

Annual Energy Outlook 2007

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Energy Information Administration

Overview

- Legislation and Regulation
- Issues in Focus
- AEO2007 reference case
- **Oil** market results in the context of the low, reference, and high price cases
- **Natural gas** market results in the context of the low, reference, and high LNG cases
- **Coal** market results in the context of the low, reference, and high coal cost cases
- Energy production and consumption in the context of the frozen, reference, and advanced **technology** cases
- **Carbon dioxide emissions** in the context of the low, reference and high growth cases

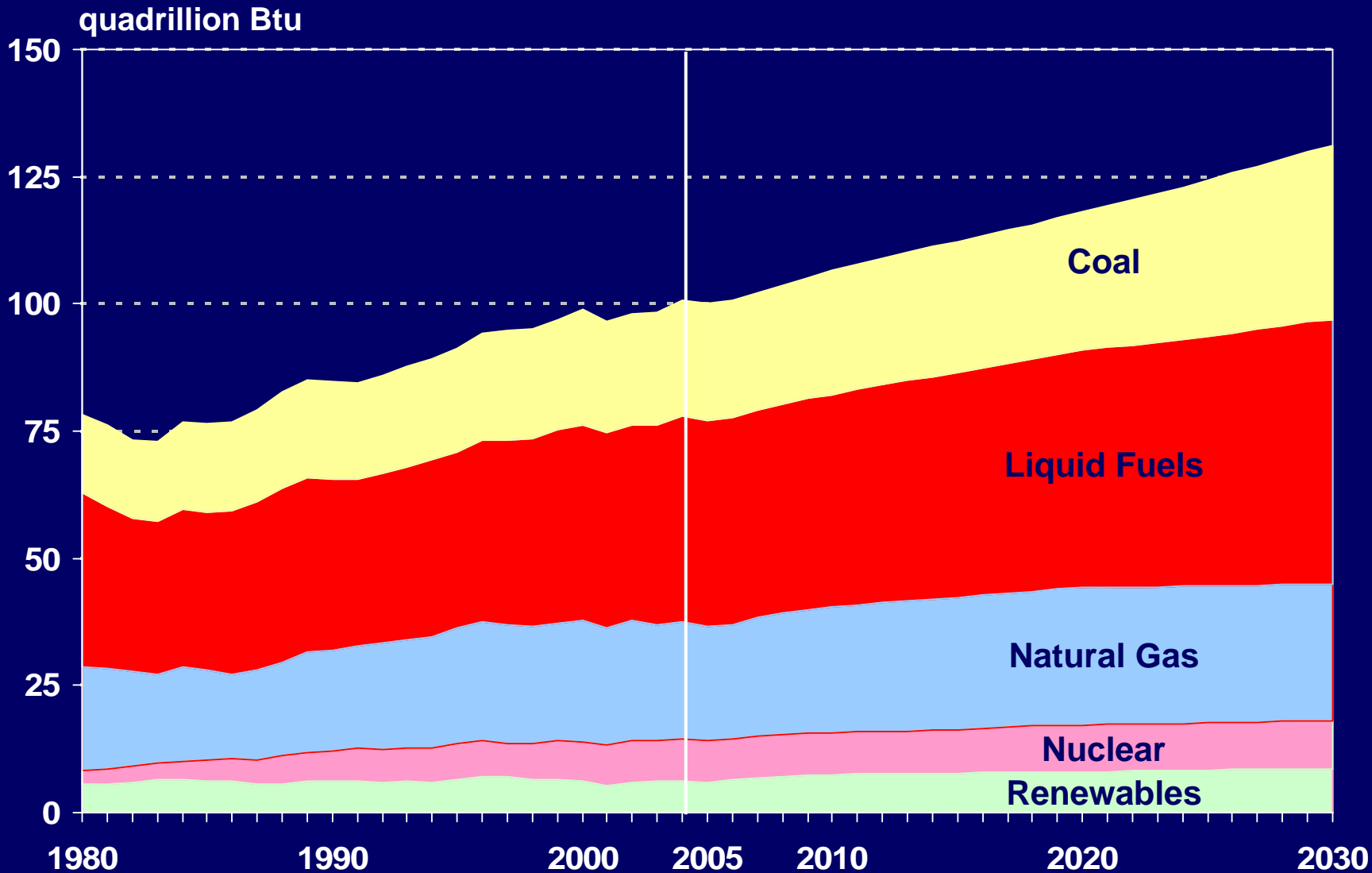
Legislation and Regulation Section

- Discusses selected evolving legislative and regulatory issues affecting the AEO.
- It provides an update on the handling of key provisions in the Energy Policy Act of 2005 (EPACT2005).
- It discusses other recently enacted legislation and regulation:
 - the new Corporate Average Fuel Economy (CAFE) standards for light-duty trucks,
 - the regulation of emissions from stationary diesel engines, and
 - Federal and State Ethanol and Biodiesel Requirements
- It provides a summary of how sunset provisions in selected Federal fuel taxes and tax credits are handled.
 - Excise taxes on Highway Fuels
 - Biofuels tax credits
 - Production tax credit for electricity generation
- Recaps recent changes in electricity markets
- Recaps state renewable energy requirements and goals
- It discusses the Clean Air Interstate Rule, Clean Air Mercury Rule, and the proposed regulation of greenhouse gases in California.

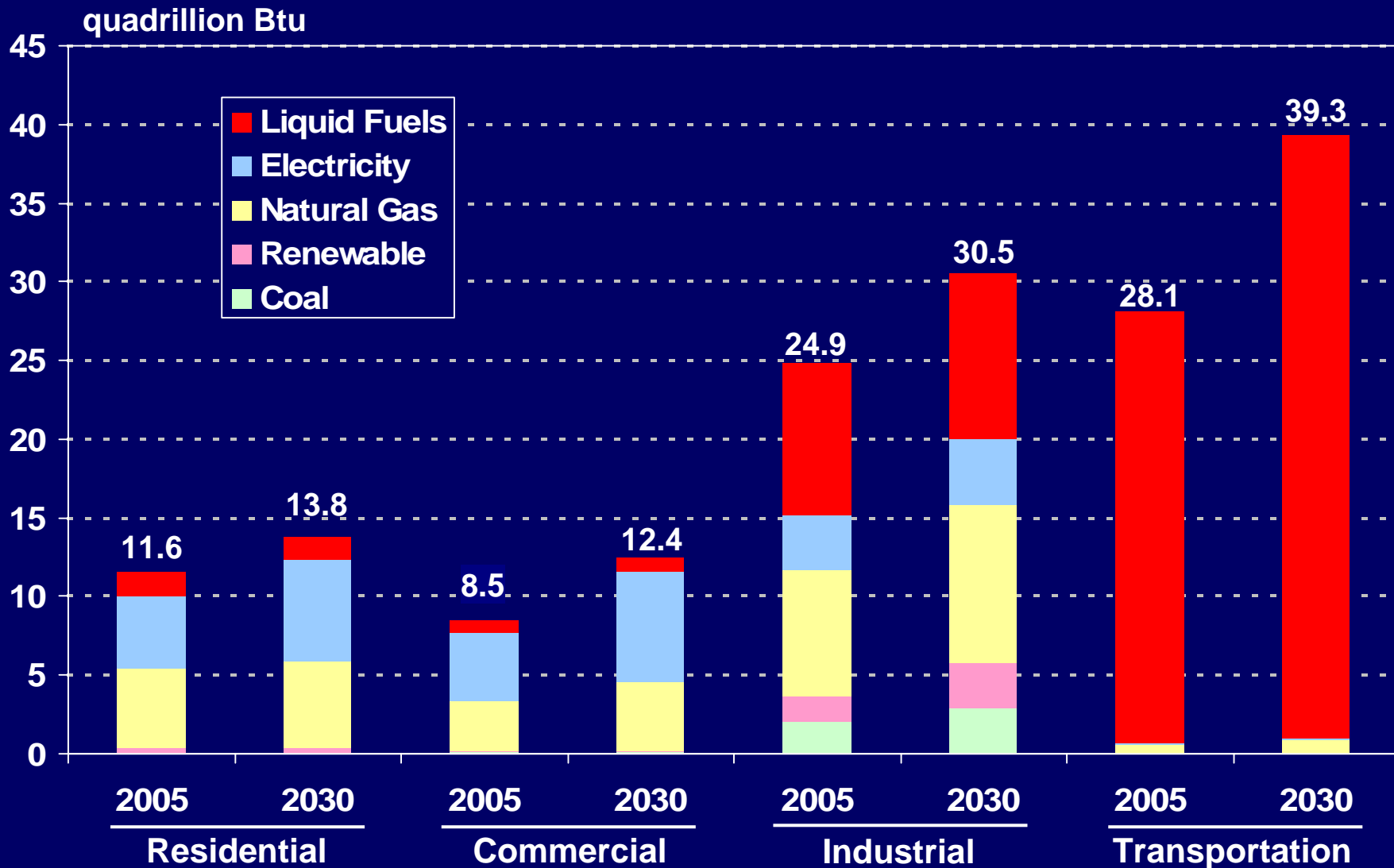
Issues in Focus

- The “Issues in Focus” section includes discussions of:
 - World Oil Prices in the AEO2007
 - The impact of rising construction costs on energy markets
 - The demand response to higher energy prices in end-use sectors
 - Miscellaneous electricity services in the building sector
 - Improved representation of non-energy-intensive manufacturing
 - Impact of loan guarantees on selected electric generating technologies
 - Oil and Gas resources in the lower 48 Federal outer continental shelf
 - The proposed Alaska natural gas pipeline
 - Coal transportation issues
 - Biofuels penetration in U.S. transportation markets

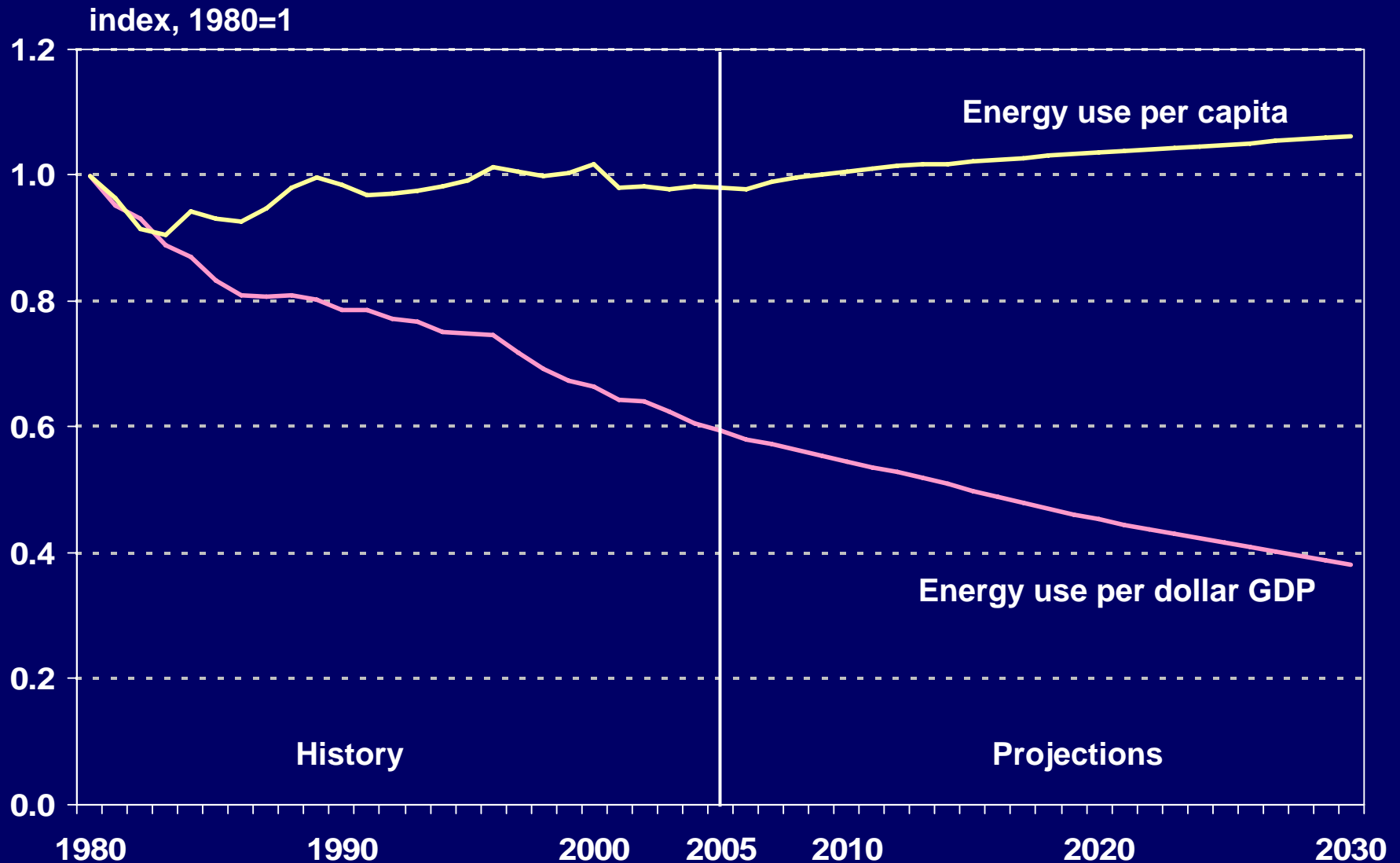
Primary Energy Consumption by Fuel (Reference Case)



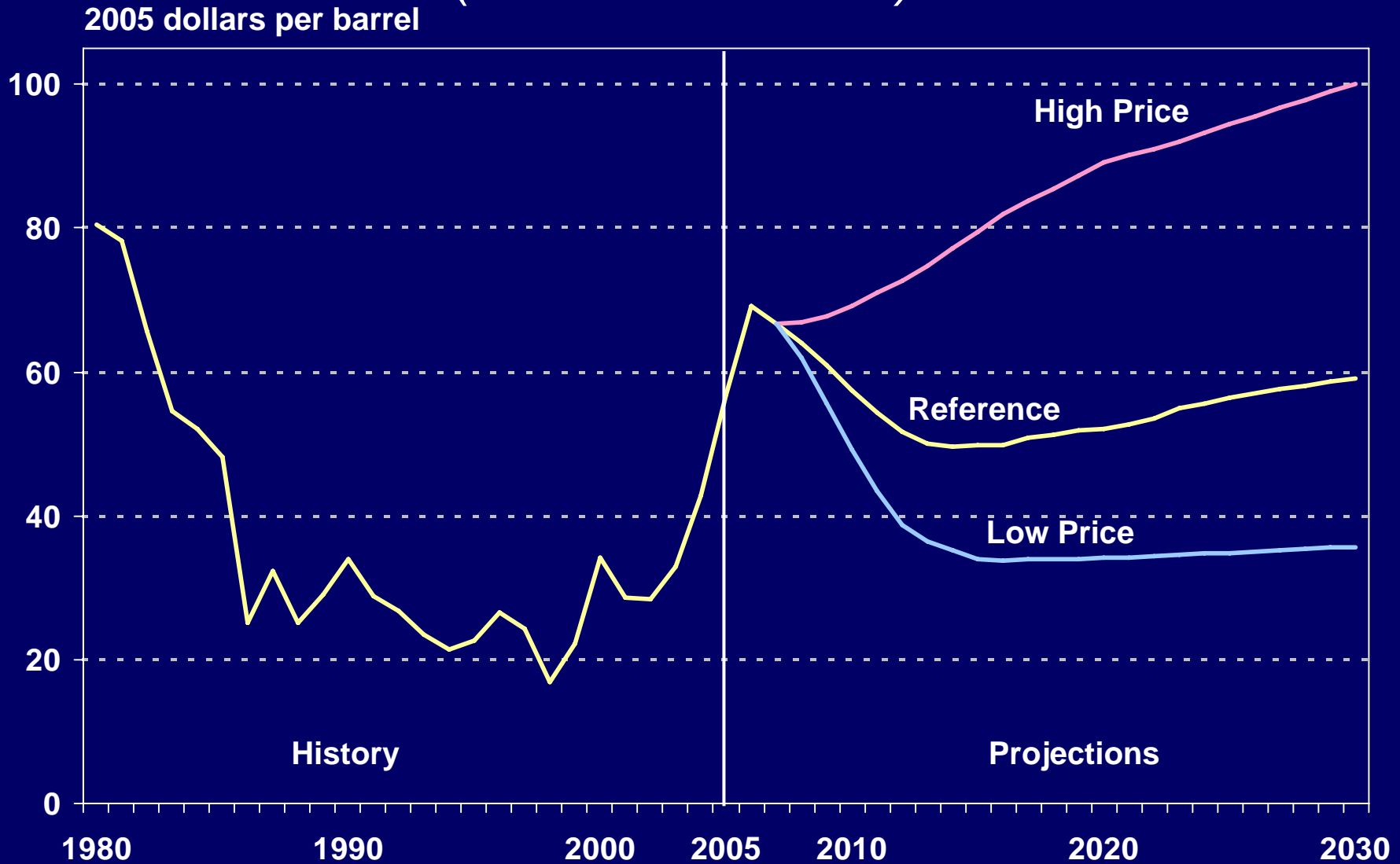
Delivered Energy Consumption by Sector and Fuel (Reference Case)



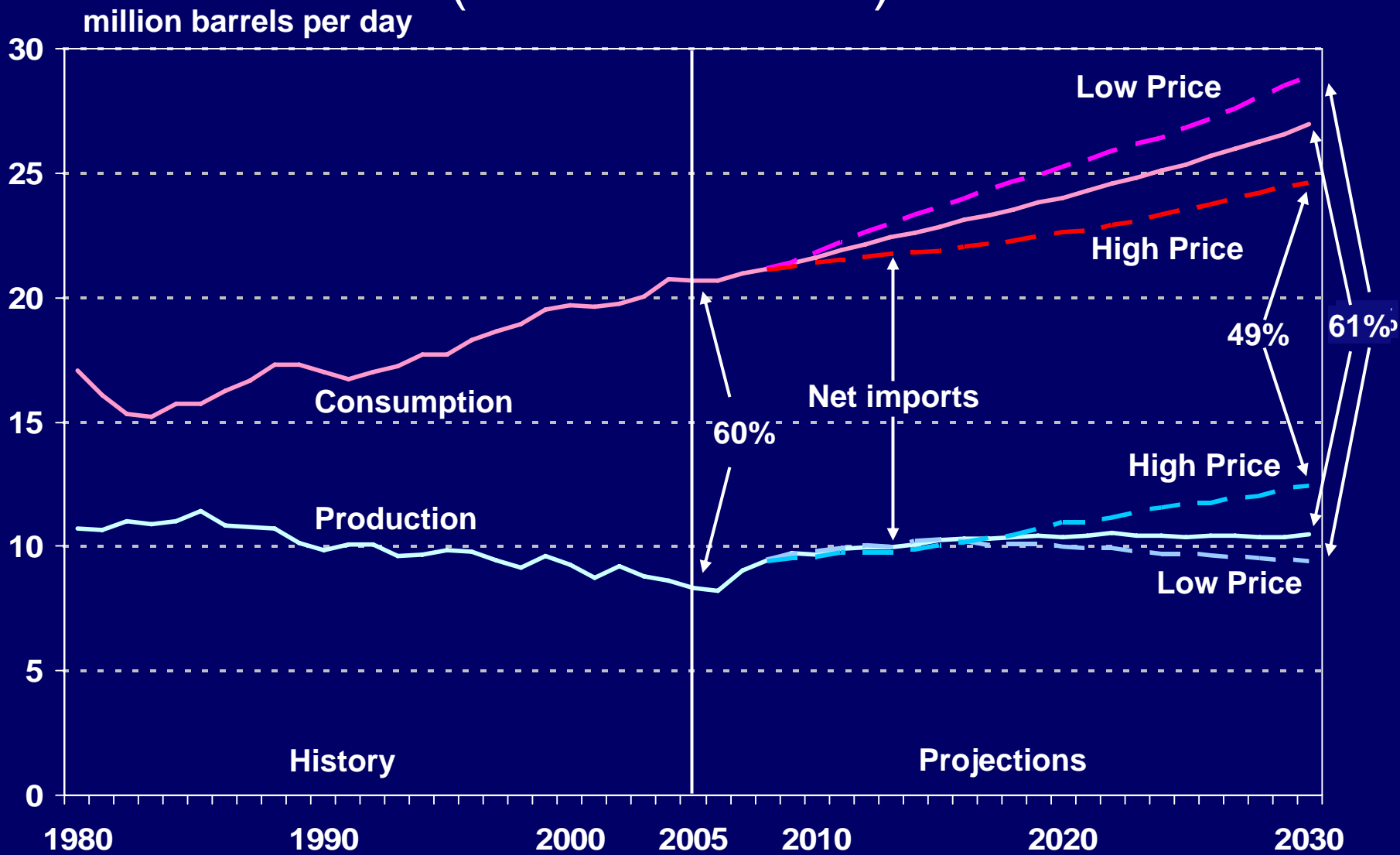
Energy Use per Capita and per Dollar of Real GDP (Reference Case)



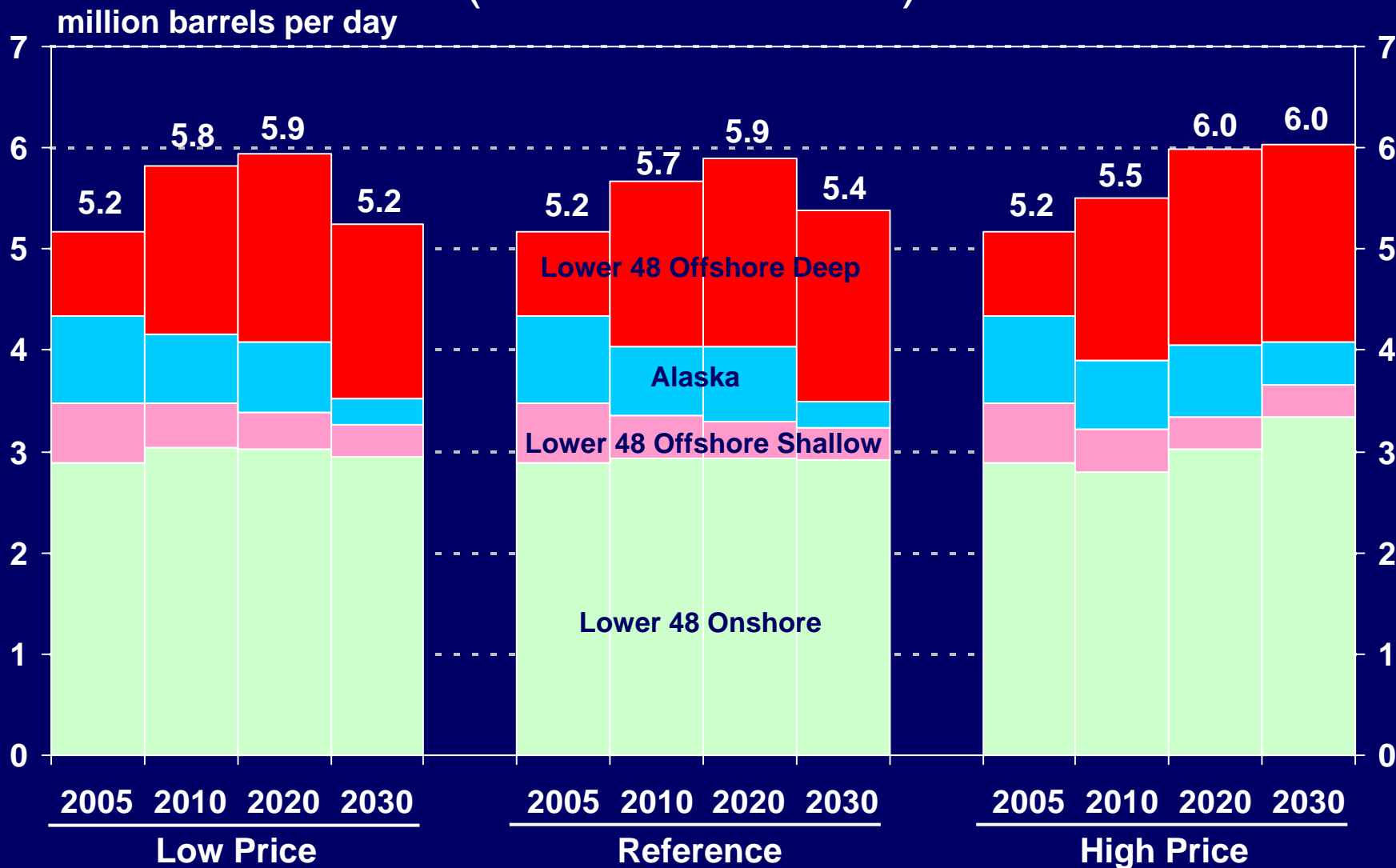
World Oil Prices (Reference Case)



Liquid Fuels Supply, Consumption, and Imports (Price Scenarios)

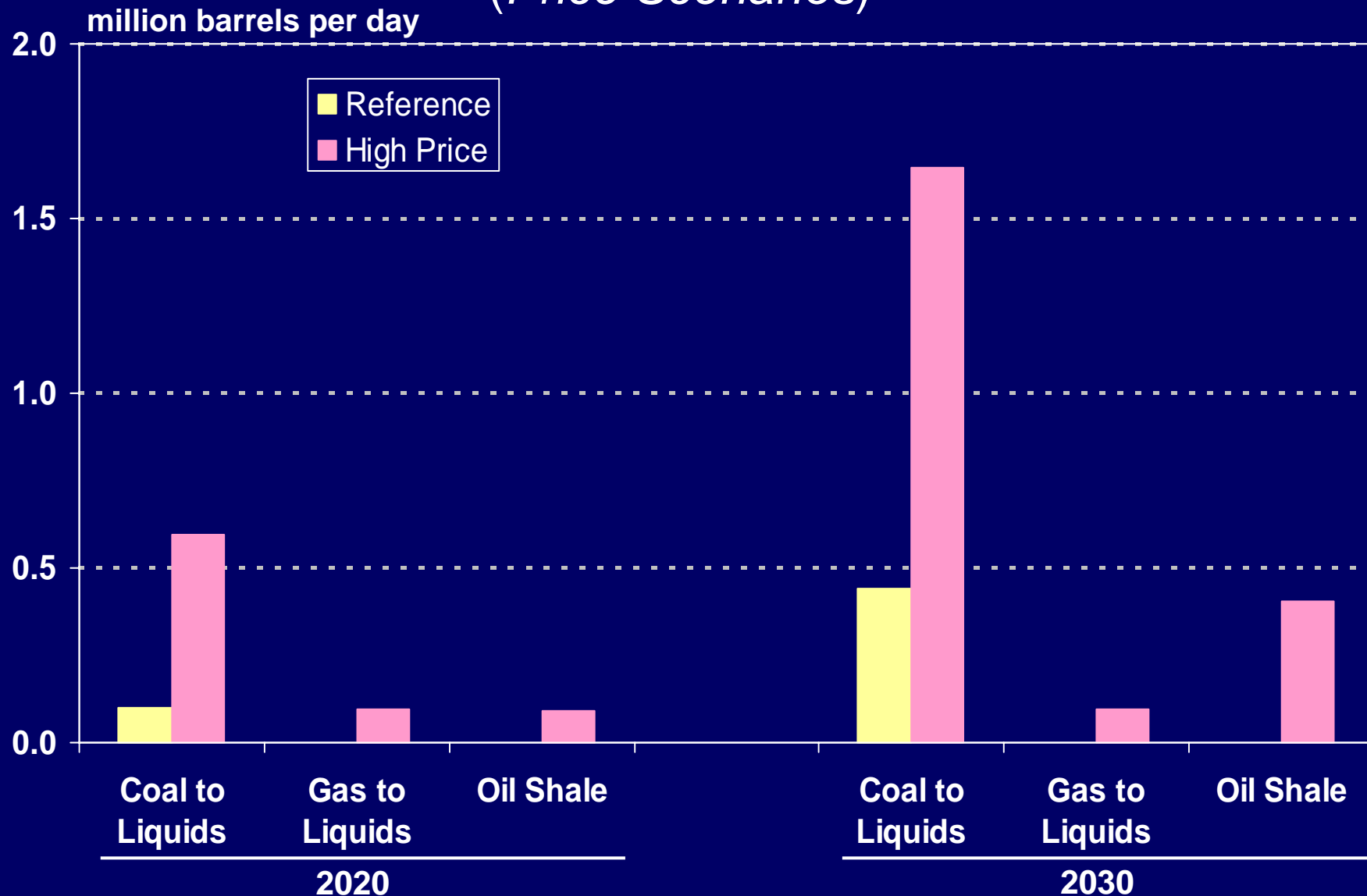


Domestic Crude Oil Production by Source (Price Scenarios)

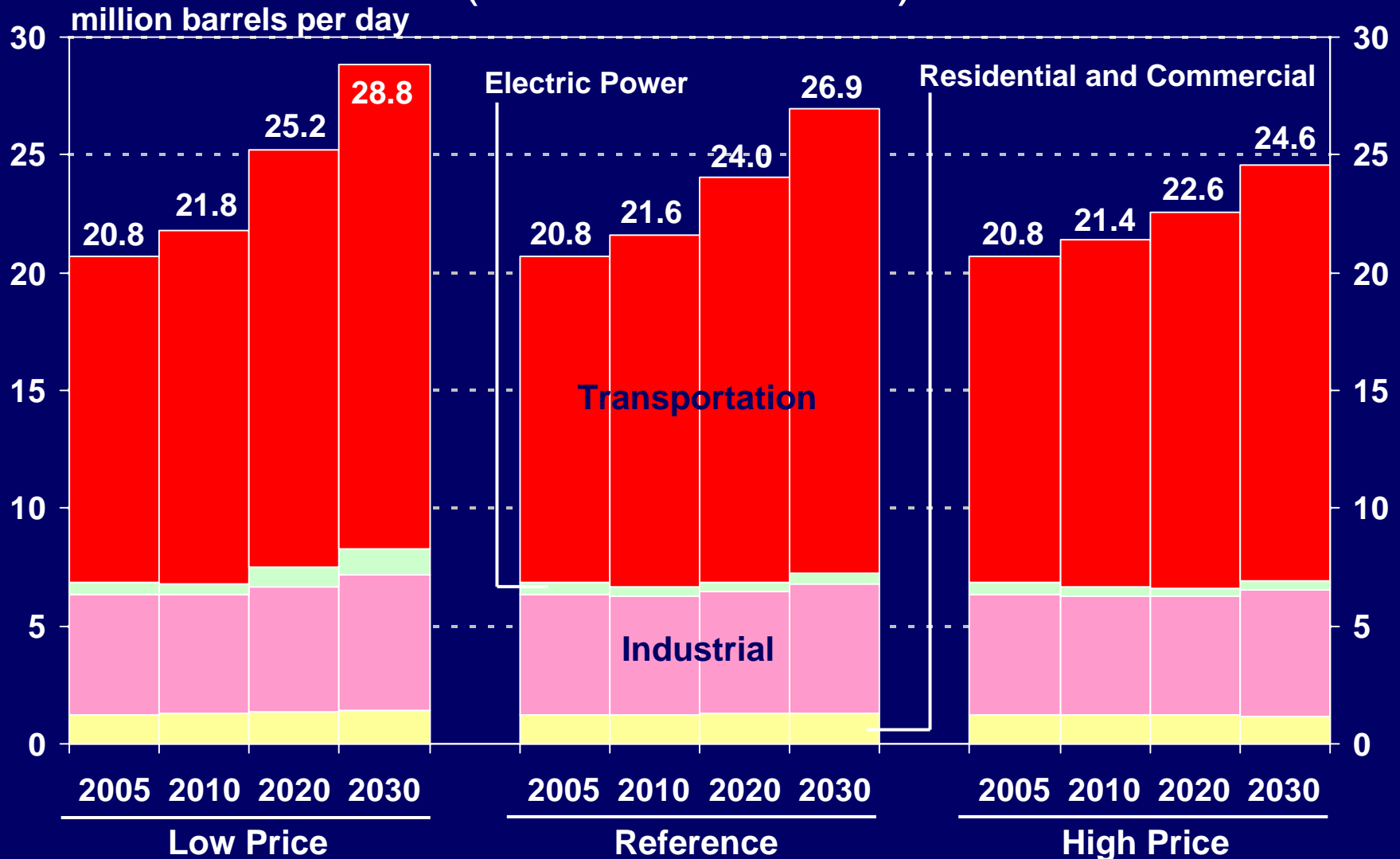


Petroleum Liquids from Coal, Natural Gas, and Shale

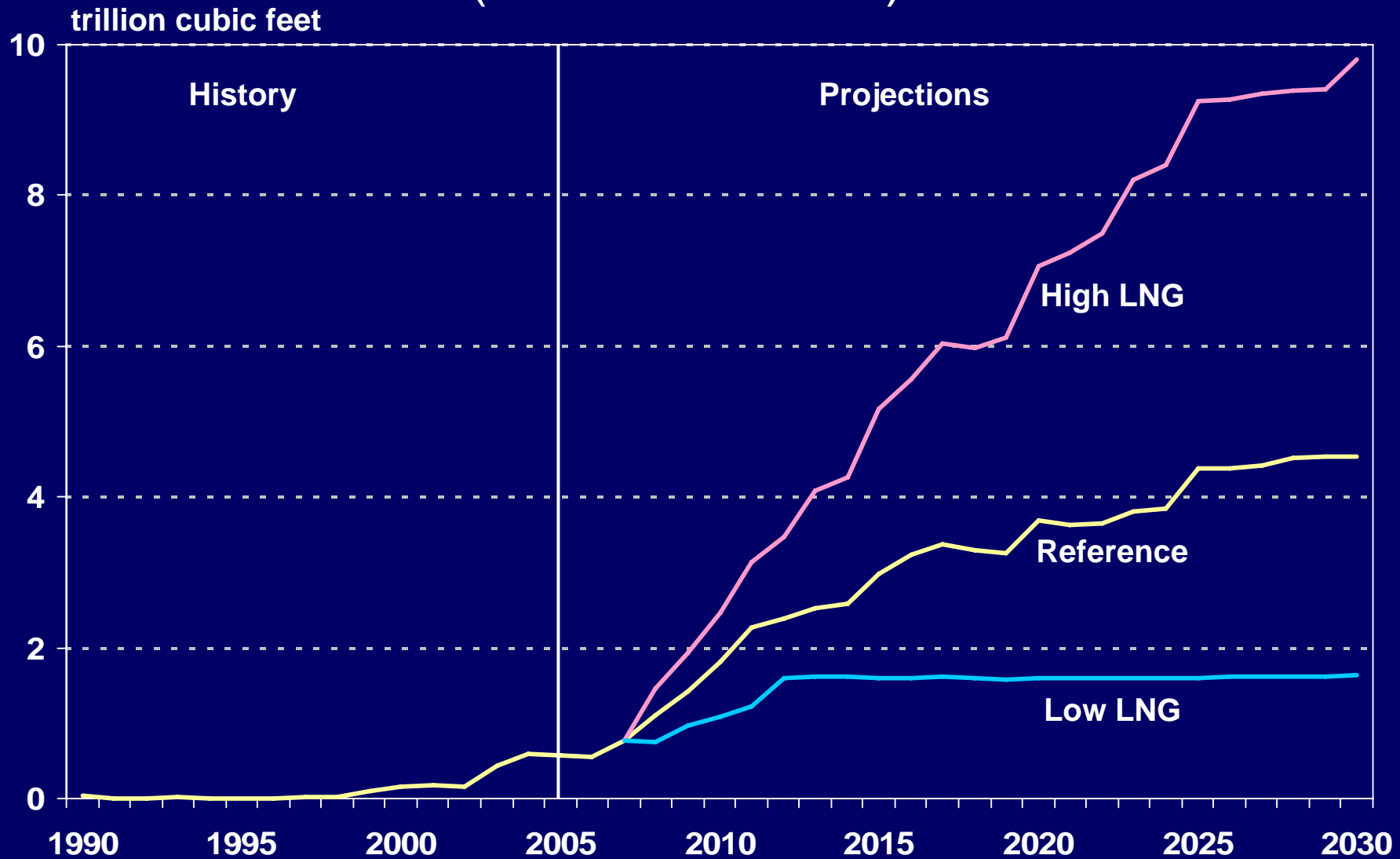
(Price Scenarios)



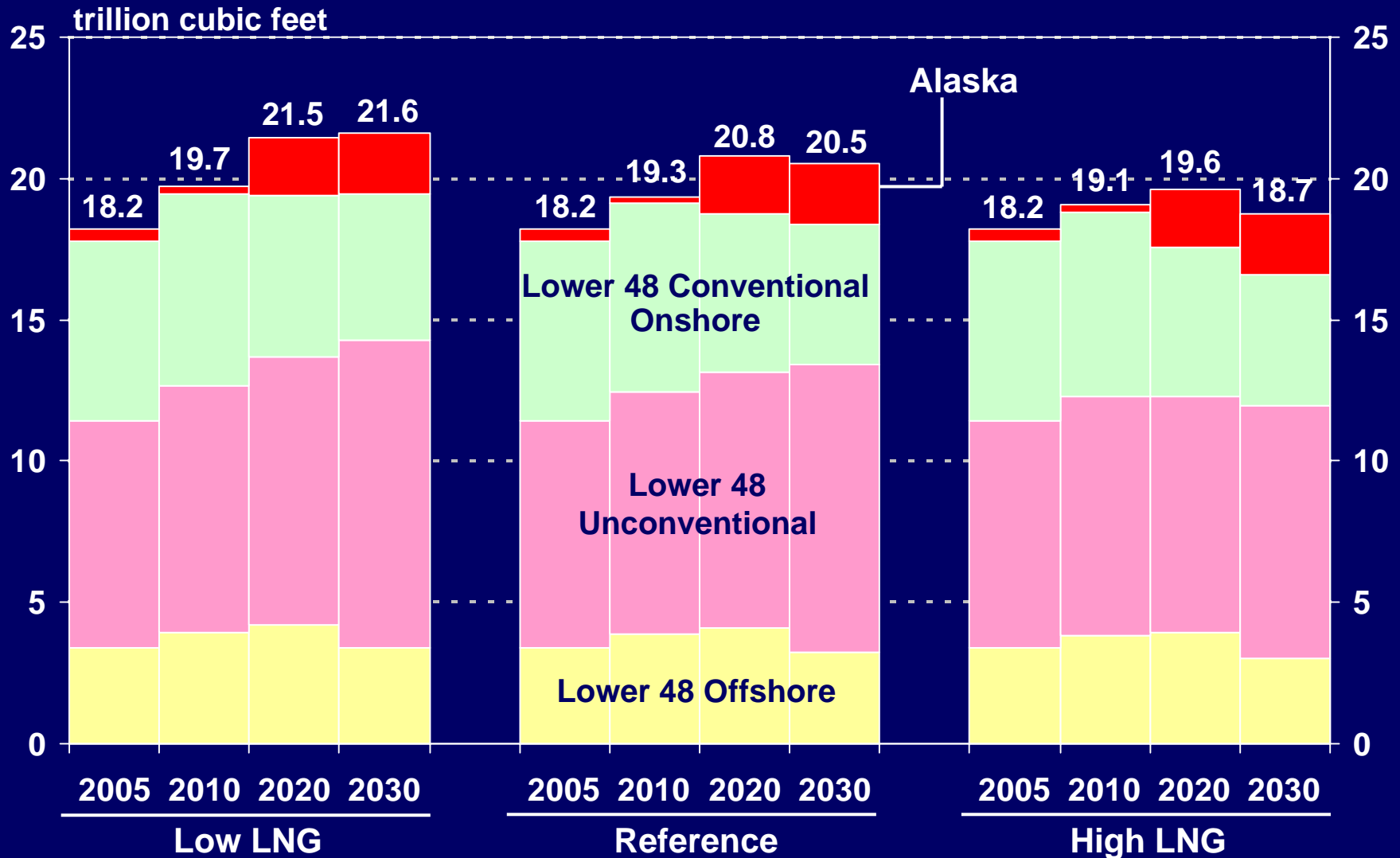
Liquid Fuels Consumption by Sector (Price Scenarios)



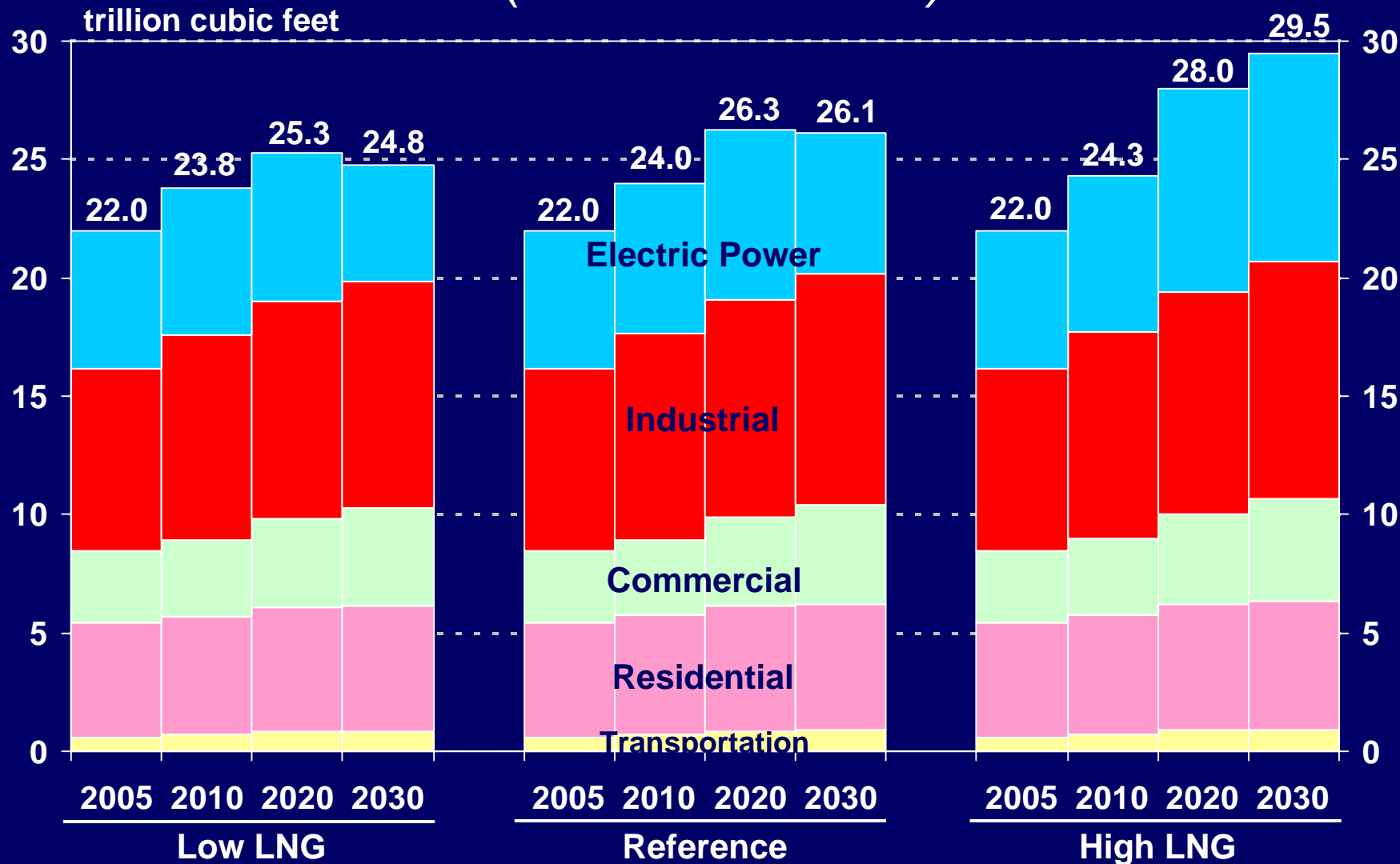
Net Imports of Liquefied Natural Gas (LNG Scenarios)



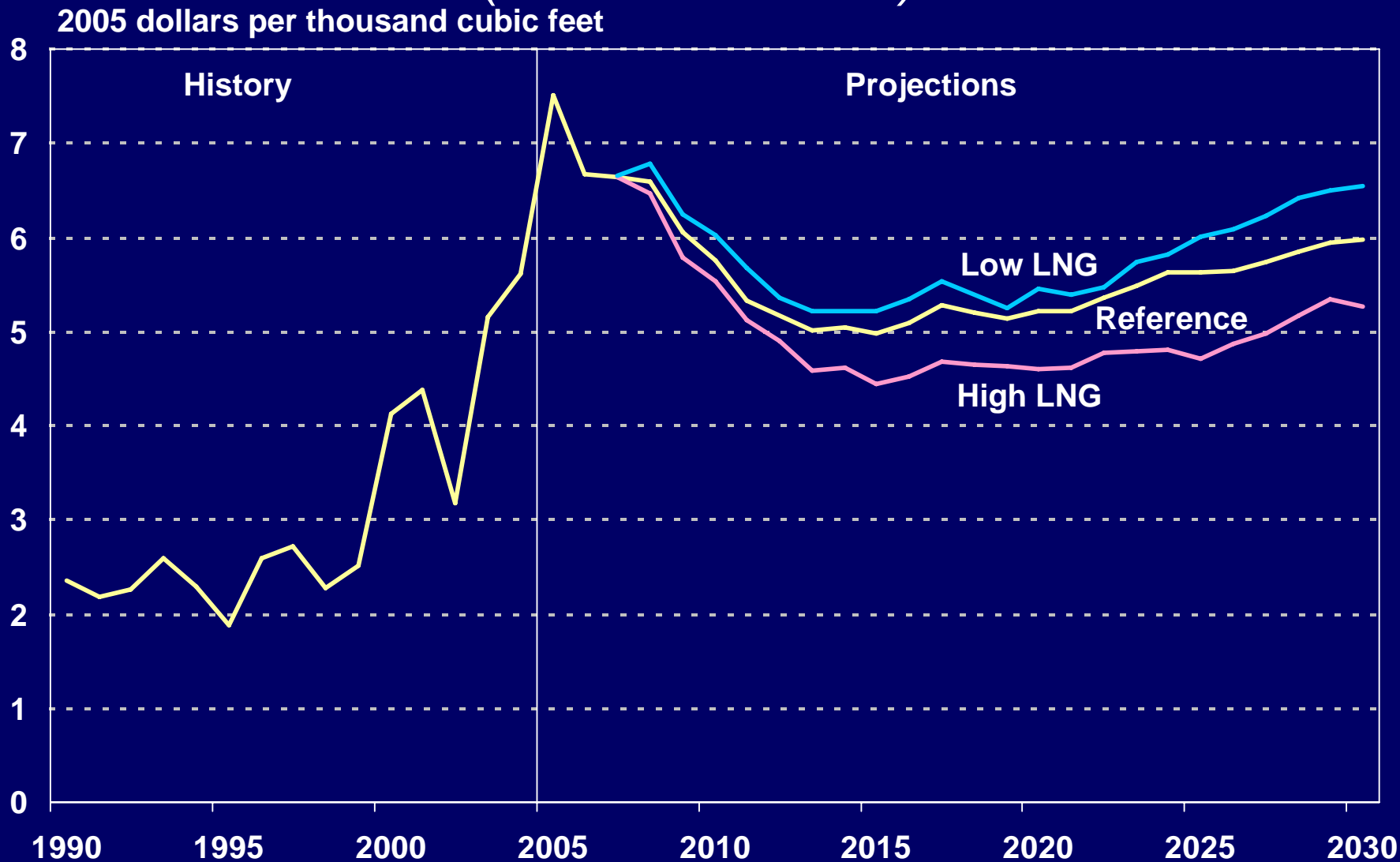
Natural Gas Production by Source (LNG Scenarios)



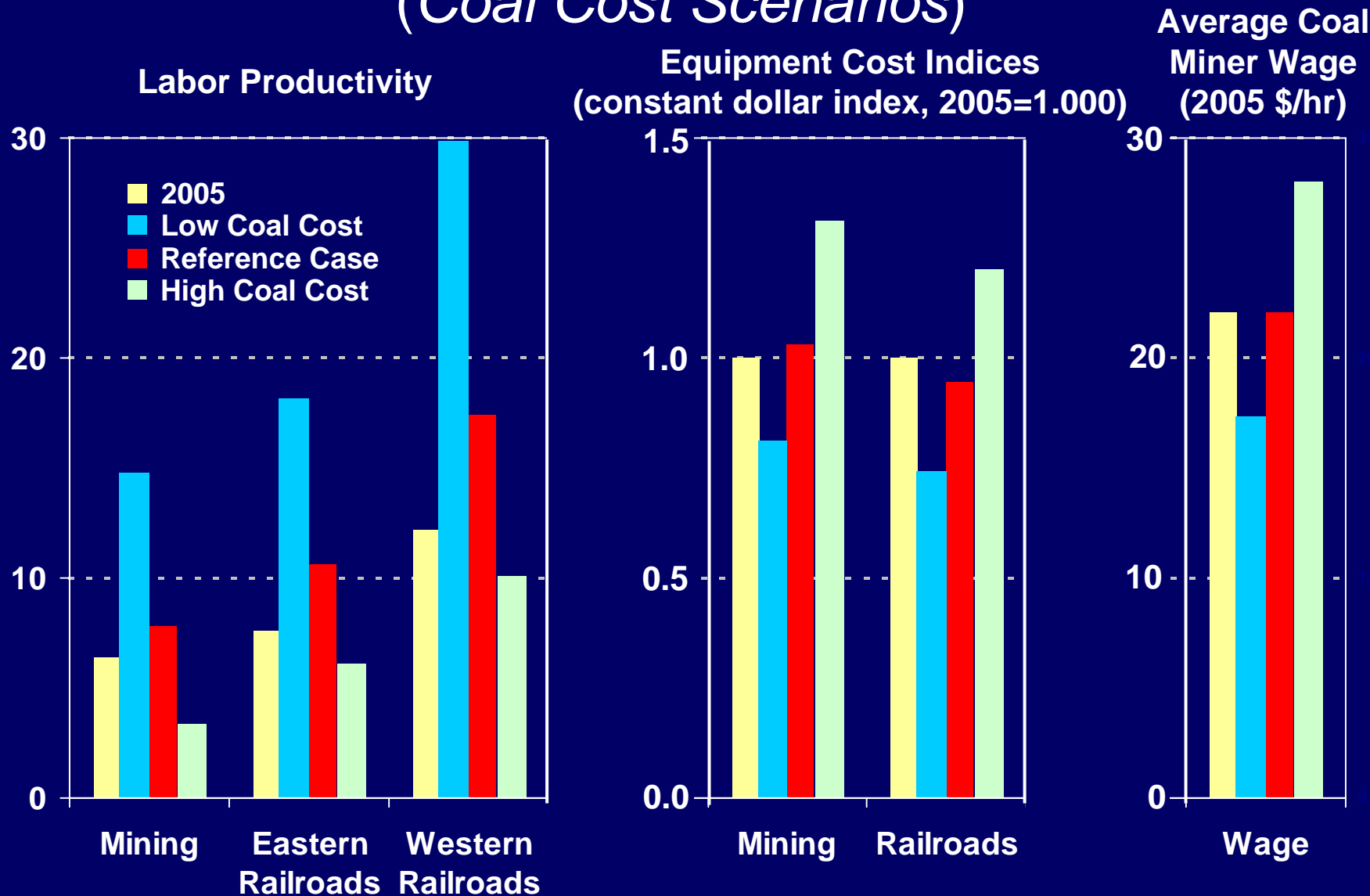
Natural Gas Consumption by Sector (LNG Scenarios)



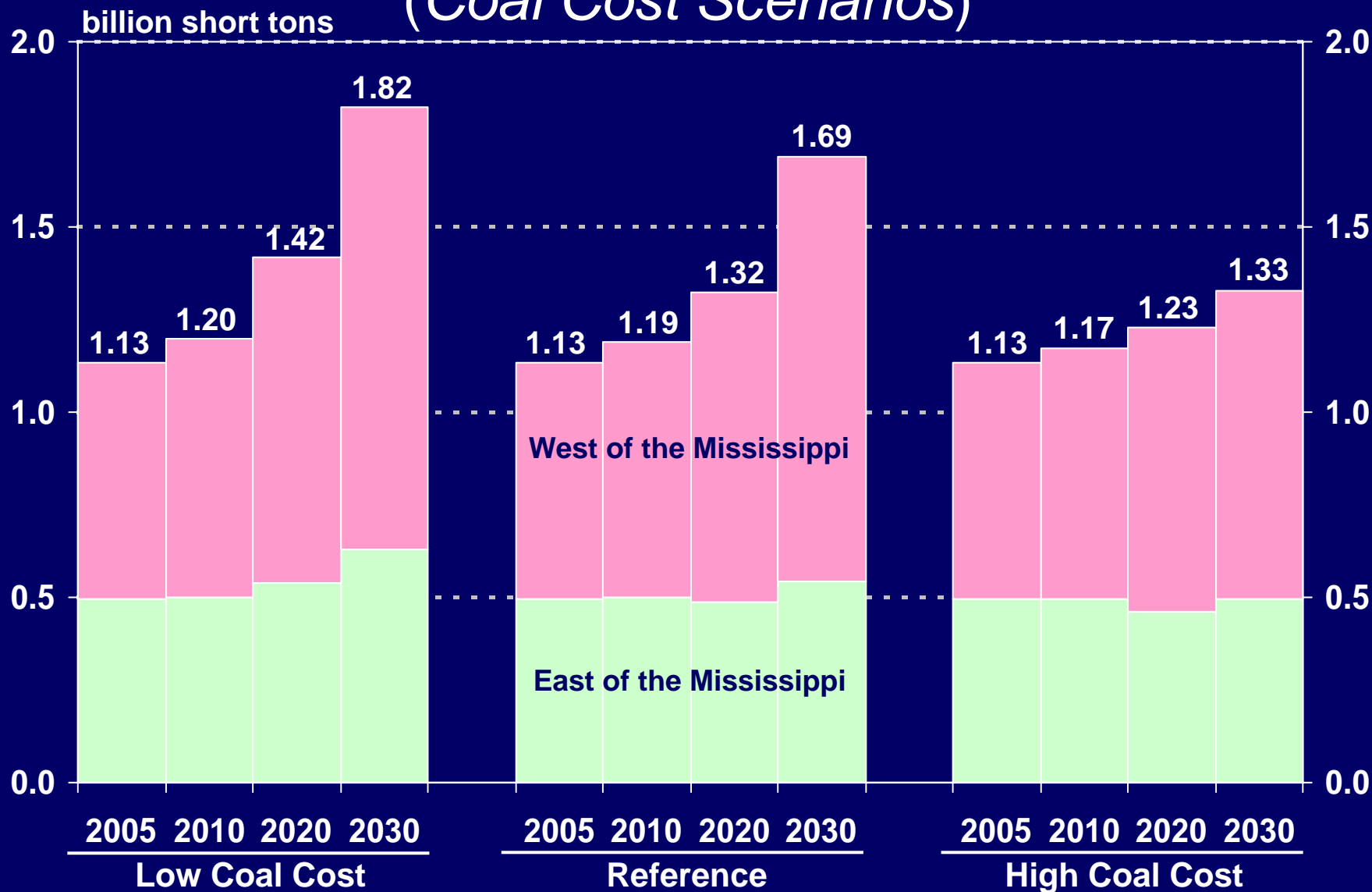
Lower 48 Natural Gas Wellhead Prices (LNG Scenarios)



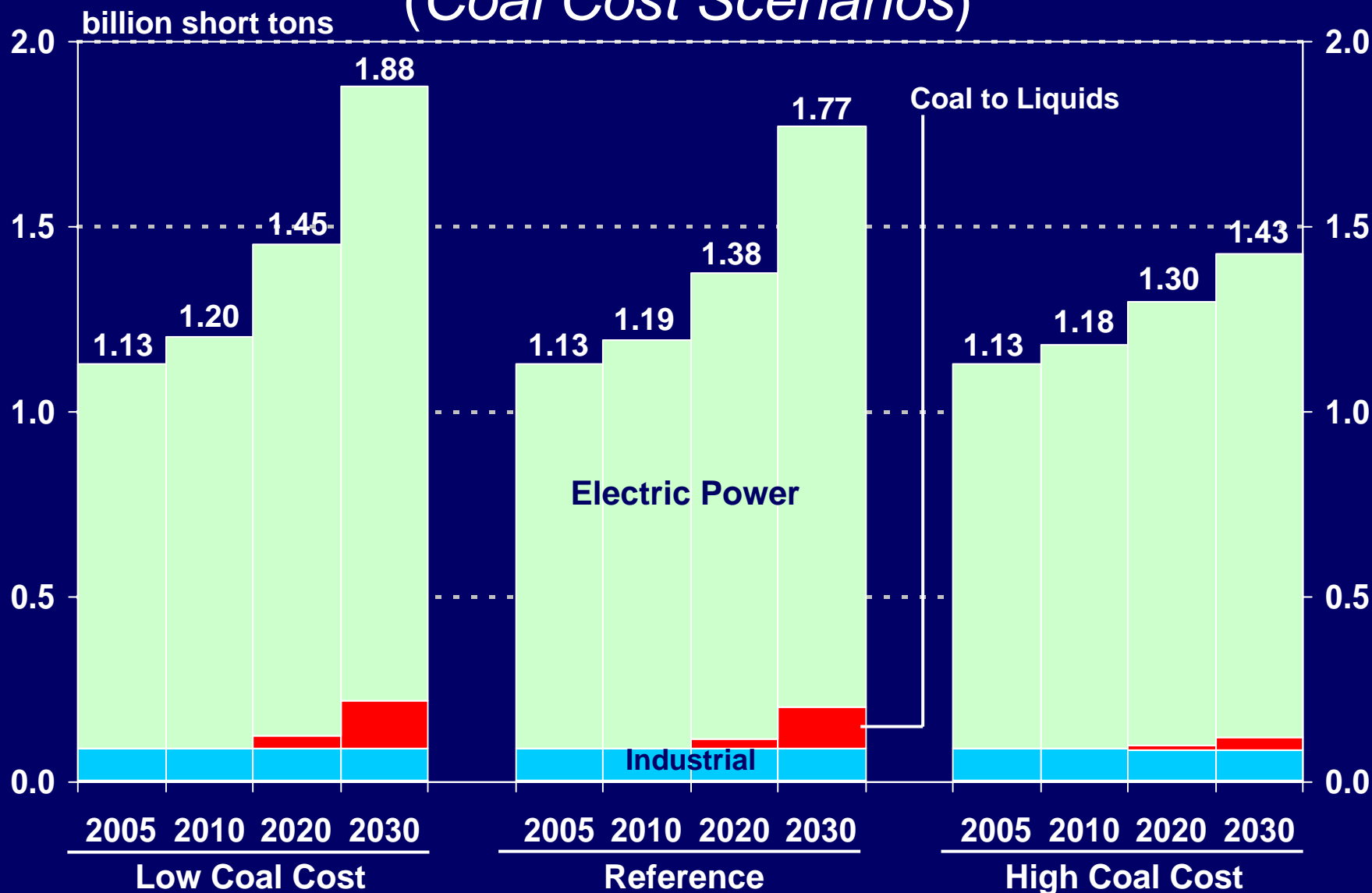
Labor Productivity, Cost Indices, and Miner Wages (Coal Cost Scenarios)



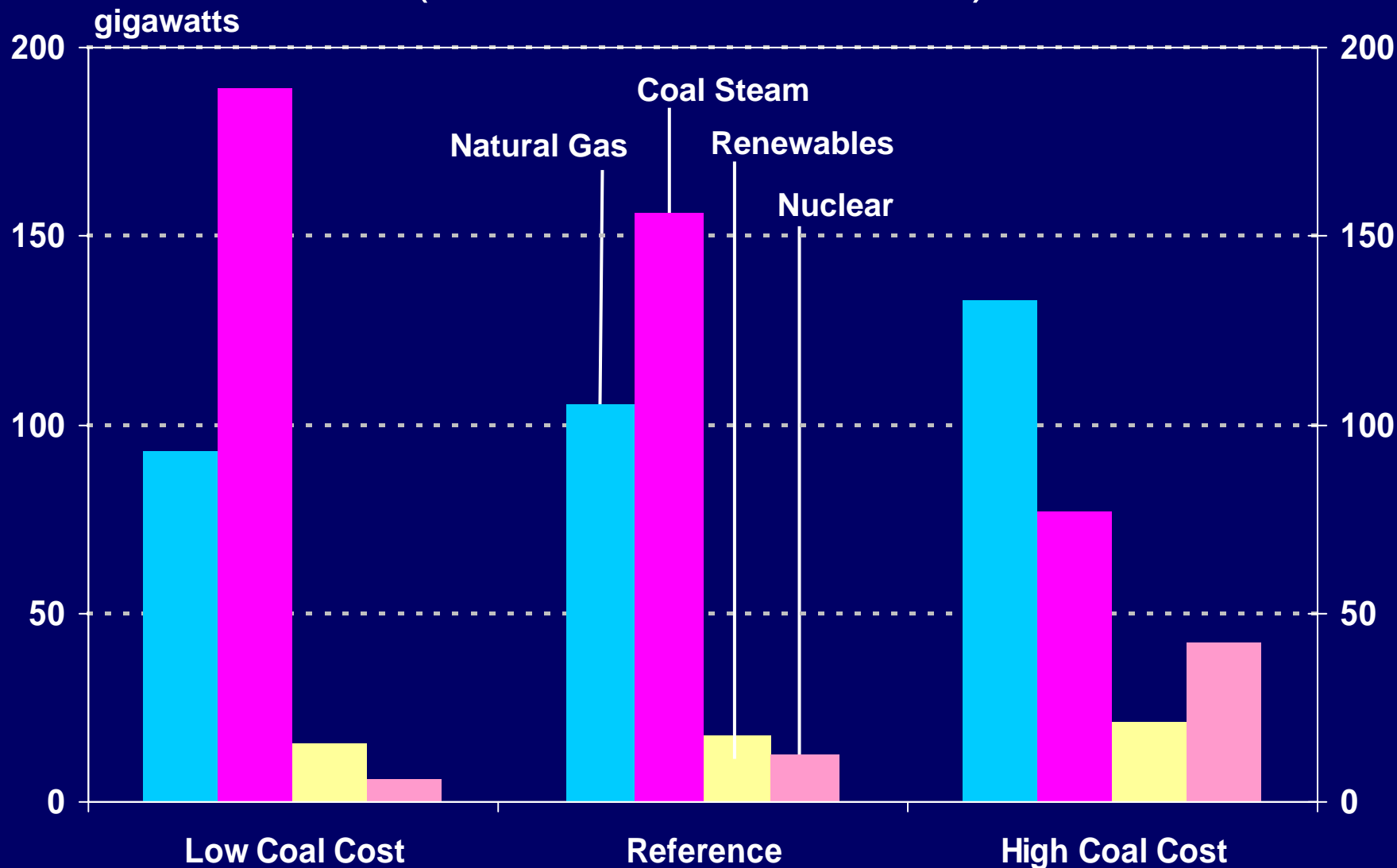
Coal Production by Region (Coal Cost Scenarios)



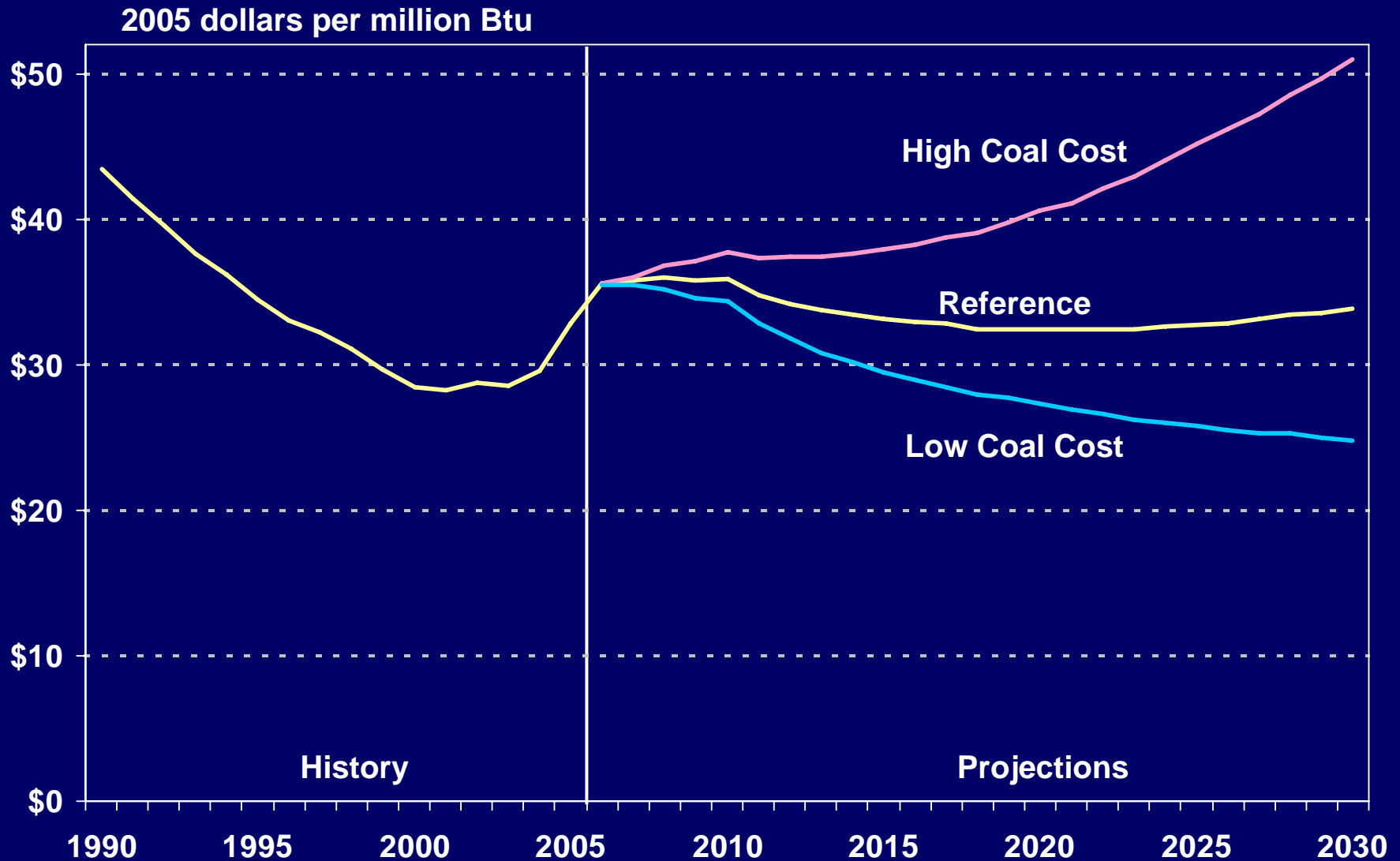
Coal Consumption by Sector (Coal Cost Scenarios)



Cumulative New Generating Capacity, 2006-2030 (Coal Cost Scenarios)



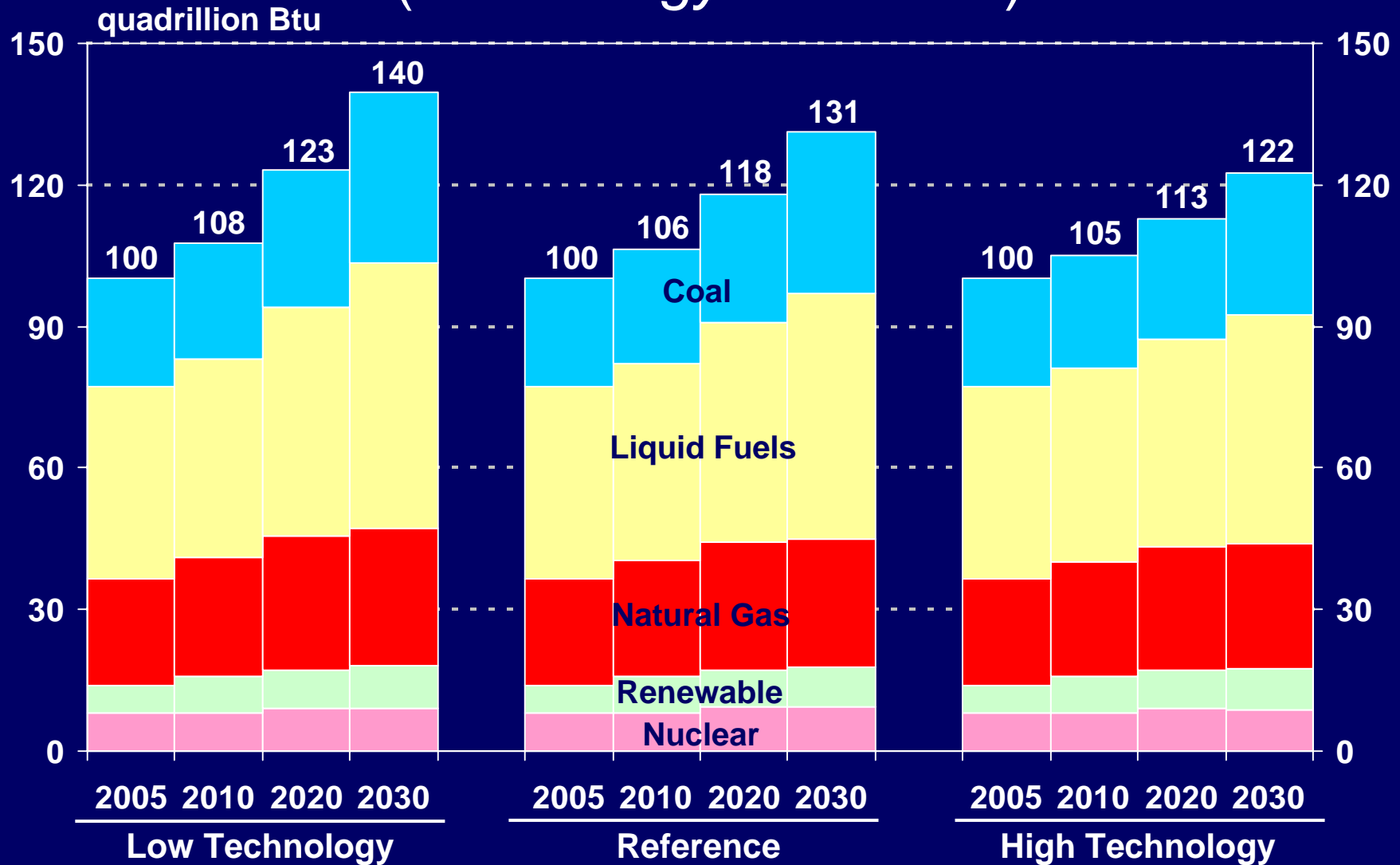
Average Delivered Coal Price (Coal Cost Scenarios)



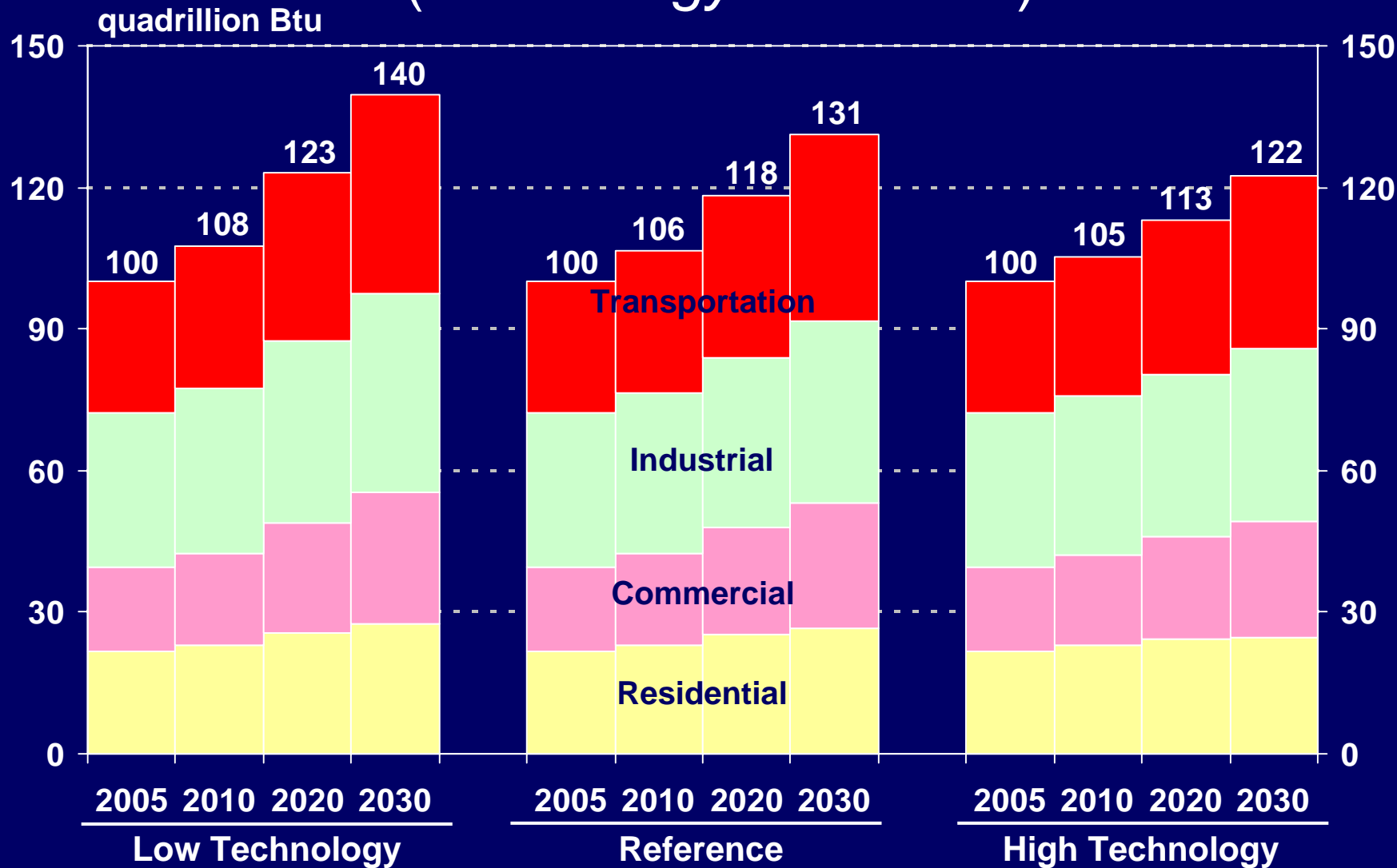
Integrated Technology Cases

- For many years, the AEO has included two cases that have attempted to quantify the impact of more optimistic and pessimistic assumptions regarding technology characteristics
- These two technology cases combine the assumptions from other technology cases to analyze the impacts of more rapid and slower technology improvement rates.
 - The *integrated 2006 technology case* combines the assumptions from the residential, commercial, industrial, and transportation 2006 technology cases, the electricity low fossil technology case, the low renewables case, and the high nuclear cost case.
 - The *integrated high technology case* combines the assumptions from the residential, commercial, industrial, and transportation high technology cases, the electricity high fossil technology case, the high renewables case, and the low nuclear cost case.
- Consumer behavior is assumed to remain unchanged.

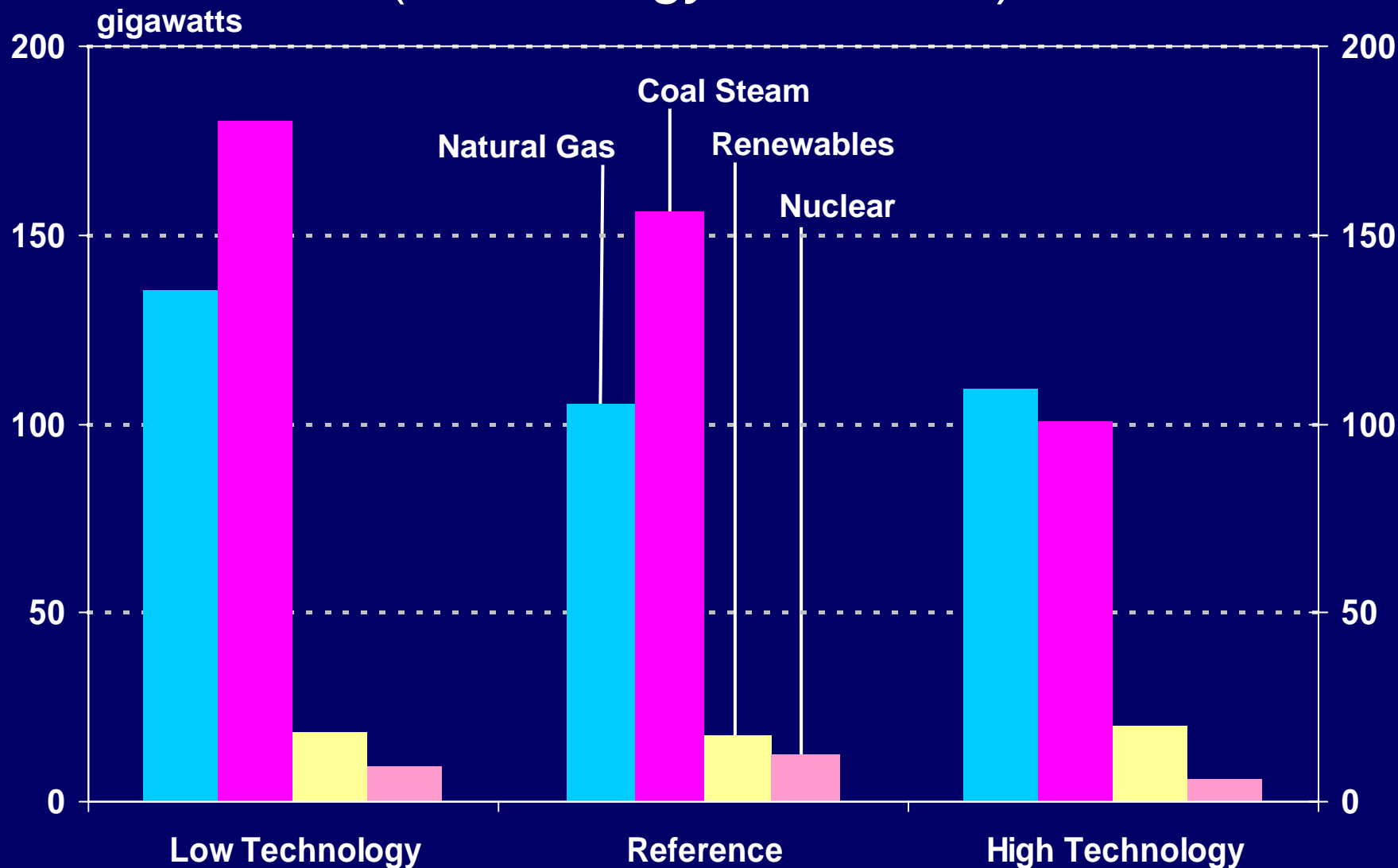
Primary Energy Consumption by Fuel (Technology Scenarios)



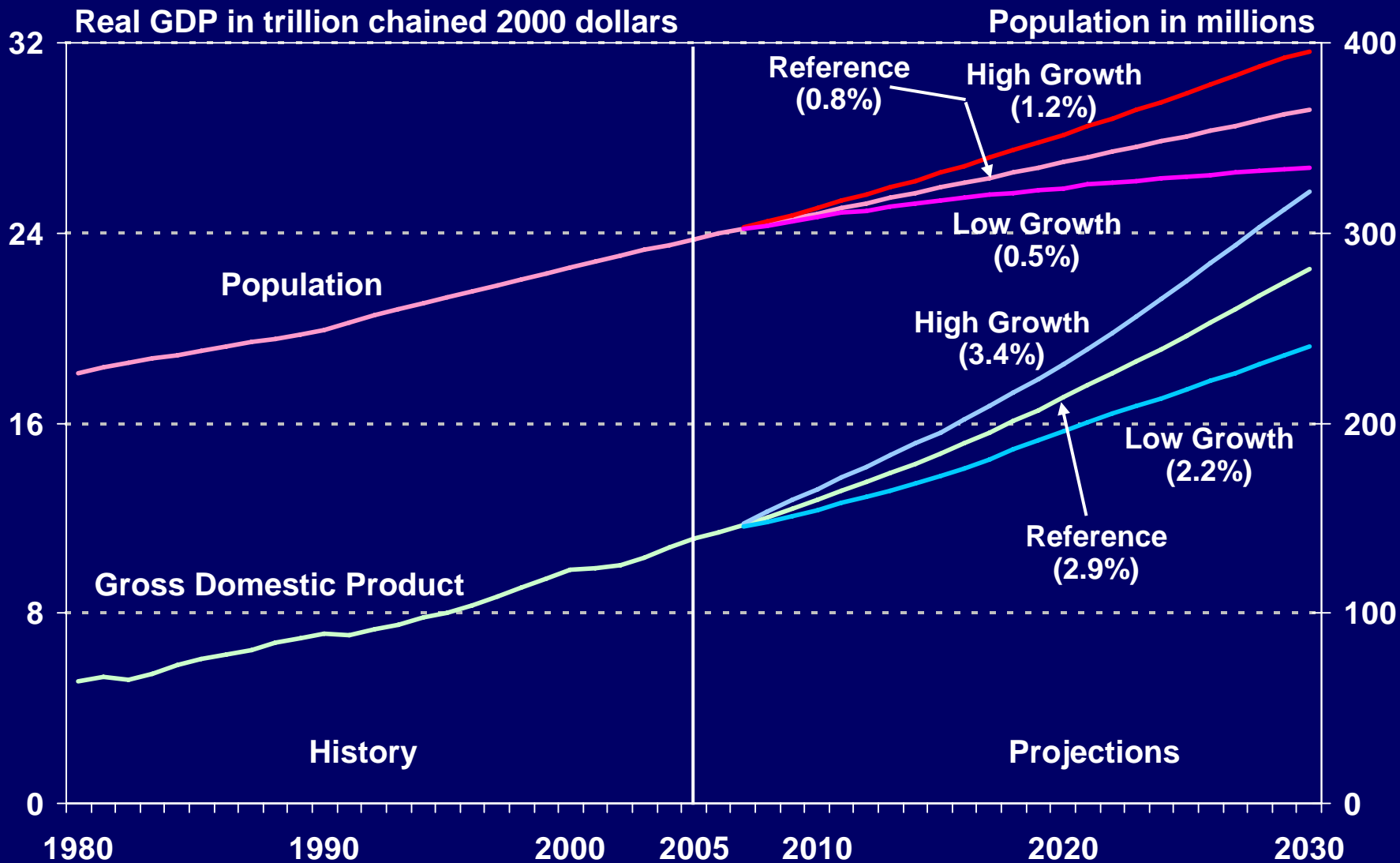
Primary Energy Consumption by Sector (Technology Scenarios)



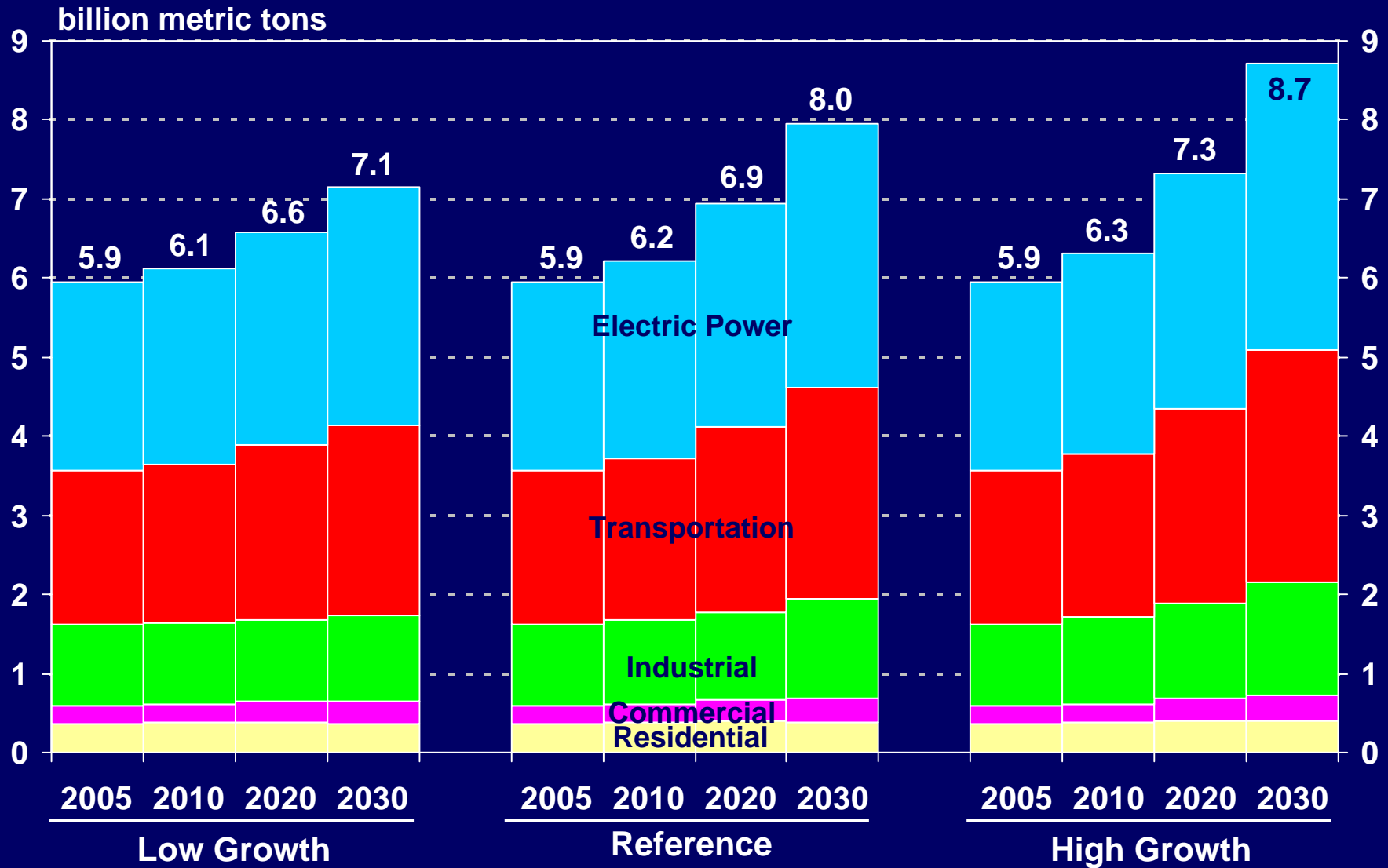
Cumulative New Generating Capacity, 2006-2030 (Technology Scenarios)



Real Gross Domestic Product and Population (Macro Scenarios)



Carbon Dioxide Emissions (Technology Scenarios)



***Annual Energy Outlook 2007* indicates that...**

- **U.S. primary energy consumption is projected to grow by about 30 percent by 2030.**
- **U.S. energy intensity is projected to improve at an average annual rate of 1.8 percent as economic growth outpaces growth in energy consumption.**
- **U.S. oil import reliance is projected to remain relatively flat at 60 percent in the reference case, although it shrinks to 49 percent in the high price case and grows to 67 percent in the low price case.**
- **Future growth in U.S. natural gas supplies depends on unconventional domestic production, natural gas from Alaska, and liquefied natural gas imports.**
- **U.S. natural gas use is projected to peak soon after 2020, due to reduced use in the electric power, which can exploit other more cost-effective options.**
- **Wellhead gas prices are projected to decline from current levels through 2016 before beginning to increase again. Over the longer term, changes in the LNG import levels only moderately impact natural gas wellhead prices.**
- **Coal use is projected to grow faster than other fuels; however, higher coal prices could induce switching to other fuels in the electric power sector and curtail its use as a feedstock in synthetic fuels production.**
- **Nuclear power is projected to grow relatively slowly in the AEO2007 reference case; however, if nuclear power plant costs decrease or coal costs increase, significant quantities of capacity additions could result.**
- **Carbon dioxide emissions are projected to grow at an average annual rate of 1.2 percent, but emission vary significantly with economic growth.**

Thank you

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