



**RAPIDAN**  
ENERGY GROUP

# Welcome Back to Boom-Bust Oil Prices

## Carlsbad Mayor's Oil & Gas Summit

October 16, 2017

Robert McNally



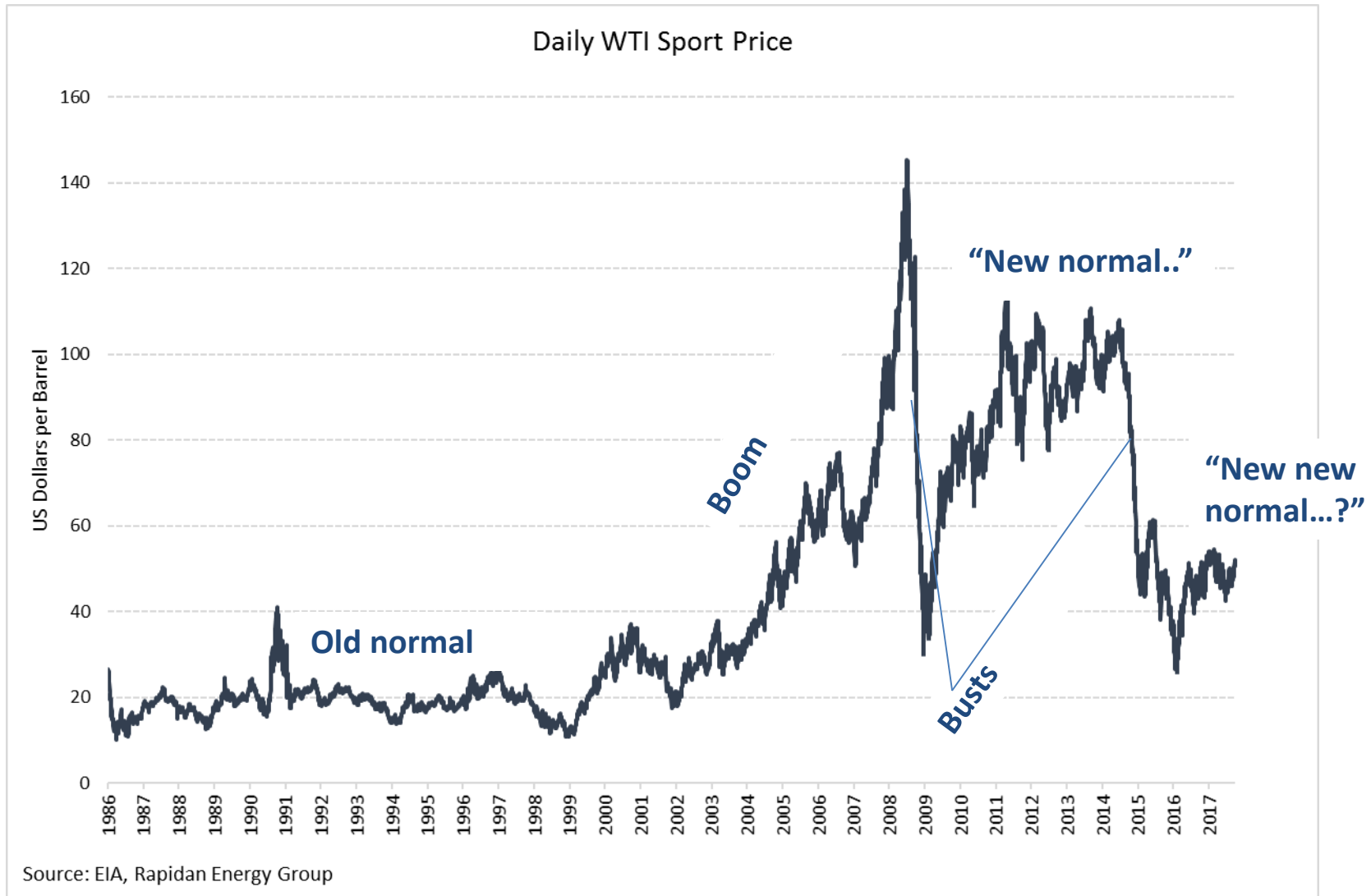
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1. Oil's new boom-bust era – buckle up
2. Peak peak demand - the next big “surprise”
3. \$40-\$60 not a “new normal” - boom will follow bust

# Last 10+ Years: Not Your Usual Oil Price Volatility



*The problem of oil, it might be tersely said, is that there is always too much or too little.*

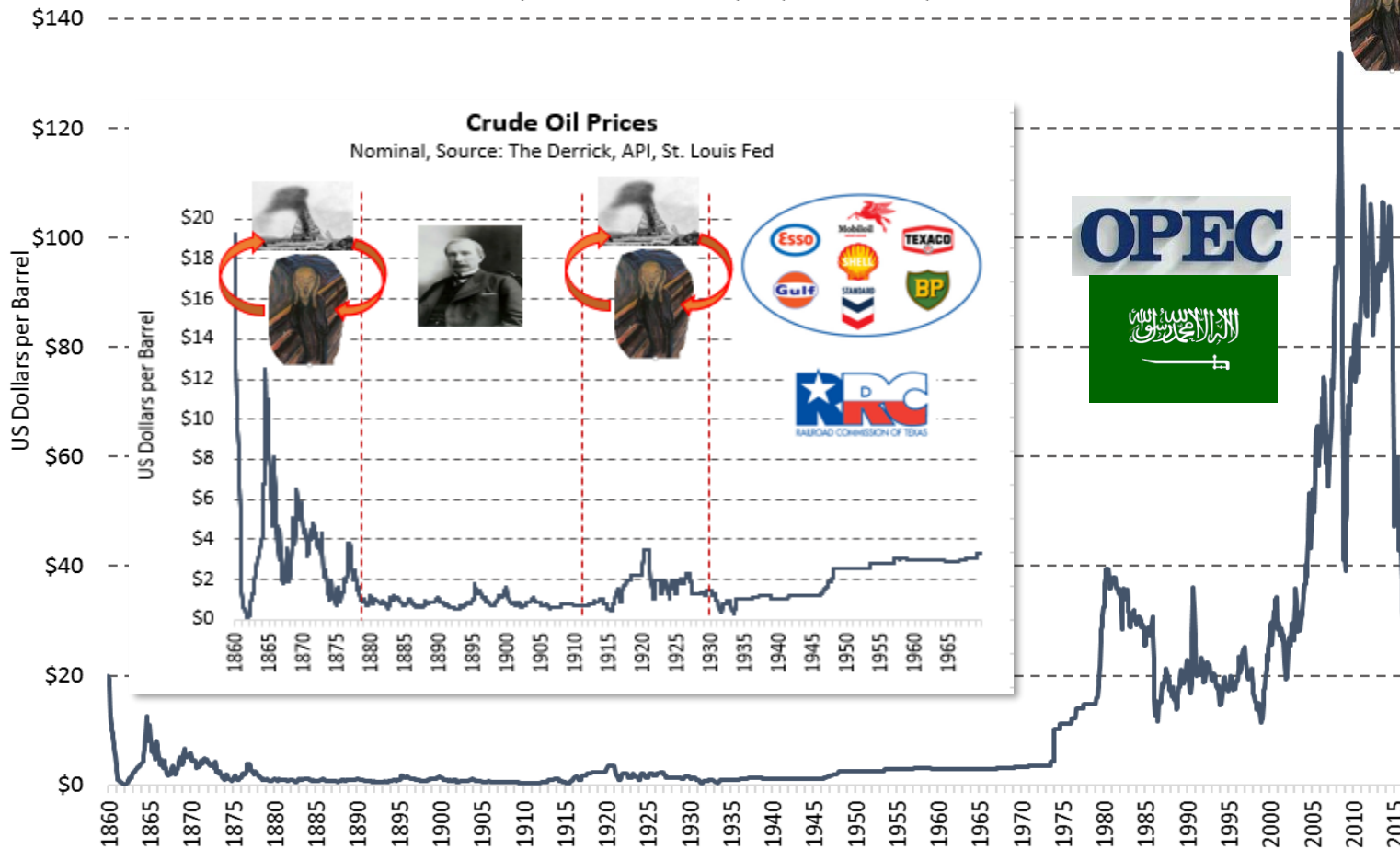
–Myron Watkins, *Oil: Stabilization or Conservation?* 1937

# Sticky Supply and Demand Make Oil Prone to Big Price Swings

Standard Oil, TRC, Seven Sisters and OPEC resorted to supply management to stabilize prices

## Crude Oil Prices

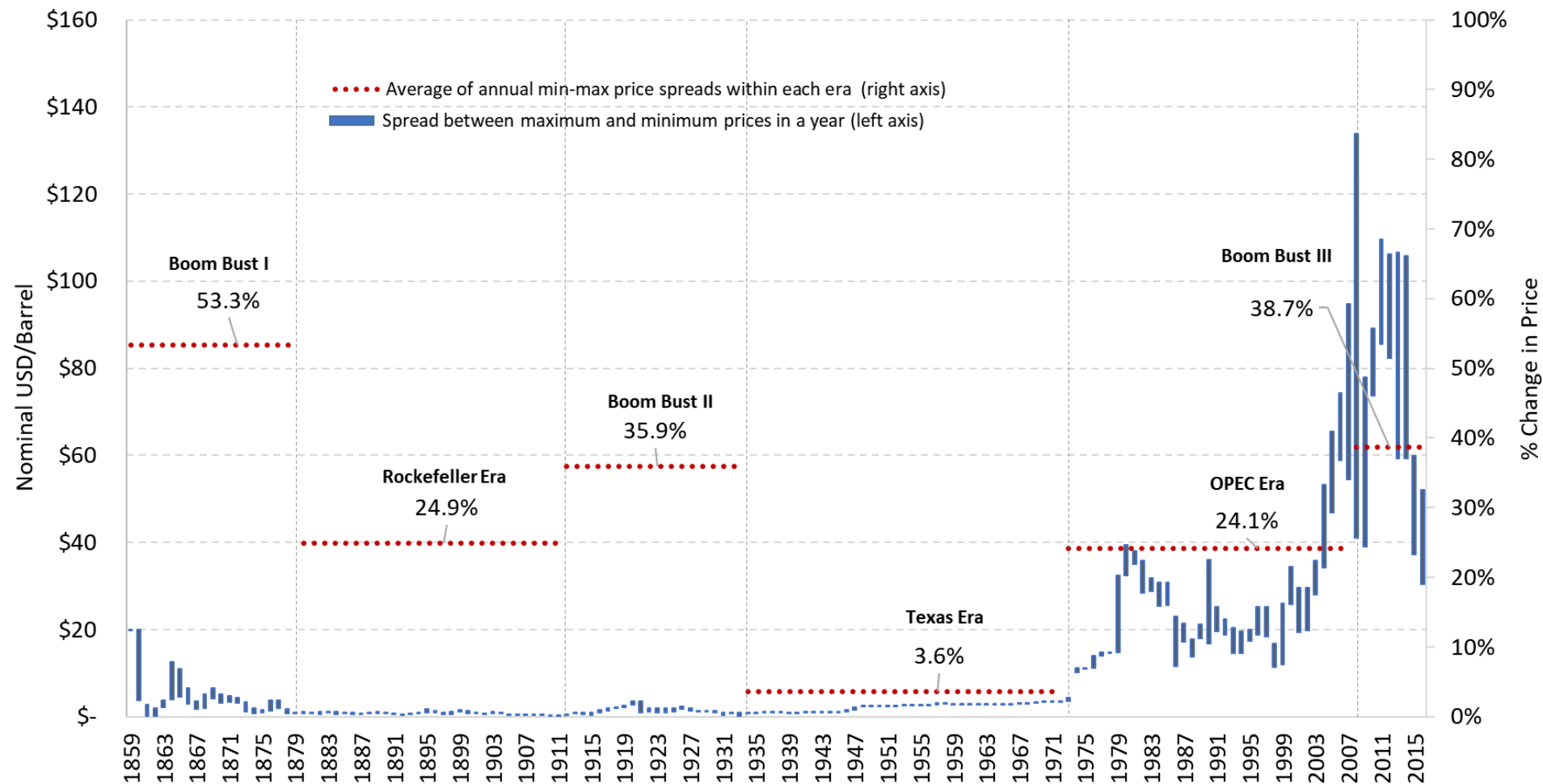
Nominal, Source: The Derrick, API, St. Louis Fed, EIA



# Ten Years Ago We Entered History's Third Boom-Bust Era

Supply-demand imbalance + no swing producer = big price swings

Annual Ranges of Monthly US Crude Oil Prices, 1859-2016



Data Sources: Rapidan Energy Group, based on The Derrick, API, St. Louis Fed, EIA, and Bloomberg

**Robert McNally**



# CRUDE VOLATILITY



**THE HISTORY AND THE FUTURE  
OF BOOM-BUST OIL PRICES**

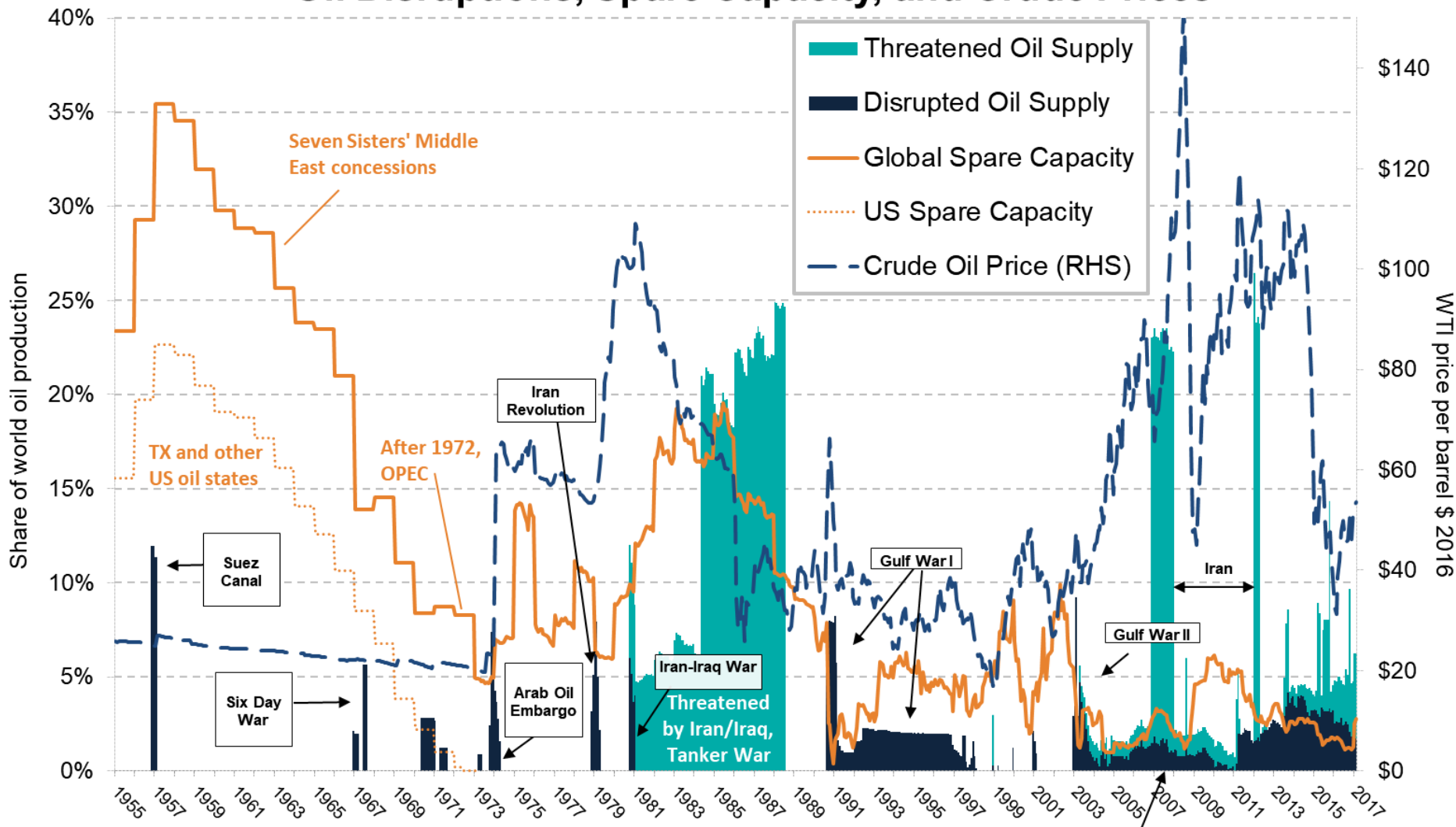


**FIGURE 4.2**

Martial law. Militia are deployed to shut wells in East Texas oil fields. The postcard reads "HOOF BEATS DOWN DRILLING DIN AS CAVALRYMEN PATROL EAST TEXAS OIL FIELDS."

*Source:* From the postcard collection of Jeff Spencer; original postcard photo by Jack Nolan.

## Oil Disruptions, Spare Capacity, and Crude Prices



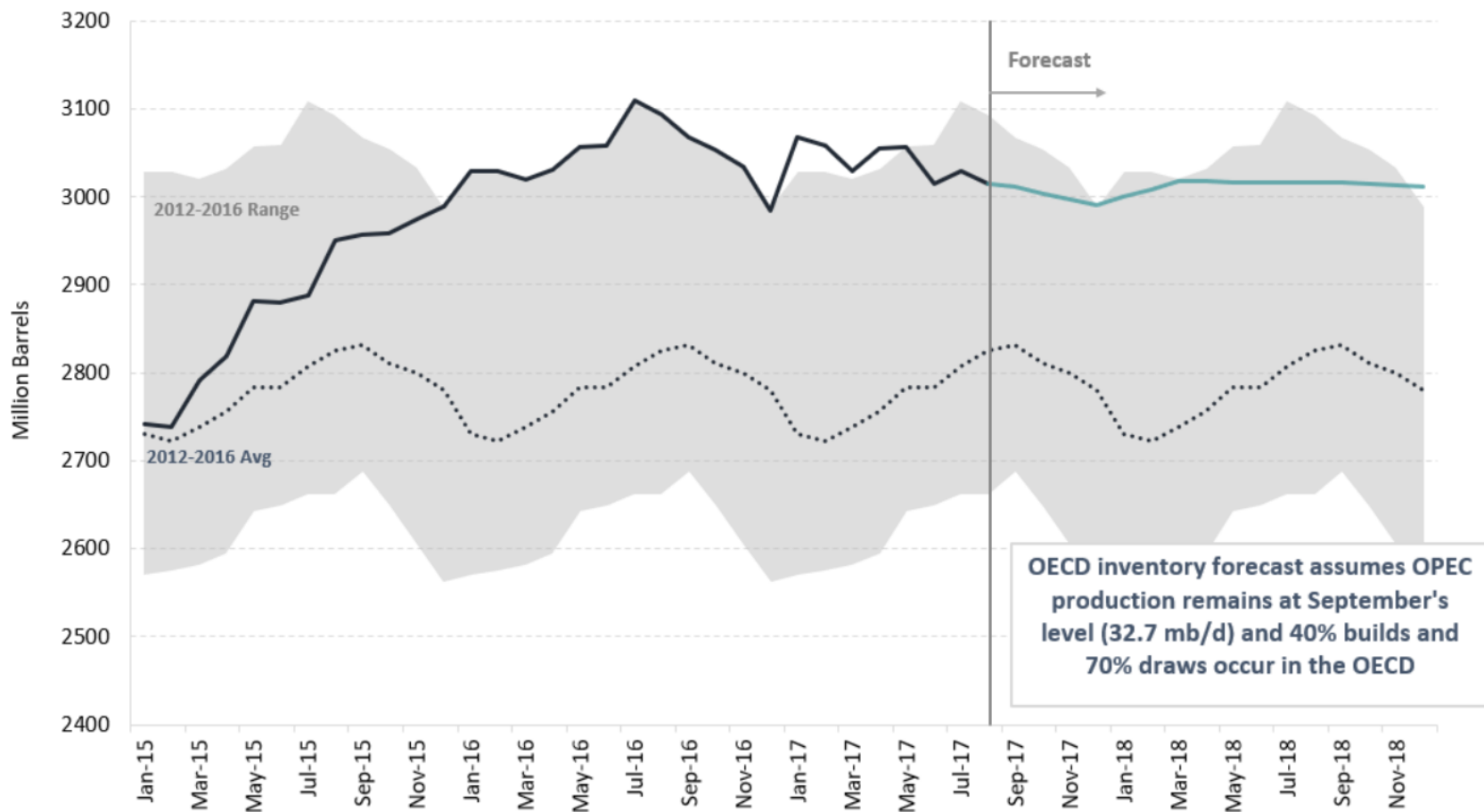
Data: Rapidan Energy Group, EIA, BP, St. Louis Fed, US Senate

VZ '02-'03, Iraq '03, Nigeria '03 ->, Libya '10->, Iran '12-> and others



# OPEC and Russia More Successful at Managing Investor Perceptions than Oil Supply

OECD Commercial Crude and Liquid Inventories: IEA's Implied Forecast



Source: IEA, Rapidan Energy Group

## Opec: oil demand could peak in just over a decade

Cartel says oil demand could peak in 2029 if signatories climate deal meet aims

## OE17: Peak oil demand in 2022

Written by OE Staff Tuesday, 05 September 2017 00:03

[Print](#) | [Email](#)

Energy demand will plateau after 2030, according to a new DNV GL (stand 5B51) model which forecasts the pace and extent of the global energy transition until 2050.

While fossil fuel will still provide more than 40% Peak of the world energy demand, the consequences of the

## Forget 'Peak Oil': We could reach 'Peak Demand' for energy before 2030

Anmar Frangoul | Special to CNBC.com

Monday, 10 Oct 2016 12:04 AM ET



## Energy Giant Shell Says Oil Demand Could Peak in Just Five Years

Bloomberg, November 2, 2016

## Global demand for energy will peak in 2030, says World Energy Council

New tech  
'phenom

The Guard

## Electric cars will wipe out oil demand equal to Iran's output by 2025, Barclays says

- Electric vehicle adoption and higher fuel efficiency could cut global oil demand by 3.5 million barrels a day, Barclays analysts forecast.
- If EVs grow to a third of the market, it could slash crude consumption by 9 million barrels a day.
- There are still a number of barriers to EV growth, but several countries are considering measures to ban or curb internal combustion engines from their roads.

Tom DiChristopher | @tdichristopher

Published 21 Hours Ago | Updated 13 Hours Ago



## Get Ready for Peak Oil Demand

There's a growing consensus that the end of ever-rising consumption is in sight. The big question that many oil companies are debating: When?

By Lynn Cook and Elena Cherney

Updated May 26, 2017 4:52 p.m. ET

THE WALL STREET JOURNAL

95 COMMENTS

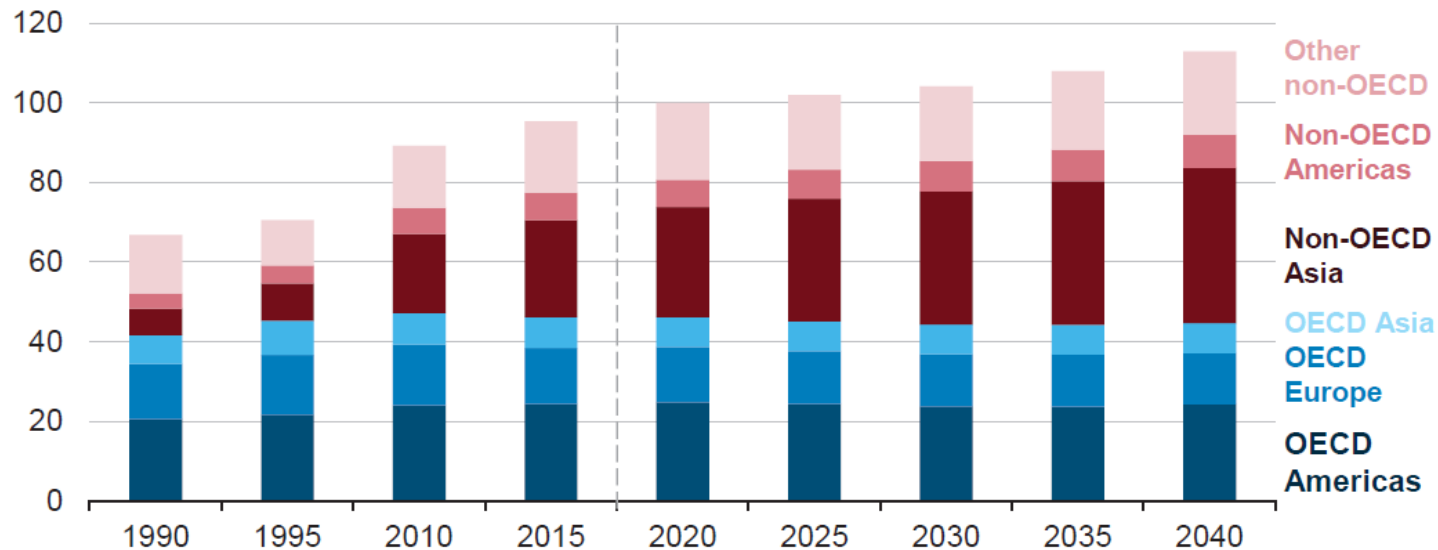
The world's largest oil companies are girding for the biggest shift in energy consumption since the Industrial Revolution: After decades of growth, global demand for oil is poised to peak and fall in the coming years.

New technologies that improve fuel efficiency are starting to push down the amount of gasoline and diesel that's needed for transportation, and a consensus is growing that fuel demand for transportation could fall as much as 50% by 2050, according to a new report from the International Energy Agency.

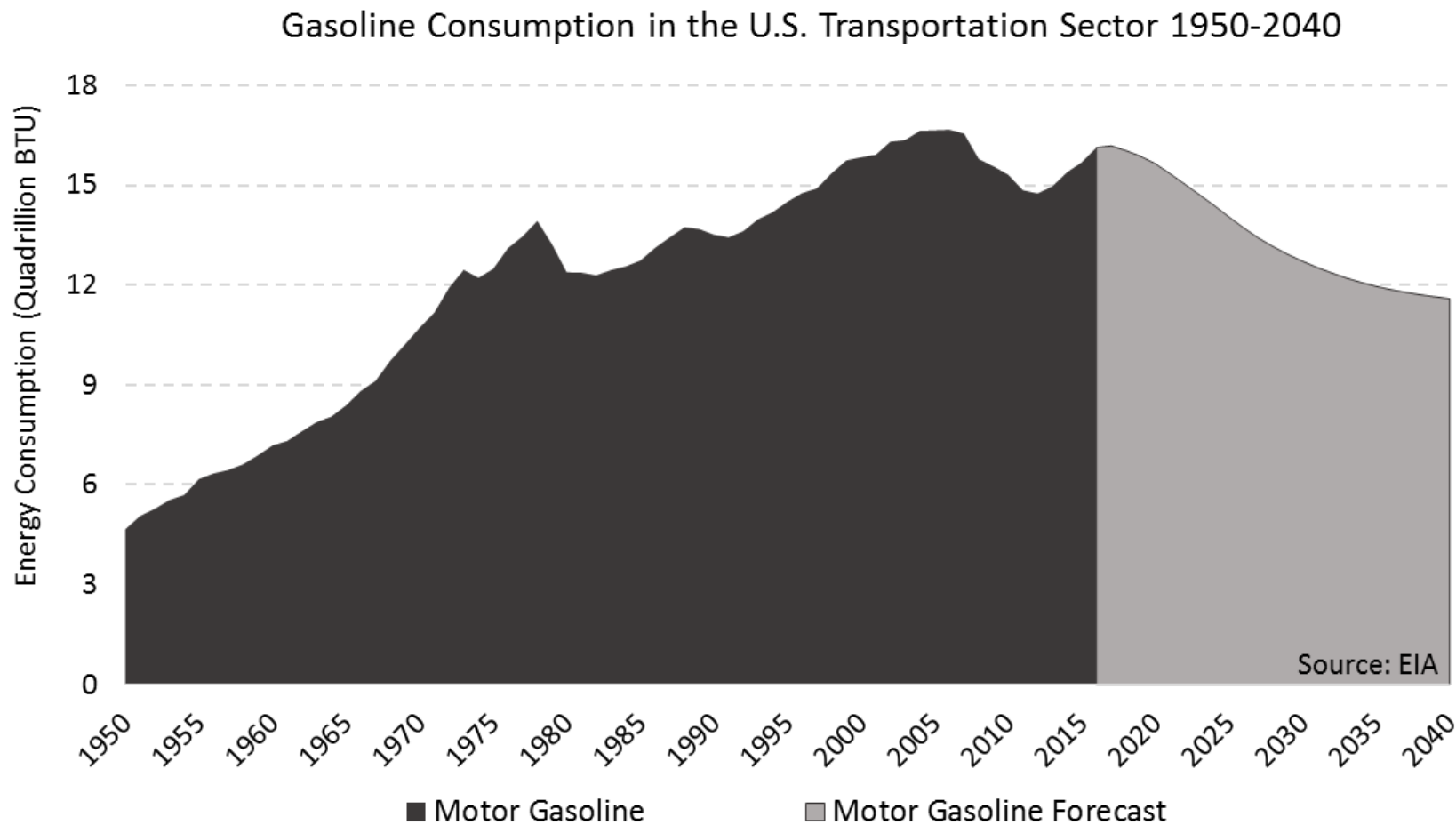
## Official Forecasters OECD Peak Demand but Not Global Peak Demand

World petroleum and other liquid fuels consumption grows by 18% between 2015 and 2040 in the Reference case—

**Petroleum and other liquids consumption**  
million barrels per day

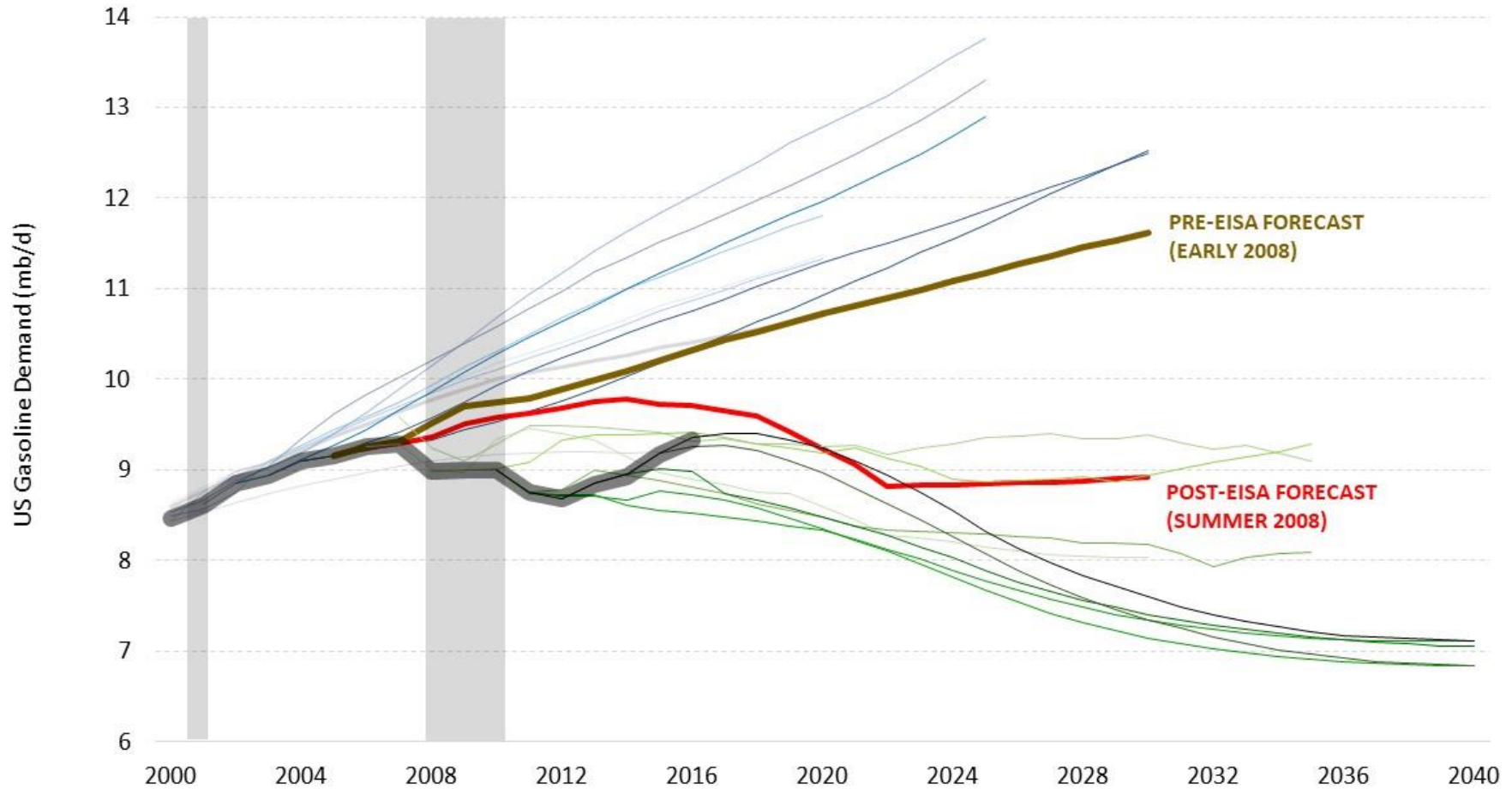


## Peak US Gasoline Demand?



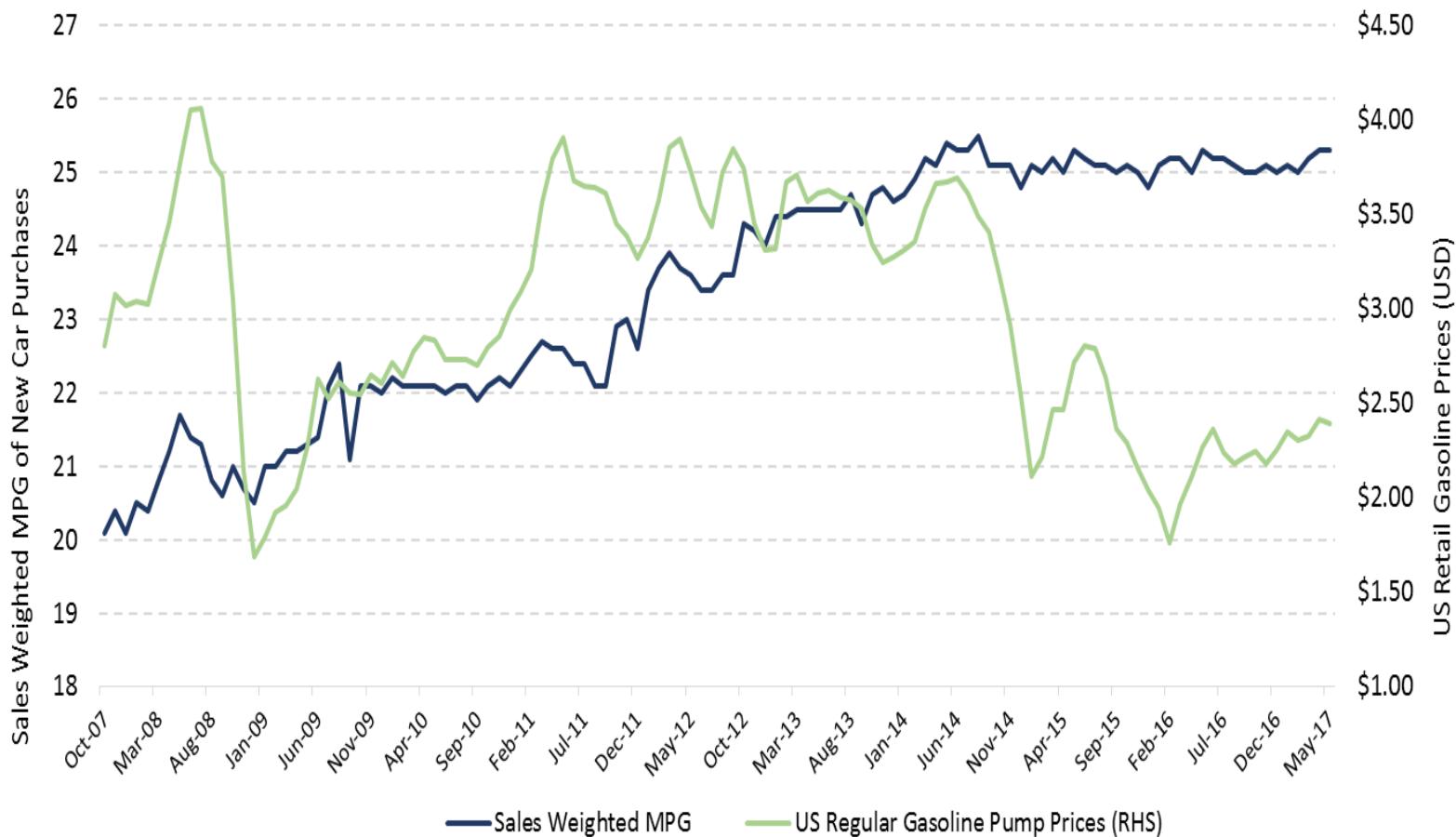
# Will Elected Officials Force Consumers Into Cars They Don't Wish To Buy?

Impact of Policy on US Gasoline Forecasts and Peak Demand Projections

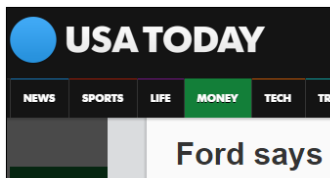
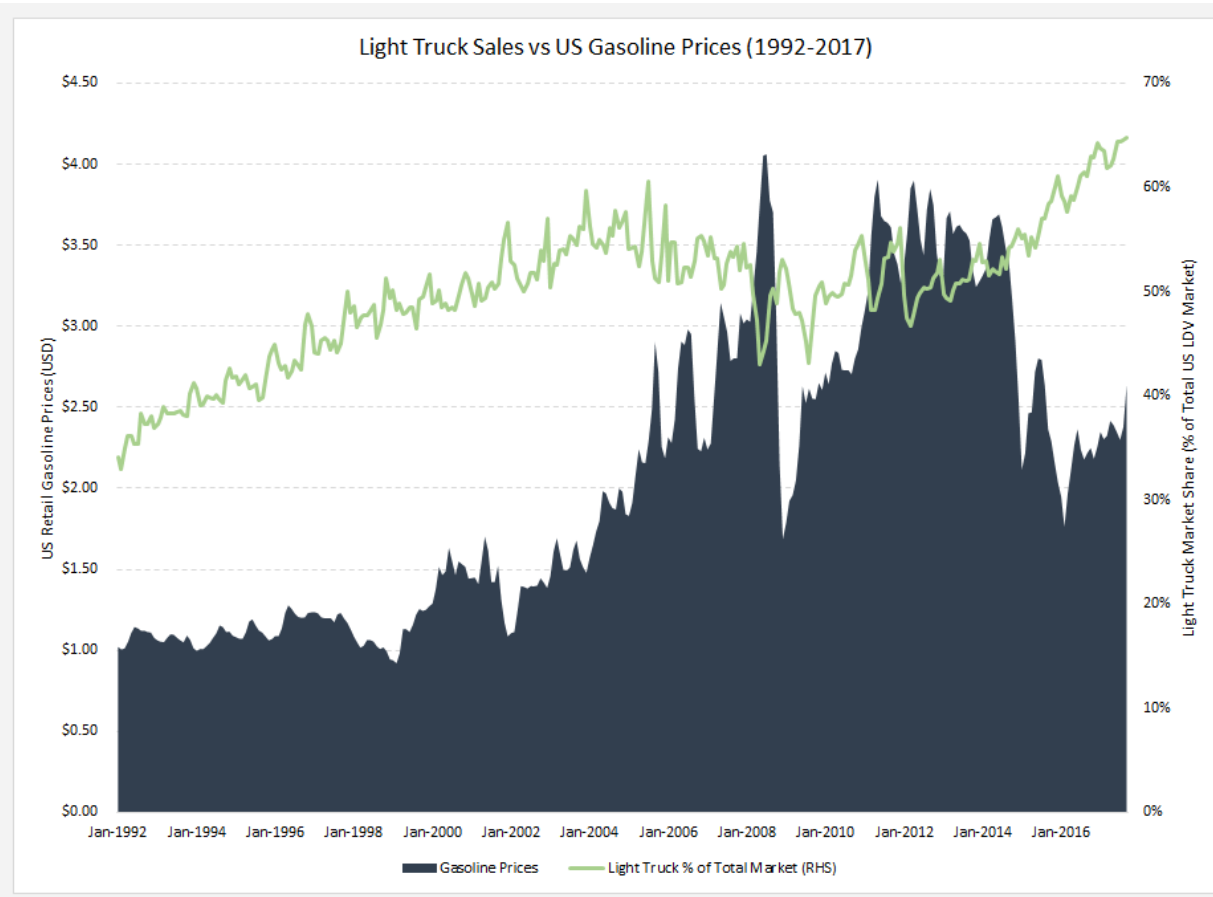


Source: EIA AEO

## Sales Weighted Miles per Gallon of New Car Purchases vs Gasoline Prices



Source: University of Michigan, EIA, Rapidan Energy Group



Ford says Millennials are buying bigger SUVs

## SUVs continue to dominate as passenger car sales fall

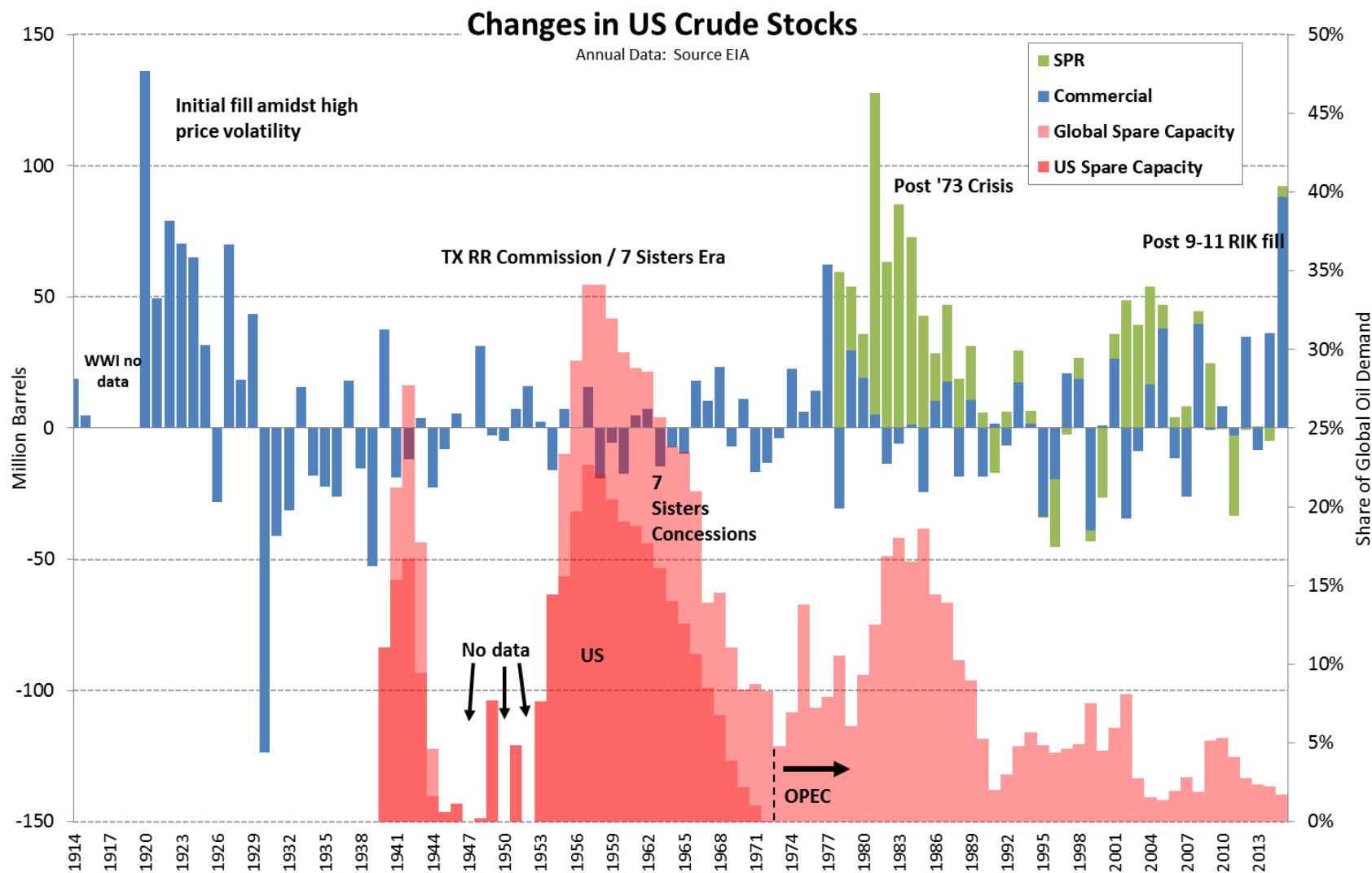
Mack Hogan | @hogan\_mt | 11:57 AM ET Mon, 3 April 2017



## Something baby boomers and millennials agree on: SUVs

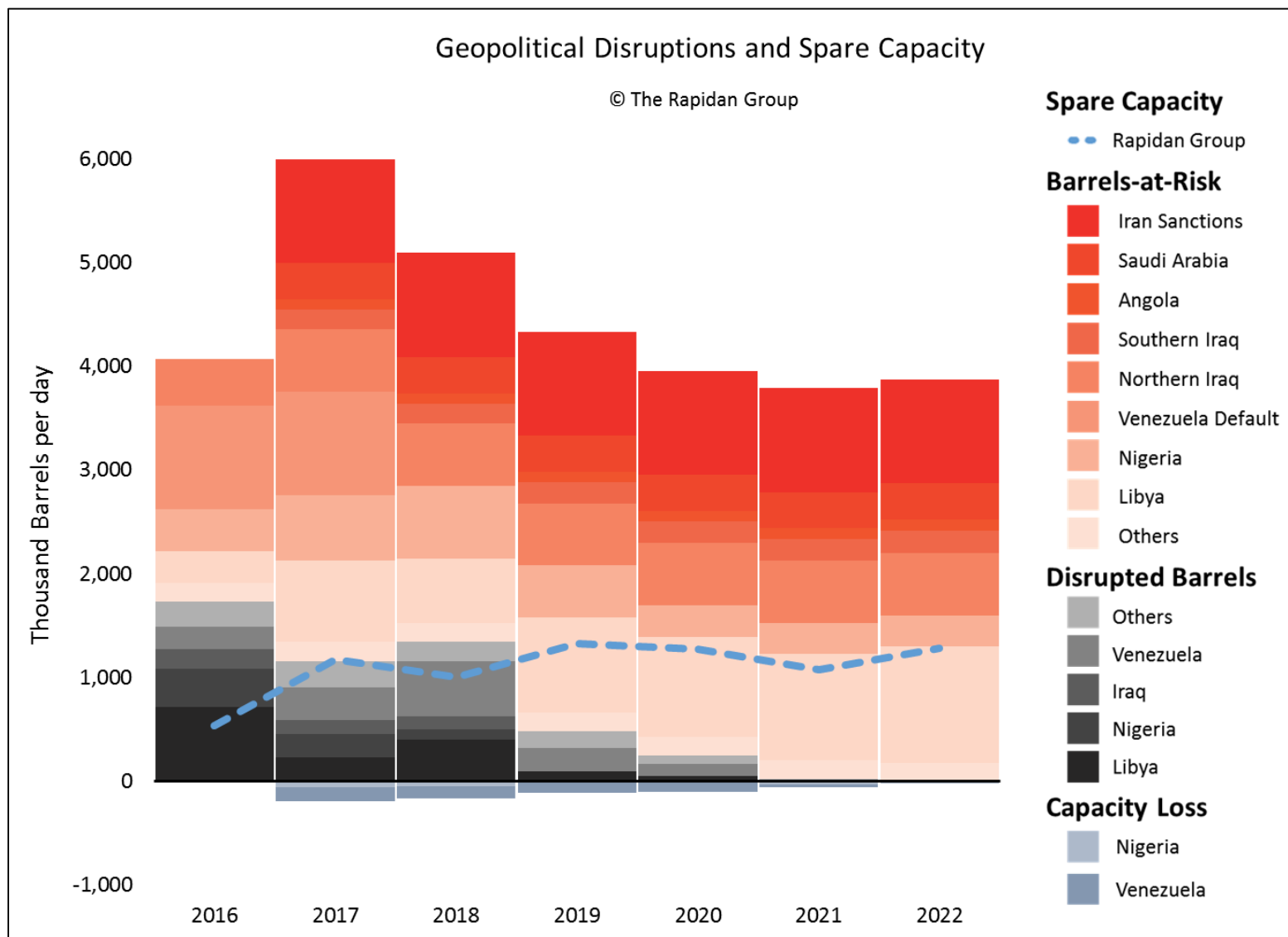
Published: Dec 5, 2015 12:09 p.m. ET

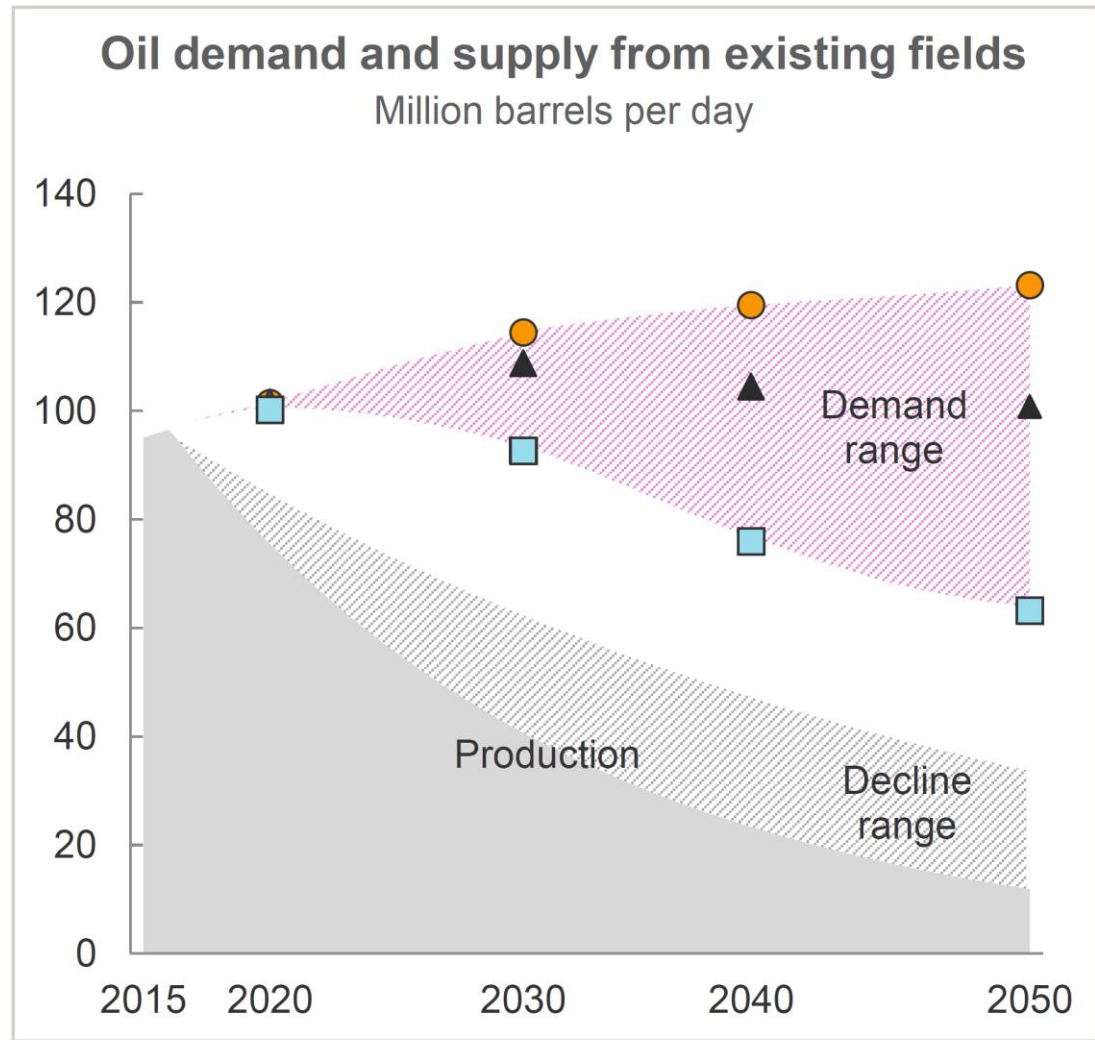
MarketWatch





# Disruptions May Decline, but Buffer Remains Small



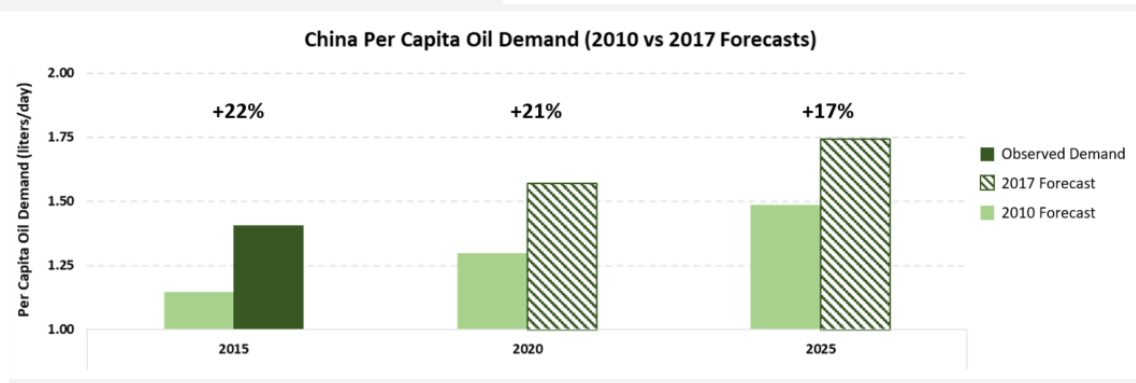
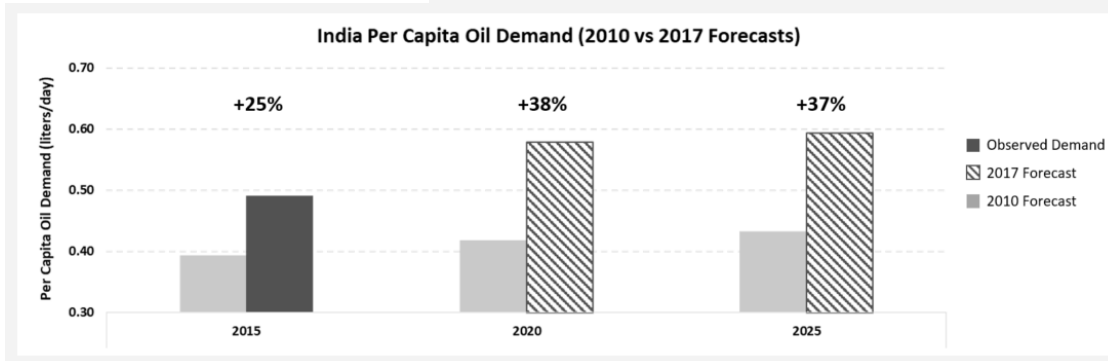
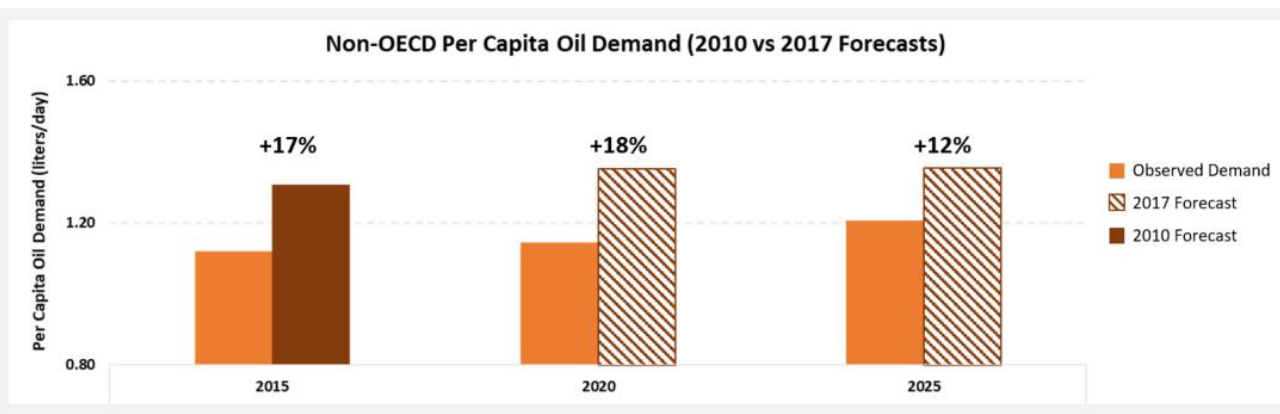


Source: Statoil [Energy Perspectives 2017](#)

# Thank you!

Questions or comments?

Data: EIA



## SUV Sales Soar, EV Sales Slump In China

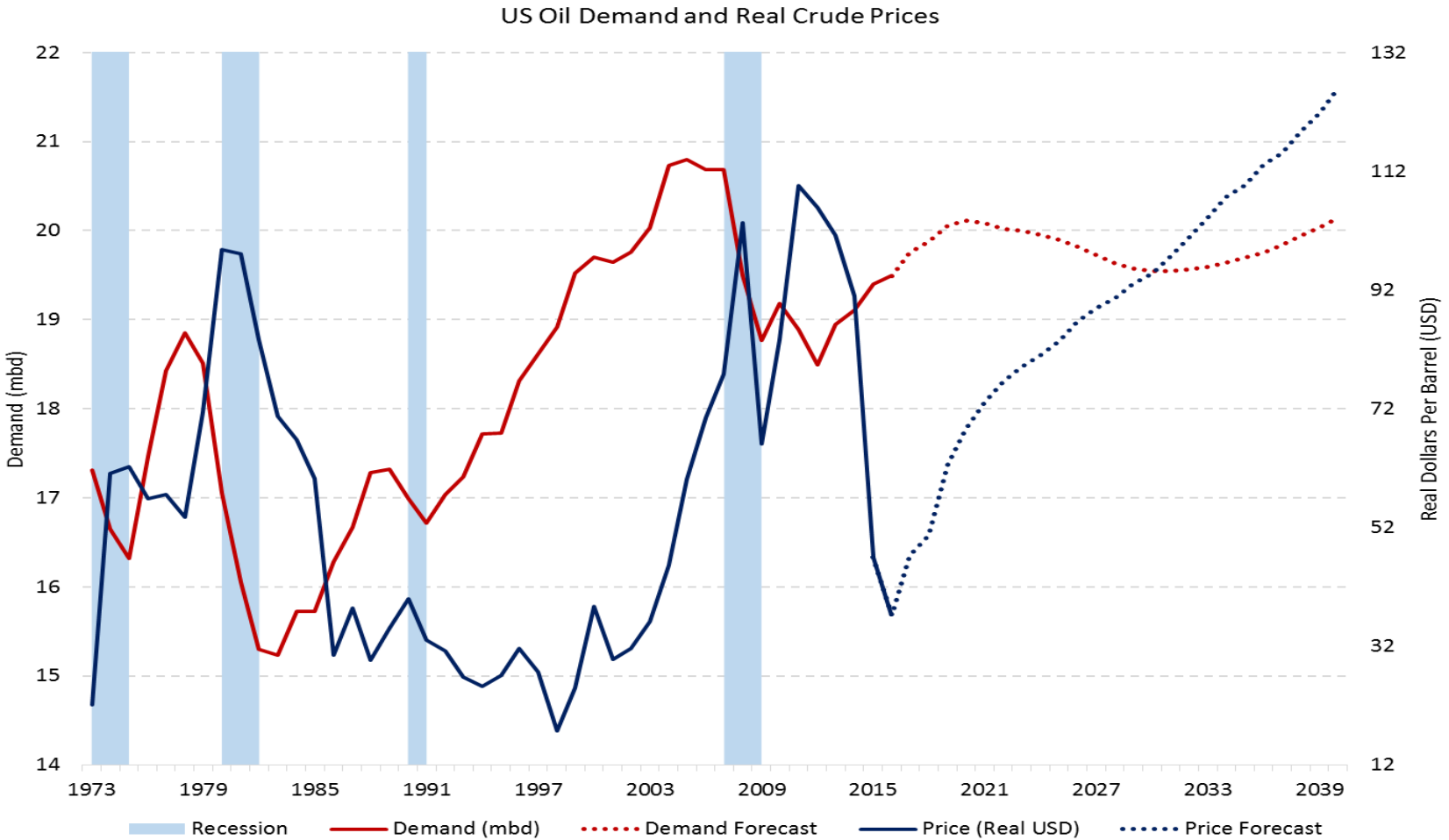
Published on April 17th, 2017 by [Steve Hanley](#)



SUV sales are soaring in America, but they are going strong in other parts of the world as well. On the other hand, sales of electrified cars in China are disappointing. That's largely because they are all sedans, a vehicle style that Chinese customers are turning away from. China is pushing hard to make electric cars mainstream. In China's crowded cities, it is impossible to register a car without first proving there is a space available to park it. Then and only then does the registration process begin.

<http://jgar2.org/2017/04/17/suv-sales-soar-ev-sales-slump-china/>

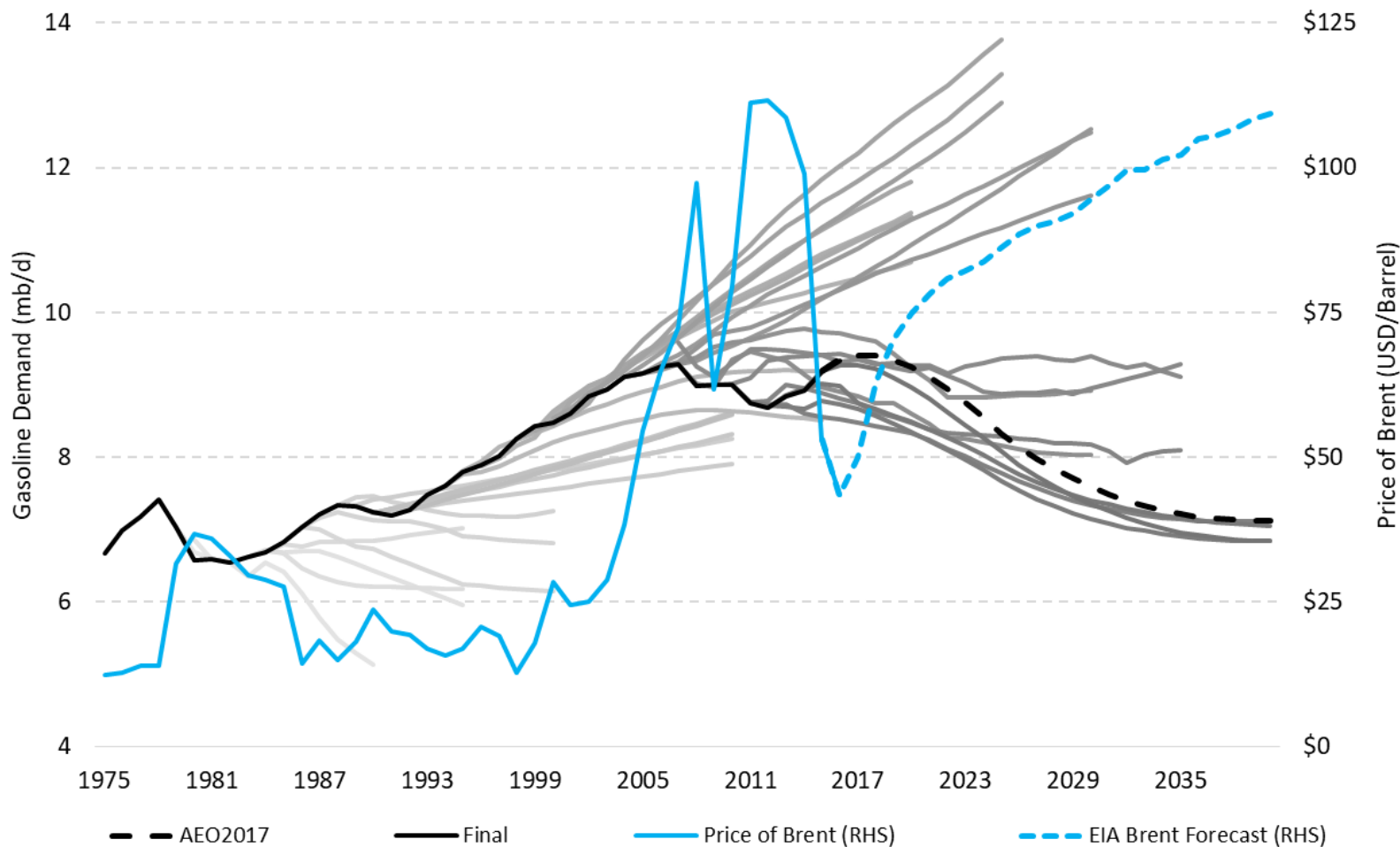
# EIA Forecasts Imminent Peak US Oil Demand Without a Recession



Source: EIA

# EIA Forecasted Peak Demand Following Late '70s Price Explosion and New CAFE Regs

EIA AEO Gasoline Demand Revisions vs Oil Prices 1975-2040



Source: EIA AEO