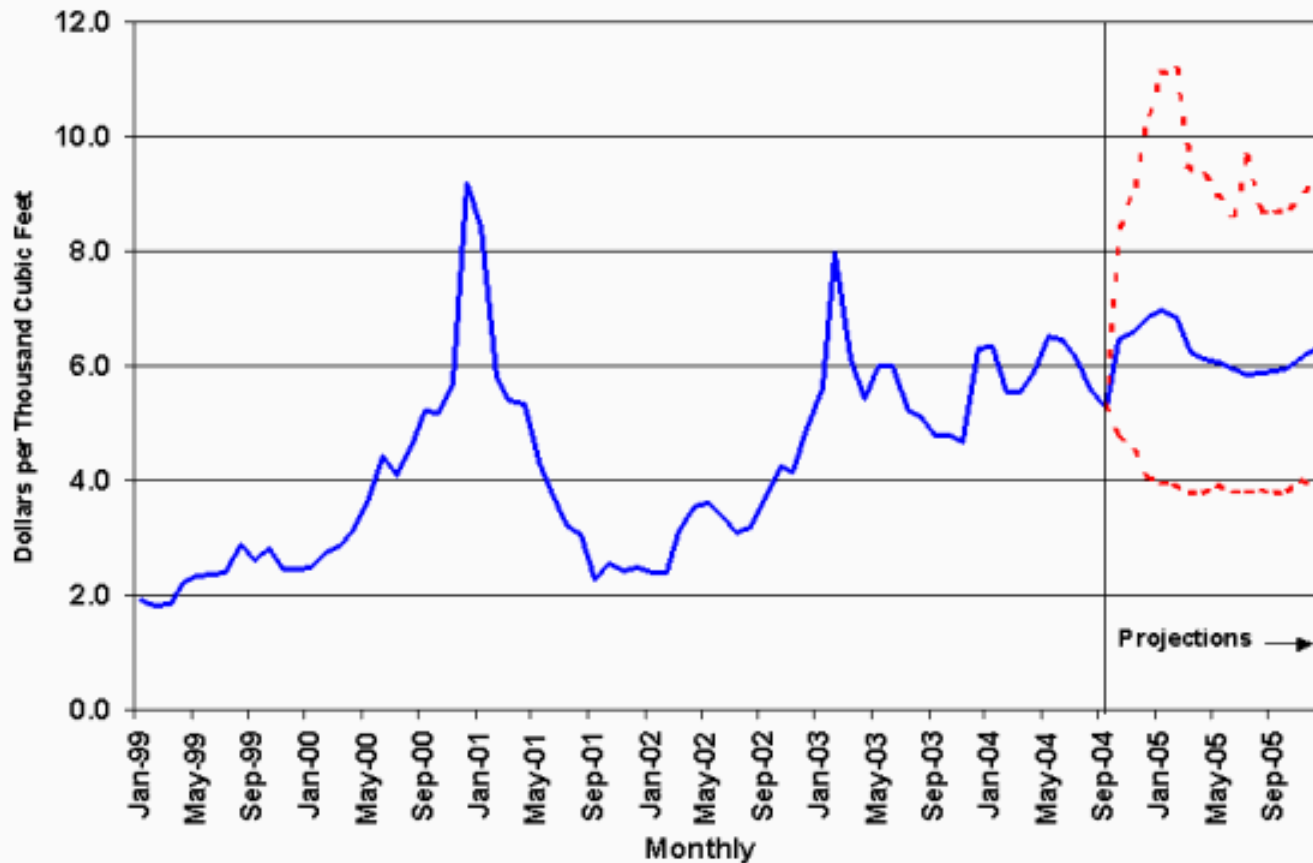
**The confidence intervals show +/- 2 standard errors based on the properties of the model. The ranges do not include the effects of major supply disruptions.*

Short-Term Energy Outlook, October 2004



EIA Natural Gas Forecast

**Figure 6. U.S. Natural Gas Spot Prices
(Base Case and 95% Confidence Interval*)**



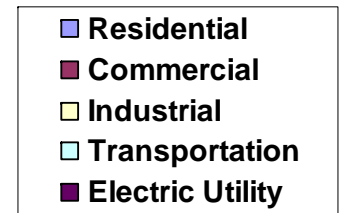
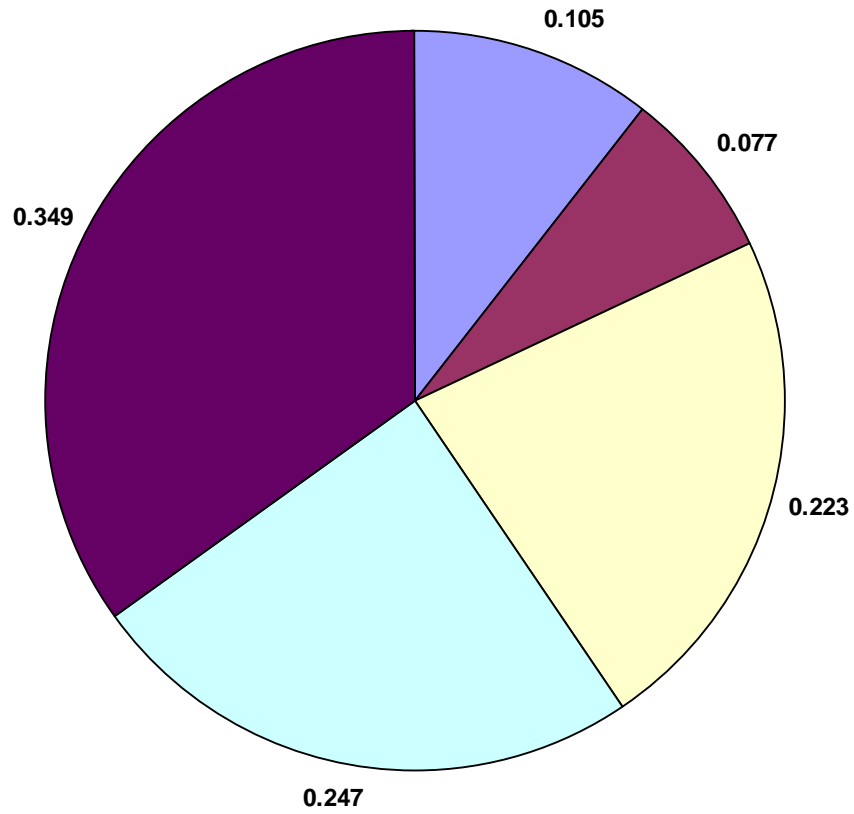
*The confidence intervals show +/- 2 standard errors based on the properties of the model. The ranges do not include the effects of major supply disruptions.

Sources: History: Natural Gas Week; Projections: Short-Term Energy Outlook, October 2004.

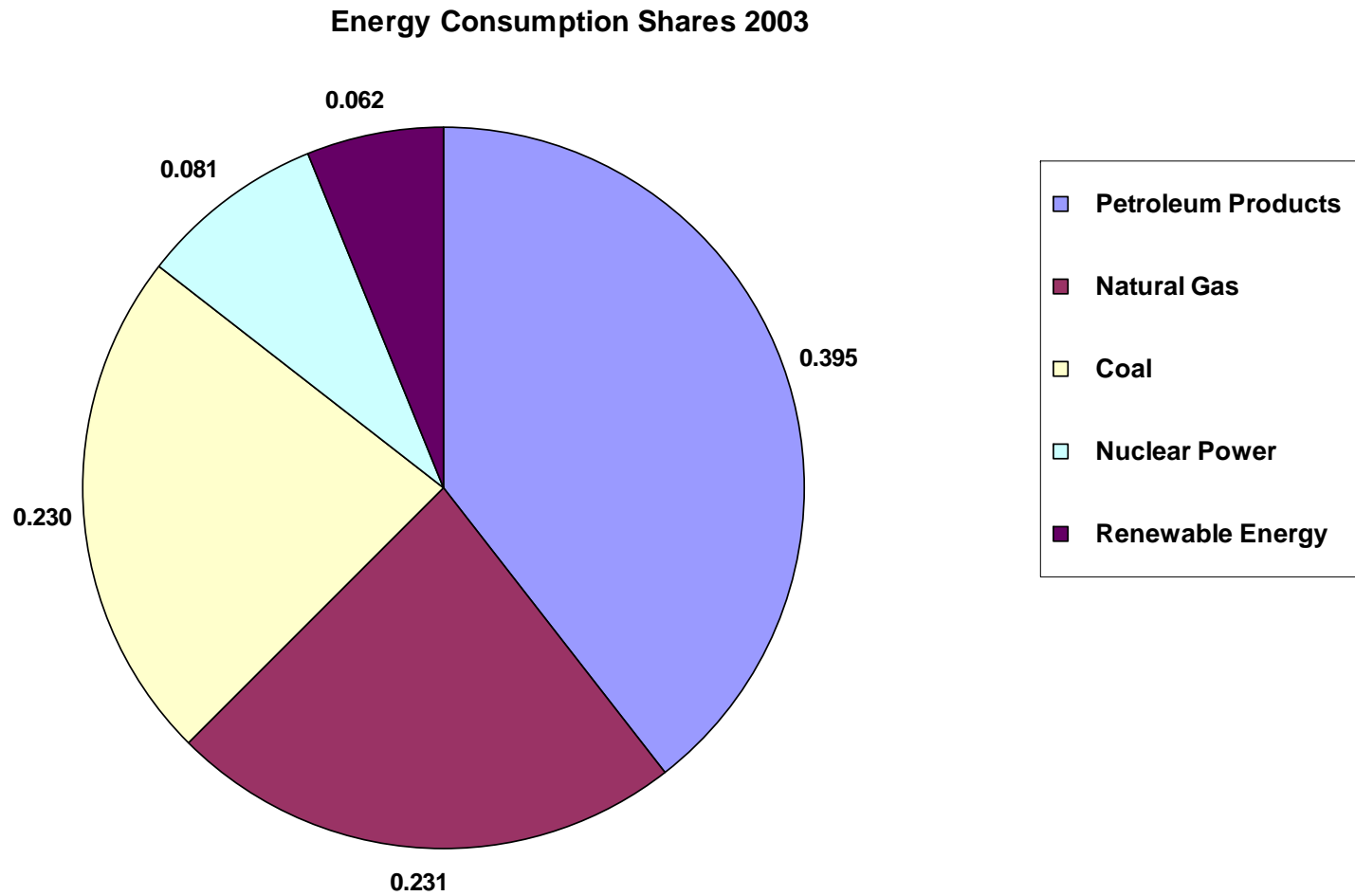


U.S. Energy Consumption Shares – 2003 - EIA

Energy Consumption Shares

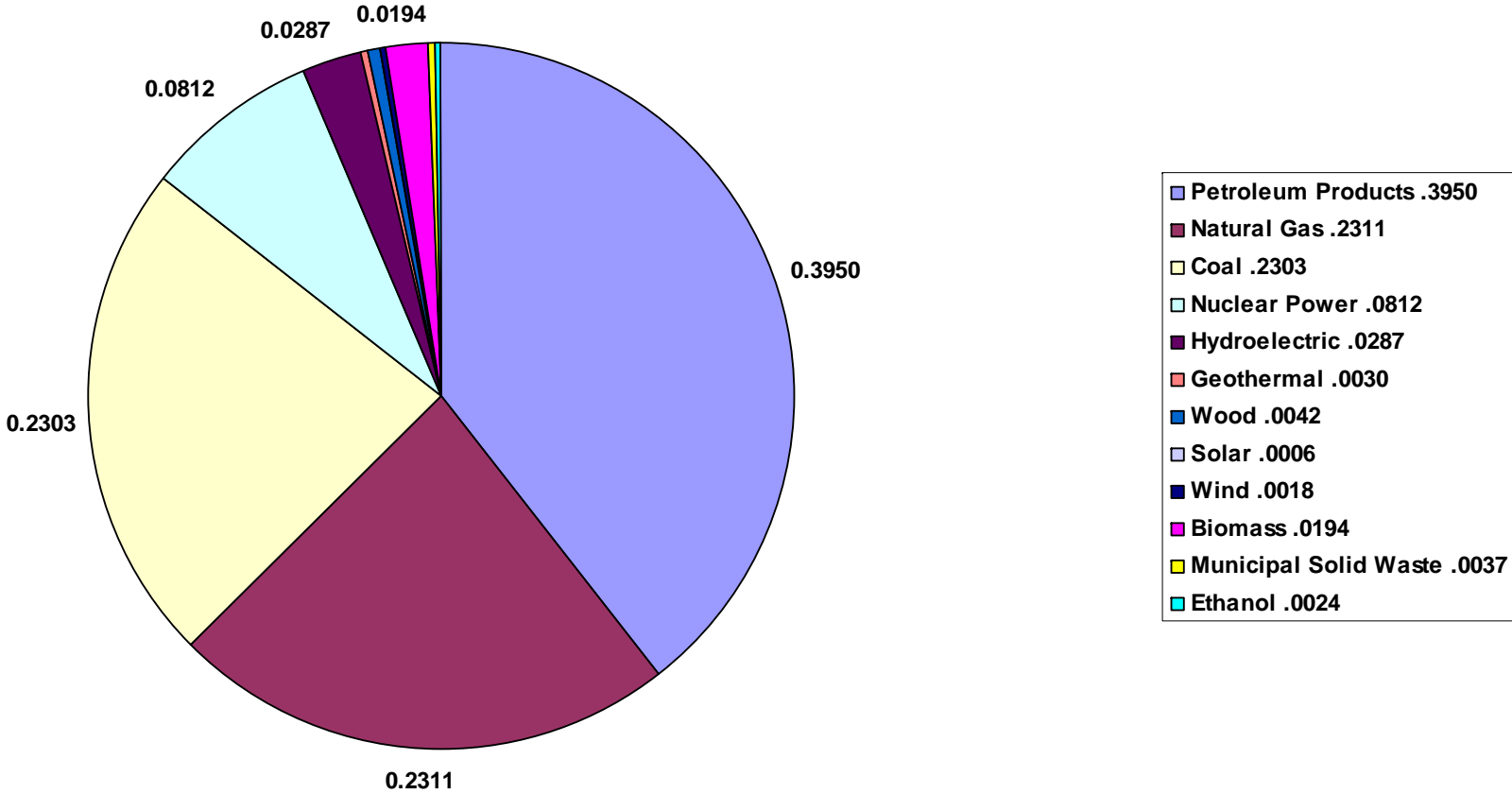


U.S. Energy Consumption Shares – 2003 - EIA



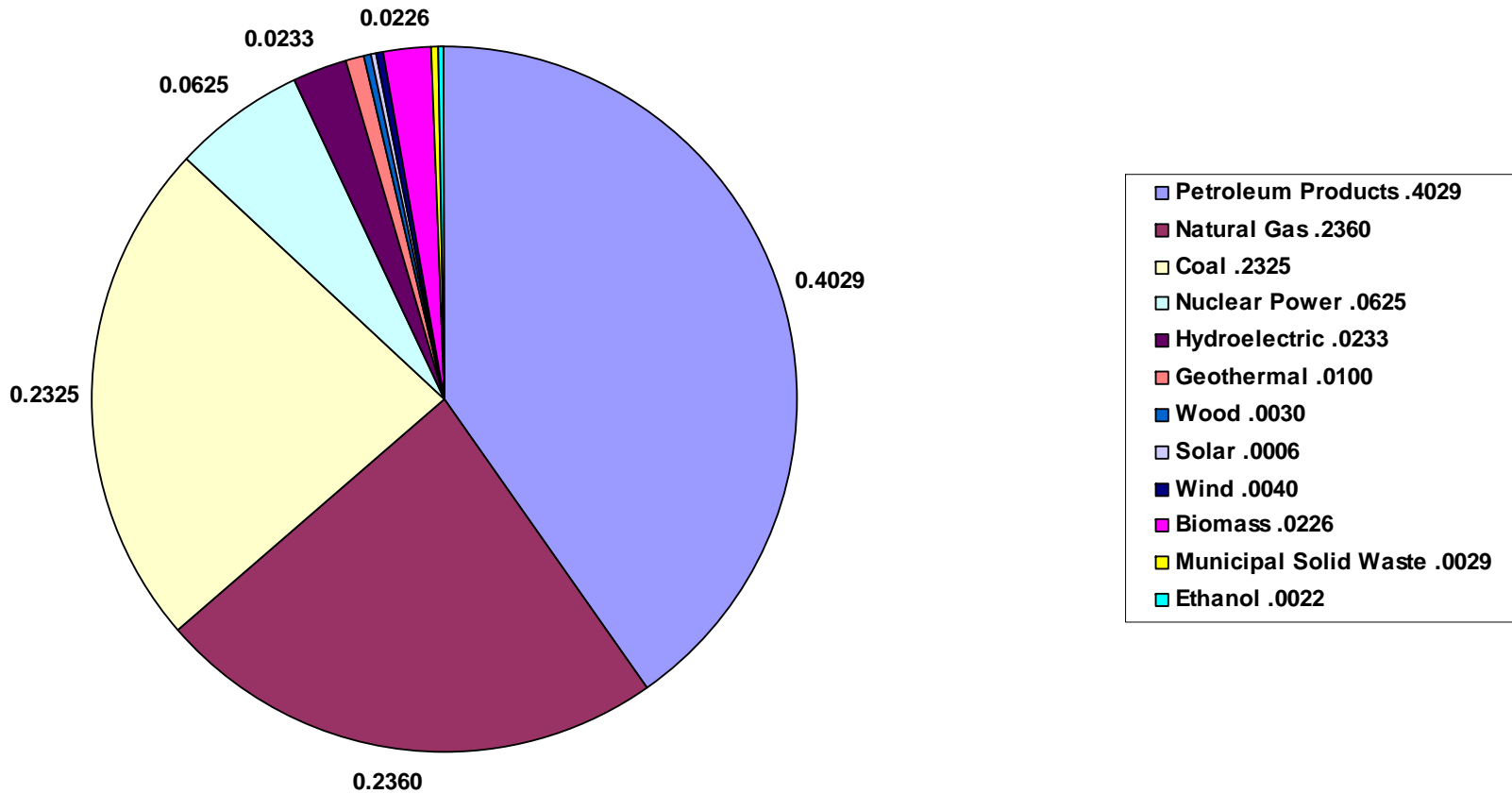
U.S. Energy Consumption Shares – 2003 - EIA

Energy Shares - 2003



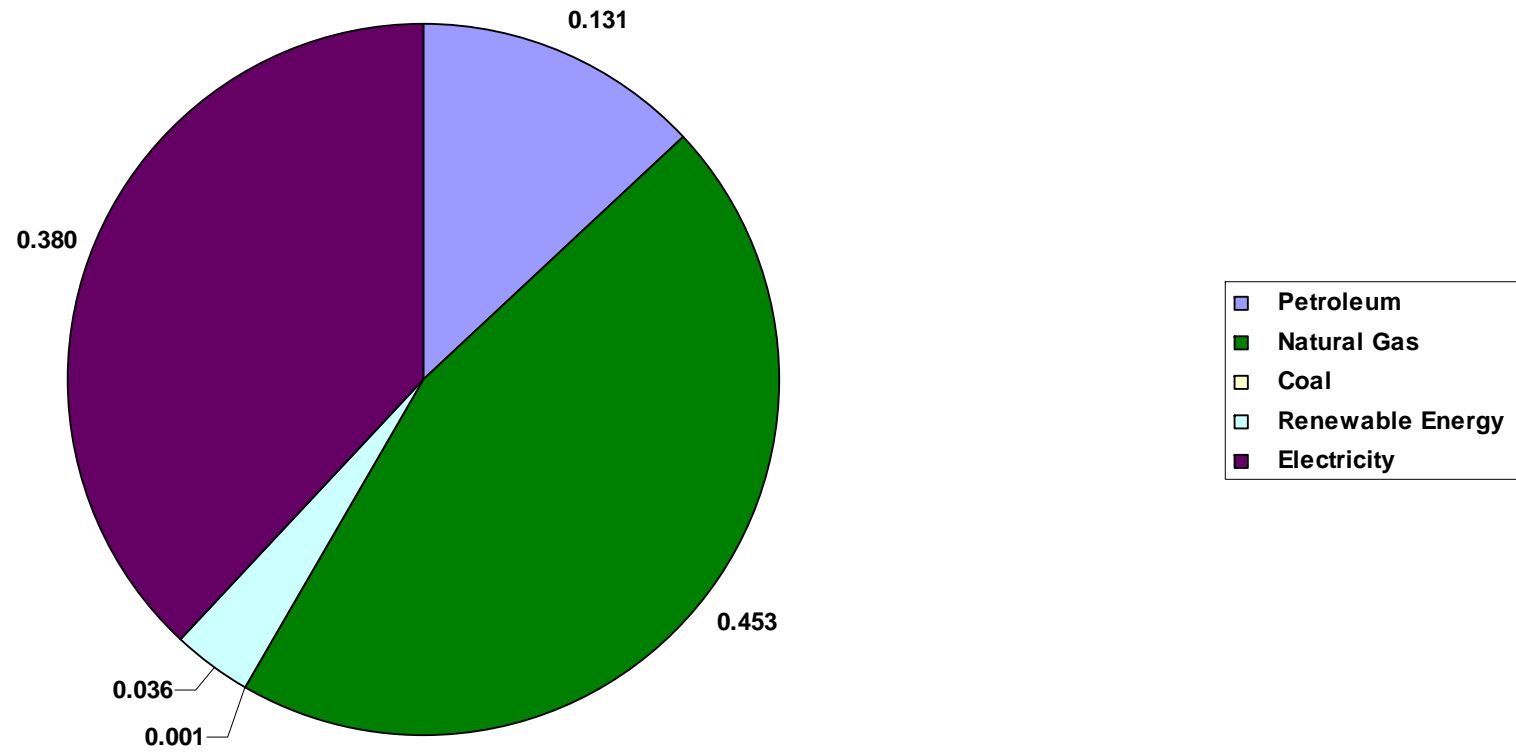
U.S. Energy Consumption Shares – 2025 - EIA

Energy Shares - 2025



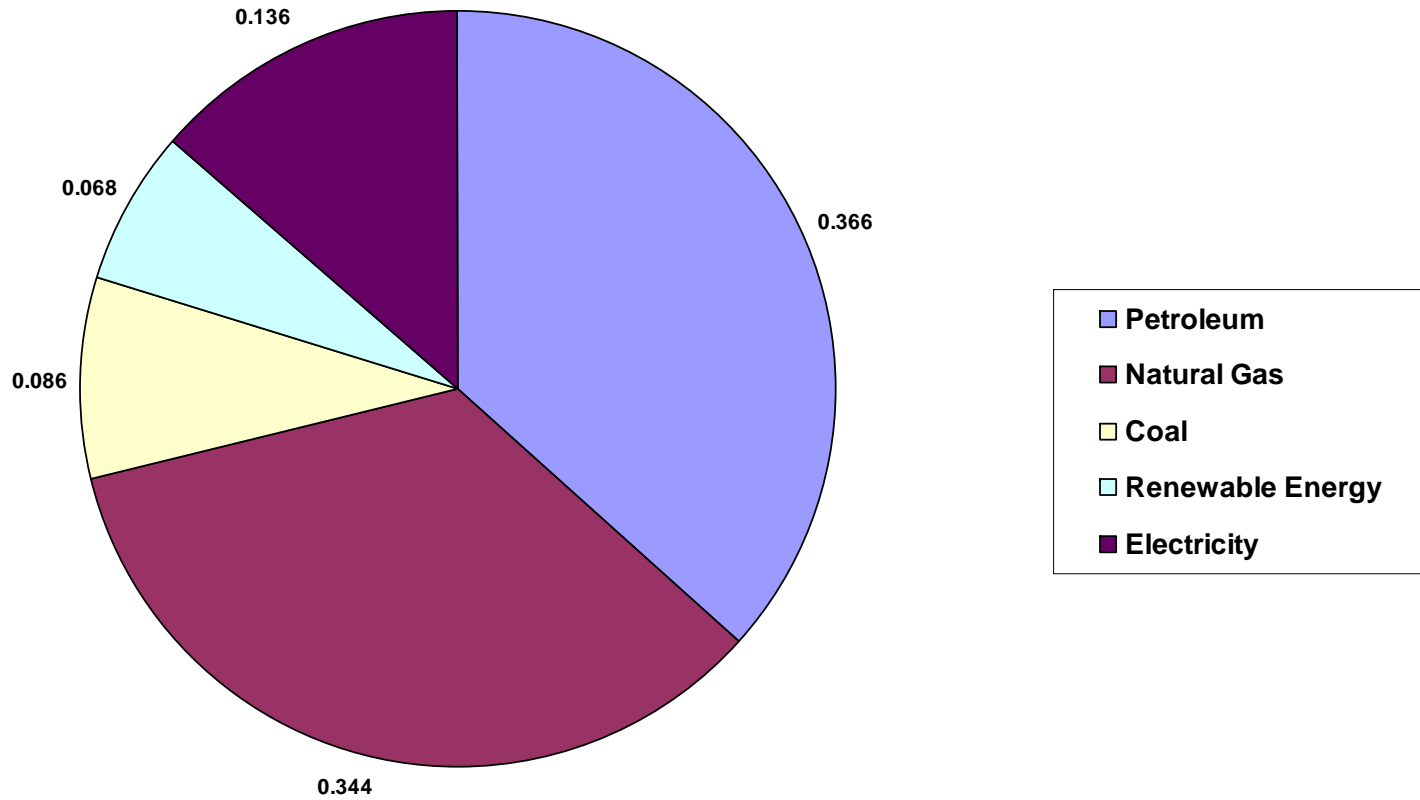
U.S. Residential Energy Consumption Shares – 2003 - EIA

Residential Energy Consumption - 2003
Shares



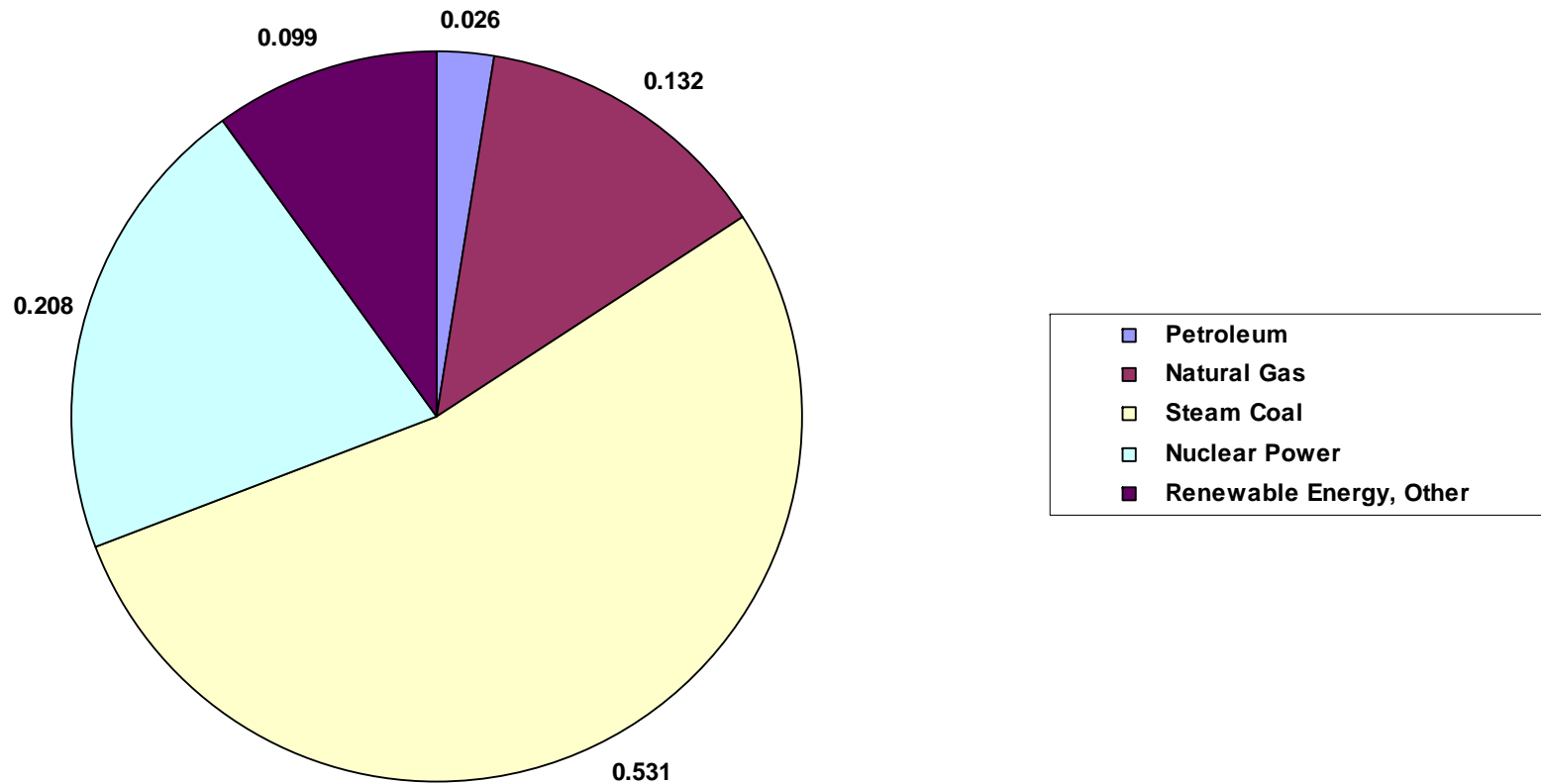
U.S. Industrial Energy Consumption Shares – 2003 - EIA

Industrial Energy Consumption



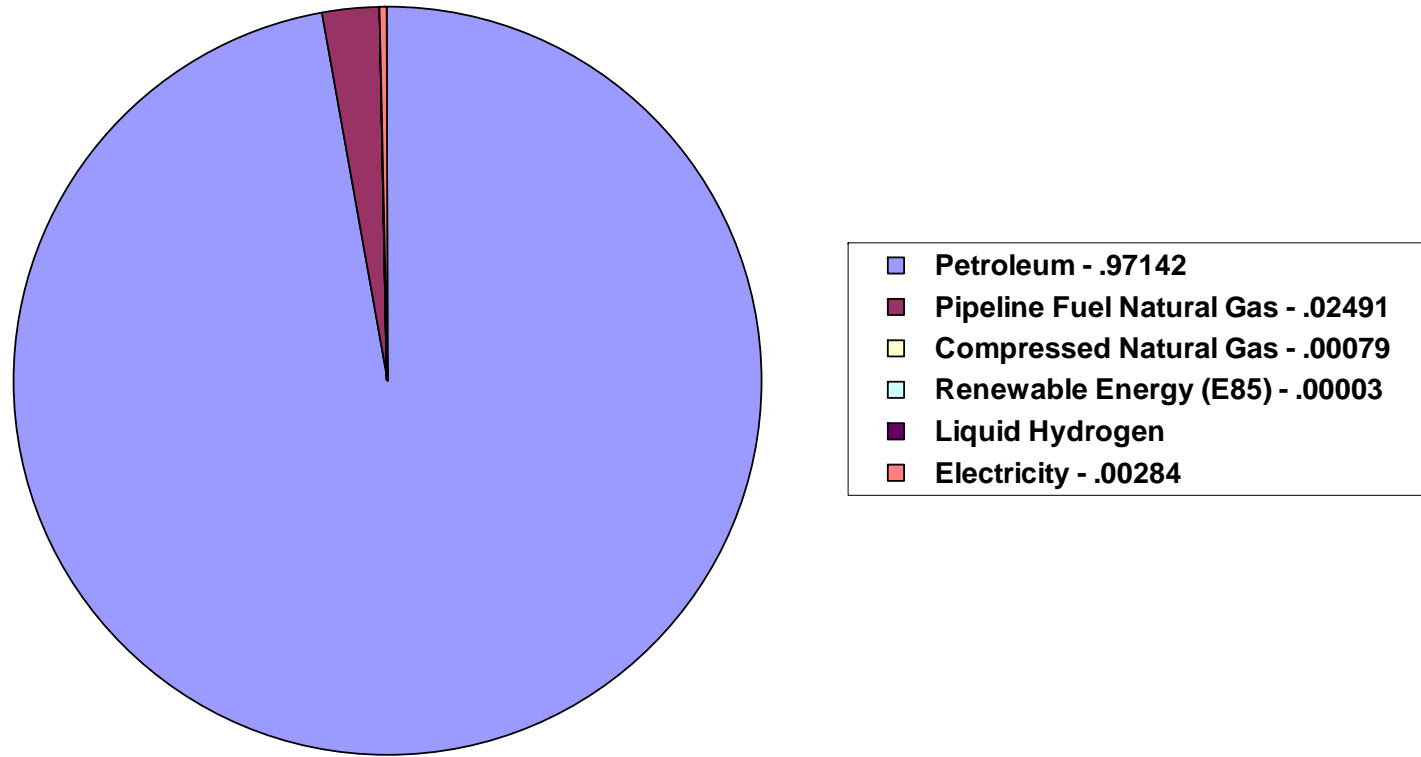
U.S. Electricity Energy Consumption Shares – 2003 - EIA

Electricity Generation - 2003
Shares



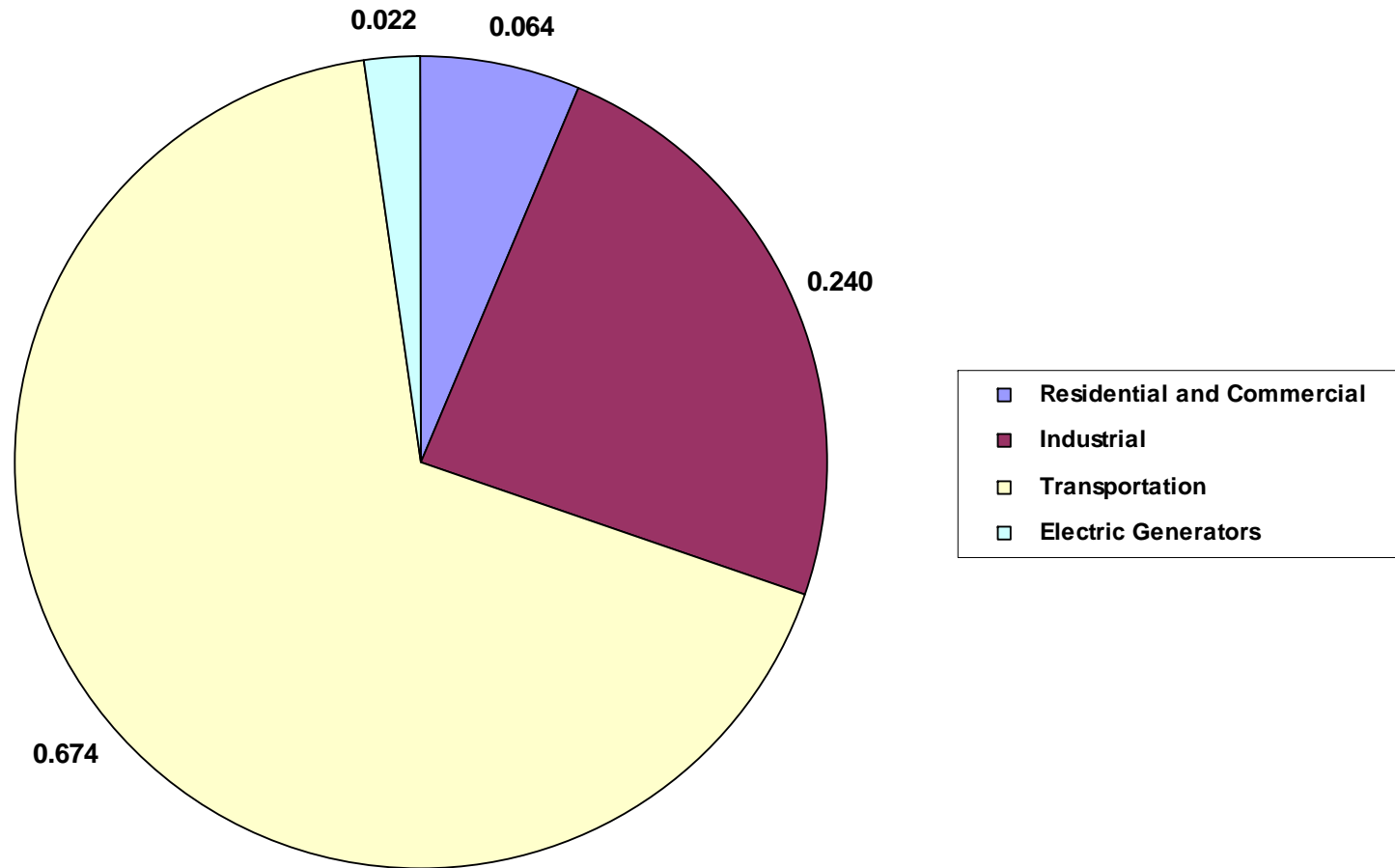
Transportation Fuel Shares – 2003 - EIA

Transportation Fuel Shares - EIA - 2003

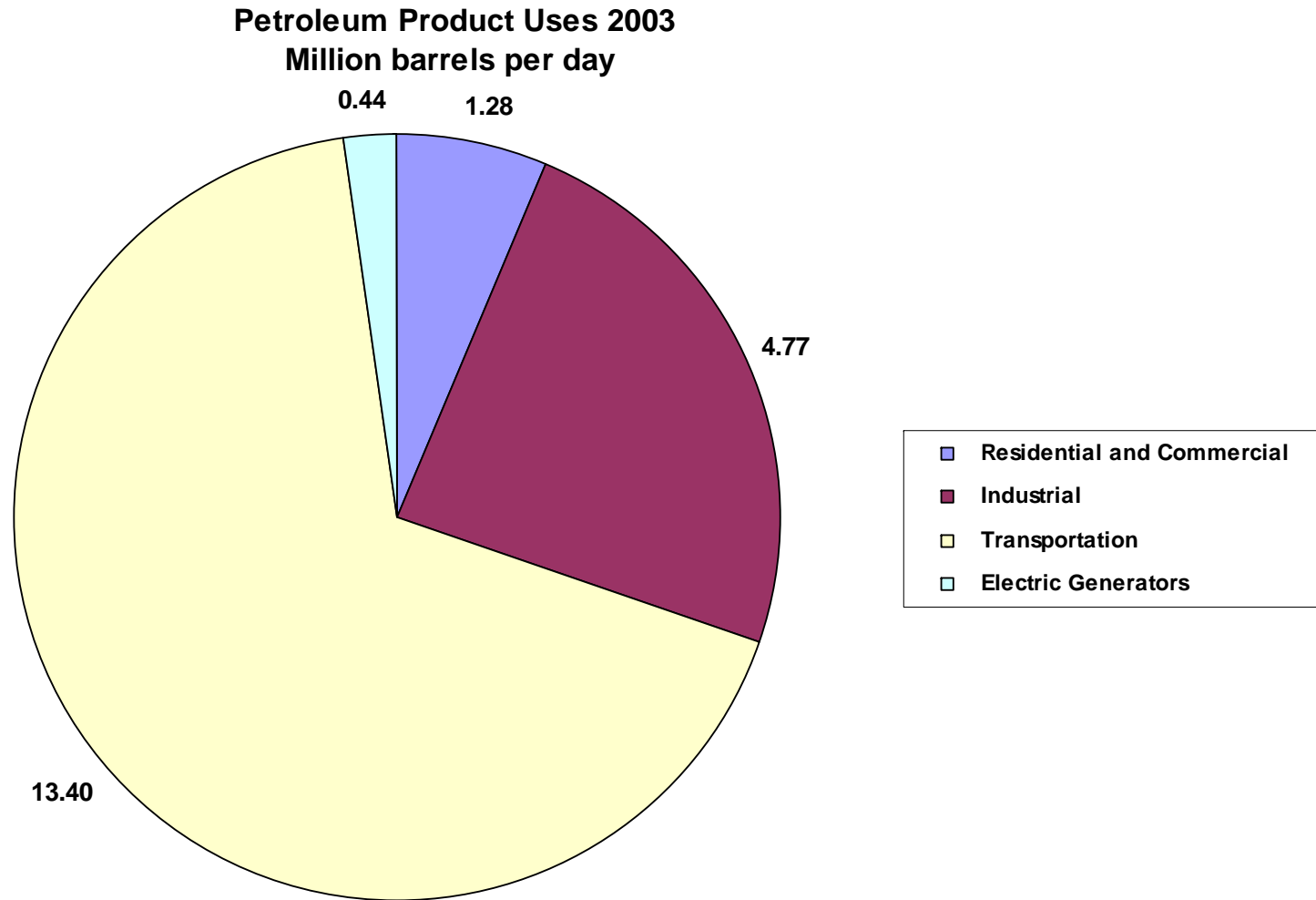


Petroleum Product Use Shares – 2003 - EIA

Petroleum Product Use Shares 2003

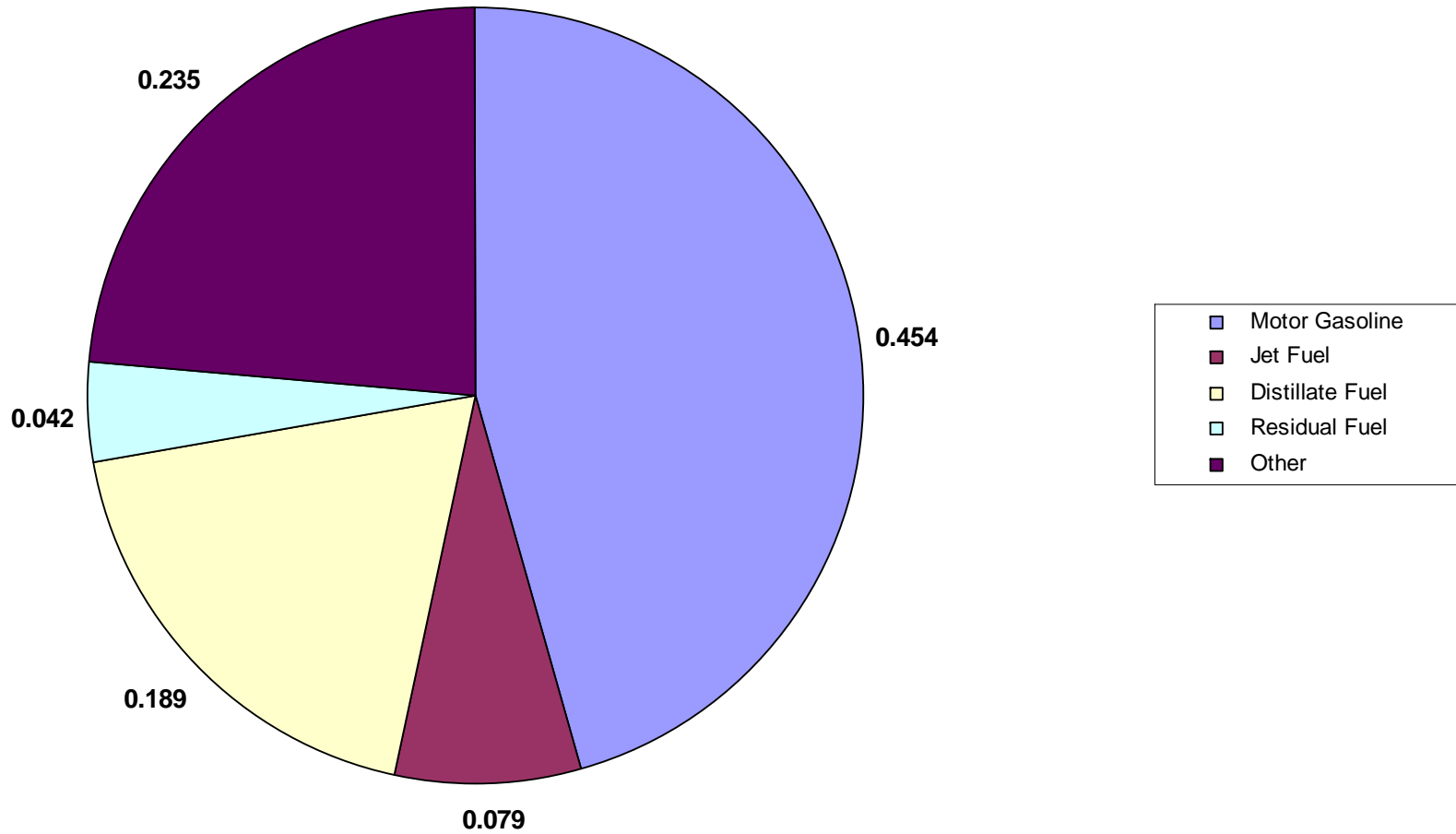


Petroleum Product Usage – 2003 - EIA

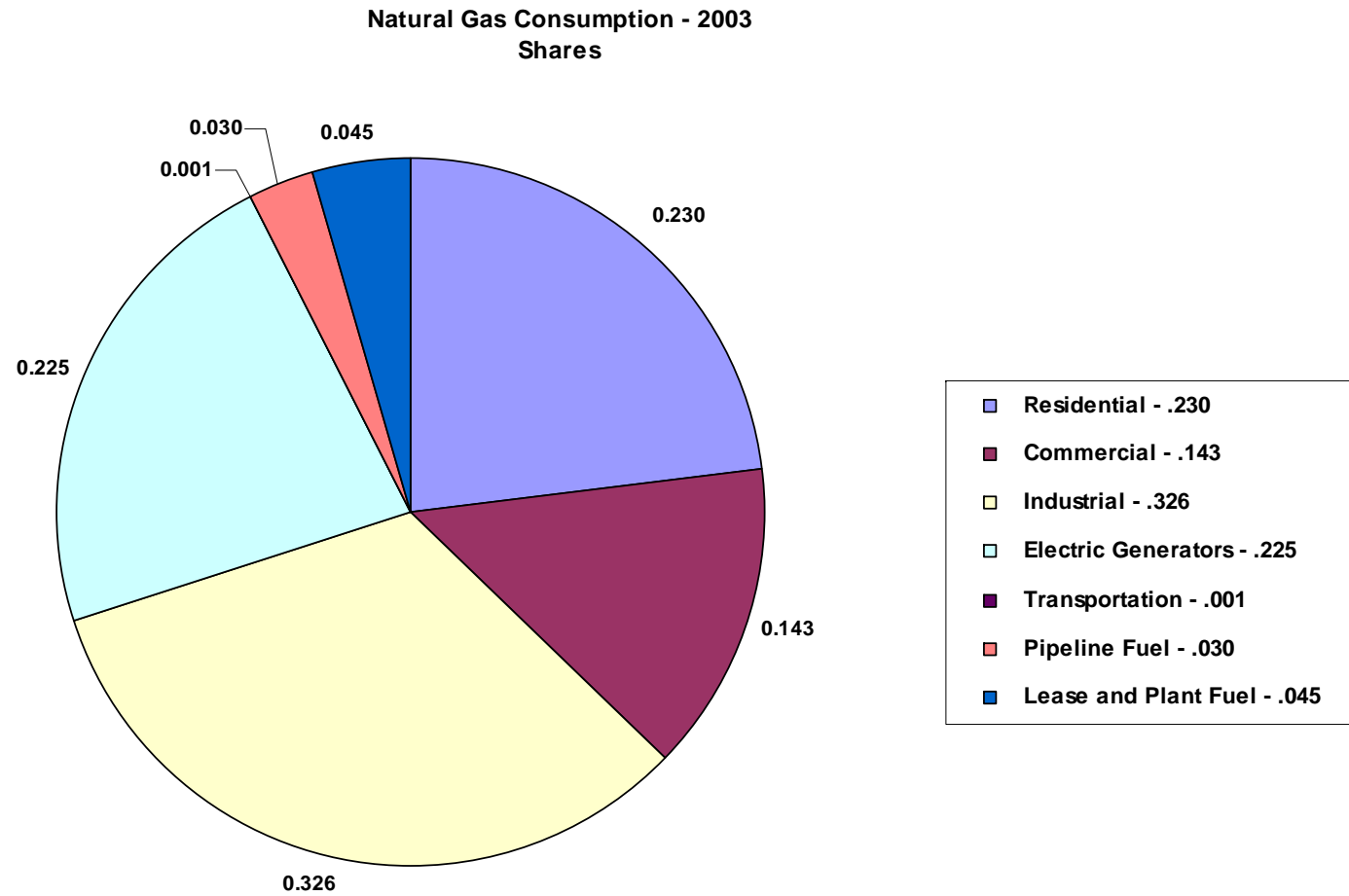


Petroleum Product Shares – 2003 - EIA

Petroleum Product Shares 2003



Natural Gas Shares – 2003 - EIA



U.S. Energy Consumption – Quadrillion Btus

AEO 2004 - EIA

| Fuel | 2003 | 2025 | Percent Change |
|--------------------|-------------|--------------|-----------------------|
| Petroleum | 38.7 | 55.0 | 41.9 |
| Share | 39.5% | 40.3% | |
| Natural Gas | 22.7 | 32.2 | 42.1 |
| Share | 23.1% | 23.6% | |
| Coal | 22.6 | 31.7 | 40.4 |
| Share | 23.0% | 23.2% | |
| Nuclear | 8.0 | 8.5 | 7.1 |
| Share | 8.1% | 6.2% | |
| Other | 6.1 | 9.0 | 47.5 |
| Share | 6.2% | 6.6% | |
| Total | 98.1 | 136.5 | 39.2 |

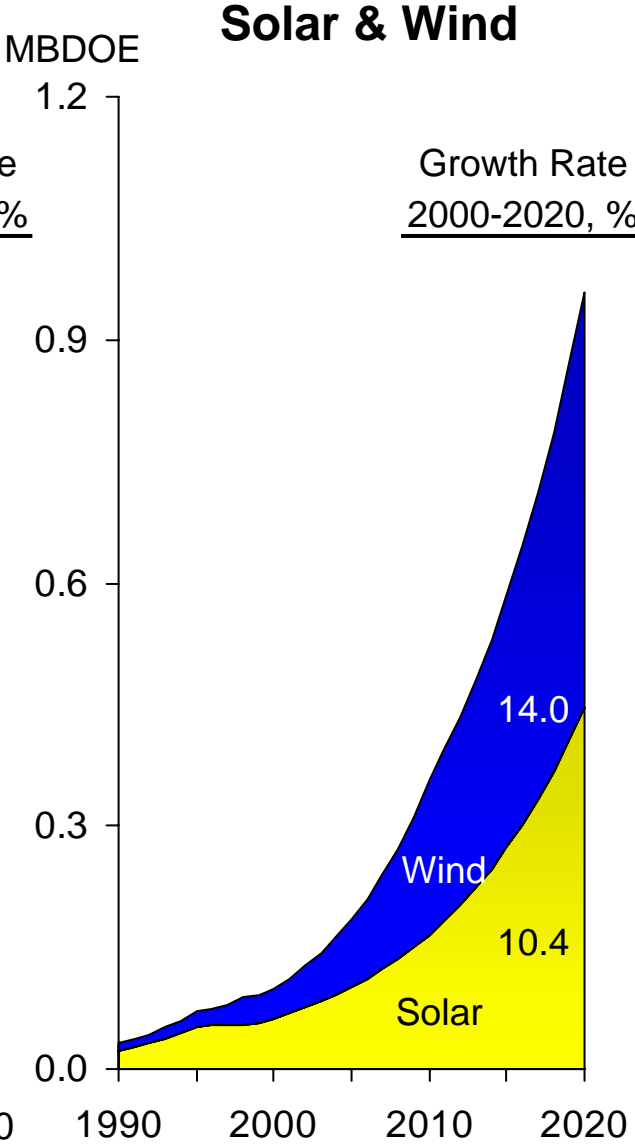
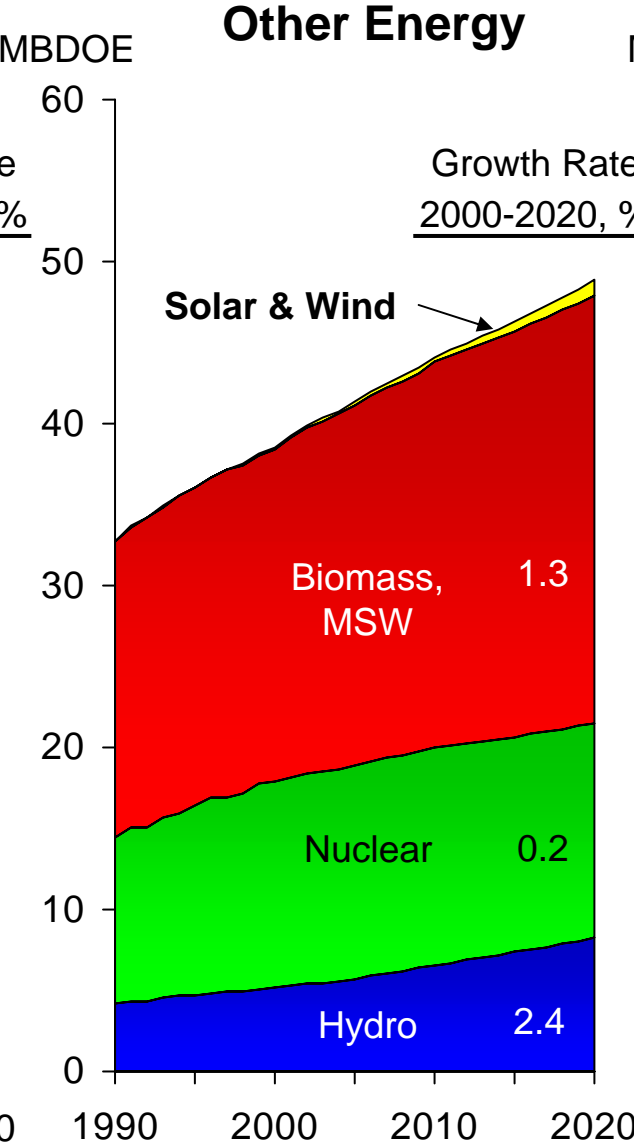
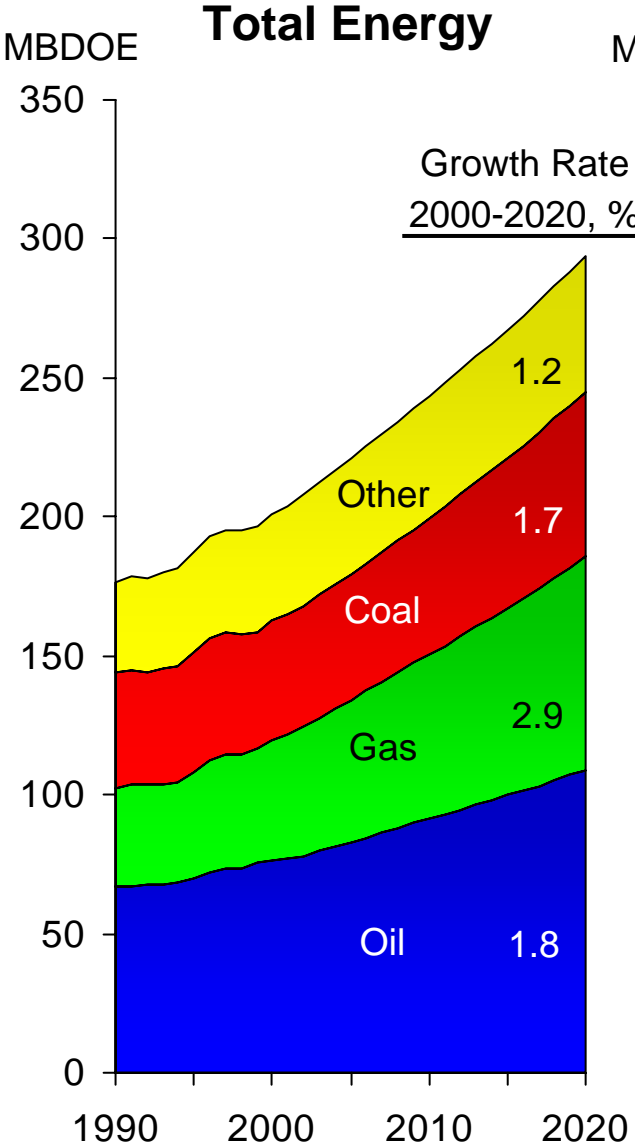
EIA Forecast to 2003 to 2025

- **Real Gross Domestic Product is projected to increase by 92 percent**
- **Population is projected to increase by 19 percent**
- **Renewable energy supply is projected to increase by 50 percent**
- **Energy efficiency (output per unit of energy) is projected to improve by 27 percent**
- **Net petroleum imports are projected to increase, providing 70 percent of U.S. demand in 2025.**
- **Growth in petroleum demand is led by transportation, where efficiency improvements are more than offset by growing travel demand and petroleum's market share increases slightly.**
- **Crude oil production falls by 19 percent.**
- **Imports of crude oil grow by 65 percent.**
- **Petroleum product imports increase by 80 percent.**
- **Refinery capacity expands from 16.8 to 21.8 million barrels per day**
- **Refinery utilization is projected to increase from 91 to 95 percent**

World Energy Consumption – Quadrillion Btus - EIA

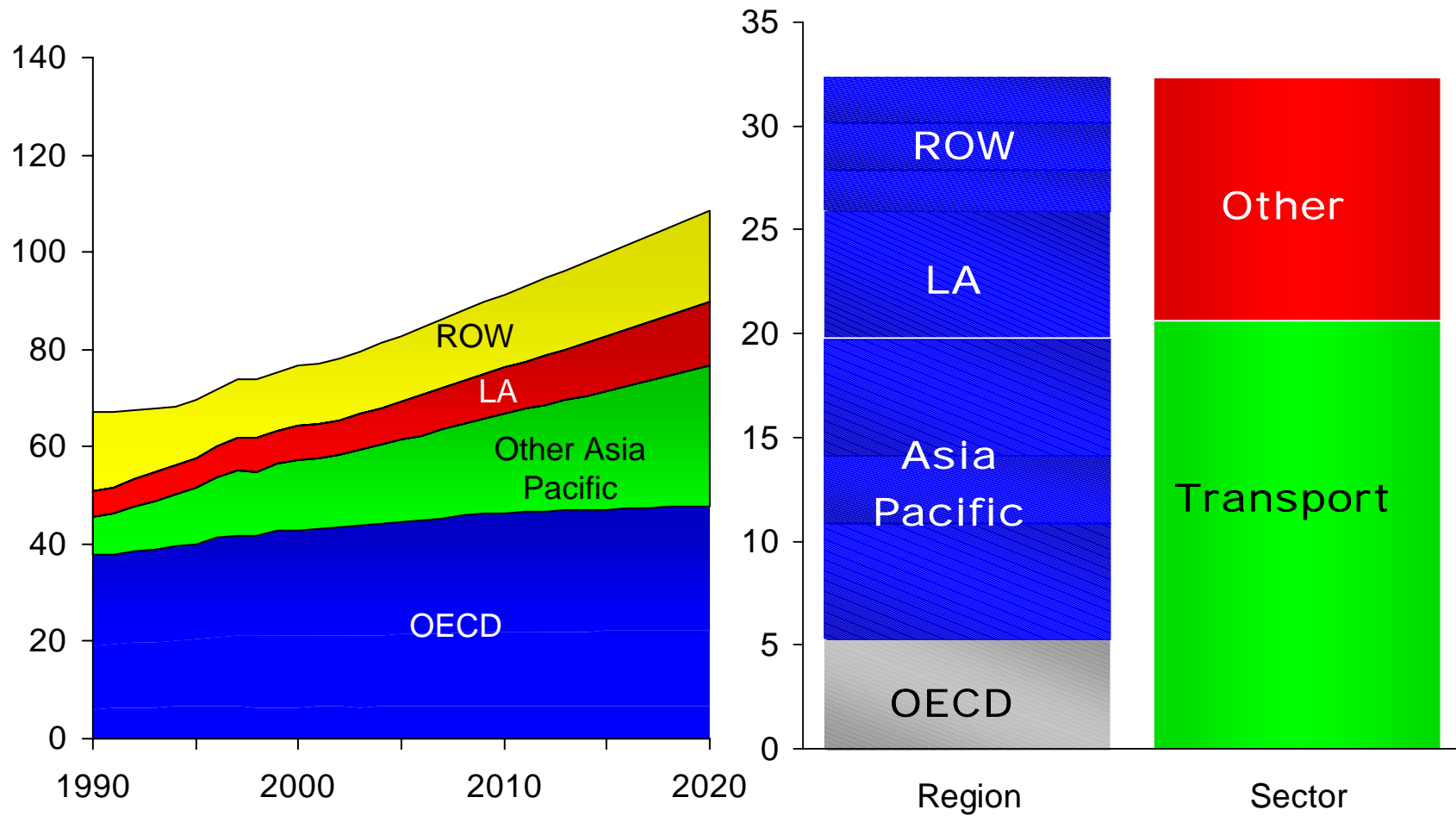
| Fuel | 2001 | 2025 | Percent Change |
|--------------------|--------------|--------------|-----------------------|
| Petroleum | 156.5 | 245.3 | 56.7 |
| Share | 38.7% | 39.4% | |
| Natural Gas | 93.1 | 156.5 | 68.1 |
| Share | 23.1% | 25.1% | |
| Coal | 95.9 | 140.2 | 46.2 |
| Share | 23.7% | 22.5% | |
| Nuclear | 26.4 | 30.4 | 15.2 |
| Share | 6.5% | 4.9% | |
| Other | 32.2 | 50.4 | 56.5 |
| Share | 8.0% | 8.1% | |
| Total | 403.9 | 622.9 | 54.2 |

World Energy Demand



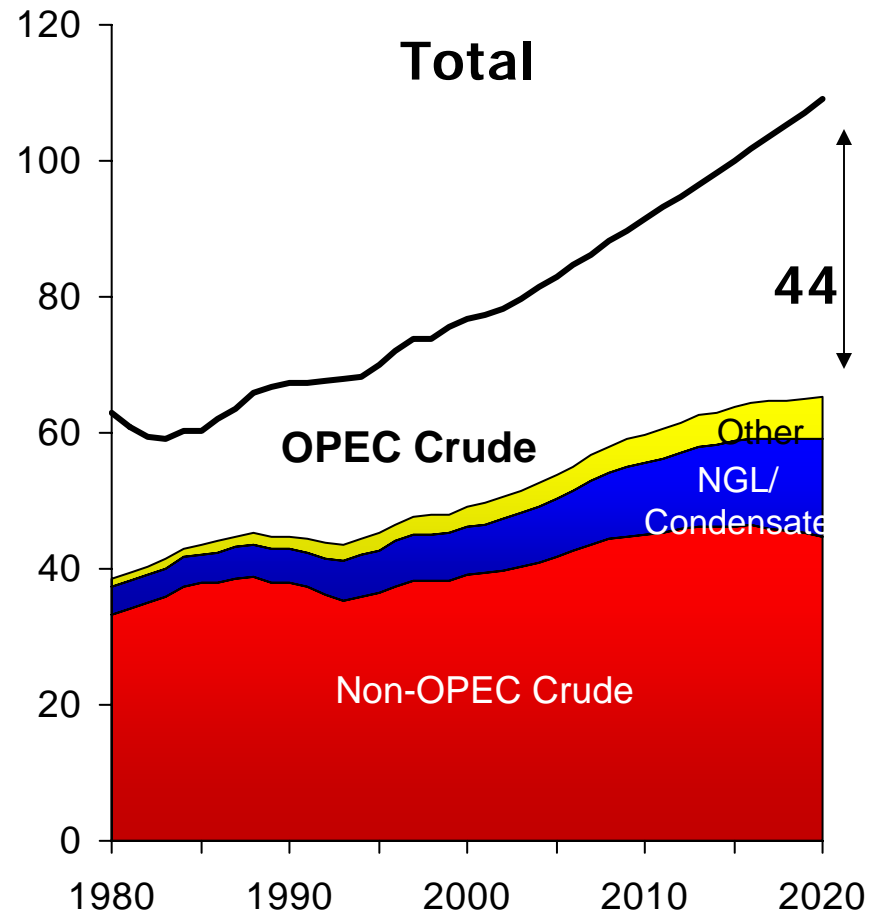
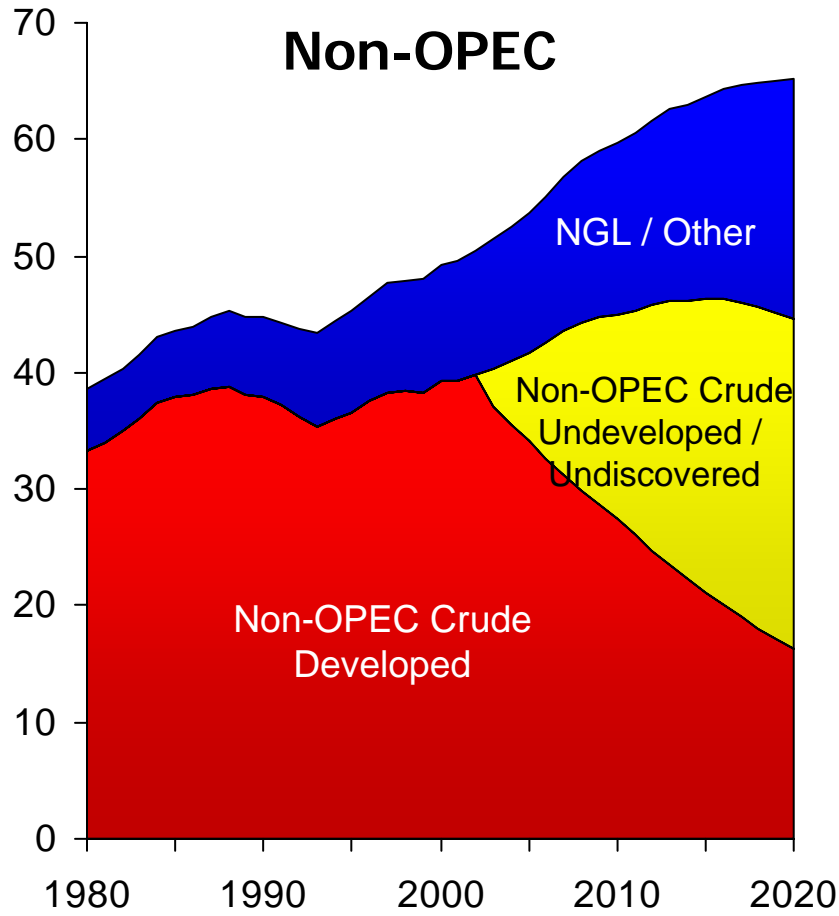
Source: ExxonMobil

Forecast demand growth



Source: ExxonMobil

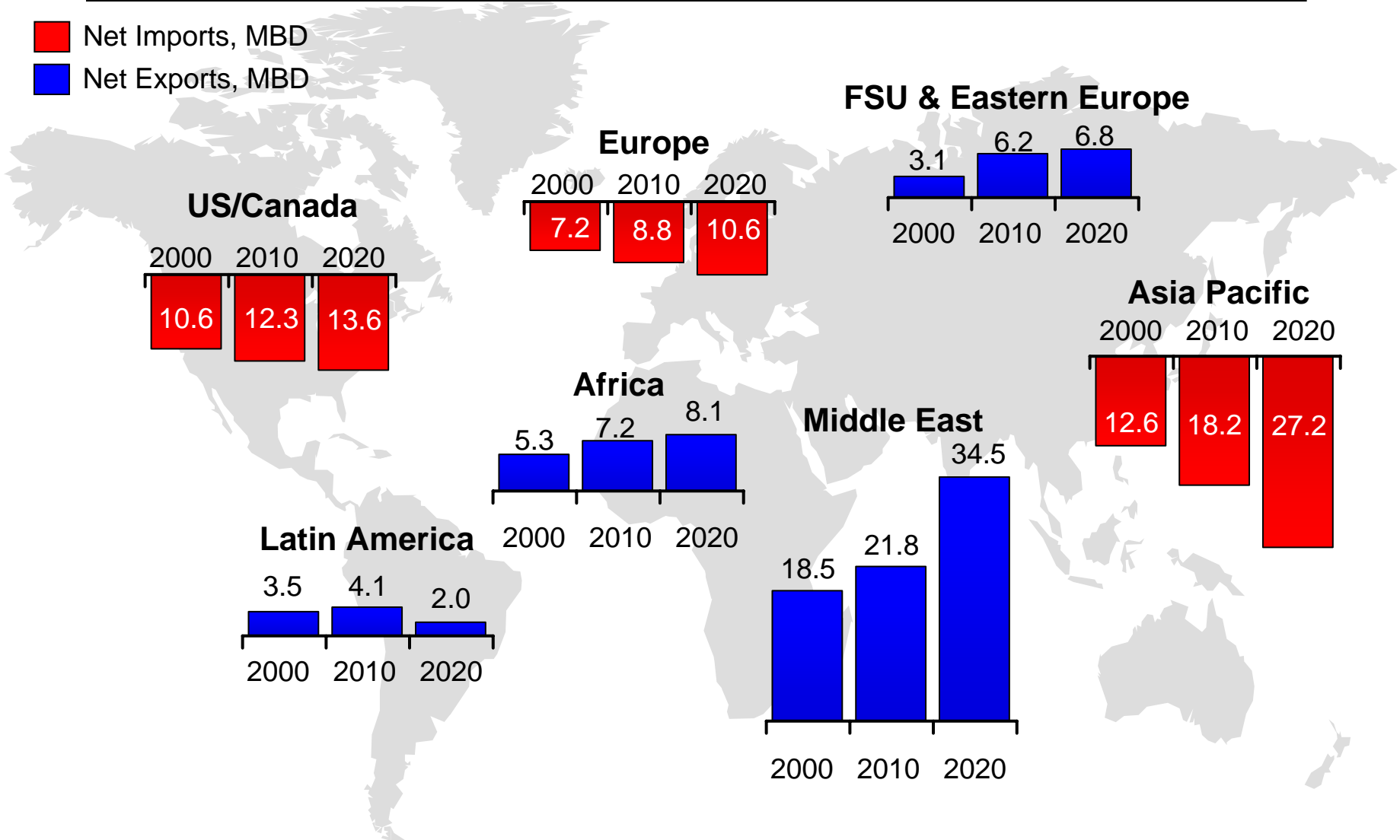
Massive supply growth needed



Source: ExxonMobil

World Oil Balance: 2000 - 2020

Net Imports, MBD
Net Exports, MBD



Source: ExxonMobil

Technology

- **Can be expected to adapt over several generations**
- **Markets work – they provide flexibility and discipline**
- **Attempts to replace oil prematurely are likely to be costly**
- **“Running out” is not likely**

Developing additional supply will be challenging

- **Non-OPEC production shifting to new challenging frontiers**
- **Gulf OPEC needs to double capacity**
- **Capital needs are enormous**

Policy

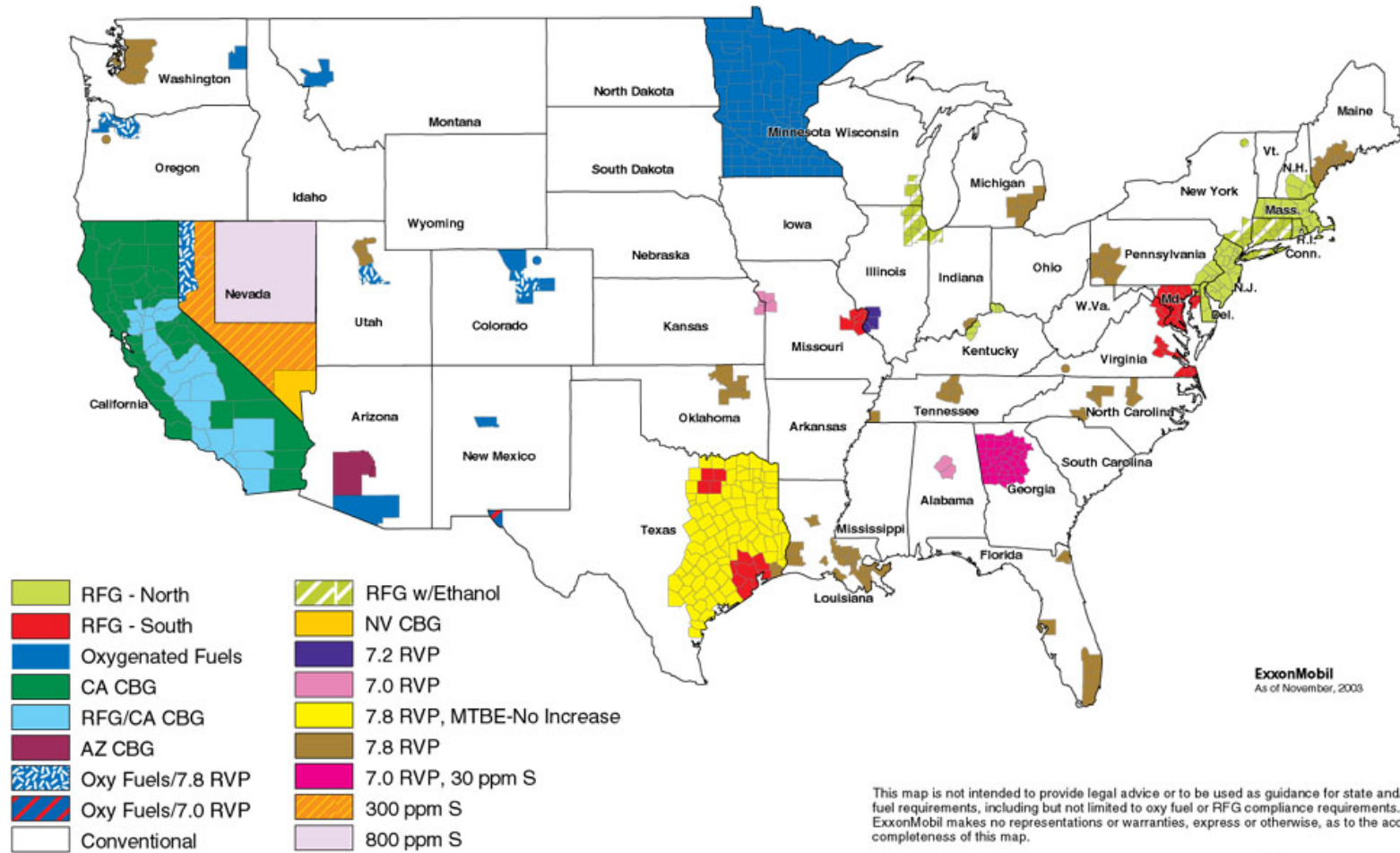
- **Promotion of free investment and trade is essential**
- **Accurate depiction of impact of resource development is key**
- **Opposition to oil development is a serious threat**

One Word

- **Hydrates**

First – Do No Harm!

U.S. Gasoline Requirements



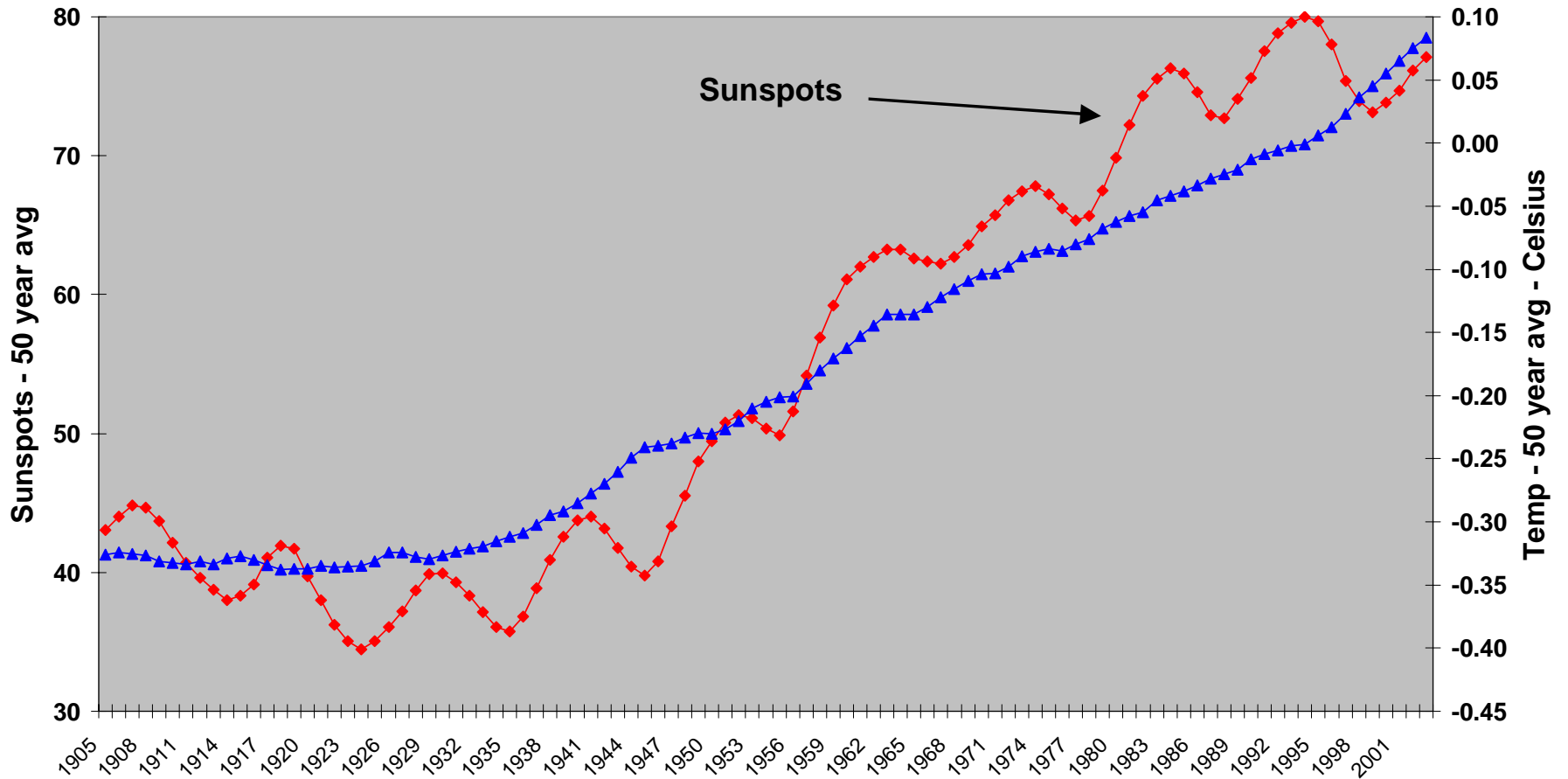
ExxonMobil
As of November, 2003

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.

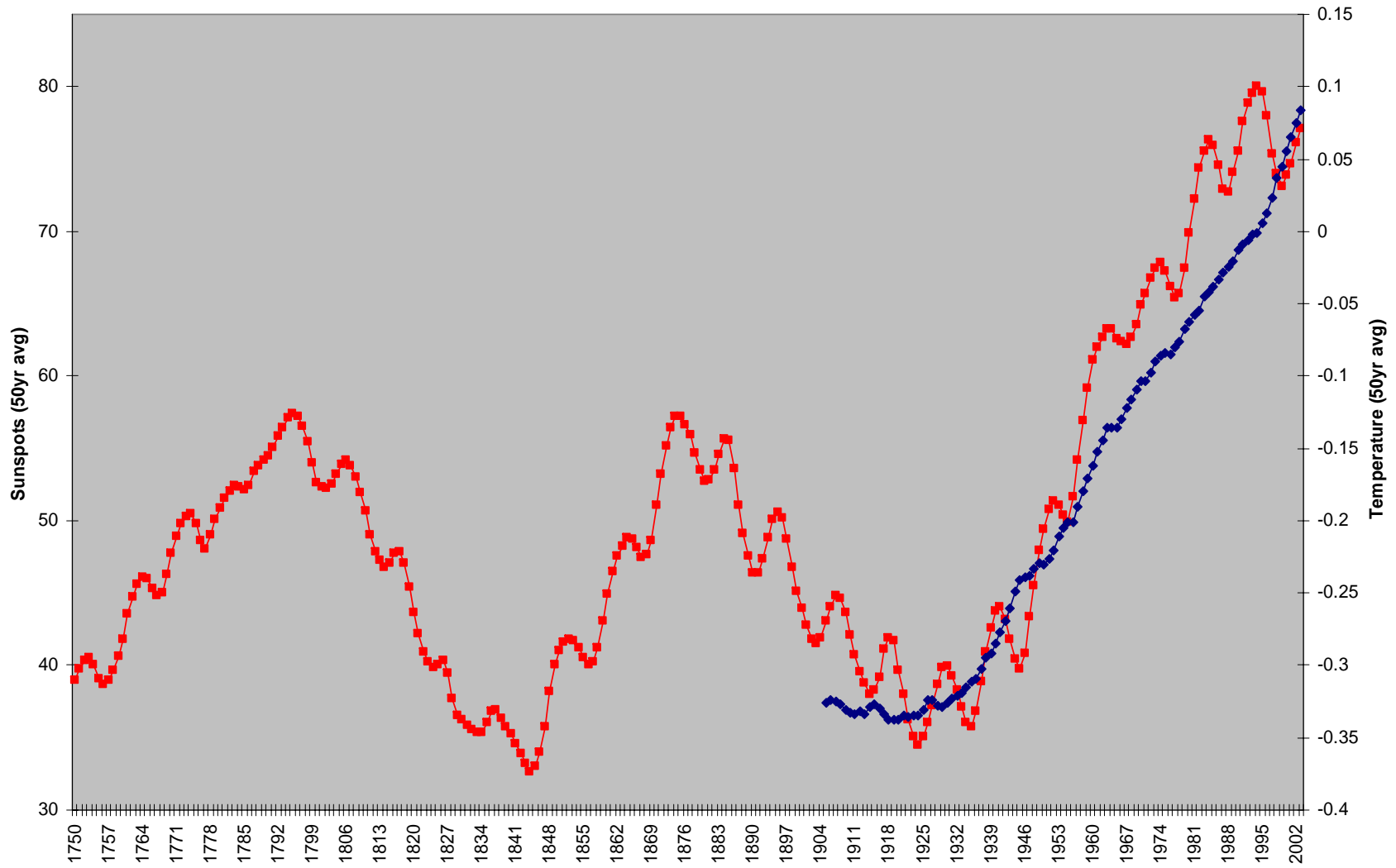
K.W. Gardner
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Global Change – What is really happening?

Sunspots and Temperature

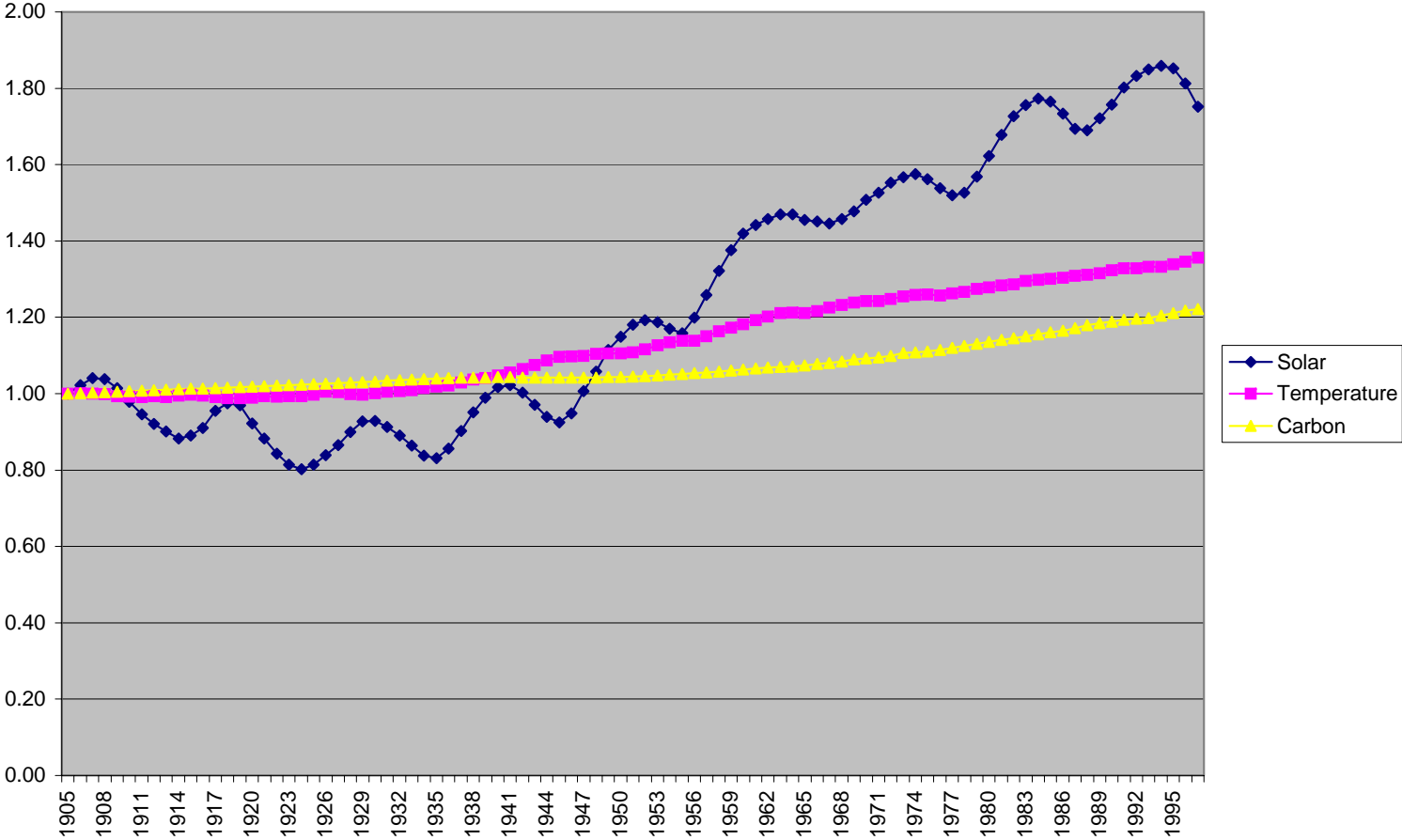


History

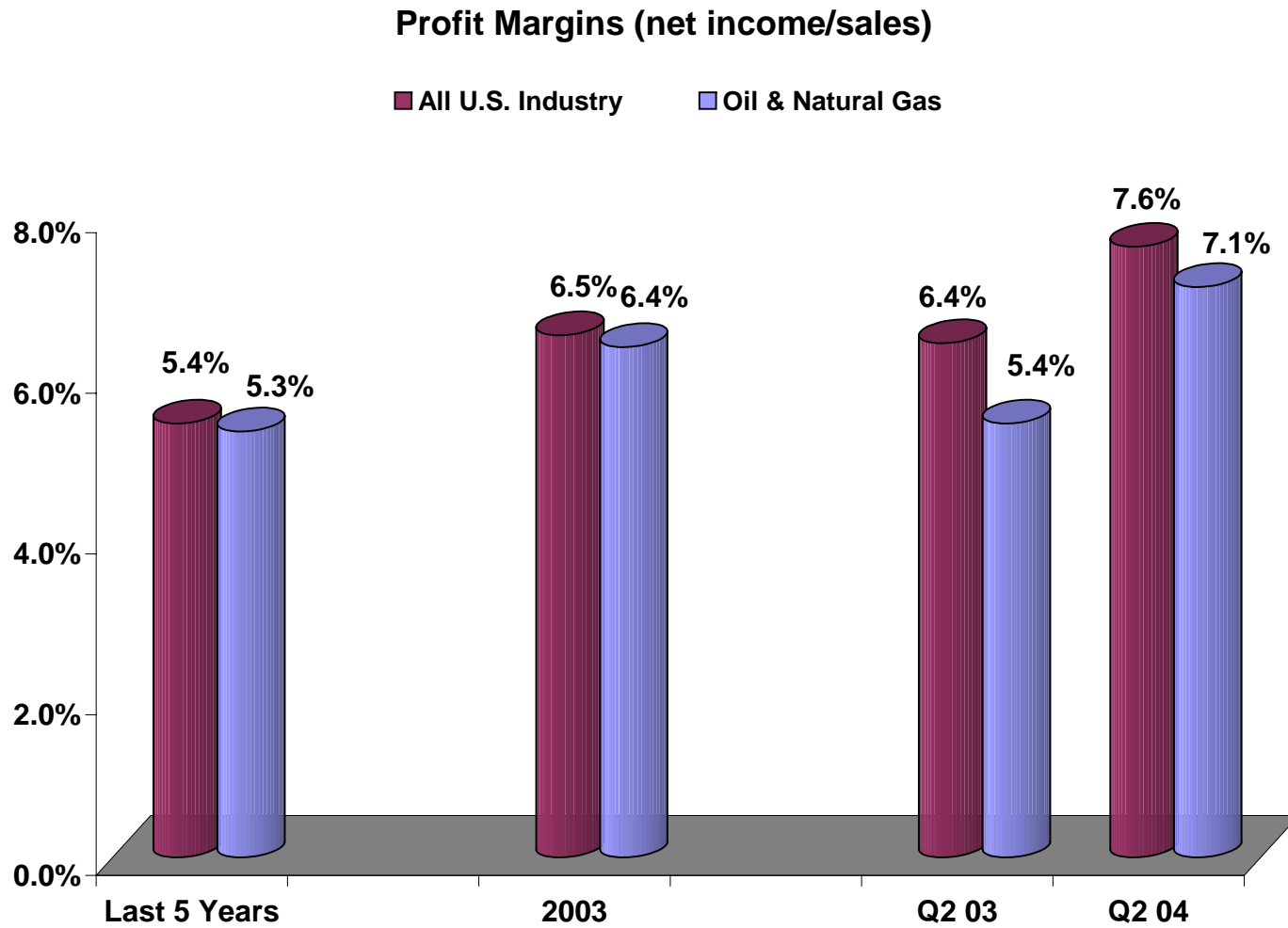


Carbon vs Solar

Data Indexed to 1856-1905=1.0



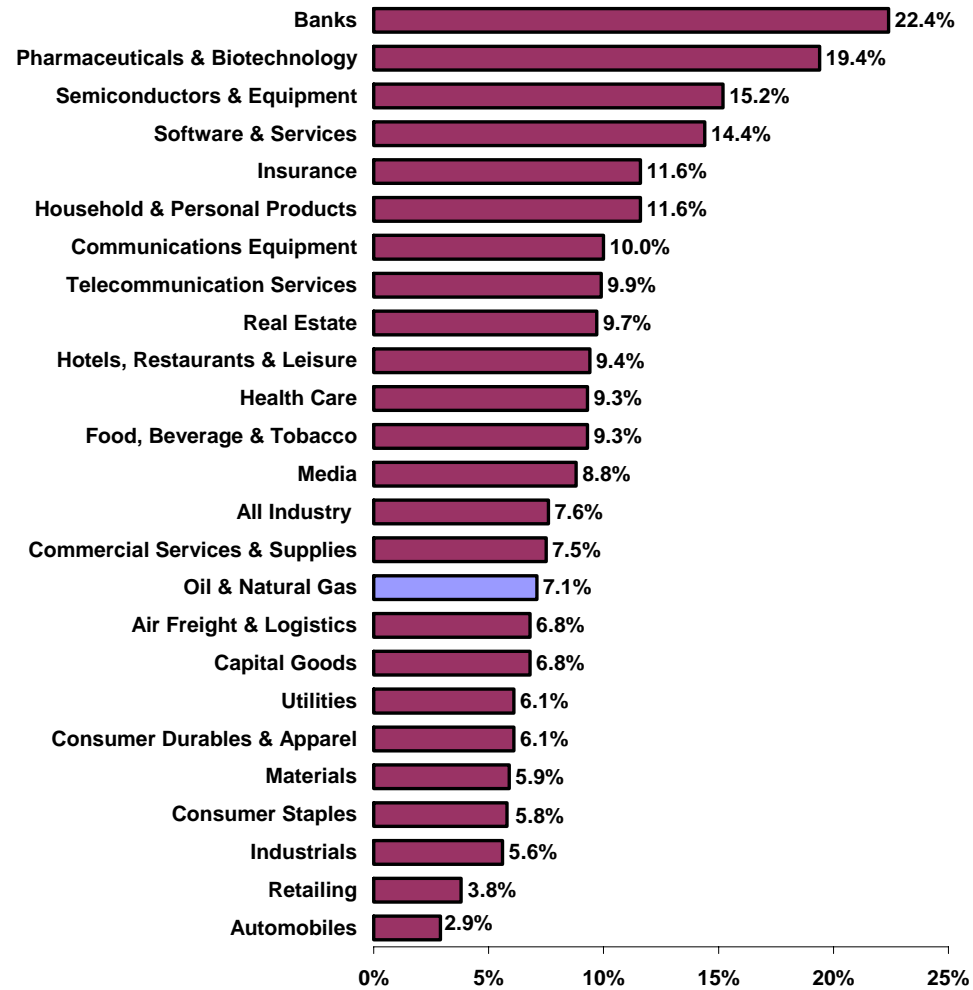
Second quarter 2004 industry profits were below average



Sources: Second quarter financial statements of major oil and natural gas companies; and "Corporate Scoreboard," *Business Week*, various issues for all U.S. industries.

Industry profits in perspective

Profit Margins of Major Industries
(2004:Q2 net income/sales)



Sources: Second quarter financial statements of major oil and natural gas companies; and "Corporate Scoreboard," Business Week, August 16, 2004 for all other industries.

Industry concentration

8 Firm Concentration - 1997
Source: U.S. Department of Commerce, Public Citizen

