

Staff's Forecast of Natural Gas Prices

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- Based on Energy Information Administration.
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- AEO2005 available on EIA web site
www.eia.doe.gov/oiaf/aeo

Based on EIA's National Energy Modeling System(NEMS)

- Energy market projections are subject to much uncertainty. Many events that shape energy markets are random and cannot be anticipated like severe weather, political disruptions, strikes, and technological breakthroughs.
- EIA in preparing model forecasts evaluated a wide range of current trends and issues that could have a major implications for U.S. Energy markets over the next 20 years
- Also used Global Insights latest forecast

Energy issues to consider....

- Does the current level of world crude oil prices represent a new equilibrium price?
- Can the current high level of U.S. natural gas prices be sustained?
- How much LNG supply can be expected by U.S. markets?
- What role will Canadian natural gas imports play in the future in meeting U.S. energy requirements?
- Will coal continue to play a dominant role in U.S. electricity generation?

KEY ENERGY ISSUES TO 2025

Performance of U.S. economy.

Advances in technologies related to energy production and consumption.

Annual changes in weather patterns.

Future public policy decisions.

Crude oil prices.

Demand for oil worldwide.

CRUDE OIL PRICES

- Strong Growth in the demand for Oil world wide, particularly China and other developing countries is generally cited as the driving force behind the sharp price increases seen over the last 3 years.
- The AEO2005 reference case assumes that world crude prices will decline as growth in consumption slows as producers increase their productive capacity and output in response to current high prices.

DOE ENERGY PRICE FORECAST

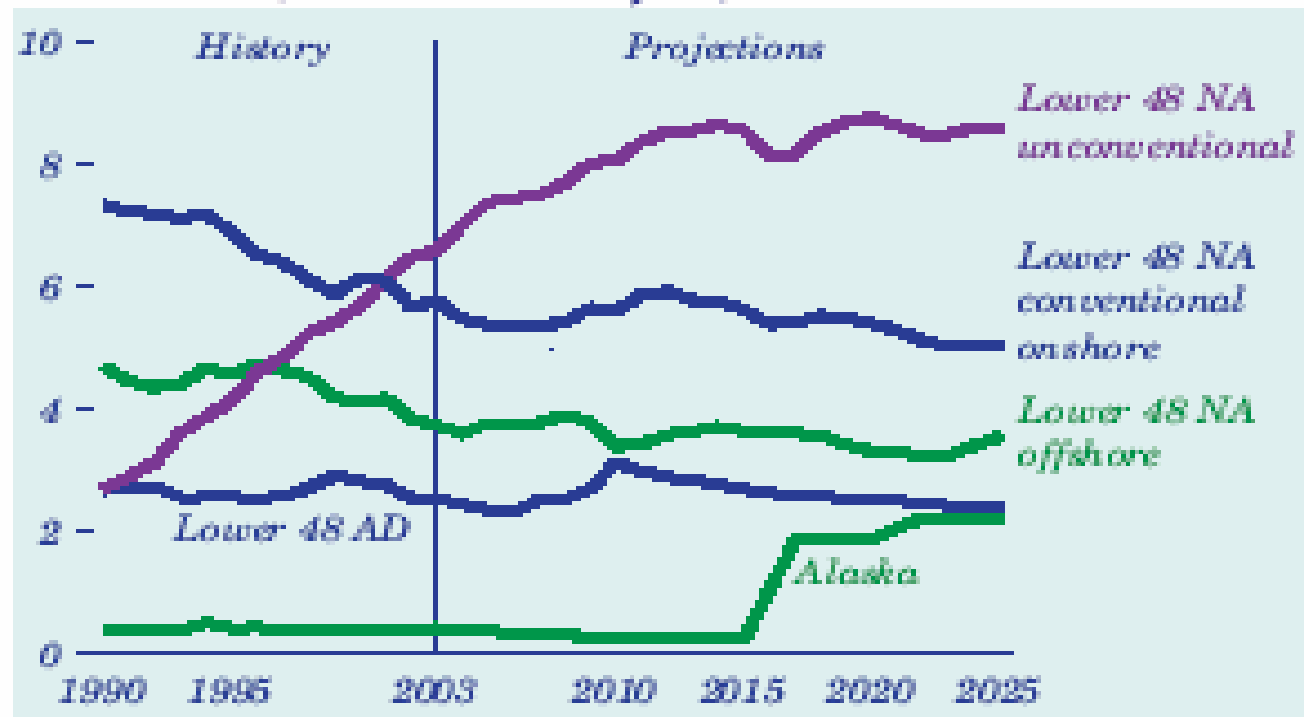
- Oil prices will decrease until 2010 and moderately increasing prices thereafter.
- Average wellhead prices for natural gas in the U.S. are projected to decrease, from \$4.98 per thousand cubic feet (2003 dollars) in 2003 to \$3.64 per thousand cubic feet (2003 dollars) in 2010 as the initial availability of new import sources and drilling expands available supply.
- After 2010, wellhead prices are projected to increase gradually to \$4.79 per thousand cubic feet in 2025 (equivalent to about \$8.2 per thousand cubic feet in nominal dollars).
- Coal prices are relatively flat decreasing to a minimum price of \$17.10 per ton shortly after 2010 and remaining flat to 2025.
- The combination of more moderate increases in coal production, productivity improvements and more low cost western coal are the drivers for the forecast.

Key Assumptions of Natural Gas Price Forecast

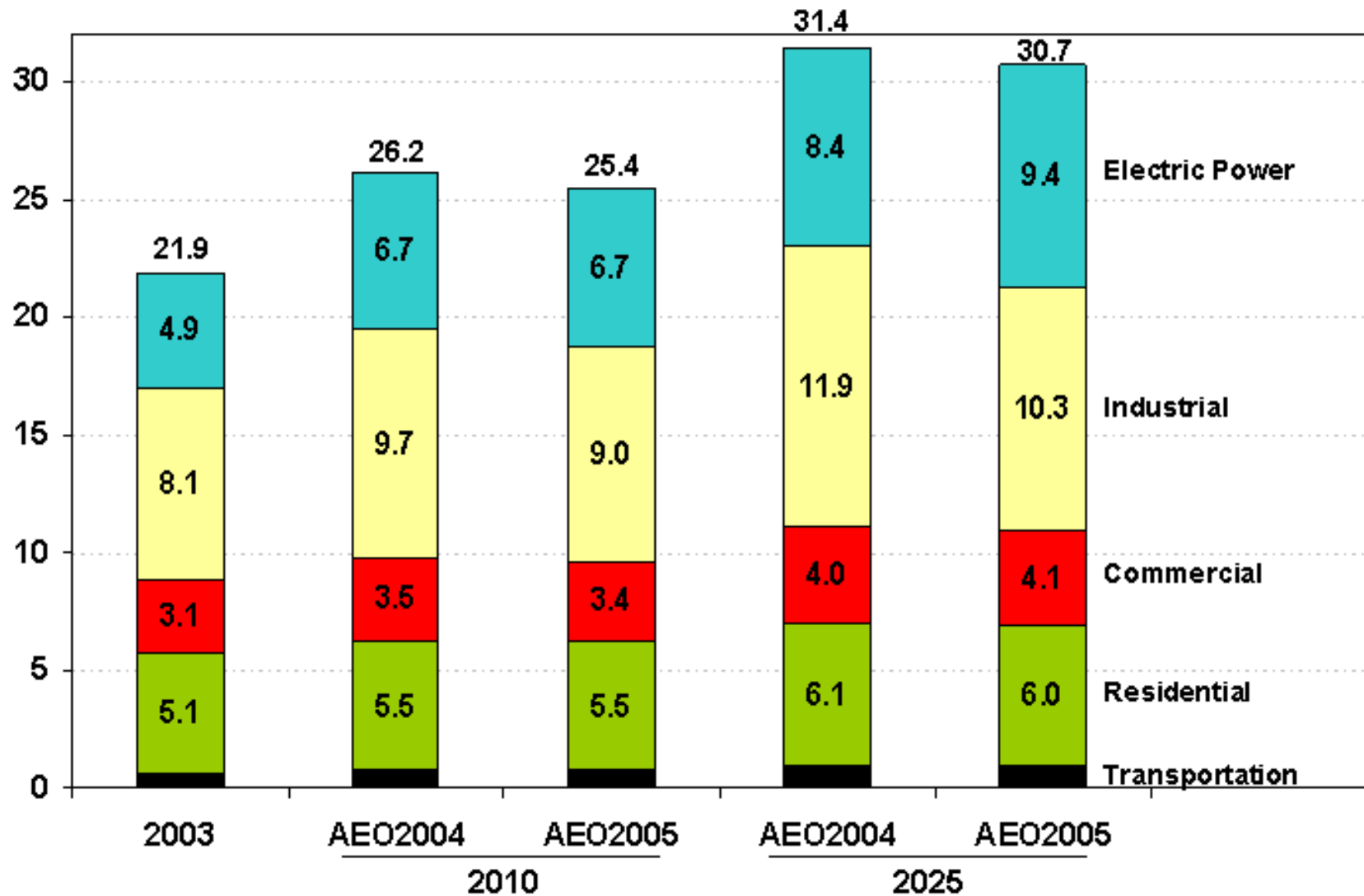
- Growth of demand driven by electric generation
- Supply increase
 - Extensive growth of LNG regasification facilities
 - Completion of Alaskan natural gas pipeline by 2015
 - Growth of unconventional supply

Unconventional Production Becomes the Largest Source of U.S. Gas Supply

Figure 83. Natural gas production by source, 1990-2025 (trillion cubic feet)

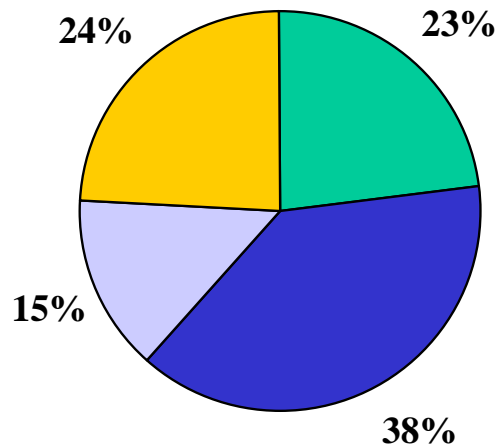


Natural Gas Consumption by Sector, 2003, 2010, 2020, and 2025 (trillion cubic feet)

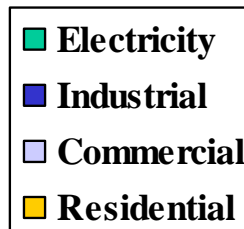
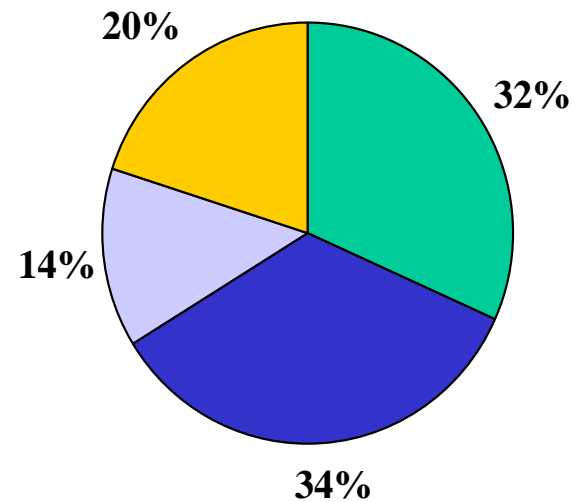


Natural Gas Consumption by Sector 2003 and Estimated 2025

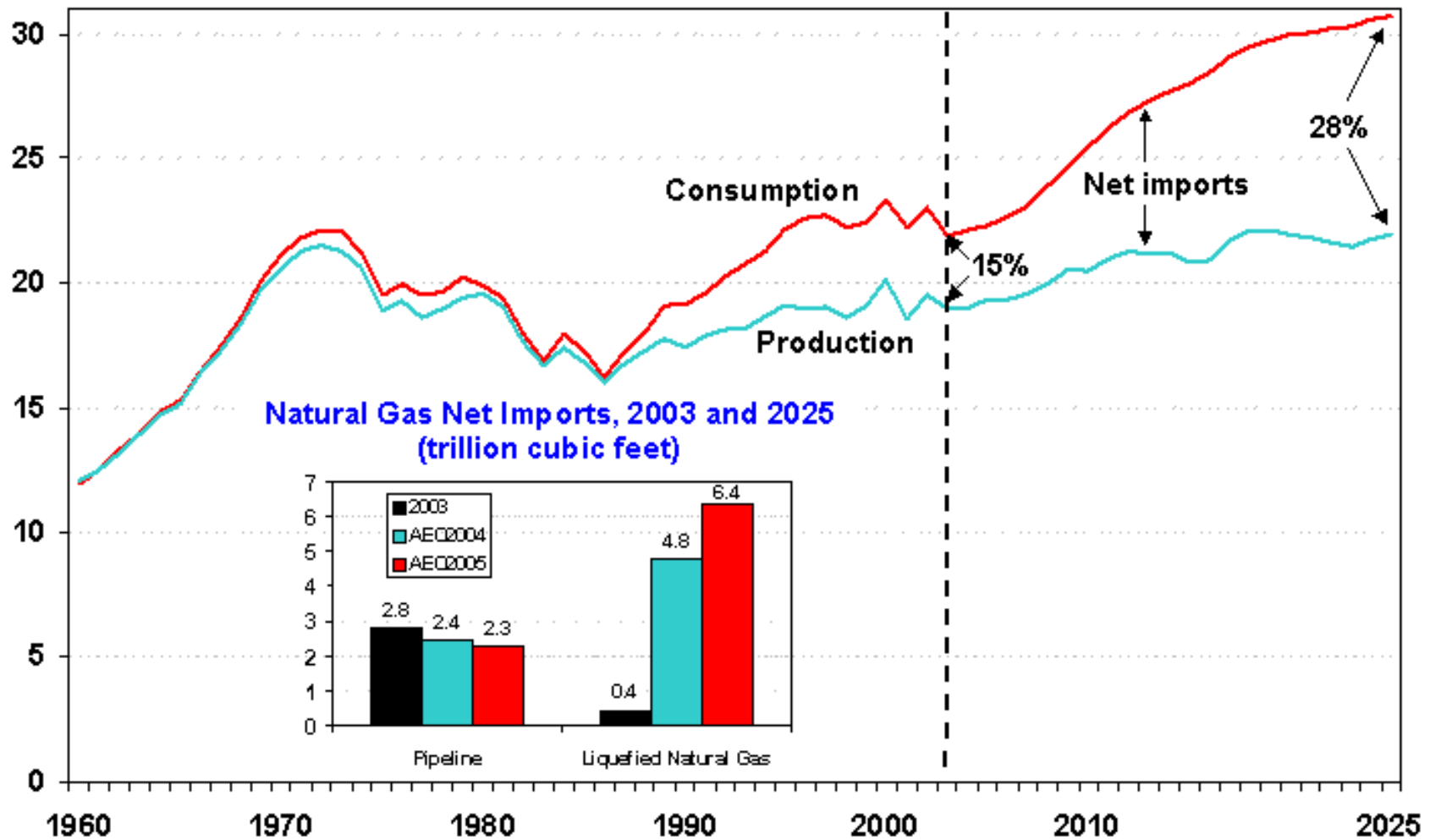
2003 TCF of Natural Gas



2025 TCF of Natural Gas



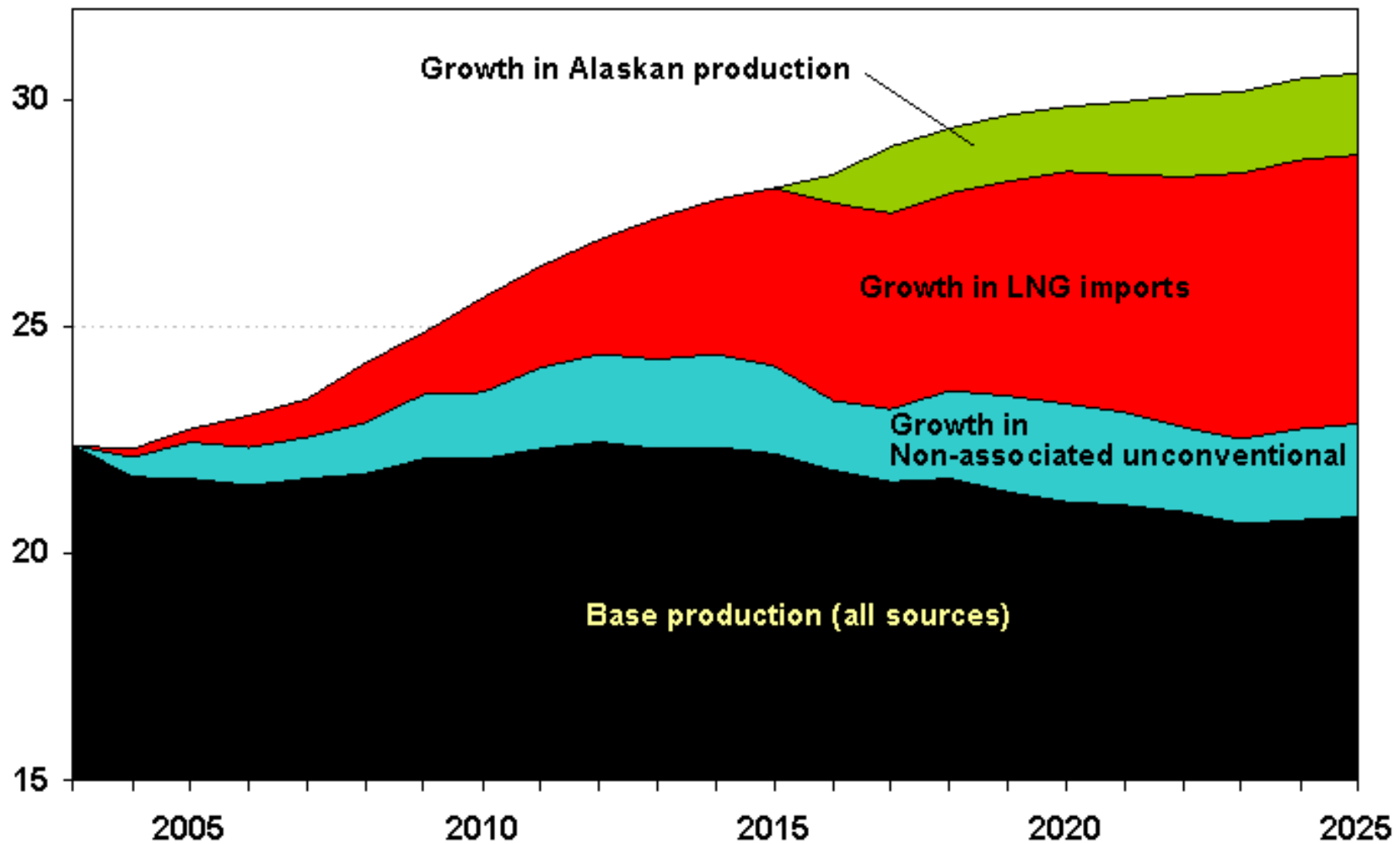
Natural Gas Production, Consumption, and Imports, 1970-2025 (trillion cubic feet)



CHANGES IN SUPPLY

- In the past 20 years, 40 percent of the increase in gas demand was met from Canada imports, The Canada National Energy Board states that Canada will not be able to support continued increases in imports.
- Most of the additional supply will come from Alaska and imports of liquefied natural gas (LNG), and from unconventional supplies.
- A key issue for US energy markets is whether the investments and regulatory approvals needed to make natural gas supplies available will be forthcoming.

Major Sources of Incremental Natural Gas Supply, 2003-2025 (trillion cubic feet)

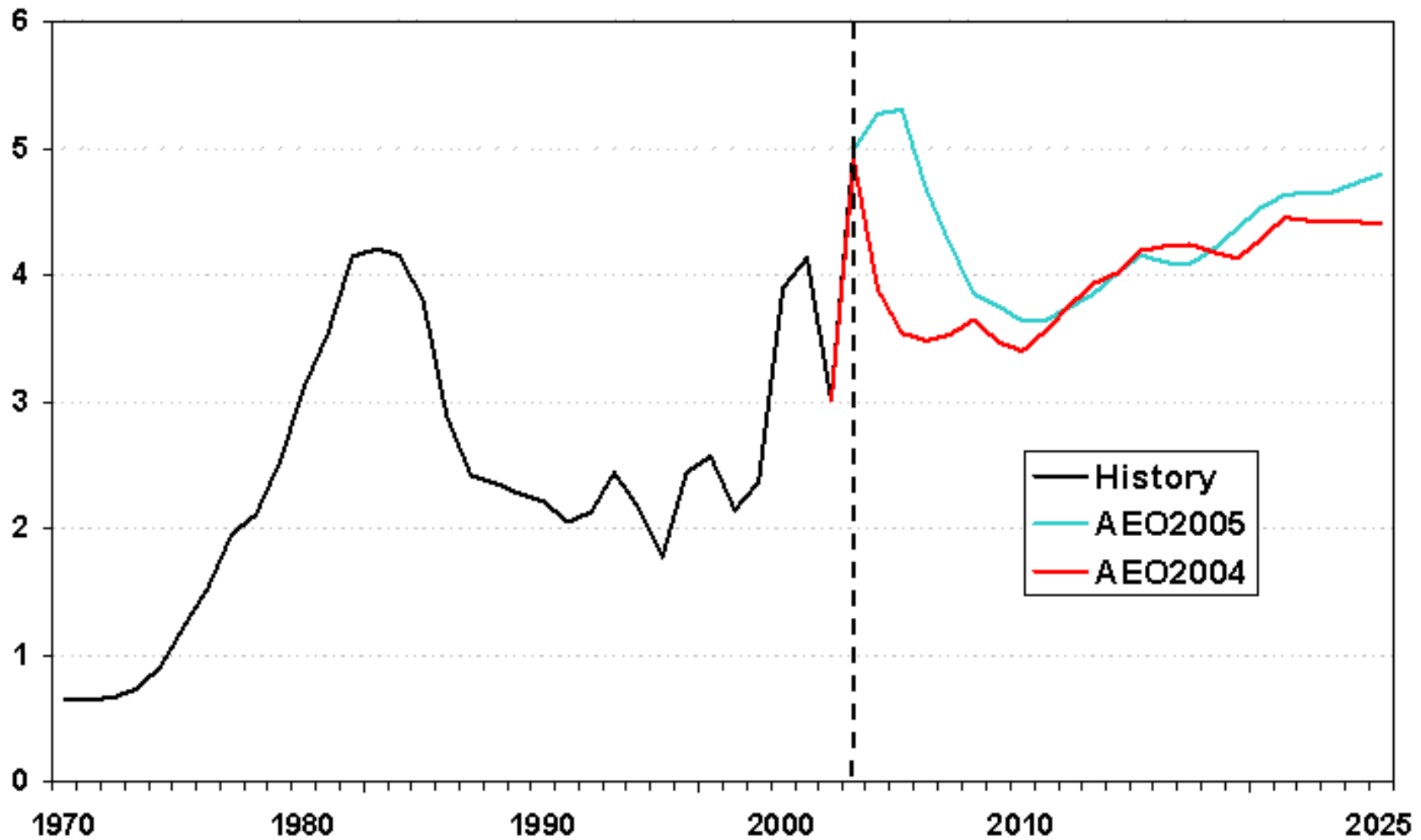


Restricted Natural Gas Case

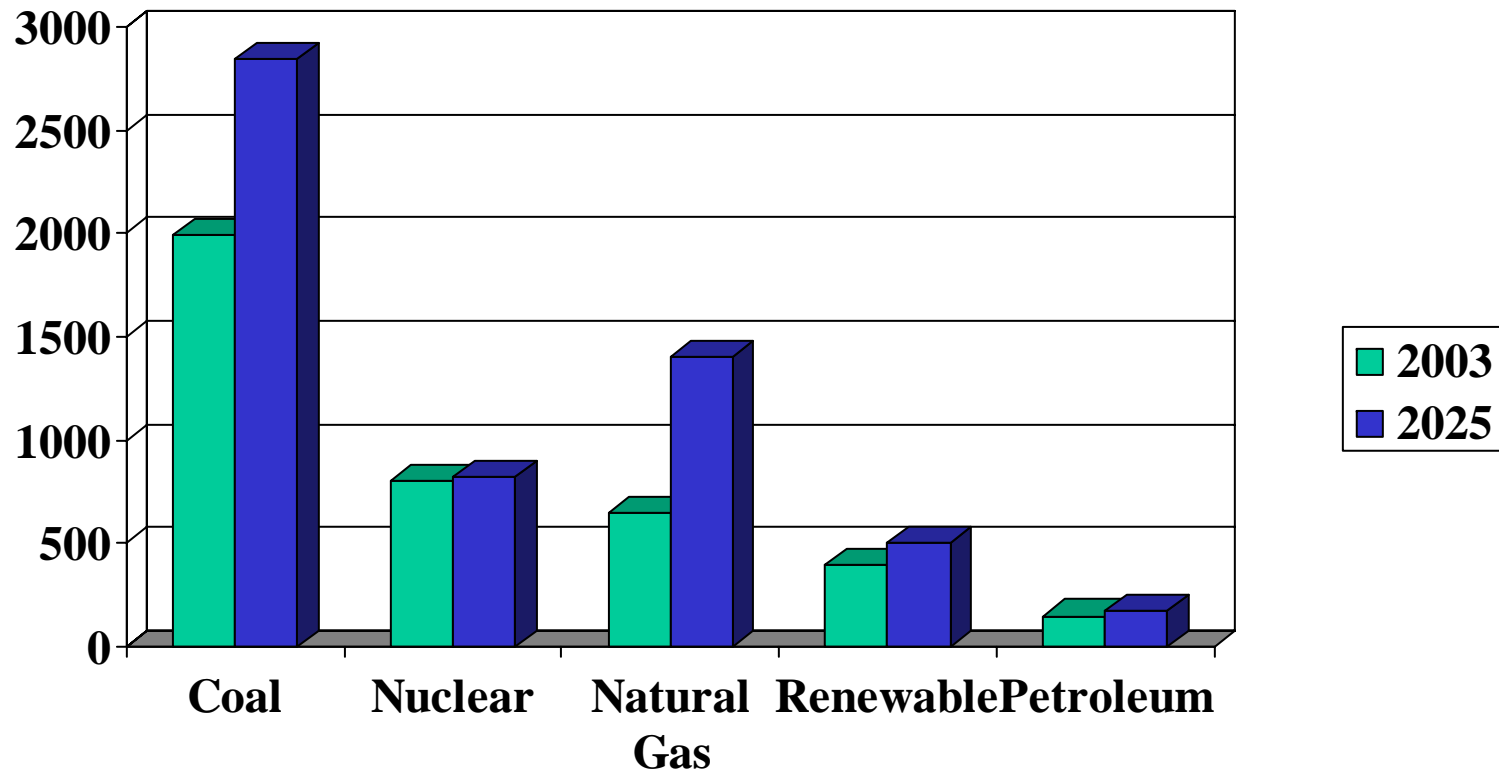
The Alaska natural gas pipeline is not built and put into operation by 2025.

- No new U.S. regasification terminals for LNG are built during the forecast, but the proposed expansions of existing terminals and new terminals are completed.
- The future rates of technological progress for oil and gas exploration and development for both conventional and unconventional gas are one-half of the historical rates assumed in the reference case.

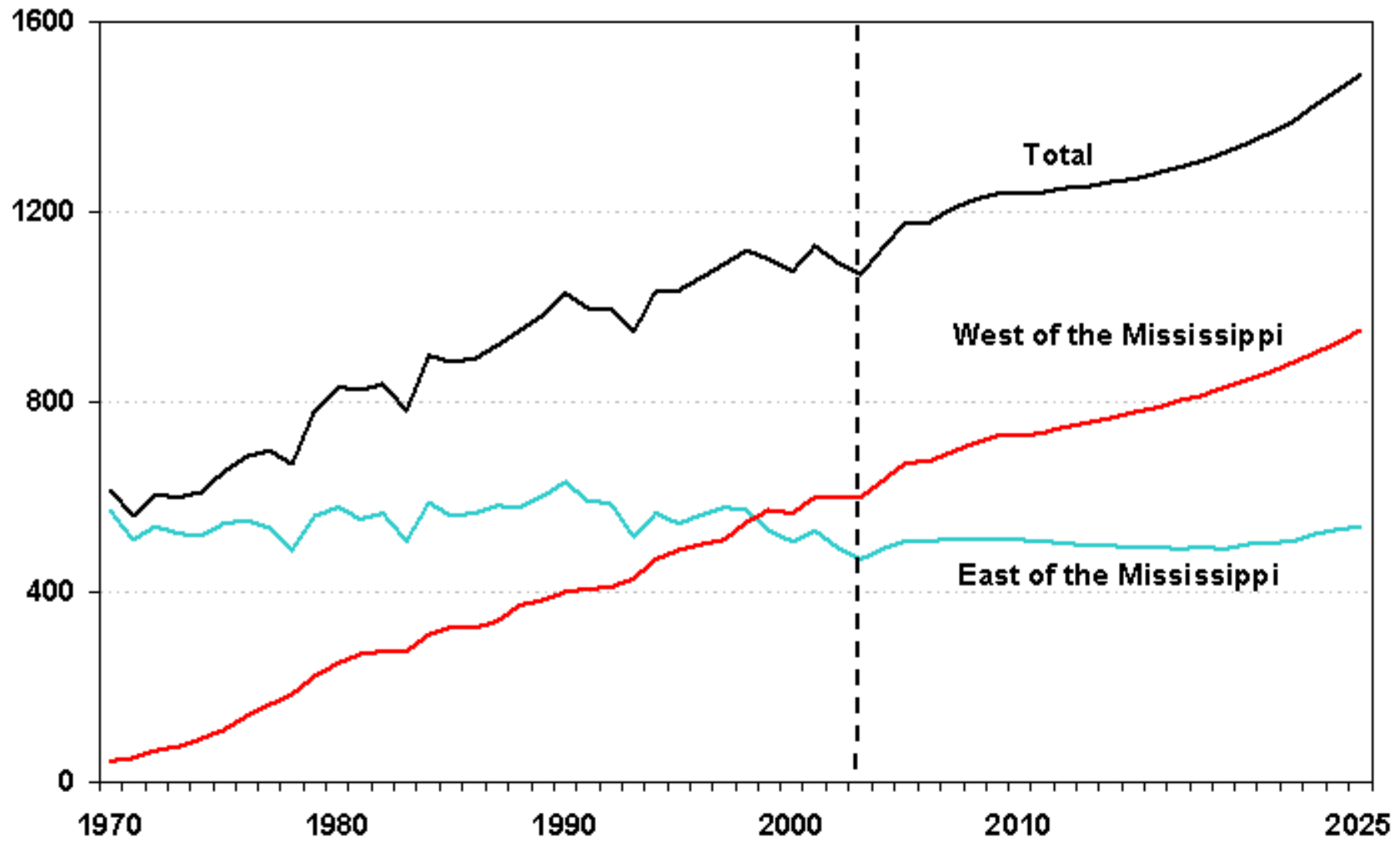
Natural Gas Wellhead Price, 1970-2025 (2003 dollars per thousand cubic feet)



Electricity Generation by Fuel 2003 and 2025 (billion kilowatthours)

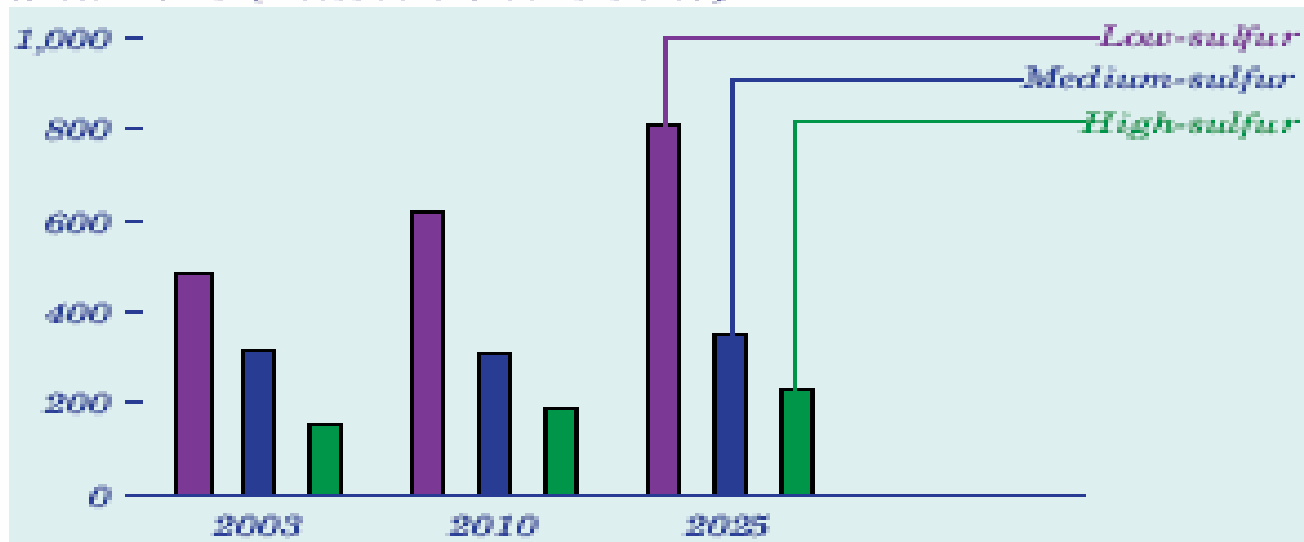


Coal Production by Region, 1970-2025 (million short tons)



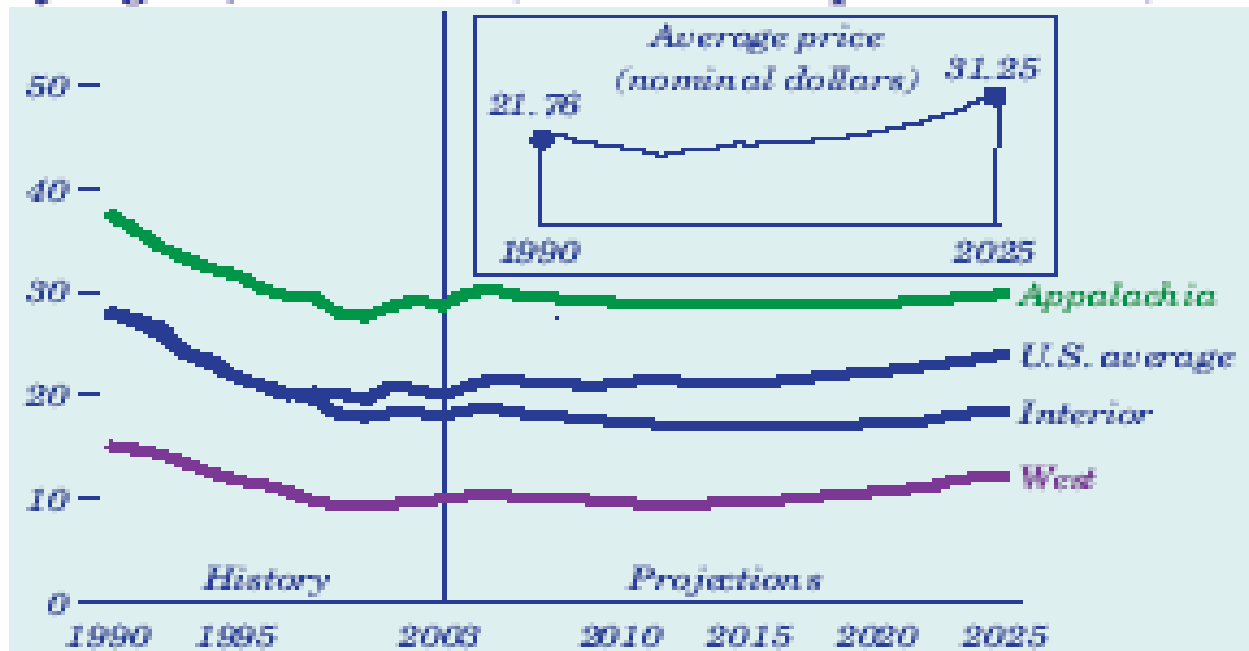
Low-Sulfur Coal Continues To Gain Share in the Generation Market

Figure 103. Distribution of domestic coal to the electricity sector by sulfur content, 2003, 2010, and 2025 (million short tons)



Average Minemouth Coal Prices Are Not Projected To Rise Significantly

Figure 104. Average minemouth price of coal by region, 1990-2025 (2003 dollars per short ton)



EIA Long-Term Natural Gas and Coal Price Forecasts

Electric Power

Energy Prices 2003 dollars per Million Btu

	2002	2003	2010	2015	2020	2025
Electric use (TCF/year)	5.65	4.96	6.74	8.39	9.45	9.43
Delivered real price	3.76	5.57	4.36	4.90	5.31	5.55
Coal(MMshorttons/yr)	976	1004	1139	1185	1267	1425
Delivered Price	1.27	1.28	1.25	1.23	1.25	1.31

Natural Gas Price Forecast Comparisons

For Electric Power Generation in 2015 and 2025

2003 dollars per thousand cubic feet

	2003	AEO2005	GII	EEA	SEER
2015 Real price	5.57	4.90	4.21	5.49	4.77
2025 Real price	5.57	5.55	4.31		5.13

GII-Global Insight

EEA-Energy and Environmental Analysis, Inc.

SEER-Strategic Energy and Economic Research, Inc.