

# Building Cooperation and Coalitions

## *Kentucky Bioenergy Symposium*

### *Louisville, KY*

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Michael J. McAdams  
President



Advanced  
Biofuels  
Association

# Agenda

- Who is ABFA?
- What we stand for
- The big picture: world supply, demand, and GDP
- Technology and commercialization
- Current political climate
- Stakeholder groups
- Policy priorities
- The path forward
- Conclusion



# Who We Are



# What we Stand for

- Technology neutrality
- Feedstock agnosticity/sustainability
- Subsidy parity



# Opportunities

- Kick our addiction to foreign oil
- Rural development
- Job creation
- Environmental sustainability



# Demand will continue to grow: China's desire to reach 'energy parity' will alone have a massive effect, not including other developing nations



## U.S.

Population: 308 MM  
GDP per capita: \$47,100  
Oil use: 19.2 MBD  
Oil use (per 1,000): 62 bpd



## Poland

Population: 38 MM  
GDP per capita: \$18,800  
Oil use: 0.55 MBD  
Oil use (per 1,000): 15 bpd



## China

Population: 1,330 MM  
GDP per capita: \$7,500  
Oil use: 8.3 MBD  
Oil use (per 1,000): 6.2 bpd

- If China aspires to be as "energy rich" as the U.S. by 2030, it will add **78.5 MBD**
- If China aspires to be half as "energy rich" as the U.S. by 2030, it will add **35.1 MBD**
- If China *only* aspires to be as "energy rich" as Poland\* by 2030, it will still need to add **12.7 MBD** (and still be the largest consumer of oil in the world)
- *When you factor in the significant demand growth from India, Russia, Brazil, and the Middle East, the effect will be highly disruptive to the world oil markets*

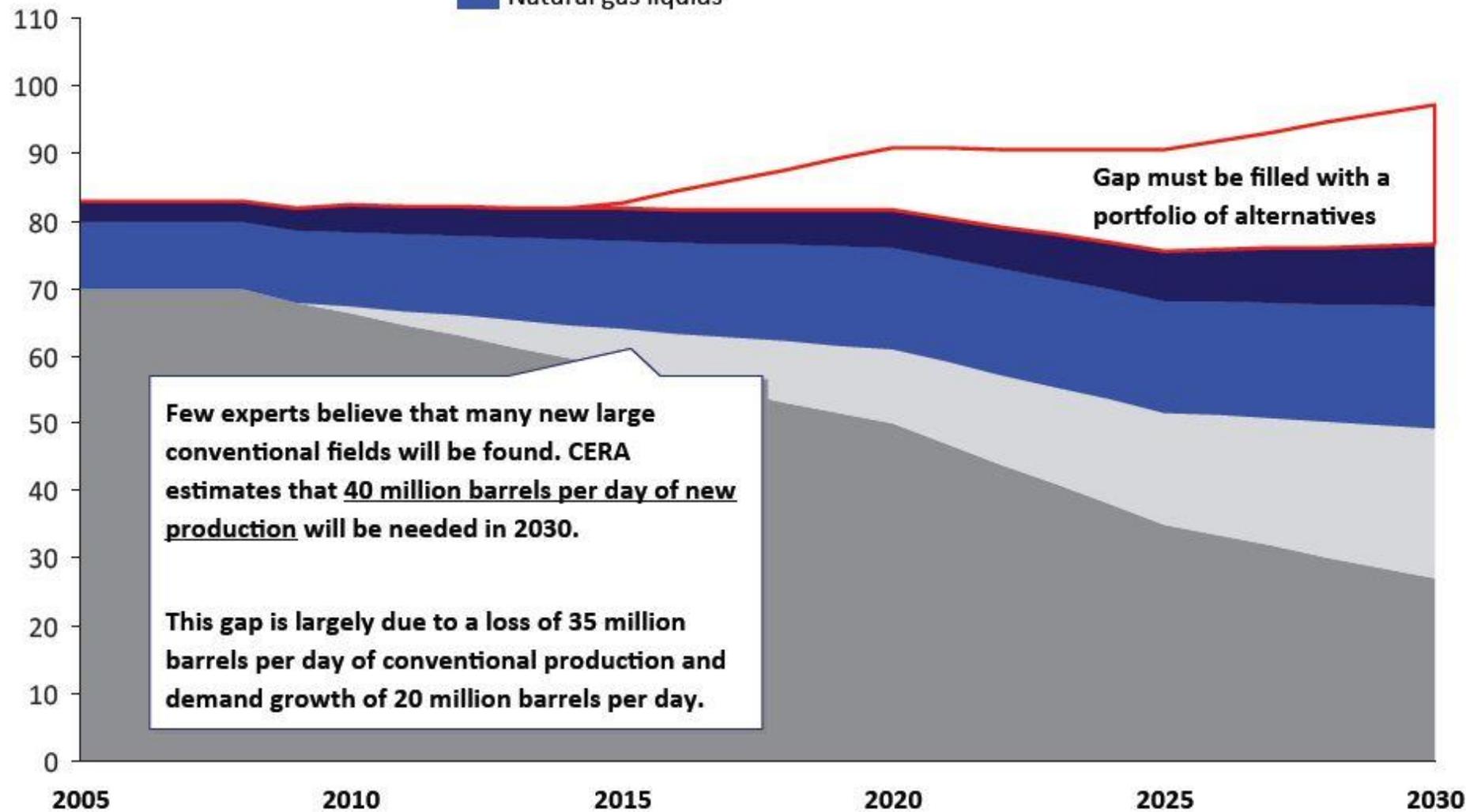
\* Poland has the lowest energy use per capita of any country with a GDP per capita greater than \$10,000

Note: Assumes population of China only grows to 1.4 billion by 2030

# However, a large gap will emerge between supply and demand in 2030; CERA estimates this gap at 40 million barrels per day

**World petroleum supply**  
Million barrels per day

- Crude oil: gap
- Unconventional oil
- Natural gas liquids
- Conventional oil: fields yet to be developed
- Conventional oil: currently producing fields

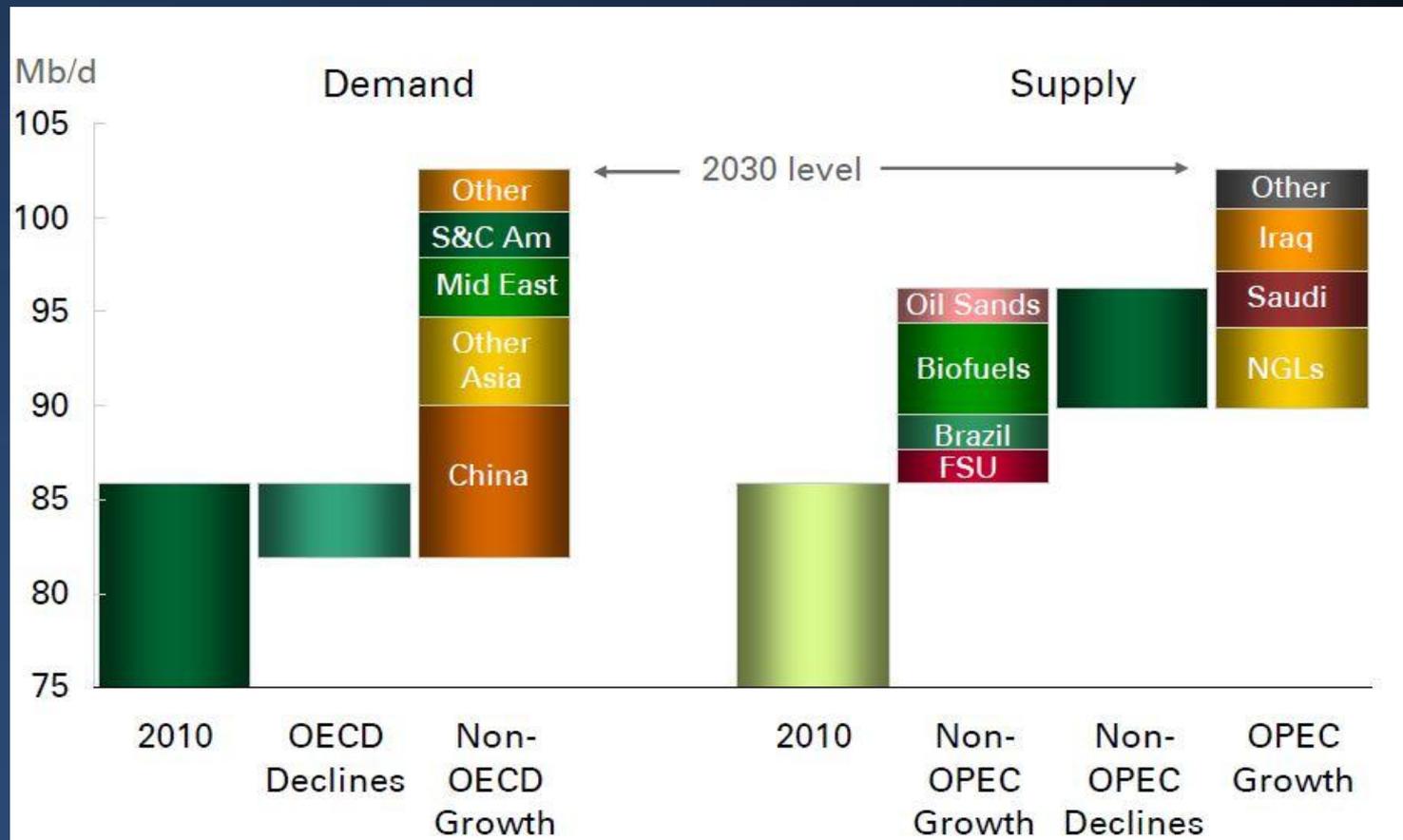


Few experts believe that many new large conventional fields will be found. CERA estimates that 40 million barrels per day of new production will be needed in 2030.

This gap is largely due to a loss of 35 million barrels per day of conventional production and demand growth of 20 million barrels per day.

Gap must be filled with a portfolio of alternatives

# Liquids Demand Growth



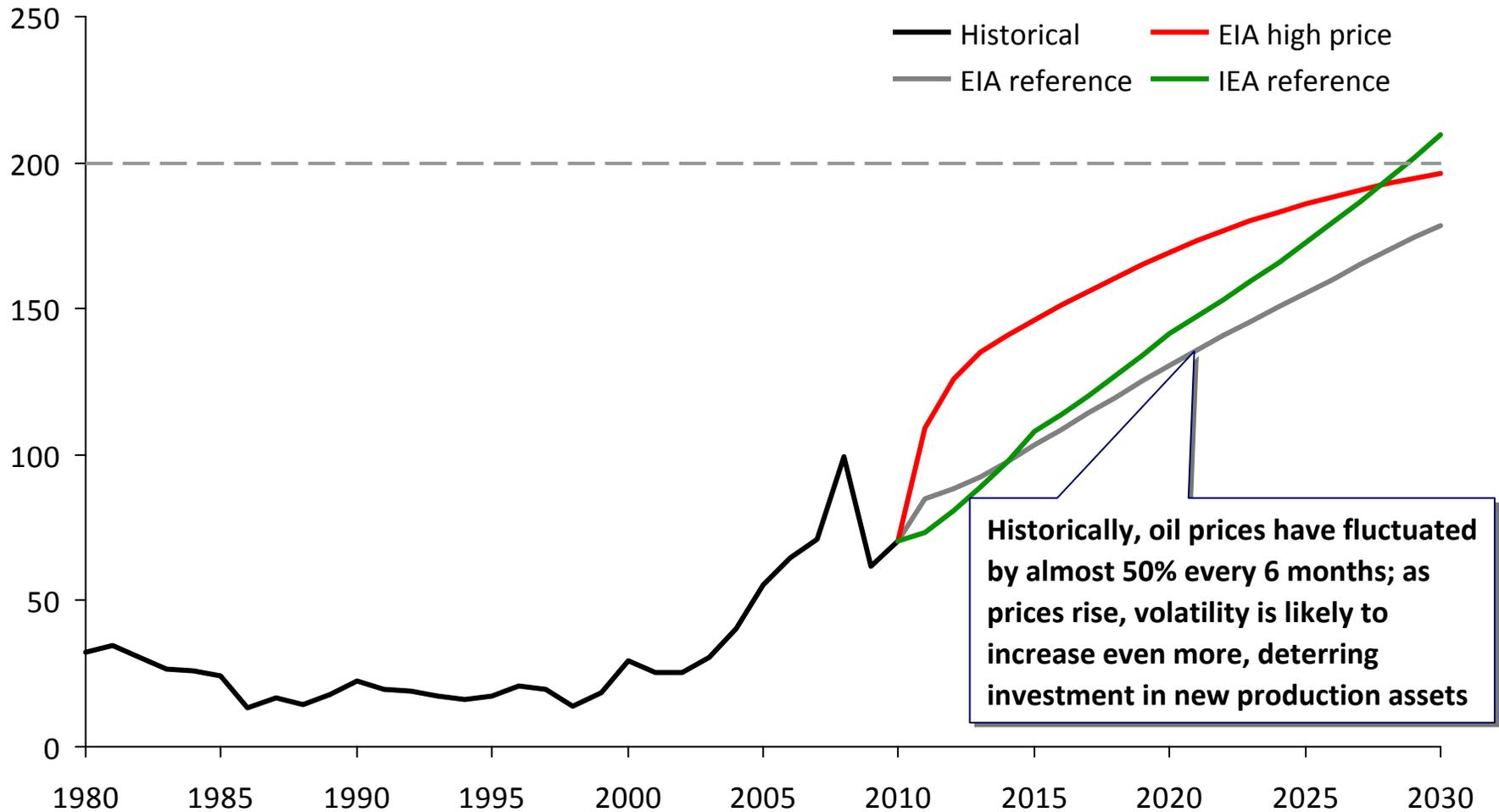
Source: Energy Outlook 2030, BP



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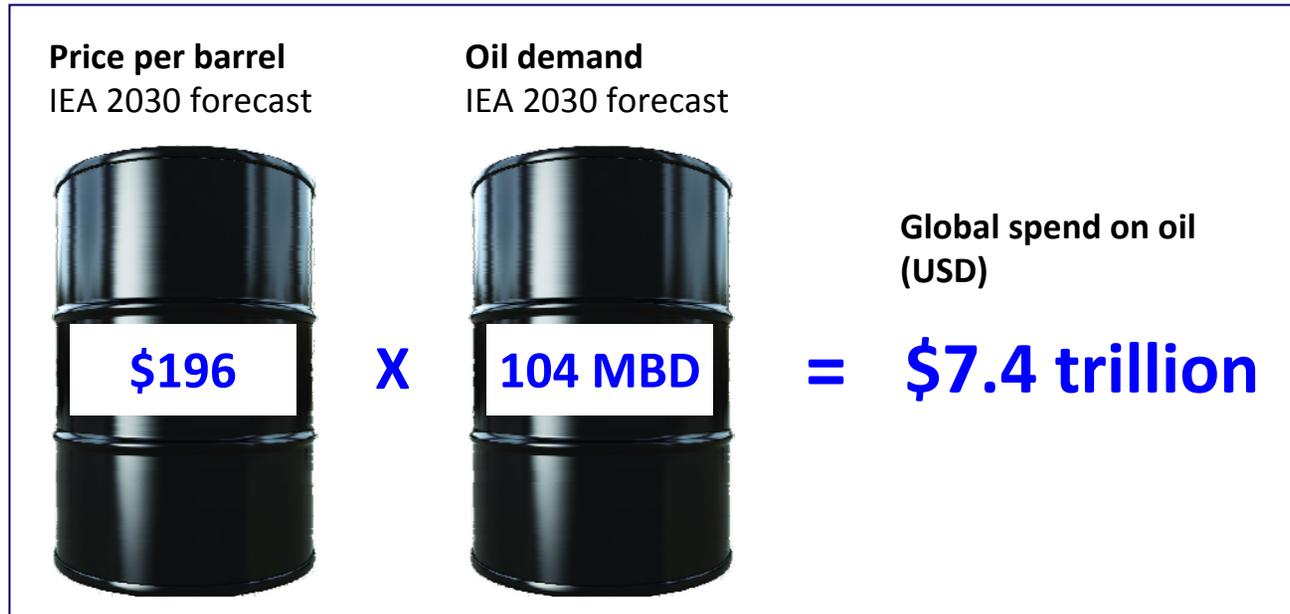
# The oil gap will put pressure on prices, which are expected to near USD 200 per barrel by 2030 and come with increased price volatility

**World oil price, historical and forecasted**  
USD per barrel (nominal)



Source: U.S. Energy Information Agency, Annual Energy Outlook 2011;  
IEA World Energy Outlook 2010 (data provided for 2015, 2020, 2025, 2030)

# Given oil prices and demand, GDP would need to triple by 2030 in order to keep the global oil burden below 4%



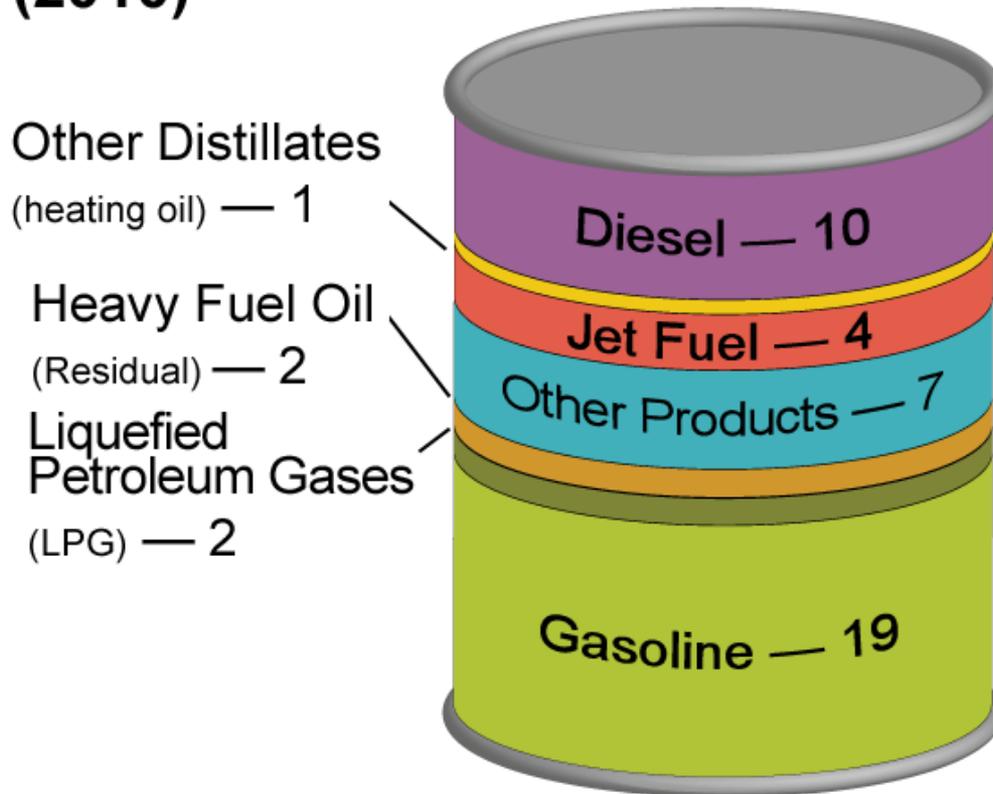
**GDP required to keep the oil burden at 4% (USD)**

**\$186 trillion**

**GDP would need to more than triple by 2030 to keep the oil burden at 4%; this has been done, but only when the average oil burden was 3%**

# Replacing the Barrel

## Products Made from a Barrel of Crude Oil (Gallons) (2010)



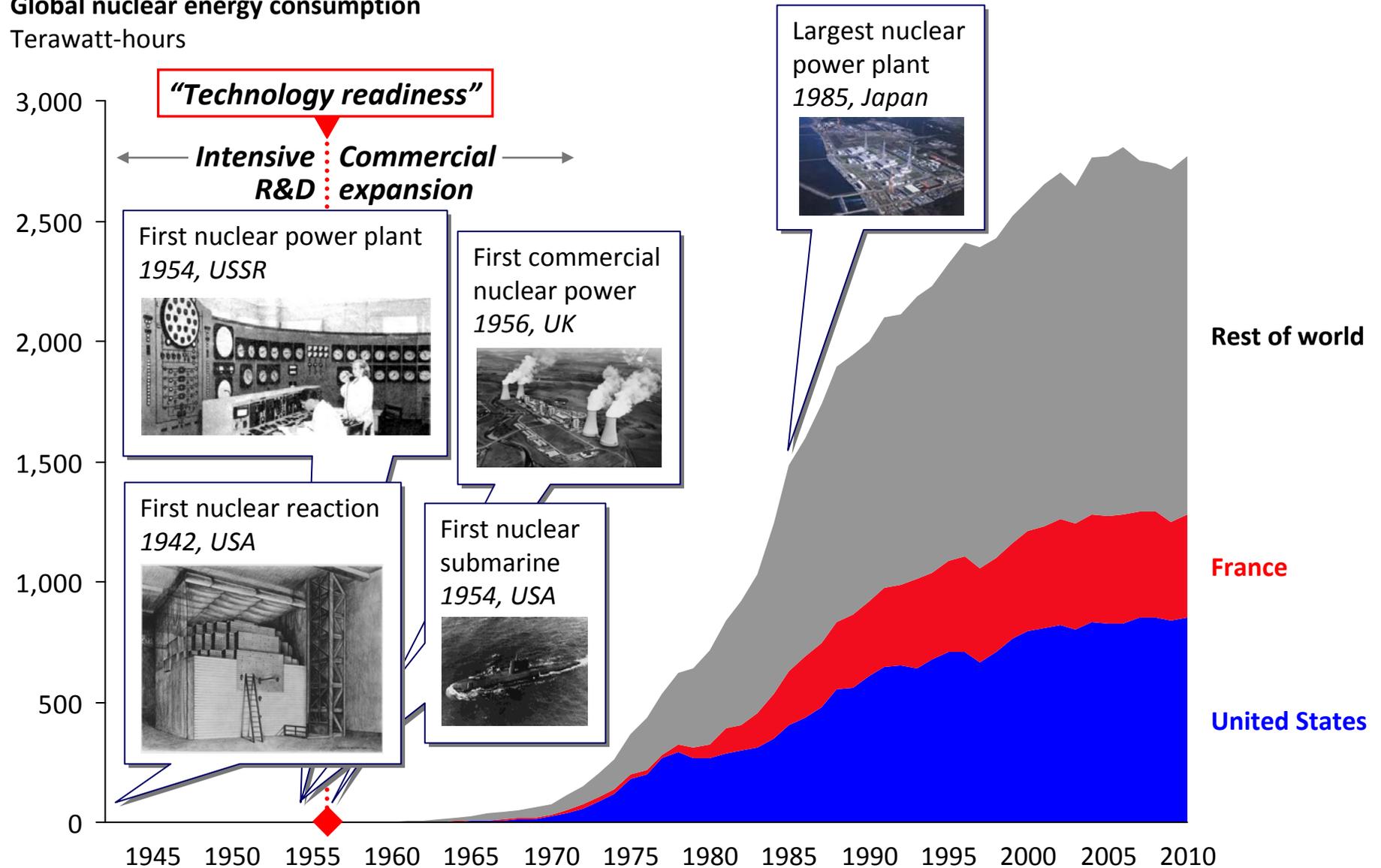
Note: A 42-U.S. gallon barrel of crude oil yields about 45 gallons of petroleum products.  
Source: Energy Information Administration



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# Sixty years ago we were in the midst of a transformative energy transition to nuclear power

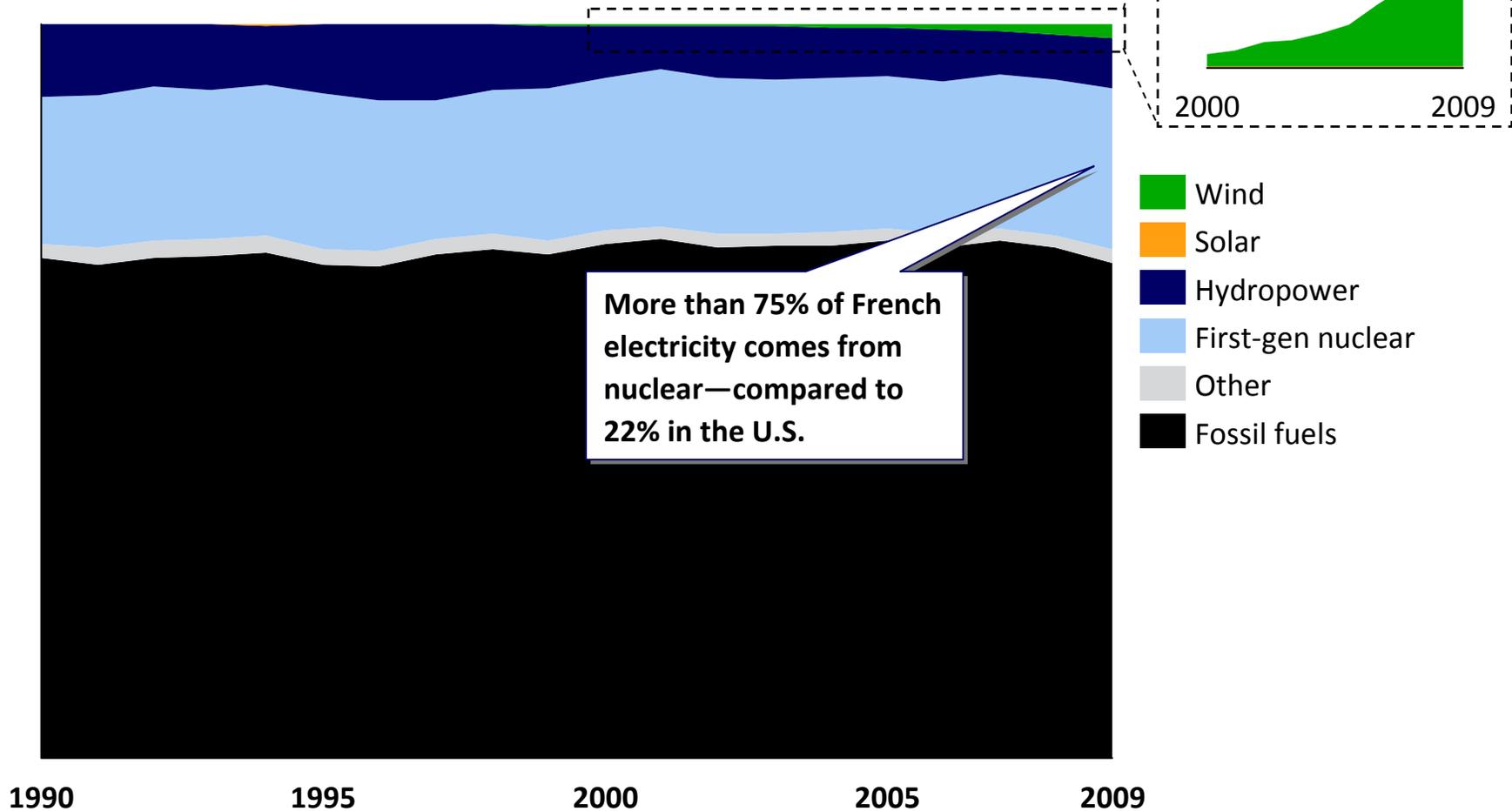
Global nuclear energy consumption  
Terawatt-hours



Source: BP "Statistical Review of World Energy 2011"

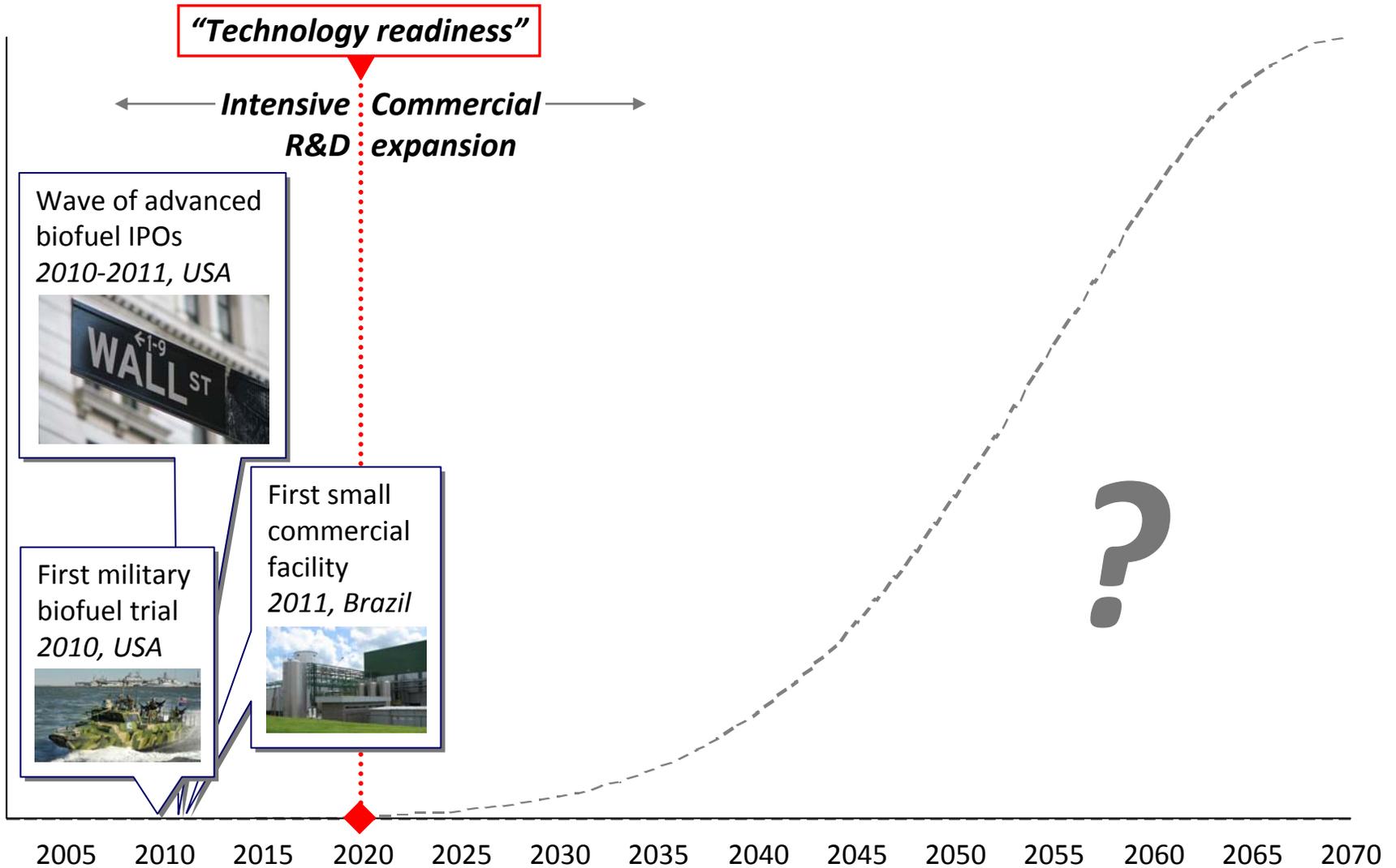
# The U.S. has developed and deployed alternative electricity technologies, achieving more than 30% penetration; France has done even more

Penetration of electricity generation technologies, U.S.  
Percent of electricity production



# Today we are pushing to reach technology readiness for petroleum replacements by 2020

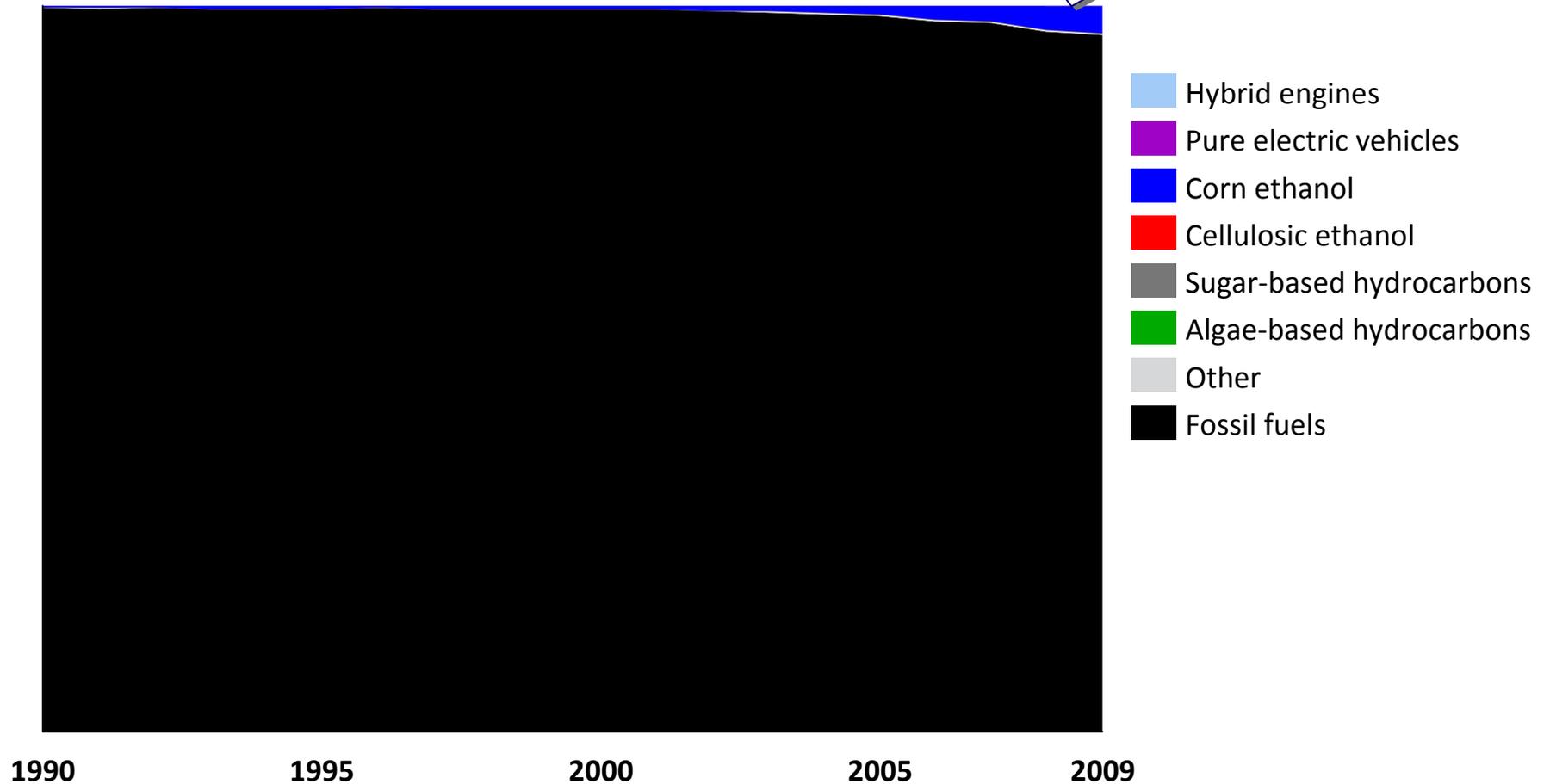
Global crude replacement consumption



# Unlike electricity, there have been no meaningful alternatives developed to date to displace liquid fossil fuels

Penetration of transportation fuel technologies, U.S.  
Percentage of fuel consumed (or saved\*), oil equivalent

Corn ethanol accounts for less than 4% and is forecasted to stay well under 10% given mandates and farmland constraints



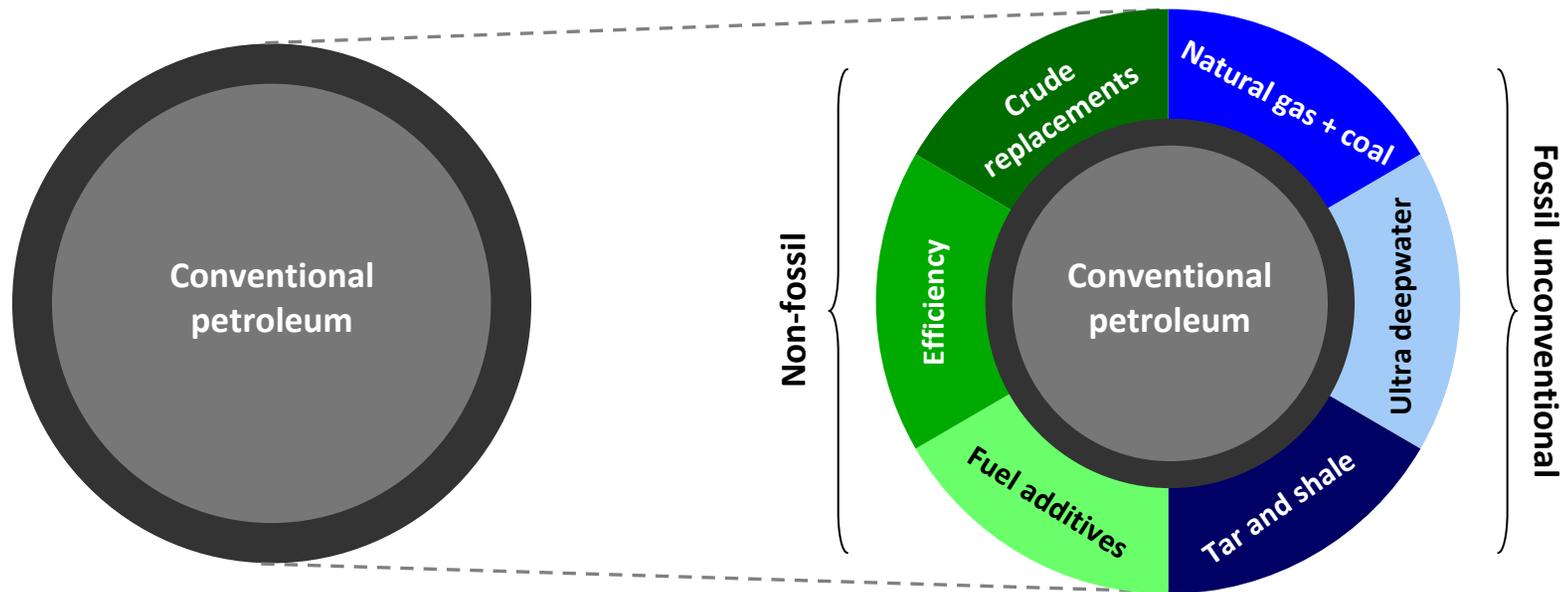
\* In the case of hybrids or electric vehicles

Source: U.S. Energy Information Agency, 2011

## With demand increasing and new sources of conventional petroleum becoming more scarce, all additional sources will be required

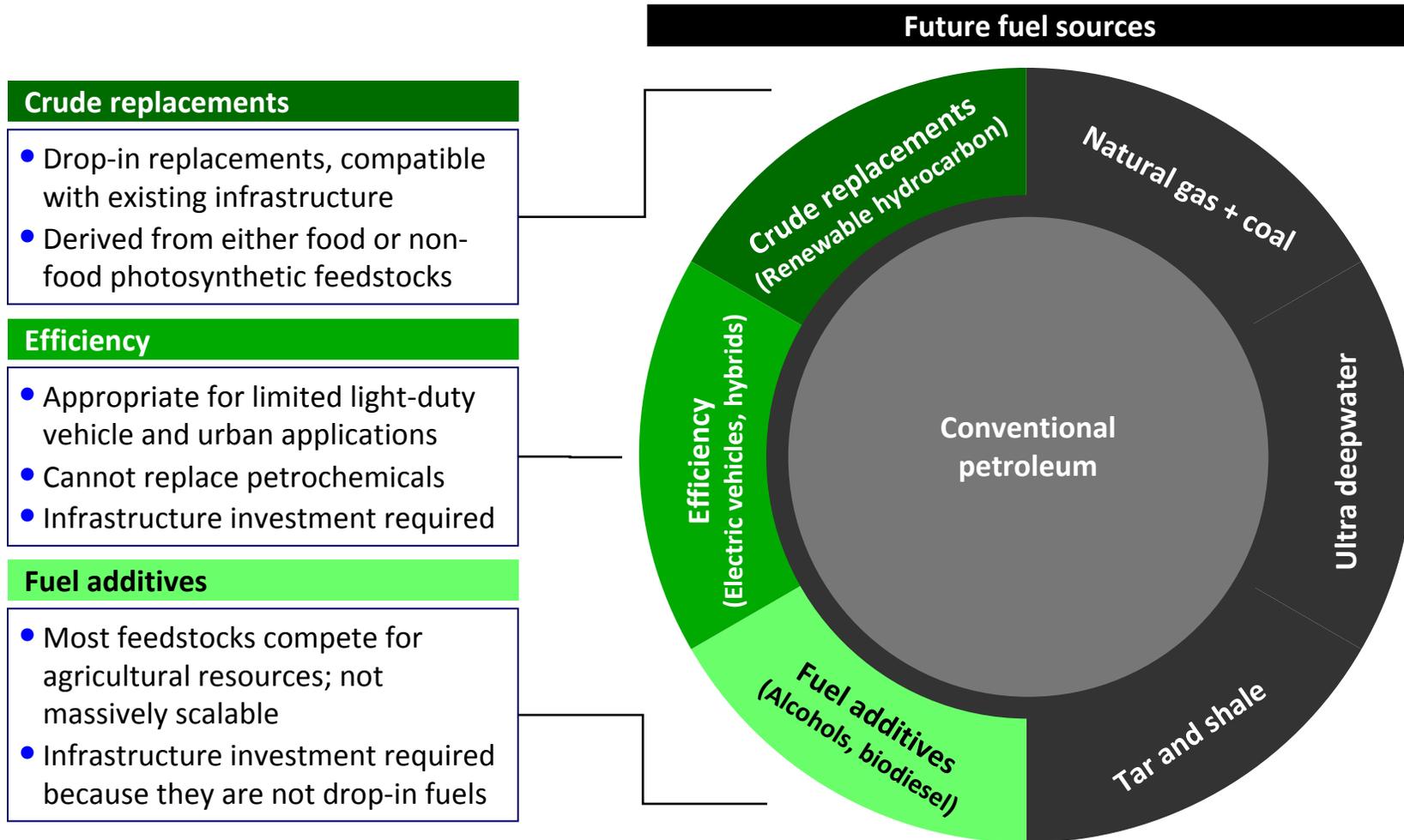
2010 demand: 87 million barrels per day

2030 demand: 97-115 million barrels per day



- Petroleum is the source for **more than one-third** of the world's energy consumption
- Over two-thirds of petroleum is used to produce transportation fuels; the remaining petroleum is used to produce plastics, chemicals, industrial goods, and thermal energy

# All sources of non-fossil transportation fuel will be required, but some are better than others



# Politics in Washington



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# The Debt Deal

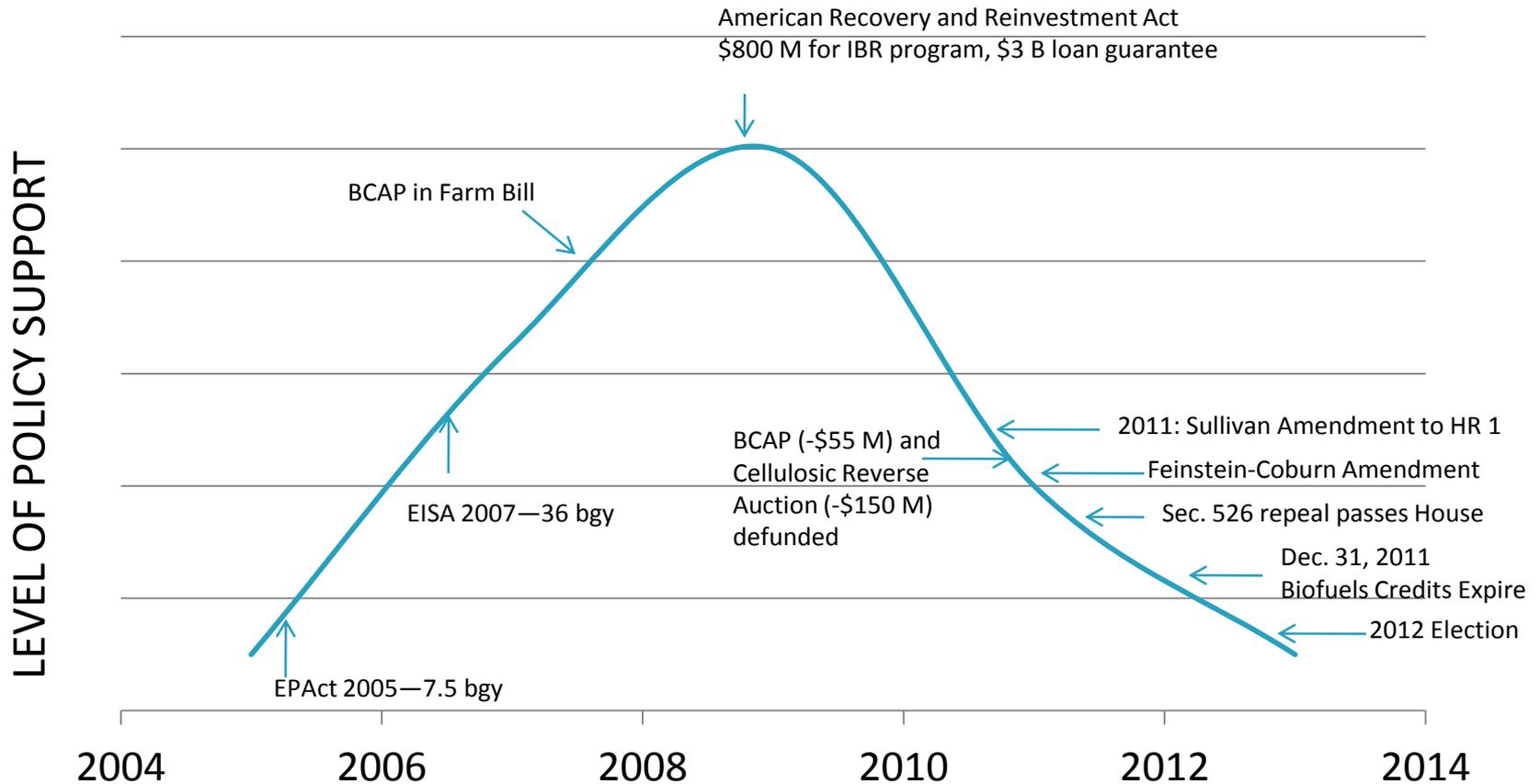
- Cuts \$917B in discretionary spending over 10 years
- Creates a 12-member Joint Committee required to produce a proposal to reduce the deficit by at least \$1.5T over 10 years by November 23
- Each chamber would consider Joint Committee proposal on an up-or-down basis by December 23
- Sets up a process to cut spending across-the-board – and ensure that any debt limit increase is met with greater spending cuts – IF Joint Committee fails to achieve at least \$1.2T in deficit reduction



# Who's Who on the Super-Committee



# Advanced Biofuel Policy Support



# New Beginning



# Stakeholder Groups



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# Stakeholder Groups



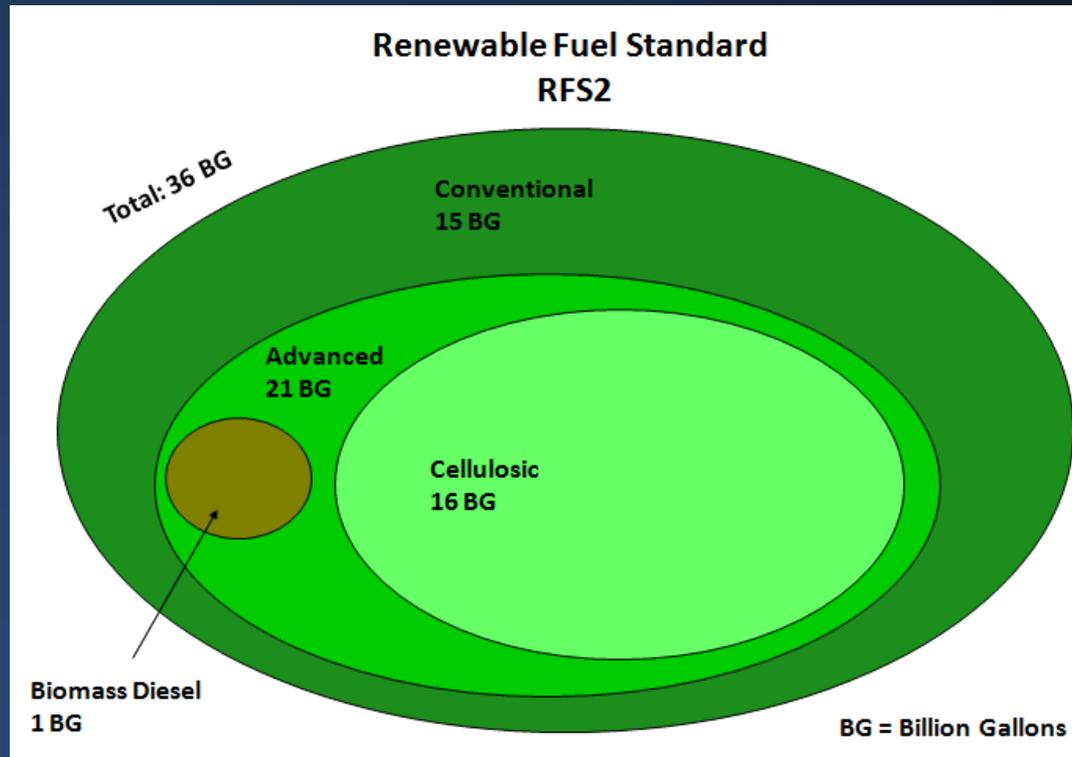
# The Need to Work Together

- E15 and VEETC coalition
  - NPRA, NRDC, Sierra Club, Taxpayers' Union, Convenience Stores Assn., Boat U.S., Small Equipment Mfgs., etc...
- RFS2
  - ABFA, BIO, ACE, AEC, Growth Energy, RFA



# Specific Provisions at Risk

## ➤ RFS2



# Specific Provisions at Risk

- Tax code
  - VEETC
  - Biodiesel/Renewable diesel
  - Cellulosic
  - Alt. Fuels
  - Investment Tax Credit (Sec. 1603)



# Specific Provisions at Risk

- Farm Bill energy title
  - Biomass Crop Assistance Program (BCAP)
- DOE/USDA/DOD \$510M MOU
- Grant programs reduced or eliminated
  - DOE/IBR program
- Defense budget decreases
  - Targeted for \$350B in cuts over 10 years
  - Could hinder independent biofuels initiatives and long term procurement



# The Path Forward

- Tax
  - Performance based
  - Technology neutral
  - Investment tax credit
- DOD Procurement
  - Contracting authority length/gal. requirement
  - Capacity building/Defense Production Act
  - Sec. 526
- Farm Bill
  - Title IX and BCAP
  - Loan guarantees



# Conclusion

- Harmonization programmatic definitions across agencies
- Agencies must coordinate actions
- Long-term policy certainty is essential to success
- Cooperation across stakeholder groups with government is a minimum requirement



# Let's Work Together



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