



# The Benefits of U.S. Crude Exports

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# Benefits of U.S. Crude Oil Production and Exports

- U.S. exports would lower consumer fuel costs at the pump by \$18 billion annually
- U.S. economy could gain \$135 billion and about one million jobs at its peak
- Reduce nation's oil import bill by \$67 billion annually
- Increase government revenues by \$1.3 trillion between 2016-2030
- Strengthen U.S. geopolitical position

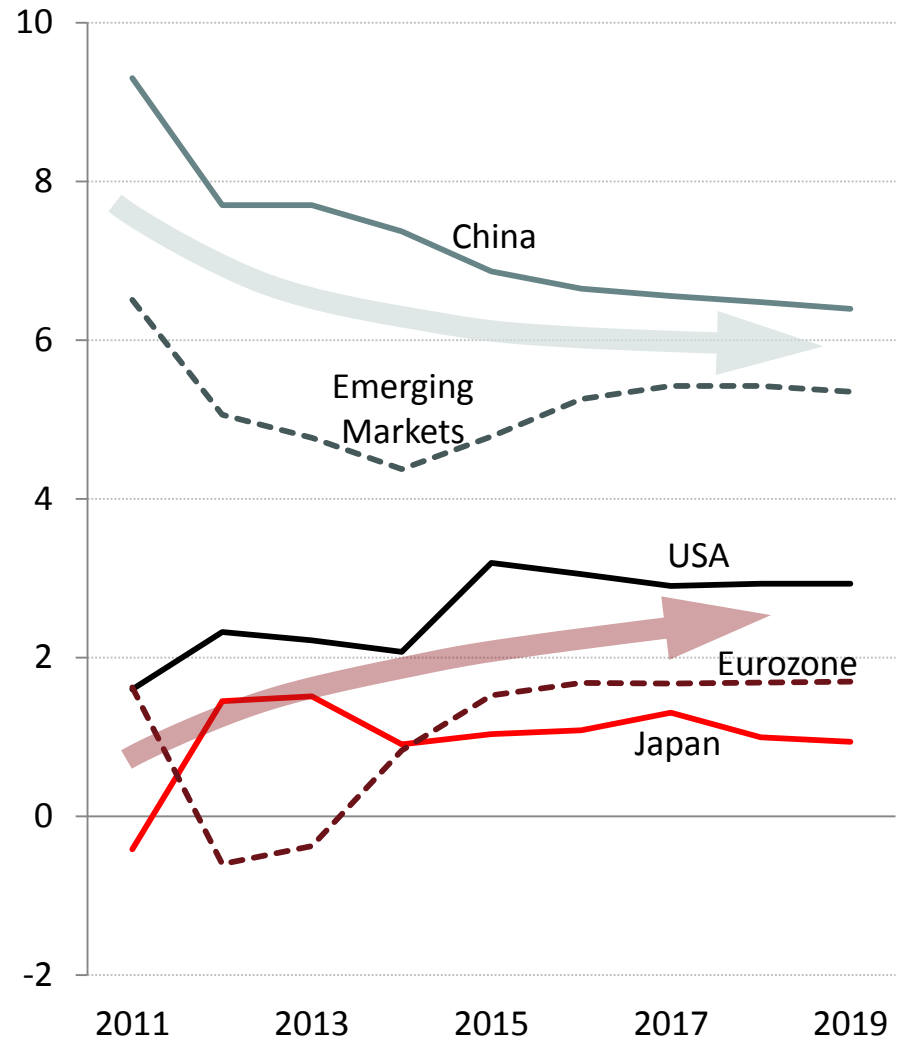


*More jobs & economic development would result from continued growth in U.S. oil production*

# Global Economic Growth

- Economic recoveries remain in 3-speed mode
  - U.S. increasingly solid
  - Europe and Japan stagnation is new normal
  - China and other EM expanding albeit some at slower rates
- Downside risks outnumber upside, but more cyclical than structural
- International policy coordination will significantly impact outcomes

Economic growth: moving to sustainable trajectories (% growth, real GDP, PPP)

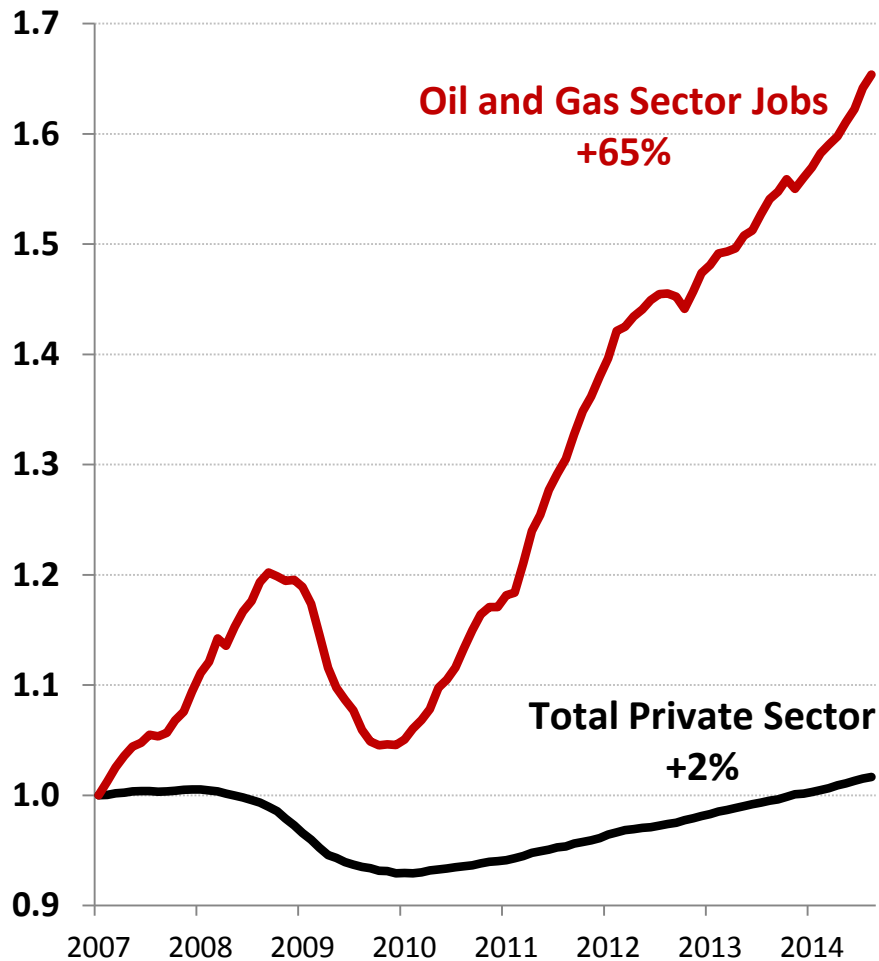


Source: Oxford Economics

# The Oil & Gas Industry Has Spurred Broader U.S. Economy

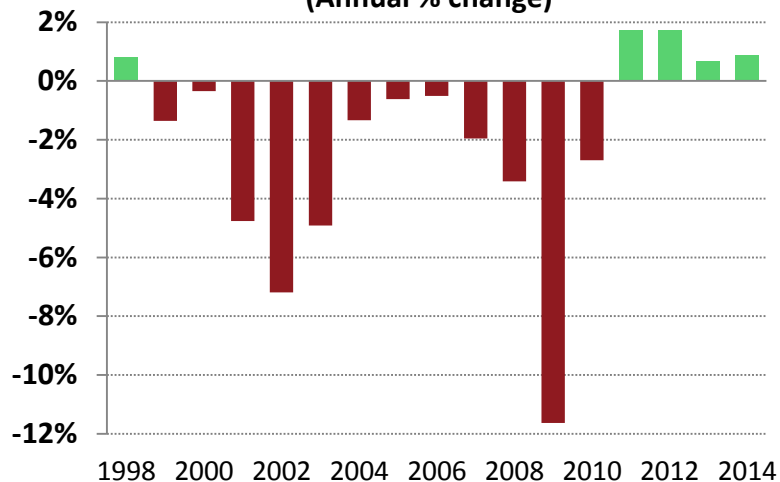
## Oil and Gas Sector Expanded While Other Sectors Lagged

Index of Job Growth: Jan. 2007 = 1.0

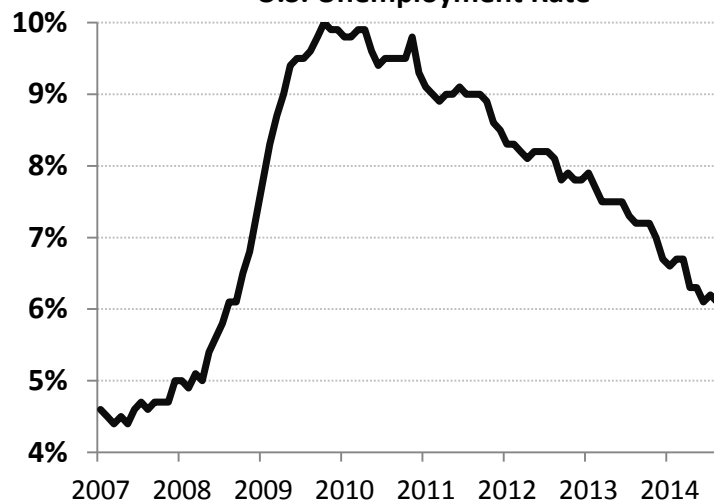


## Manufacturing employment reversed a 12-year decline

(Annual % change)



## U.S. Unemployment Rate



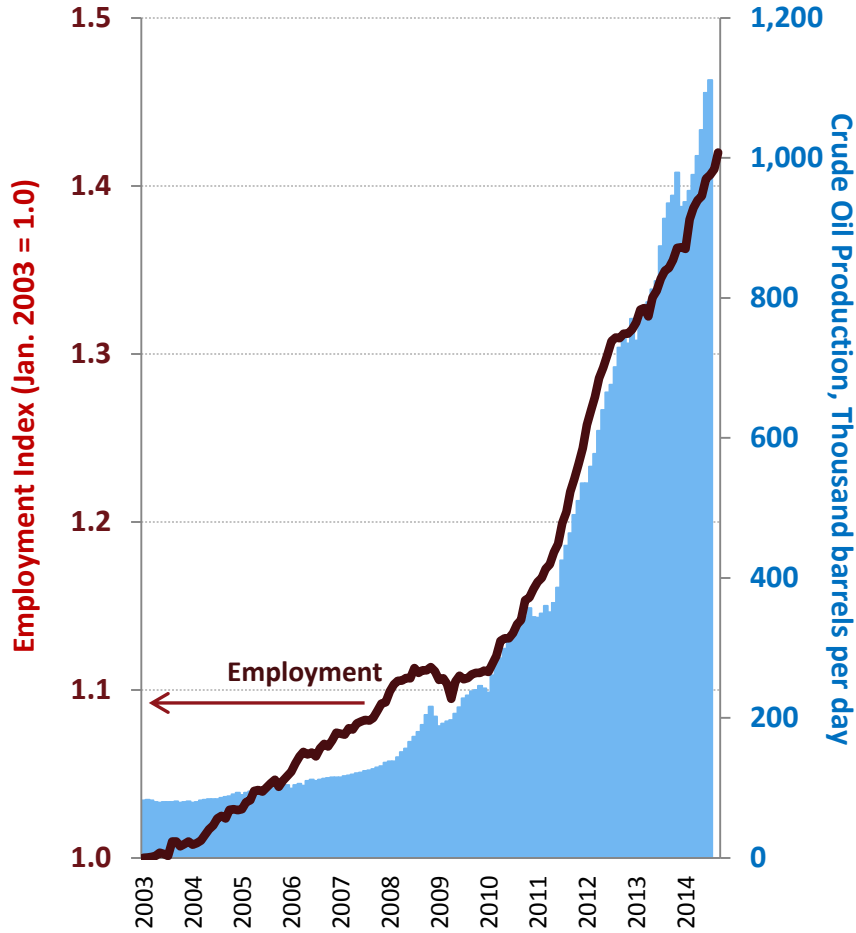
*Energy production prevented U.S. downturn from being worse, and spurred recovery*

Source: U.S. Bureau of Labor Statistics (Total Private Sector Jobs, NAICS 211000 and 213112).

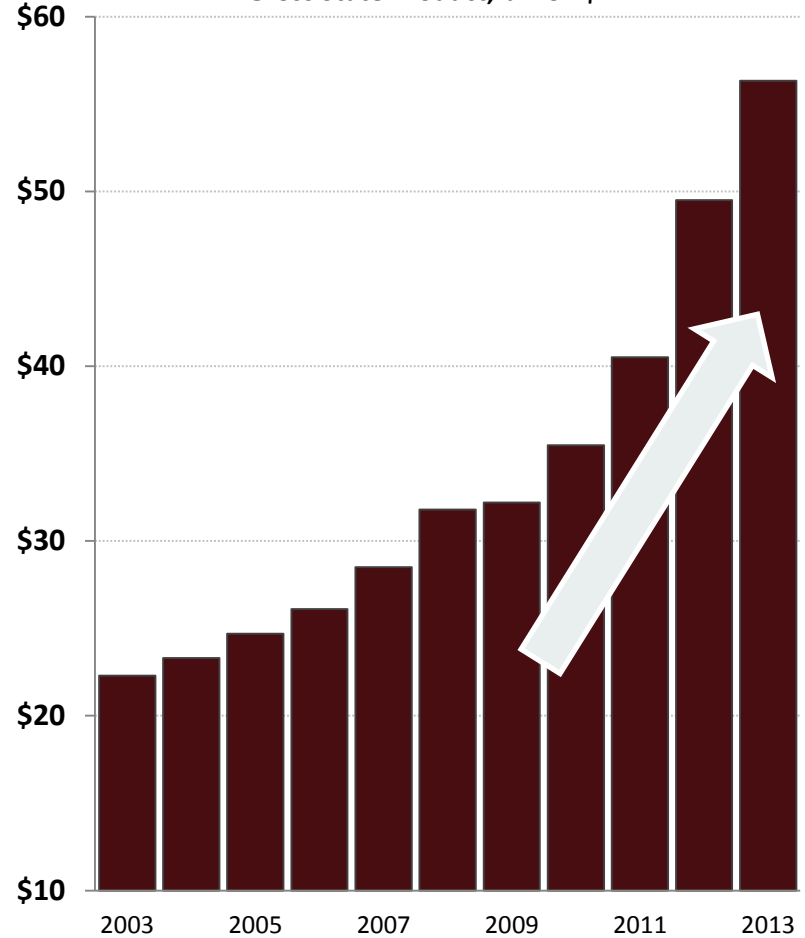
Source: U.S. Bureau of Labor Statistics.

# The State of North Dakota Has Seen Substantial Economic Growth

State of North Dakota Employment Up Over 40% as Bakken Developed



The State Economy More than Doubled in a Decade  
Gross State Product, billion \$

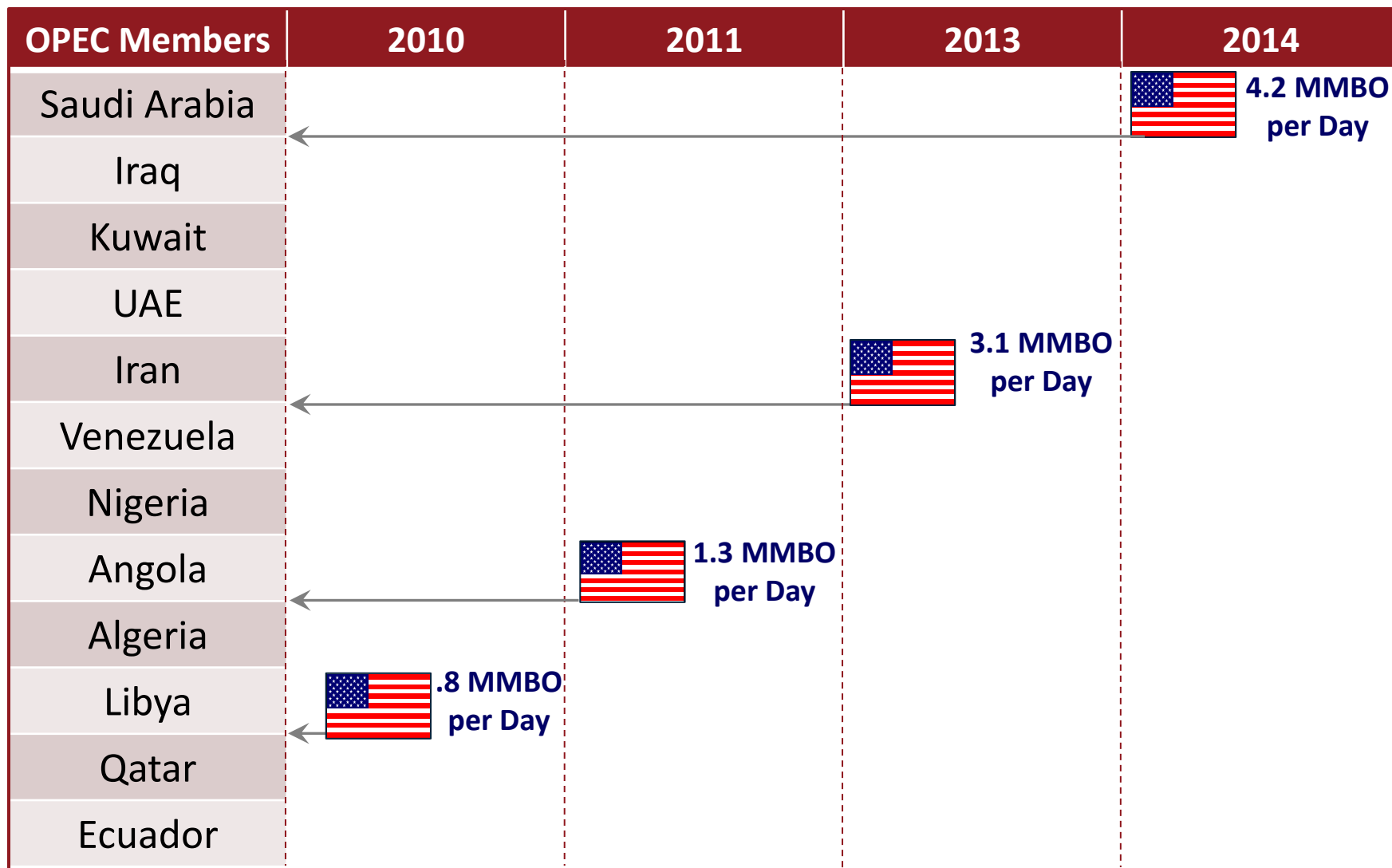


*State employment and income growth correlate to oil production*

Source: U.S. Bureau of Labor Statistics.

Source: U.S. Bureau of Economic Analysis

# U.S. Tight Oil: The Biggest Driver Behind the Oil Renaissance



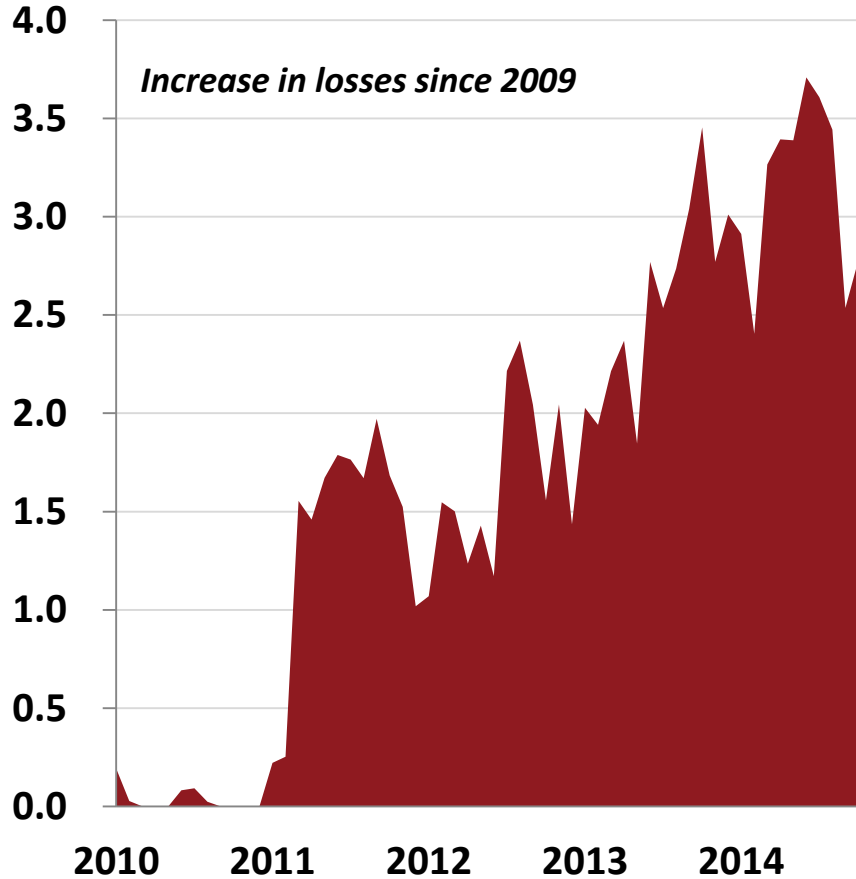
***U.S. tight oil production alone is larger than production in most OPEC nations***

OPEC Production ranked from highest (Saudi Arabia) to lowest per 2013 IEA reported production volumes. OPEC Neutral Zone production split between Saudi Arabia and Kuwait.

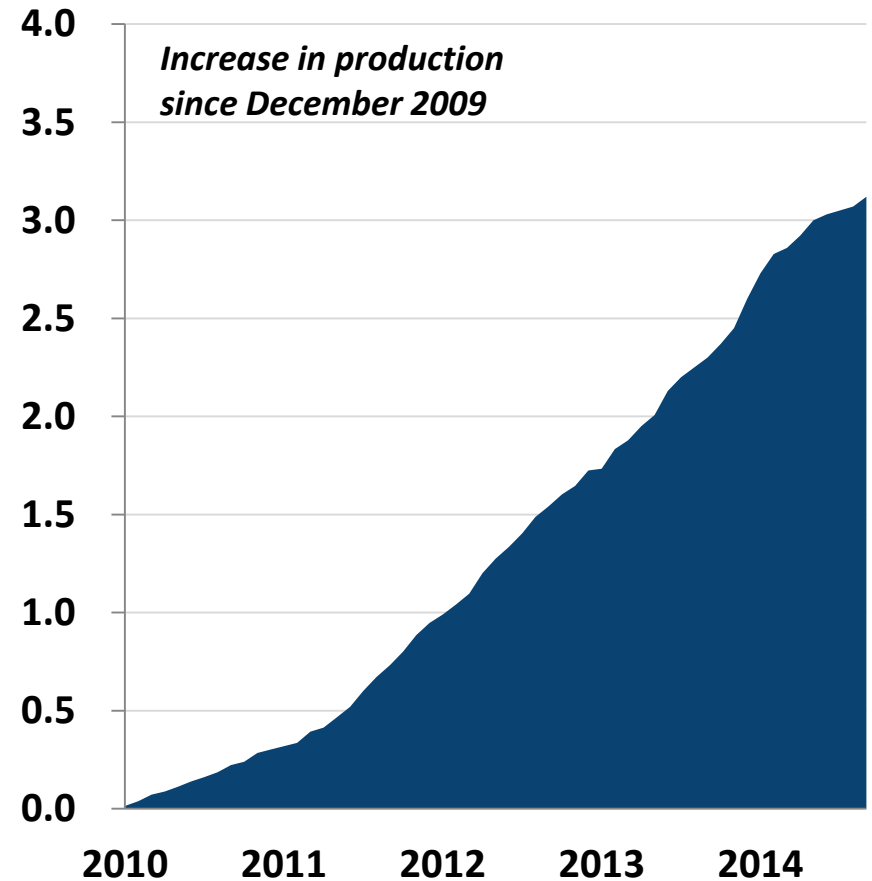
Sources: IEA for OPEC production; EIA Annual Energy Outlook and Rystad Energy for U.S. Tight Oil. NOTE: Tight oil production includes liquids from tight natural gas plays.

# Global Crude Supply Disruptions vs. U.S. Tight Oil Growth

## Growth in Global Supply Disruptions (MMBD)



## Growth in U.S. Tight Oil Production (MMBD)

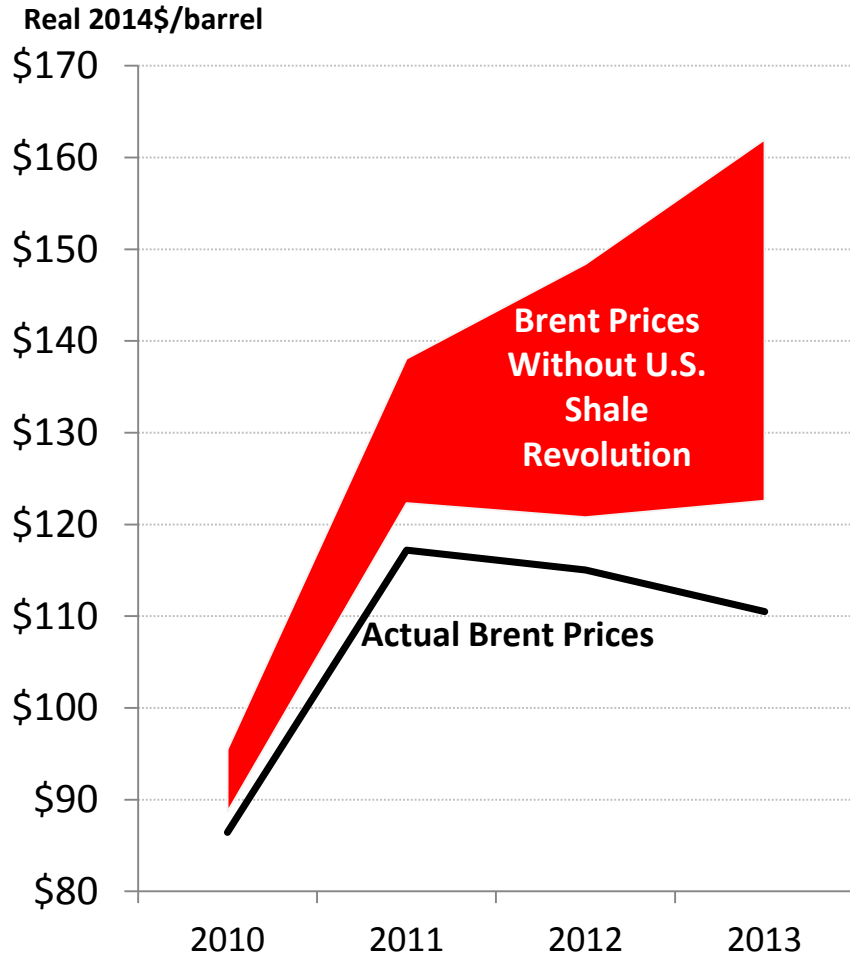


*U.S. tight oil production growth has offset most of the global supply disruptions*

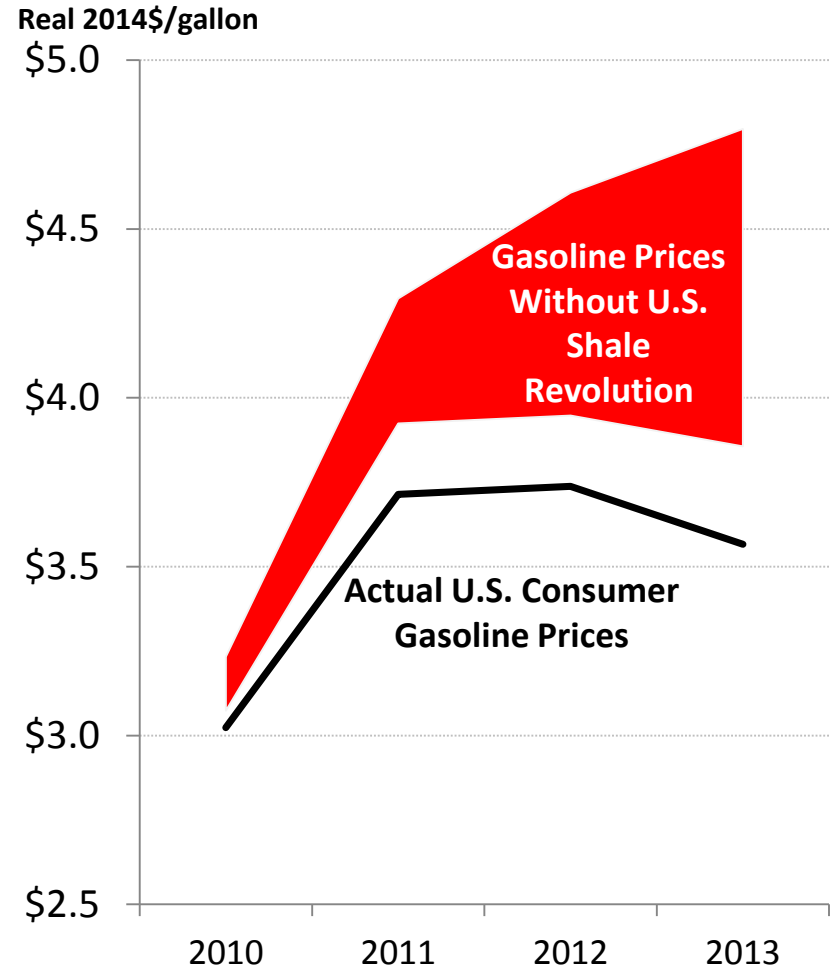


# U.S. Production Prevented Higher Prices in Recent Years

**Brent Crude Oil Prices Would Have Been \$12 to \$40 per Barrel Higher in 2013**



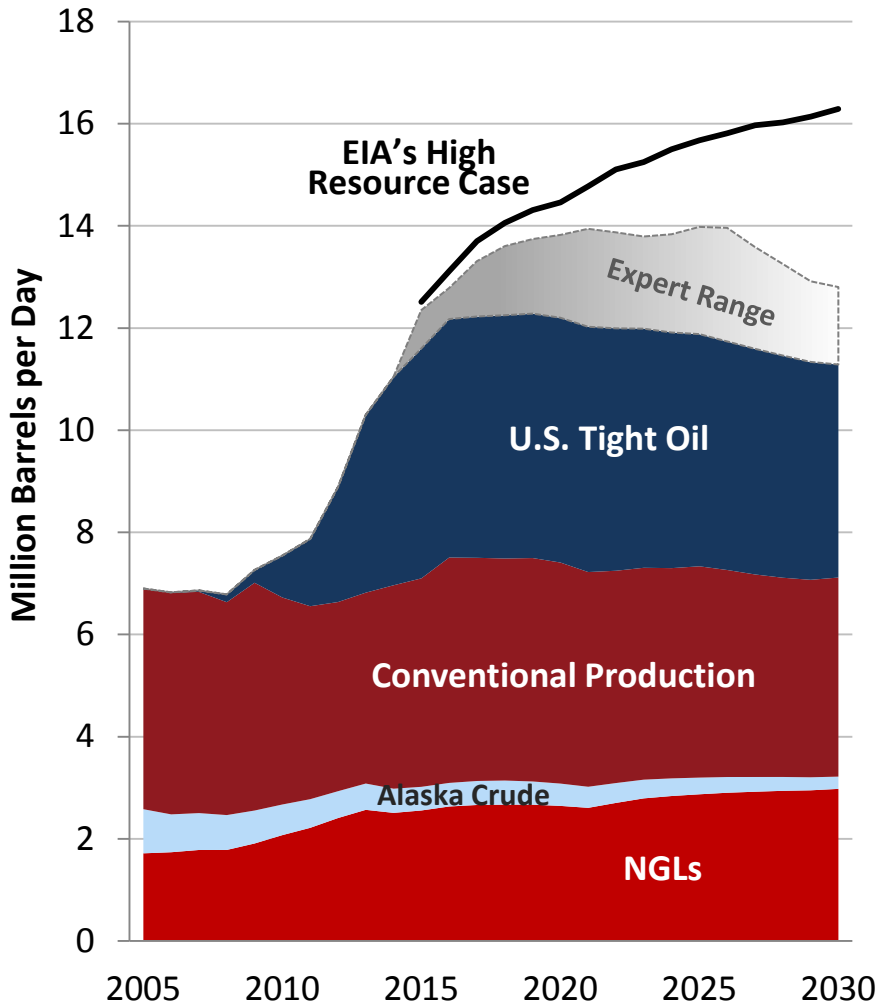
**U.S. Consumer Gasoline Prices Would Have Been \$0.30 to \$0.94 per Gallon Higher in 2013**



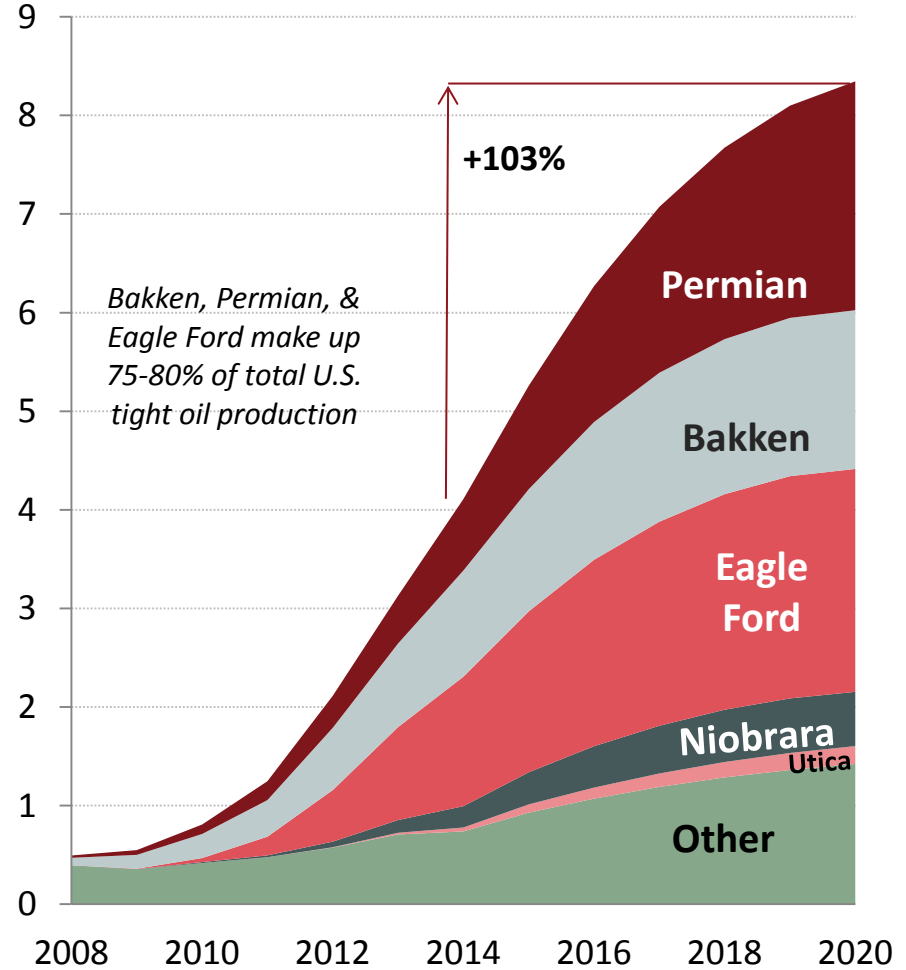
Source: ICF International for American Petroleum Institute, October 30, 2014.

# U.S. Oil Production is Set to Expand

U.S. Crude, Condensate, Natural Gas Liquids Forecast



Light Tight Oil Output could double by 2020

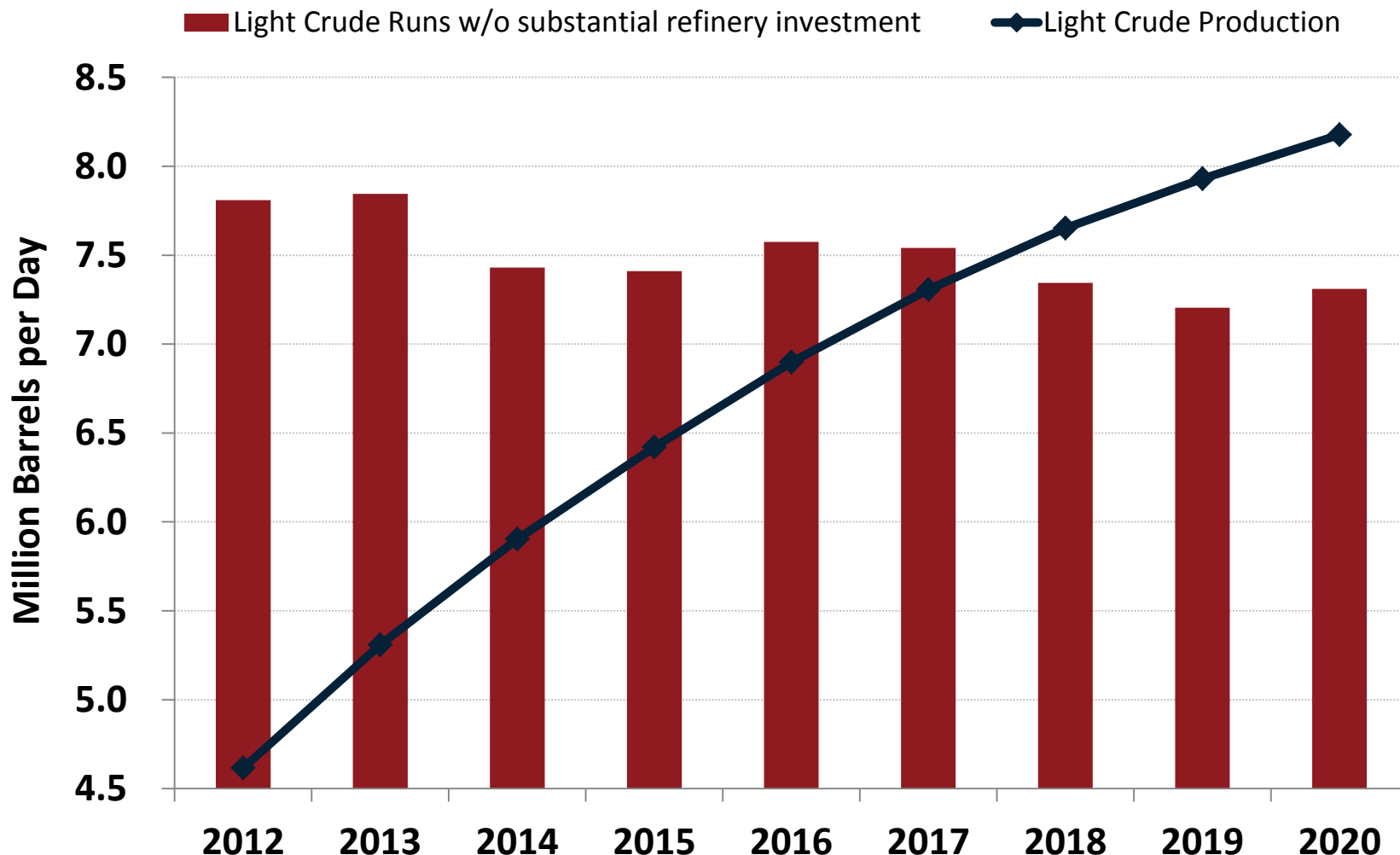


*Liquids production has returned to levels not seen since 1972*

Source: EIA Annual Energy Outlook 2014, Various forecasts

Source: Rystad Energy Upstream Database

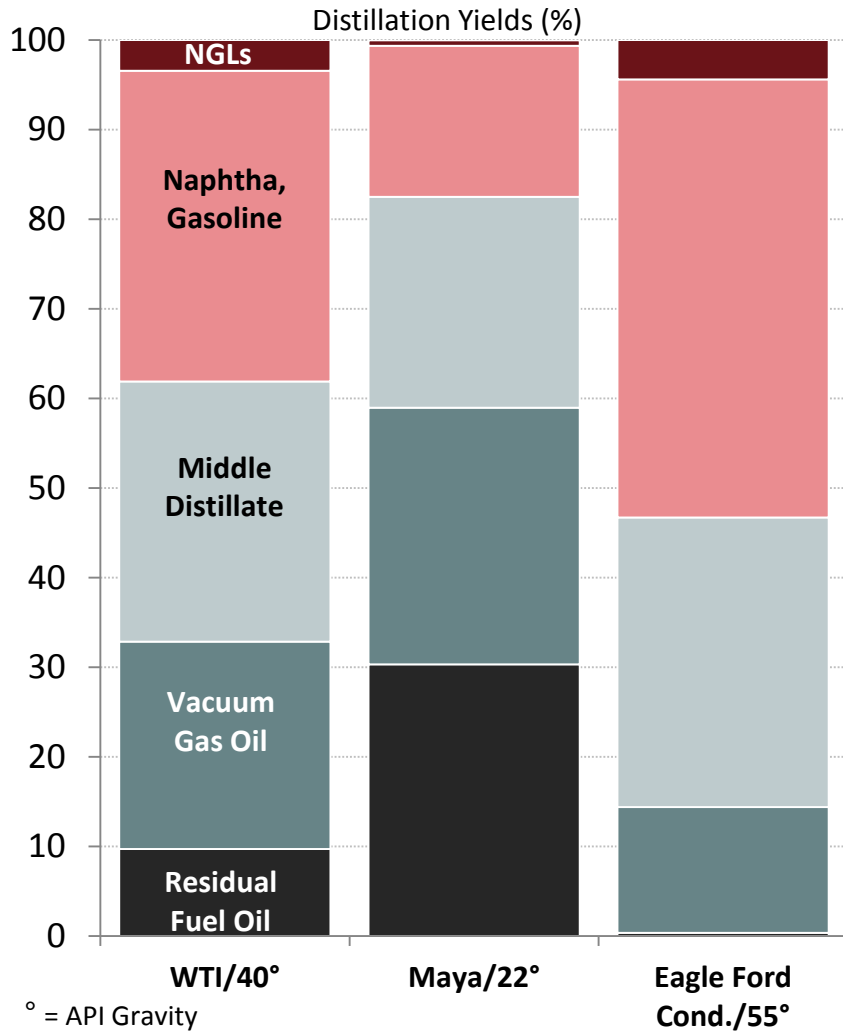
# U.S. Light Crude Oil Production vs. Light Refinery Runs



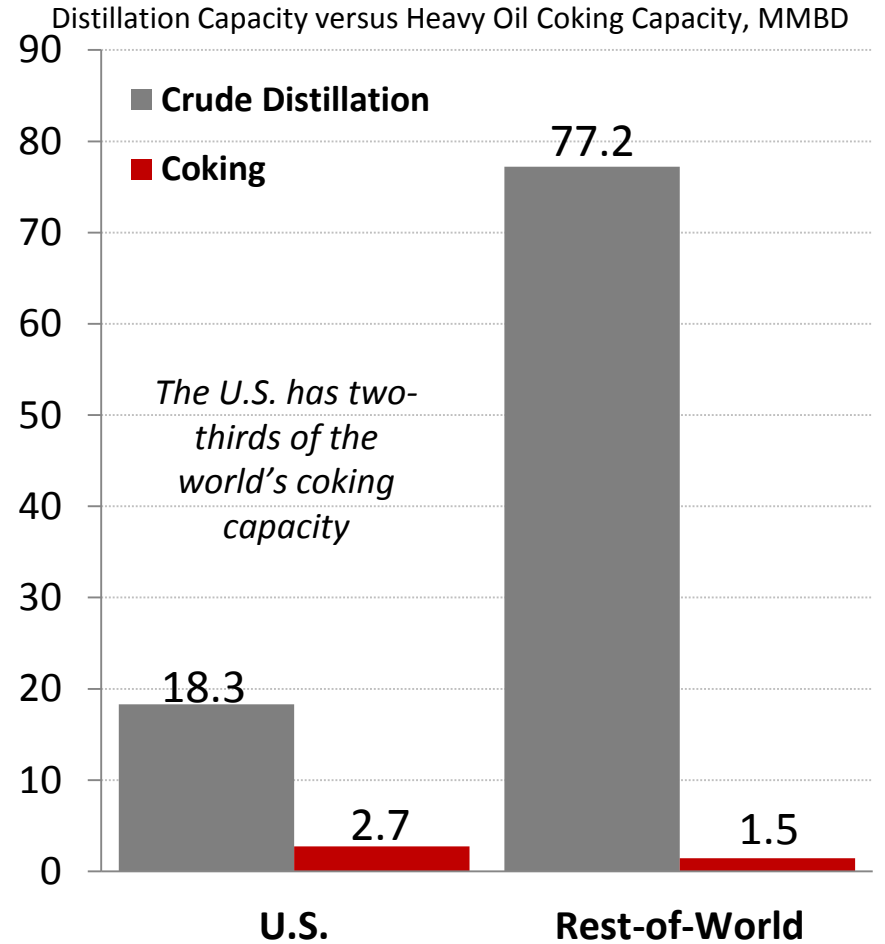
*Light crude production will eventually exceed refiner ability to process it without substantial refining investments or crude exports*

# Tight Oil Quality vs U.S. Refining Configuration: the “Mis-Match”

## Product yields differ significantly

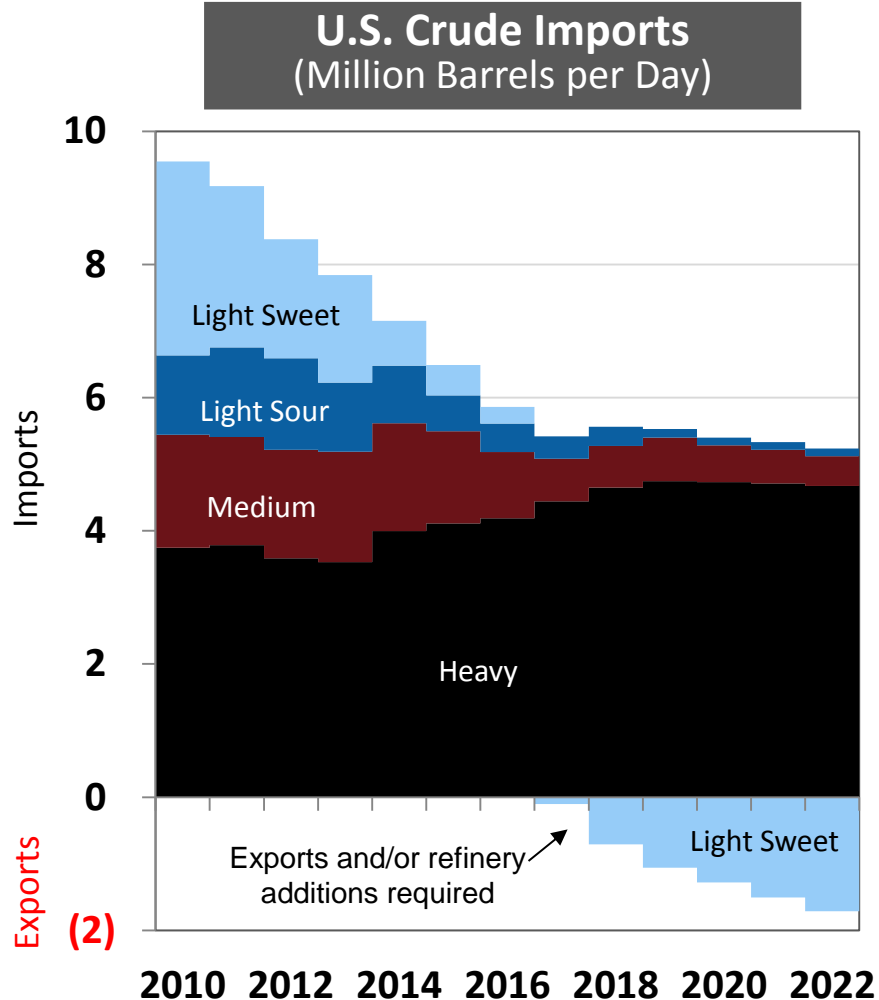


## Blending U.S. tight oil into larger world pool is a more efficient allocation



**Exporting U.S. LTO enables a more optimal global allocation of crude oils among refiners**

# U.S. Light Crude Oil Imports Have Dwindled

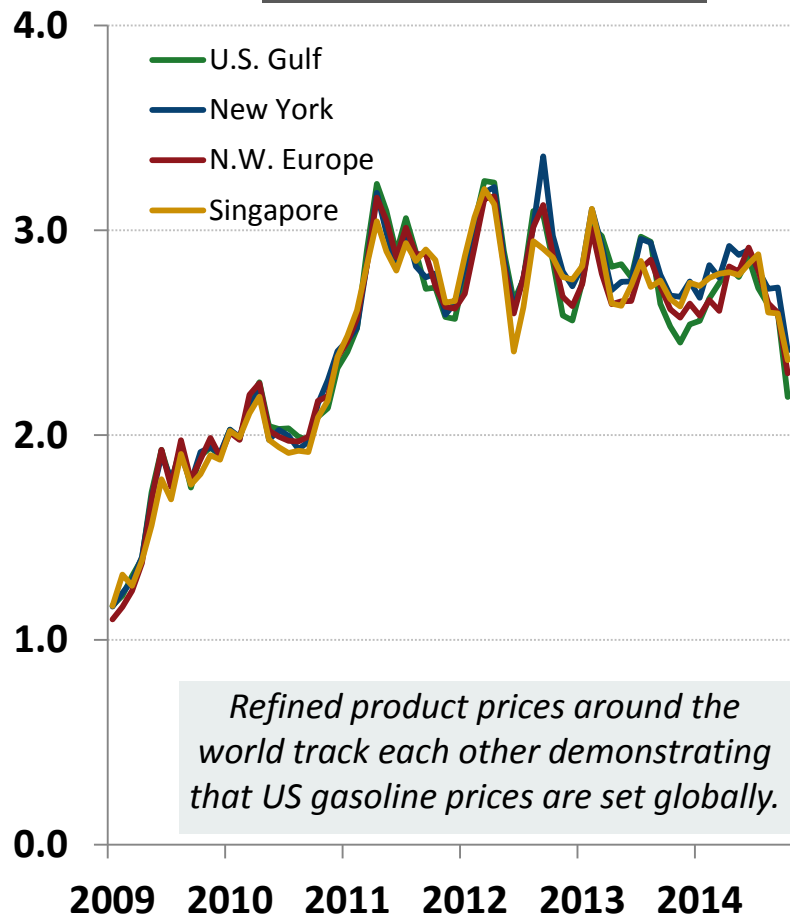


- Declining light, sweet crude imports, with year round exports needed by 2017
  - Condensates and super light crudes are already in surplus
  - Seasonal exports needed before then during U.S. refinery turnarounds / outages
- Eventual reductions in light, sour and medium crude imports
- U.S. likely to maintain heavy crude imports that better matches domestic refinery configuration

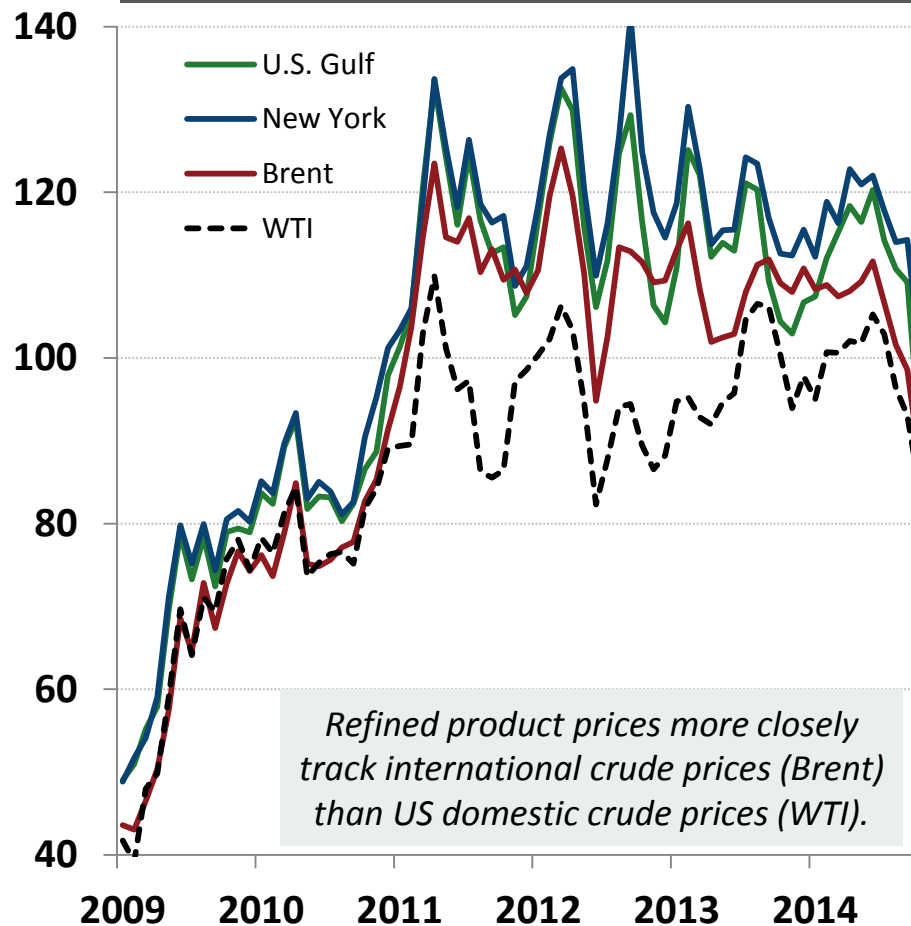
*Light, sweet crudes are already in surplus seasonally*

# Gasoline Prices Are Set Globally by International Crude Prices

## Spot Gasoline Prices (\$/Gallon)



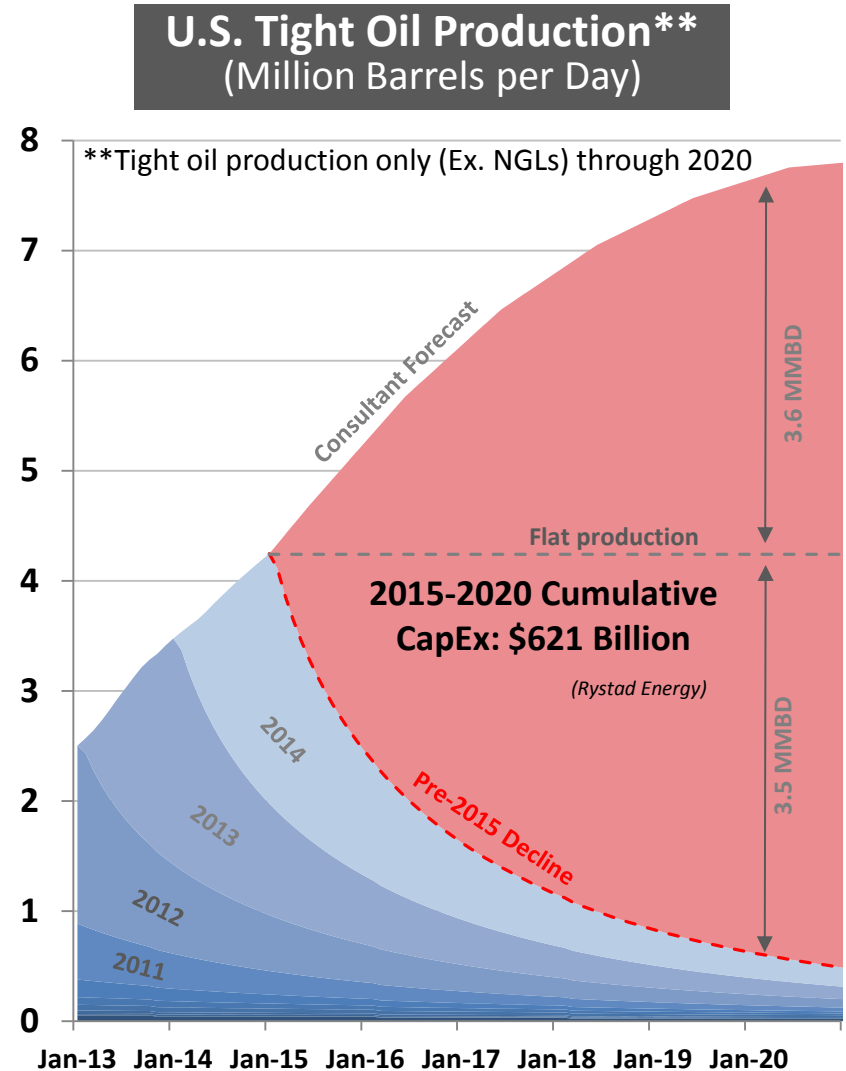
## U.S. Gasoline Prices vs. International & Domestic Crude Prices (\$/BBL)



**U.S. crude exports should lower U.S. gasoline prices**

# Inability to Export Crude Will Lower U.S. Oil Production

- Domestic crude price discounts would reduce investment in new production
  - Some wells and plays become uneconomic
  - Reduced cash flow to invest
- Without crude exports, U.S. crude production would be ~1.5-3.0 MMBD lower in 2020\*



***Substantial investment needed to grow tight oil production***

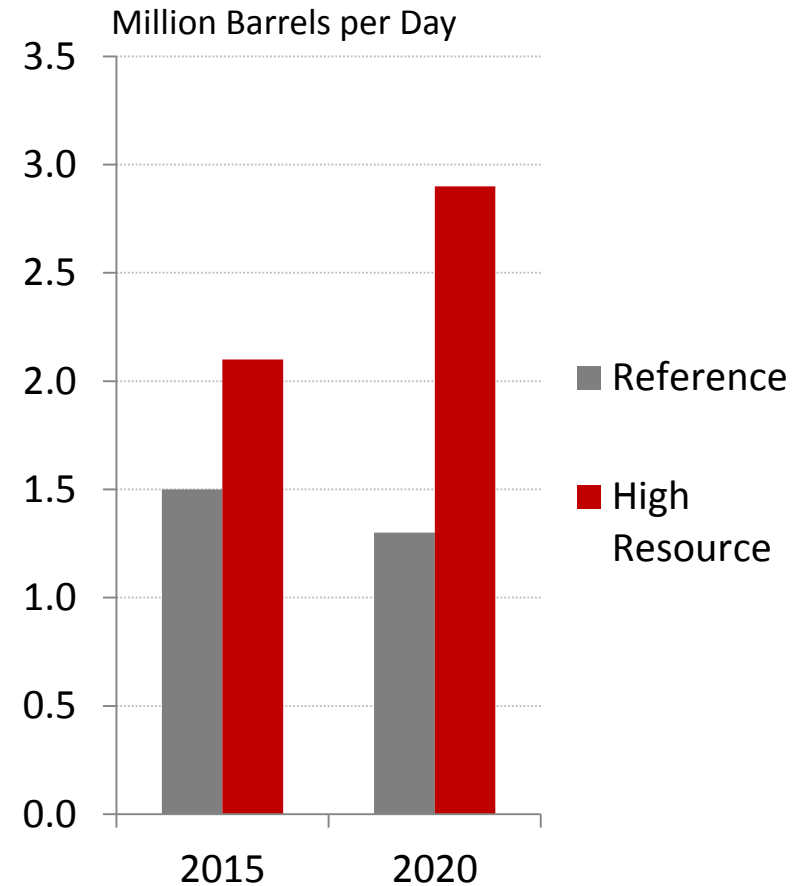
Source: ConocoPhillips, for decline rates, Rystad for forecast and cumulative CapEx (October 2014)

\*Brookings Institution, "Changing Markets: Economic Opportunities from Lifting the U.S. Ban on Crude Oil Exports," September, 2014

# Ability to Export Crude Would Increase U.S. Oil Production

- Lifting the ban on crude exports would increase U.S. production by 1.5 to 3.0 MMBD by 2020
  - 10-20% increase
- Removing domestic crude price discounts caused by the ban would increase investment in new production
  - More wells and plays would become economic
  - Increased cash flow to invest

## Incremental U.S. Crude Production from Lifting Export Ban in 2015



***Increased production would have significant economic benefits to the U.S.***



# Summary

- New abundance of light, low sulfur tight oil production in the U.S.
- Offers tremendous economic and security benefits to the country
- Mismatch with U.S. refinery configuration presents a challenge
- Threatens to stunt tight oil development and its benefits to the U.S.
- U.S. crude exports provides a solution

