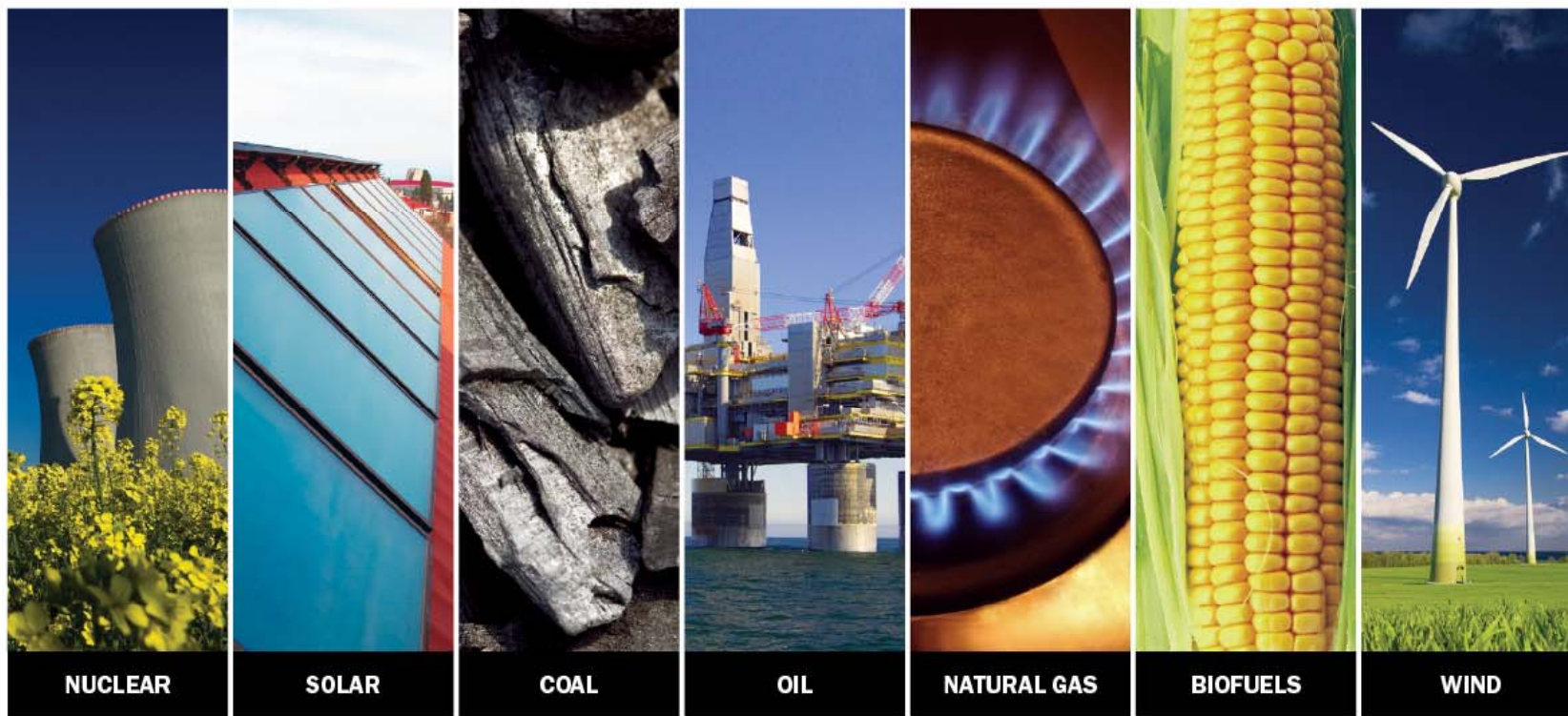


# Energy: Sources, Supply and Security



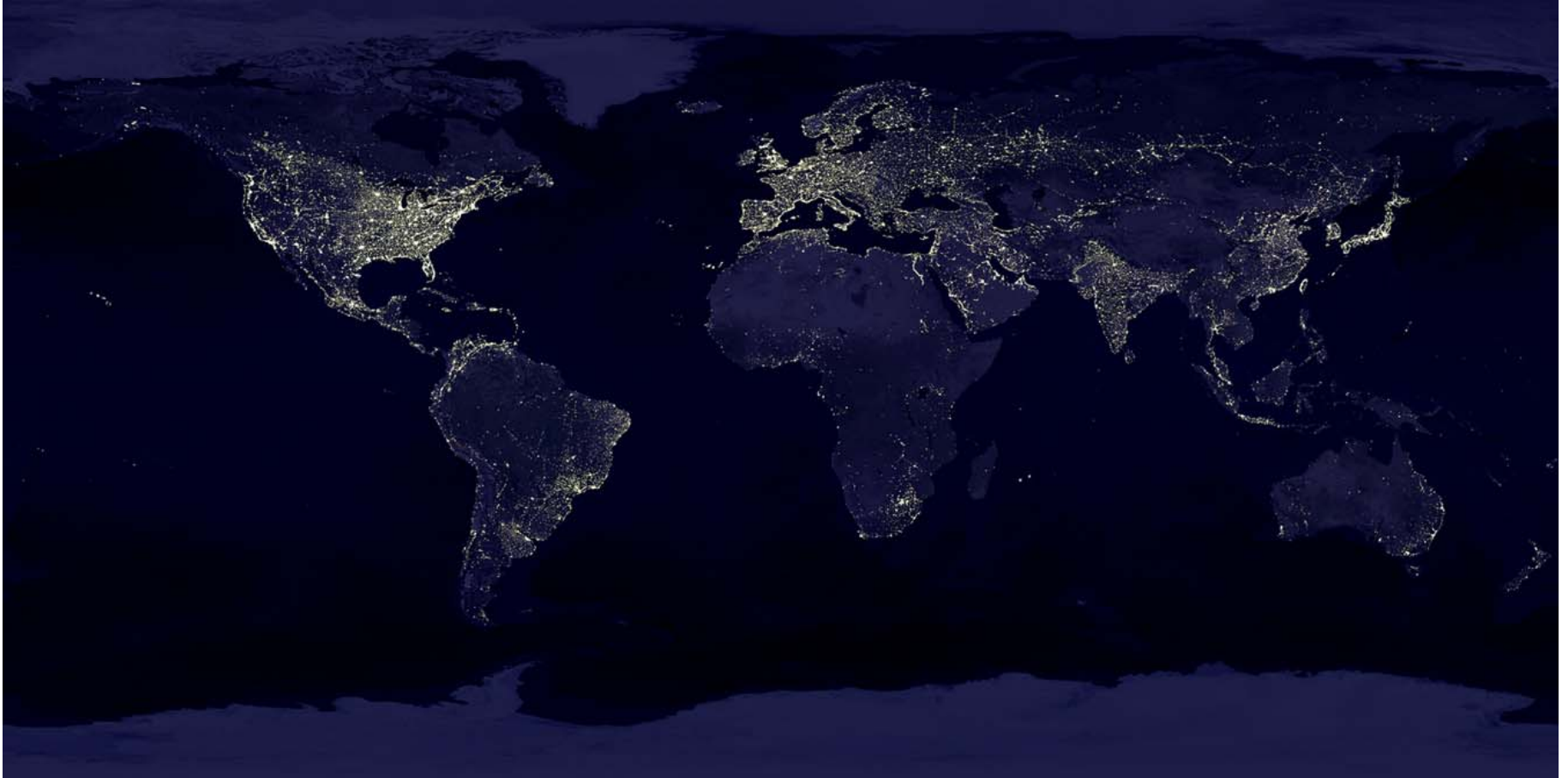
**Rayola Dougher**  
**Senior Economic Advisor**  
[dougherr@api.org](mailto:dougherr@api.org)

## Oil and Natural Gas Industry is the Backbone of the American Economy



- Supports more than 9 million jobs
- Supplies over 60% of our energy needs
- Generates hundreds of billions of dollars in revenues for government

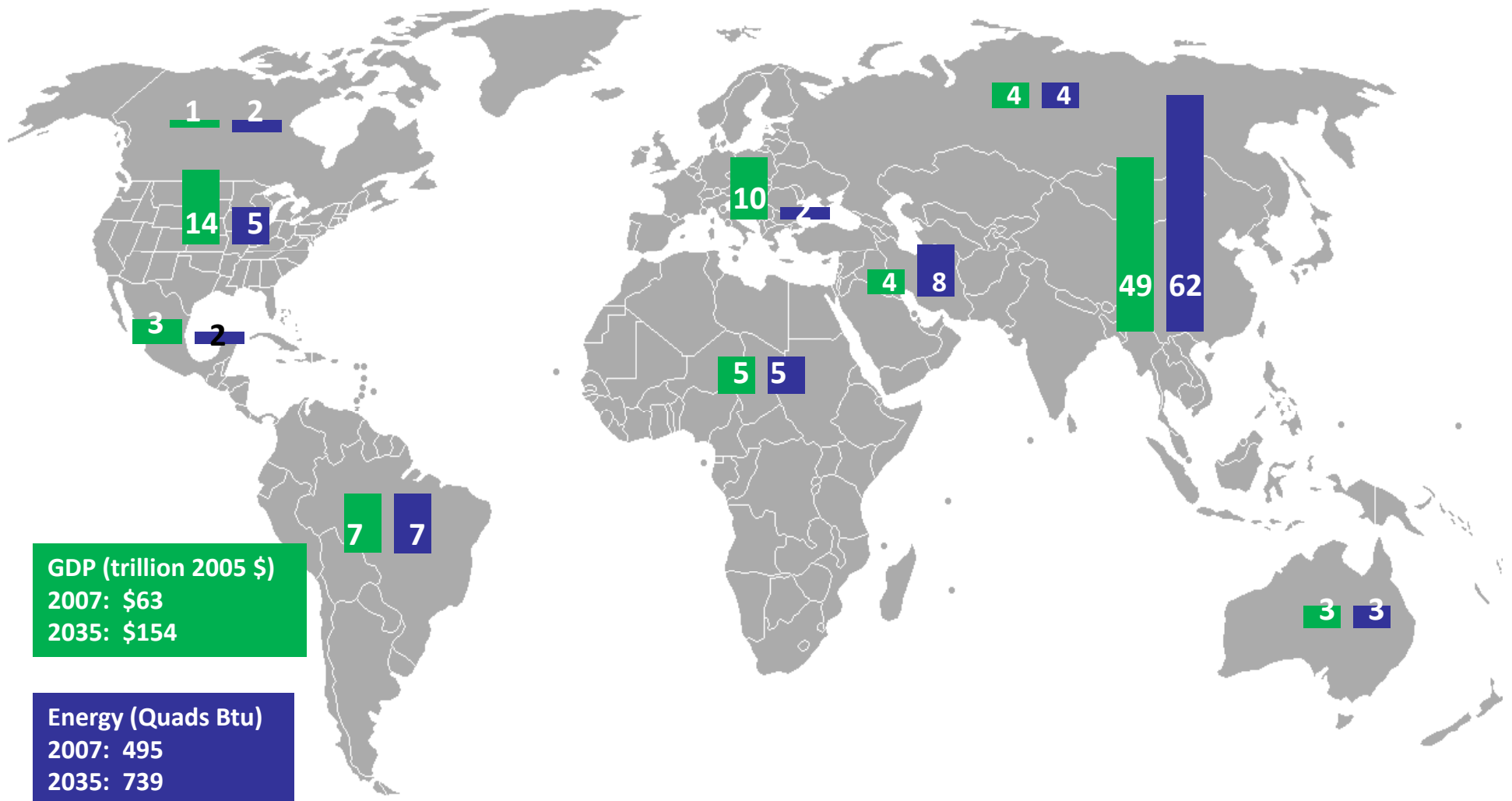
# A Picture of the World at Night



*Energy is the engine of our economic growth. More energy means more jobs, higher incomes, greater economic growth.*

# Global Economic and Energy Consumption Growth (regional shares of world's incremental growth between 2007-2035)

■ GDP ■ Energy Consumption



**GDP (trillion 2005 \$)**  
2007: \$63  
2035: \$154

**Energy (Quads Btu)**  
2007: 495  
2035: 739

Source: EIA, IEO 2010

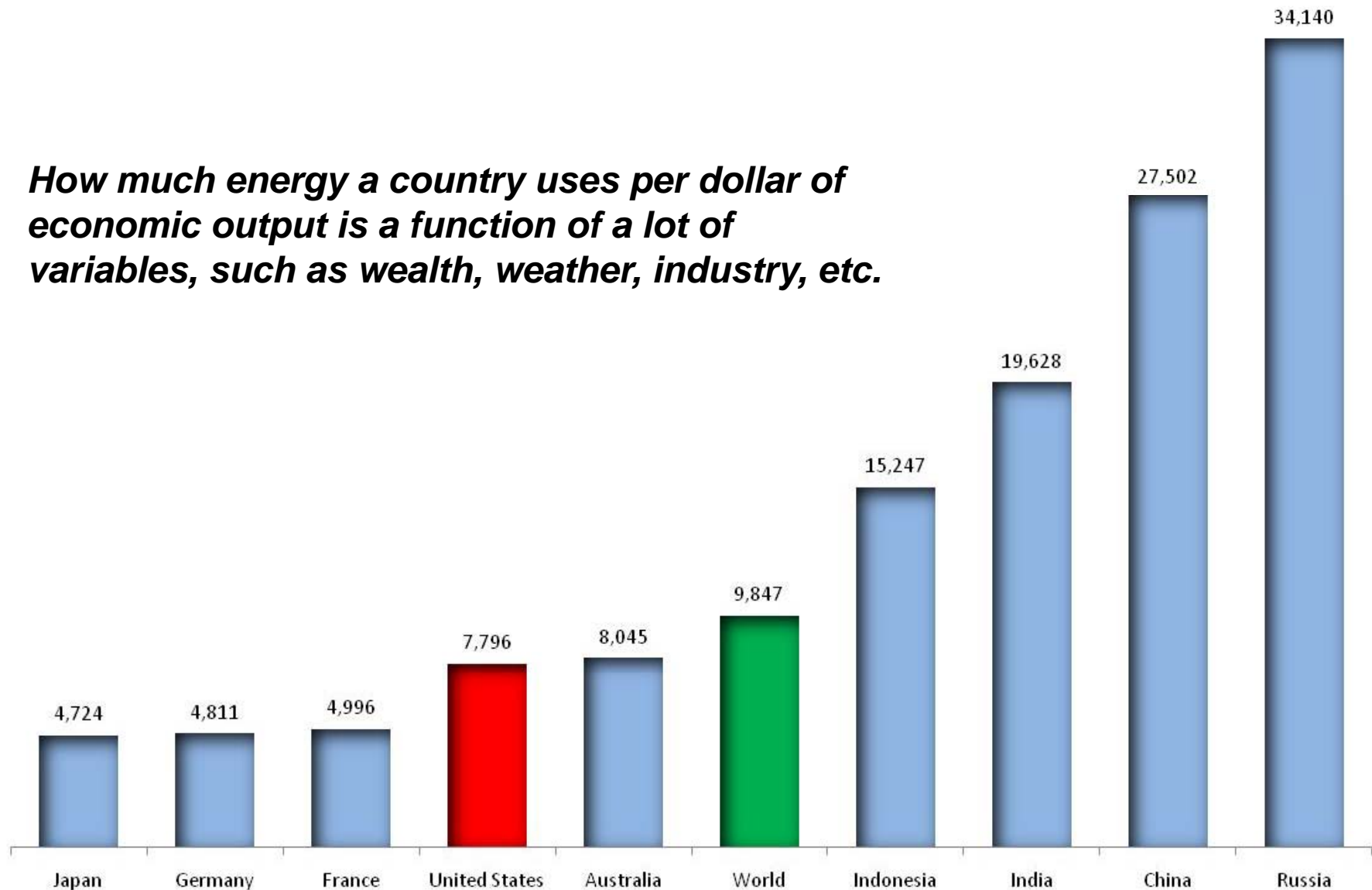
# Three Priorities for Fueling Our Future

1. Consume less energy
2. Diversify supply sources
3. Invest more in new technologies

# Energy Consumption per Dollar of Gross Domestic Product in 2007

(Btu/Year 2005 U. S. Dollar at Market Exchange Rates)

***How much energy a country uses per dollar of economic output is a function of a lot of variables, such as wealth, weather, industry, etc.***

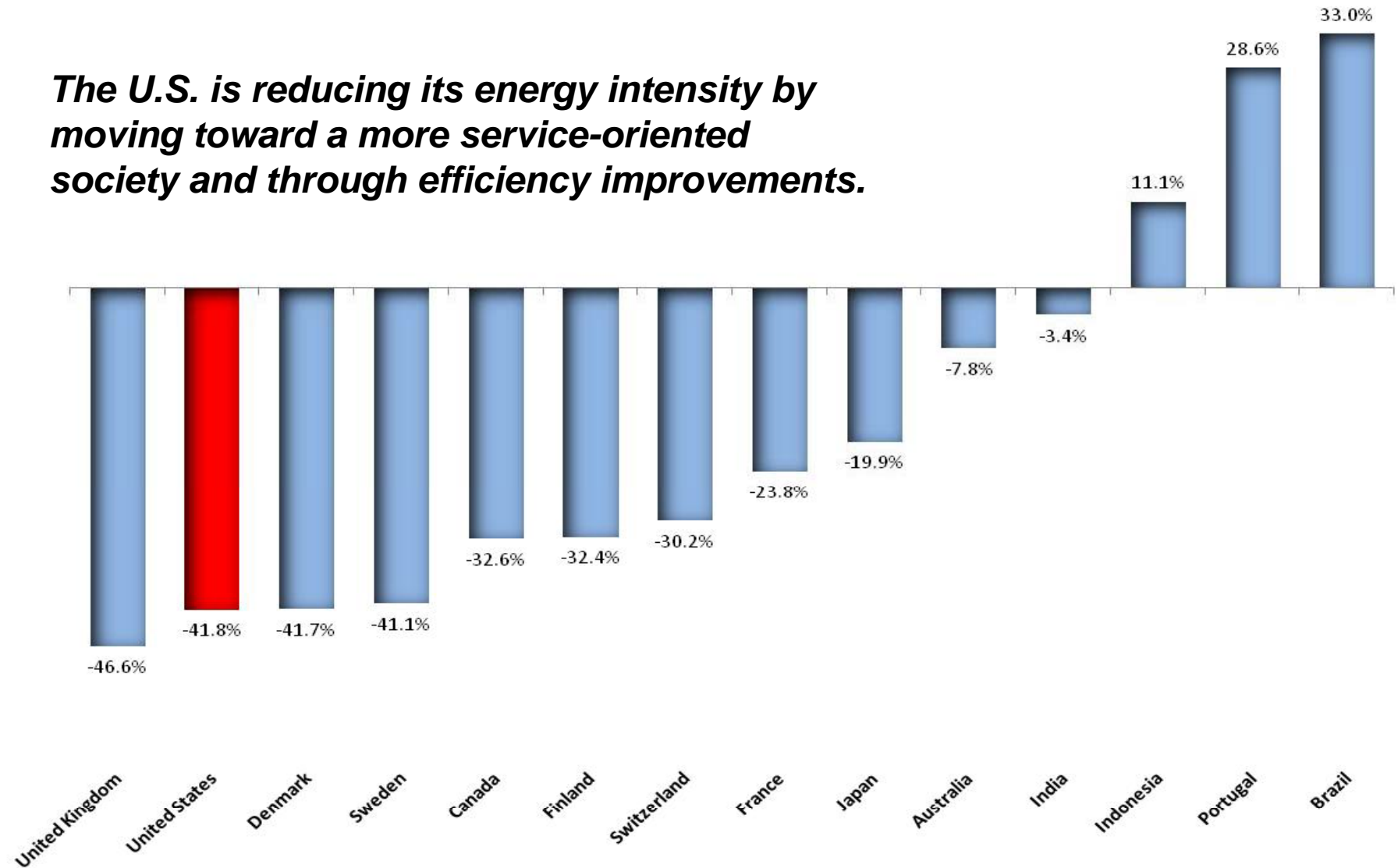


Source: EIA

# Change In Energy Intensity, 1980 to 2007

(Measured as the Change in Energy Consumption [Btus] per 2005 U. S. Dollar of GDP)

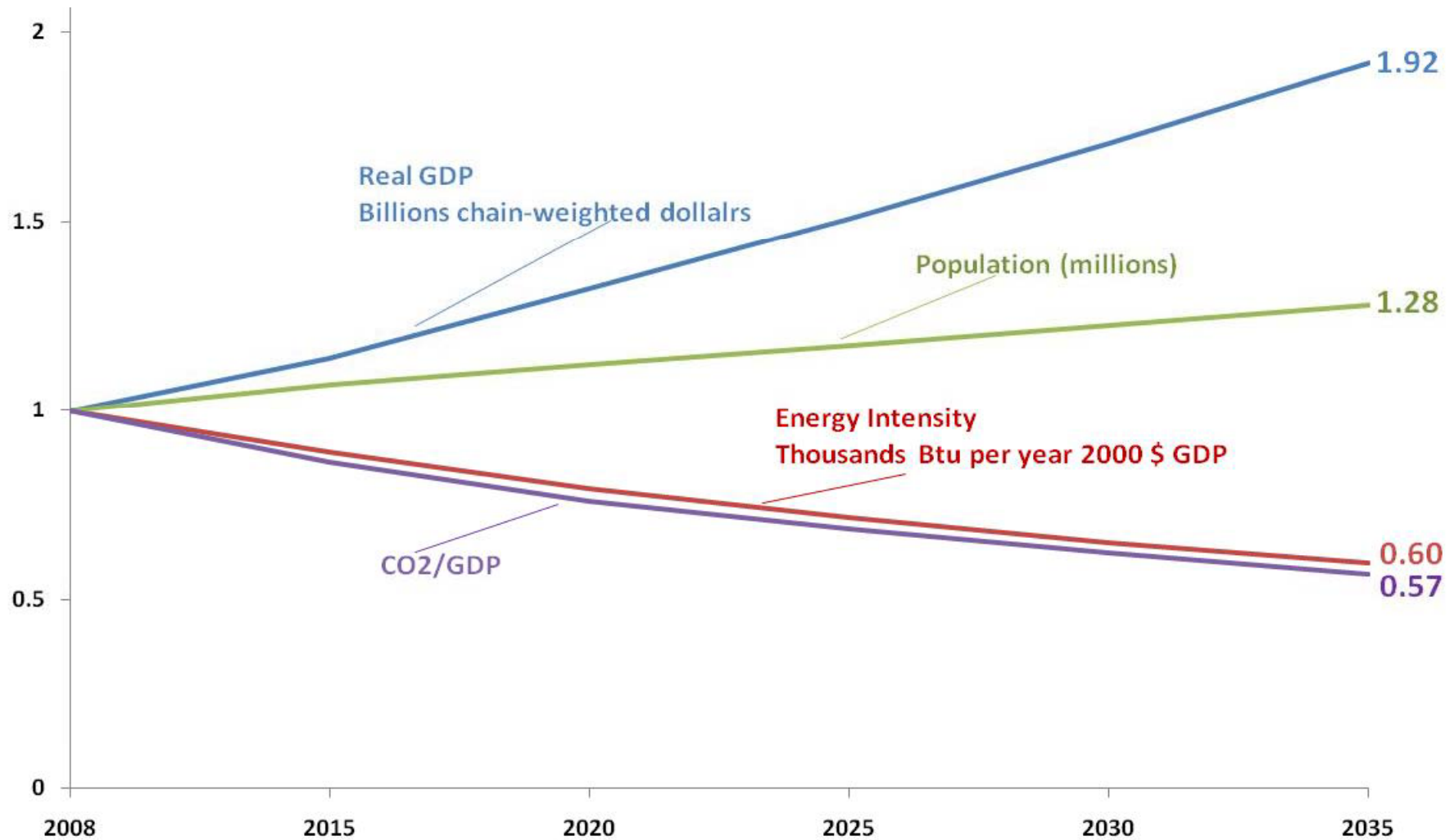
***The U.S. is reducing its energy intensity by moving toward a more service-oriented society and through efficiency improvements.***



Source: EIA

# Projected Changes in Indexes of GDP, Population, Energy and Carbon Intensity, 2008-2035

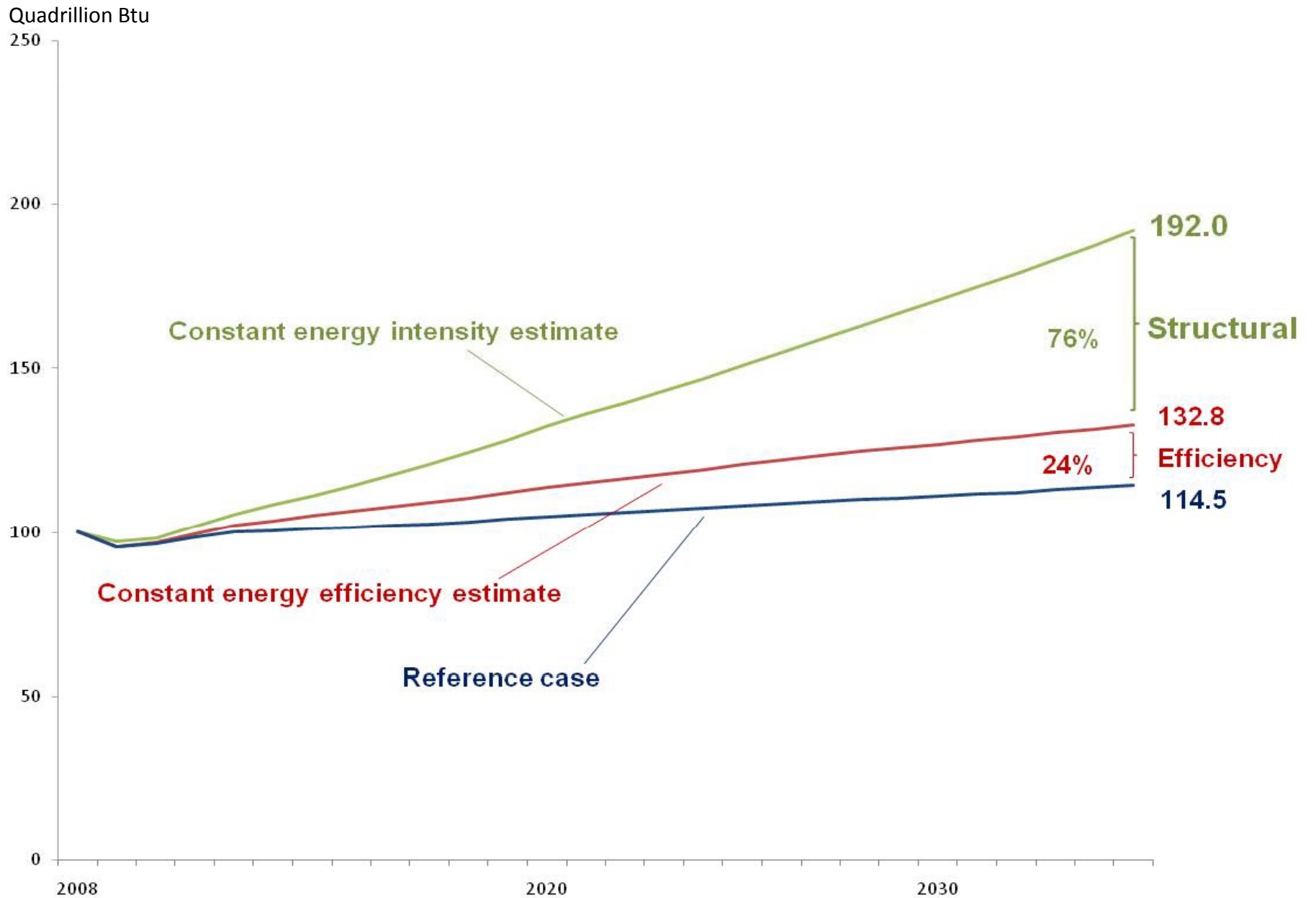
(Index 2008 = 1.0)



Source: EIA, AEO 2010



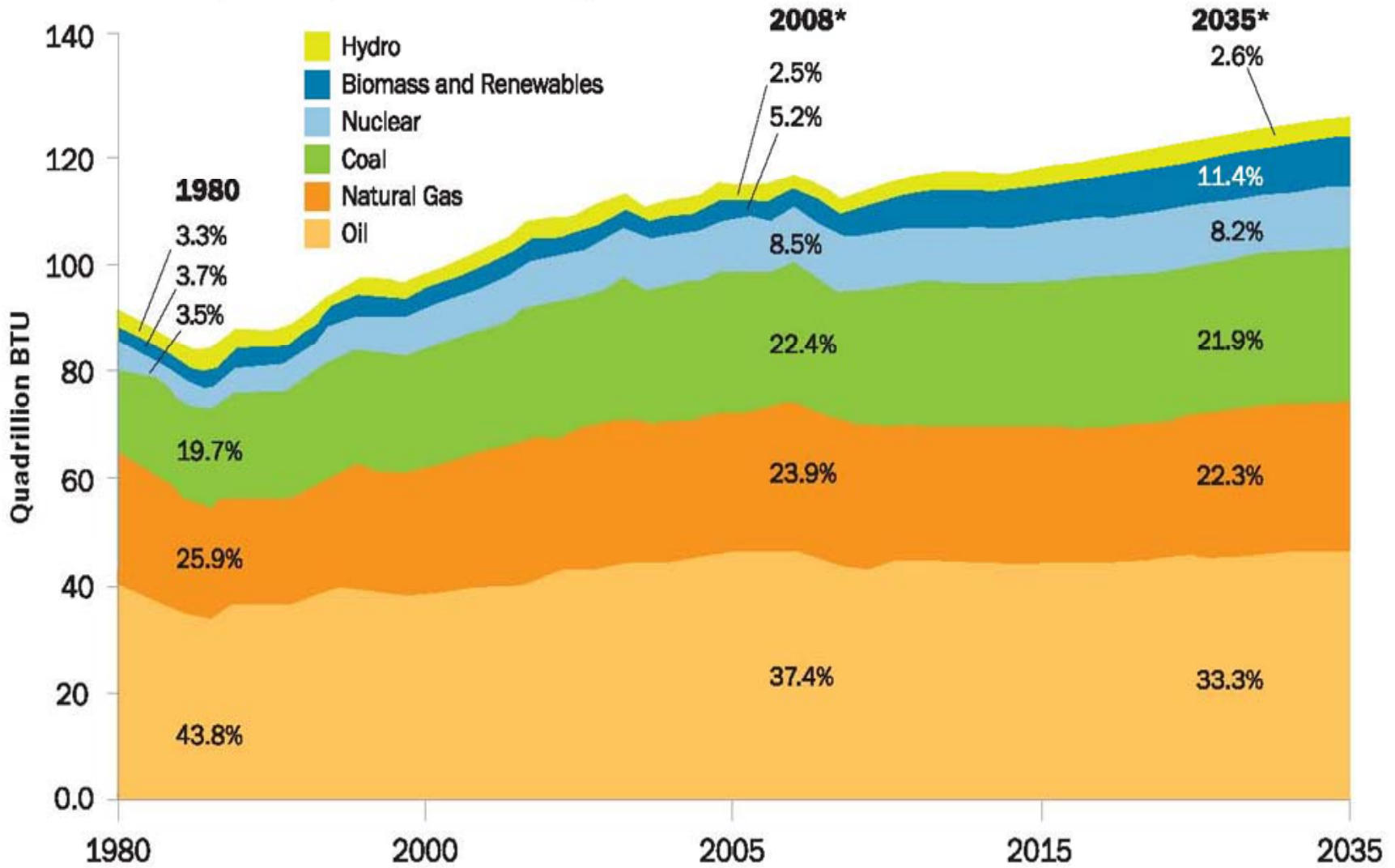
# Structural and Efficiency Effects on Future Energy Consumption



Source: EIA, AEO 2010

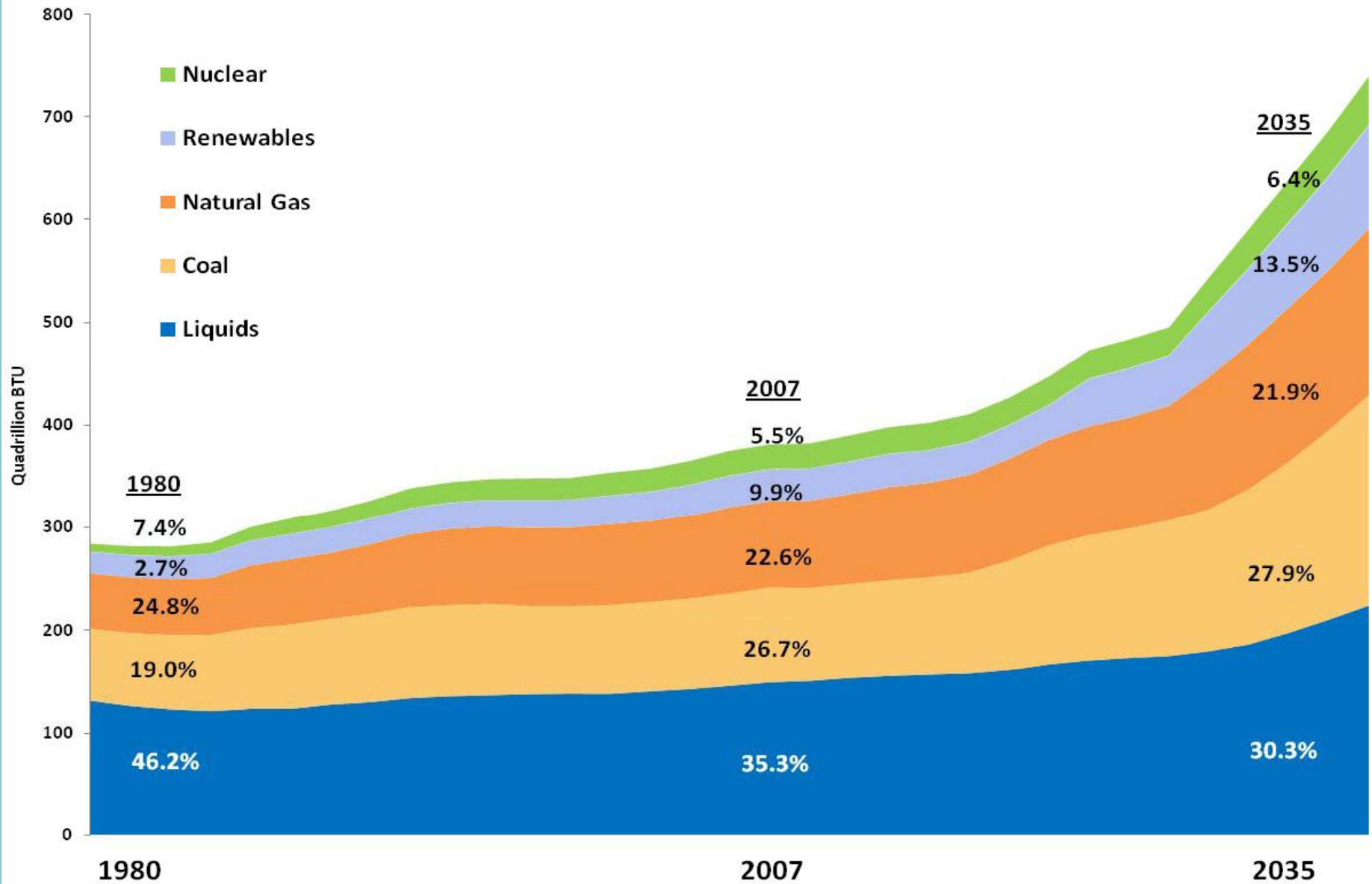
## Future U.S. Energy Demand

The U.S. will require 14 percent more energy in 2035 than in 2008.



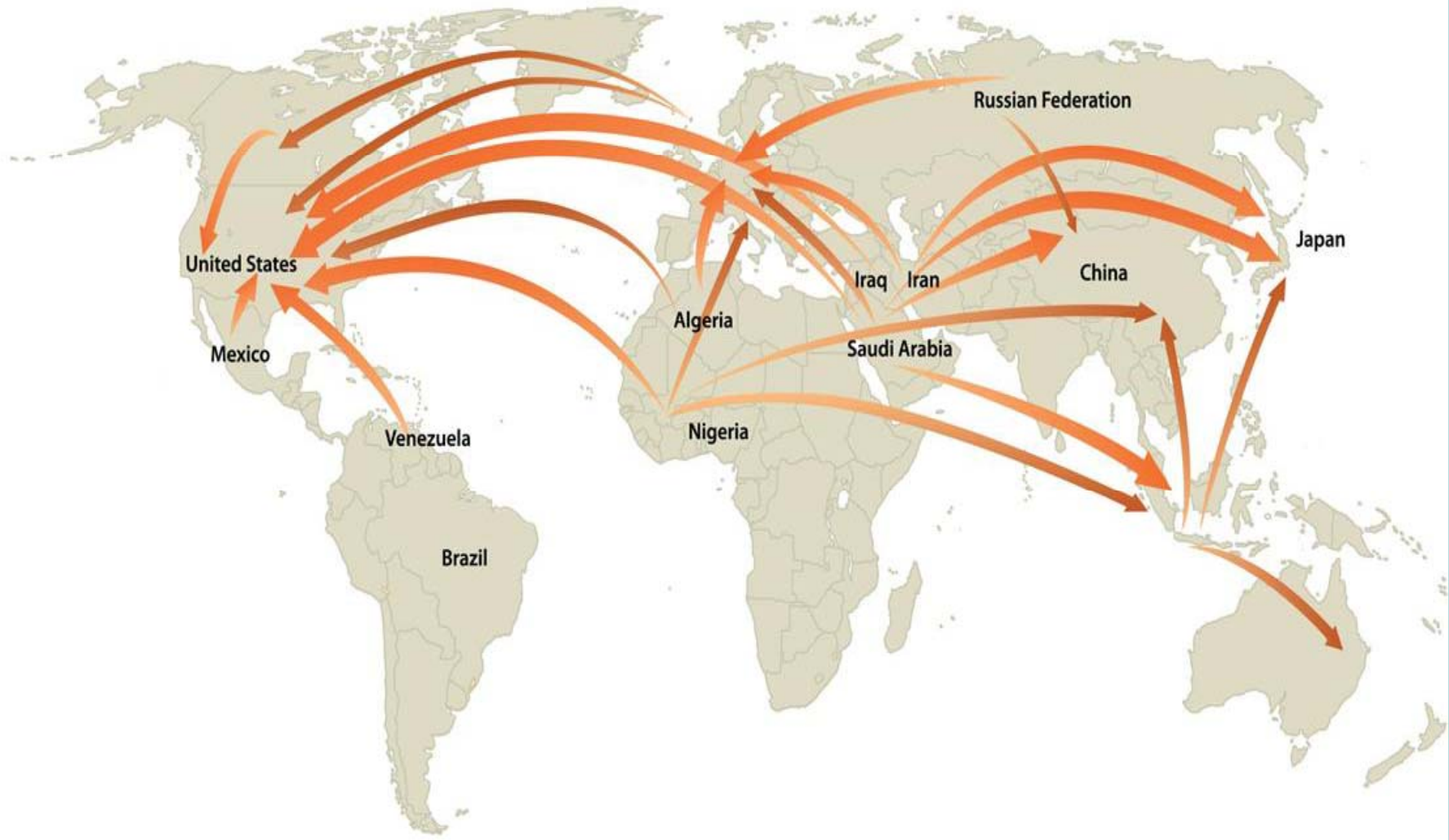
\*Excludes non-biogenic municipal waste and net electricity imports. Source: EIA, AEO 2010 Tables A1 and A17.

## Future Global Energy Demand (The world will require 49 percent more energy in 2035 than in 2007)



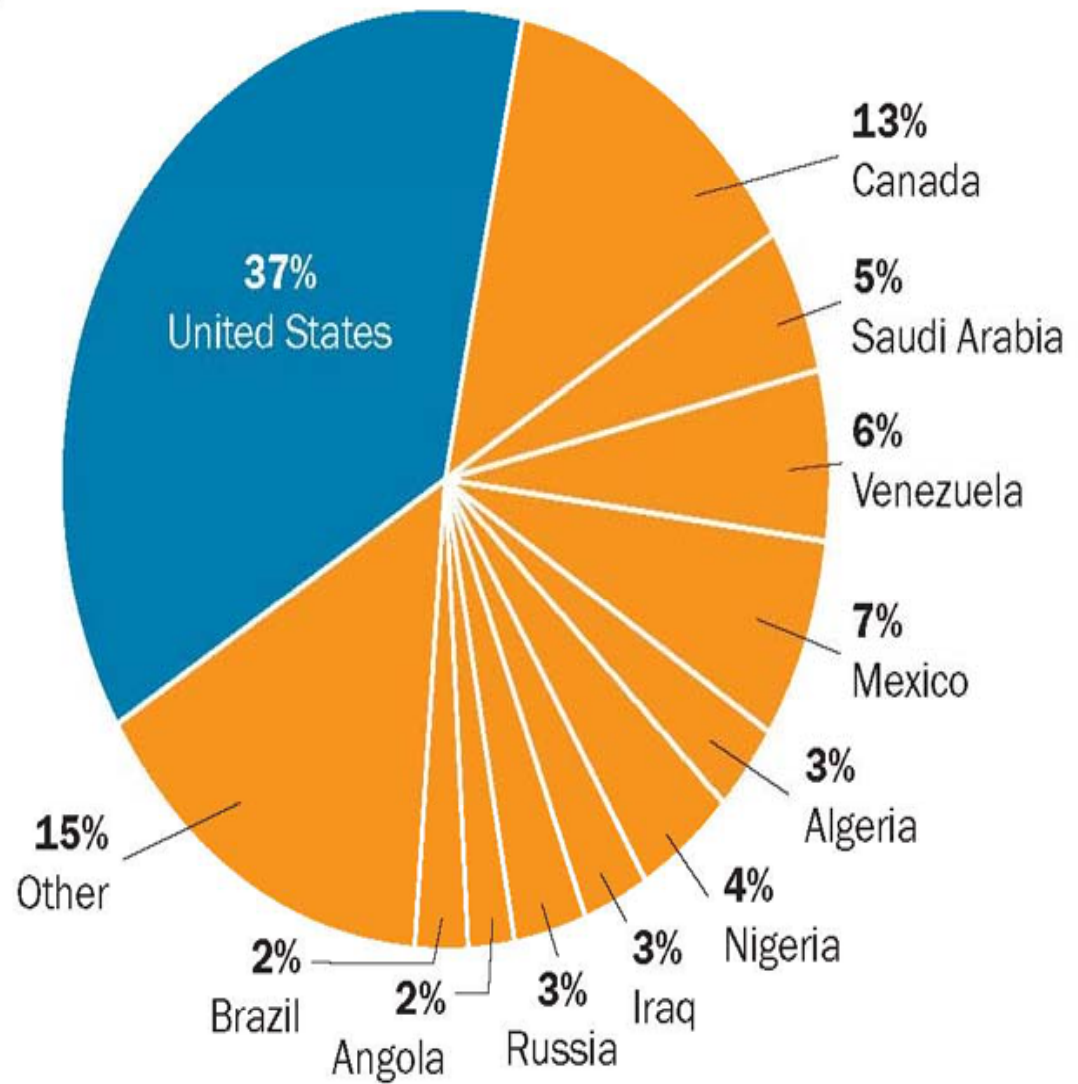
Source: EIA, International Energy Outlook 2010

# Only One World Oil Market



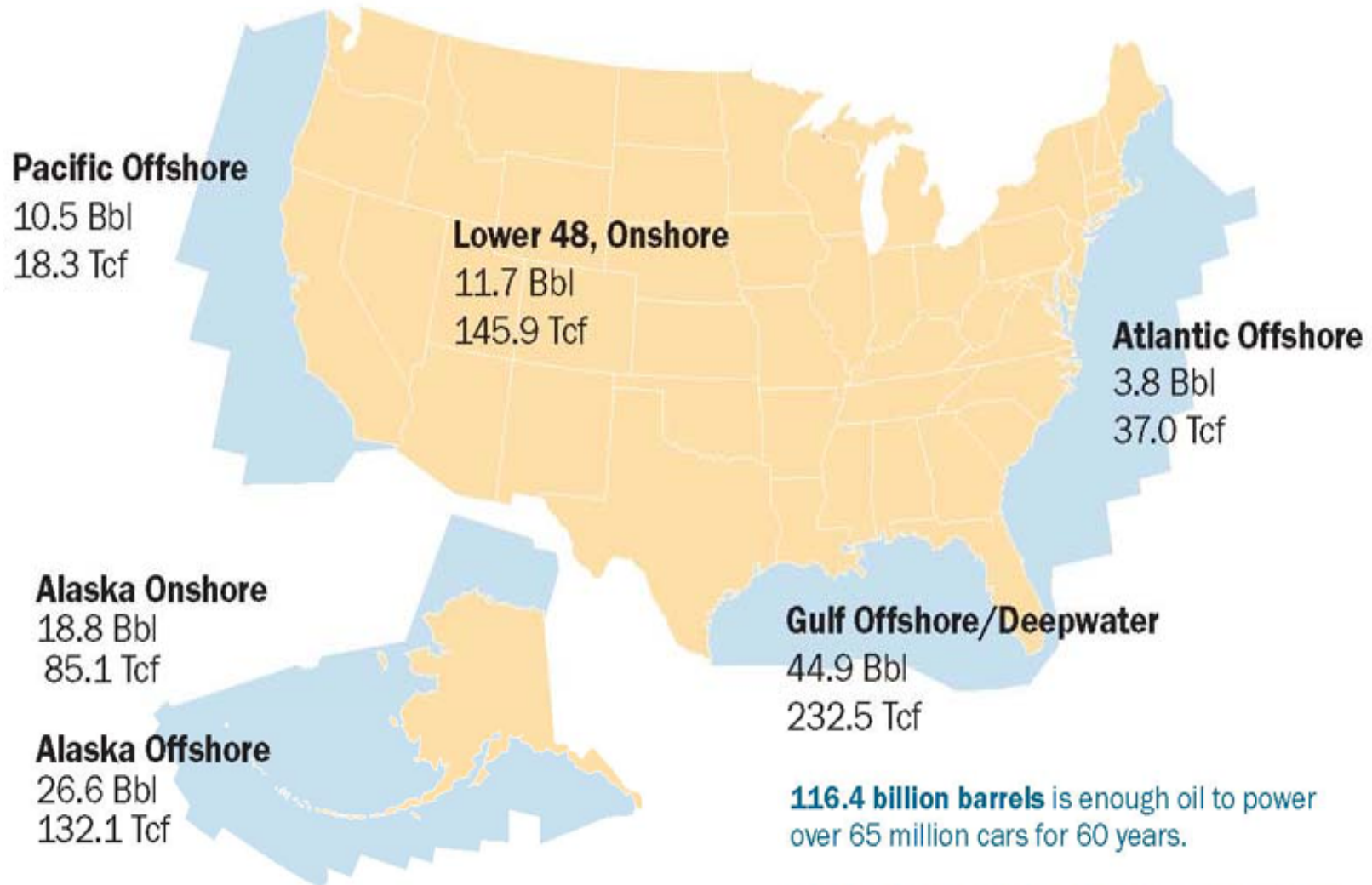
## U.S. Supplies of Crude and Products

(January – December 2009)



Source: EIA, *Petroleum Supply Monthly*, February 2010.

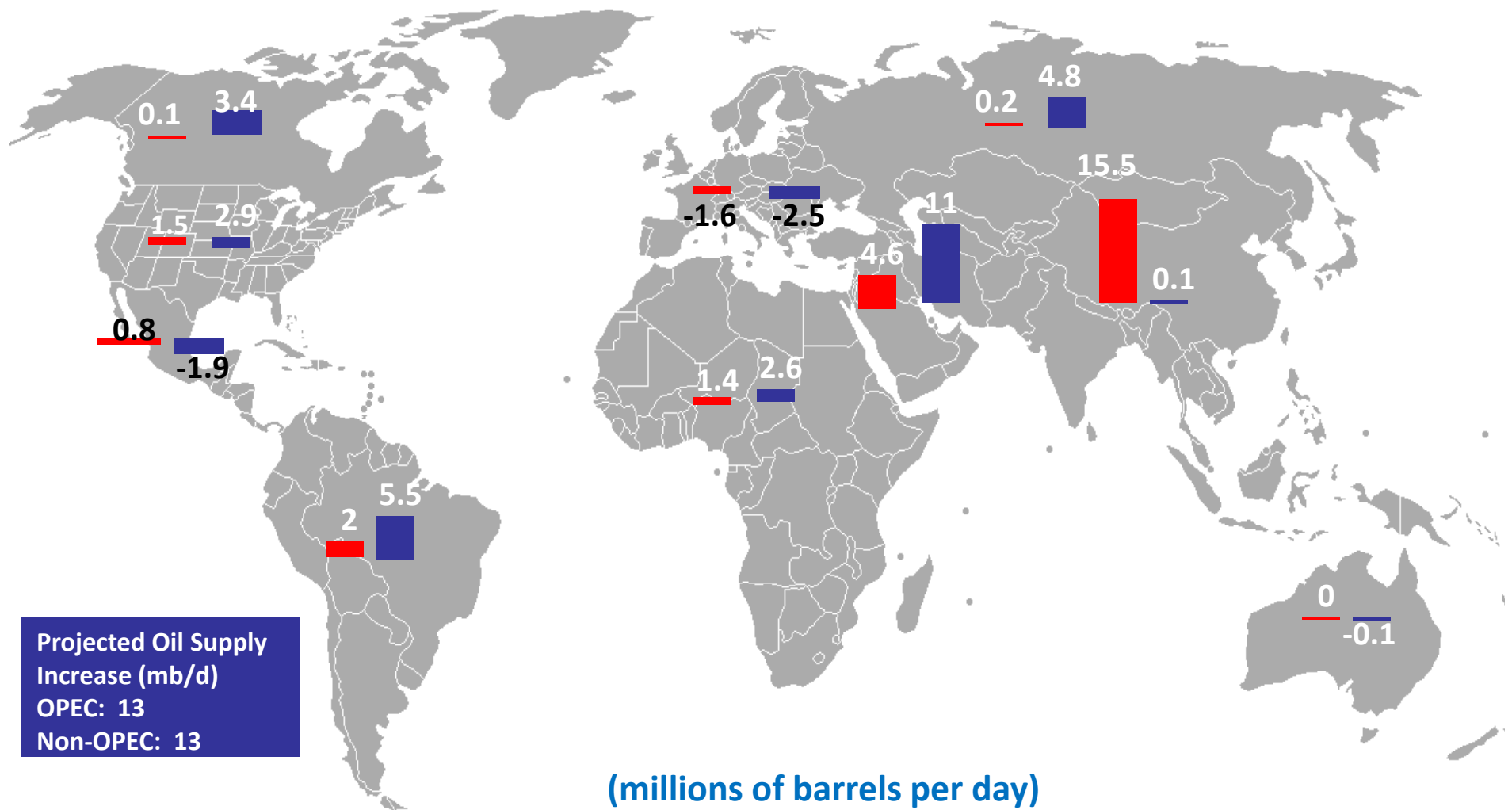
## U.S. Crude Oil (Bbl) and Natural Gas (Tcf) Resources (Undiscovered Technically Recoverable Federal Resources)\*



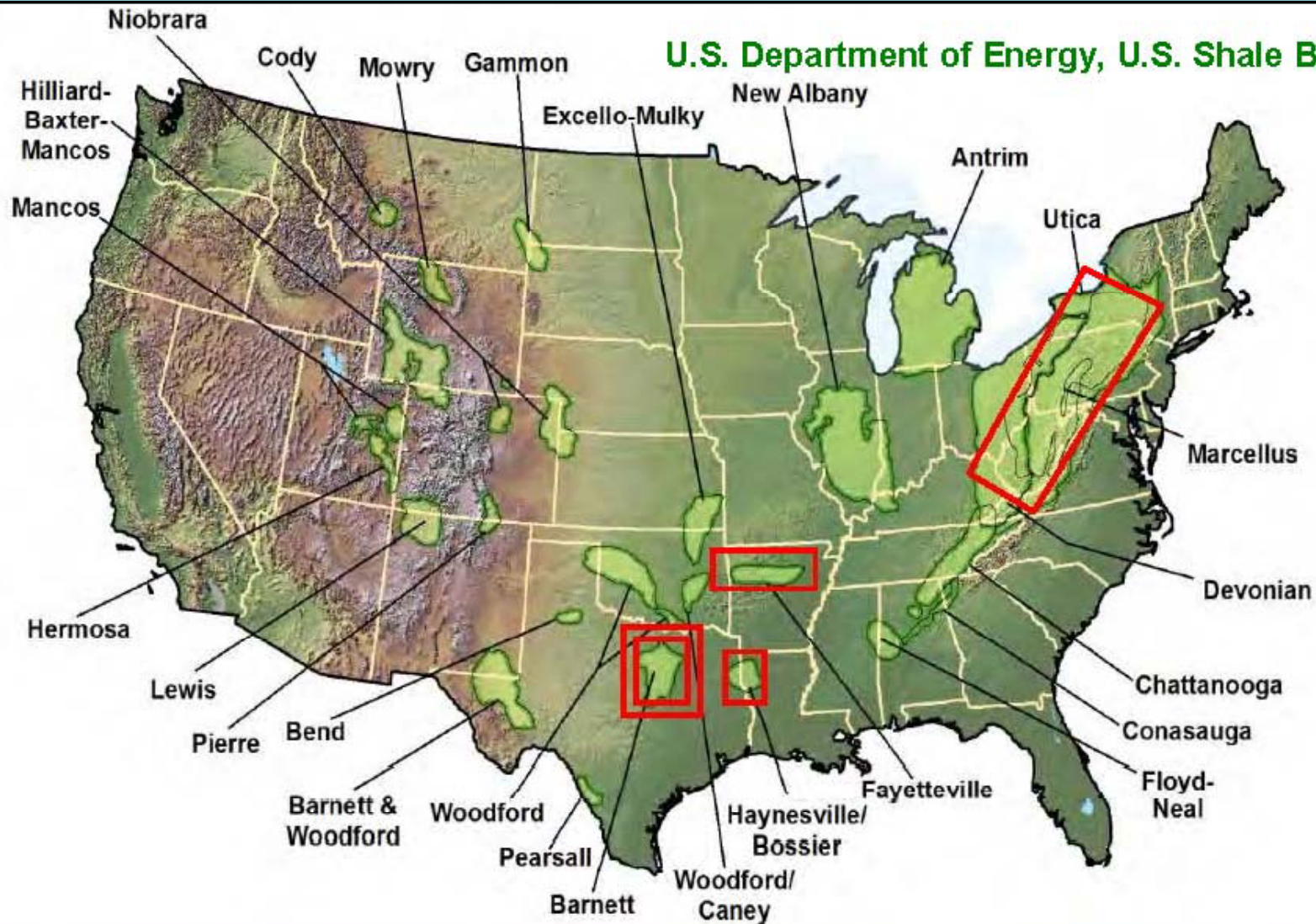
\*Figures may not add exactly to total due to rounding.  
Source: MMS, BLM, and API calculations

# Global Oil Trade Challenges (growth in supply and demand between 2007-2035)

■ Demand      ■ Supply



Source: EIA, IEO 2010

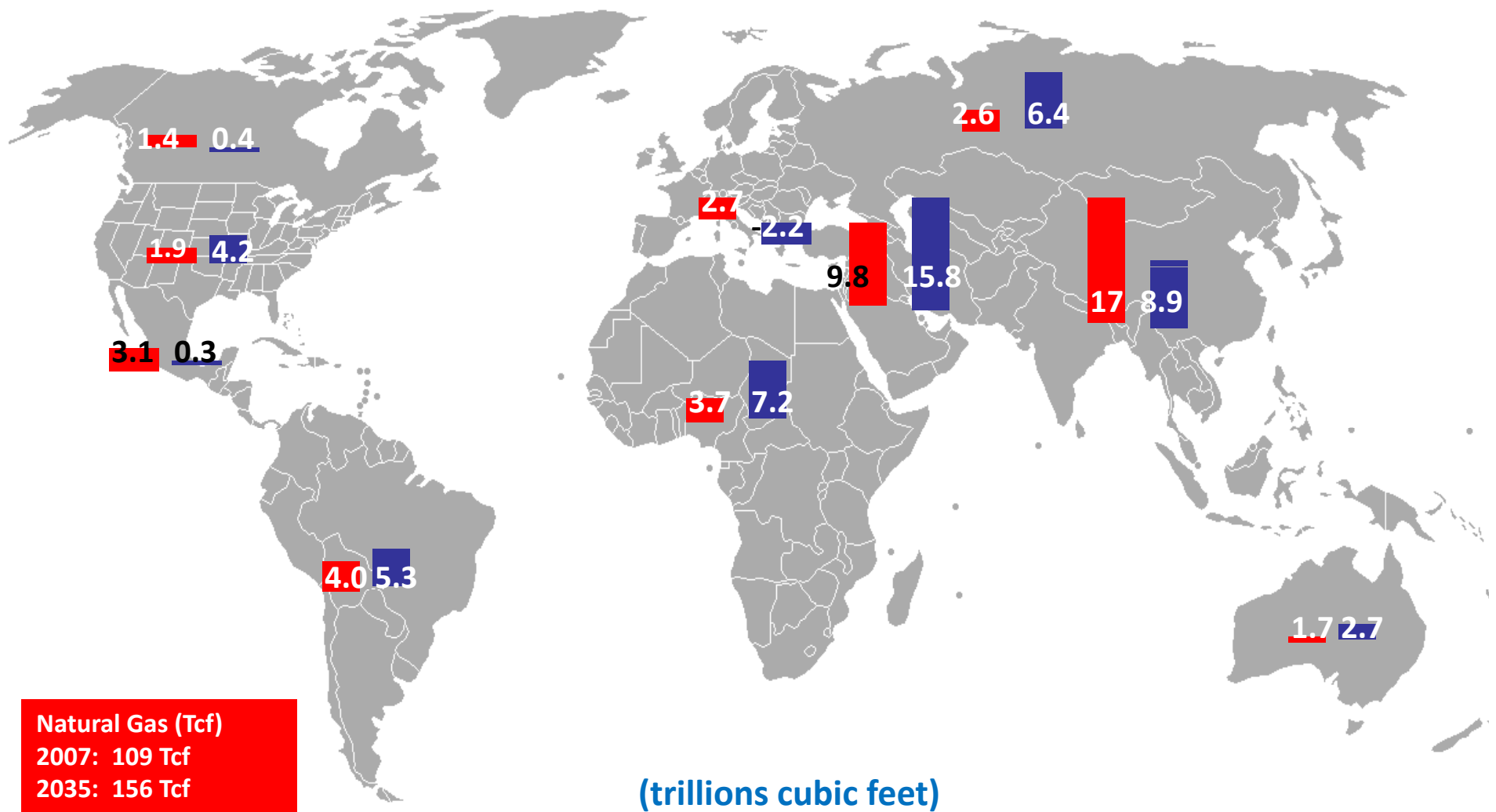


Unlocking shale gas now guarantees the U.S. more than a 100 year supply of clean-burning natural gas



# Global Natural Gas Trade Challenges (growth in supply and demand between 2007-2035)

■ Demand      ■ Supply



Source: EIA, IEO 2010

# Invest in Energy Sources and Technology



**NUCLEAR**



**SOLAR**



**COAL**



**OIL**



**NATURAL GAS**



**BIOFUELS**

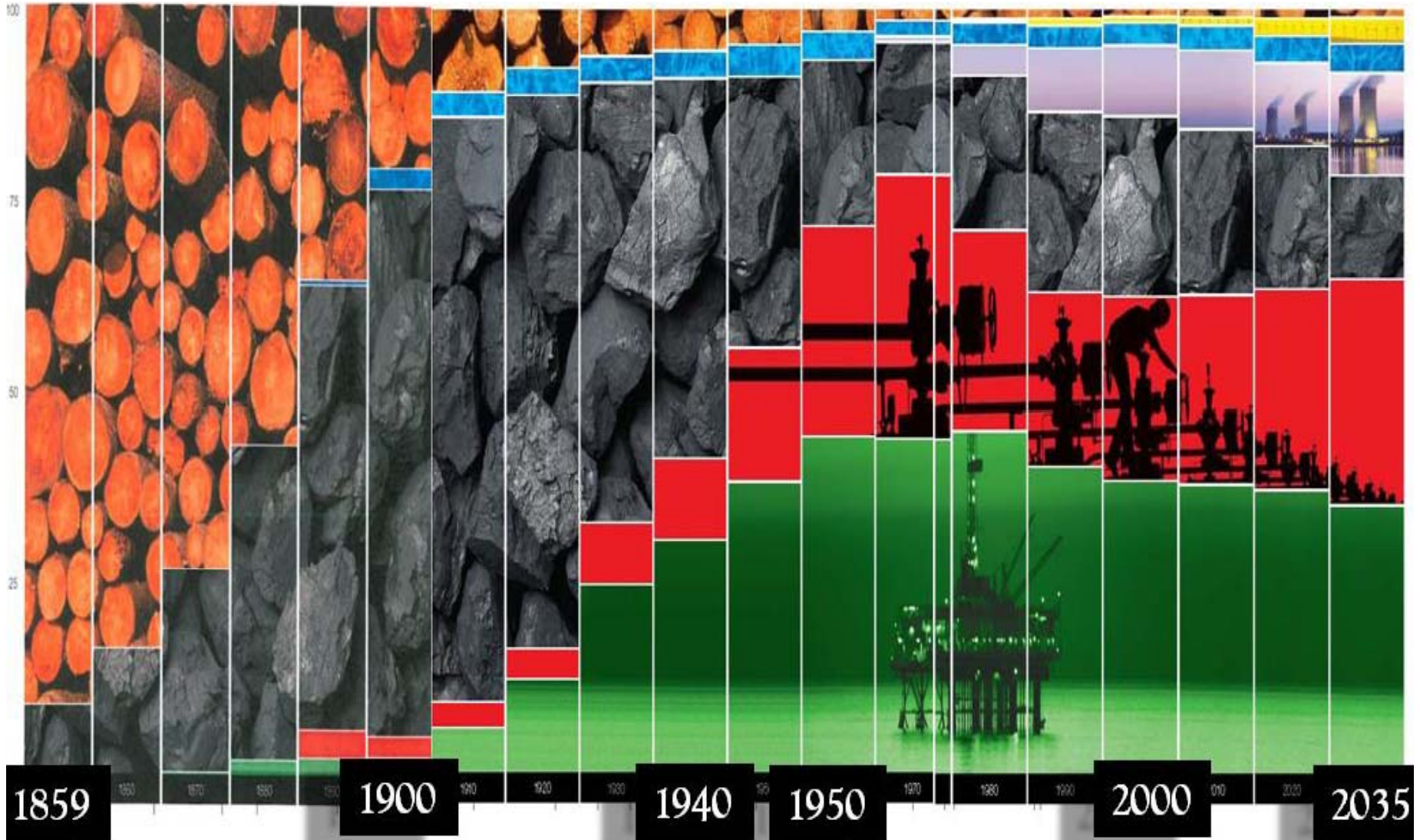


**WIND**

# Transition to Modern Energy/Technology

U.S. Energy Demand Percent

- Wood
- Coal
- Oil
- Gas
- Hydro
- Nuclear
- Modern Renewables



Source: Exxon Mobil

# Policy Recommendations



- Increase energy production of all sources
- Encourage energy efficiency
- Encourage investment in advanced technologies
- Allow markets to work
- Refrain from new taxes
- Support need to participate in global energy markets

***Thank You***

For more information, visit

**[www.api.org](http://www.api.org)**

**[www.energytomorrow.org](http://www.energytomorrow.org)**

