

# Energy Overview



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*for*

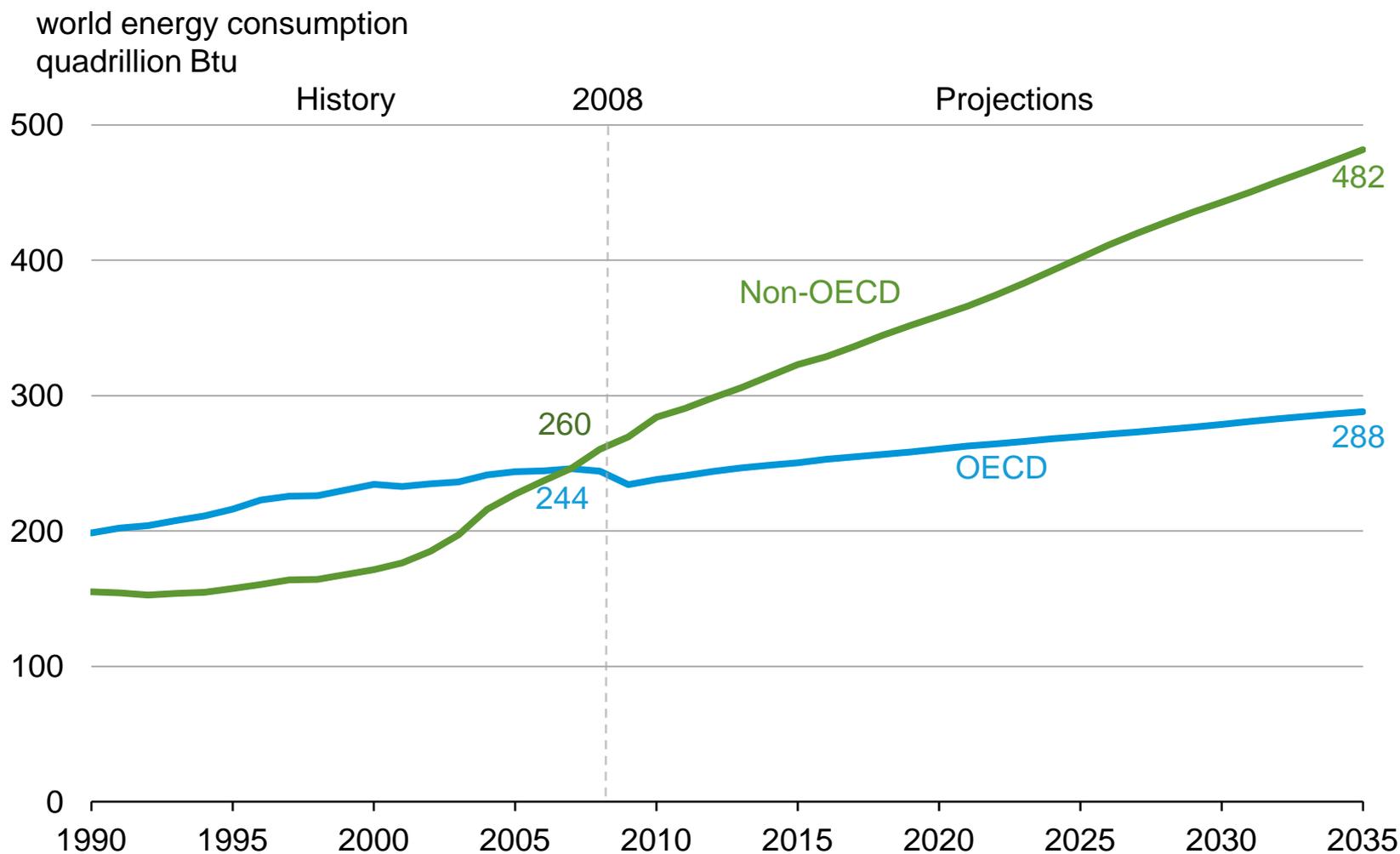
*CNA Panel Discussion*

*May 8, 2013 | Crystal City, VA*

*by*

*Howard Gruenspecht, Deputy Administrator*

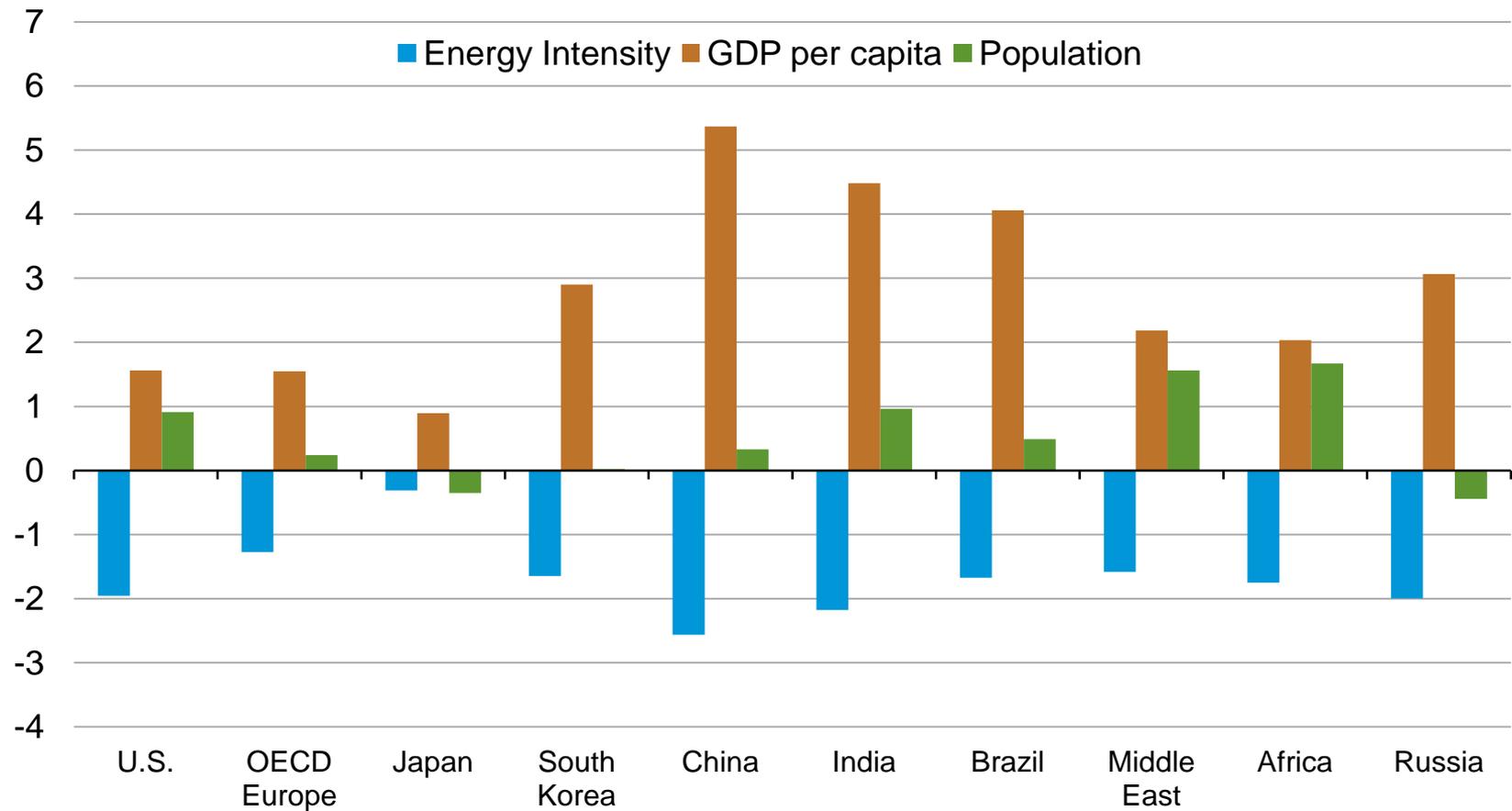
# Non-OECD nations drive the increase in energy demand



Source: EIA, International Energy Outlook 2011

# Growth in income and population drive rising energy use; energy intensity improvements moderate increases in energy demand

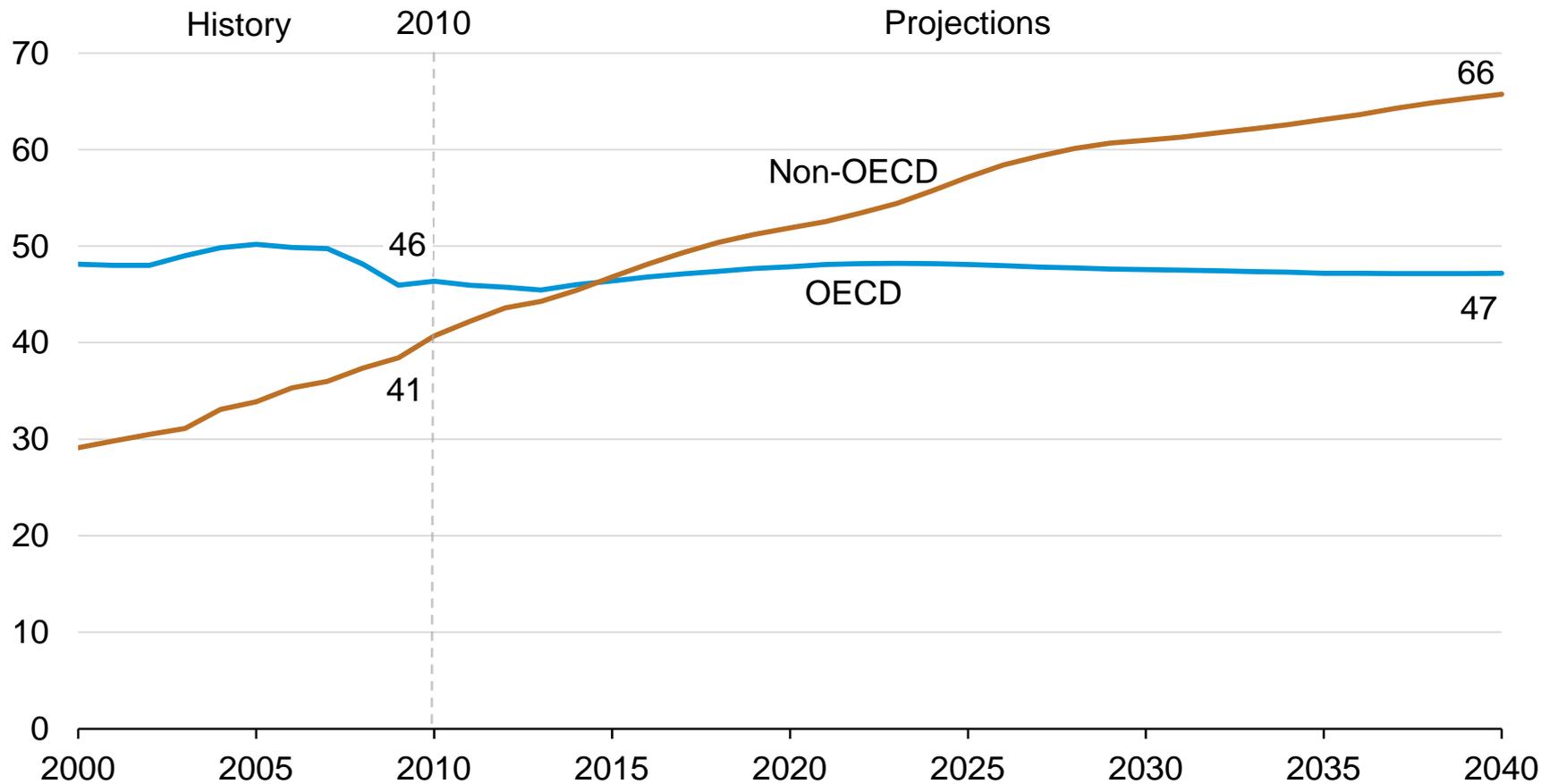
average annual change (2008-2035)  
percent per year



Source: EIA, International Energy Outlook 2011

# Non-OECD liquid fuels use surpasses almost flat OECD liquid fuels use in the near future

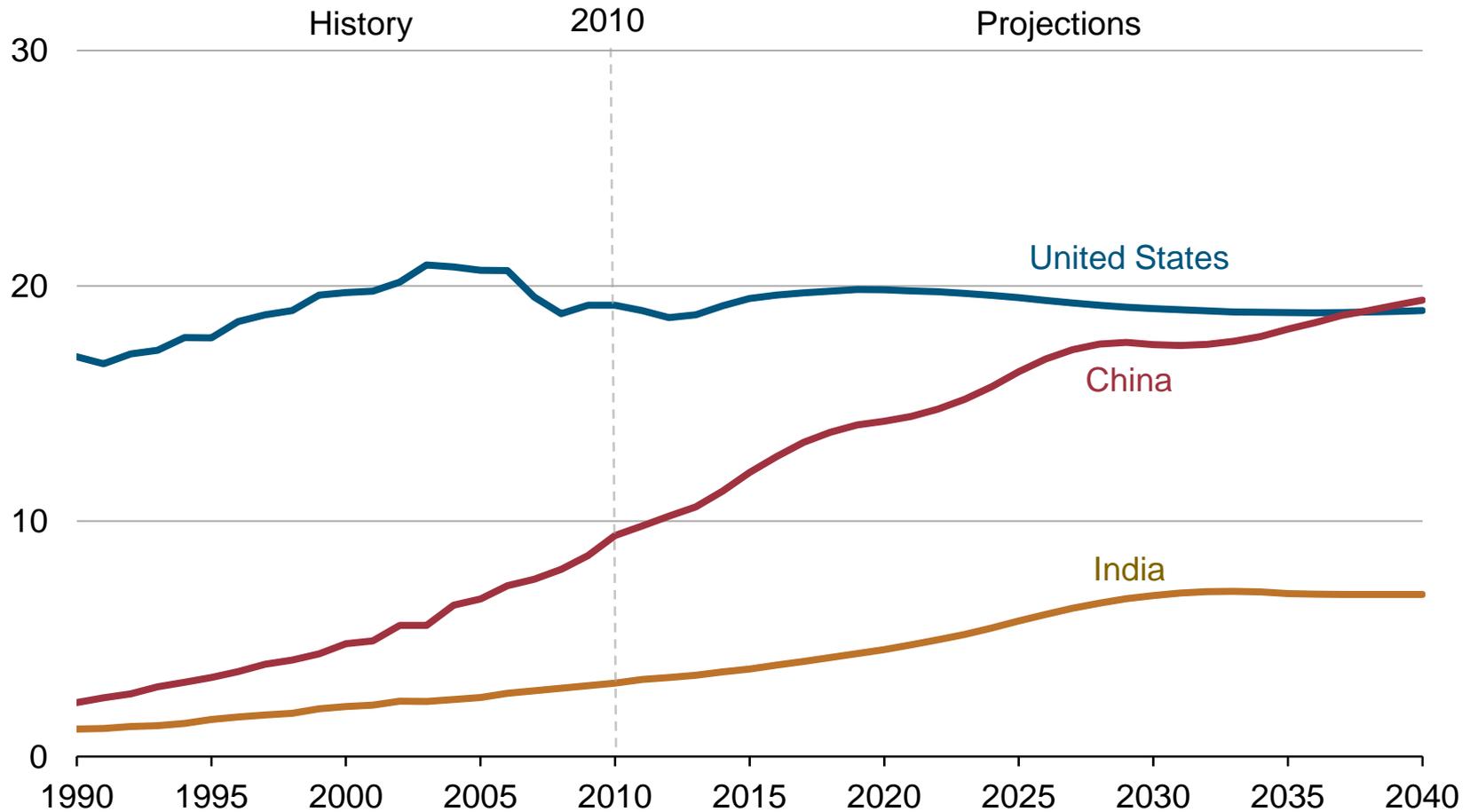
total liquids consumption  
million barrels per day



Source: EIA, Annual Energy Outlook 2013

# Liquids fuel consumption in the United States, China, and India, 1990-2040

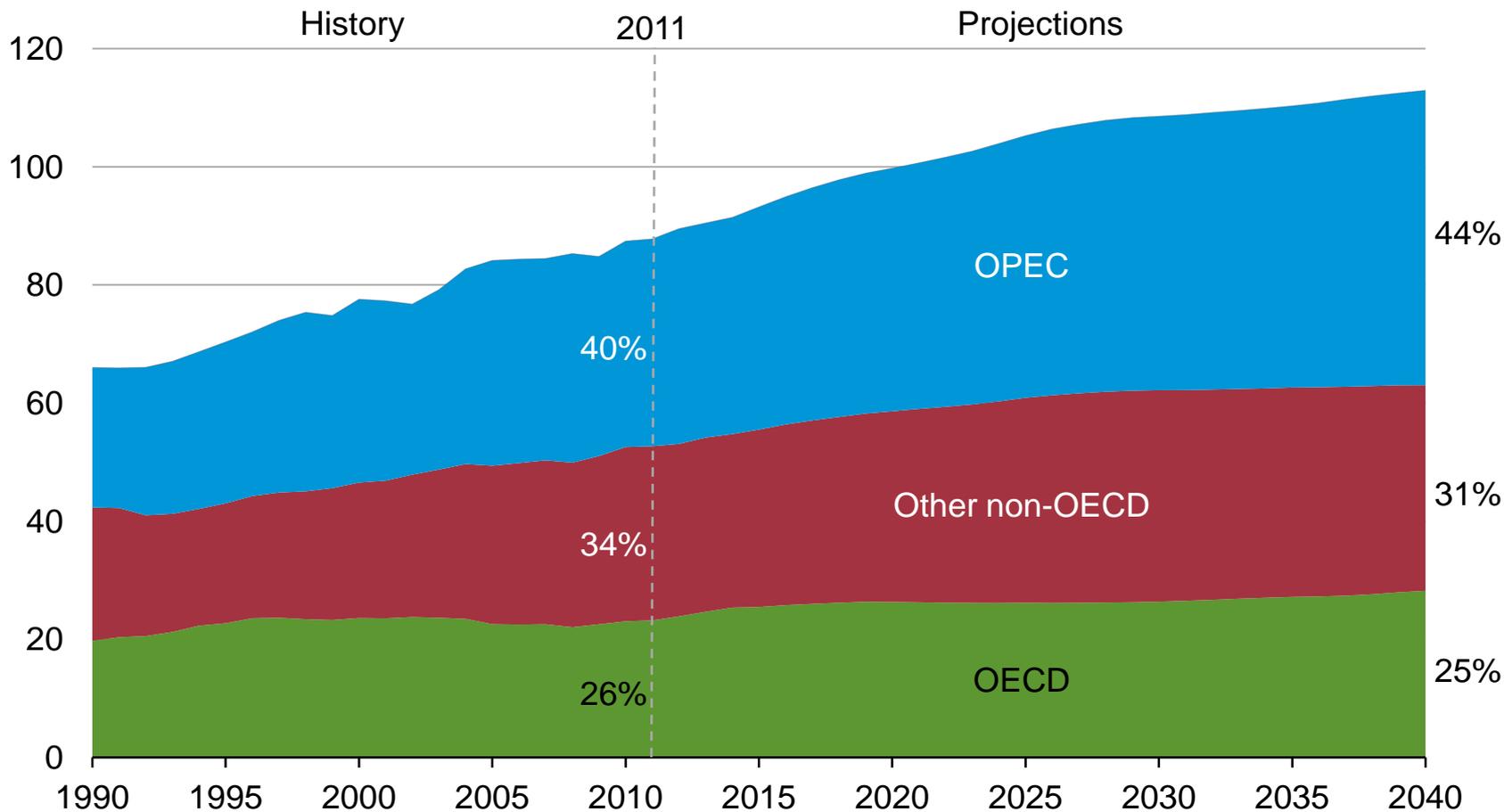
million barrels per day



Source: EIA, Annual Energy Outlook 2013

# Global liquids supply increases 26 percent with regional market shares relatively stable

Global liquids supply  
million barrels per day

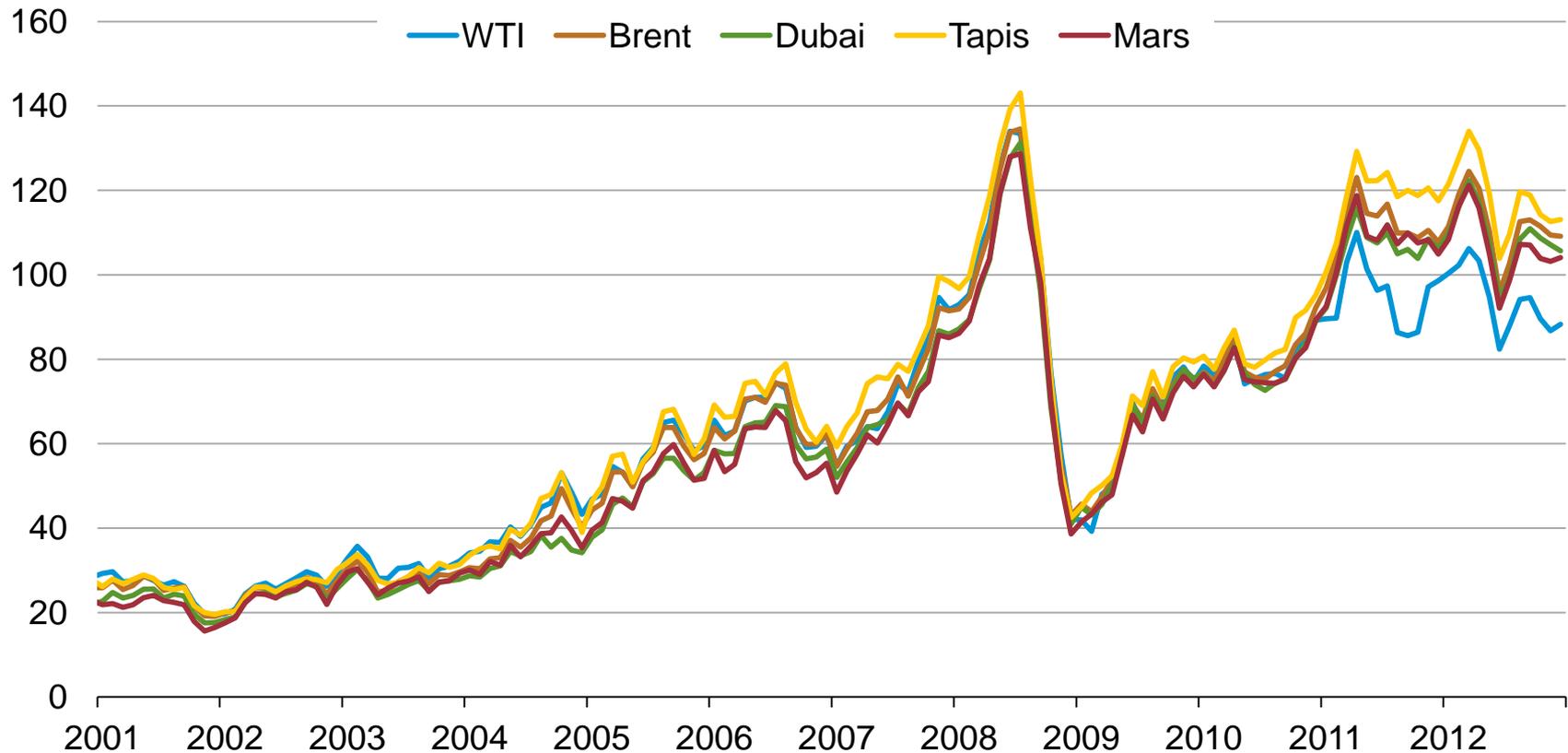


Source: EIA, Annual Energy Outlook 2013

# World oil prices move together due to arbitrage

Global crude oil prices

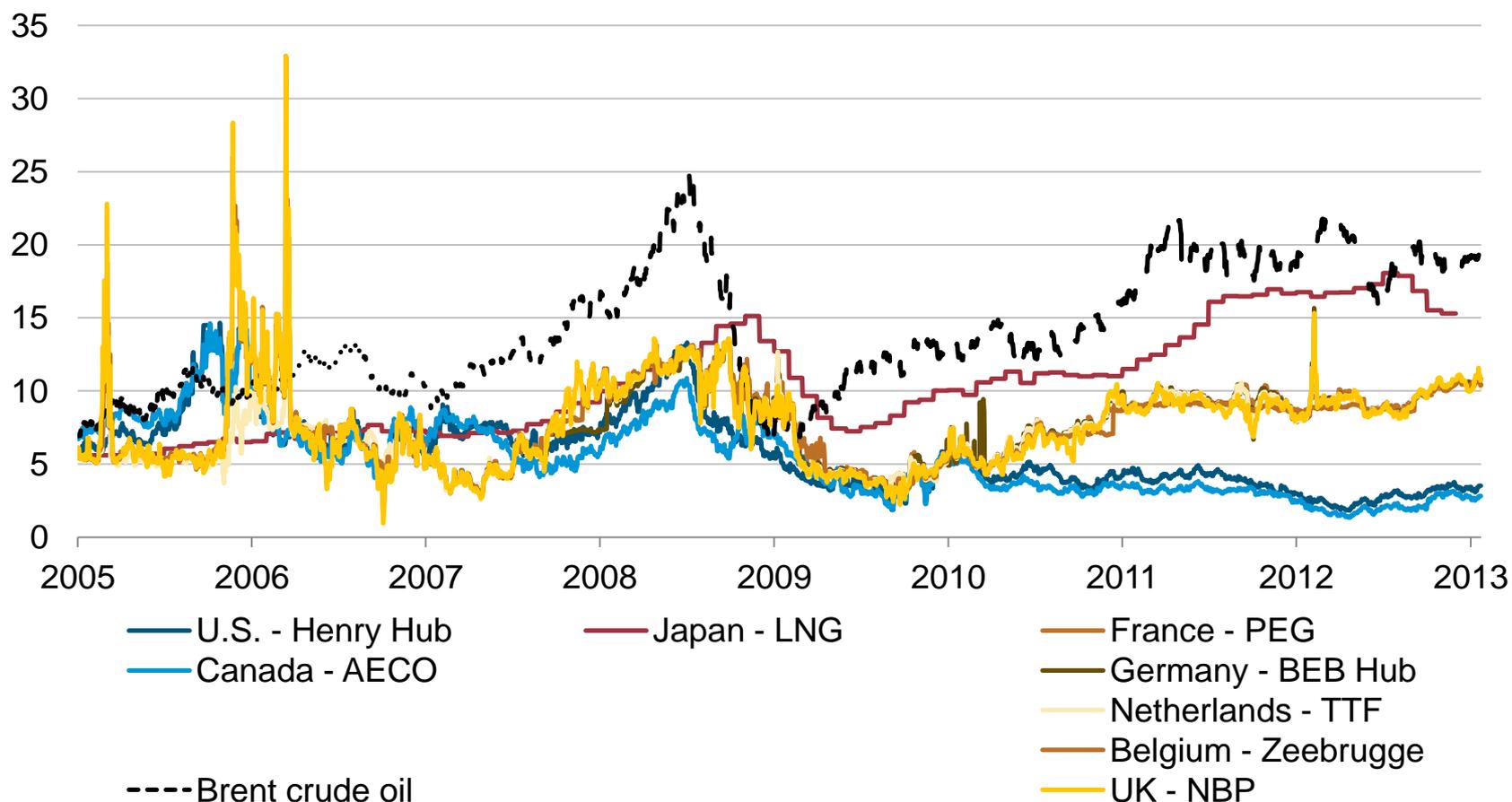
Nominal dollars per barrel, monthly average



Sources: Bloomberg, Thomson Reuters

# Spot natural gas prices vary significantly across global markets since 2008, with many markets far below oil-related benchmarks

Global spot natural gas, crude oil, and LNG prices  
U.S. dollars per million British thermal unit



Source: Derived from Bloomberg, L.P.

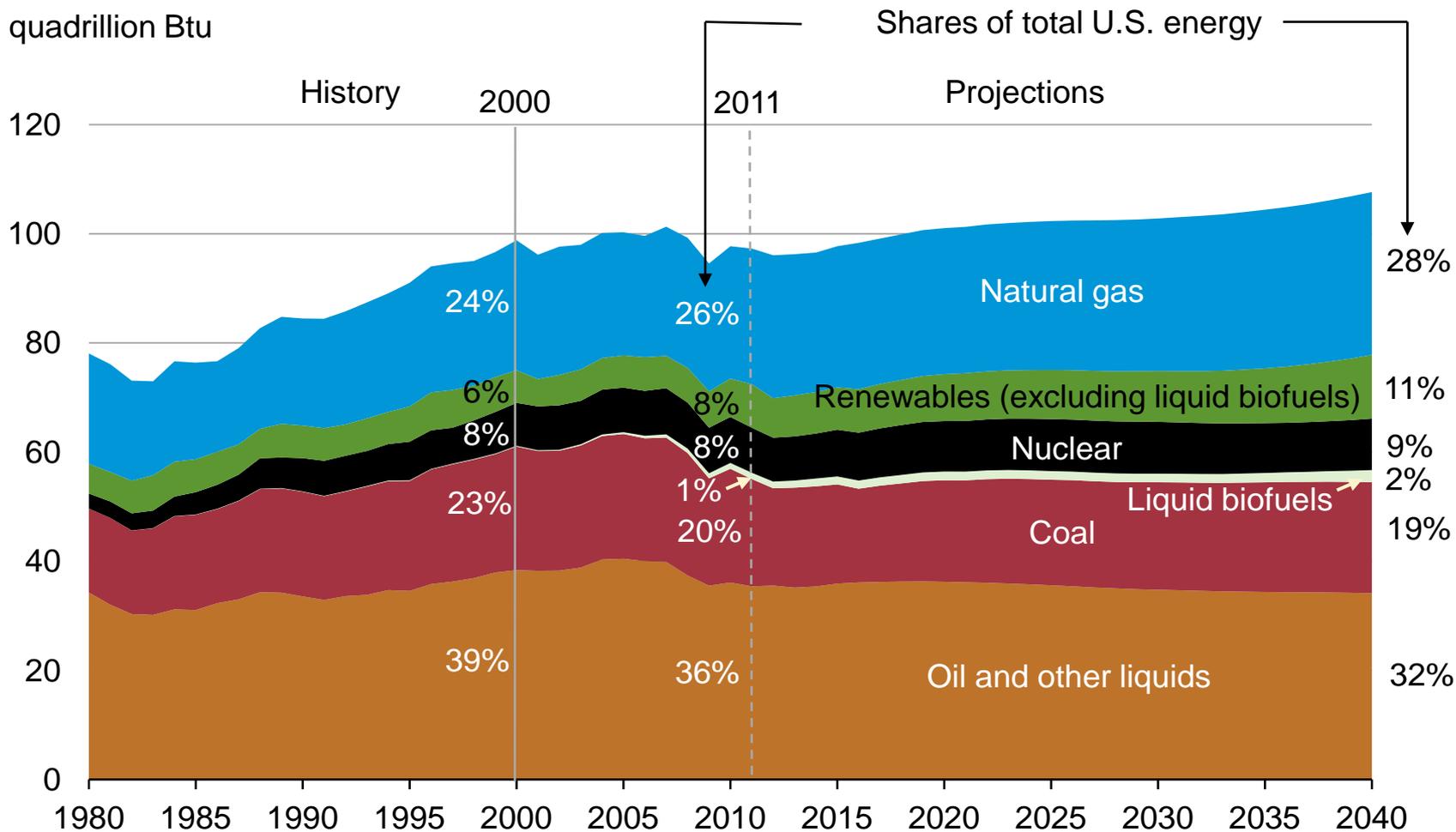
# U.S. Energy Context

## Key results from the 2013 Annual Energy Outlook

- Growth in U.S. energy production outstrips consumption growth
- Oil production, particularly from tight oil plays, rises sharply over the next decade
- Motor gasoline consumption declines, reflecting the introduction of more stringent fuel economy standards, while diesel fuel consumption is moderated by increased natural gas use in heavy-duty vehicles
- The United States. is a net exporter of coal and becomes a net exporter of natural gas over the next decade -- for oil, the United States remains a net importer in the Reference case, but sharply reduces or eliminates import dependence by the mid-2030s in “high resource” sensitivity cases.
- U.S. energy-related carbon dioxide emissions remain more than five percent below their 2005 level through 2040, reflecting increased efficiency and the shift to a less carbon-intensive fuel mix

# U.S. energy use grows slowly over projection reflecting improving energy efficiency and a slow and extended economic recovery

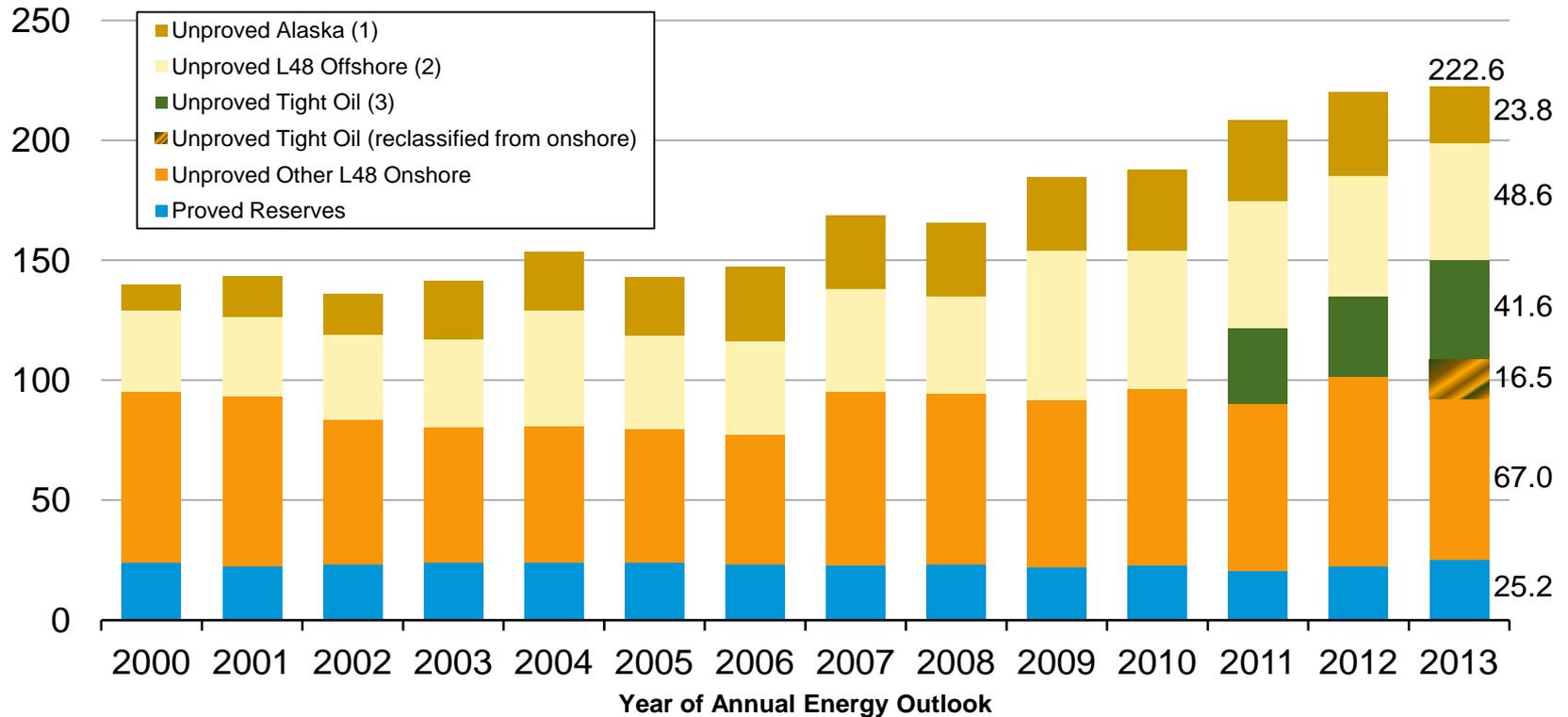
U.S. primary energy consumption  
quadrillion Btu



Source: EIA, Annual Energy Outlook 2013 Early Release

# Multiple factors have contributed to U.S. crude oil resource estimate increases over the years, with tight oil contributing recently

U.S. crude oil and lease condensate resources in non-prohibited areas  
billion barrels

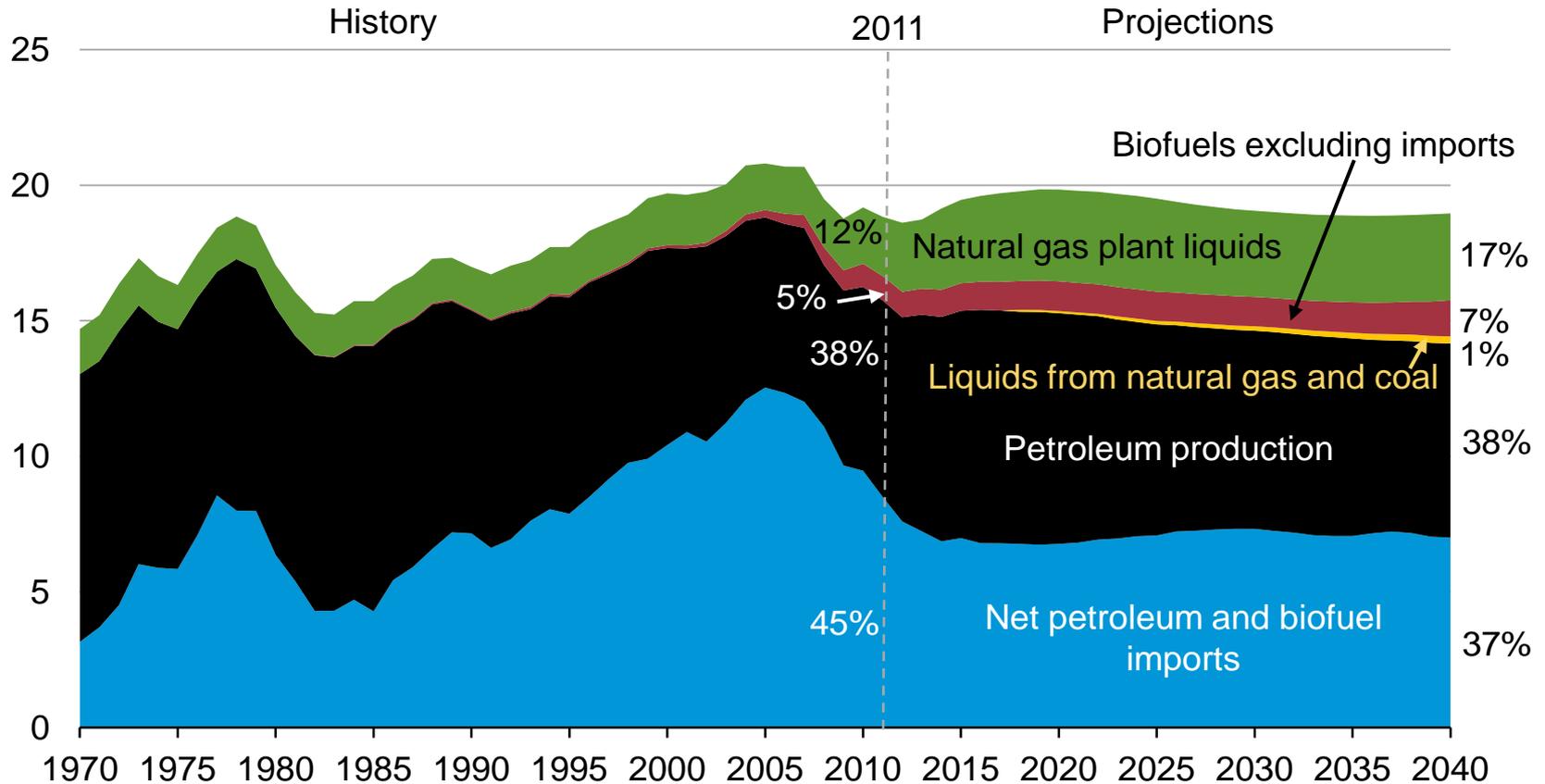


- (1) The USGS reduced NPR-A resource estimates, which is responsible for the lower AEO2013 Alaska resources.
- (2) Prior to AEO2009, resources in Pacific, Atlantic, and Eastern GOM OCS were under moratoria and not included.
- (3) Includes shale oil. Prior to AEO2011, tight oil is included in unproved other lower-48 onshore category.

Source: EIA, Annual Energy Outlook 2013 Early Release

# U.S. import share of liquid fuels declines due to increased production of tight oil and gas liquids, and greater fuel efficiency

U.S. liquid fuels supply  
million barrels per day

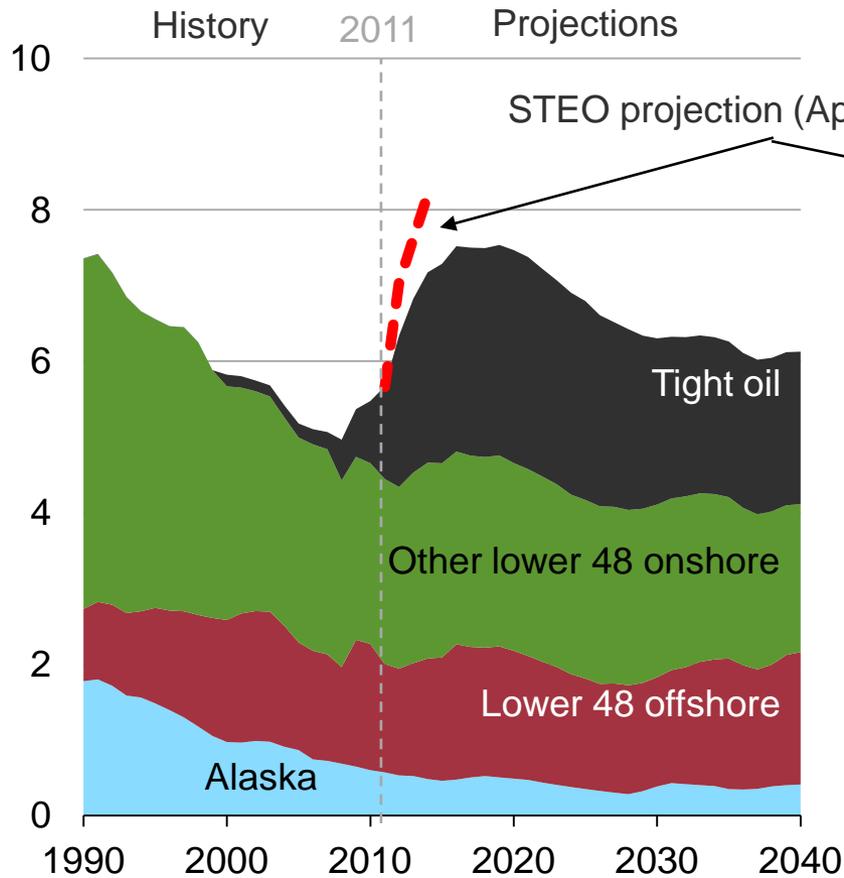


Source: EIA, Annual Energy Outlook 2013 Early Release

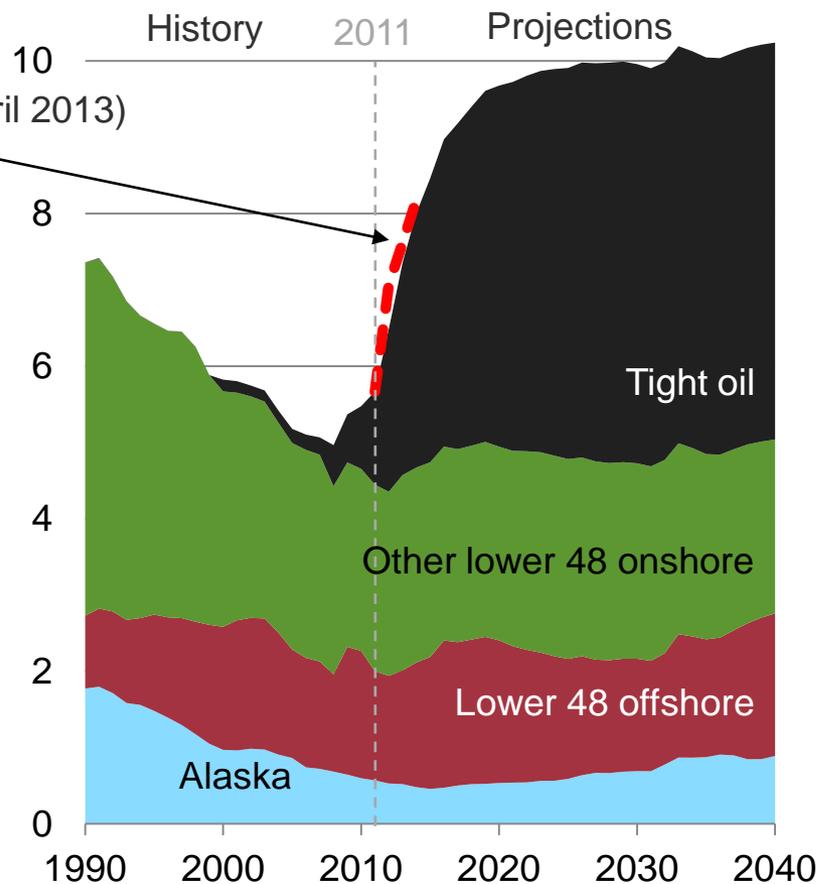
# U.S. tight oil production leads growth in domestic production

## Reference case

U.S. crude oil production (million barrels per day)



## High Oil & Natural Gas Resource case

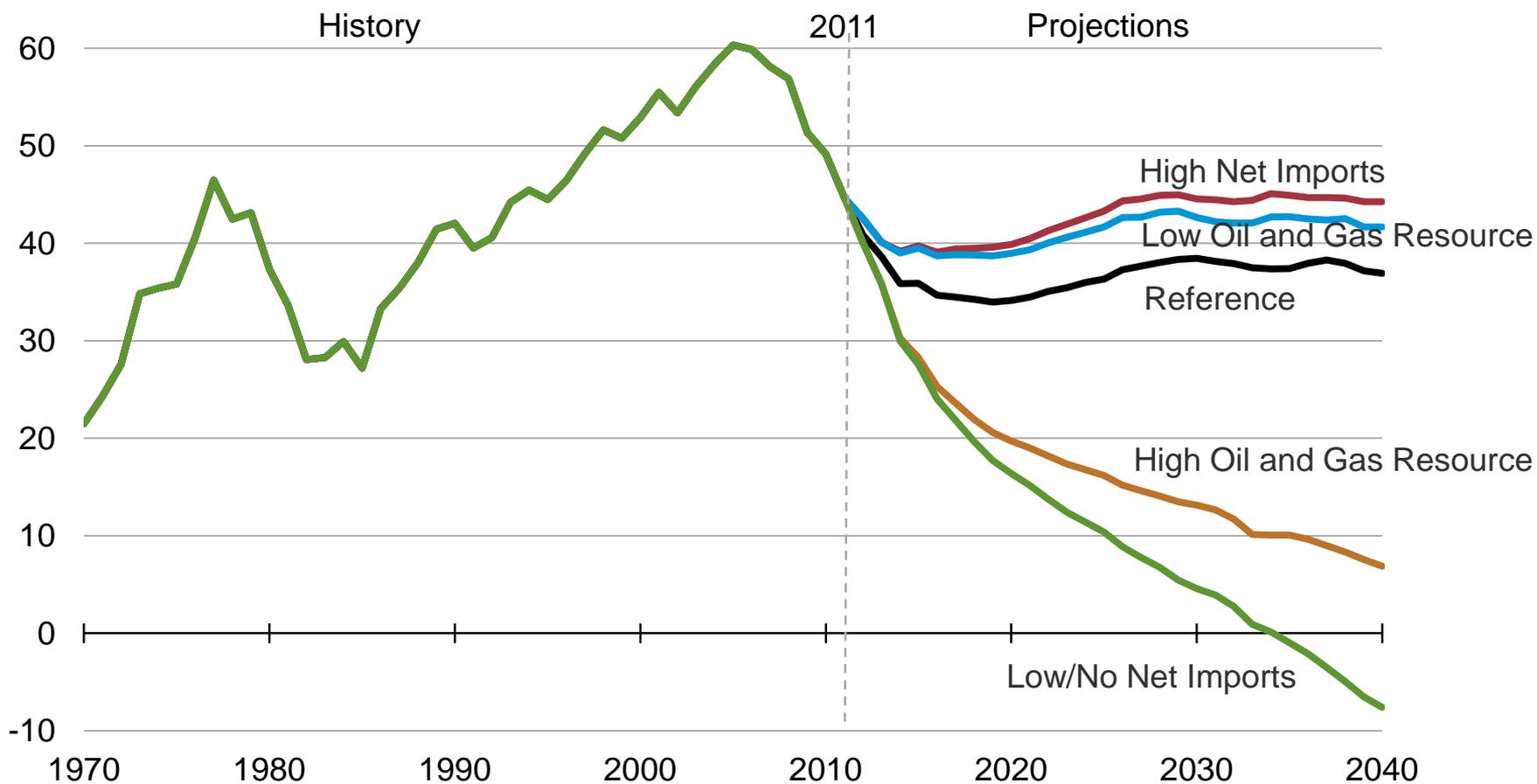


Source: EIA, Annual Energy Outlook 2013 Early Release, and Short-Term Energy Outlook, April 2013

Source: EIA, Annual Energy Outlook 2013 High Oil & Gas Resource case

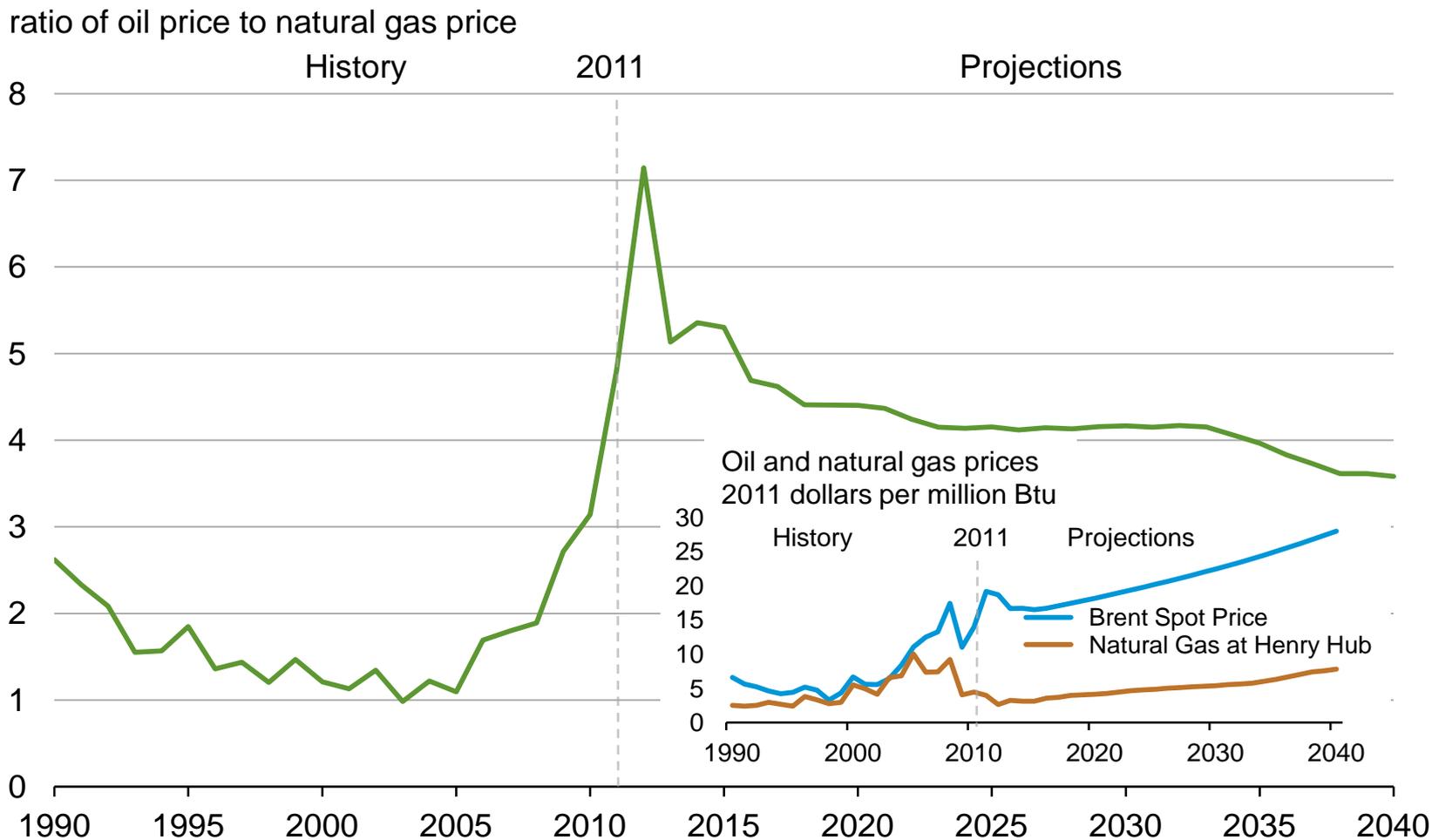
# U.S. net oil imports decline to 7% in 2040 in high resource case; the United States becomes a net oil exporter with additional demand reductions

U.S. net oil imports  
percent



Source: AEO2013

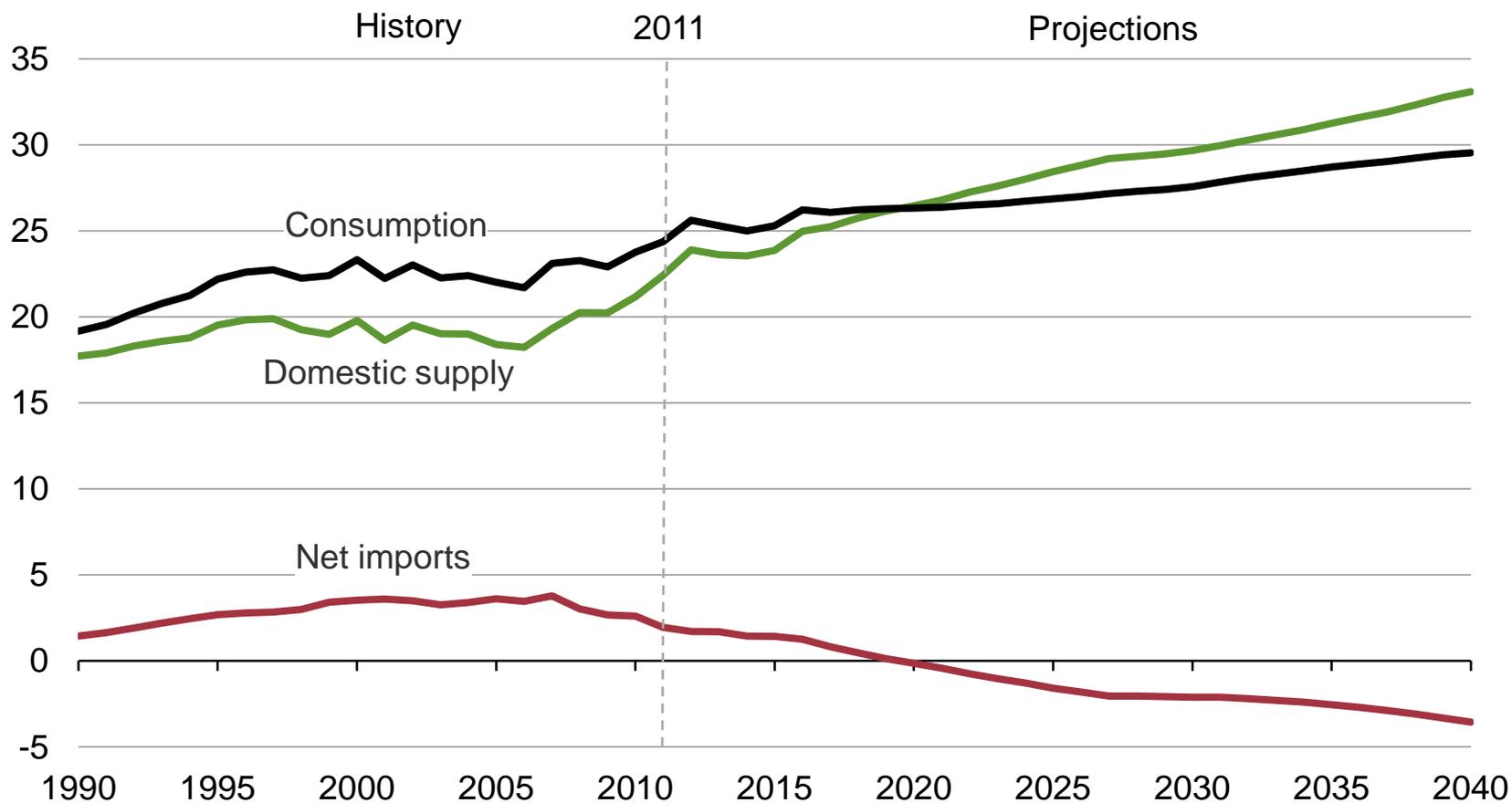
# The ratio of oil to natural gas prices remains high through 2040 in EIA's *AEO2013* Reference case projection



Source: EIA, Annual Energy Outlook 2013

# Domestic natural gas production grows faster than consumption and the U.S. becomes a net exporter of natural gas around 2020

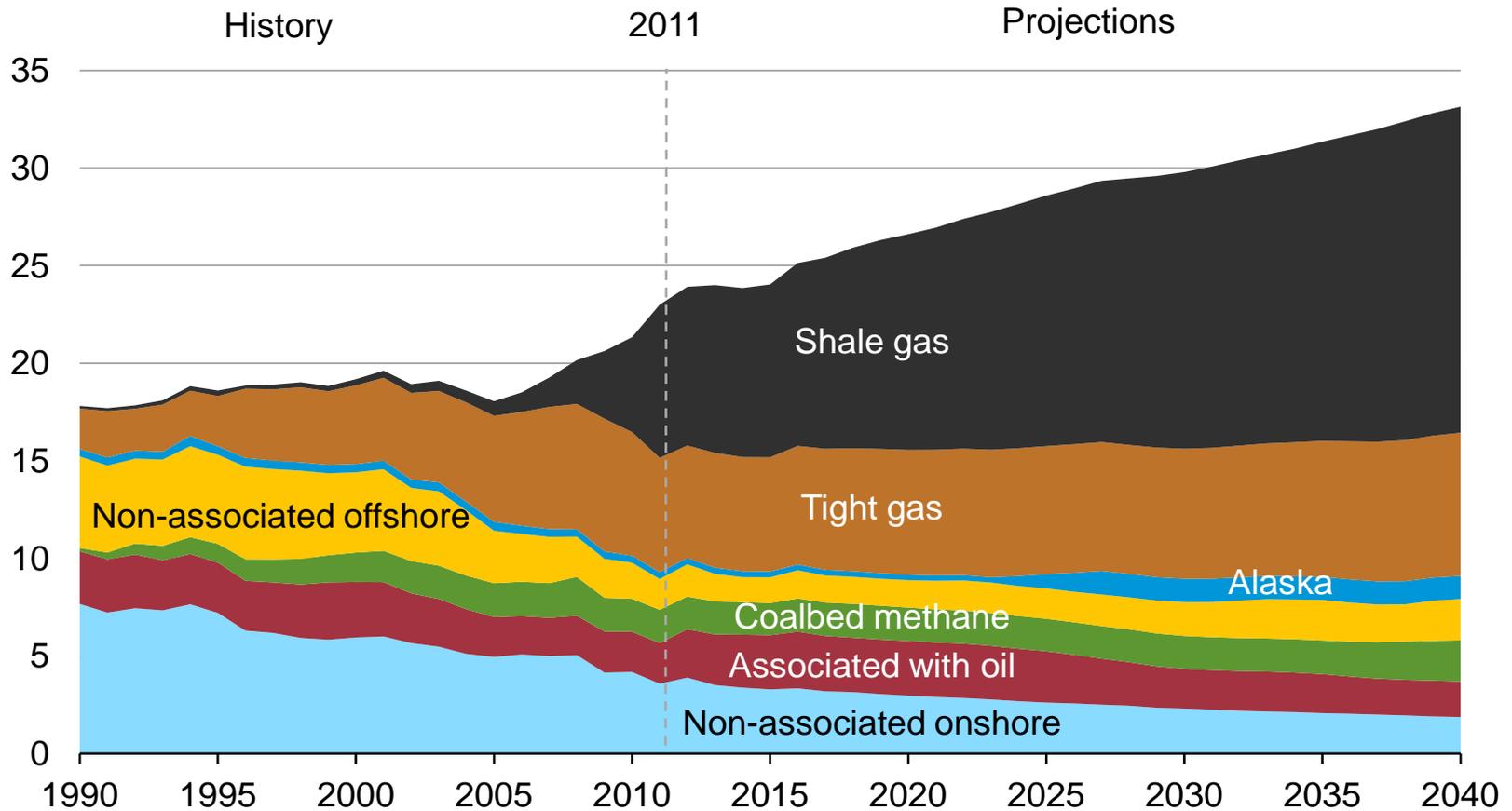
U.S. dry gas  
trillion cubic feet



Source: EIA, Annual Energy Outlook 2013 Early Release

# Shale gas production leads growth in production through 2040

U.S. dry natural gas production  
trillion cubic feet



Source: EIA, Annual Energy Outlook 2013 Early Release

# For more information

U.S. Energy Information Administration home page | [www.eia.gov](http://www.eia.gov)

Annual Energy Outlook | [www.eia.gov/forecasts/aeo](http://www.eia.gov/forecasts/aeo)

Short-Term Energy Outlook | [www.eia.gov/forecasts/steo](http://www.eia.gov/forecasts/steo)

International Energy Outlook | [www.eia.gov/forecasts/ieo](http://www.eia.gov/forecasts/ieo)

Today In Energy | [www.eia.gov/todayinenergy](http://www.eia.gov/todayinenergy)

Monthly Energy Review | [www.eia.gov/totalenergy/data/monthly](http://www.eia.gov/totalenergy/data/monthly)

Annual Energy Review | [www.eia.gov/totalenergy/data/annual](http://www.eia.gov/totalenergy/data/annual)