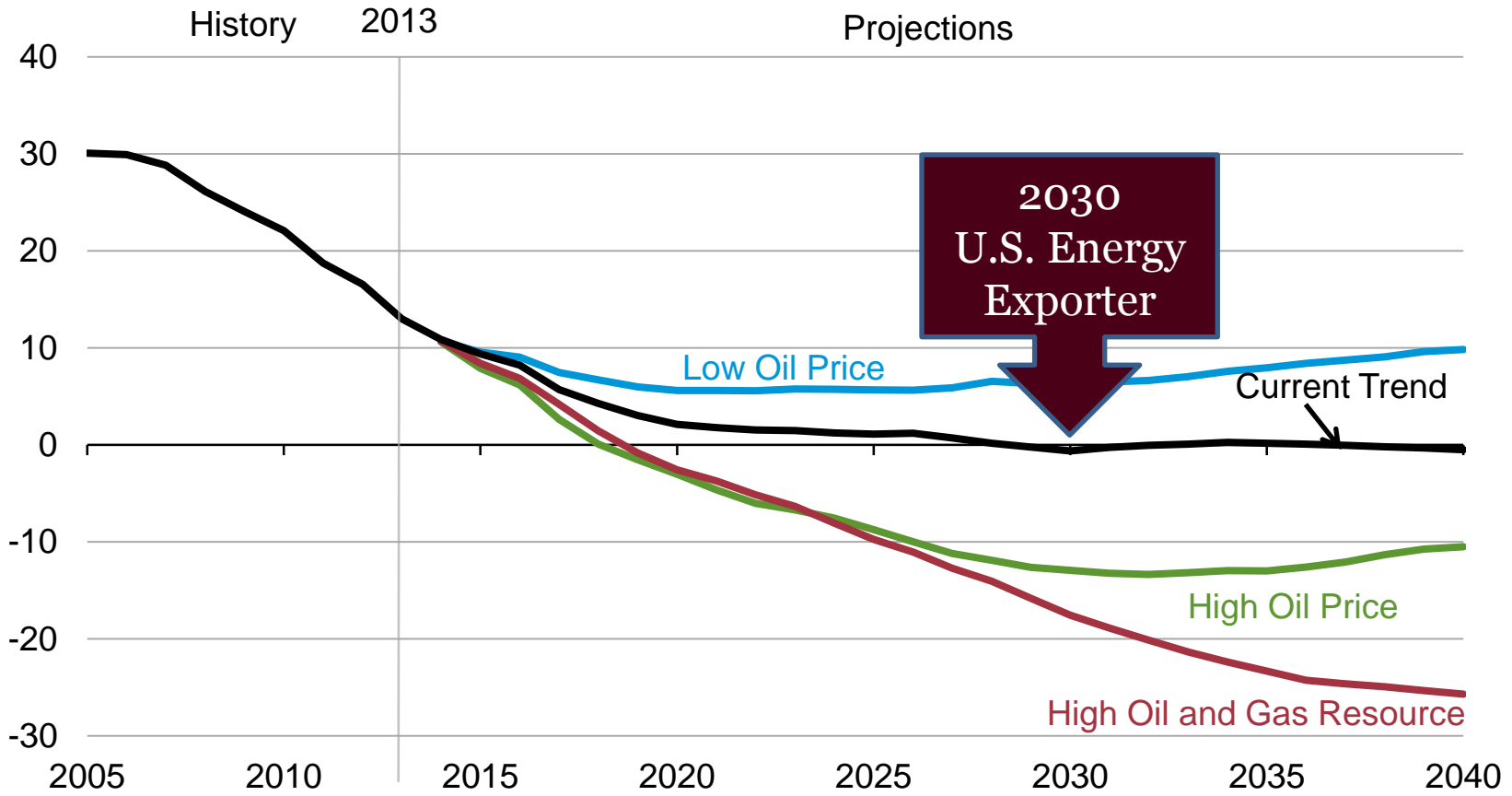




2030

# U.S. net energy imports

quadrillion Btu



Source: EIA, Annual Energy Outlook 2015

Energy Supply Boom

Greater Efficiency

Tighter Regulations

More Renewables



North  
America

Asia





**University of Montana**  
April 29 – May 2, 2015

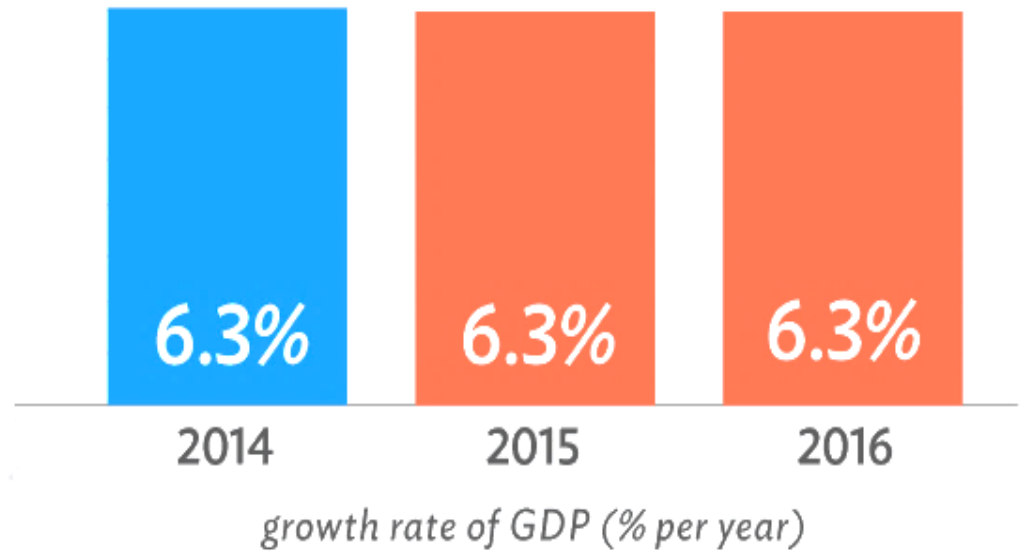
Asia's Energy **Demand**

Asia's **Demand** for Leadership

# Asia's Energy Demand



“Developing Asia is making a strong contribution to global economic growth,” says ADB Chief Economist Shang-Jin Wei.



Source: Asia Development Bank

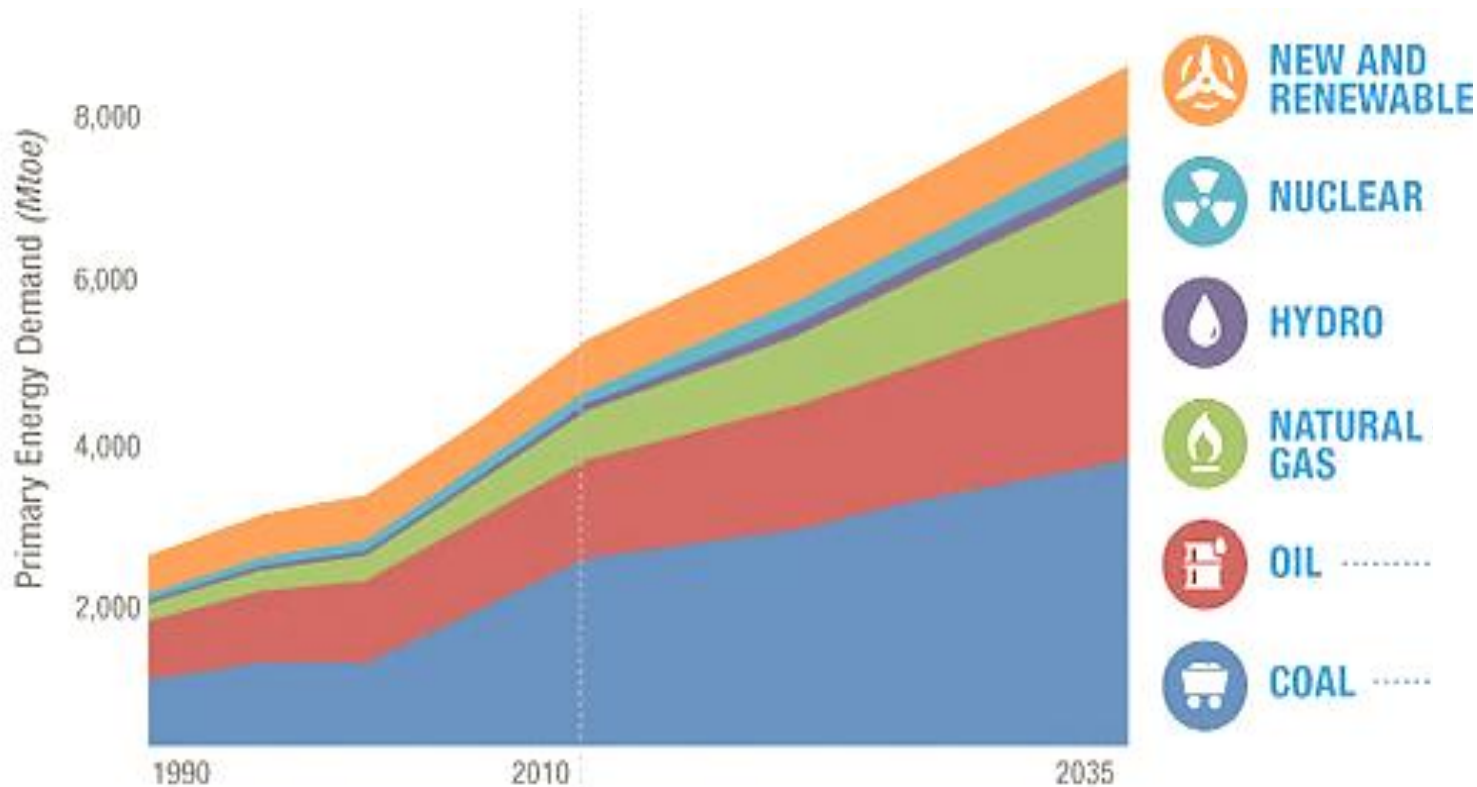
## Strong Economic Growth in Asia



Source: Asia Development Bank

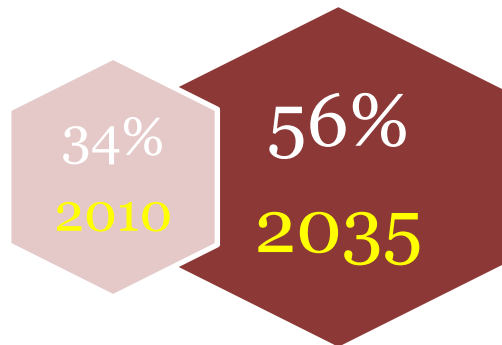
Asia Demand Growth Rate  
will outpace the World

# Fossil Fuels will still be the major source of energy in Asia



Source: Asia Development Bank

# From 2010 to 2035, energy consumption growth in Asia



World's largest  
energy consumer

81%  
increase



200%  
increase



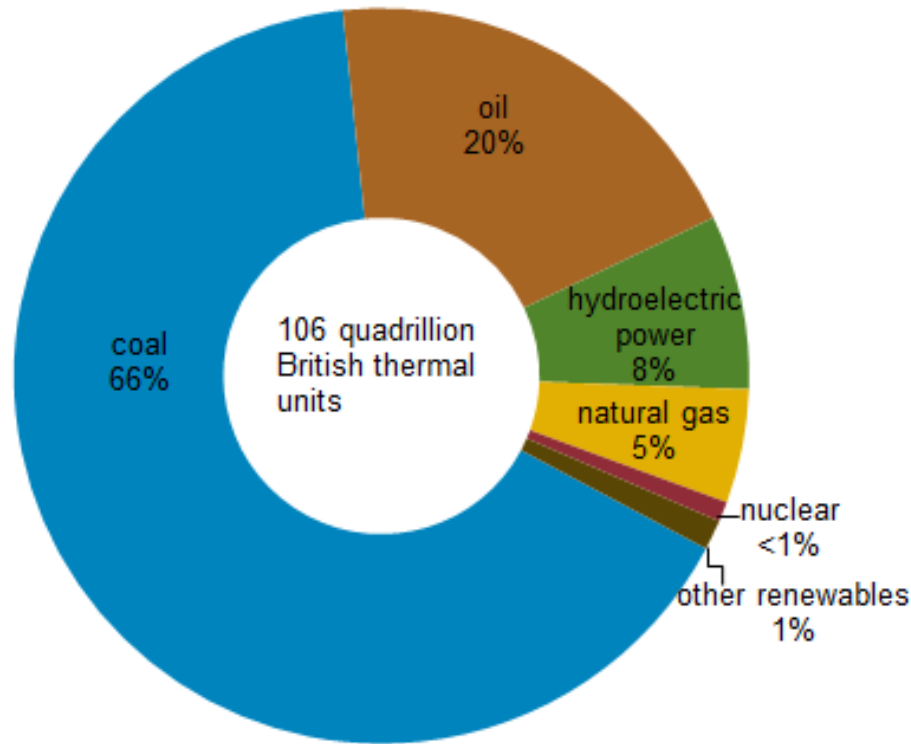
300%  
increase



Source: Asia Development Bank



## Total primary energy consumption in China by fuel type, 2012

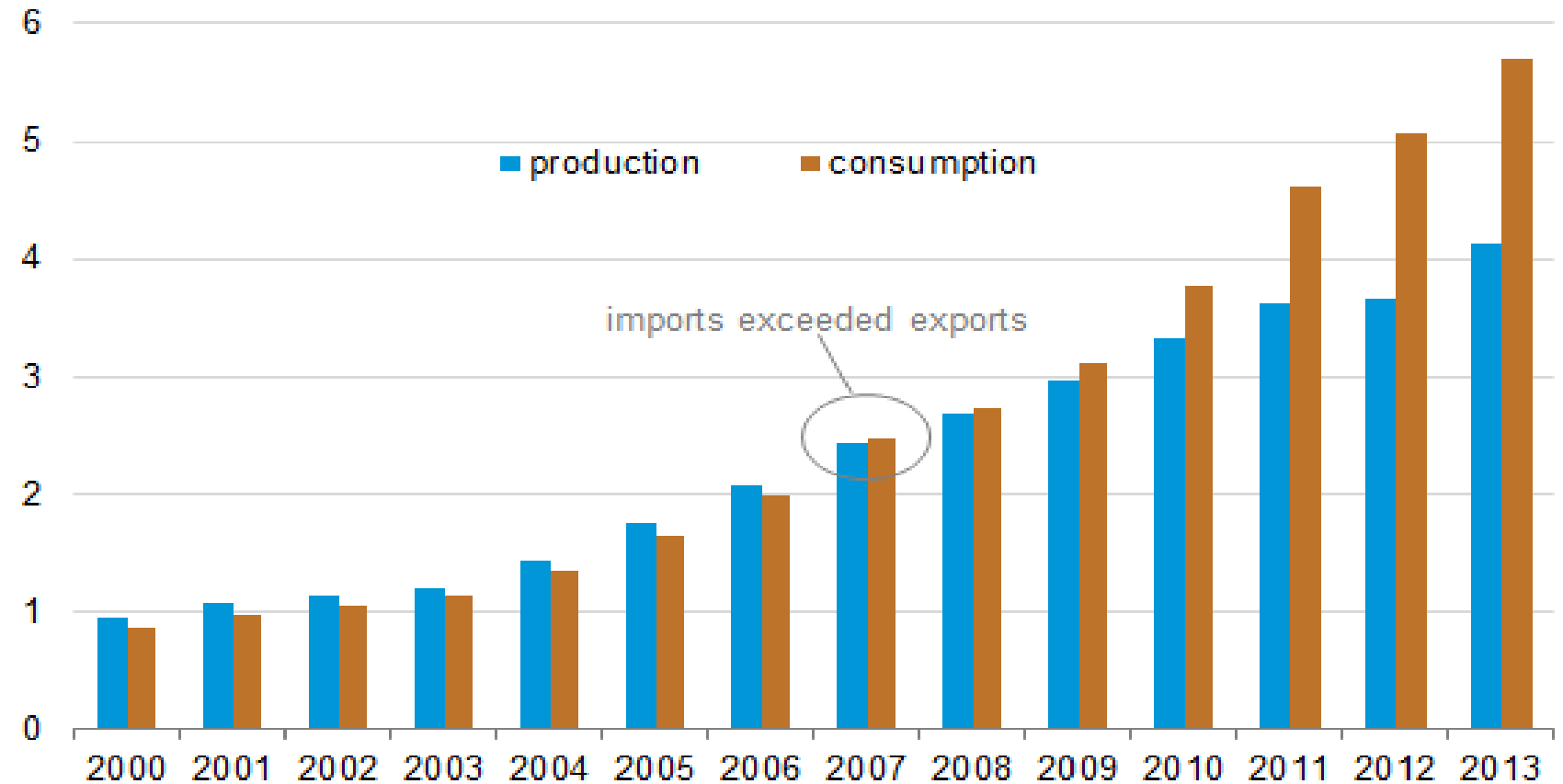


Note: Total may not equal 100% due to independent rounding. Includes only commercial fuel sources and does not account for biomass used outside of power generation.  
Source: U.S. Energy Information Administration.



## China's natural gas production and consumption, 2000-2013

trillion cubic feet

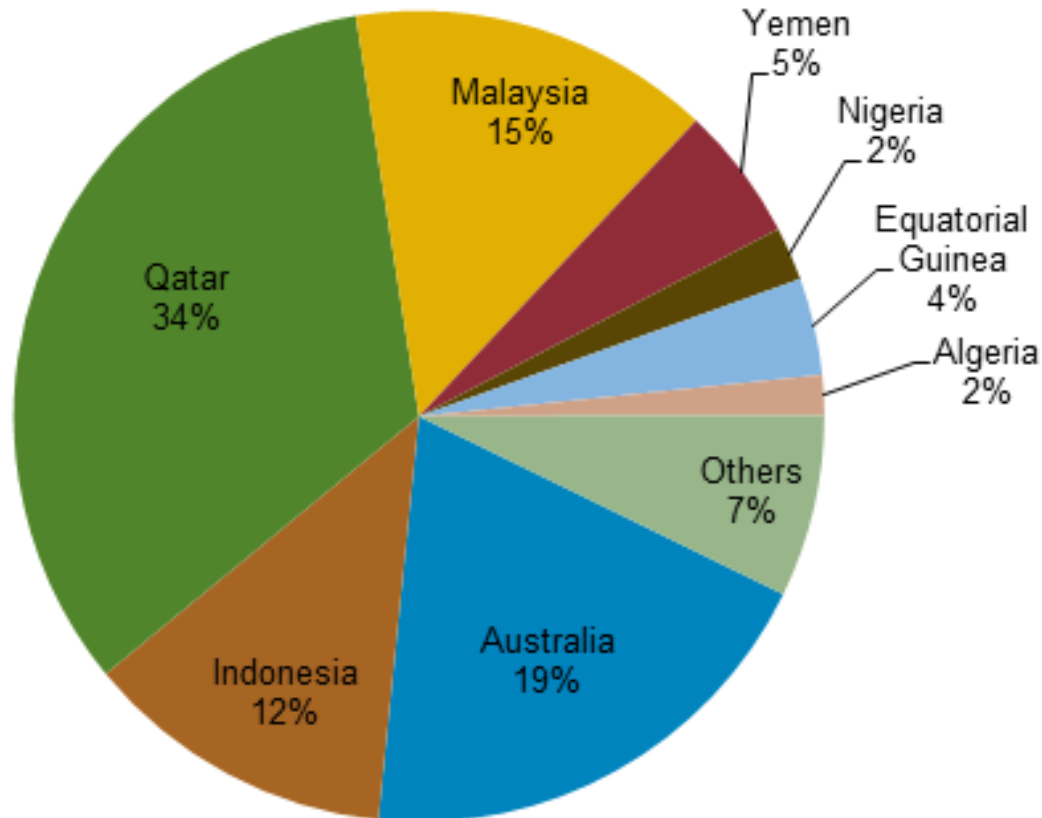


Source: U.S. Energy Information Administration, *International Energy Statistics*





## China LNG import sources, 2014



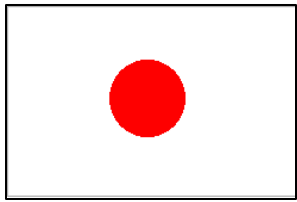
Source: IHS Energy.

Others: Angola, Brunei, Egypt, Norway, Oman, Papua New Guinea, Russia, Trinidad & Tobago, and re-exports from Spain and South Korea.

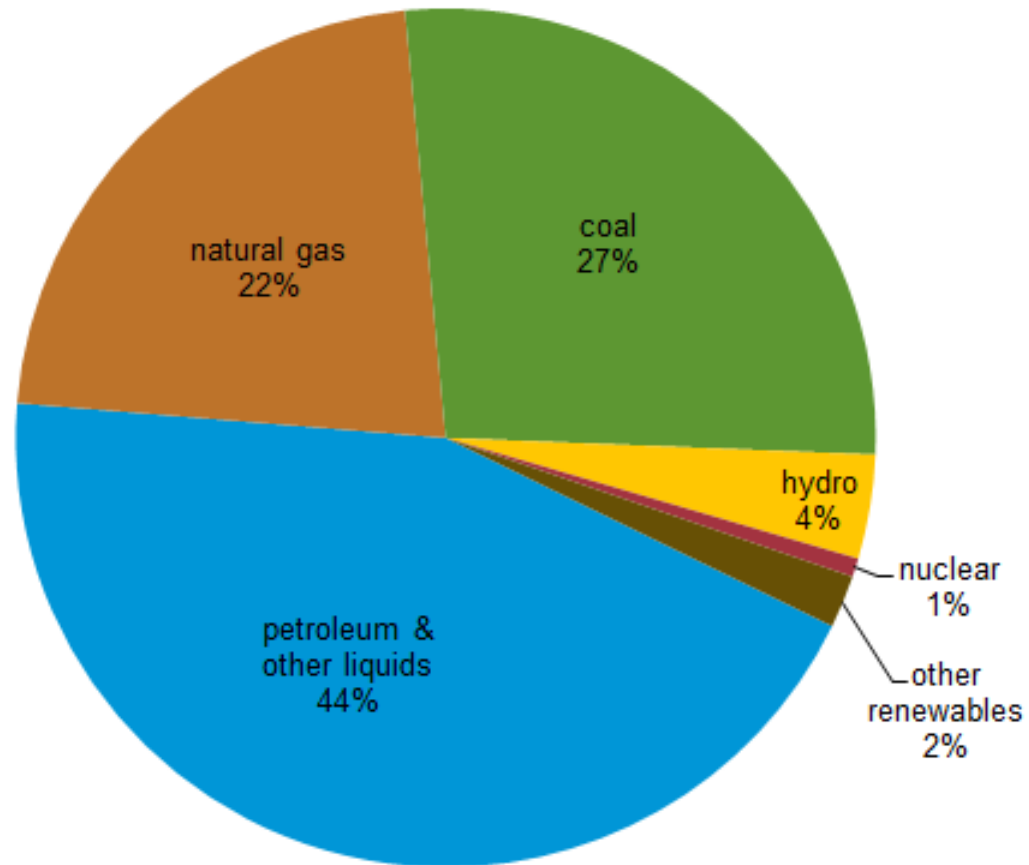


# China and the Environment



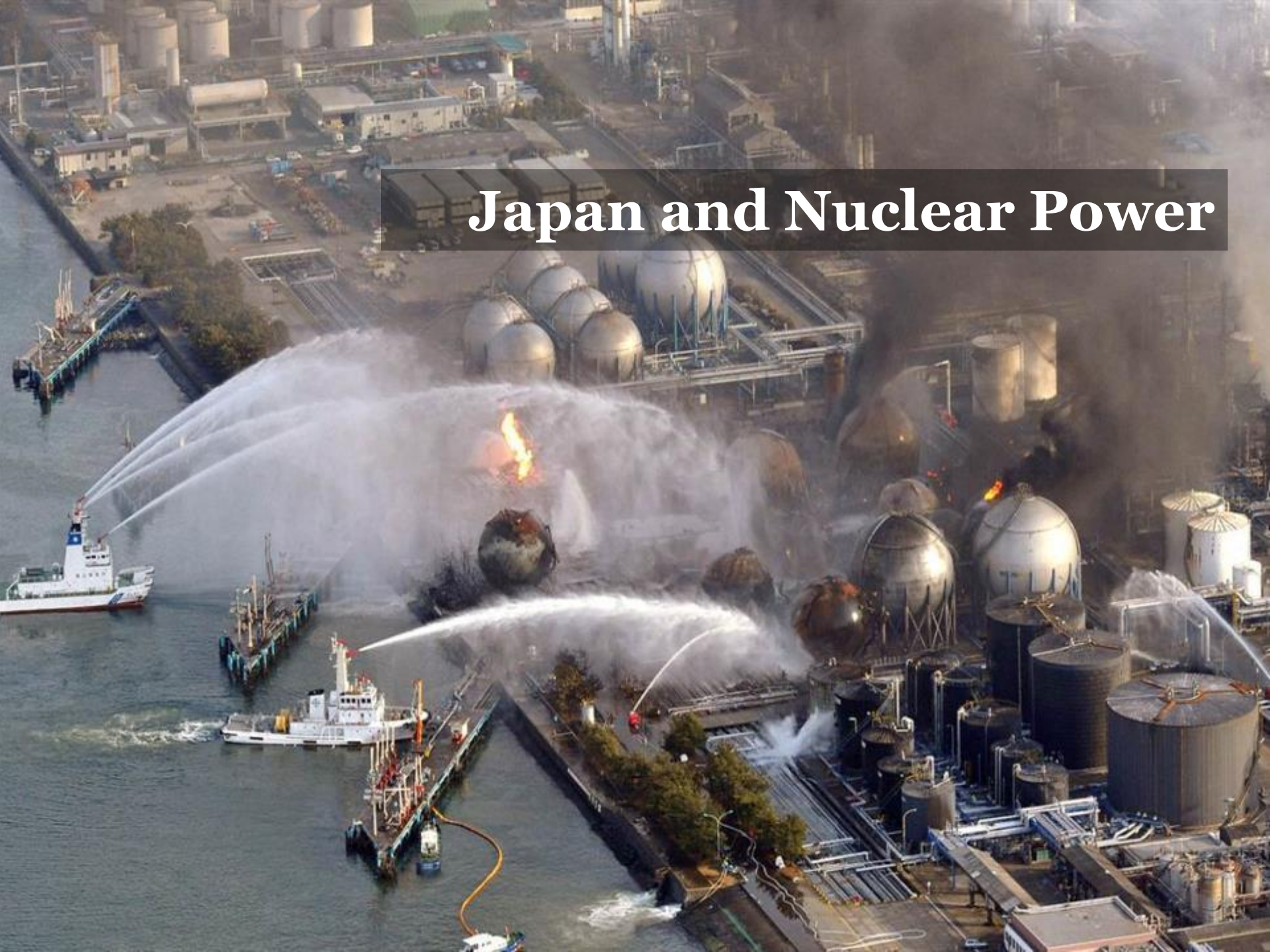


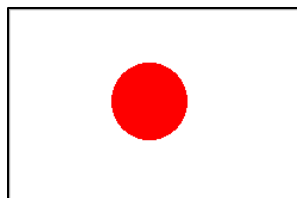
## Japan's total energy consumption, 2013



Sources: U.S. Energy Information Administration's International Energy Statistics, *BP Statistical Review of World Energy 2014*

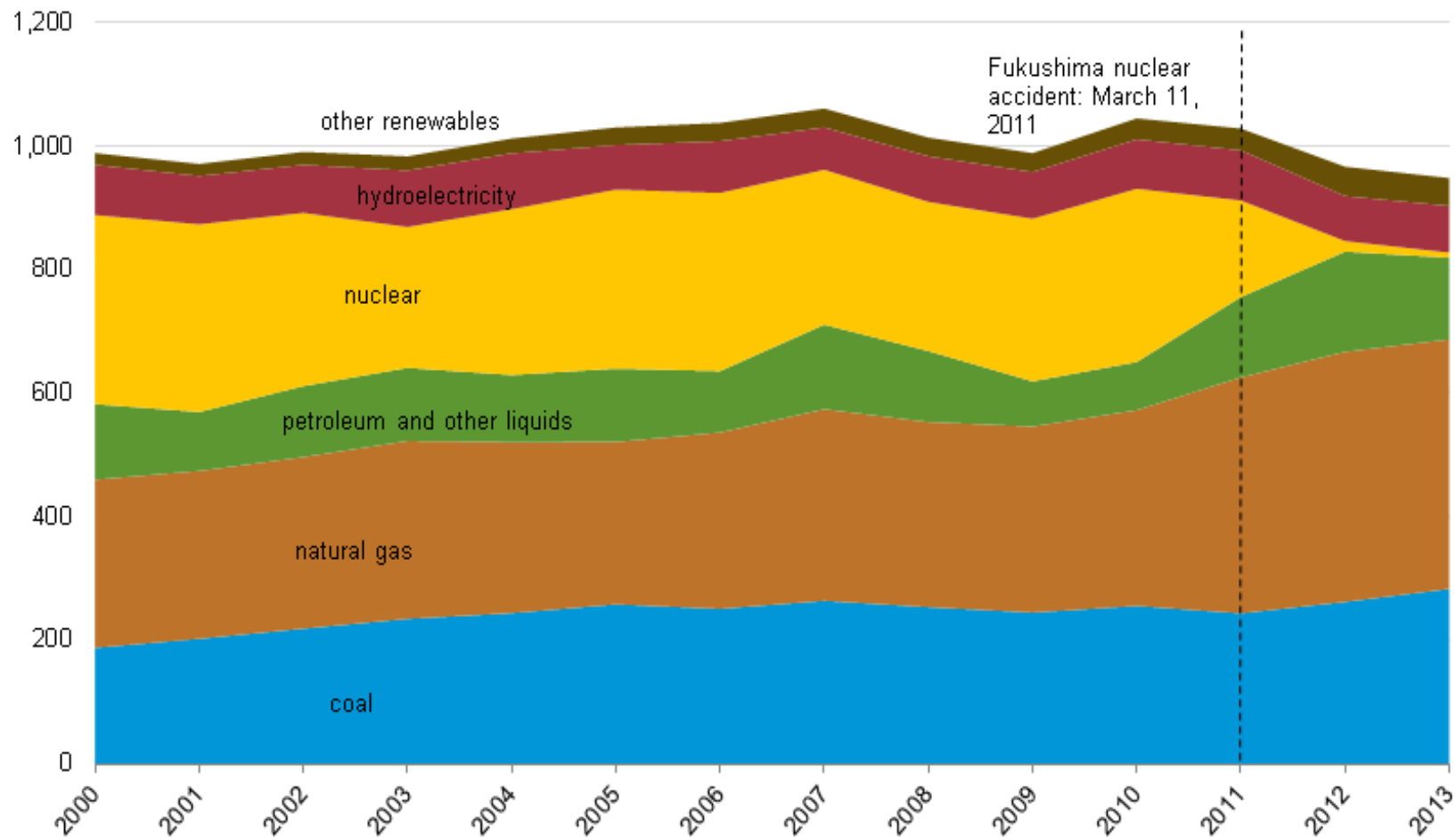
# Japan and Nuclear Power





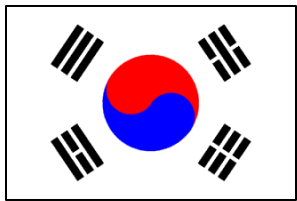
### Japan's net electricity generation by fuel, 2000-13

terawatthours (TWh)

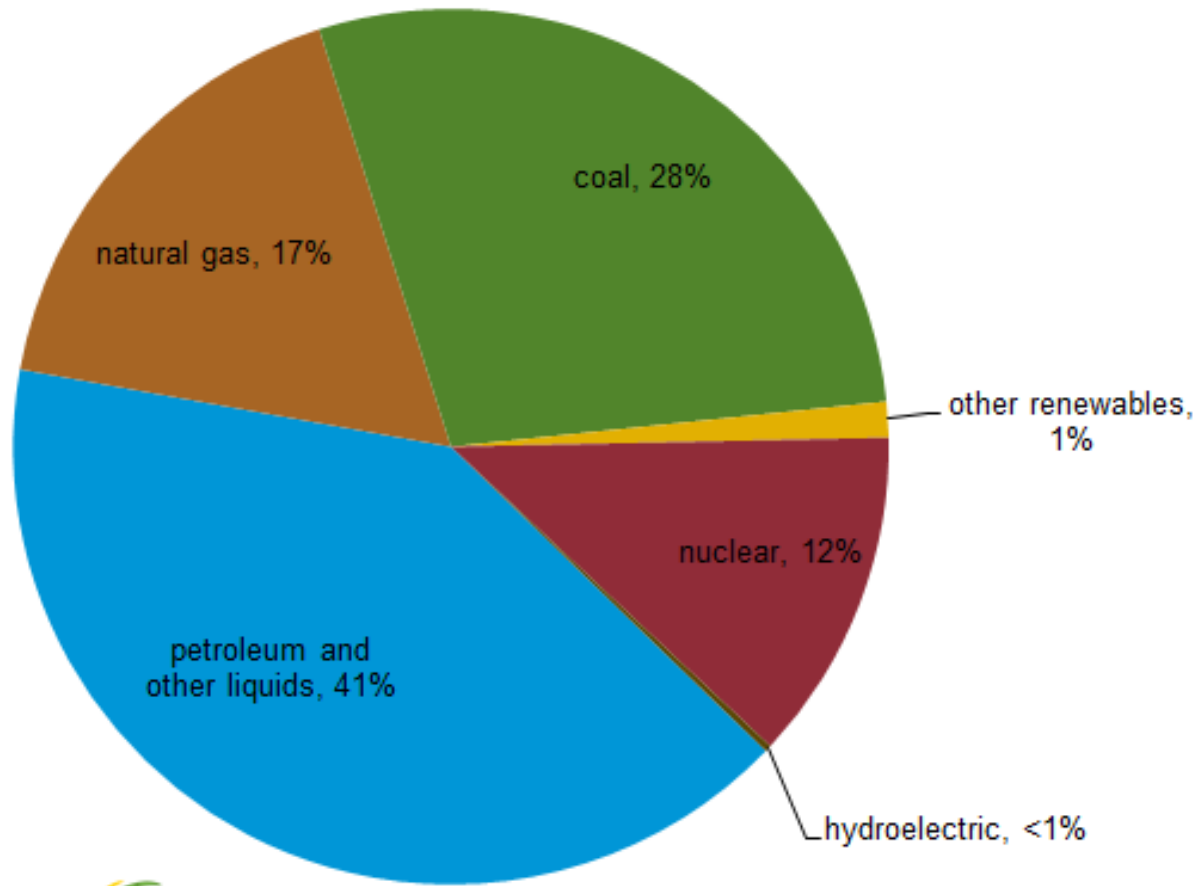


Source: U.S. Energy Information Administration, International Energy Agency, METI



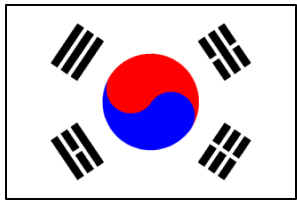


## South Korea total primary energy consumption by fuel type, 2012

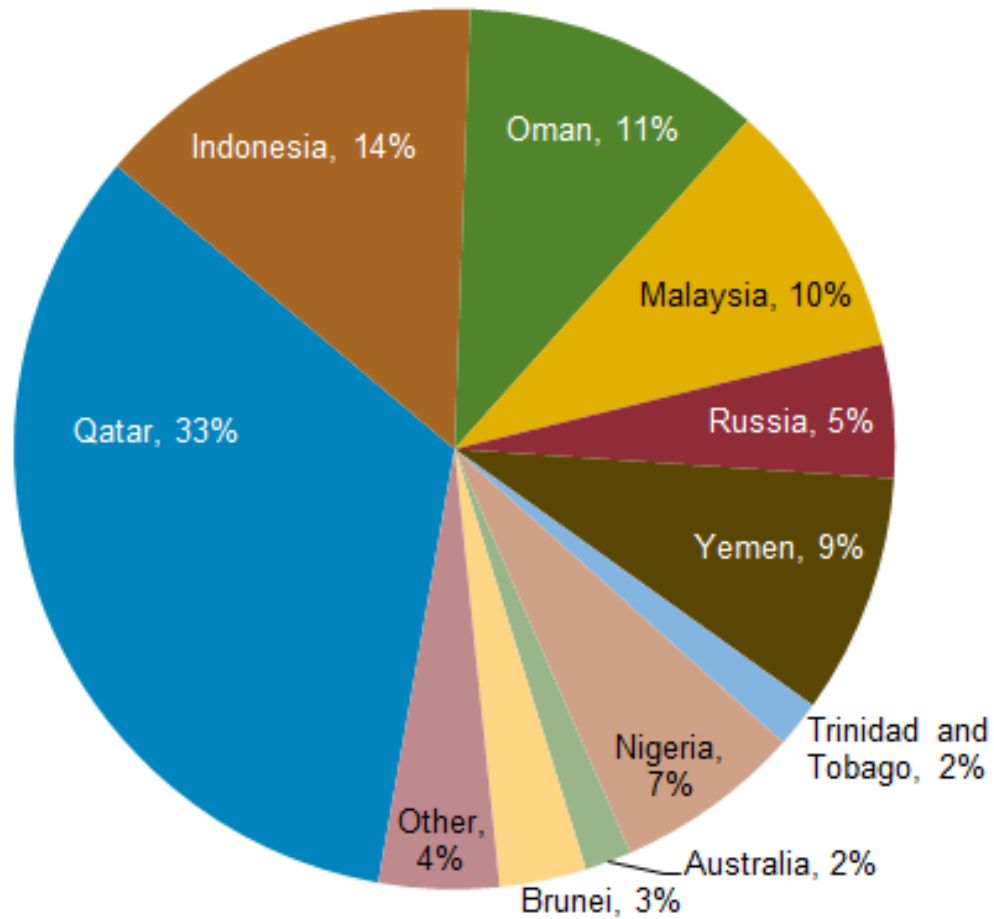


Source: U.S. Energy Information Administration

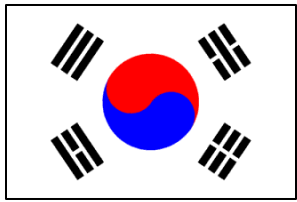




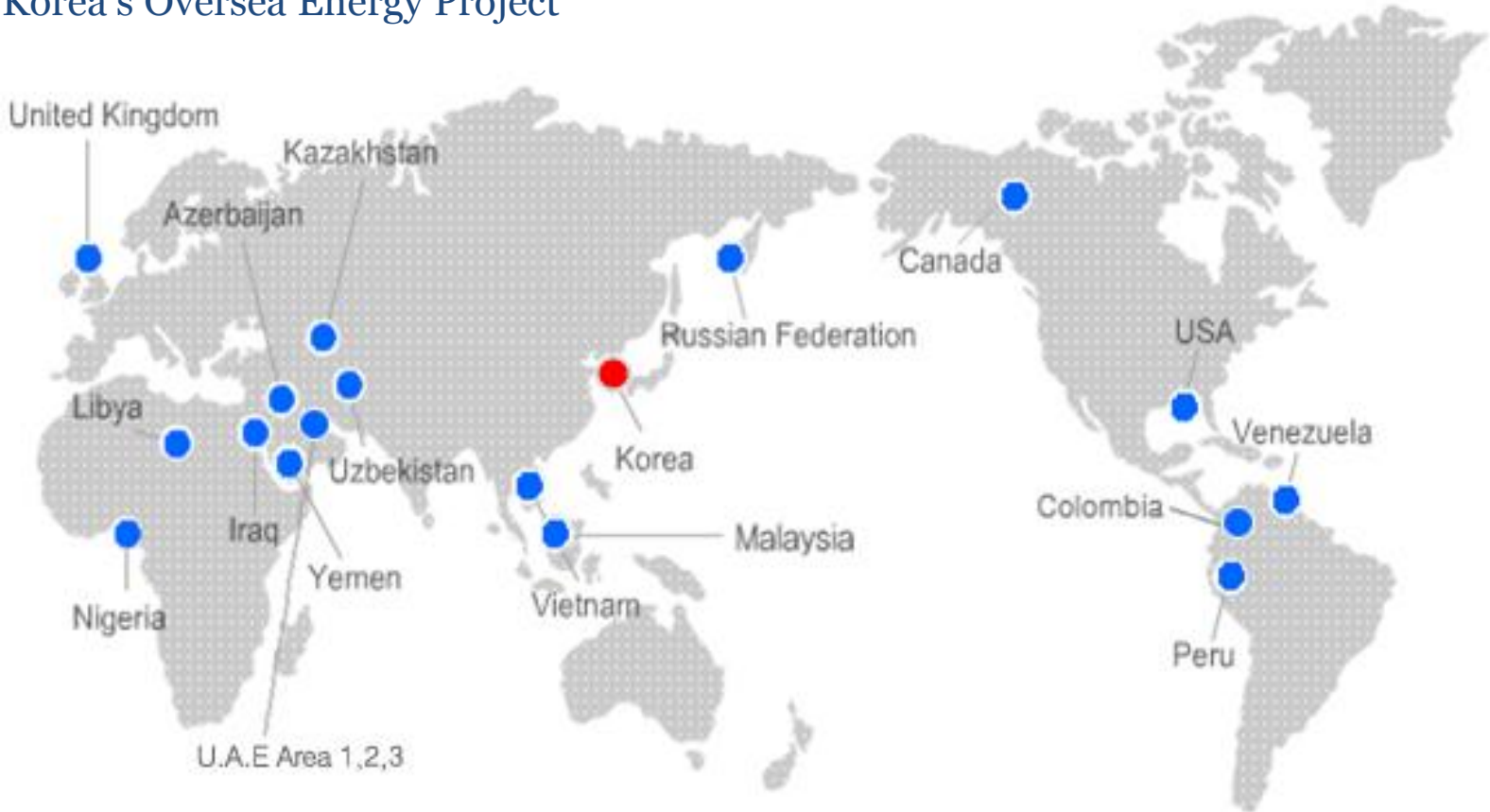
## South Korea LNG imports by source, 2013



Source: U.S. Energy Information Administration, PFC Energy



## Korea's Oversea Energy Project



# Aggressive E & P Investments

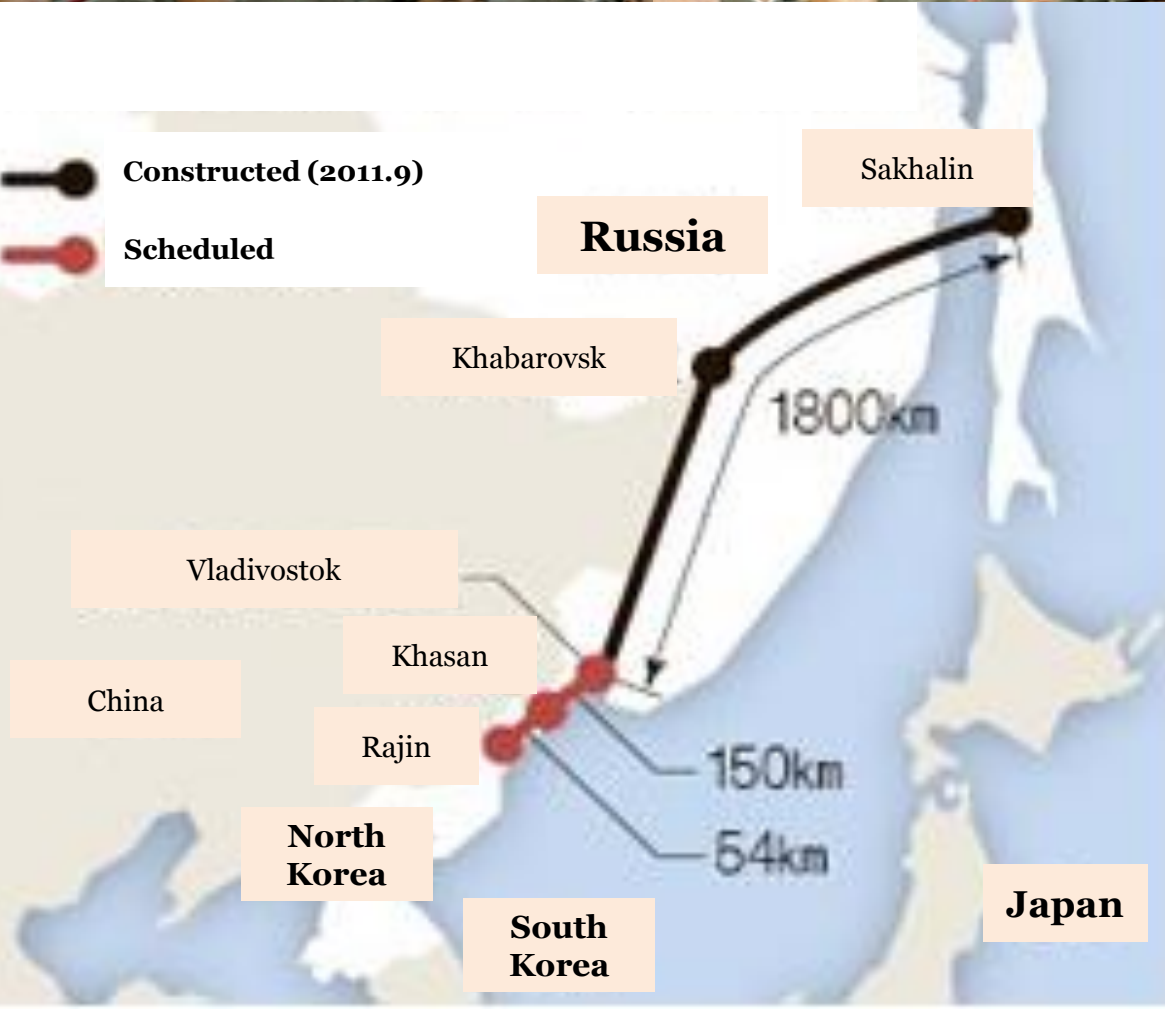
# Risky Ventures?



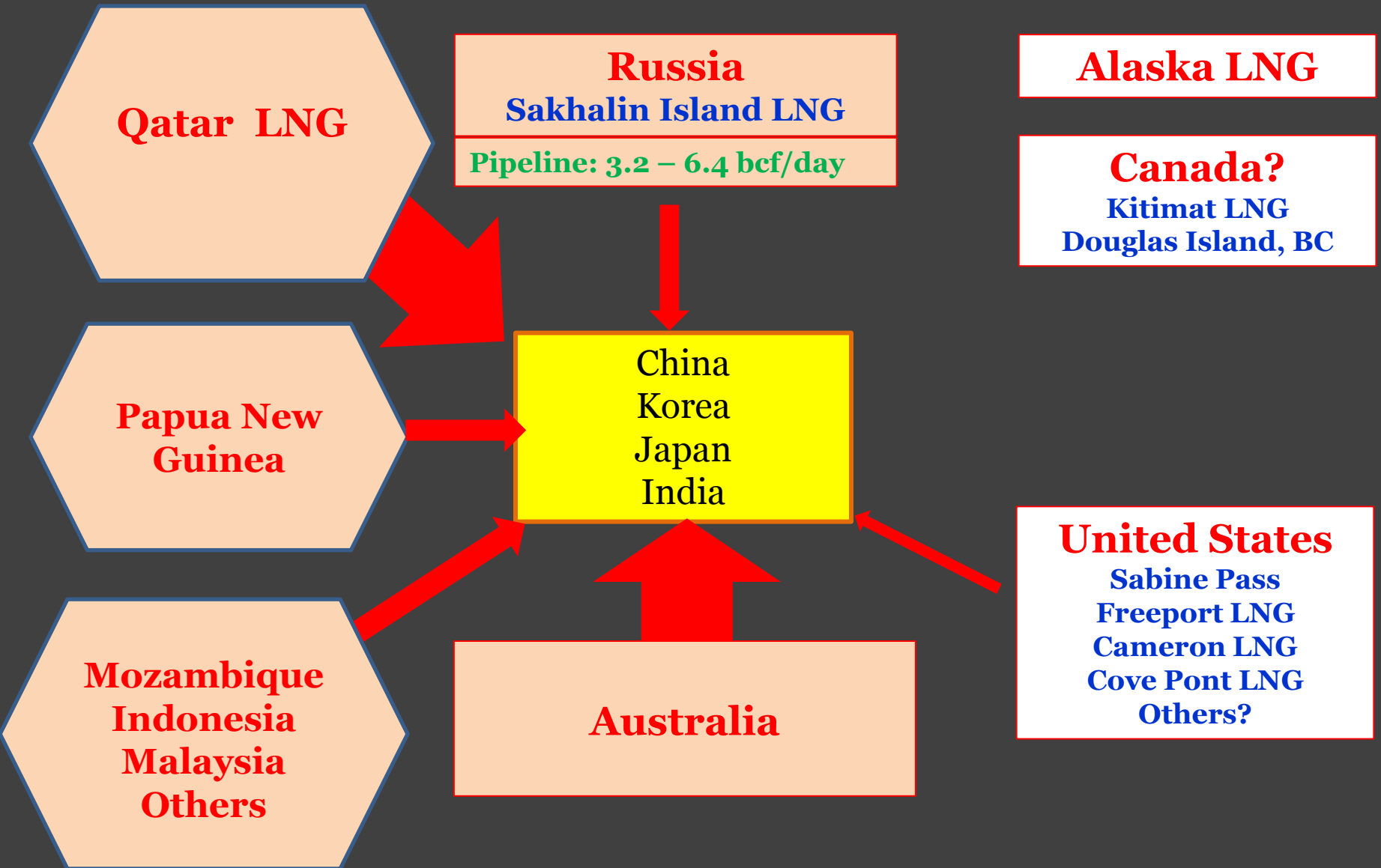
**Constructed (2011.9)**



**Scheduled**



# Competition for the Asia-Pacific Basin



# Oil's Curve Ball

Lower oil prices undercut gas prices

Lower profitability of gas slows projects



# Asia's **Demand** for Leadership



An aerial photograph of a large body of water, likely a port or harbor, filled with numerous oil tankers. The ships are scattered across the water, with some in the foreground and others further away. In the background, a dense city skyline is visible under a hazy, golden light, suggesting either sunrise or sunset. The water is a deep blue-green color, and the sky is a pale, hazy yellow. The overall scene conveys a sense of global energy trade and maritime activity.

# Energy Security

# U.S. Leadership Needed

## Protect Regional Stability

- Middle East
- International Sea Lanes

## Promote Diversification

- Reform the global market
- Build foreign relations

## Promote Multilateral Cooperation

# Recommendations

- Invite Asian policy and business leaders to the table to promote mutual learning, cooperation and innovation
- Support small and medium size businesses on how to access Asia energy market
- Support our universities to have mutual exchanges, promote policy/technical innovation and technology cooperation

# Abraham Kim, Ph.D.

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University of Mansfield

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