International Energy Outlook:

The Future of Energy

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Energy Information Administration

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Groningen, The Netherlands
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Energy Information Administration

- EIA was established by the Department of Energy Organization Act of 1977
  - Independent since its foundation
- 375 Federal employees and about 250 contractors
- $90 million budget in 2007

EIA Products

- Data Collection
  - EIA has about 80 surveys and data forms related to energy supplies and production, energy consumption, greenhouse gases, and finance
- Analysis
  - EIA provides analyses that evaluate the impacts of regulation on energy markets
- Forecasting
  - EIA provides short-term and long-term forecasts of energy markets for the United States and the world

EIA Customers

- Business/Industry (39%)
- Citizen (14%)
- Research/Consulting (14%)
- Finance (10%)
- Academia (10%)
- Government (9%)
- Media (2%)
- Other (5%)

EIA Impacts Energy Markets:
Natural Gas Markets Rely Heavily on EIA Weekly Data

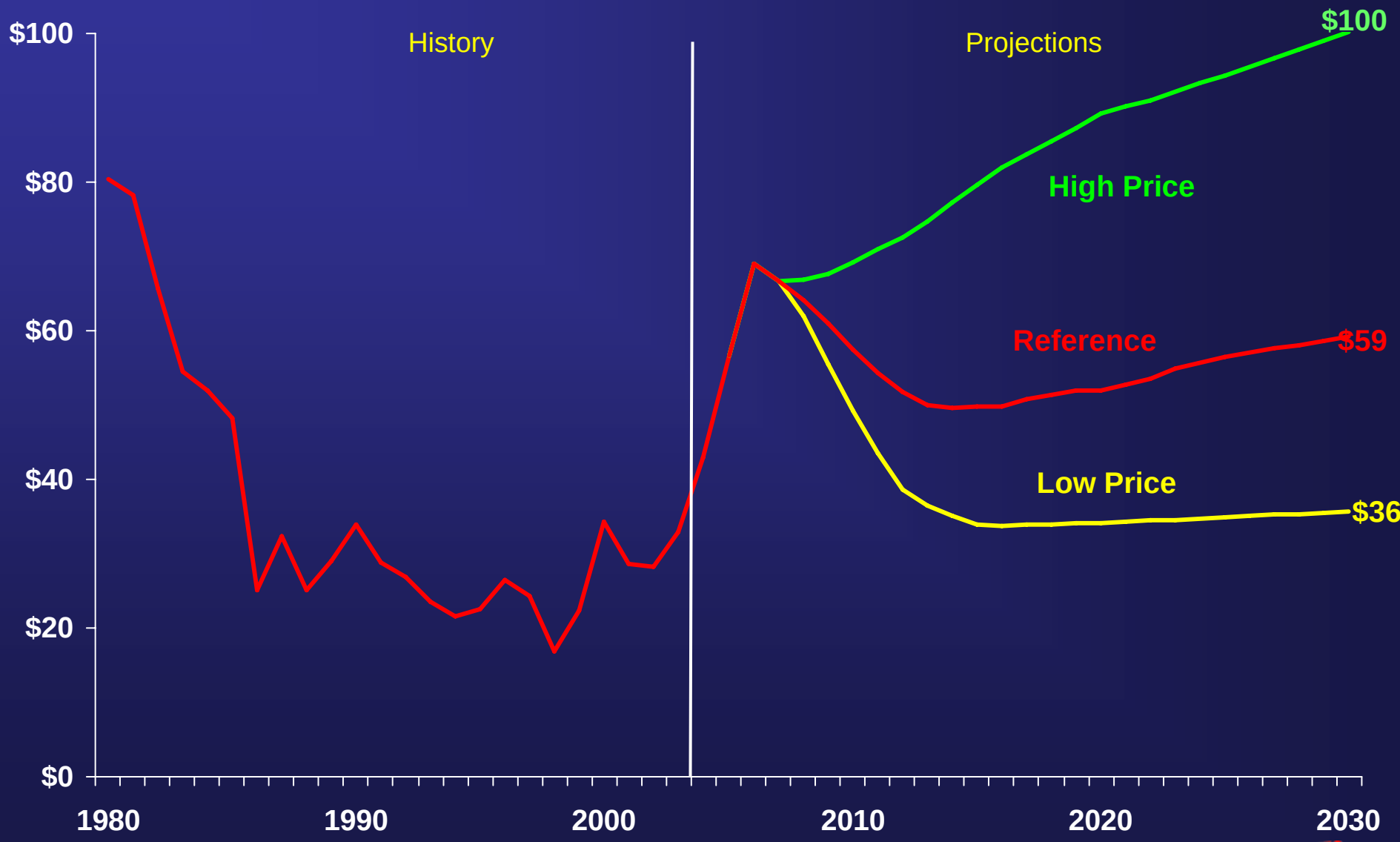
EIA's release of its Natural Gas Storage Data has immediate impact on the natural gas market

NYMEX Henry Hub Natural Gas Near-Month Futures Contract June 28 - 29, 2006; Bloomberg data 7/24/06.

Major Trends in the *IEO2007* …

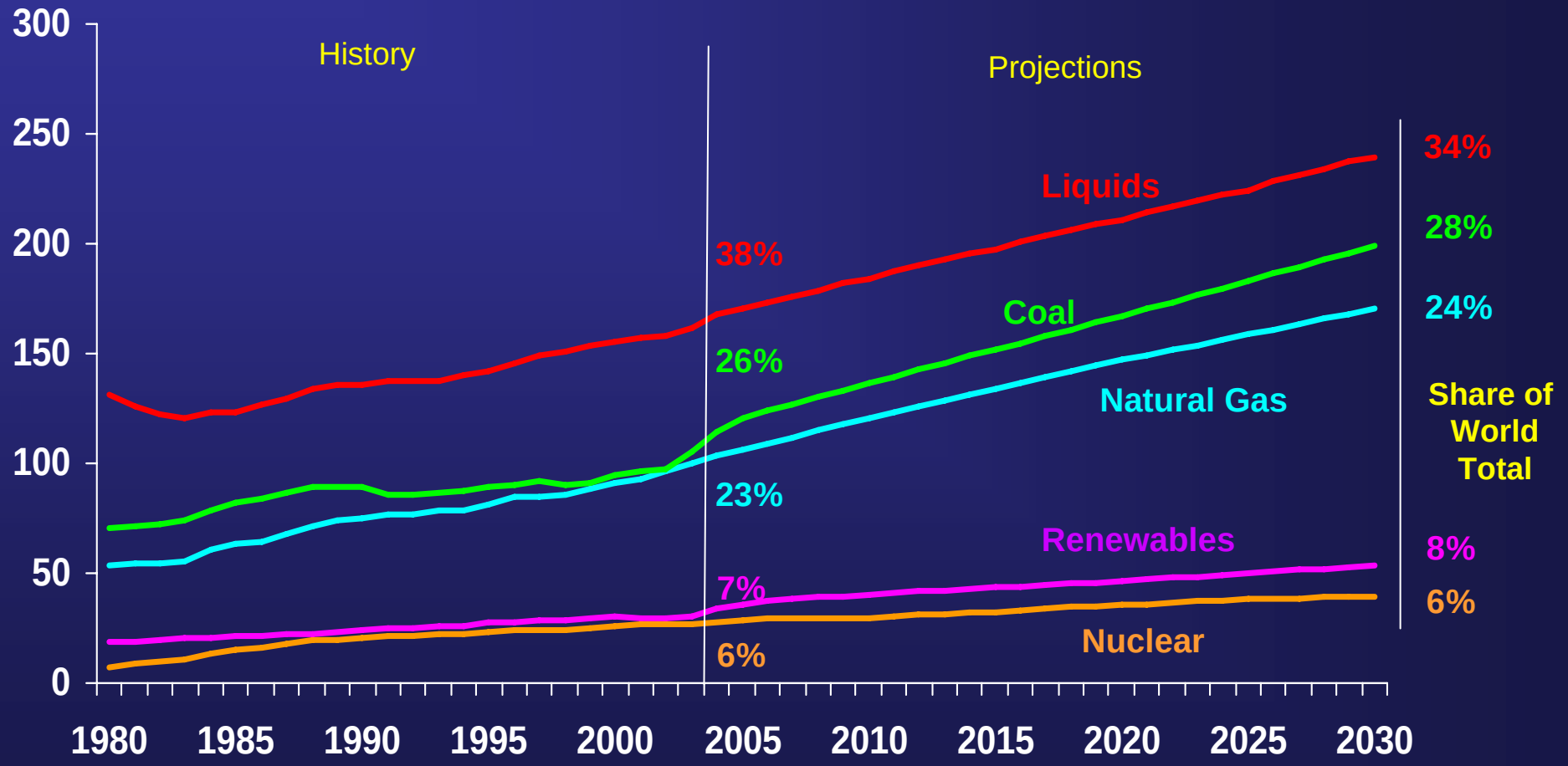
- Total world energy use rises by 57 percent in the reference case projection.
- The high world oil prices in the *IEO2007* reference case are projected to make previously uneconomical, unconventional resources economical, and they provide 10.5 million barrels per day of the world supply by 2030.
- Coal is the fastest growing energy source worldwide, increasing on average by 2.2 percent per year. Natural gas and renewables each increase by an average of 1.9 percent per year. Liquid fuels grow by 1.4 percent per year.
- The Middle East accounts for substantial shares of the world's total increase for liquids, 45 percent of the world total, and natural gas, 22 percent, through 2030.
- Non-OECD Asia energy use, especially in China and India, is expected to more than double between 2004 and 2030 and will rely increasingly on the Middle East to fulfill its oil and natural gas needs.
- Higher fossil fuel prices, energy security concerns, improved reactor designs, and environmental considerations are expected to improve the prospects for nuclear power generation, which is 14 percent higher in 2030 than in the previous outlook.
- Energy-related carbon dioxide emissions are projected to rise from 26.9 billion metric tons in 2004 to 33.9 billion metric tons in 2015 and 42.9 billion metric tons in 2030.

World Oil Price, 1980-2030
(2005 dollars per barrel)



International Energy Outlook 2007

World Marketed Energy Consumption, 1980-2030 (quadrillion Btu)



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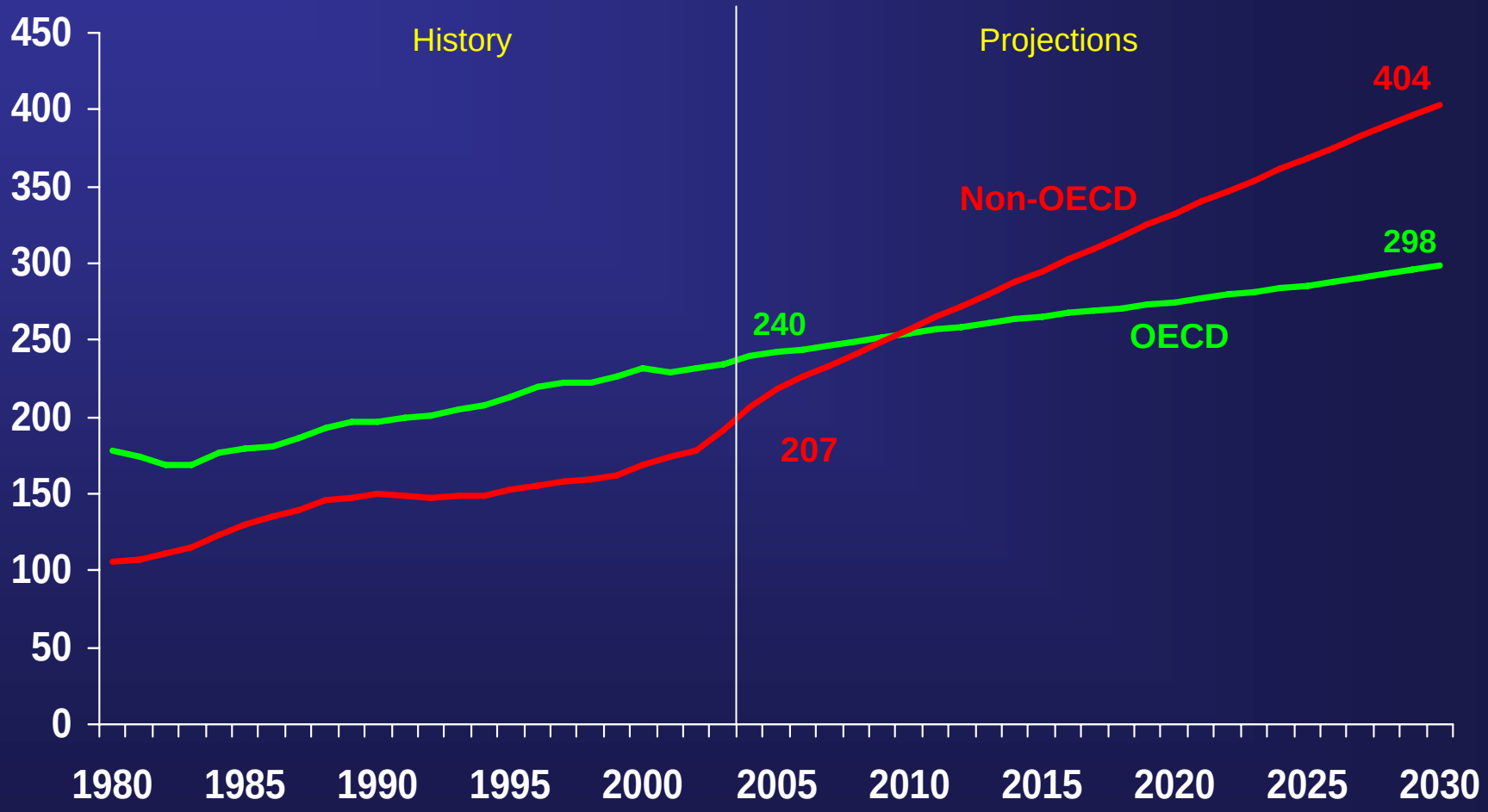
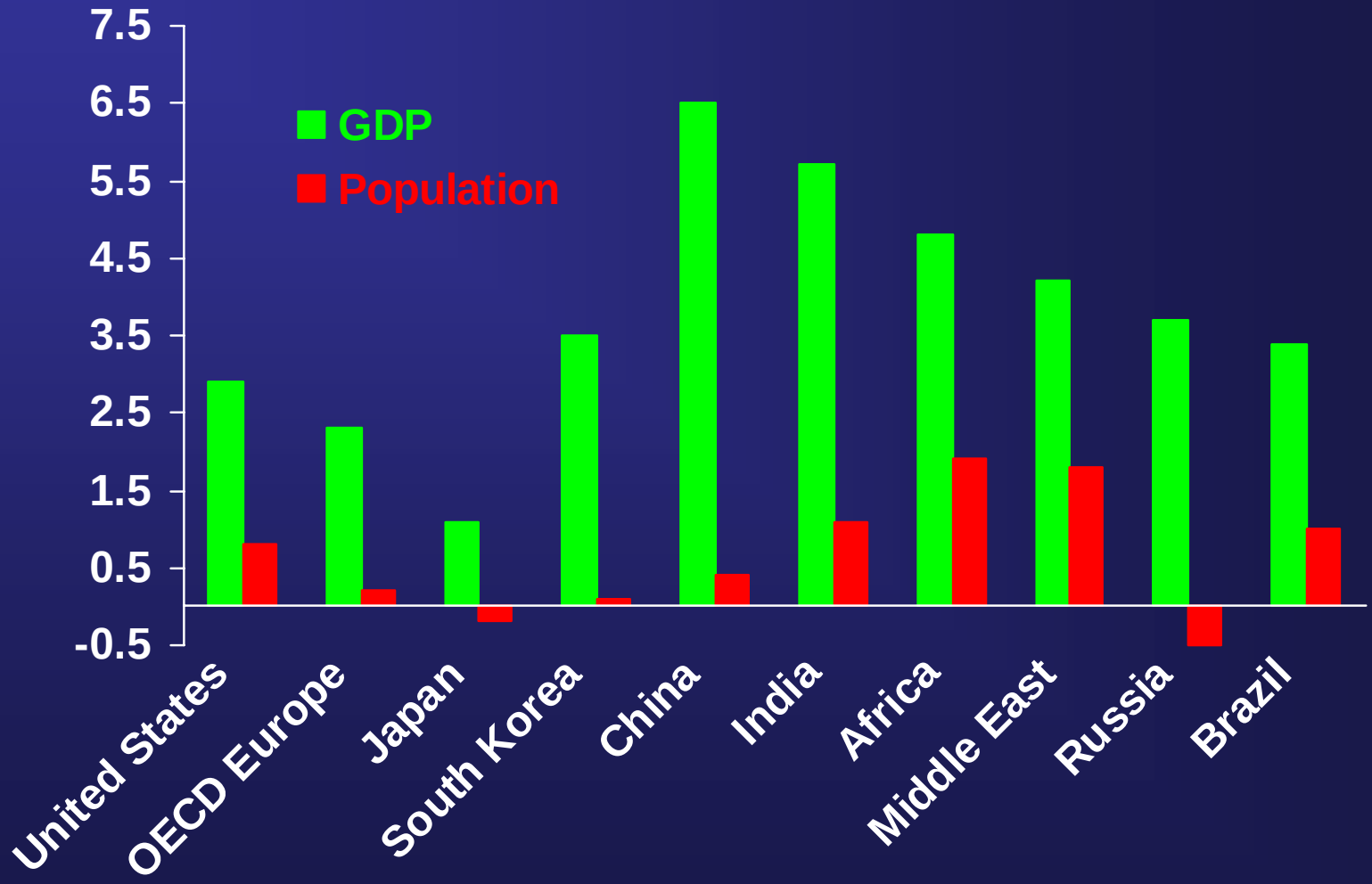
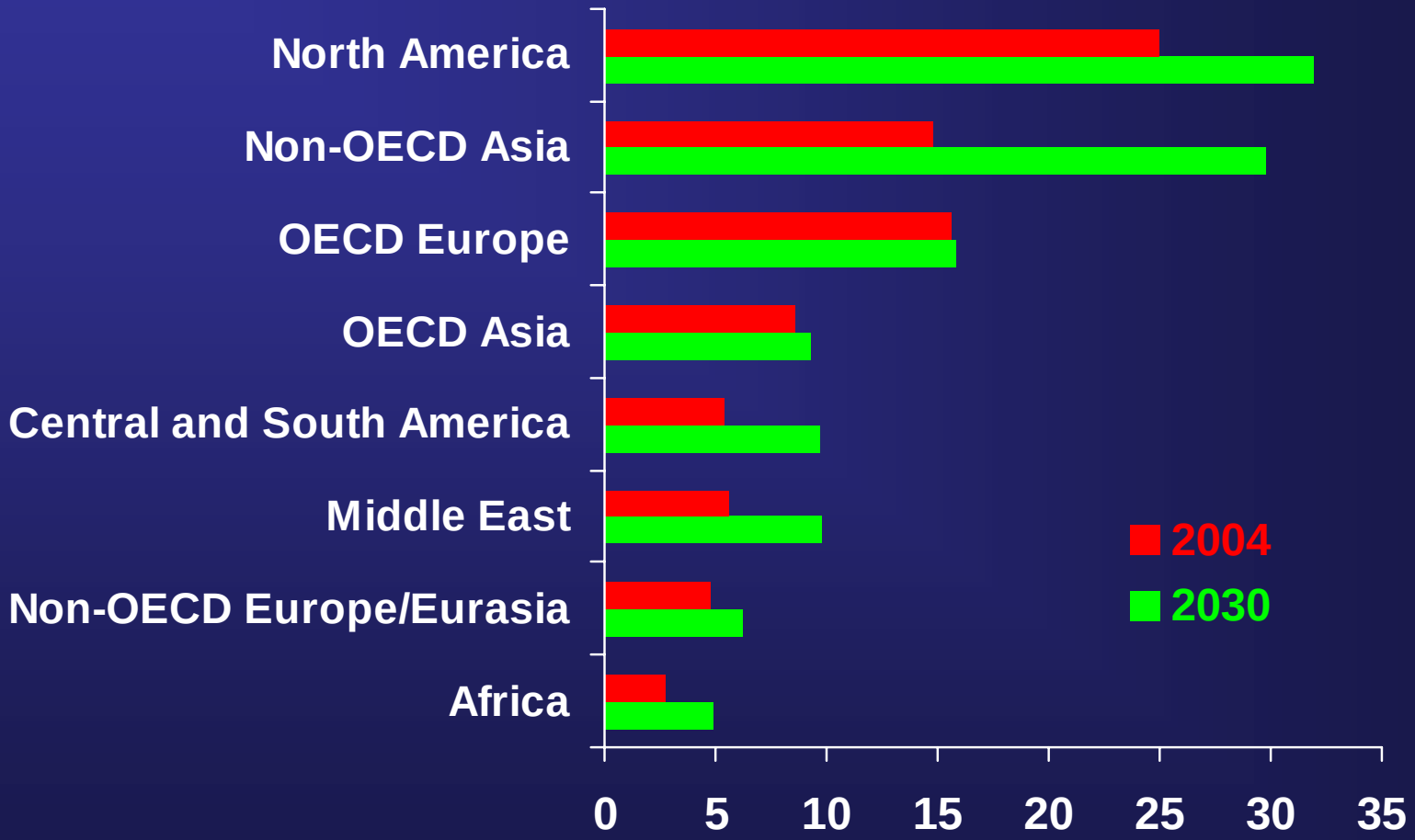


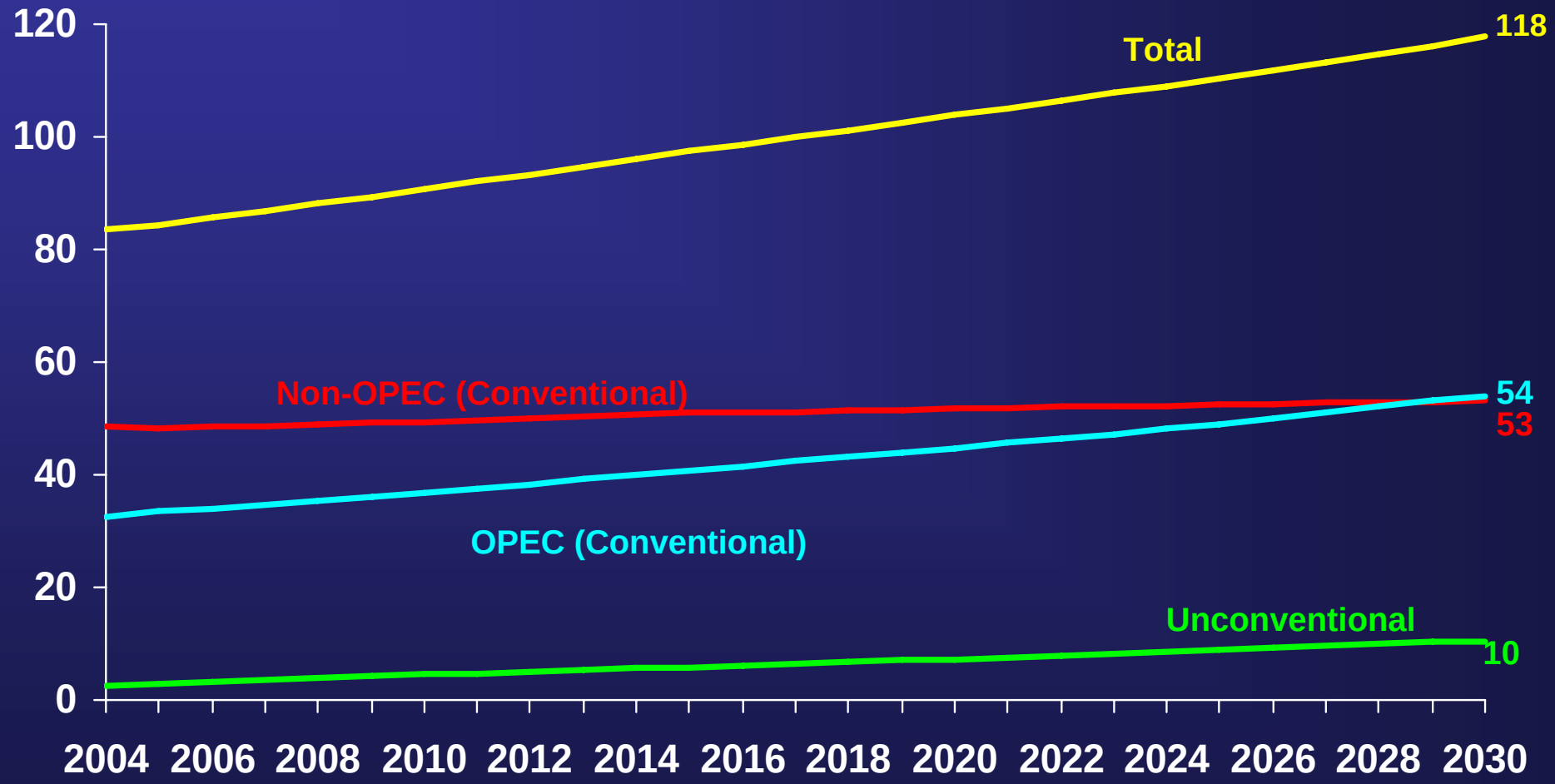
Average Annual GDP and Population Growth for Selected Regions, 2004-2030 (percent)



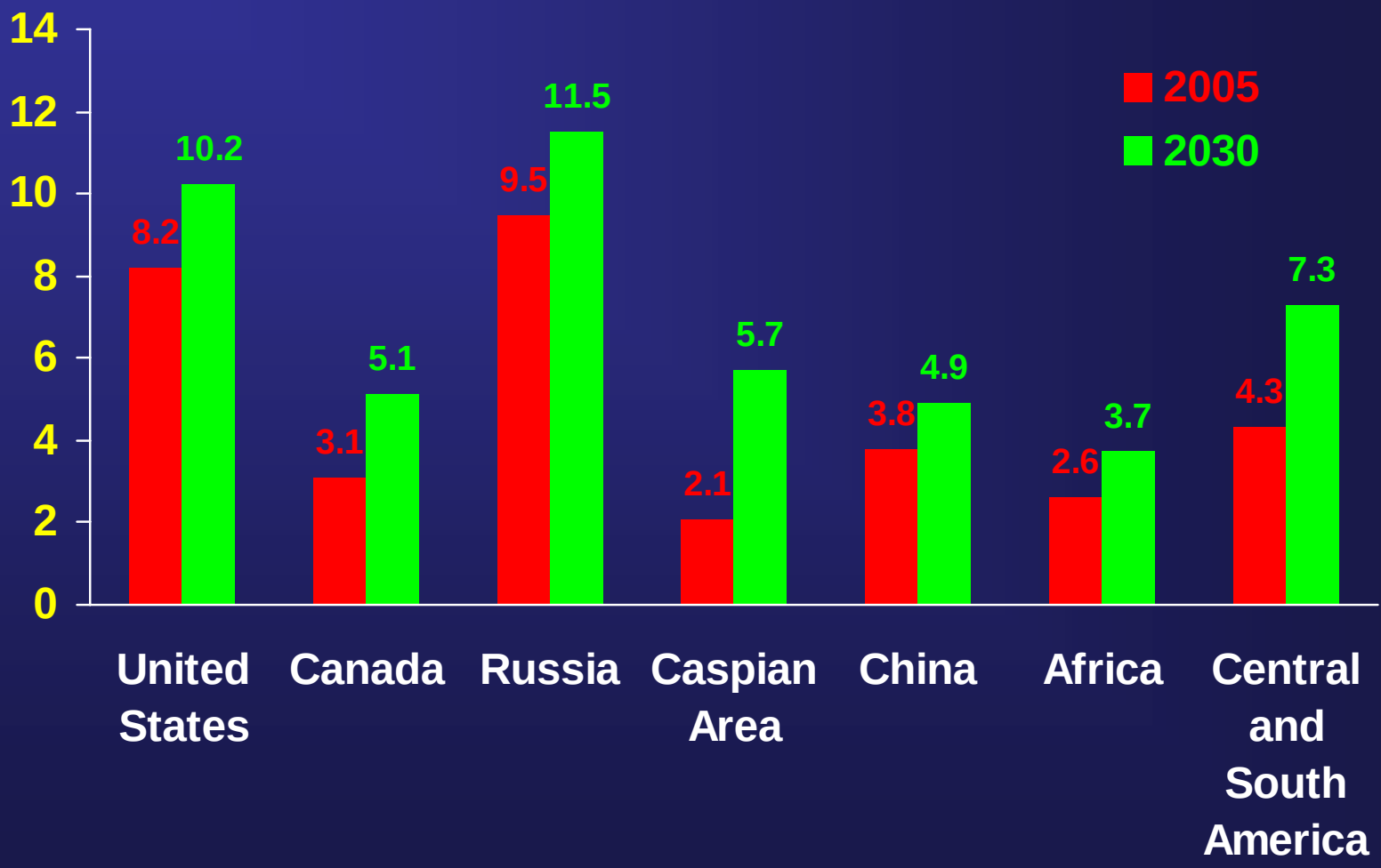
World Liquids Consumption, 2004 and 2030 (million barrels per day)



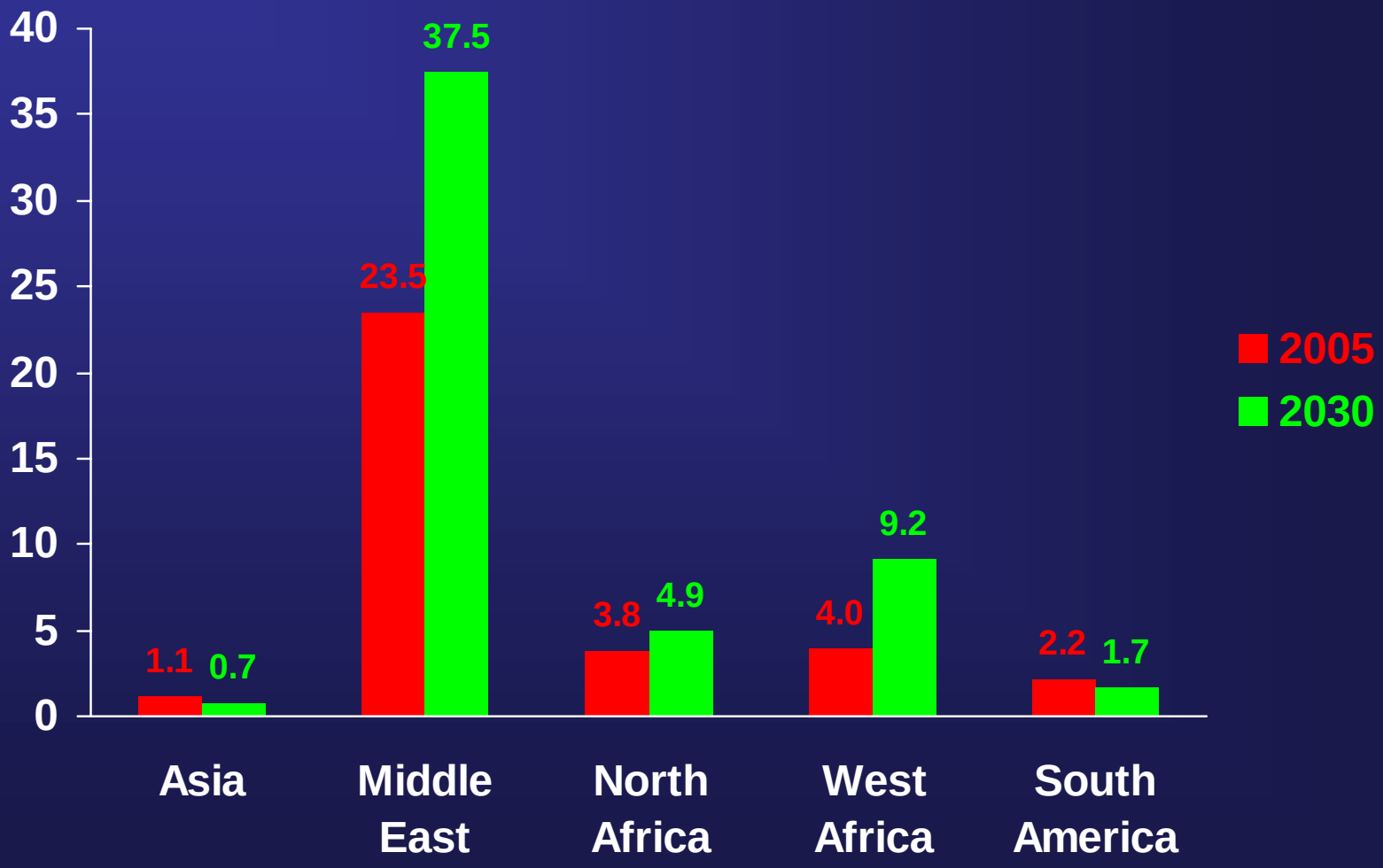
World Liquids Production, 2004-2030
(million barrels per day oil equivalent)



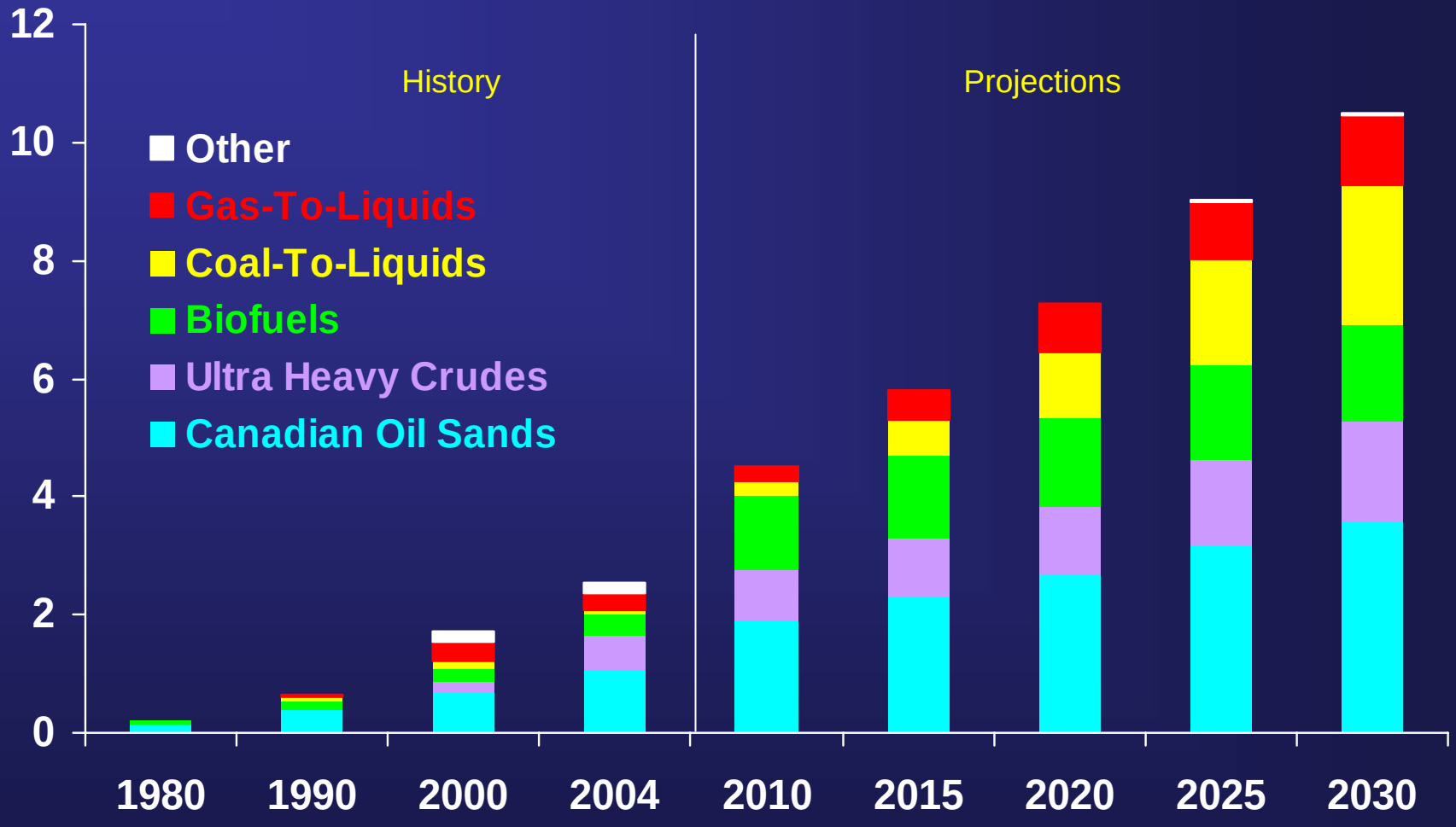
Non-OPEC Producing Regions with More than a One-Million-Barrel-per-Day Increase in Production, (million barrels per day oil equivalent)



OPEC Conventional Liquids Production (million barrels per day)

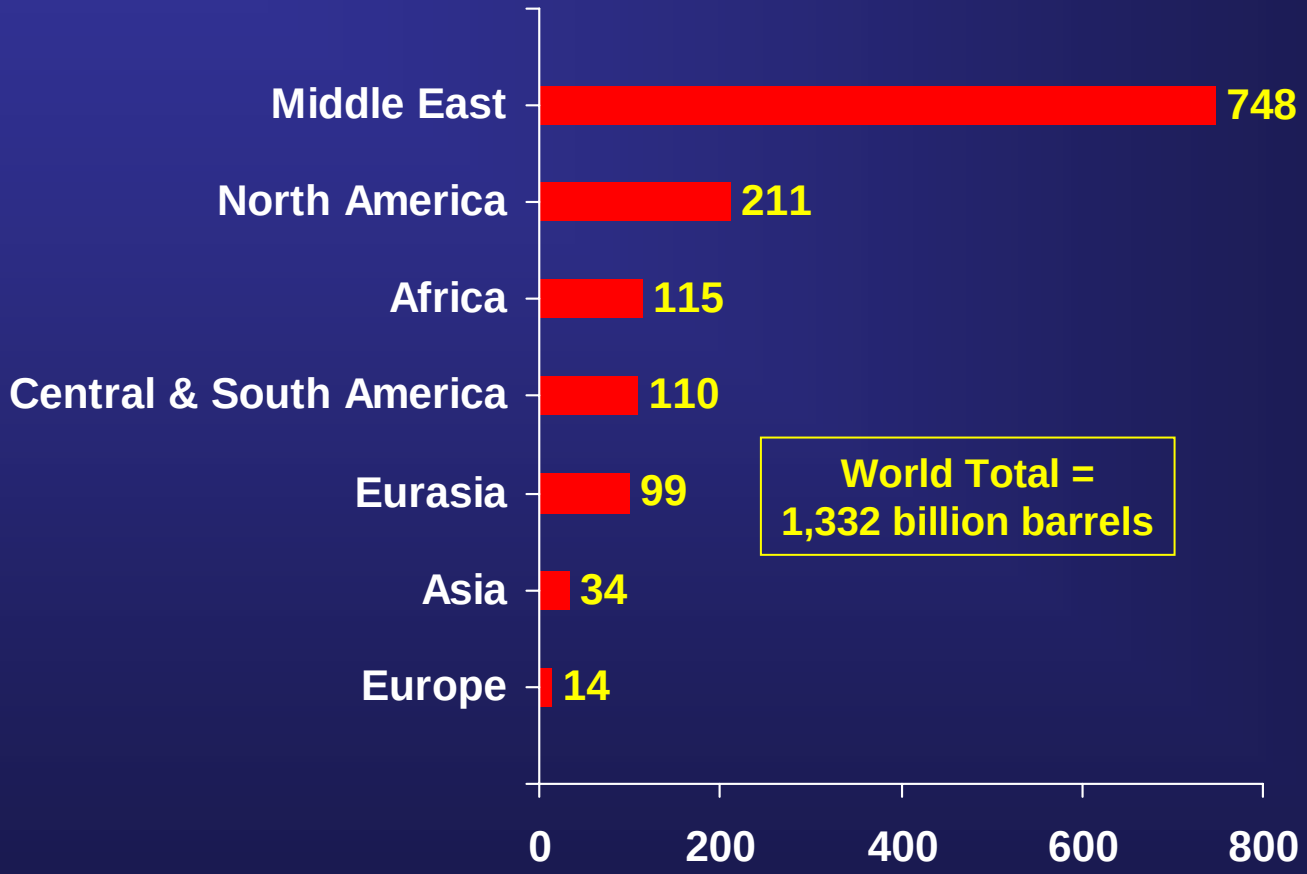


World Unconventional Liquids Production, 1980-2030 (million barrels per day oil equivalent)



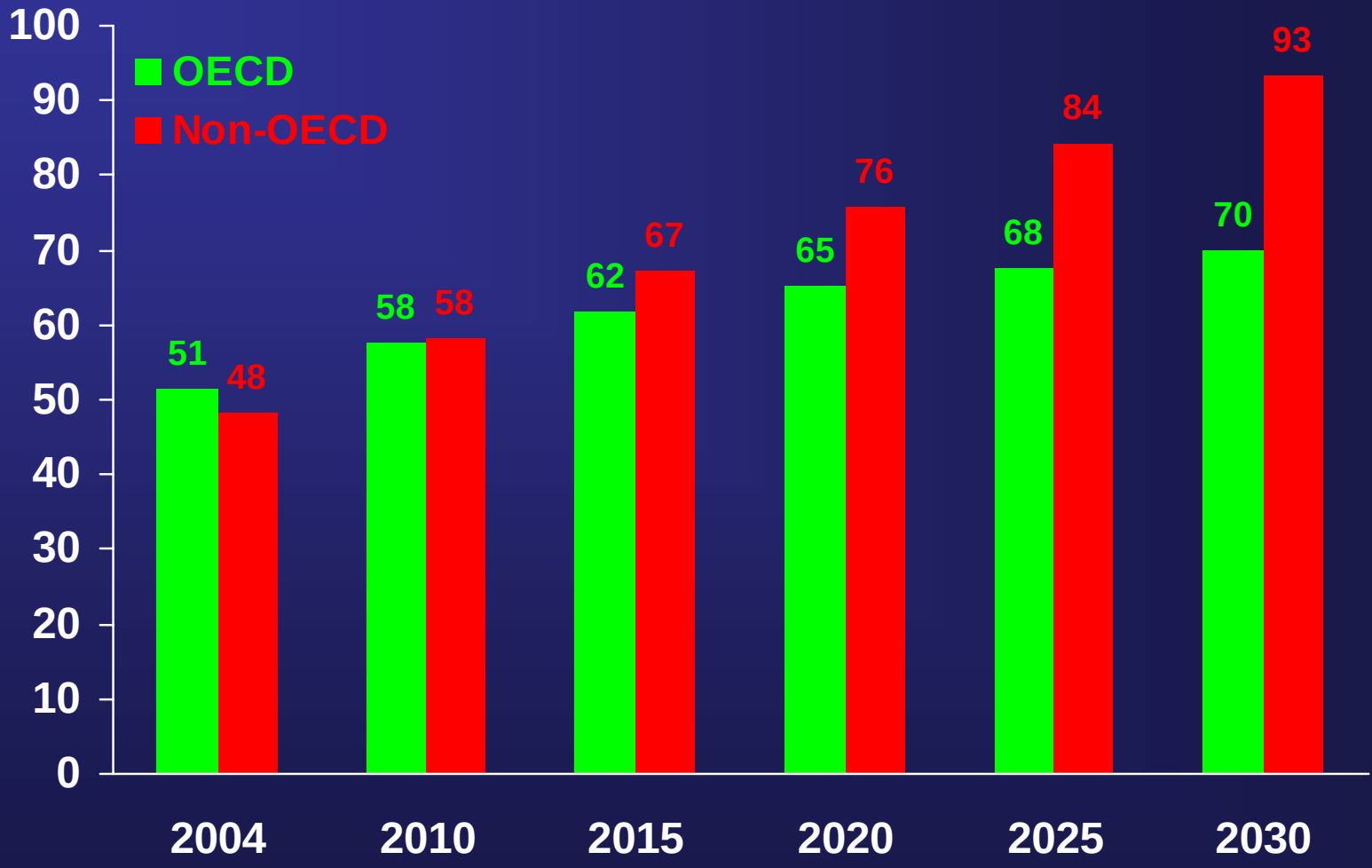
Other includes shale oils and other unidentified sources of unconventional liquid fuels.

World Proved Oil Reserves, as of January 1, 2008 (billion barrels)

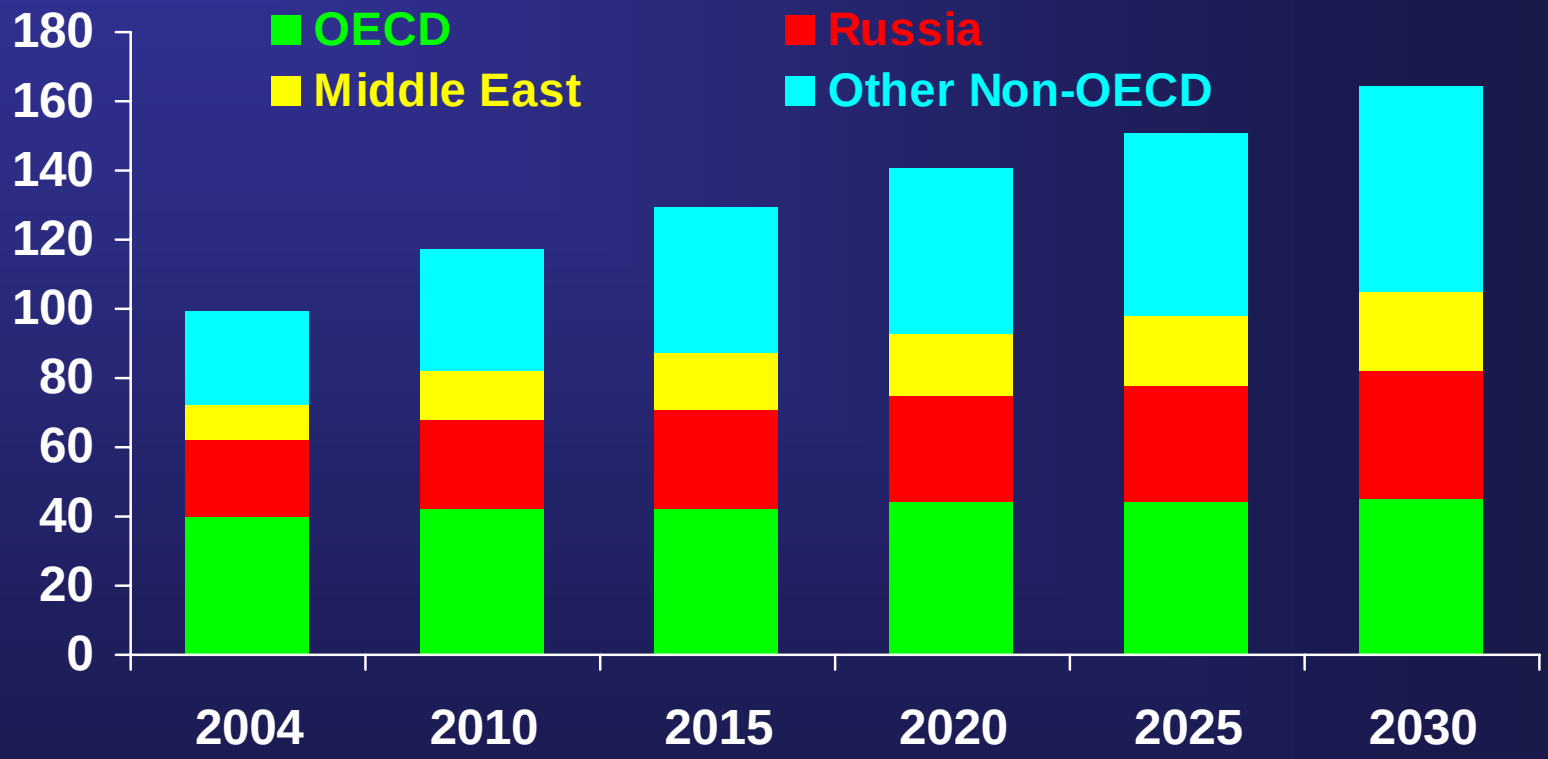


Oil & Gas Journal, Vol. 105, No. 48 (December 24, 2007)

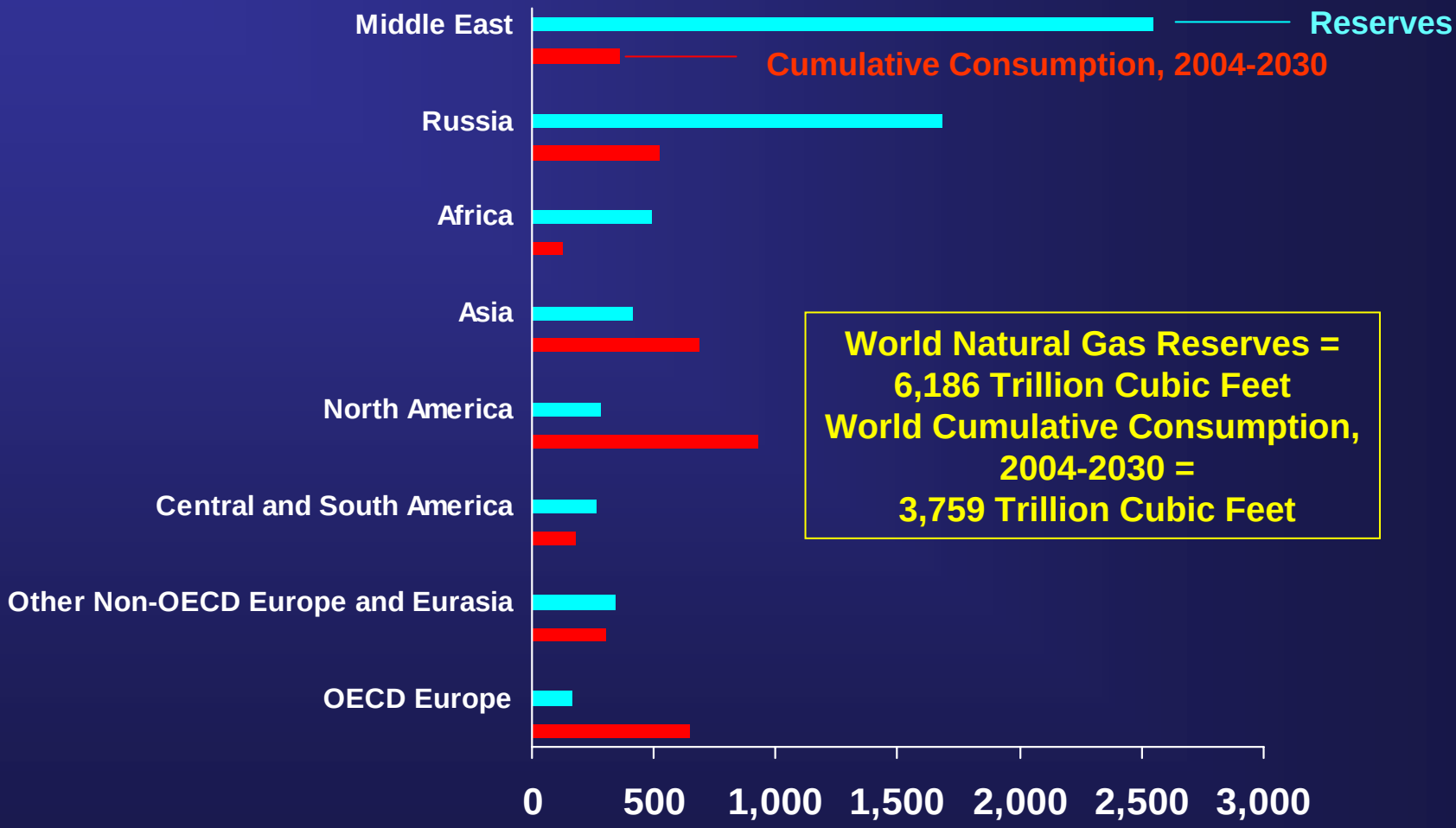
World Natural Gas Consumption, 2004-2030 (trillion cubic feet)



World Natural Gas Production, 2004-2030 (trillion cubic feet)

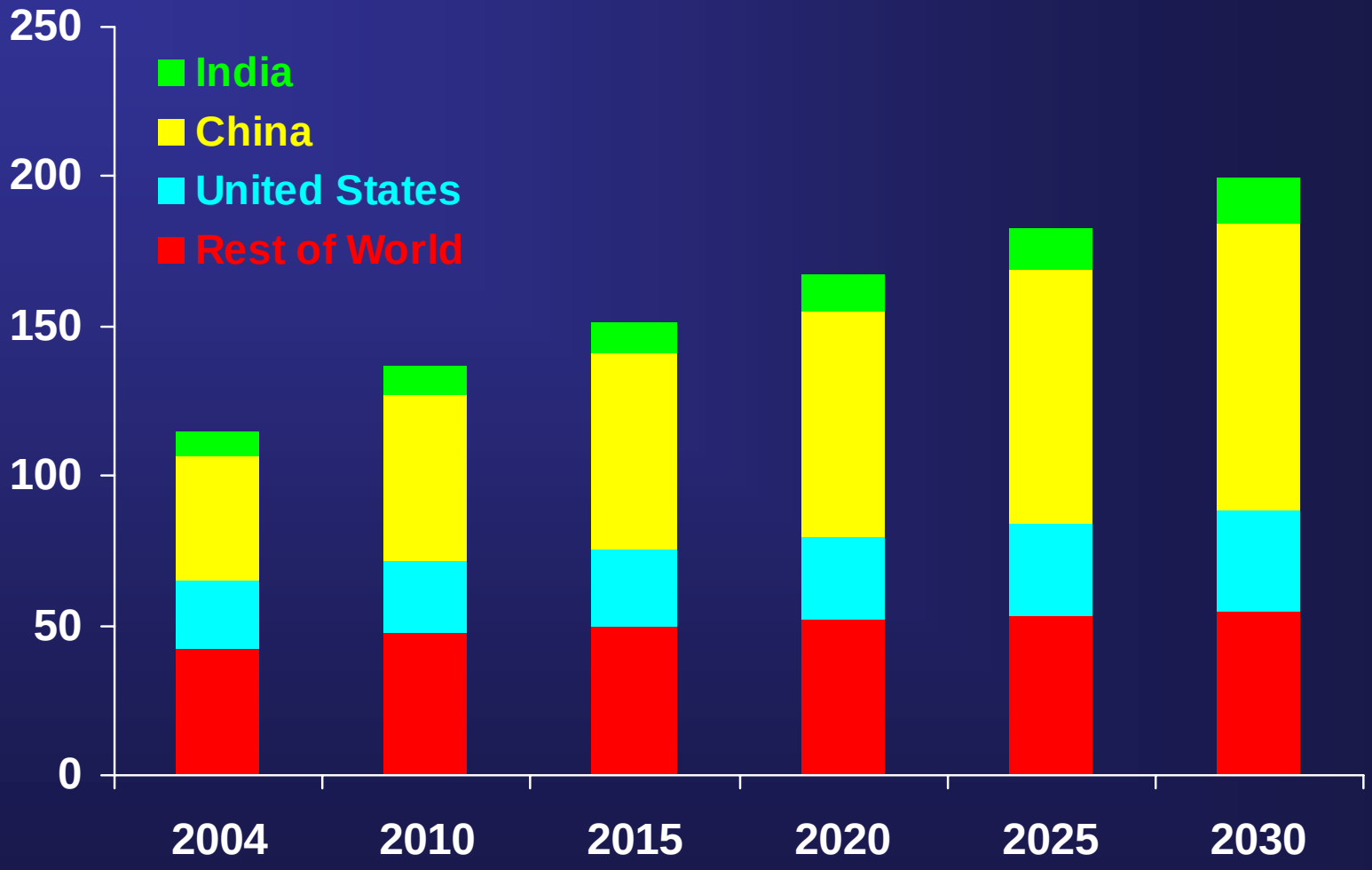


World Natural Gas Reserves, as of January 1, 2008, and Cumulative Consumption, 2004-2030 (trillion cubic feet)

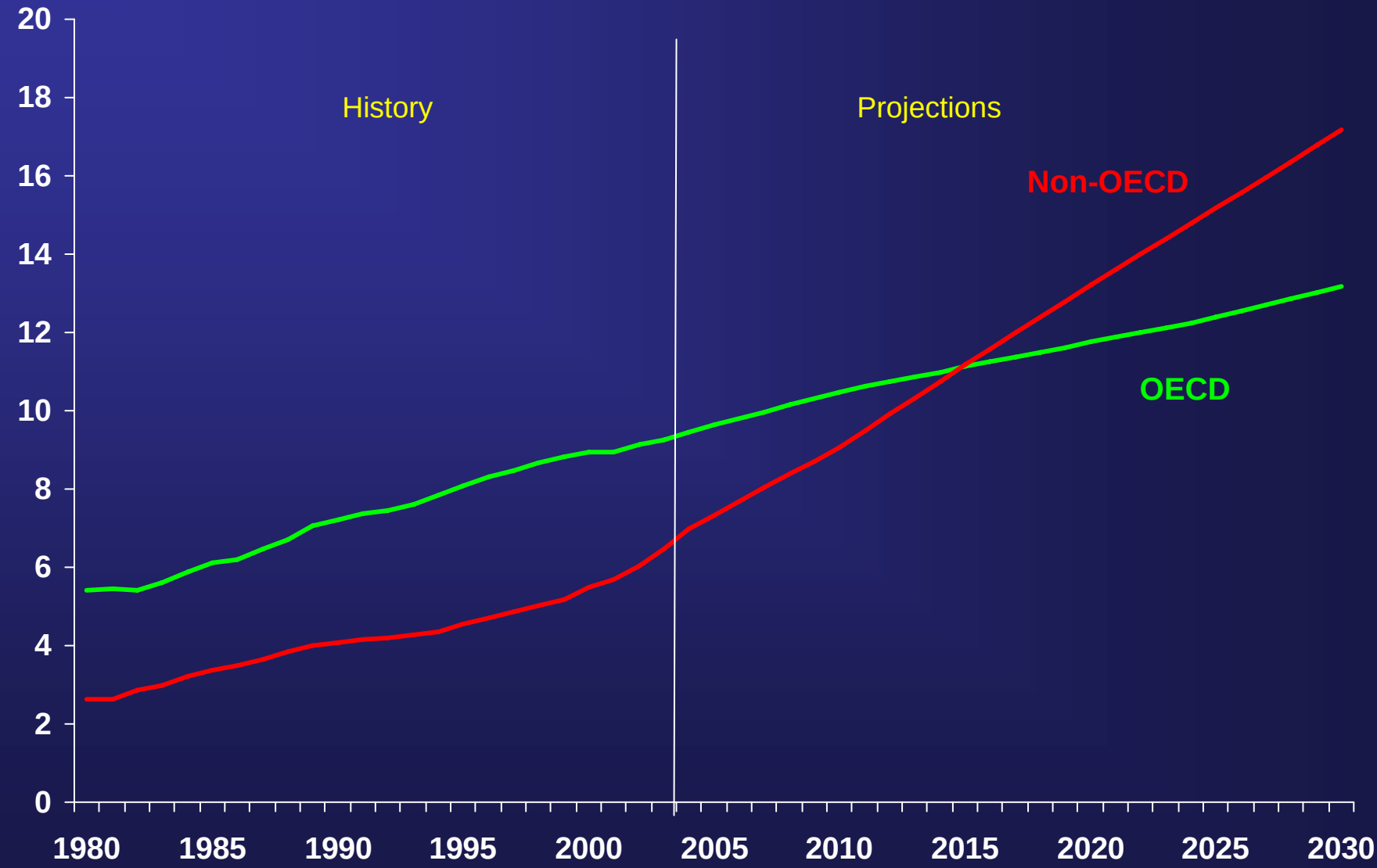


International Energy Outlook 2007 and *Oil & Gas Journal,* Vol. 105, No. 48 (December 24, 2007)

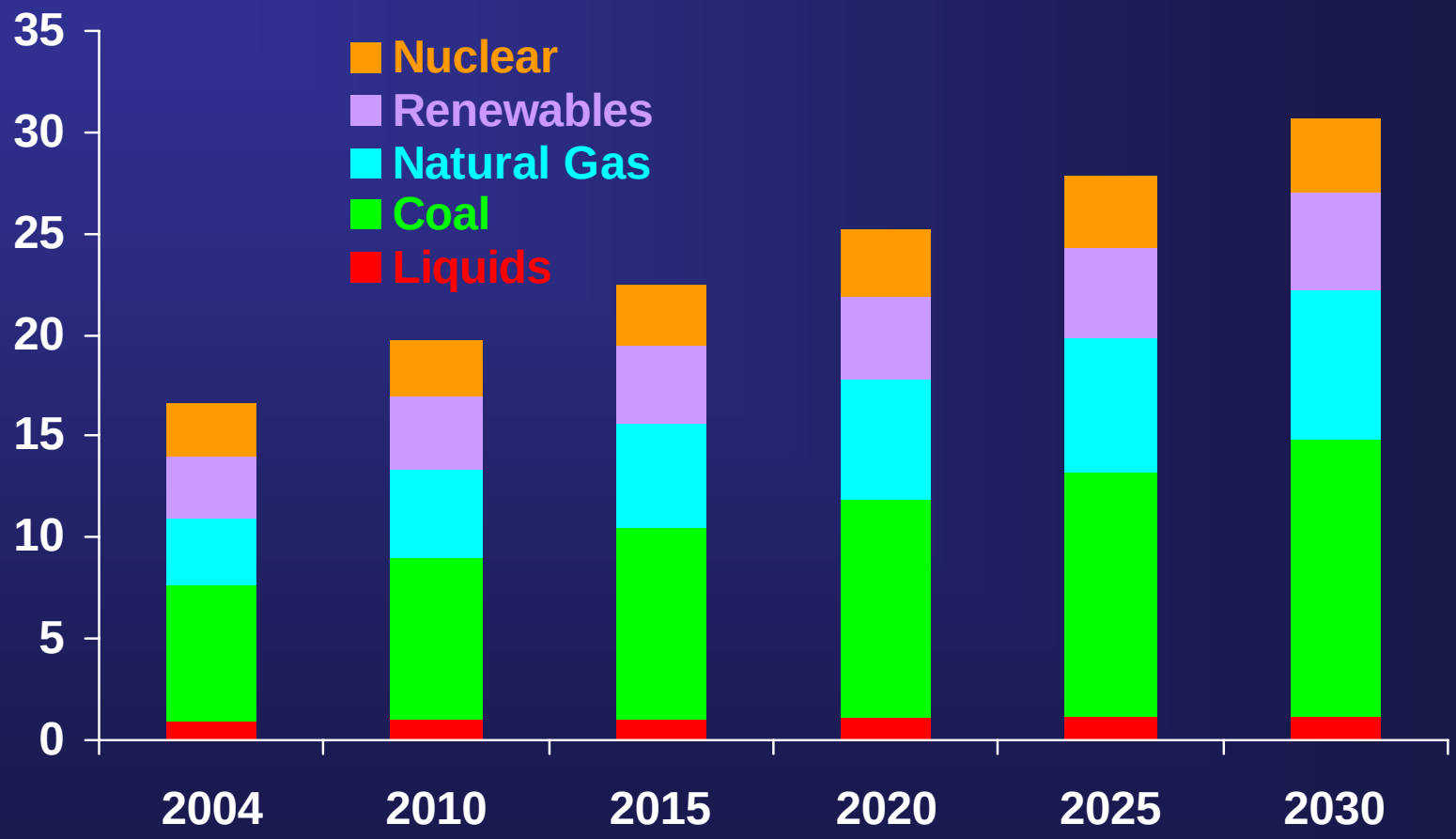
World Coal Consumption, 2004-2030 (quadrillion Btu)



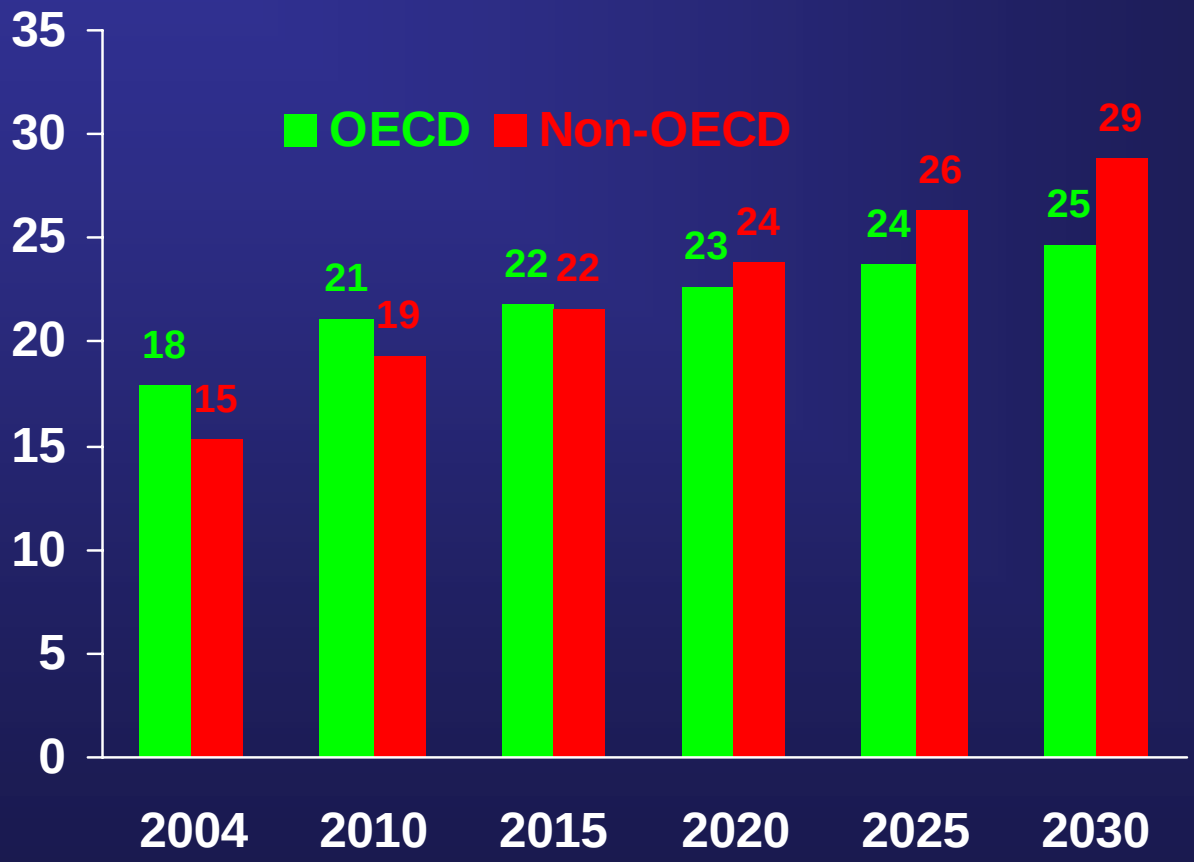
World Electric Power Generation, 1980-2030 (trillion kilowatthours)



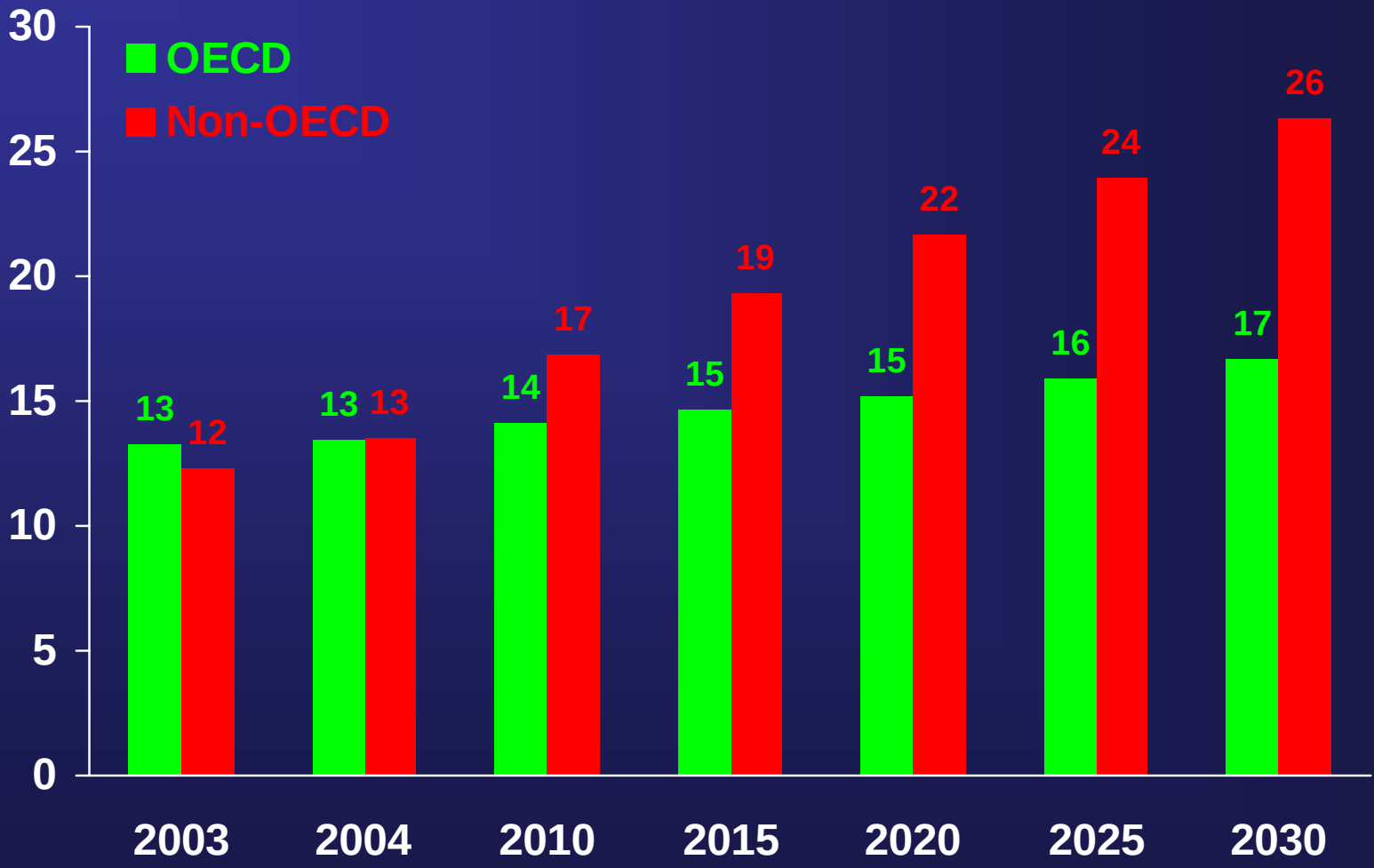
World Electricity Generation by Fuel, 2004-2030 (trillion kilowattours)



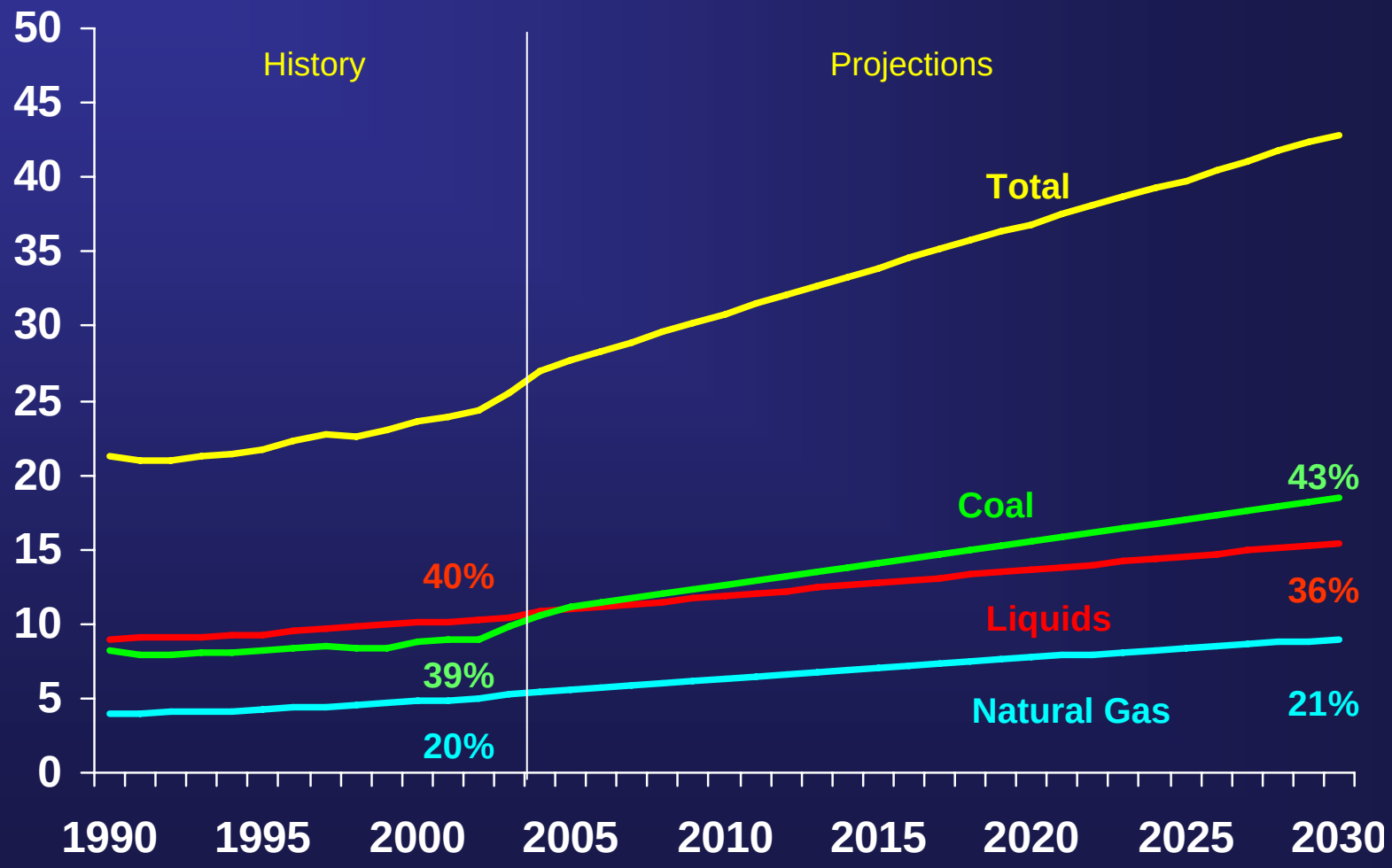
World Renewable Energy Use, 2004-2030 (quadrillion Btu)



World Carbon Dioxide Emissions by Region (billion metric tons)



World Energy-Related Carbon Dioxide Emissions, 1990-2030 (billion metric tons)

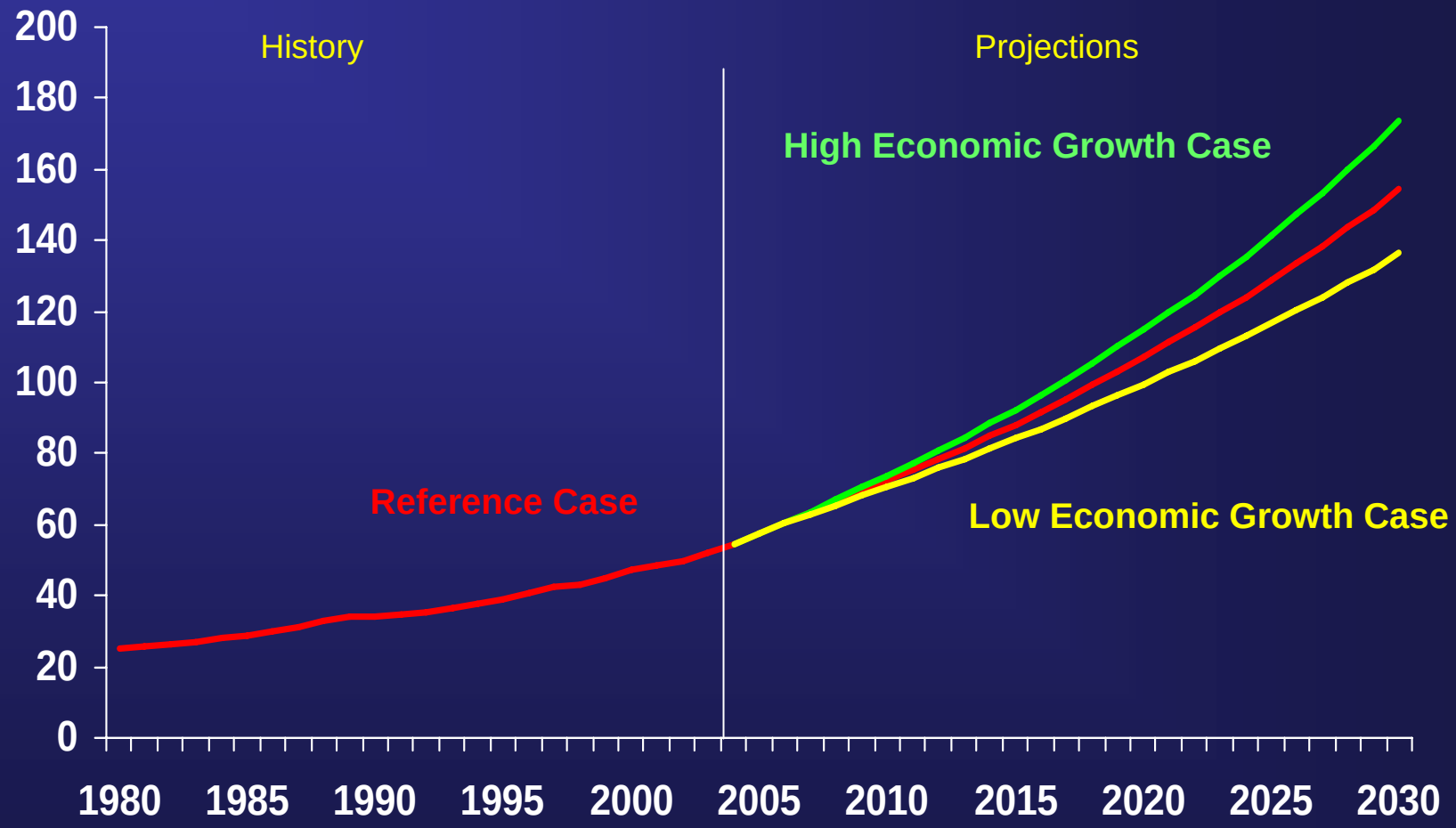


International Energy Outlook 2007

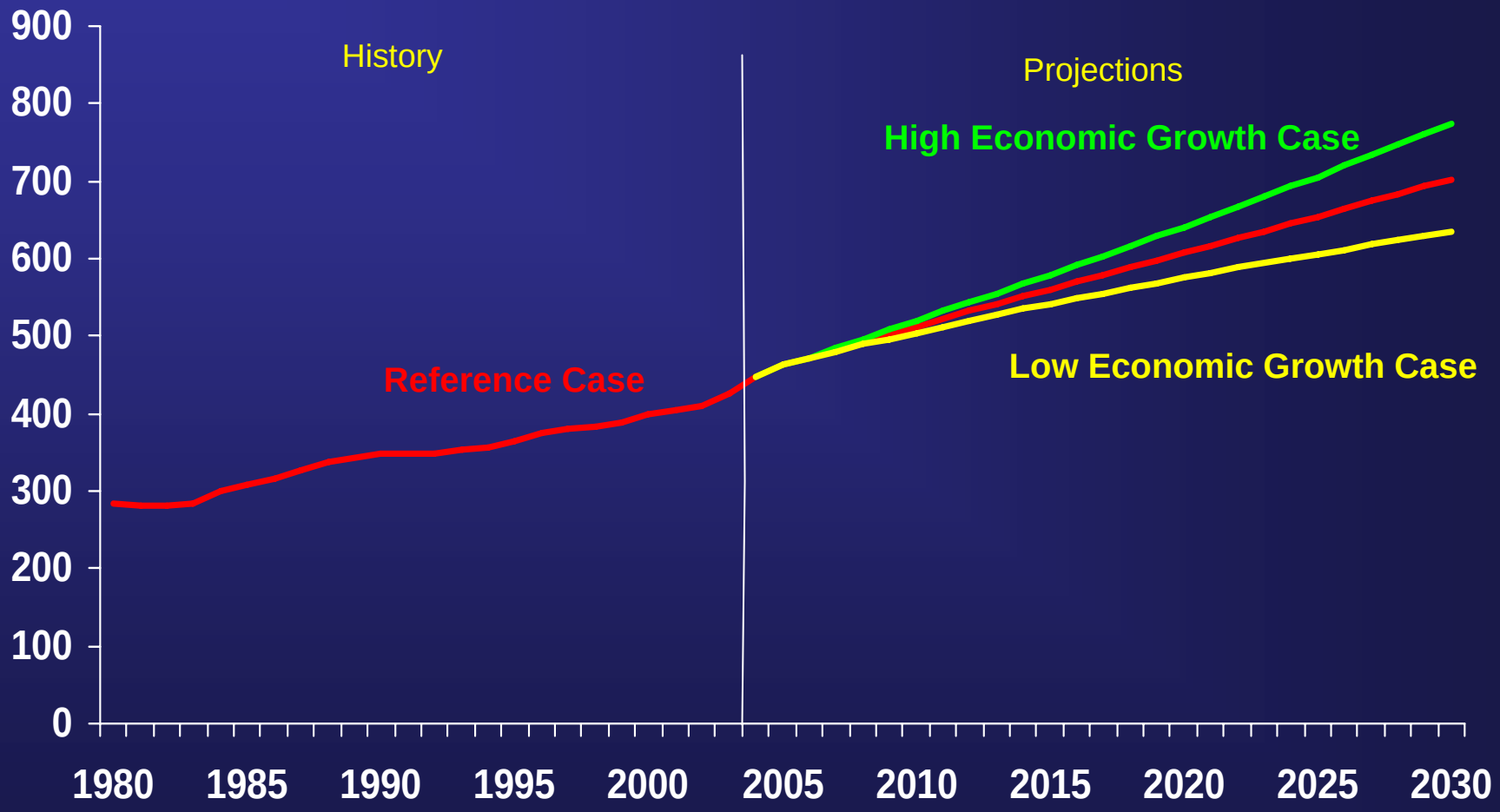
Key Uncertainties in the Projections

- Macroeconomic growth
- Energy prices
- Technological changes
- Government policy initiatives

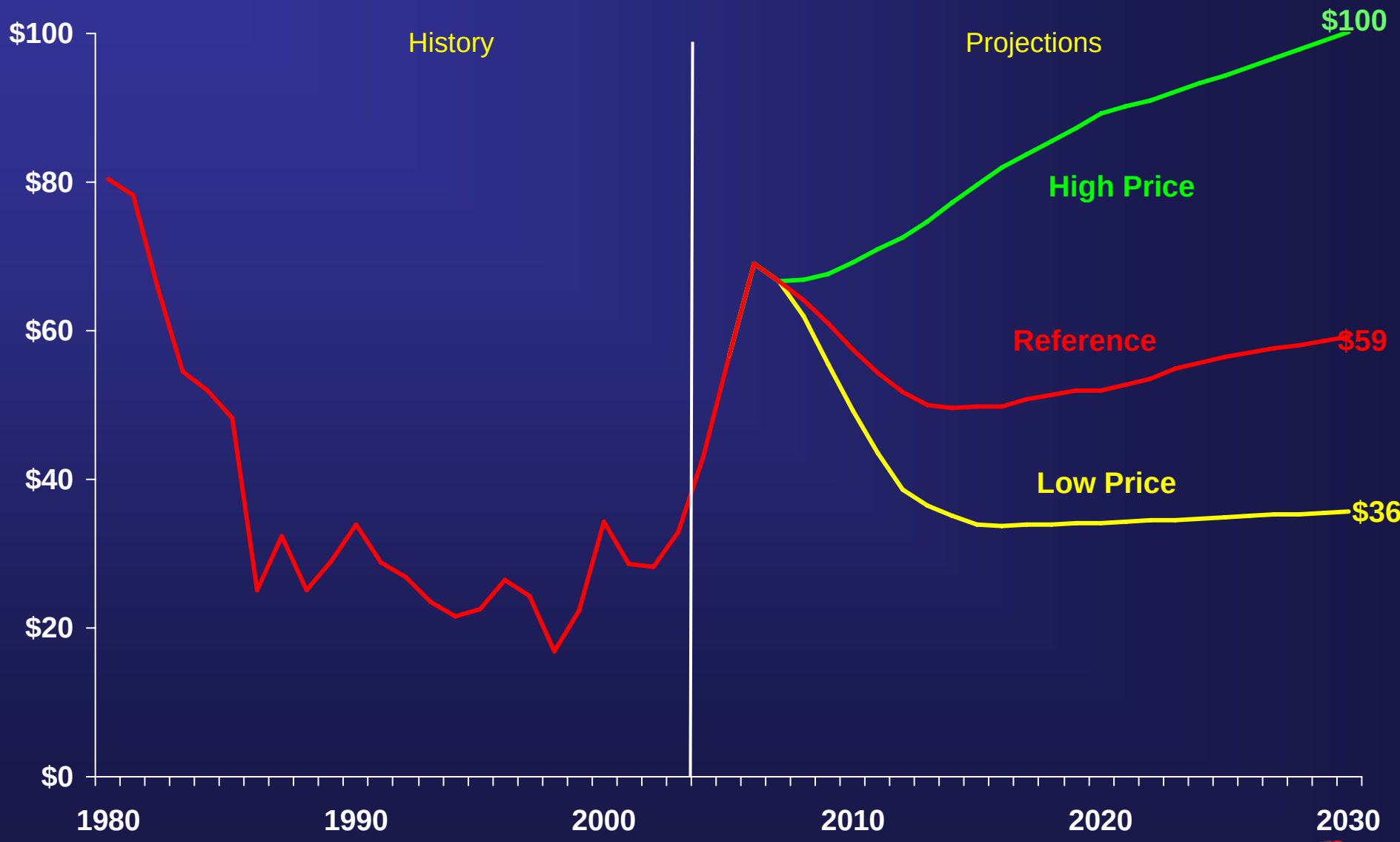
World Gross Domestic Product in Three Cases (trillion 2000 U.S. dollars)



World Marketed Energy Consumption, 1980-2030 (quadrillion Btu)



World Oil Price, 1980-2030
(2005 dollars per barrel)



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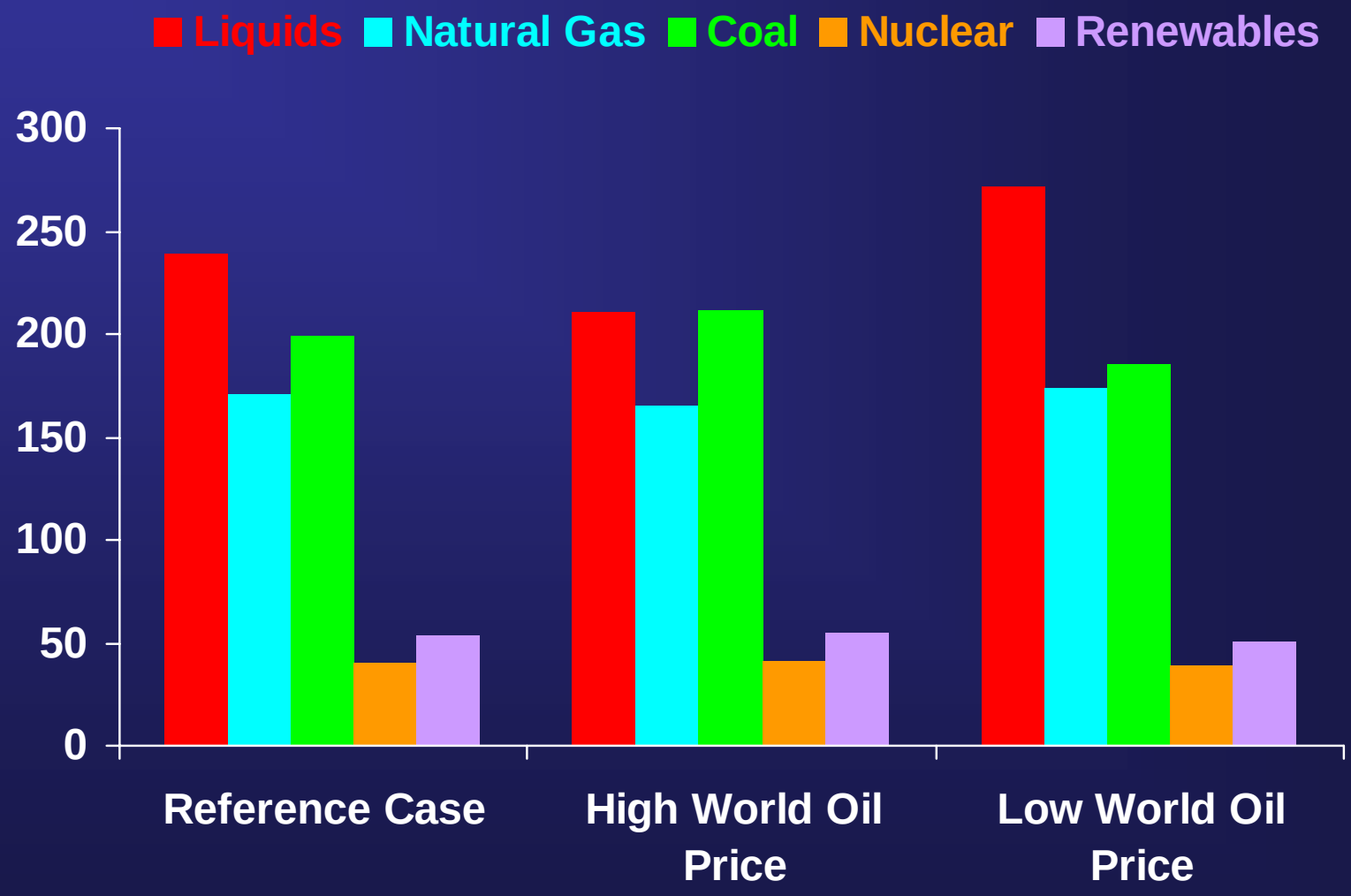
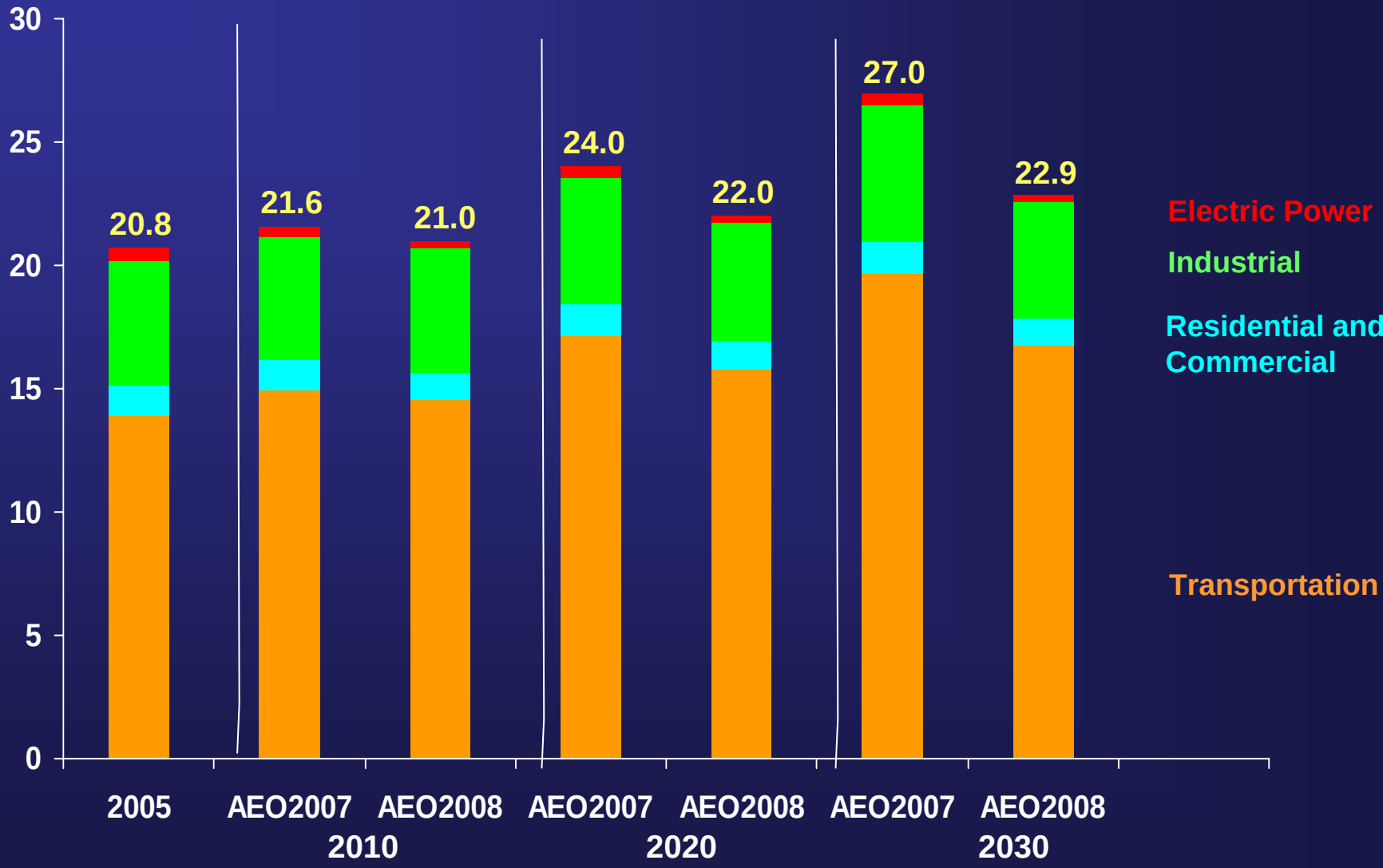
World Marketed Energy Consumption, 2030 (quadrillion Btu)



U.S. Liquid Fuels Consumption, 2005-2030 (million barrels per day)



Periodic Reports

Petroleum Status and Natural Gas Storage Reports, weekly

Short-Term Energy Outlook, monthly

Annual Energy Outlook 2008, March 2008

International Energy Outlook 2007, May 2007, next issue May 2008

Examples of Special Analyses

"Economic Effects of High Oil Prices," *Annual Energy Outlook 2007*

Analysis of Oil and Gas Production in the Arctic National Wildlife Refuge, March 2004

The Global Liquefied Natural Gas Market: Status and Outlook, Dec 2003

"Restricted Natural Gas Supply Case," *Annual Energy Outlook 2005*

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