

# **Overview of the Annual Energy Outlook 2004**

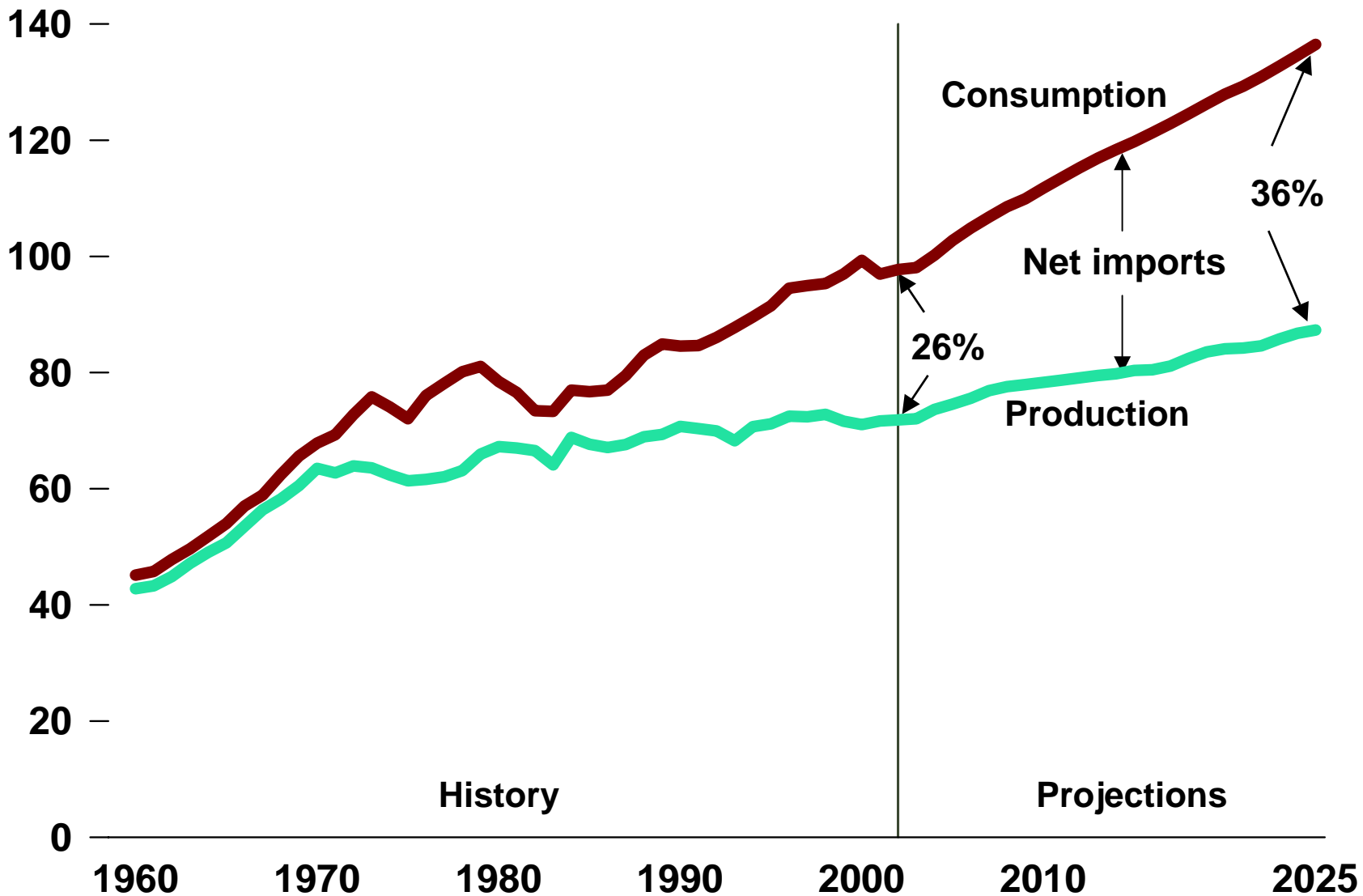
**Mary J. Hutzler**  
**Energy Information Administration**

**NEMS/AEO Conference**

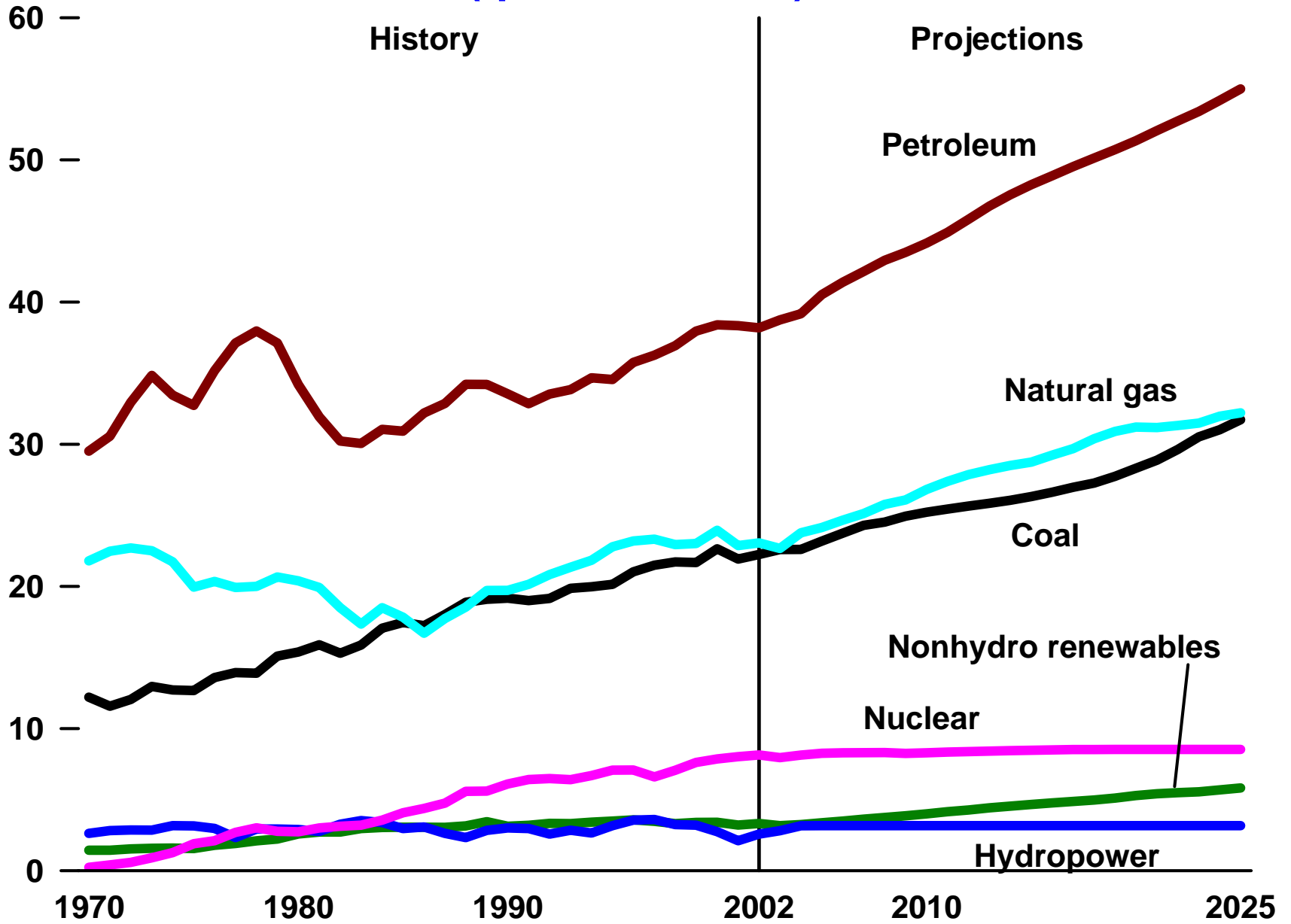
**March 23, 2004**



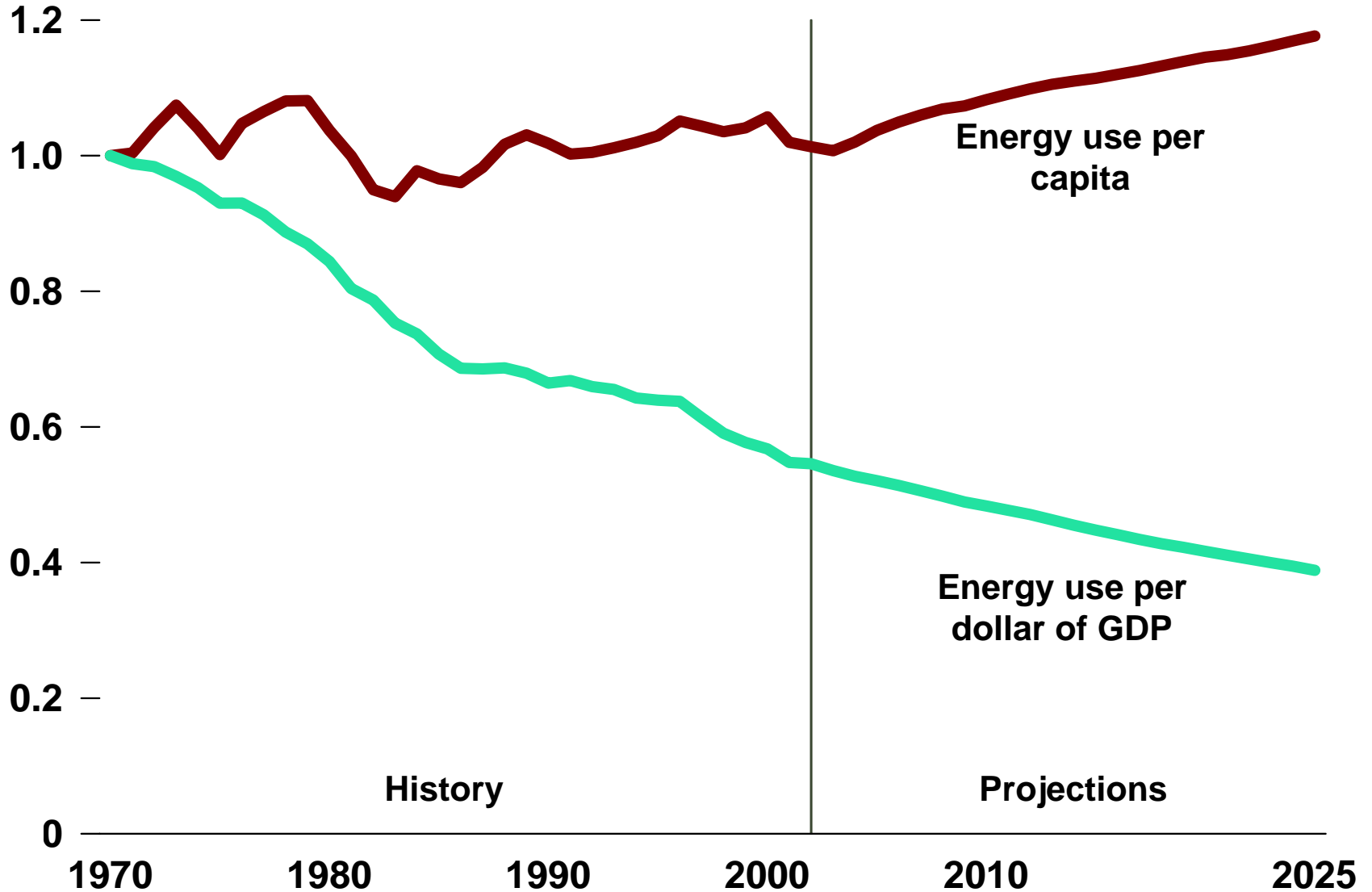
# U.S. Energy Production and Consumption, 1960-2025 (quadrillion Btu)



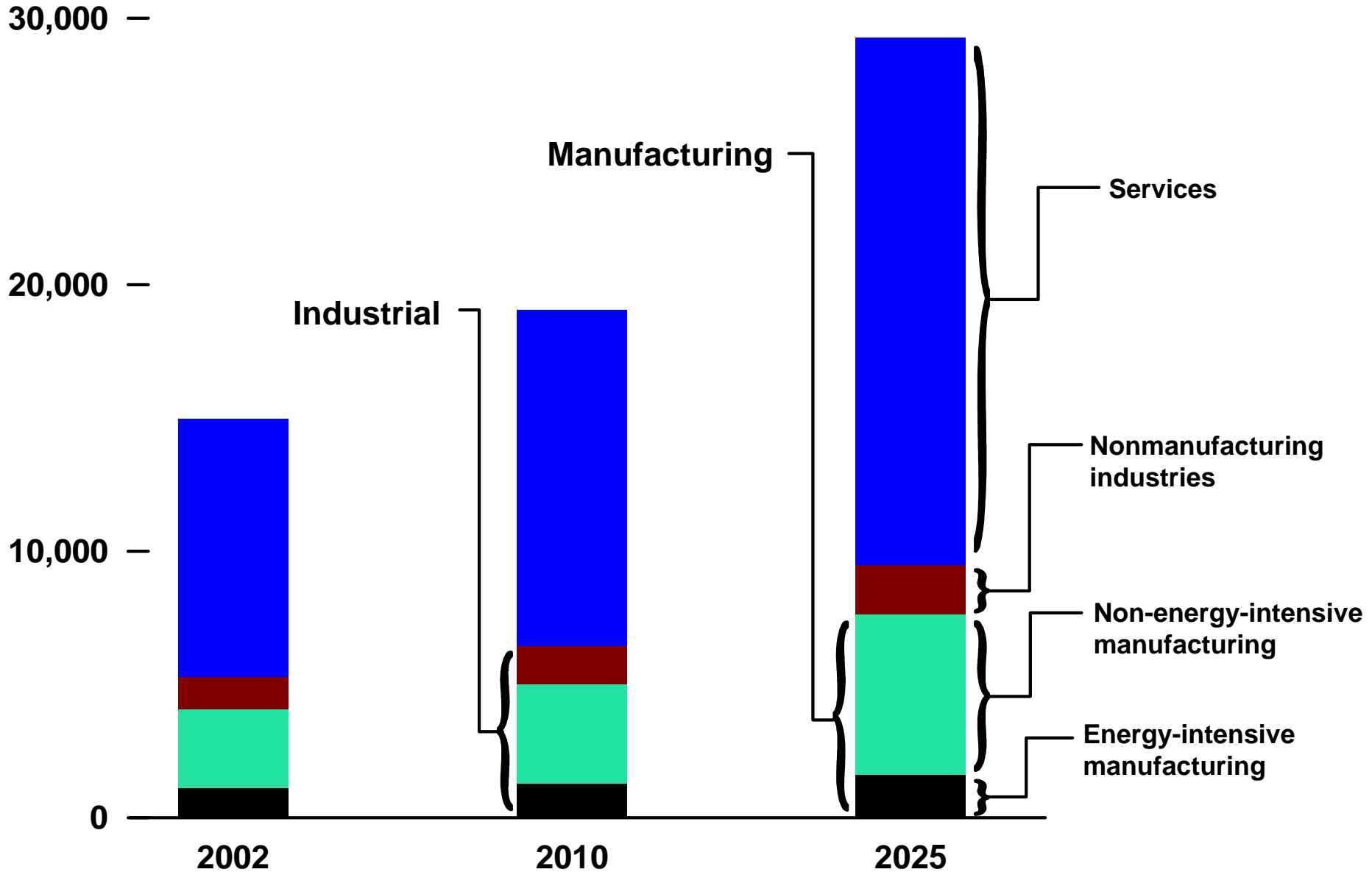
# Energy Consumption by Fuel, 1970-2025 (quadrillion Btu)



# Energy Use per Capita and per Dollar of Gross Domestic Product, 1970-2025 (index, 1970 = 1)

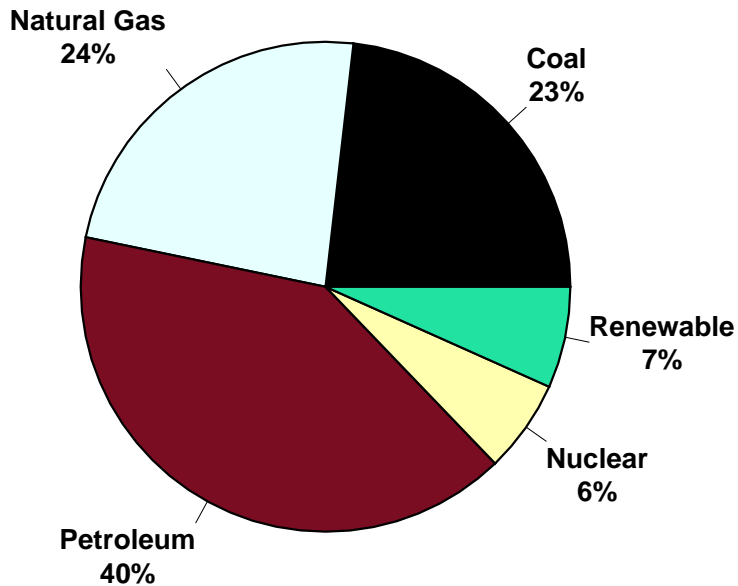


# Sectoral Composition of Gross Output, 2002, 2010, and 2025 (billion 1996 dollars)



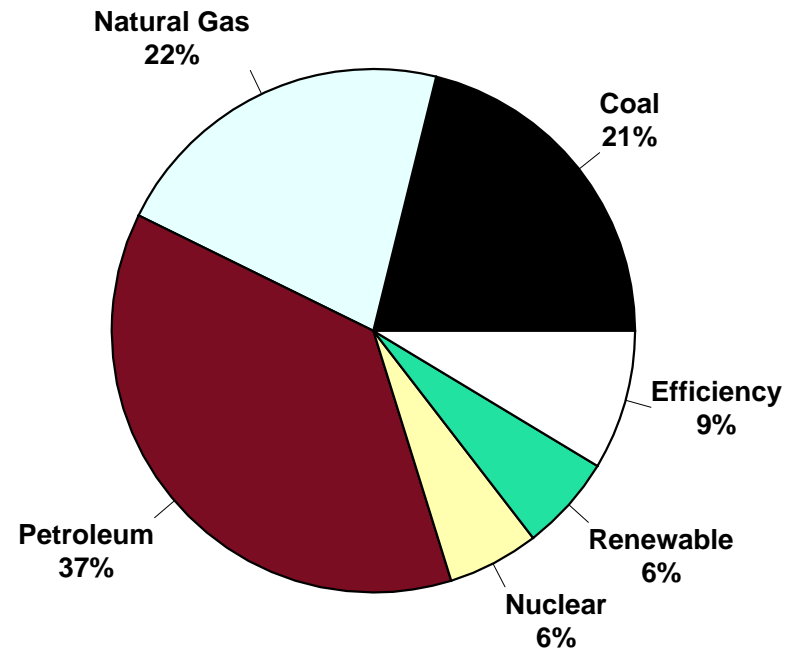
# Share of Energy Consumption by Fuel and Efficiency Improvement, 2025 (quadrillion Btu)

**AEO2004 Reference Case**



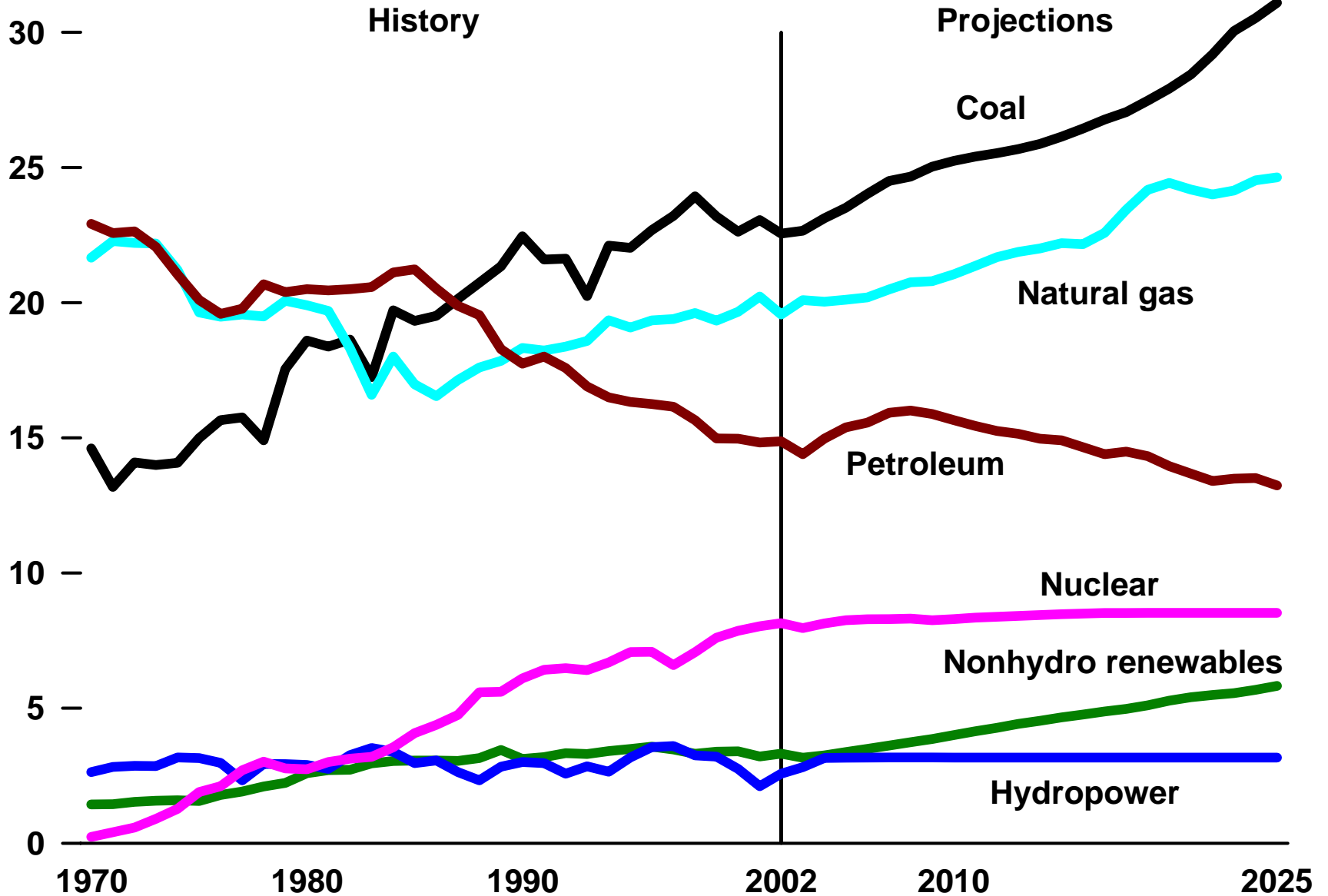
**Total = 136 quadrillion Btu**

**Constant Efficiency Case**

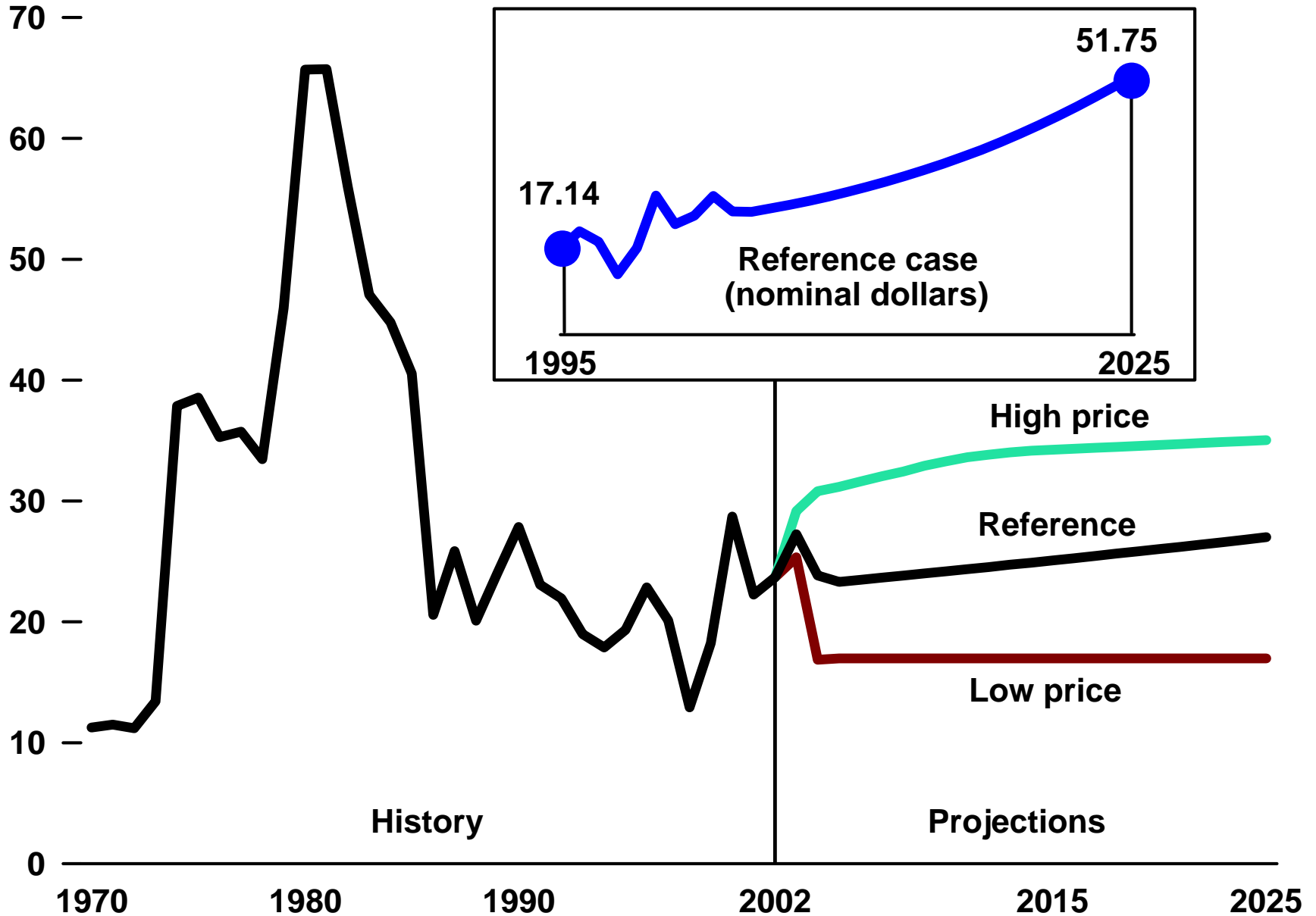


**Total = 149 quadrillion Btu**

# Energy Production by Fuel, 1970-2025 (quadrillion Btu)

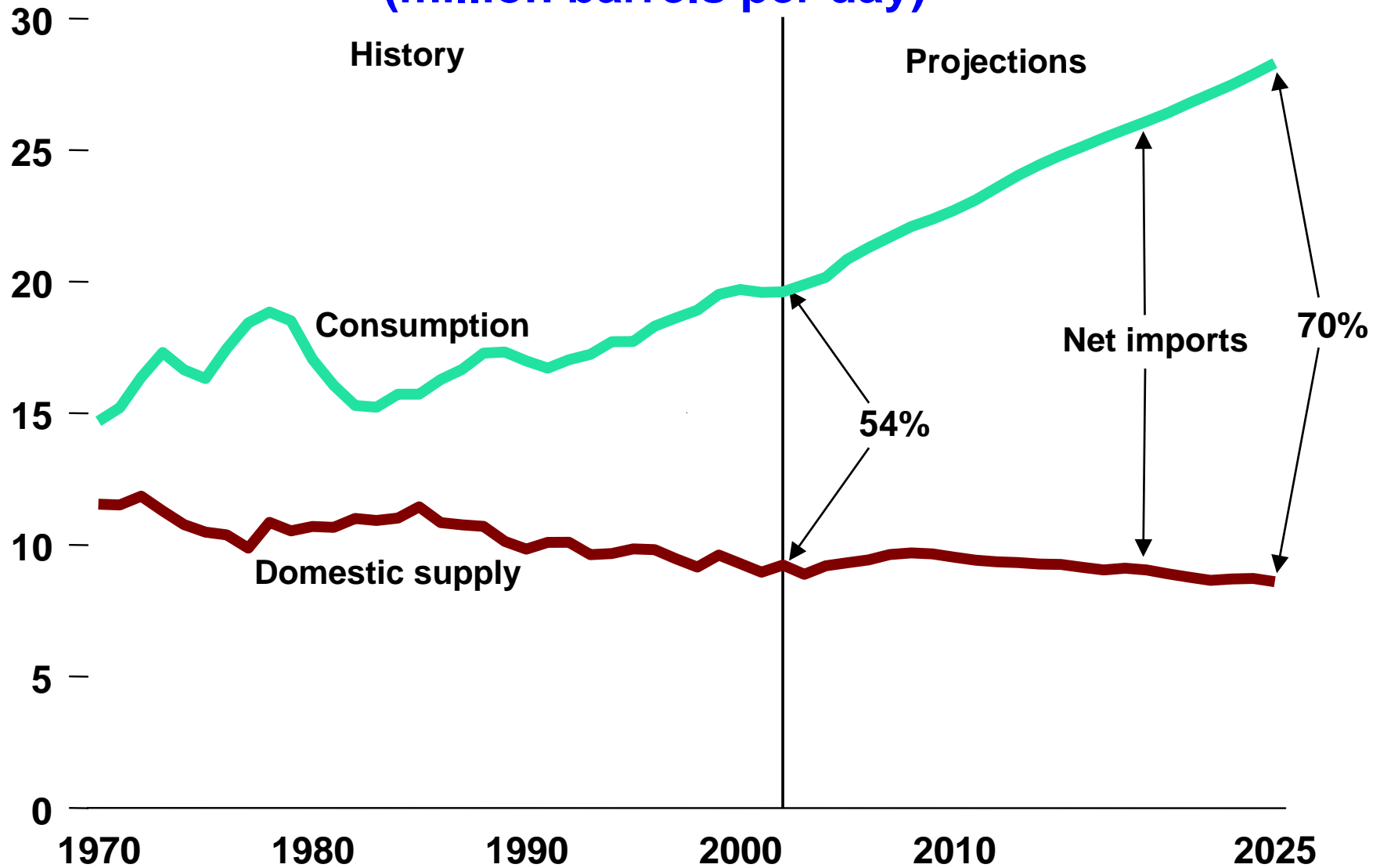


# World Oil Prices in Three Cases, 1970-2025 (2002 dollars per barrel)

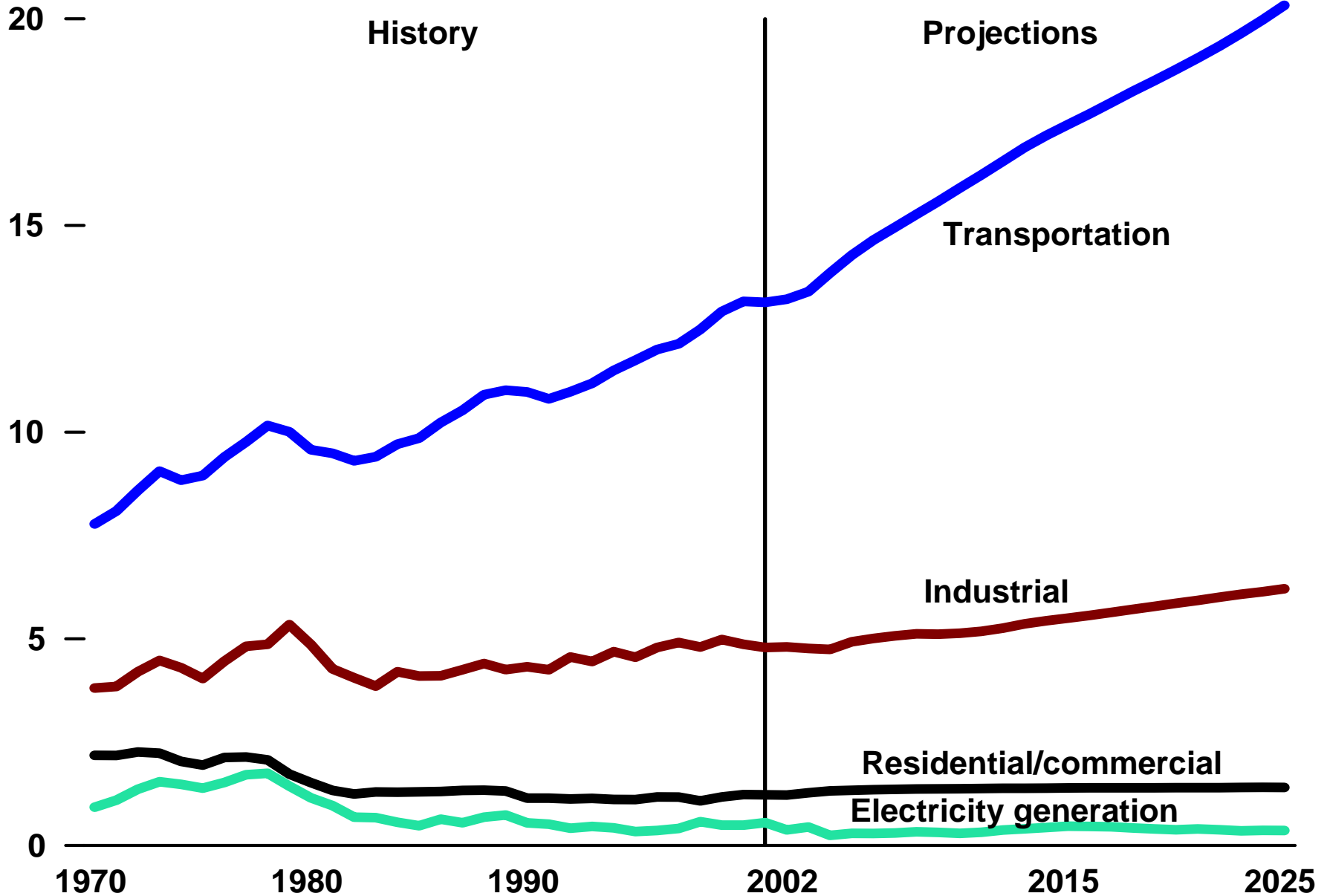




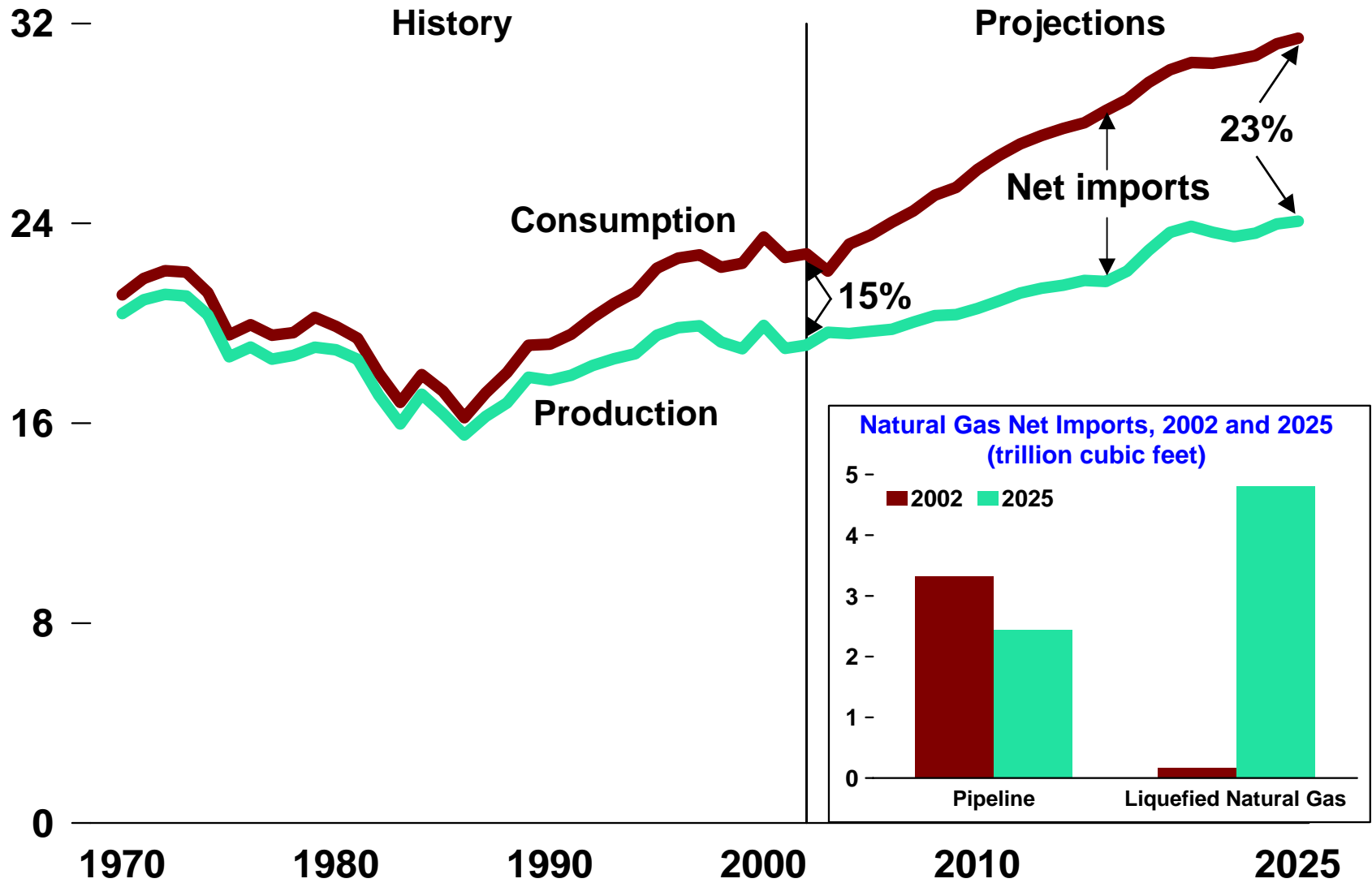
# Petroleum Supply, Consumption, and Imports, 1970-2025 (million barrels per day)



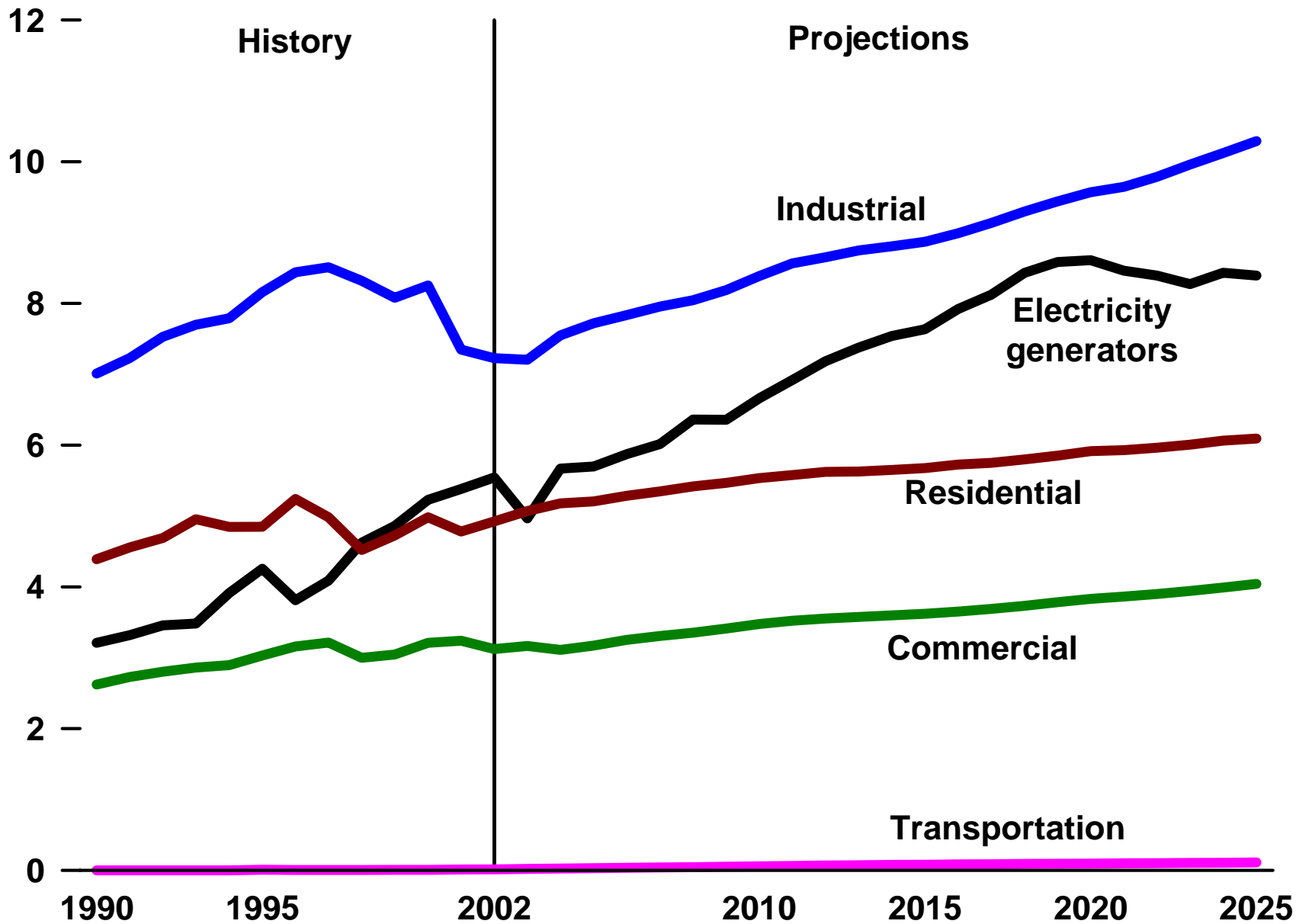
# Petroleum Consumption by Sector, 1970-2025 (million barrels per day)



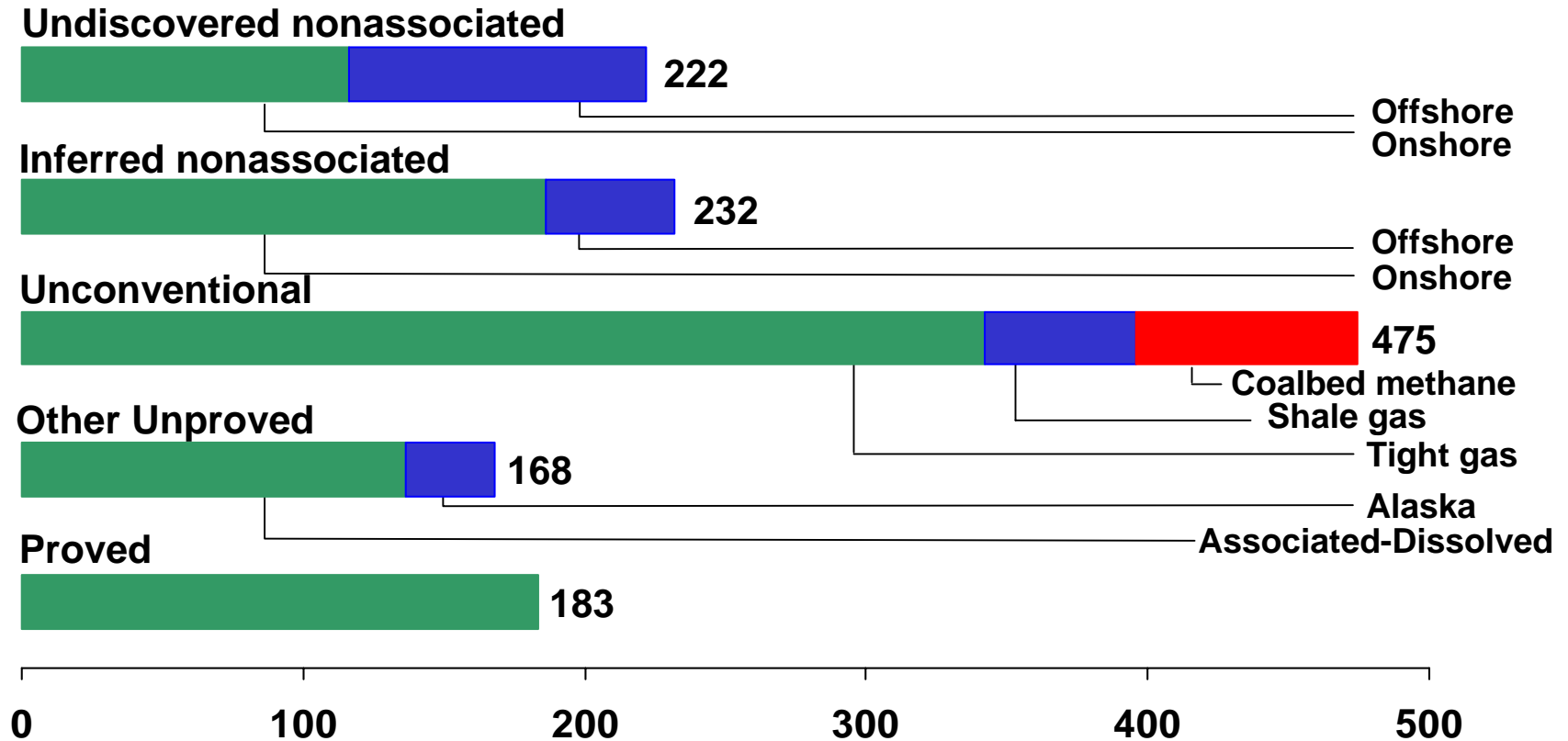
# Natural Gas Production, Consumption, and Imports, 1970-2025 (trillion cubic feet)



# Natural Gas Consumption by End-Use Sector, 1990-2025 (trillion cubic feet)

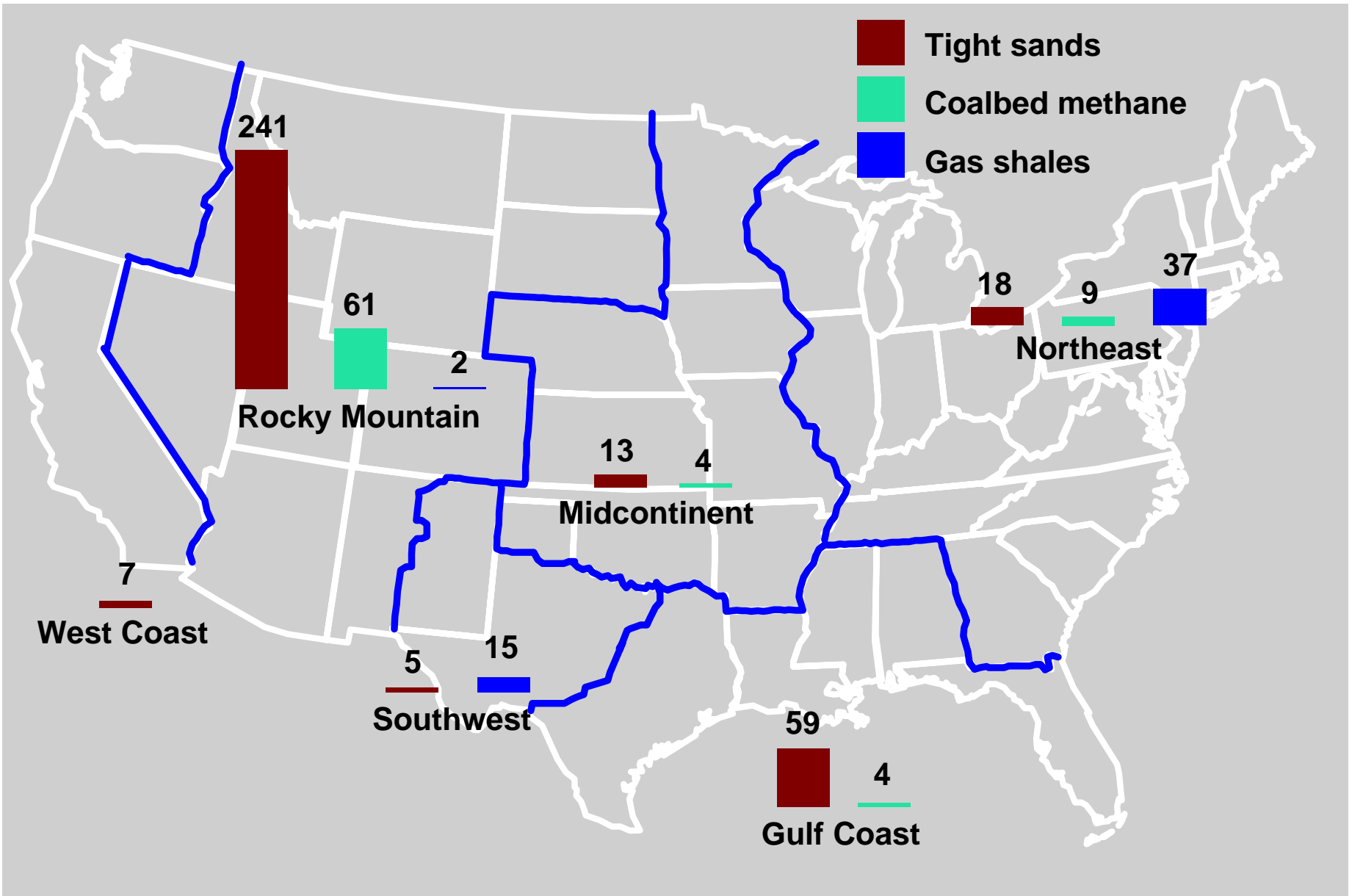


# Technically Recoverable Natural Gas Resources as of January 1, 2002 (trillion cubic feet)

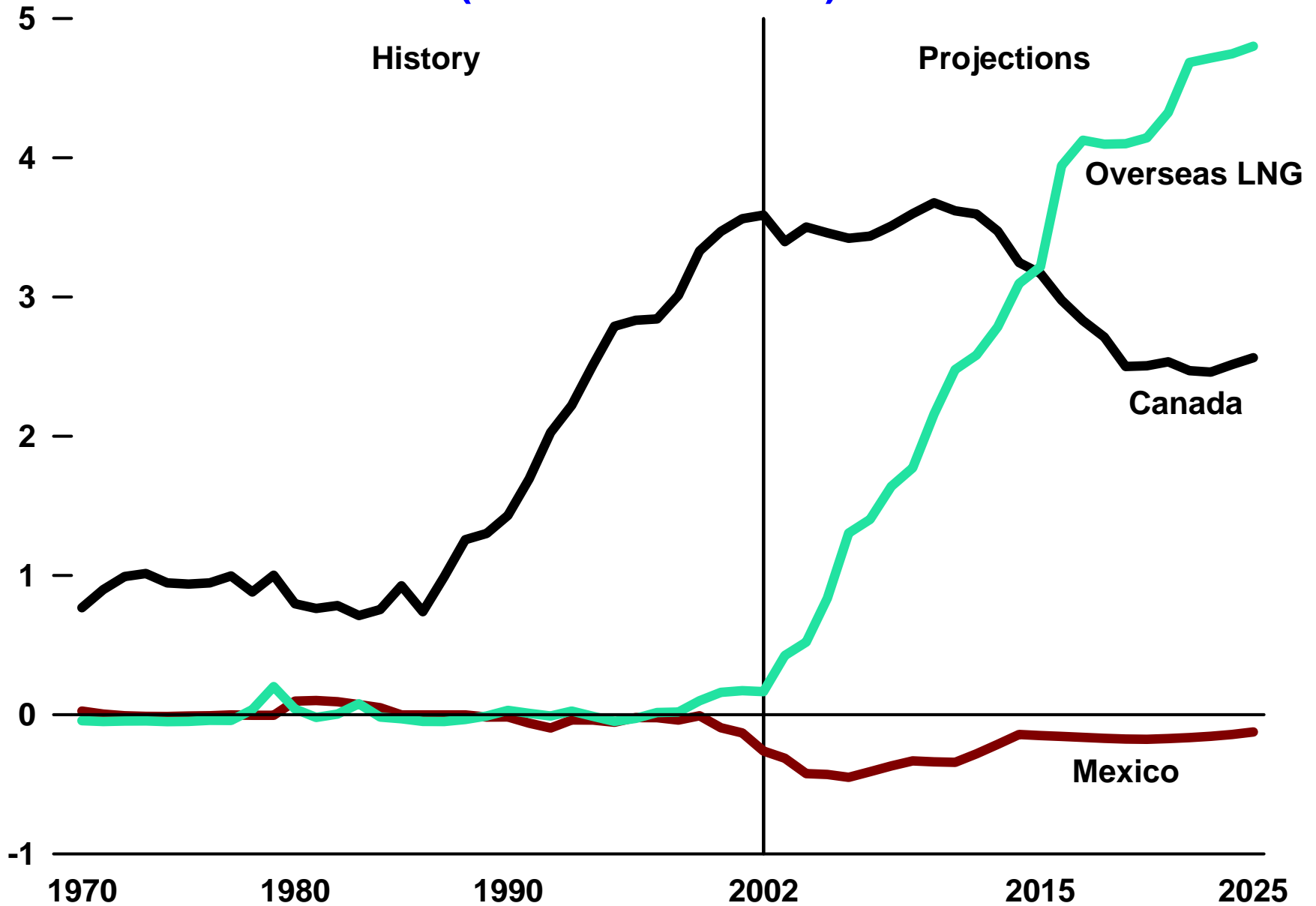


**Total: 1,279 trillion cubic feet**

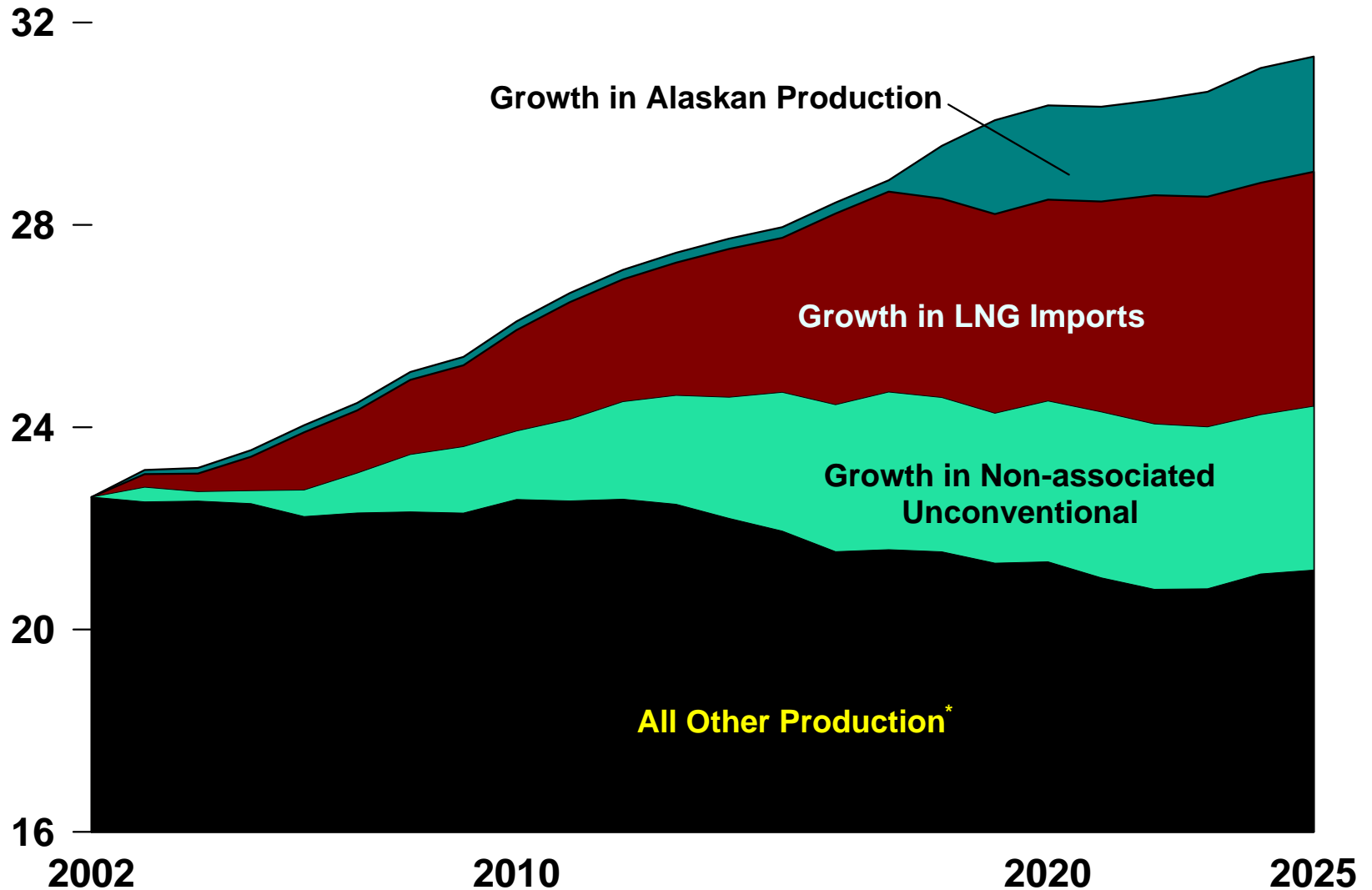
# Unconventional Gas Resources by Region as of January 1, 2002 (trillion cubic feet)



# Net U.S. Imports of Natural Gas, 1970-2025 (trillion cubic feet)



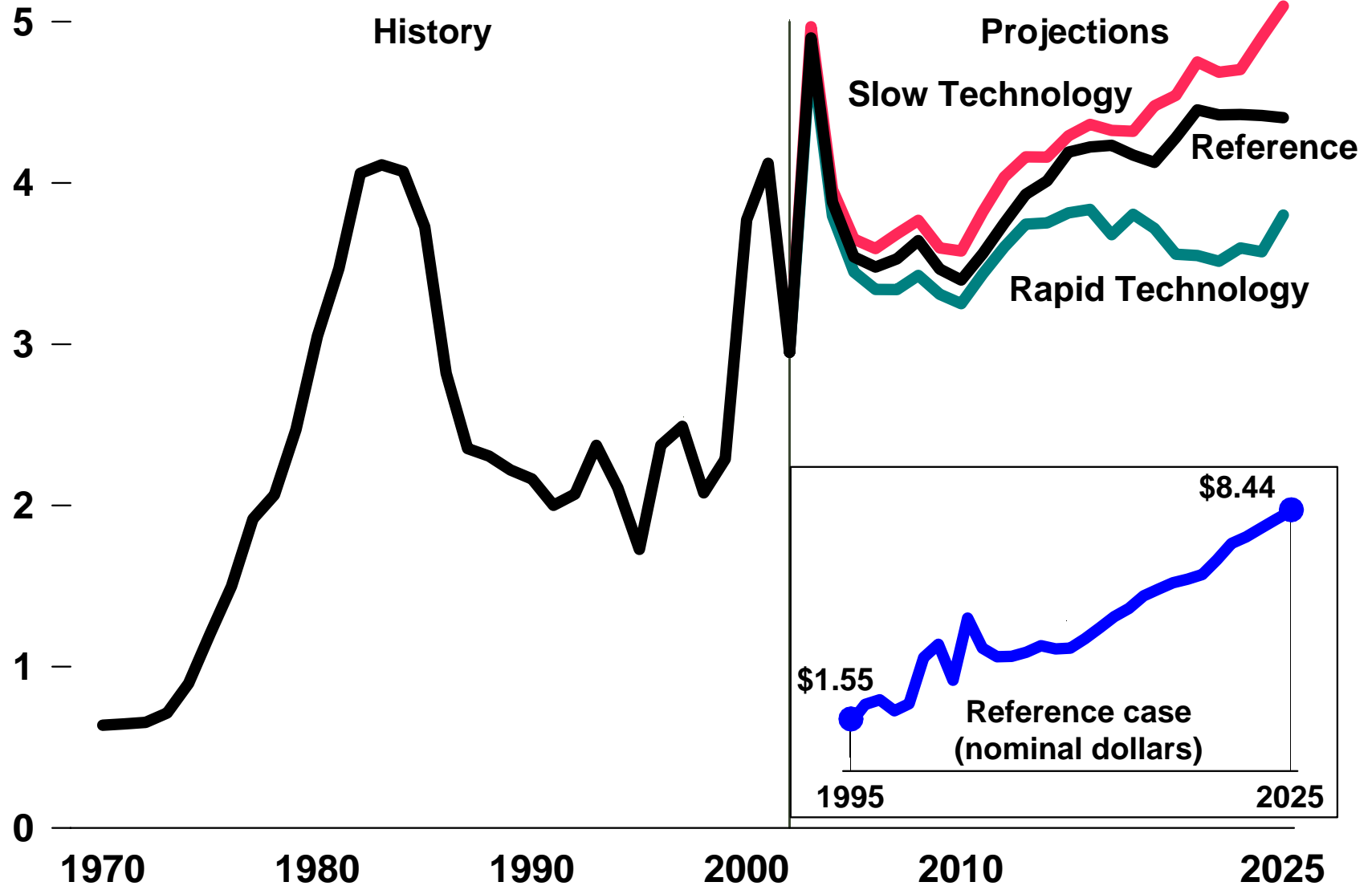
# Major Sources of Incremental Natural Gas Supply, 2002-2025 (trillion cubic feet)



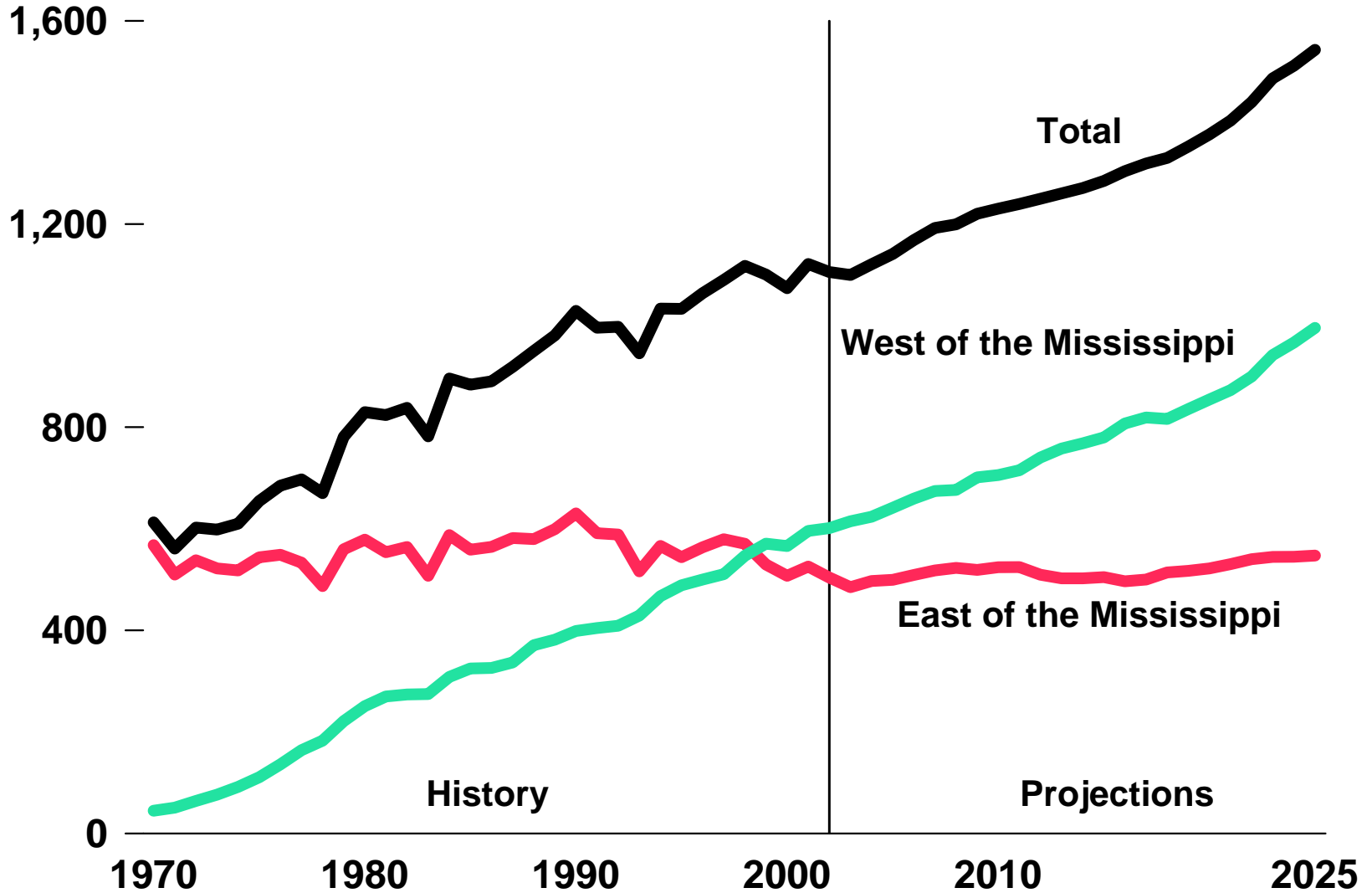
\*Includes total associated-dissolved, non-associated conventional, lower-48 offshore, supplemental natural gas production, Canadian, and Mexican imports.



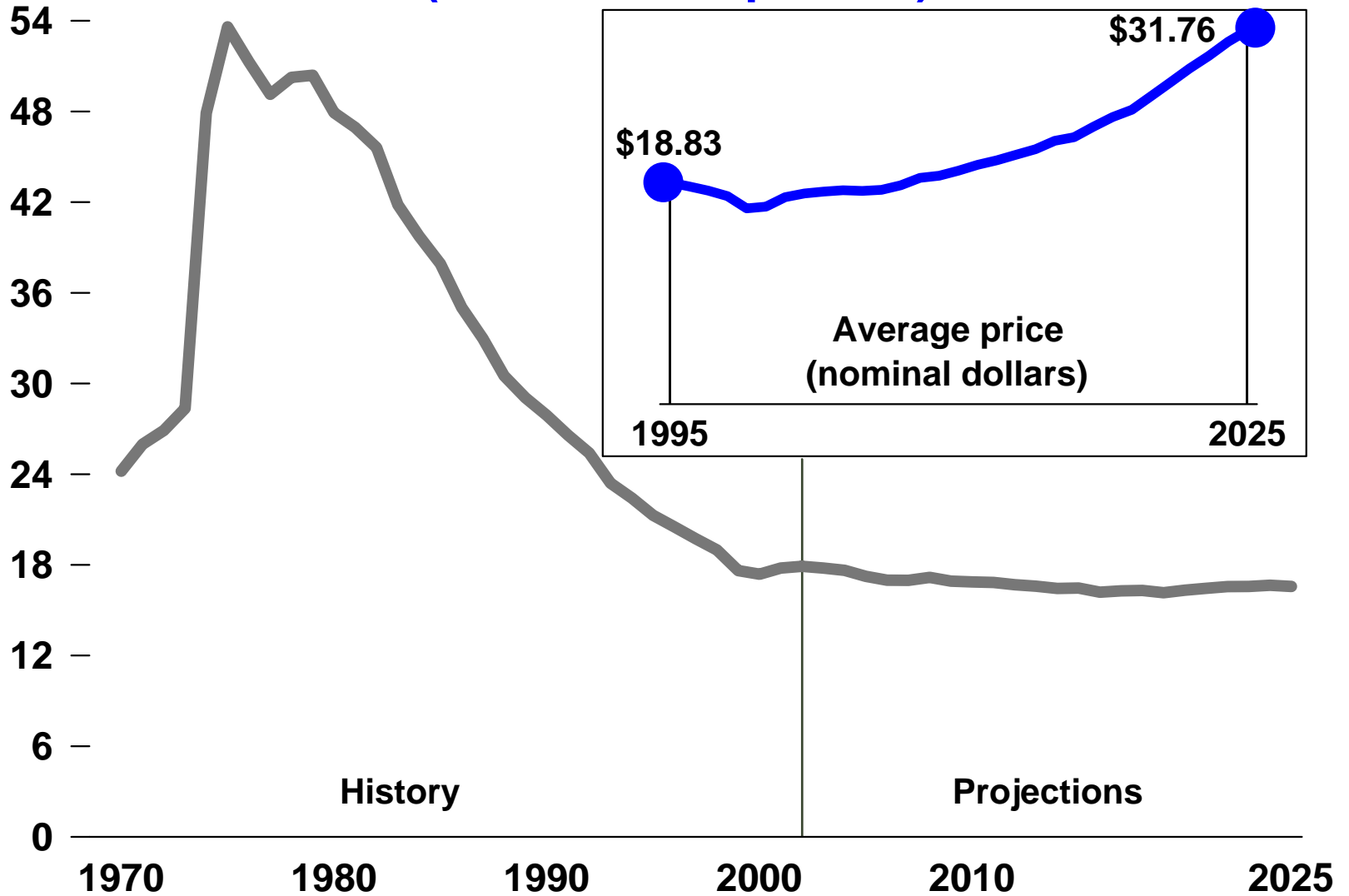
# Natural Gas Wellhead Price in Three Cases, 1970-2025 (2002 dollars per thousand cubic feet)



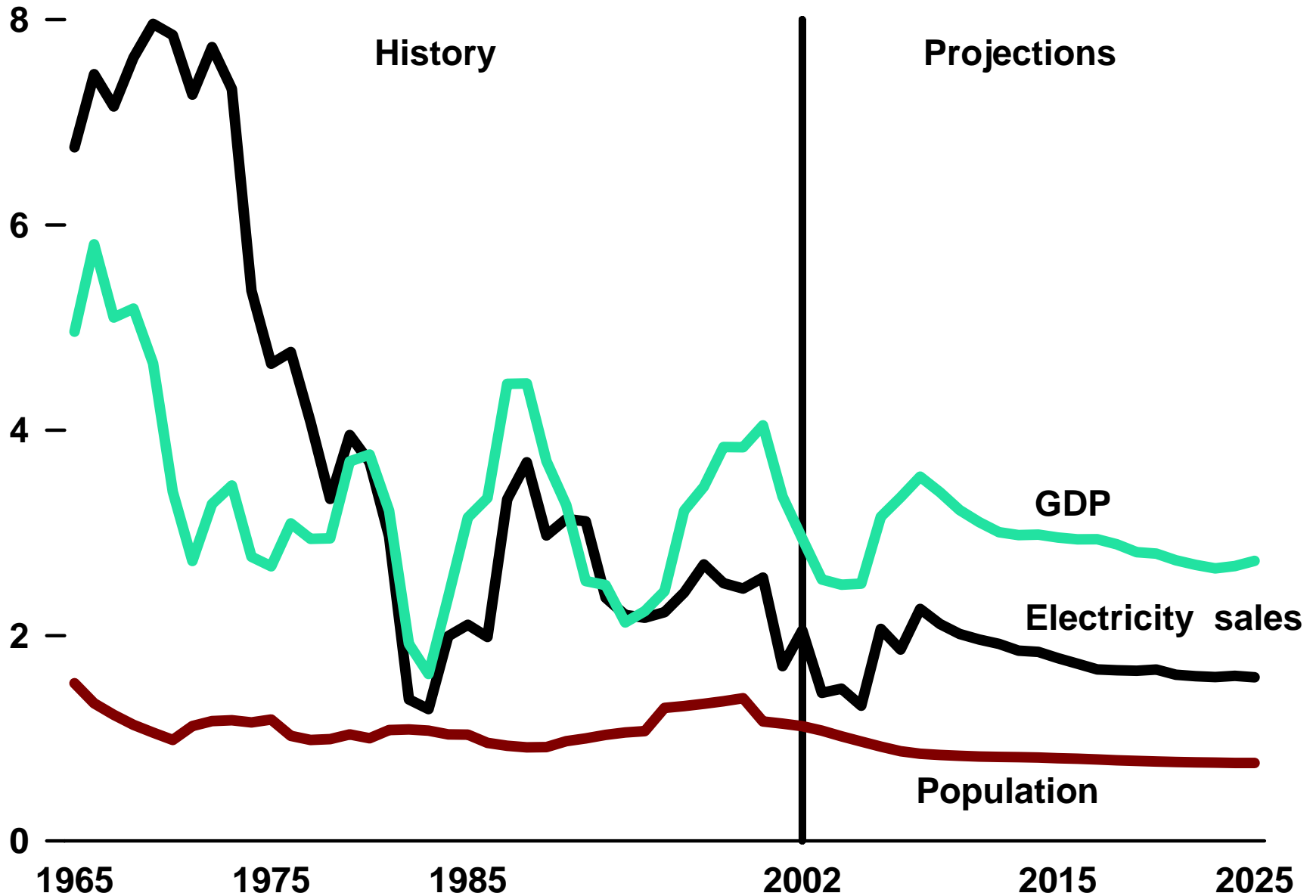
# Coal Production by Region, 1970-2025 (million short tons)



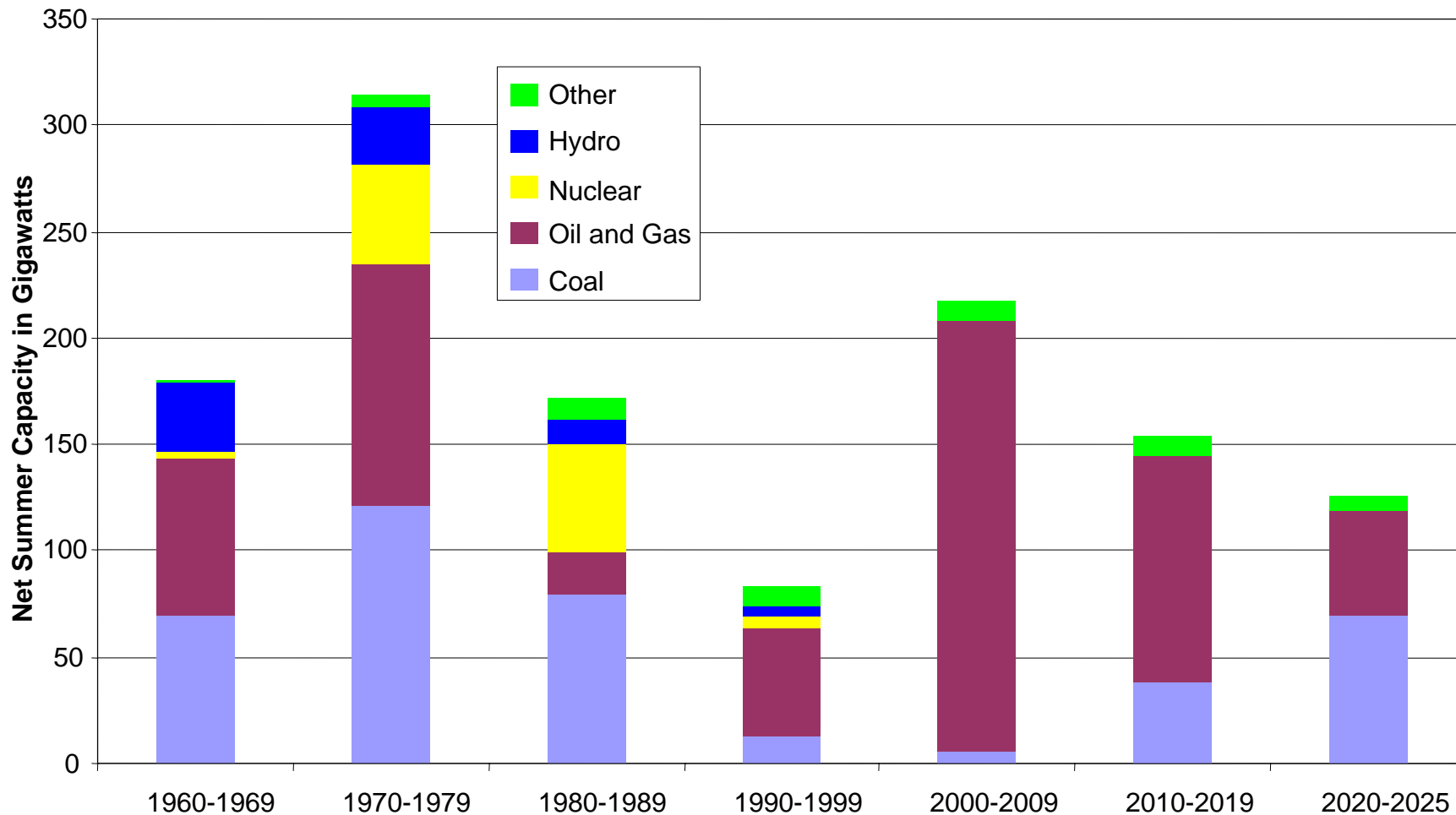
# Coal Minemouth Price, 1970-2025 (2002 dollars per ton)



# Population, Gross Domestic Product, and Electricity Sales, 1965-2025 (5-year moving average annual percent growth)

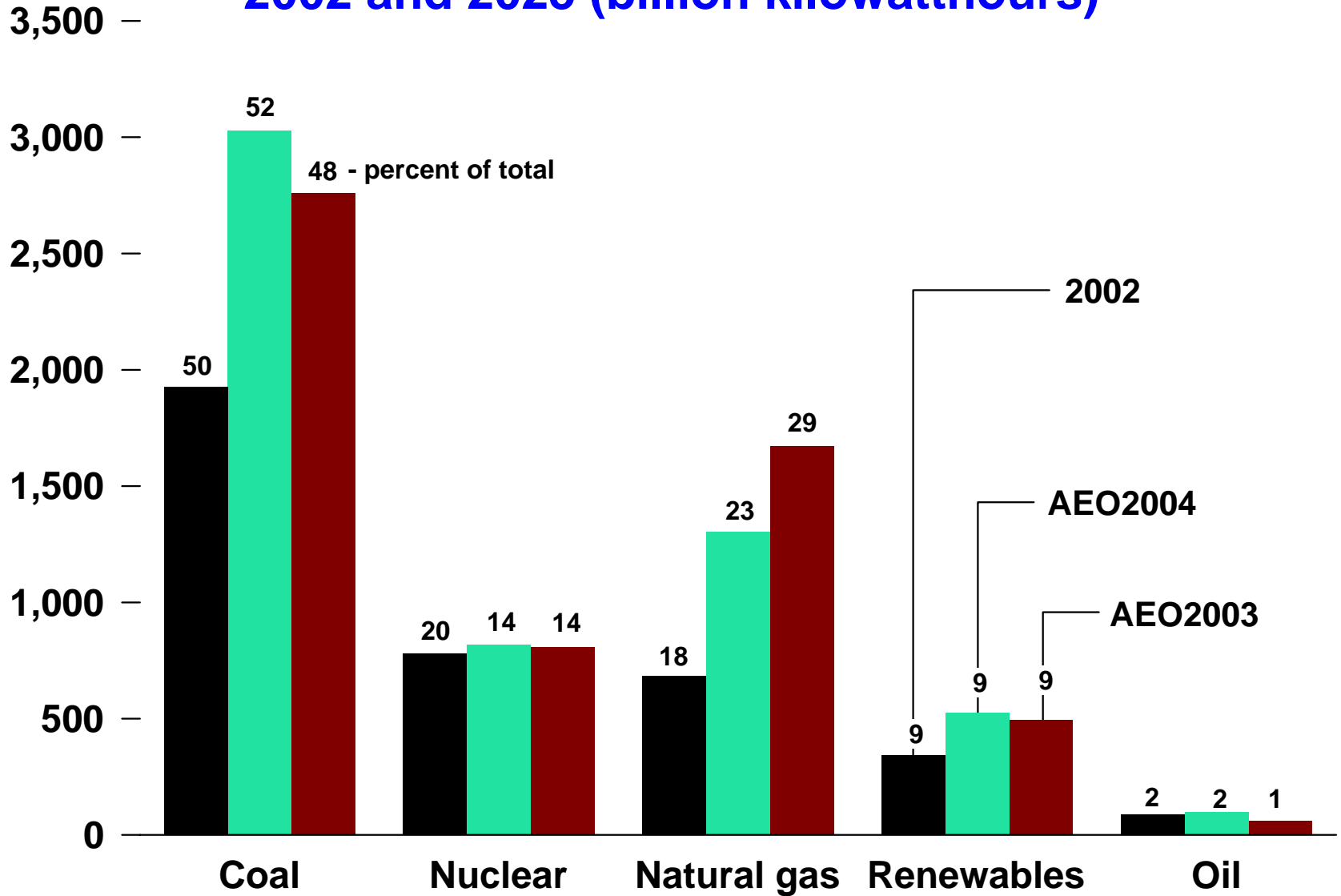


# Capacity Added by Fuel and Year

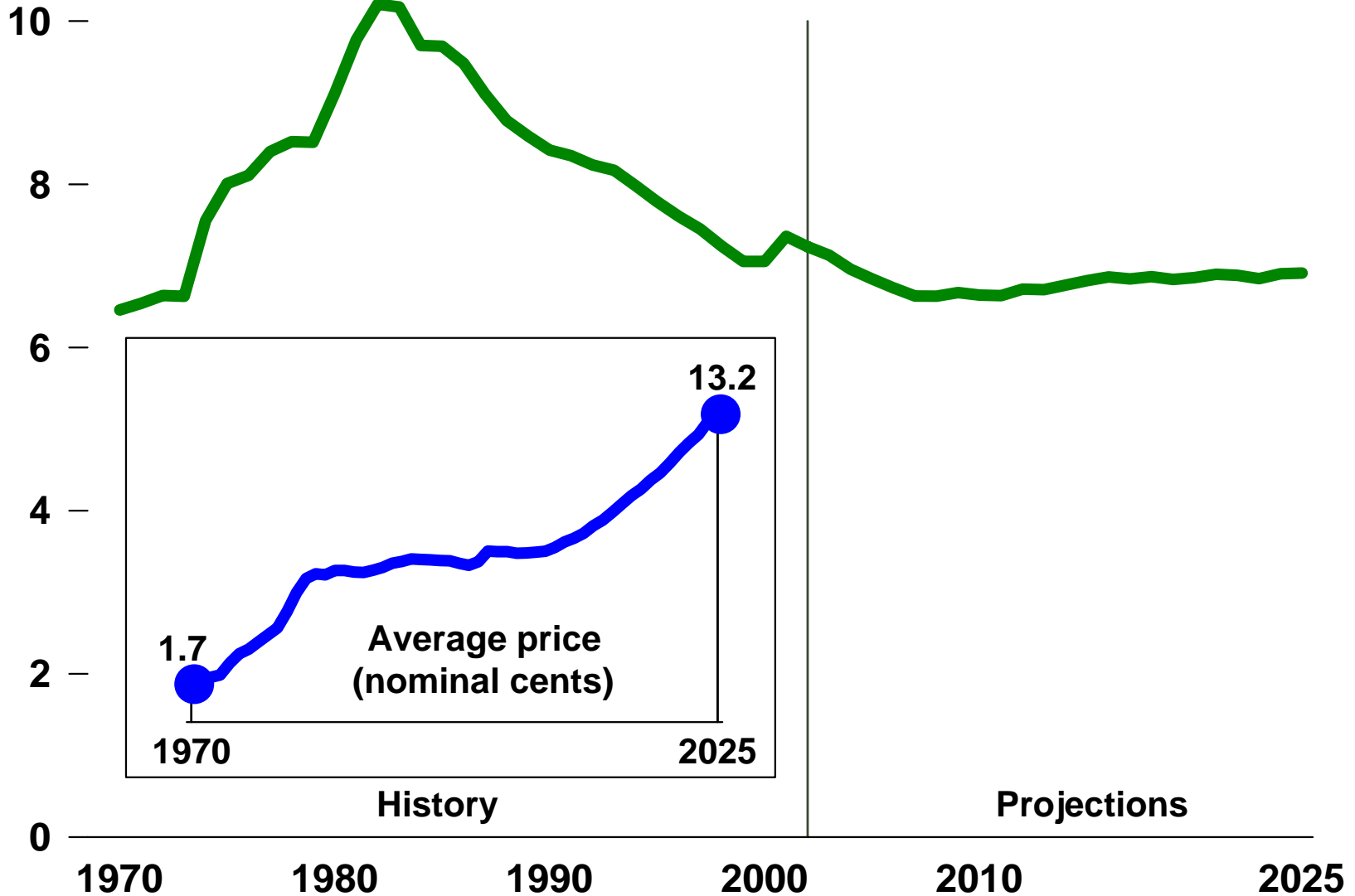


Notes: Uses latest reported capacity and primary fuels. Over time some plants have changed capacity and/or fuels. In recent years almost all new oil and gas capacity has been primarily gas-fueled.

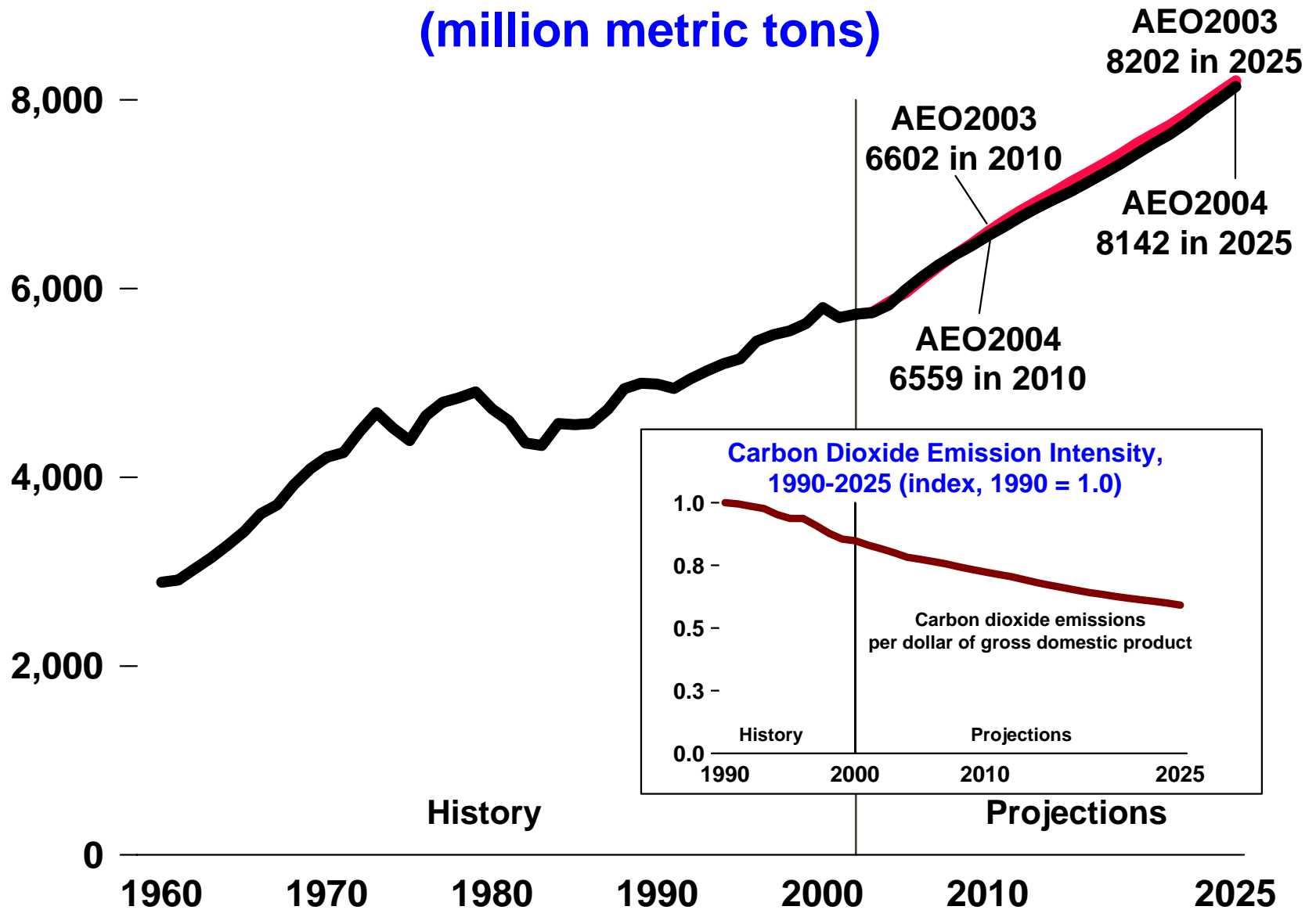
# Projected Electricity Generation by Fuel, 2002 and 2025 (billion kilowatthours)



# Electricity Price, 1970-2025 (2002 cents per kilowatthour)



# Total Carbon Dioxide Emissions, 1960-2025 (million metric tons)





## **Annual Energy Outlook 2004 indicates that over the next two decades....**

- **U.S. energy demand will grow at an average annual rate of 1.5 percent**
- **The energy efficiency of the economy will increase at an average annual rate of 1.5 percent**
- **Future growth in U.S. natural gas supplies will depend on unconventional domestic production, natural gas from Alaska, and liquefied natural gas imports.**
- **U.S. oil import reliance will grow from 54 percent to 70 percent**
- **The real price of electricity will drop from 7.2 cents to 6.9 cents per kilowatthour**
- **Carbon dioxide emissions will grow at an average annual rate of 1.5 percent**