

Technical Advisory Committee of the Office of Pipeline Safety

Outlook for Liquid Fuels and Natural Gas to 2030

**Michael Schaal
Oil and Gas Division
Office of Integrated Analysis And Forecasting
U.S. Energy Information Administration**

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Policy Change Possibilities

Renewable Fuels
Standards

Production Tax Credits

Appliance Efficiency
Standards

Greenhouse Gas Legislation

Renewable Portfolio
Standards

Investment Tax Credits

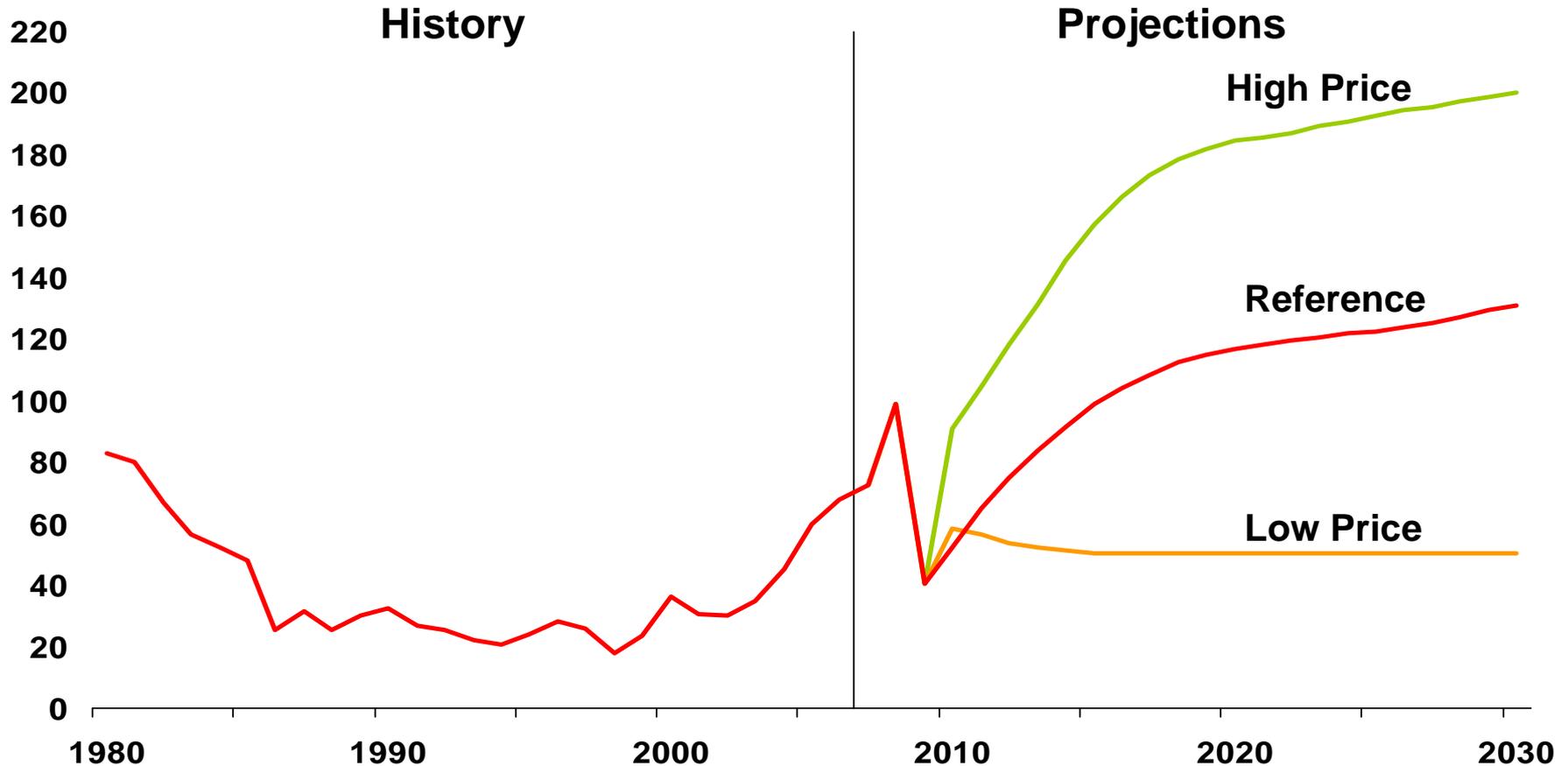
Corporate Average Fuel
Economy Standards

AEO 2009 Scenarios

- Reference
- Early Release Reference
- Low Economic Growth
- **High Economic Growth**
- **Low Price**
- **High Price**
- Residential: 2008 Technology
- Residential: High Technology
- Residential: Best Available Technology
- Commercial: 2008 Technology
- Commercial: High Technology
- Commercial: Best Available Technology
- Electricity: Low Nuclear Cost
- Electricity: High Nuclear Cost
- Electricity: Low Fossil Cost
- Electricity: High Fossil Cost
- Electricity: Frozen Capital Cost
- Electricity: Falling Capital Cost
- Renewable Fuels: PTC Extension
- Renewable Fuels: High Renewable Cost
- Renewable Fuels: Low Renewable Cost
- **Oil and Gas: Rapid Technology**
- **Oil and Gas: Slow Technology**
- **Oil and Gas: High LNG Supply**
- **Oil and Gas: Low LNG Supply**
- **Oil and Gas: ANWR**
- **Oil and Gas: OCS Limited**
- Coal: Low Coal Cost
- Coal: High Coal Cost
- Integrated 2008 Technology
- Integrated High Technology
- No GHG Concern
- High Commodity Cost
- Low Commodity Cost
- Transportation: High Technology
- Transportation: Low Technology
- Industrial: 2008 Technology
- Industrial: High Technology

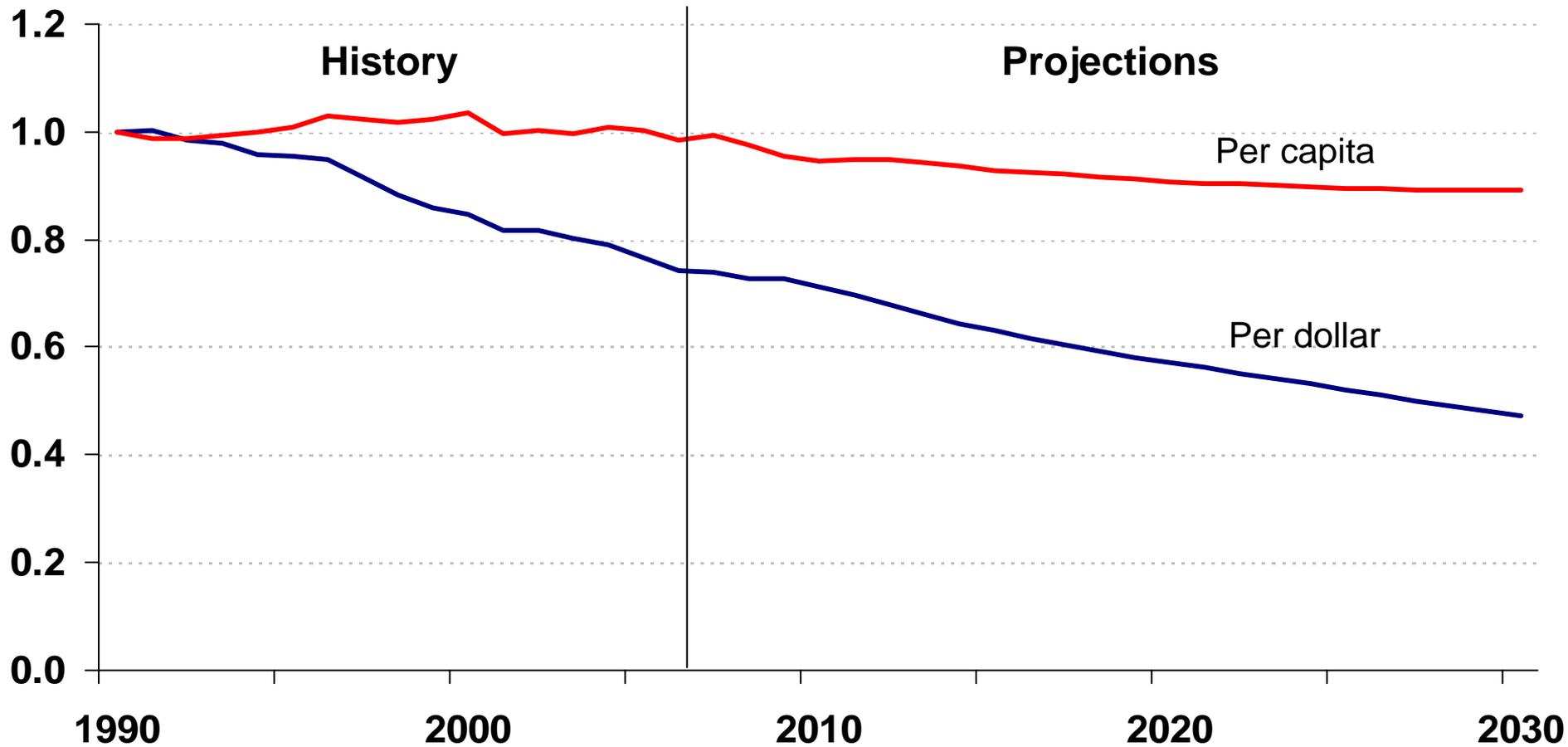
Low Sulfur Light Oil prices, 1980-2030

2007 dollars per barrel



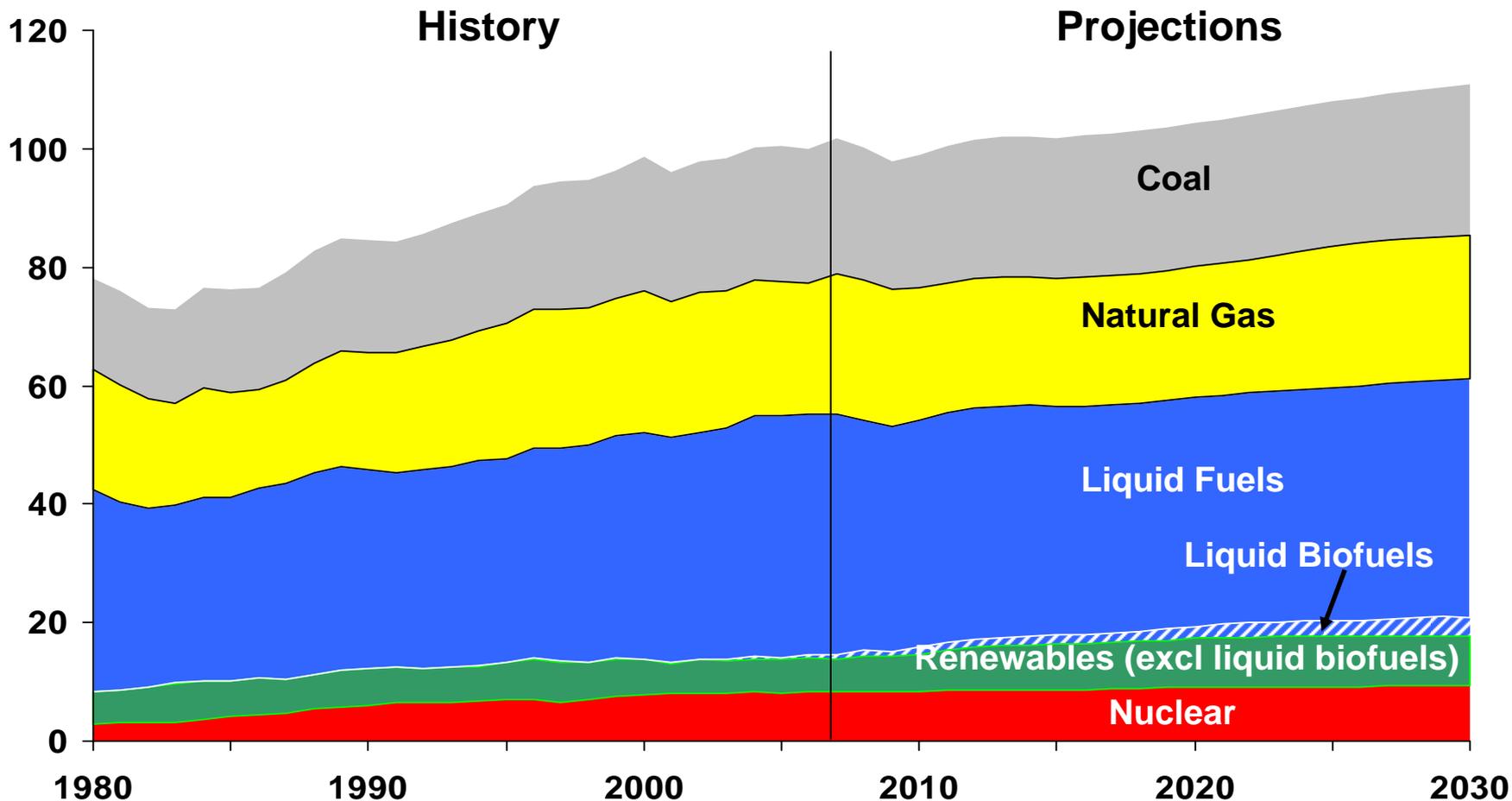
Energy Intensity of Use on a Population and Real Gross Domestic Product Basis, 1990-2030

index, 1990=1.0



U.S. Energy Consumption by Fuel

quadrillion Btu

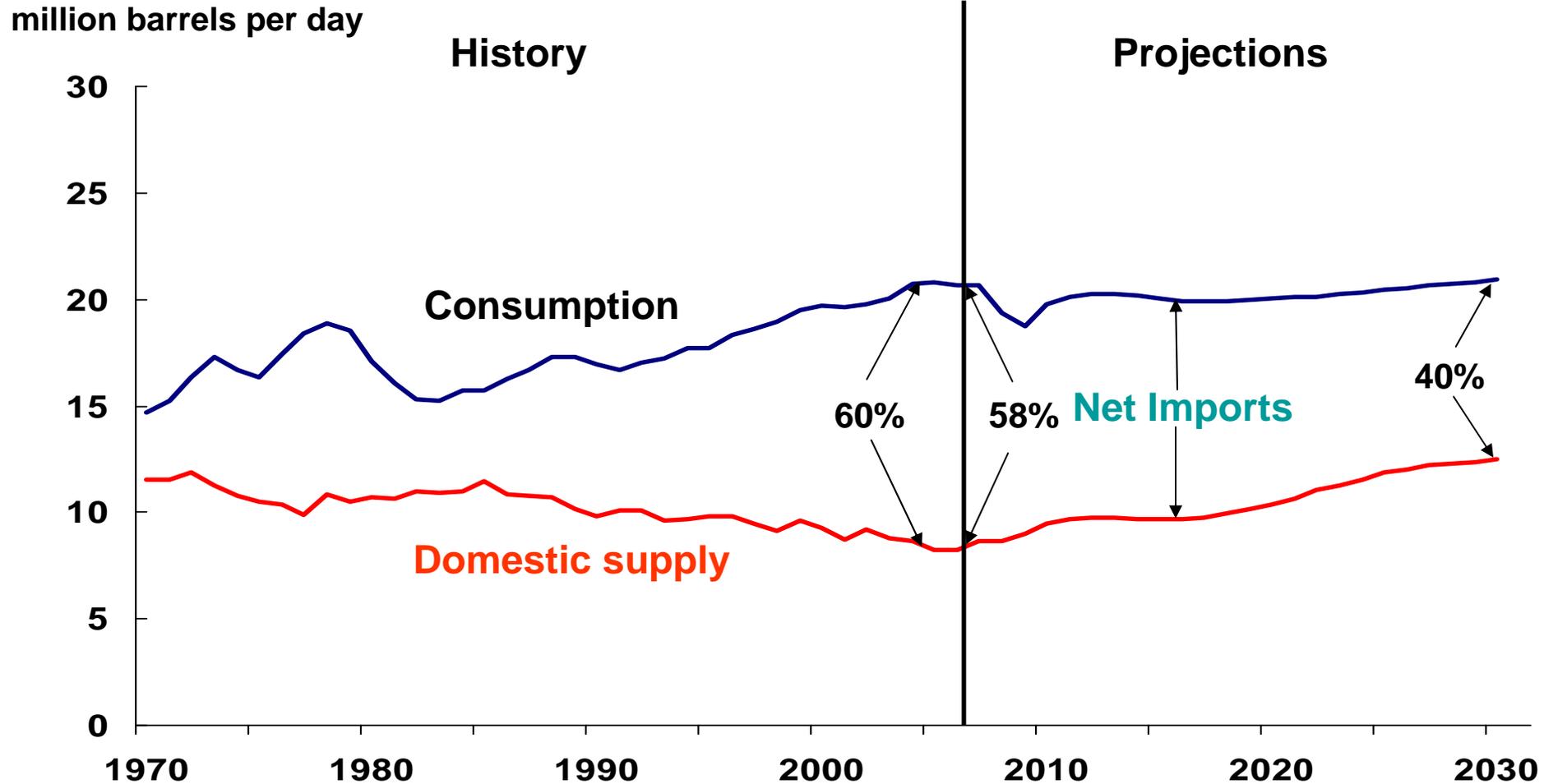


www.eia.doe.gov

Source: *Annual Energy Outlook 2009* Revised Reference Case

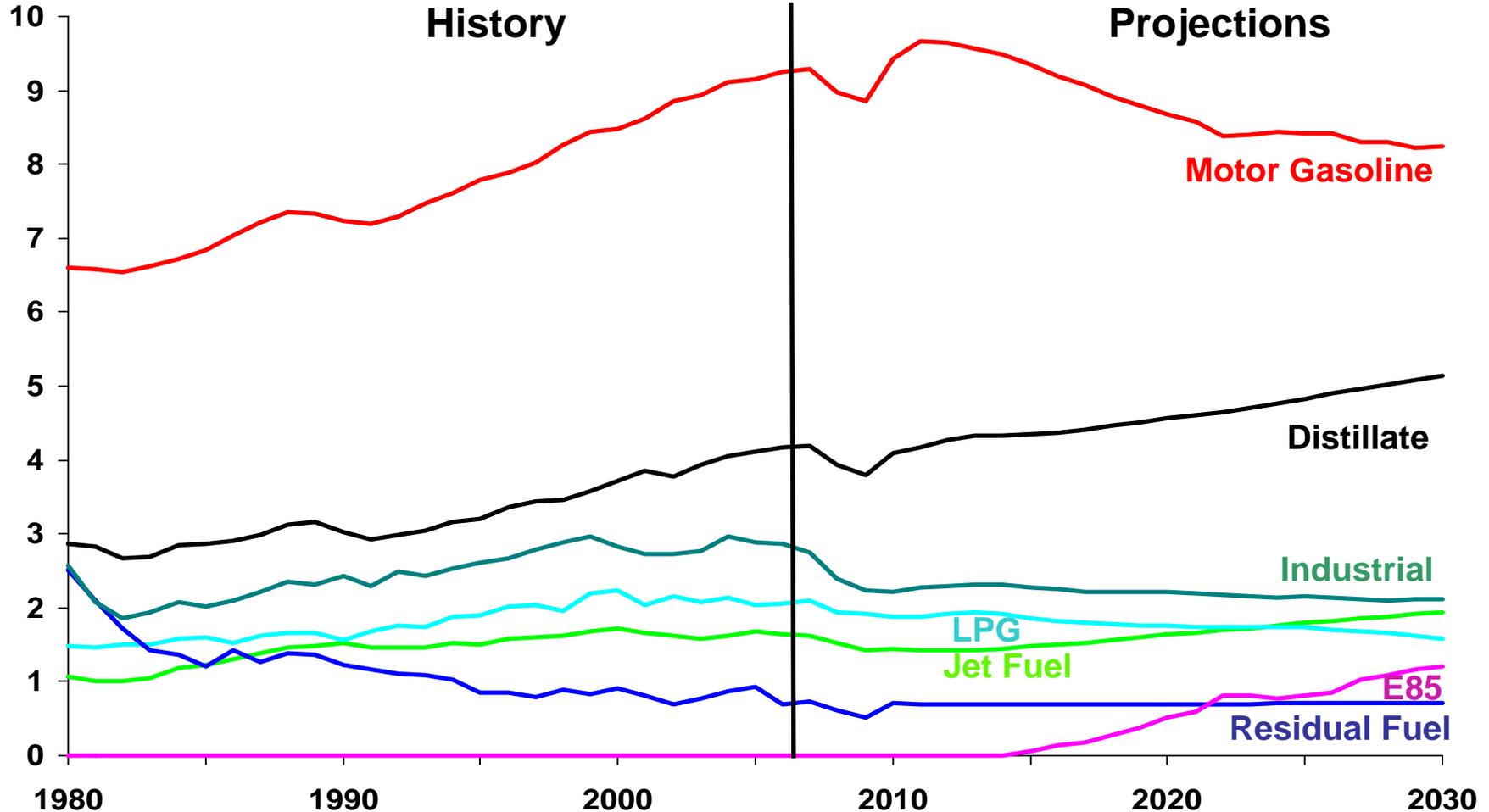
Energy Information Administration

Liquid Fuels Consumption and Supply 1970-2030



Liquid Fuels Consumption by Fuel 1970-2030

million barrels per day

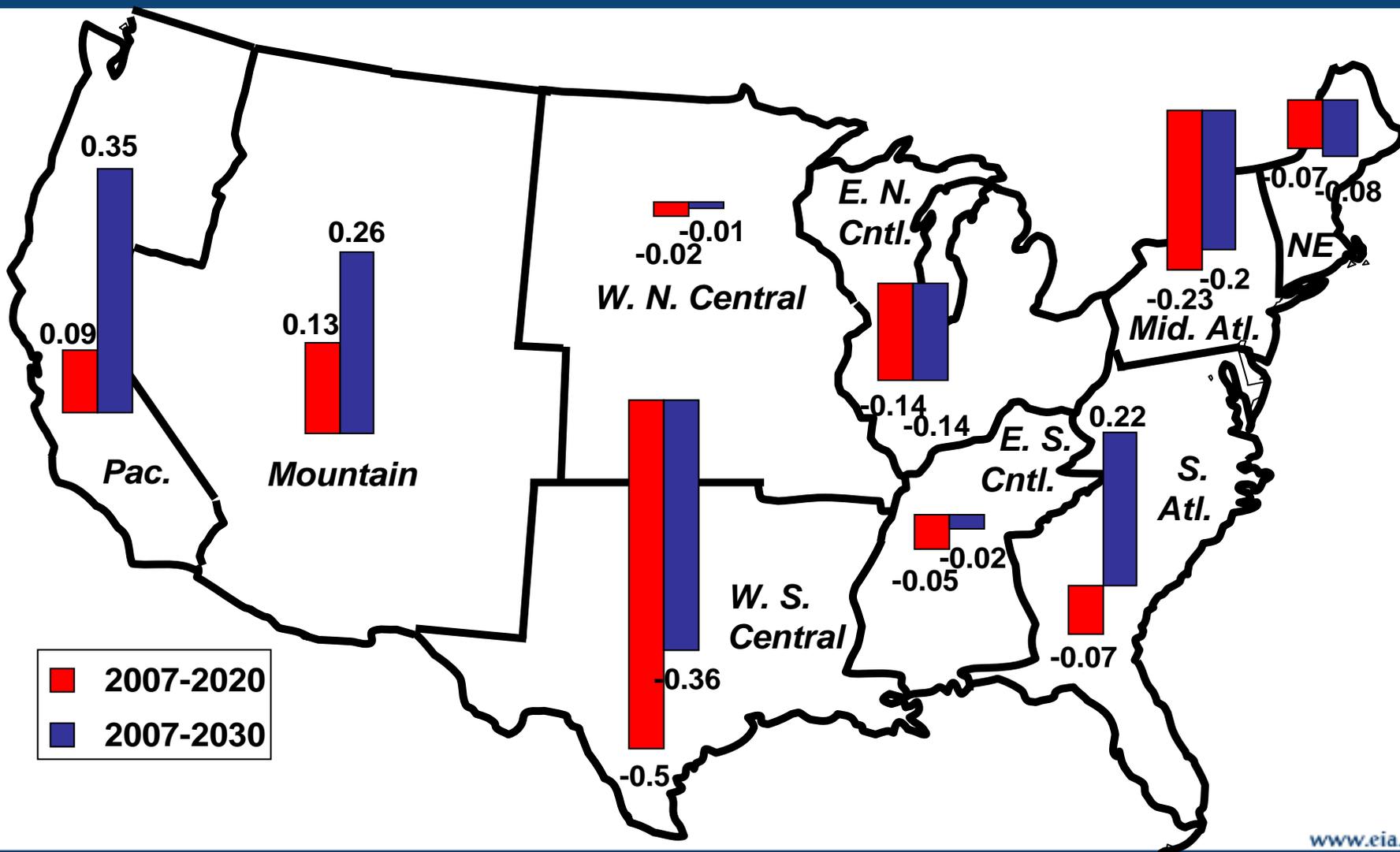


www.eia.doe.gov

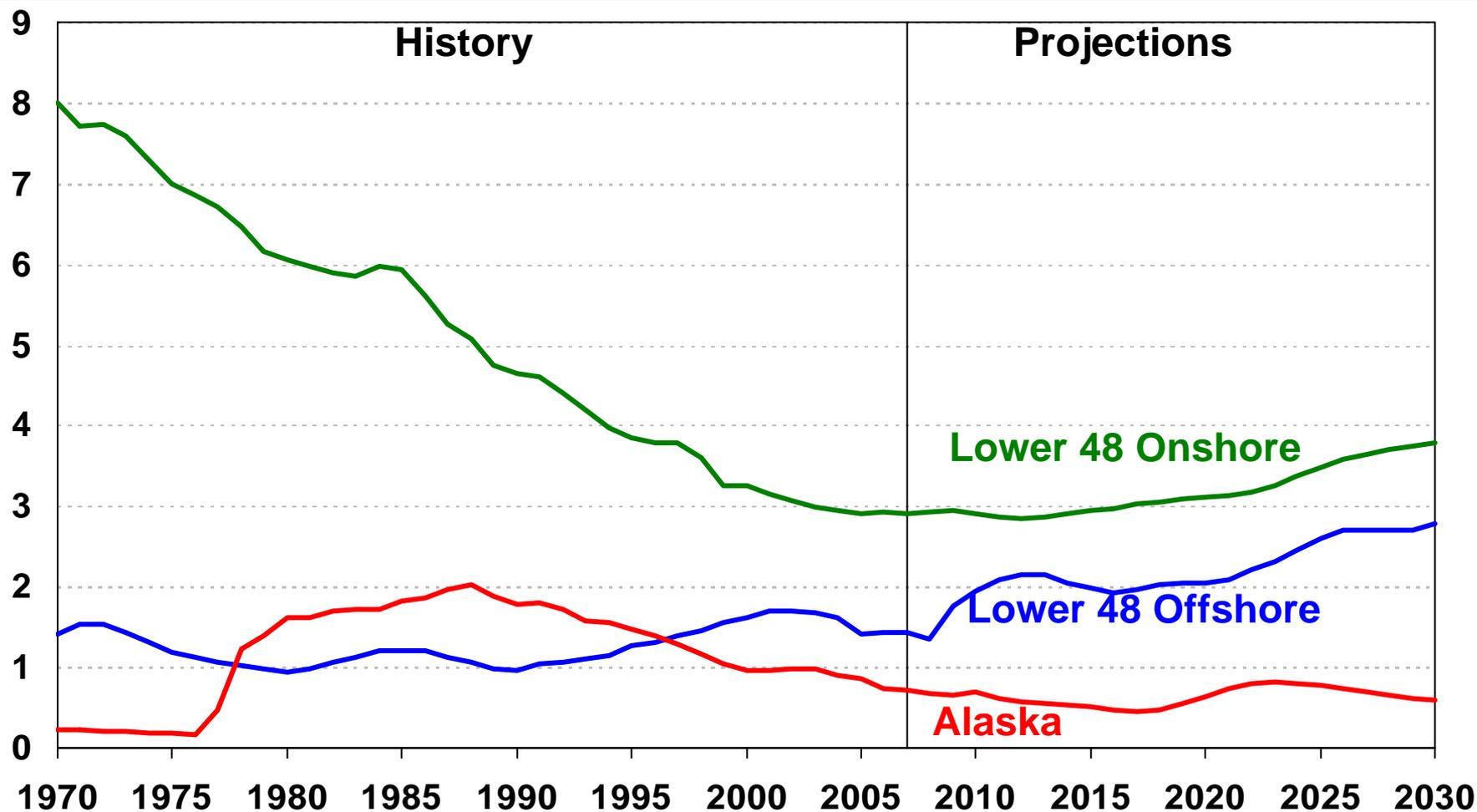
Source: Annual Energy Outlook 2009 Revised Reference Case

Energy Information Administration

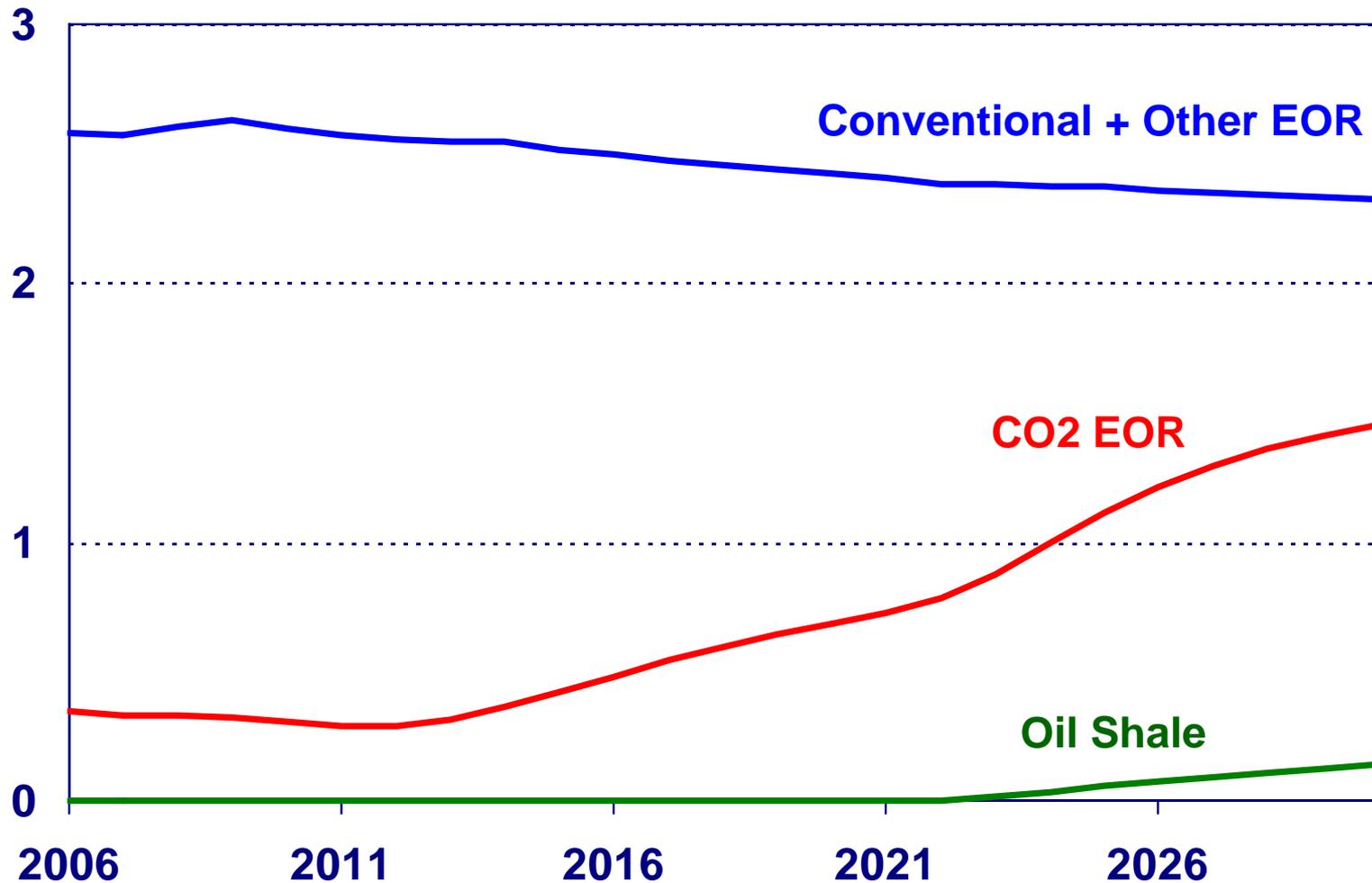
Incremental U.S. Liquid Fuel Consumption, 2007 to 2020 & 2030 (million barrels per day)



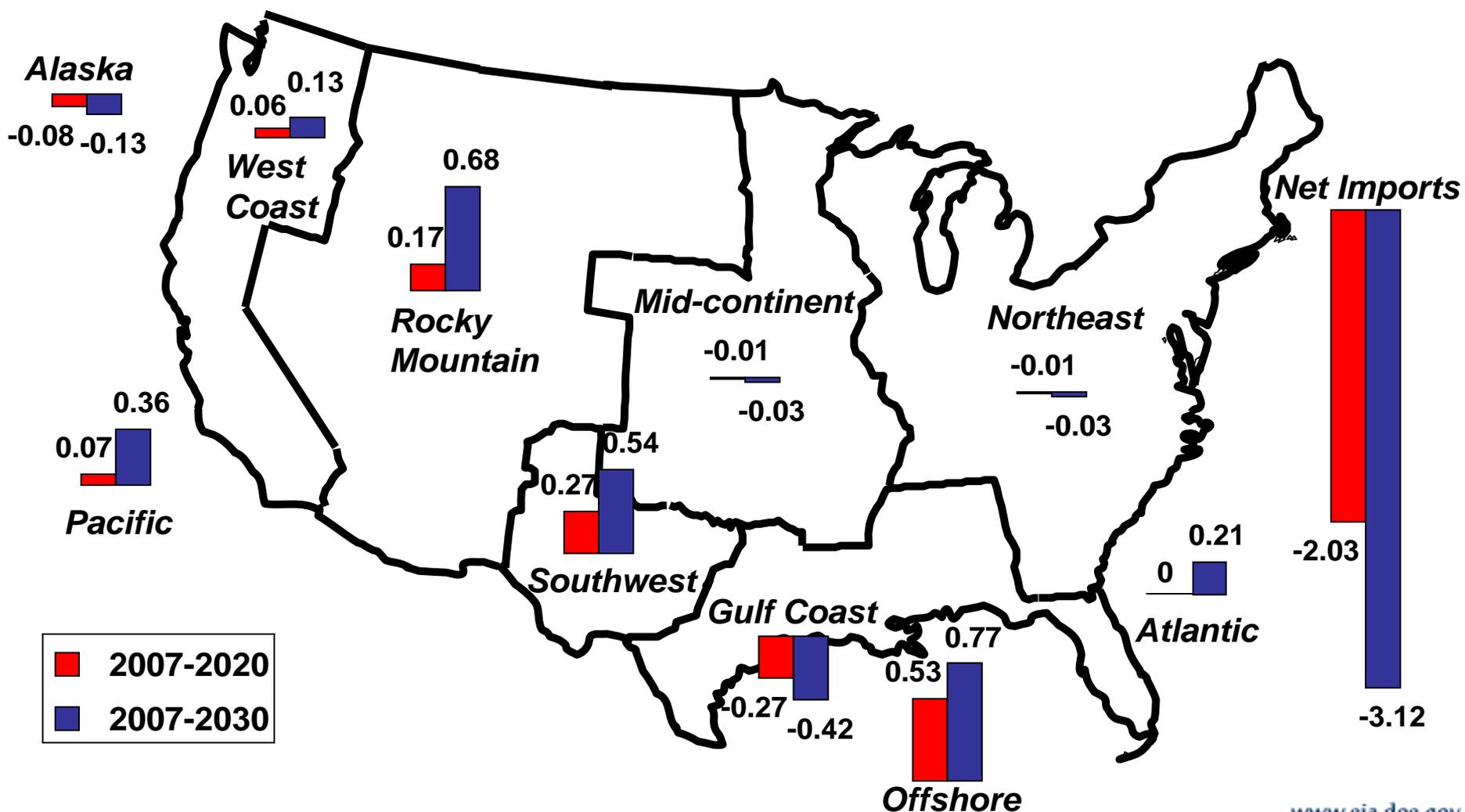
Liquid Fuels Supply by Source, 1970-2030 (million barrels per day)



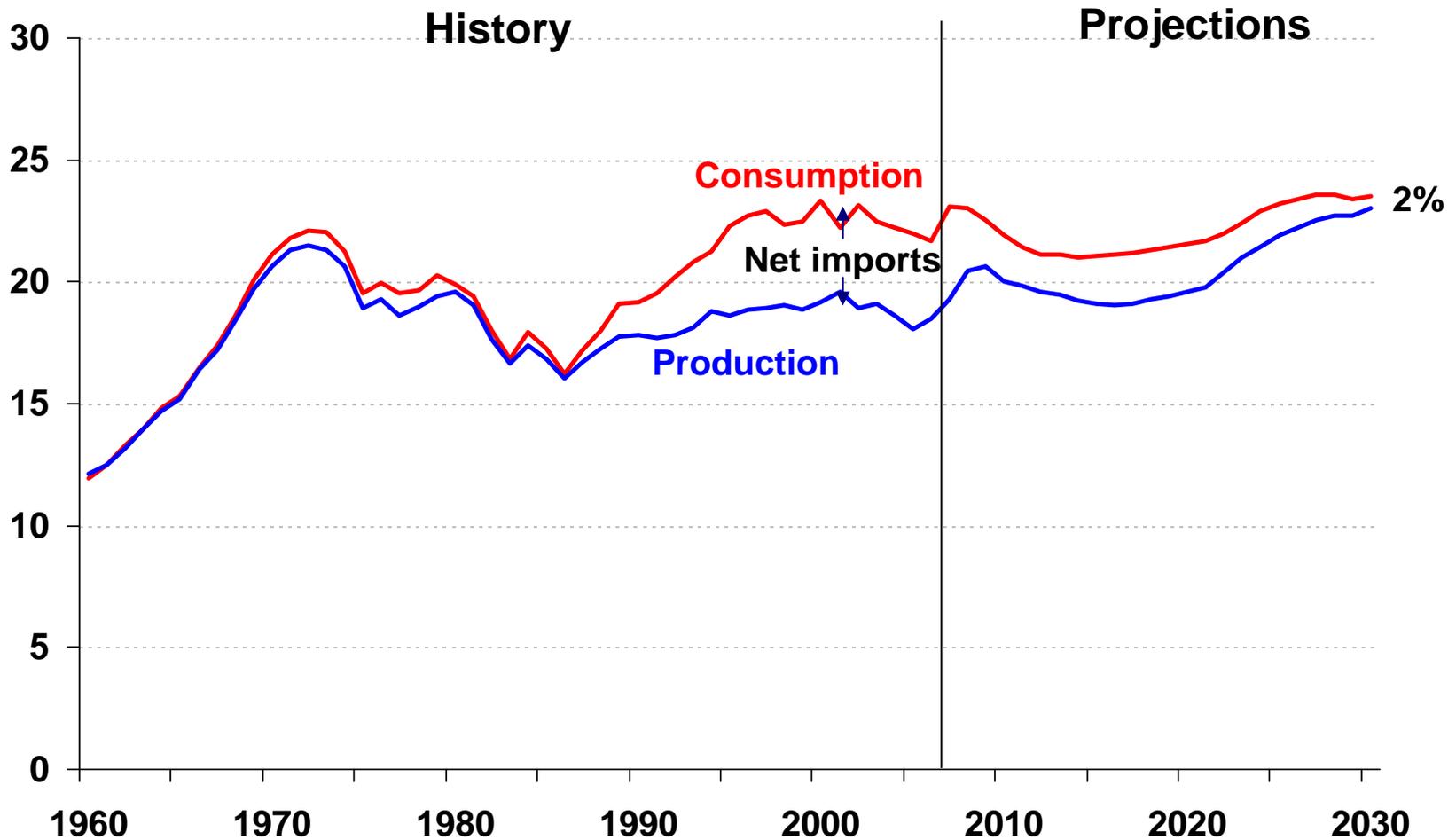
Lower 48 Onshore Crude Oil Production (million barrels per day)



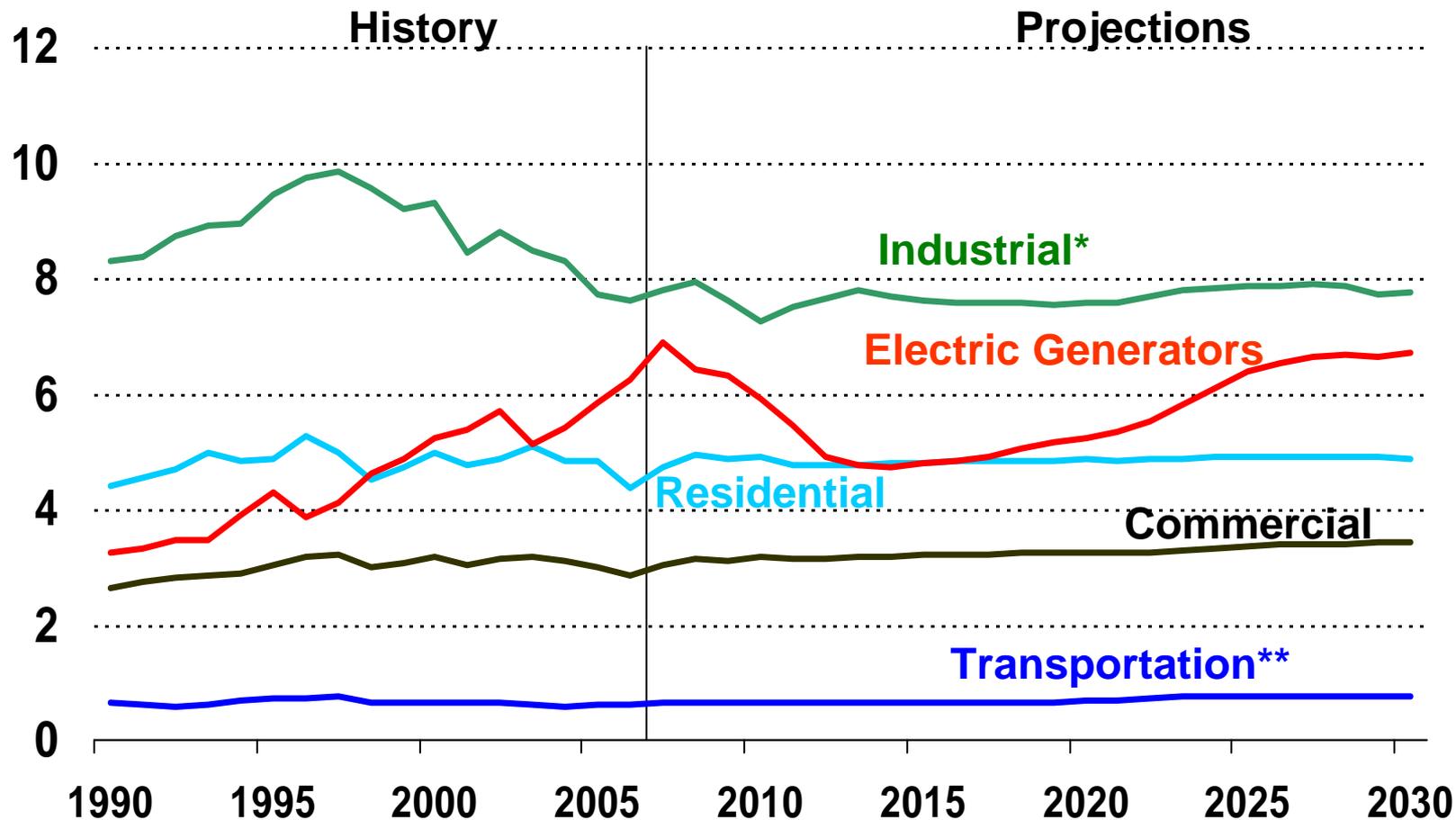
Incremental U.S. Crude Oil Supply, 2007 to 2020 & 2030 (million barrels per day)



Natural Gas Production, Consumption, and Imports, 1960-2030 (trillion cubic feet)



U.S. Natural Gas Consumption by Sector, 1990-2030 (trillion cubic feet)



* Includes lease and plant fuel

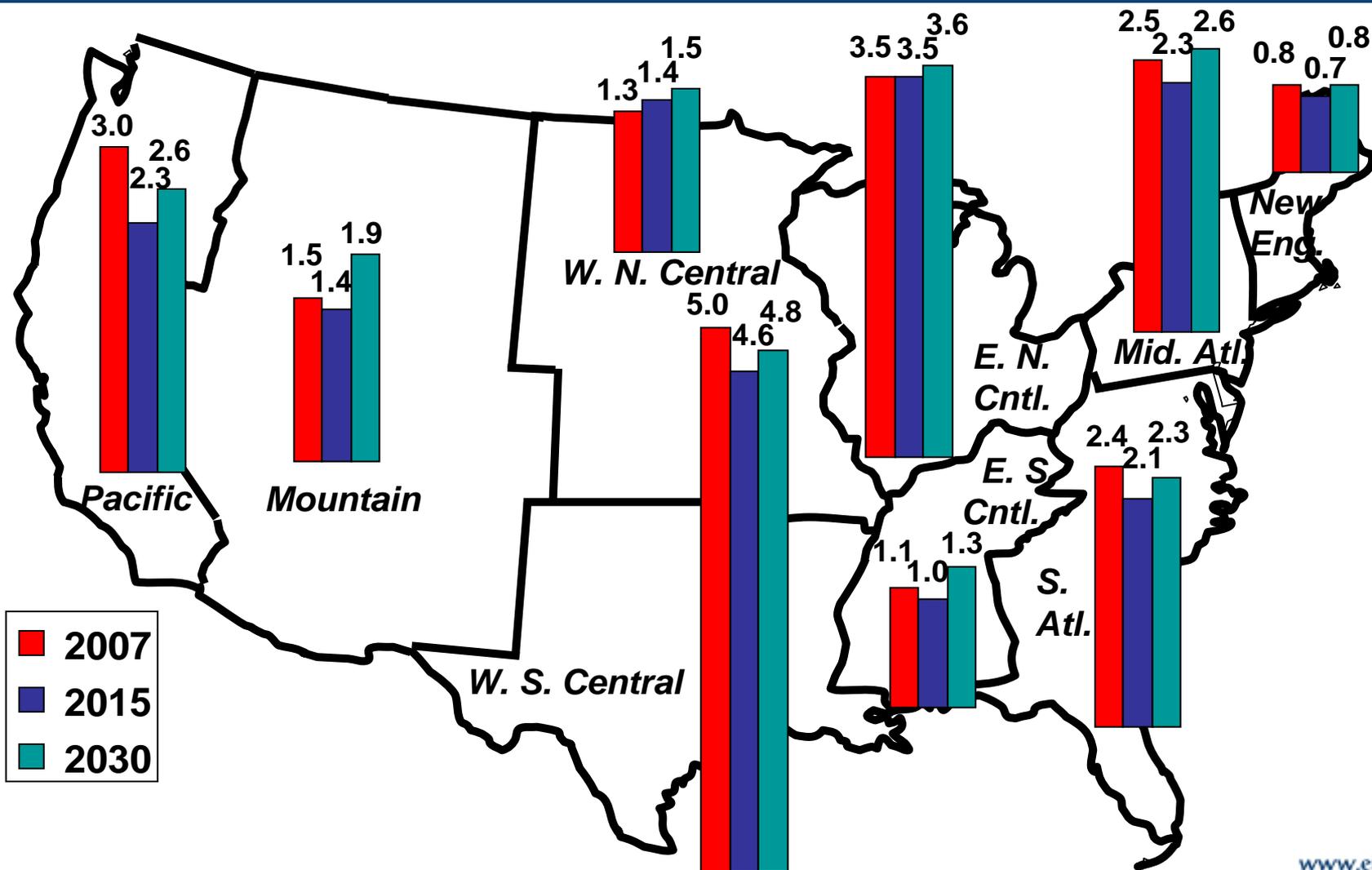
** Includes pipeline fuel

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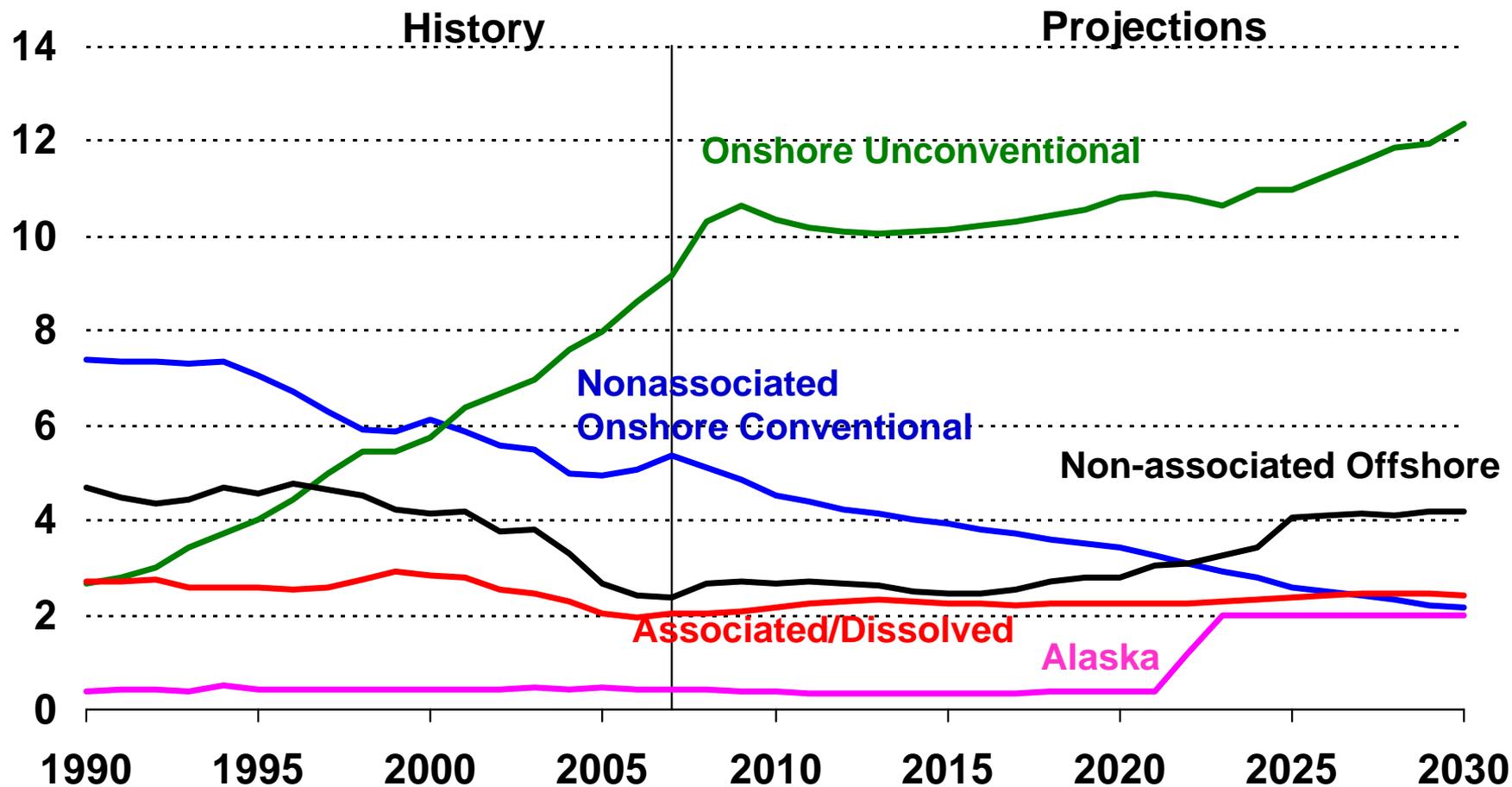
Source: *Annual Energy Outlook 2009* Revised Reference Case

Energy Information Administration

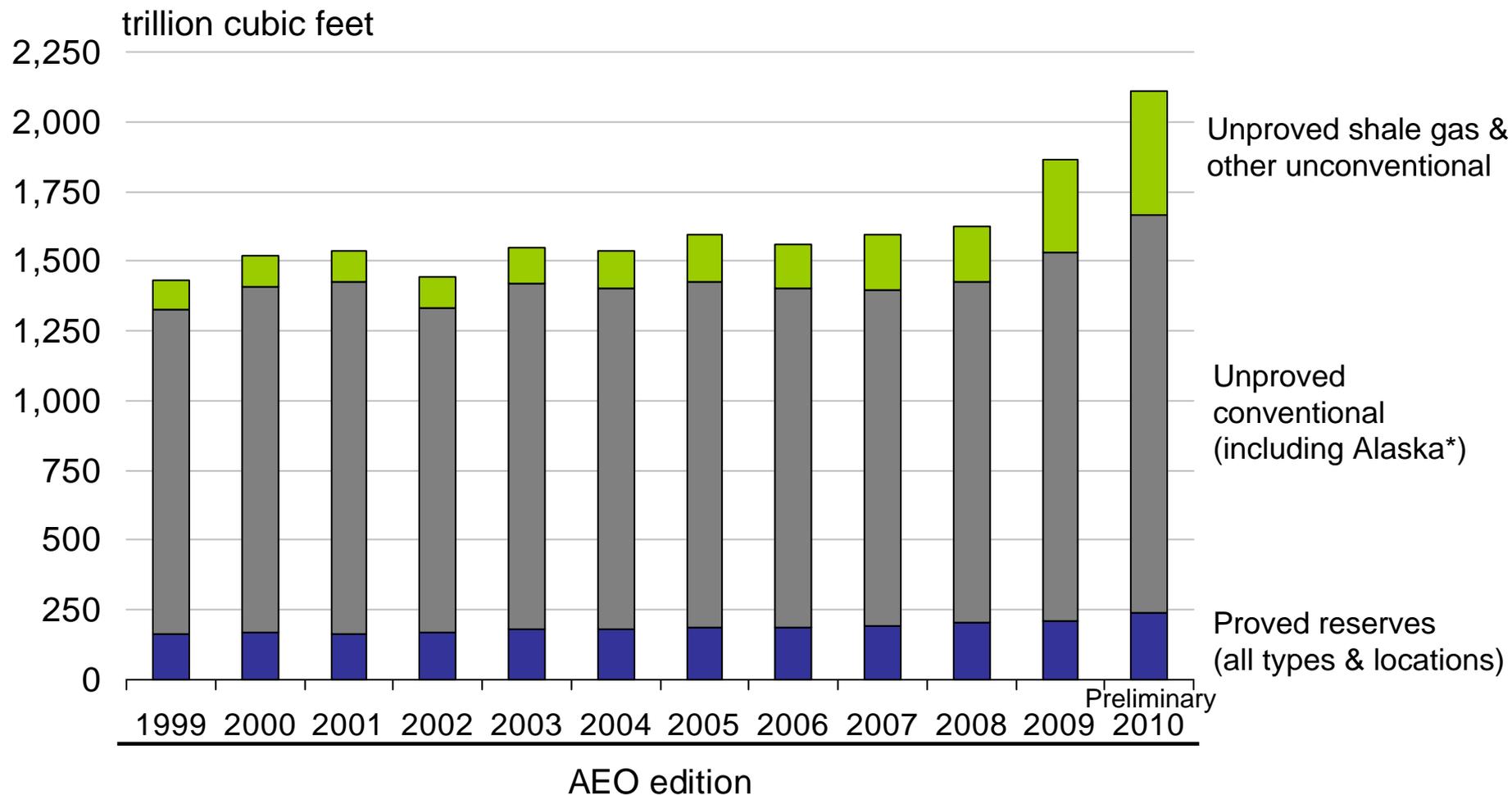
Regional Natural Gas Consumption (trillion cubic feet)



U.S. Dry Natural Gas Production, 1990 - 2030 (trillion cubic feet)



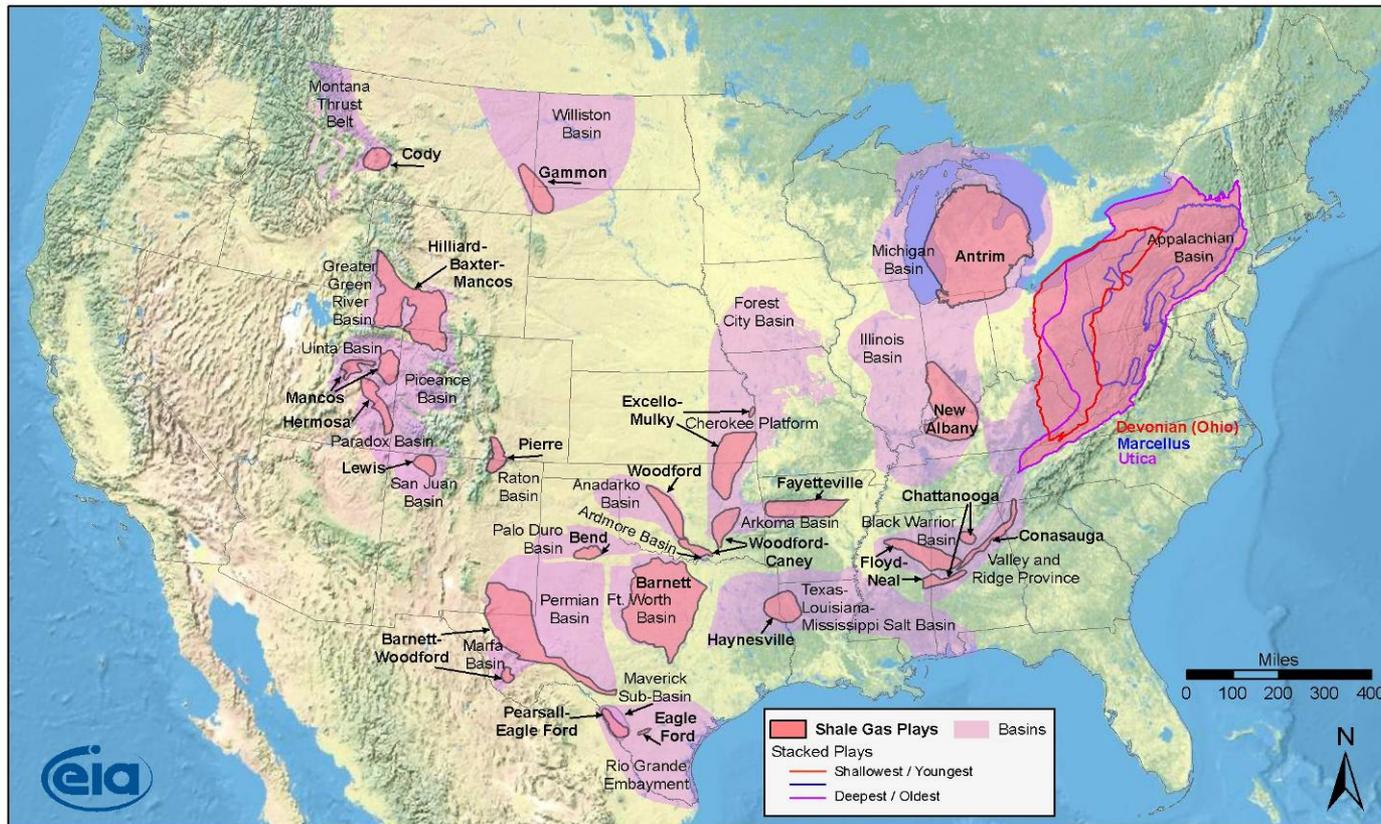
U.S. Technically Recoverable Natural Gas Resource Estimates, 1999-2010



* Alaska resource estimates prior to *AEO2009* reflect resources from the North Slope that were not included in previously published documentation.

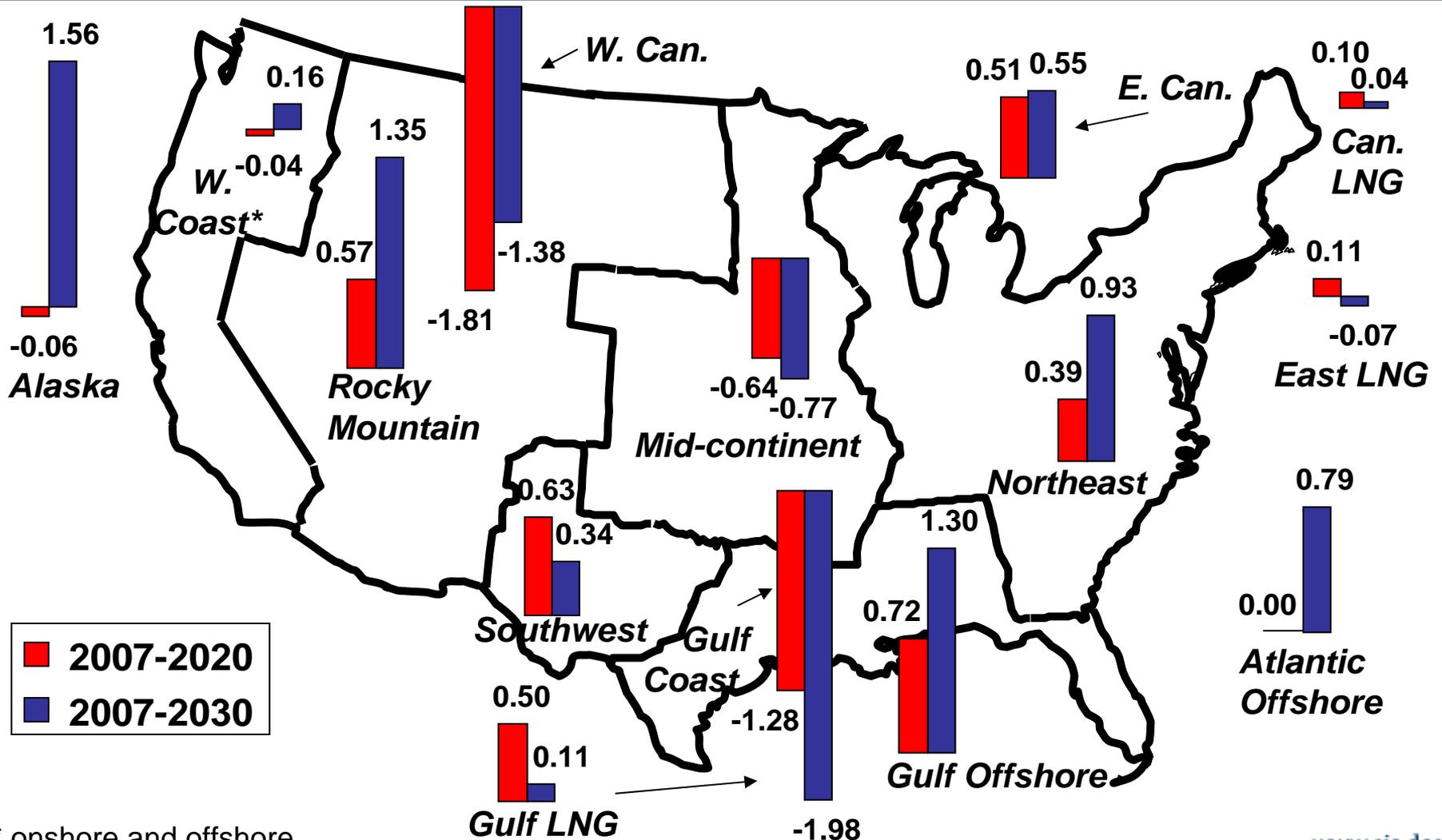
U.S. Natural Gas Shale Plays

Shale Gas Plays, Lower 48 States



Source: Energy Information Administration based on data from various published studies
Updated: May 28, 2009

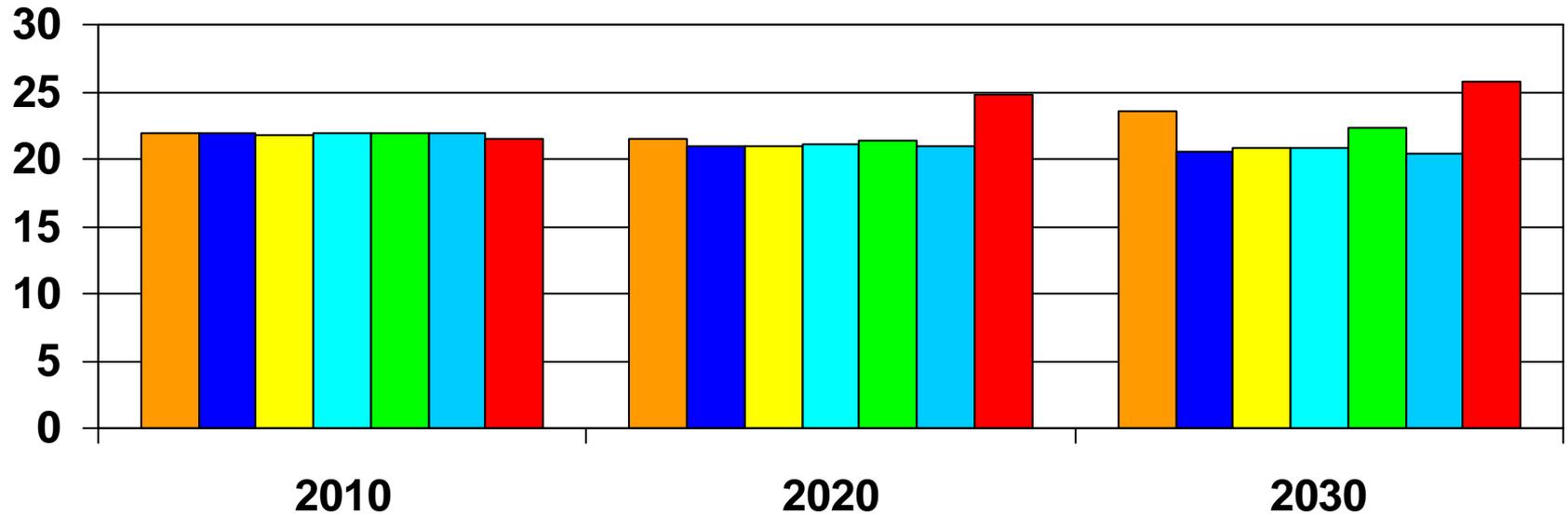
Incremental Natural Gas Supply, 2007 to 2020 & 2020 & 2030 (trillion cubic feet)



* onshore and offshore

ACESA - H.R. 2454

Natural Gas Consumption Impacts (trillion cubic feet)



Conclusions

- Long-term economic growth averages about 2.4 percent per year between 2007 and 2030
- World crude oil prices recover from a near-term decline and reach \$130 per barrel (in 2007 dollars) by 2030
- The growing use of biofuels is displacing gasoline relative to diesel
- A robust domestic natural gas resource base allows for a steady expansion of production given projected growth in demand and prices
- Recently-enacted policies and concerns over greenhouse gas (GHG) emissions, combined with high energy prices, moderate projected growth in energy consumption and emissions

Periodic Reports

Petroleum Status and Natural Gas Storage Reports, weekly

Short-Term Energy Outlook, monthly

International Energy Outlook 2009, May 2009

Emissions of Greenhouse Gases in the United States 2008, December 2009

Annual Energy Outlook 2009, March 2009

Special Analyses

Analysis of Crude Oil Production in the Arctic National Wildlife Refuge, May 2008

Annual Energy Outlook 2009, March 2009, "Impact of Limitations on Access to Oil and Natural Gas Resources in the Federal Outer Continental Shelf", p. 35

Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009, August 2009

Michael Schaal

www.eia.doe.gov

michael.schaal@eia.doe.gov