

An aerial photograph of a large industrial complex, likely a refinery or chemical plant, featuring numerous distillation columns, storage tanks, and intricate piping systems. A large blue banner with white text is superimposed diagonally across the center of the image.

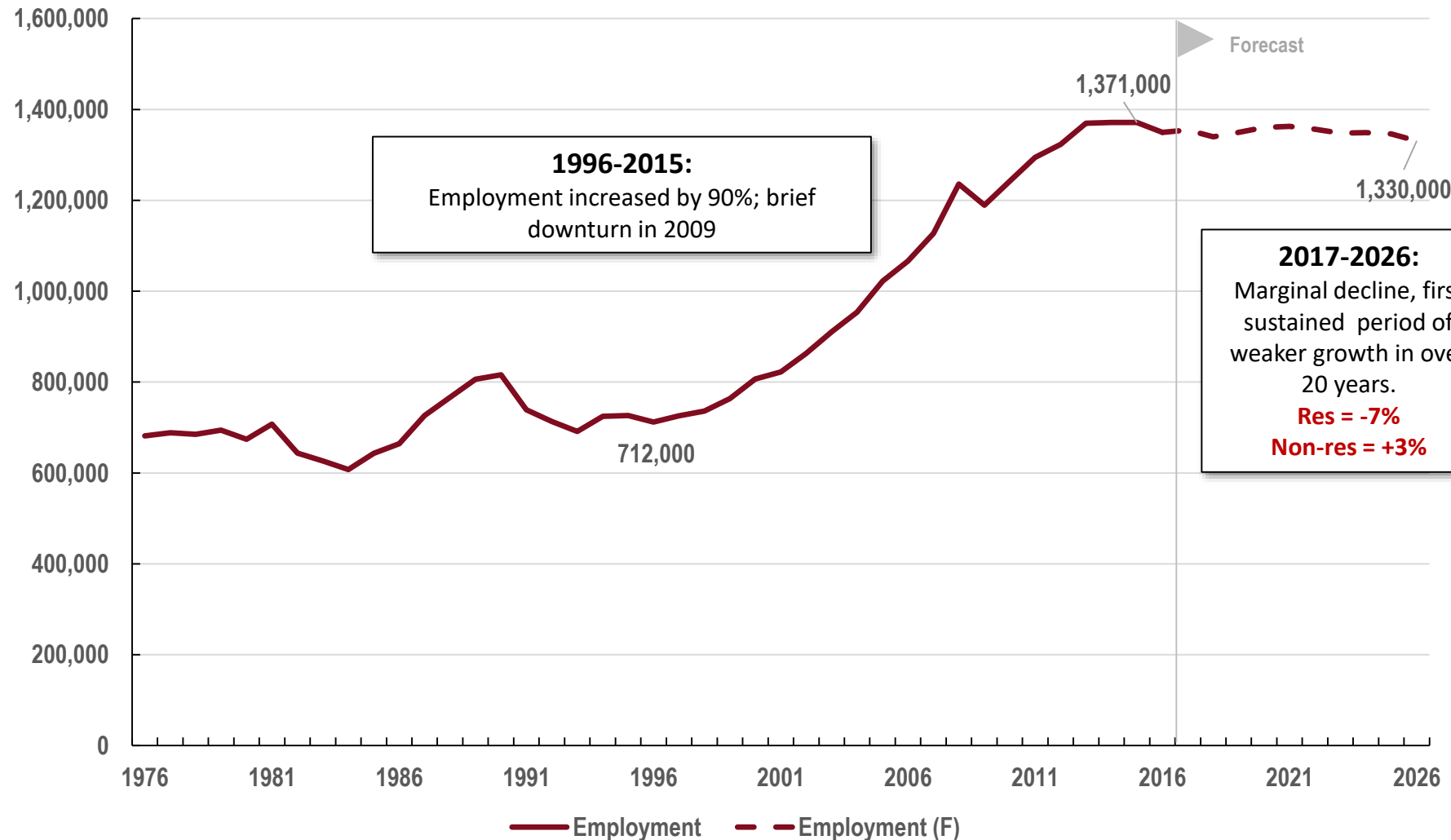
# Alberta Forecast 2017

COAA Best Practices  
Conference



# Construction Labour Market Trends

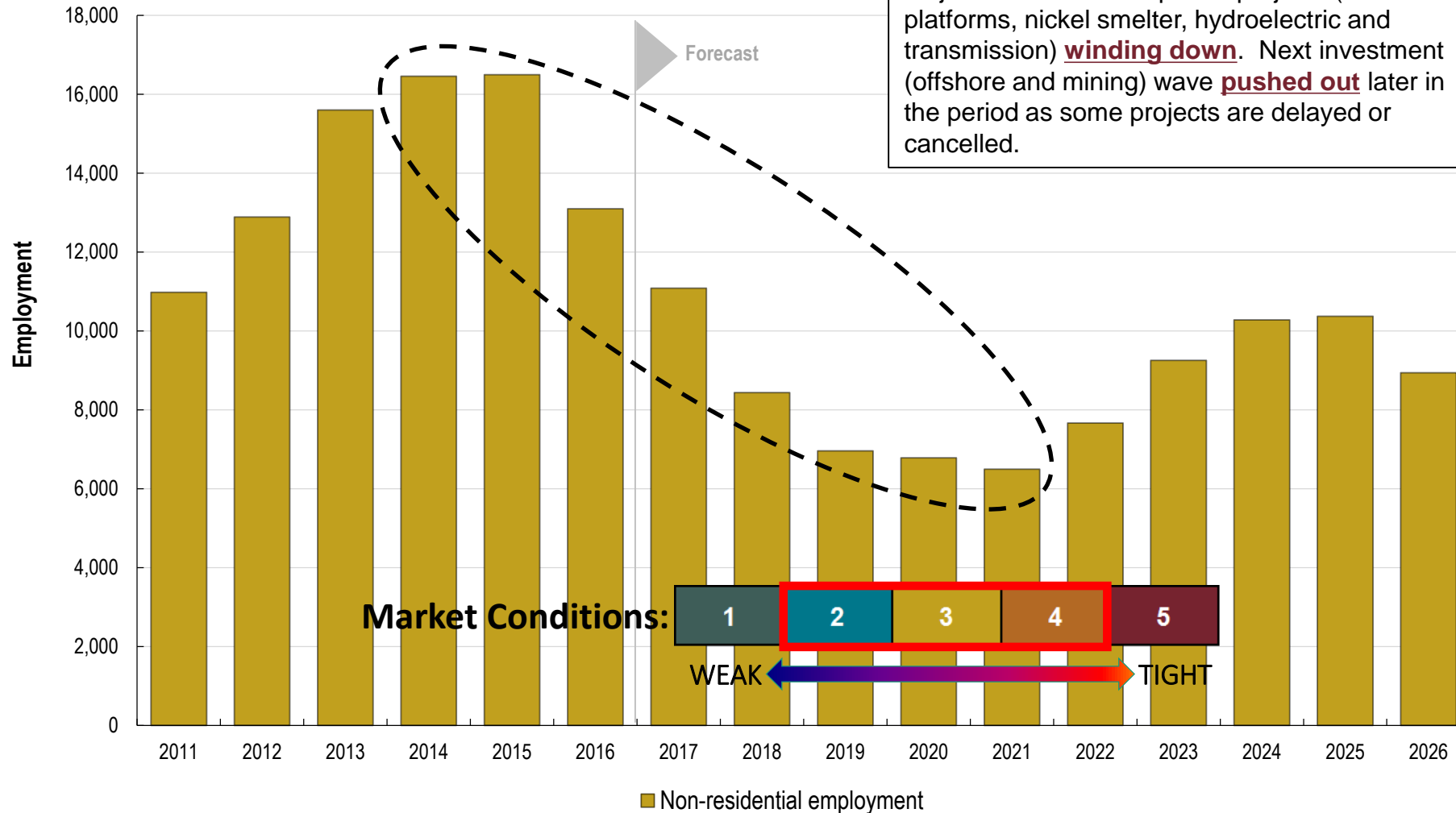
## Total Employment (Res + Non-Res), Canada



Source: Statistics Canada; BuildForce Canada

# Non-Residential construction employment Newfoundland and Labrador

(34 direct trades and occupations)

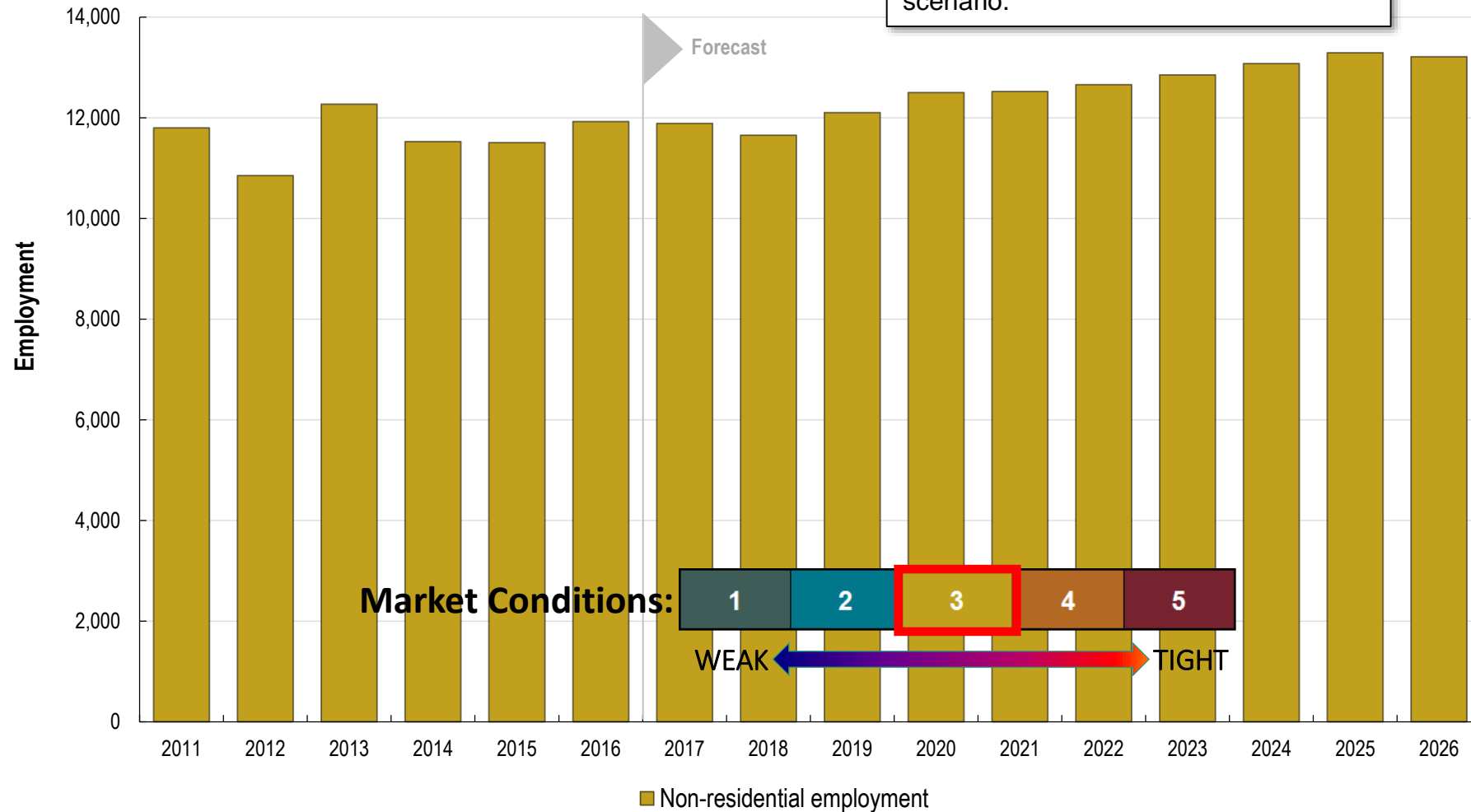


Major resource development projects (offshore platforms, nickel smelter, hydroelectric and transmission) **winding down**. Next investment (offshore and mining) wave **pushed out** later in the period as some projects are delayed or cancelled.

# Non-Residential construction employment Nova Scotia

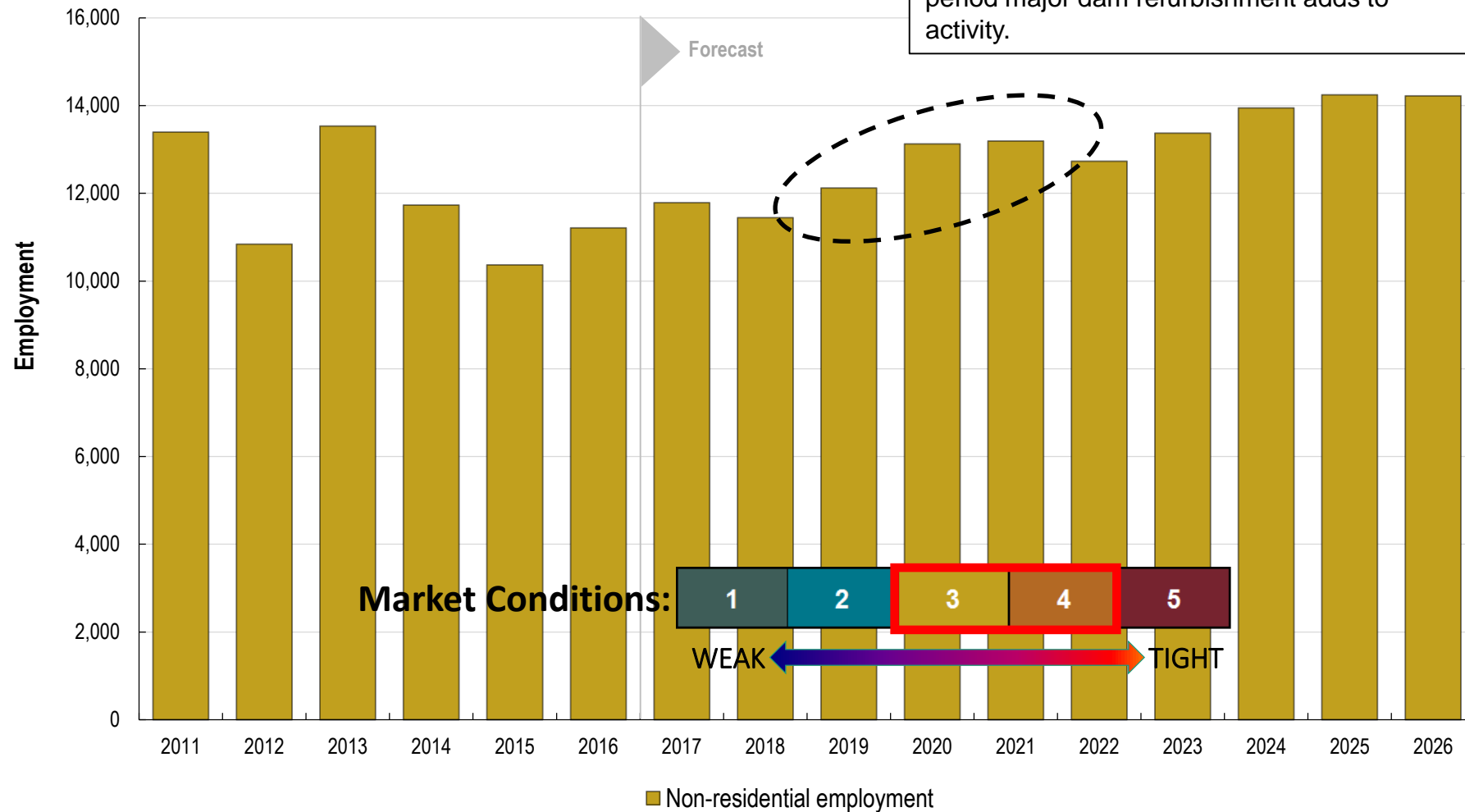
(34 direct trades and occupations)

Modest rise in ICI construction across the outlook period, shipbuilding spin-off. Tracking LNGs but not included in scenario.



# Non-Residential construction employment New Brunswick

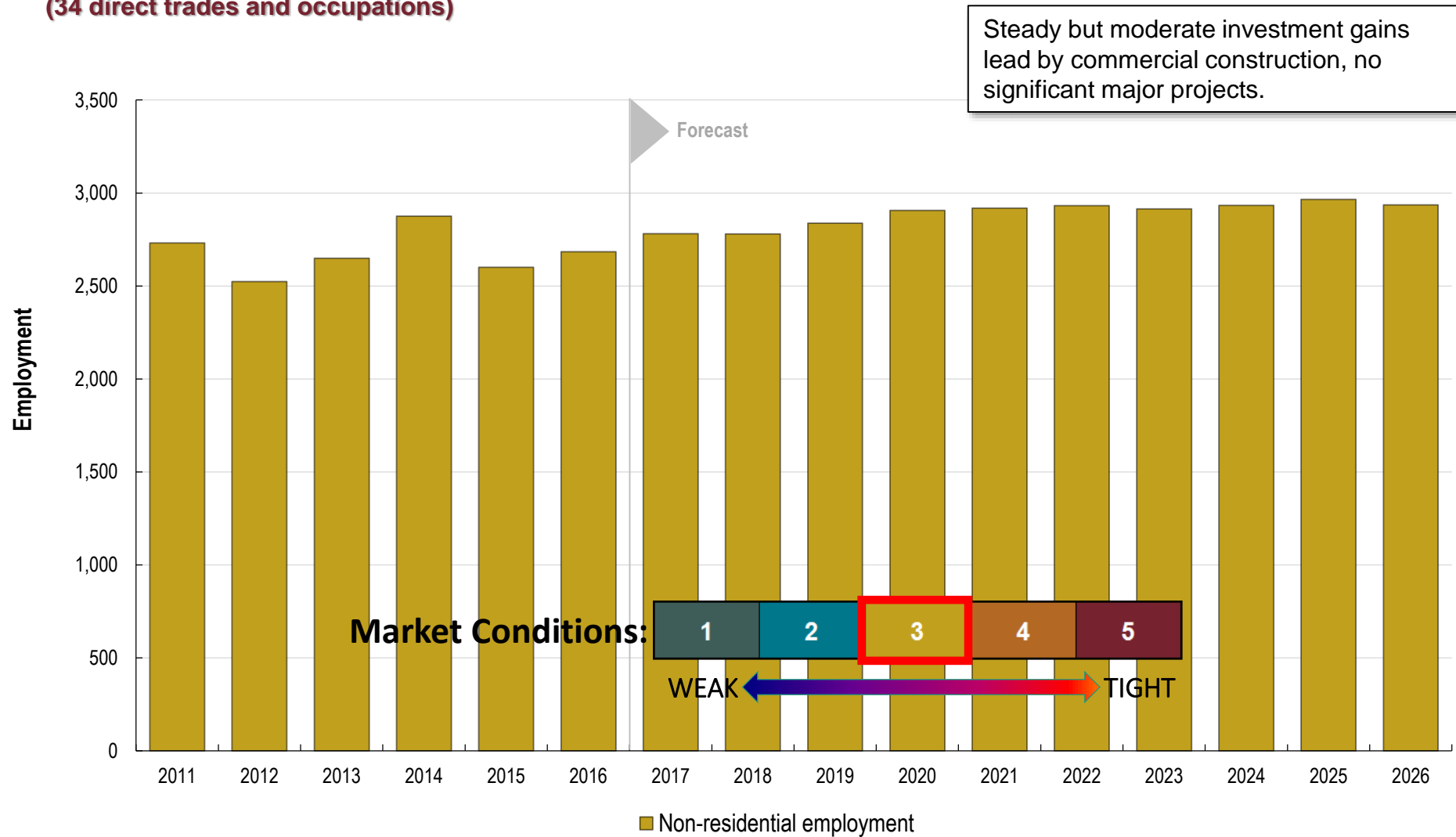
(34 direct trades and occupations)



Source: Statistics Canada; BuildForce Canada (2016-2026)

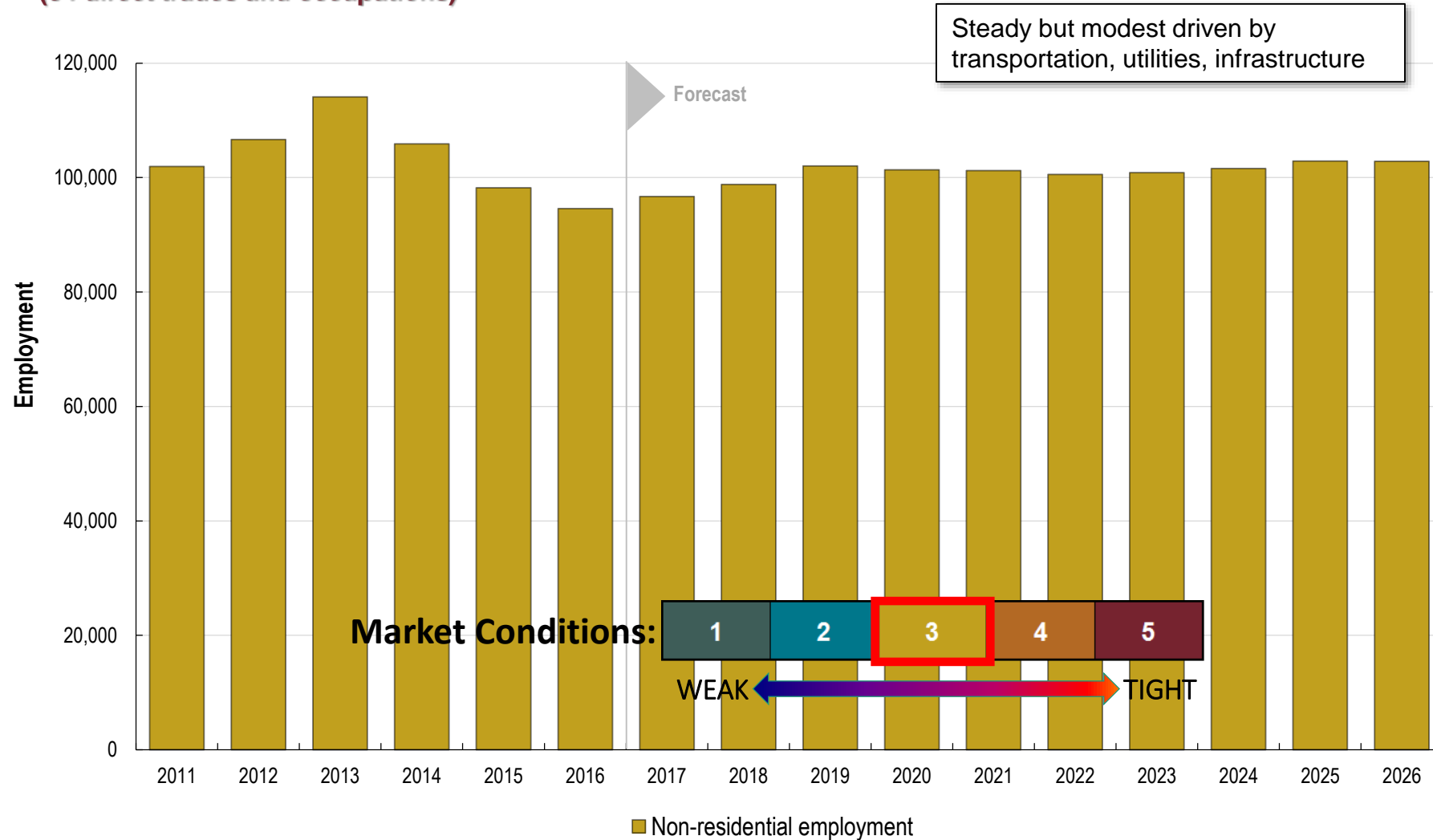
# Non-Residential construction employment Prince Edward Island

(34 direct trades and occupations)



# Non-Residential construction employment Quebec

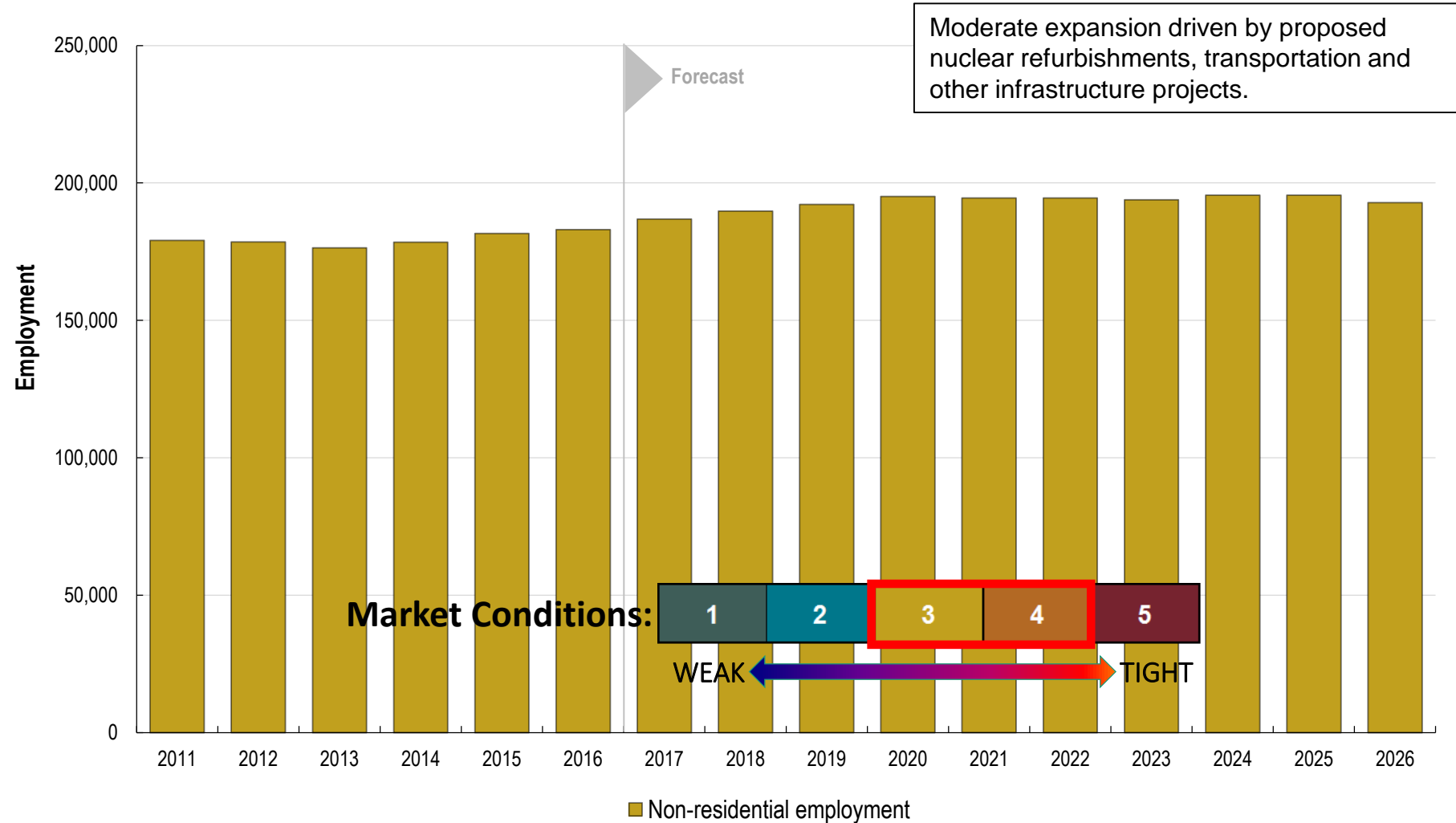
(34 direct trades and occupations)



Source: Statistics Canada; BuildForce Canada (2016-2026)

# Non-Residential construction employment Ontario

(34 direct trades and occupations)

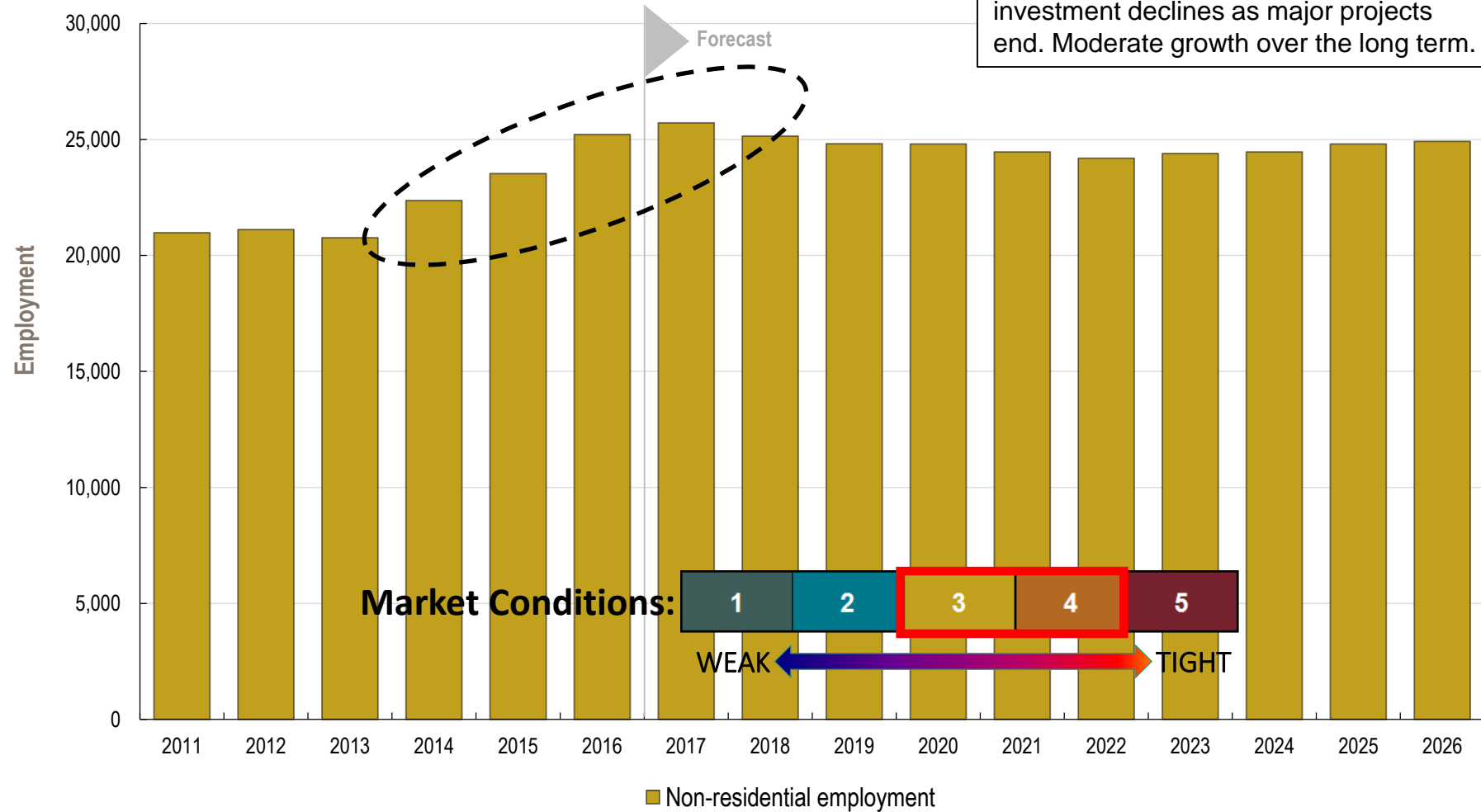


Source: Statistics Canada; BuildForce Canada (2016-2026)



# Non-Residential construction employment Manitoba

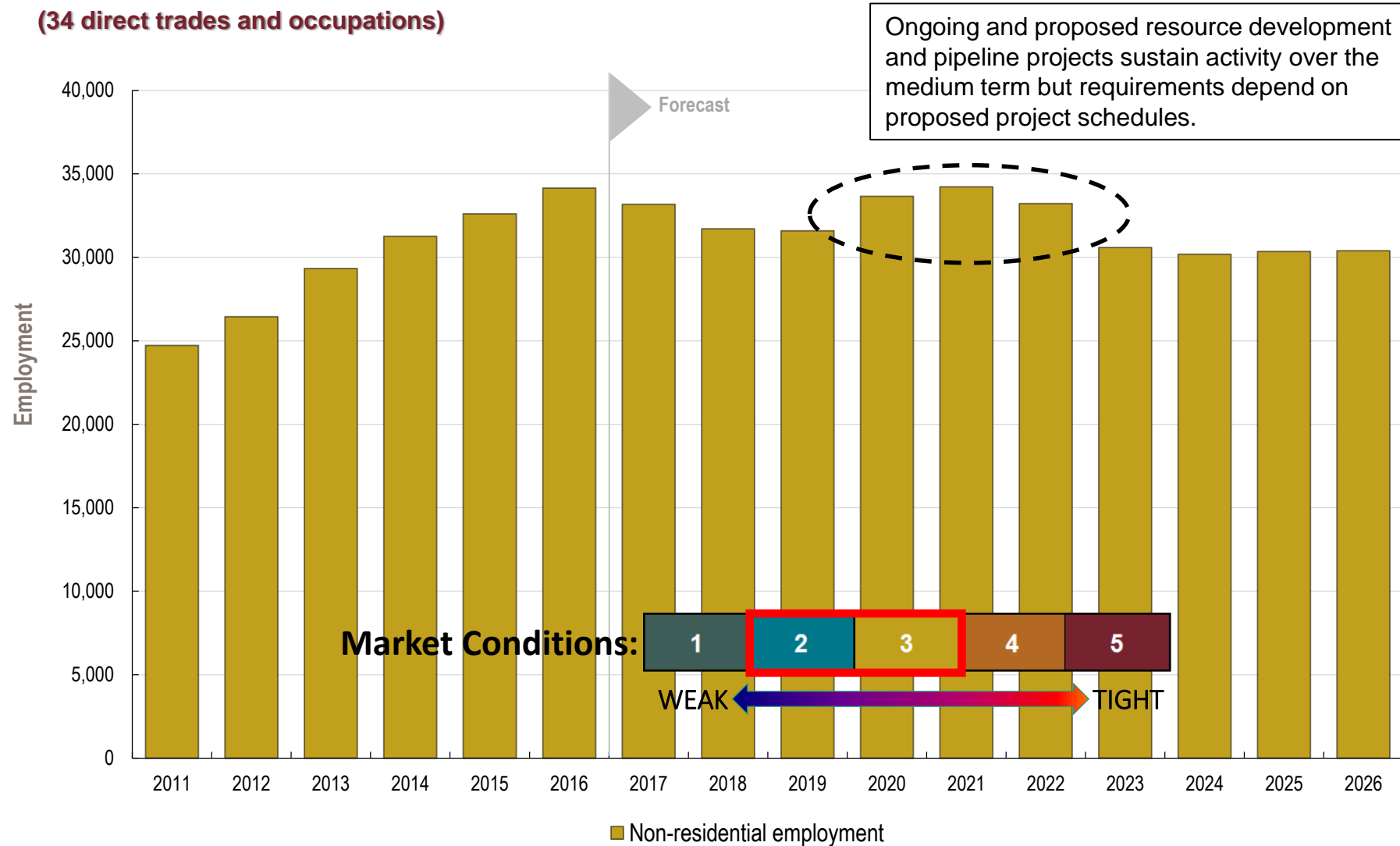
(34 direct trades and occupations)



Source: Statistics Canada, BuildForce Canada (2016-2026)

# Non-Residential construction employment Saskatchewan

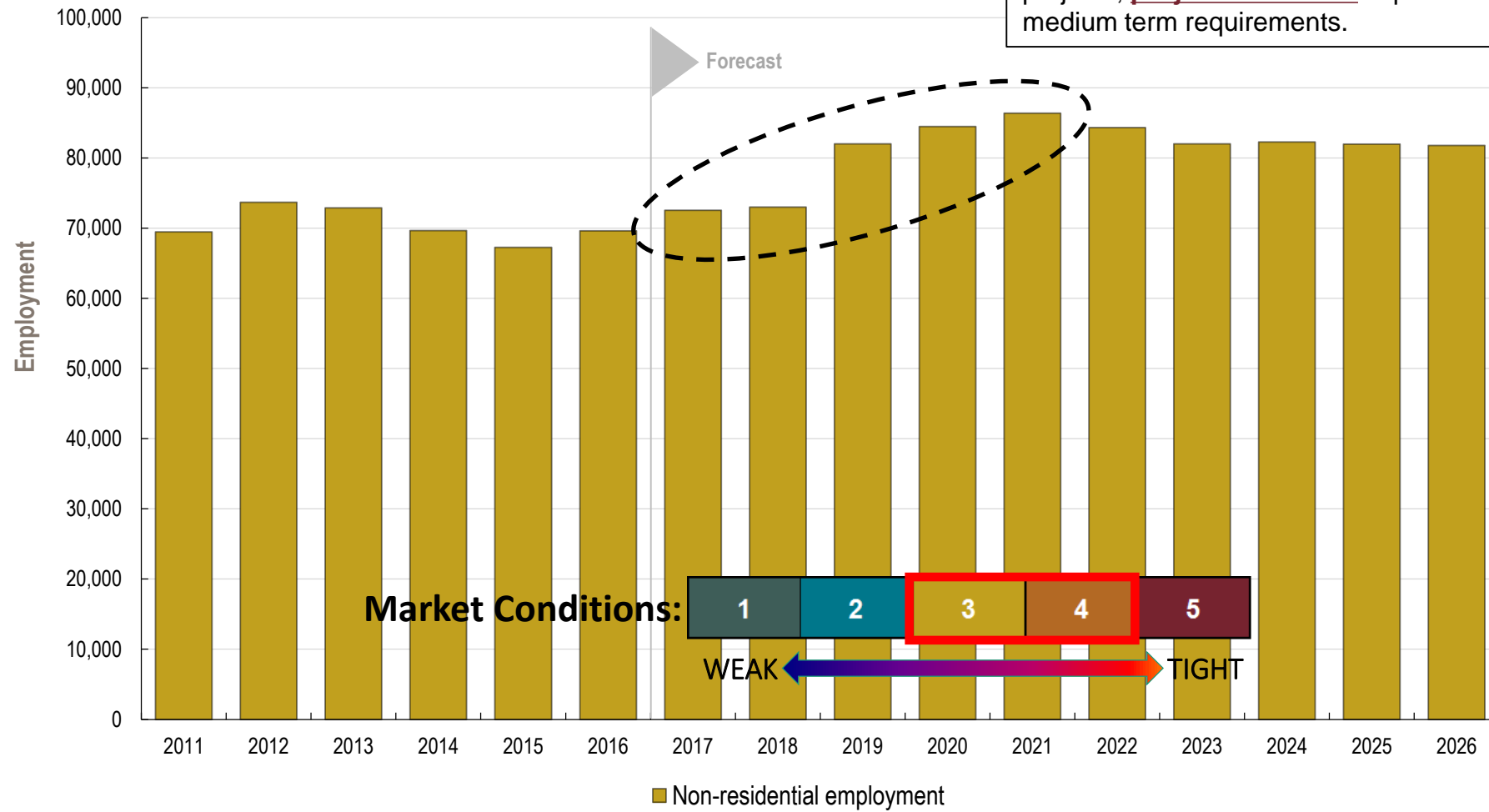
(34 direct trades and occupations)



Source: Statistics Canada, BuildForce Canada (2016-2026)

# Non-Residential construction employment British Columbia

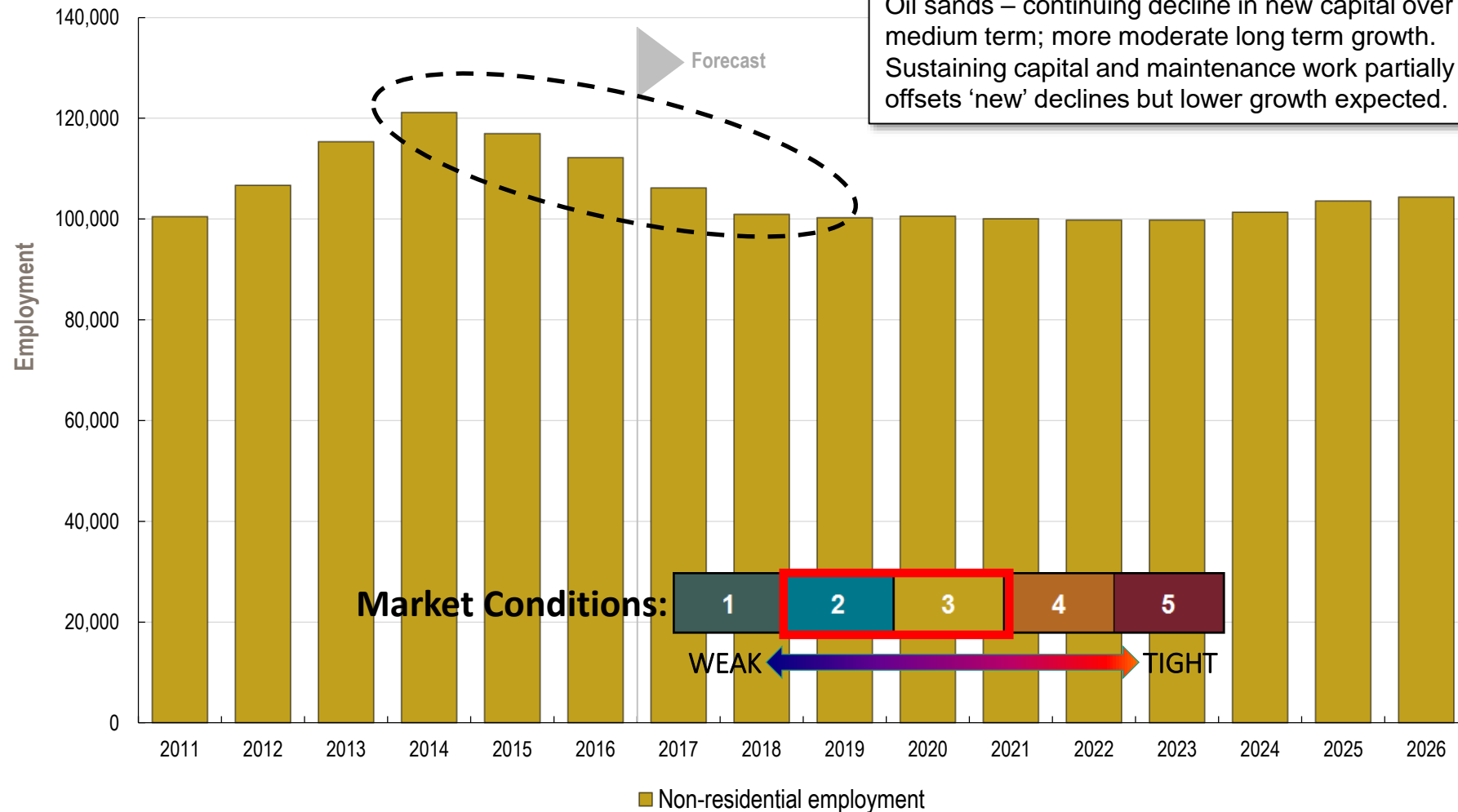
(34 direct trades and occupations)



Source: Statistics Canada; BuildForce Canada (2016-2026)

# Non-Residential construction employment Alberta

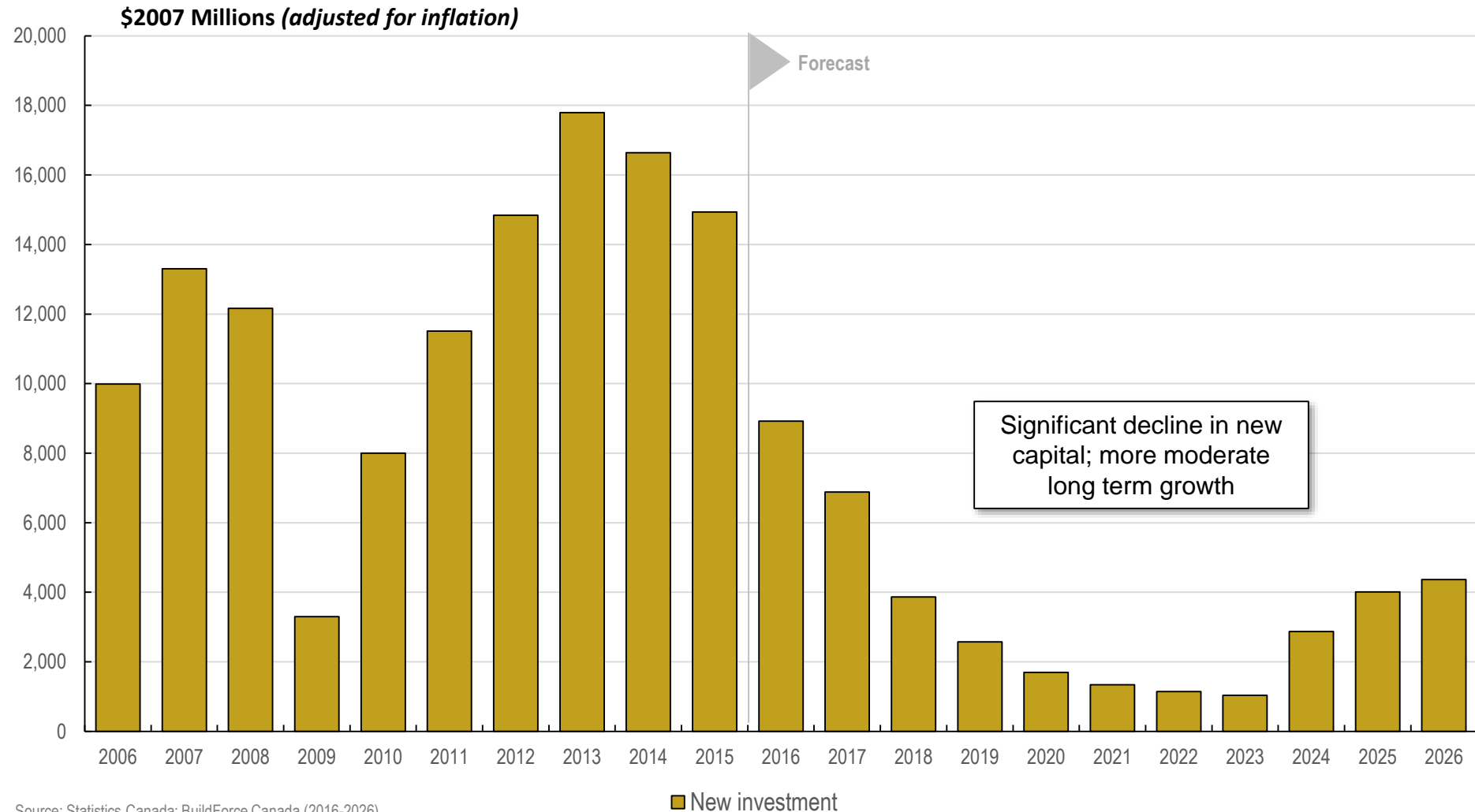
(34 direct trades and occupations)



Weaker markets prevail across the medium term as current projects wind down.

Oil sands – continuing decline in new capital over the medium term; more moderate long term growth. Sustaining capital and maintenance work partially offsets 'new' declines but lower growth expected.

# Alberta Oil Sands Investment -- New\*

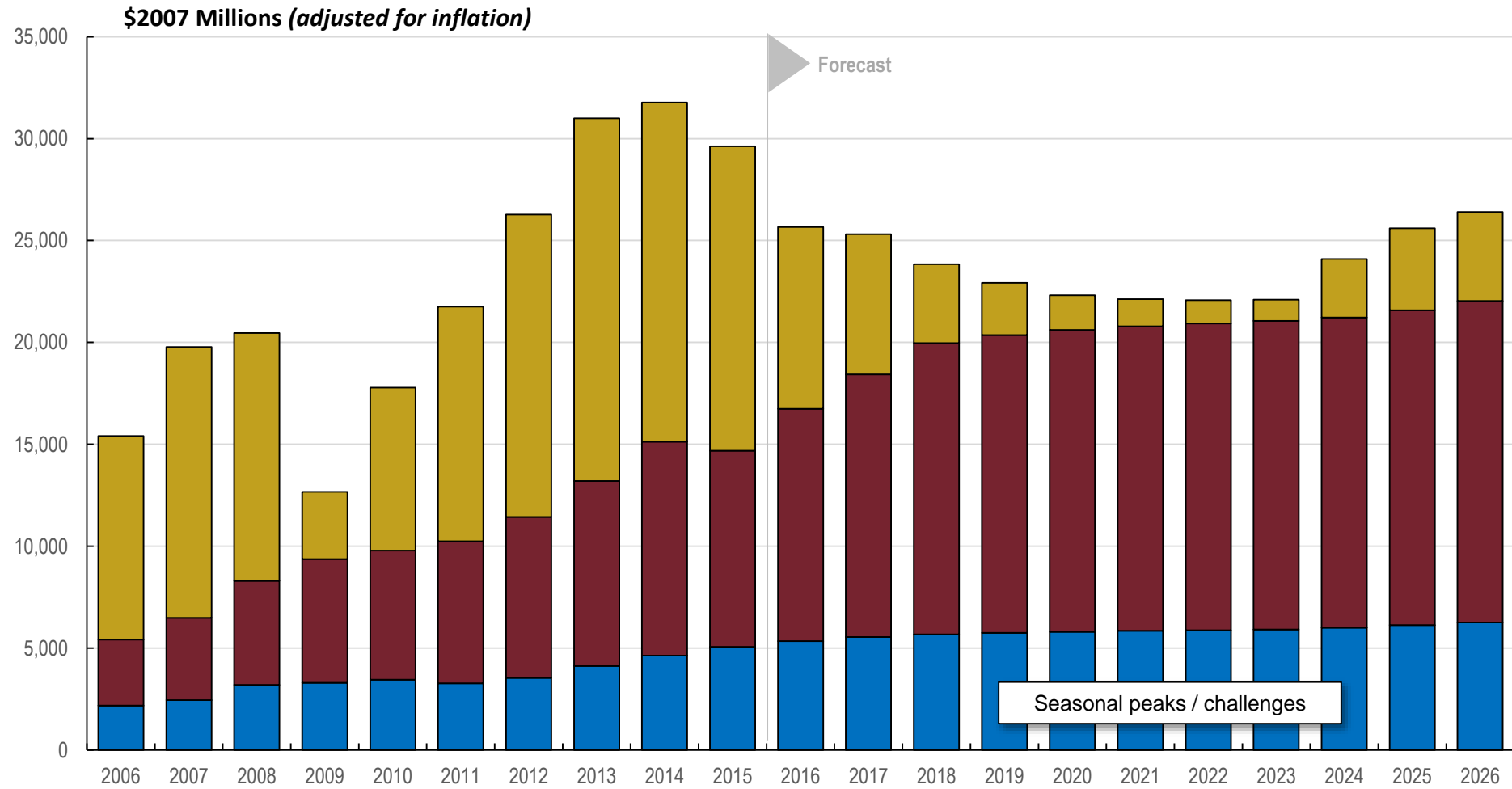


Source: Statistics Canada; BuildForce Canada (2016-2026)

**\*Includes construction and M&E**



# Alberta Oil Sands Investment -- New + Sustaining + Maint.\*



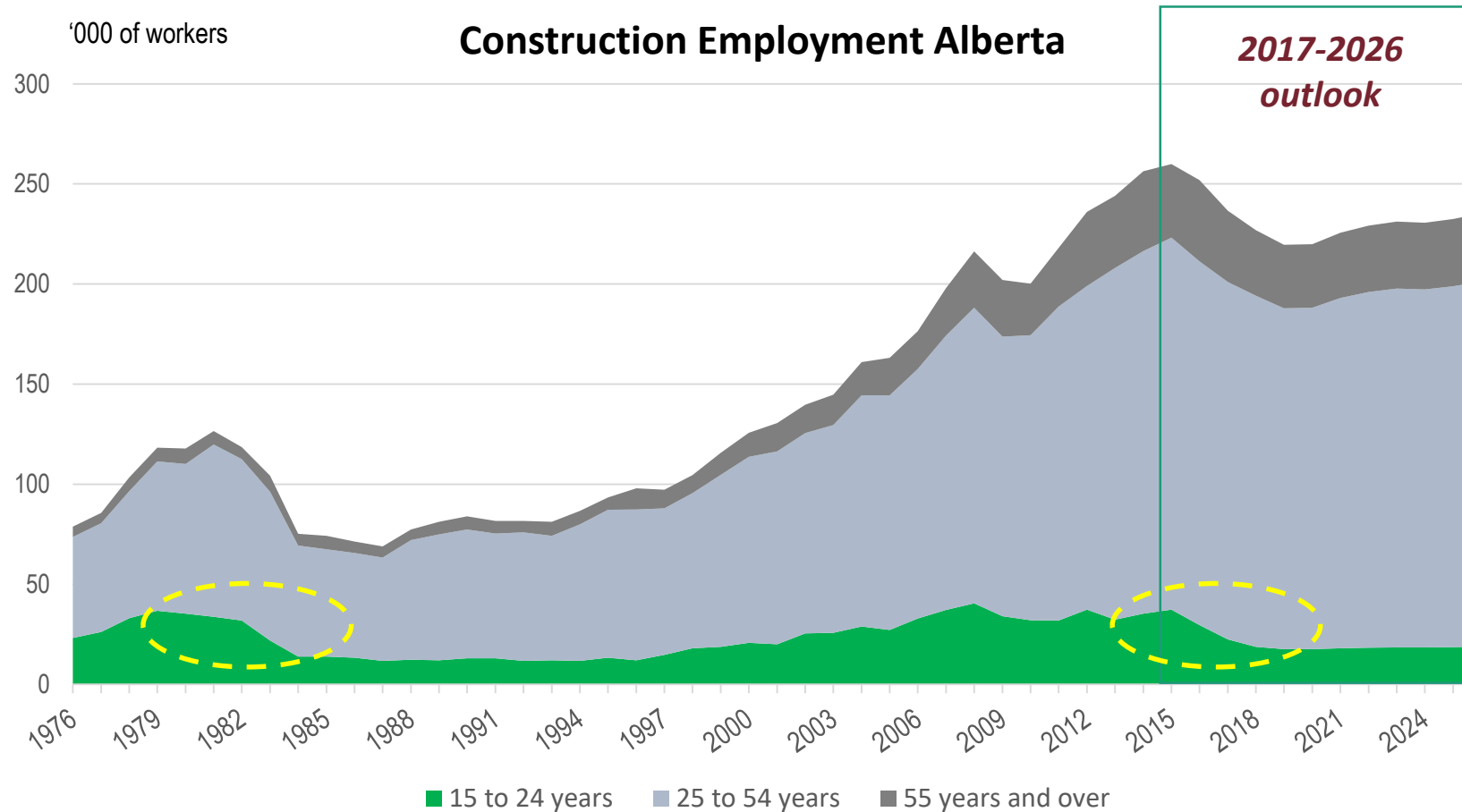
Source: Statistics Canada; BuildForce Canada (2016-2026)

**\*Includes construction and M&E**



# Demographic trends / market risks, Alberta

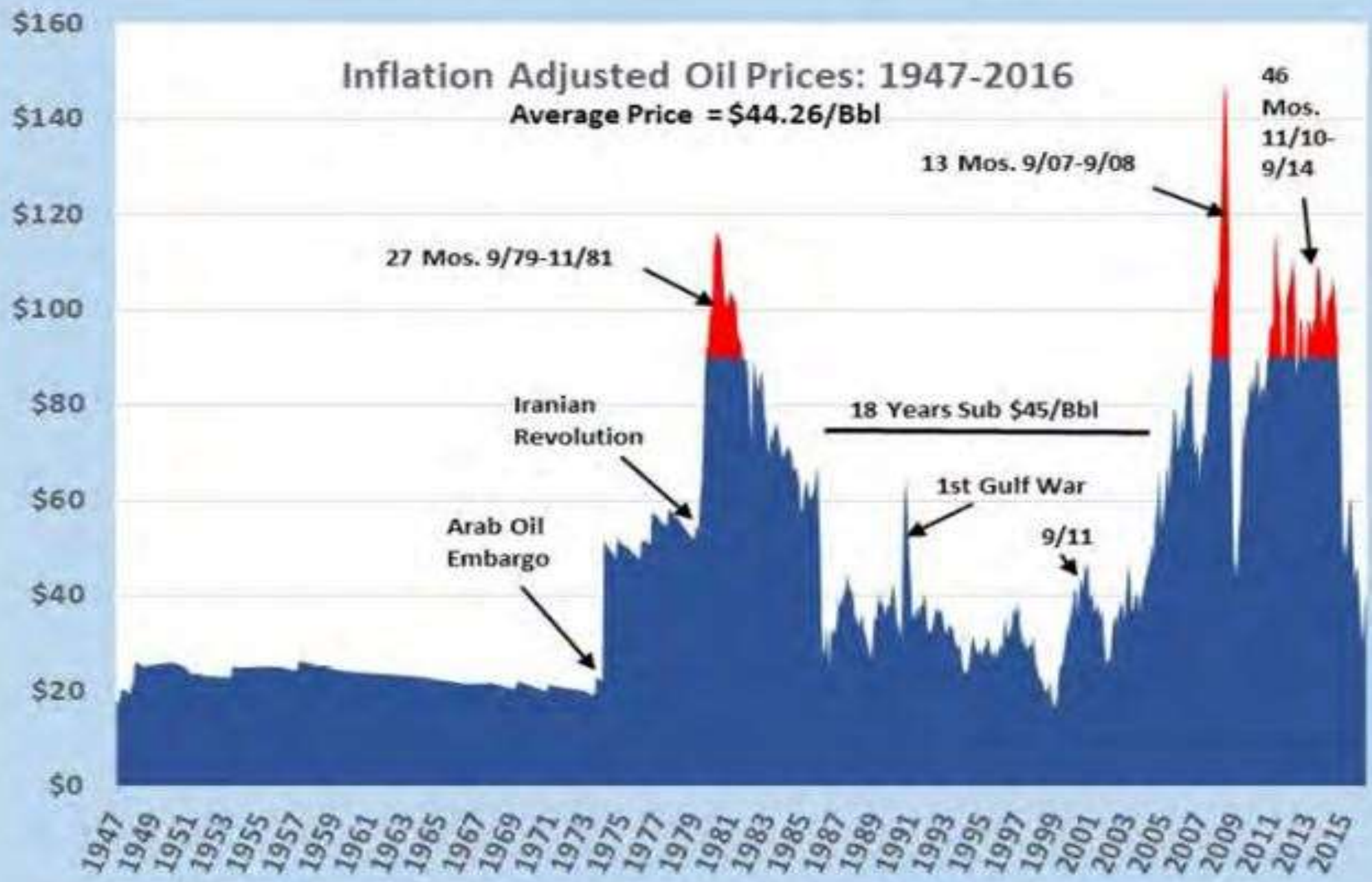
*Workforce squeeze -- buffer of young workers could disappear, just as retirements mount over the long term.*



Source: Statistics Canada; BuildForce Canada

# Inflation Adjusted Oil Prices: 1947-2016

Average Price = \$44.26/Bbl





# World liquid fuels production and consumption

## balance

million barrels per day

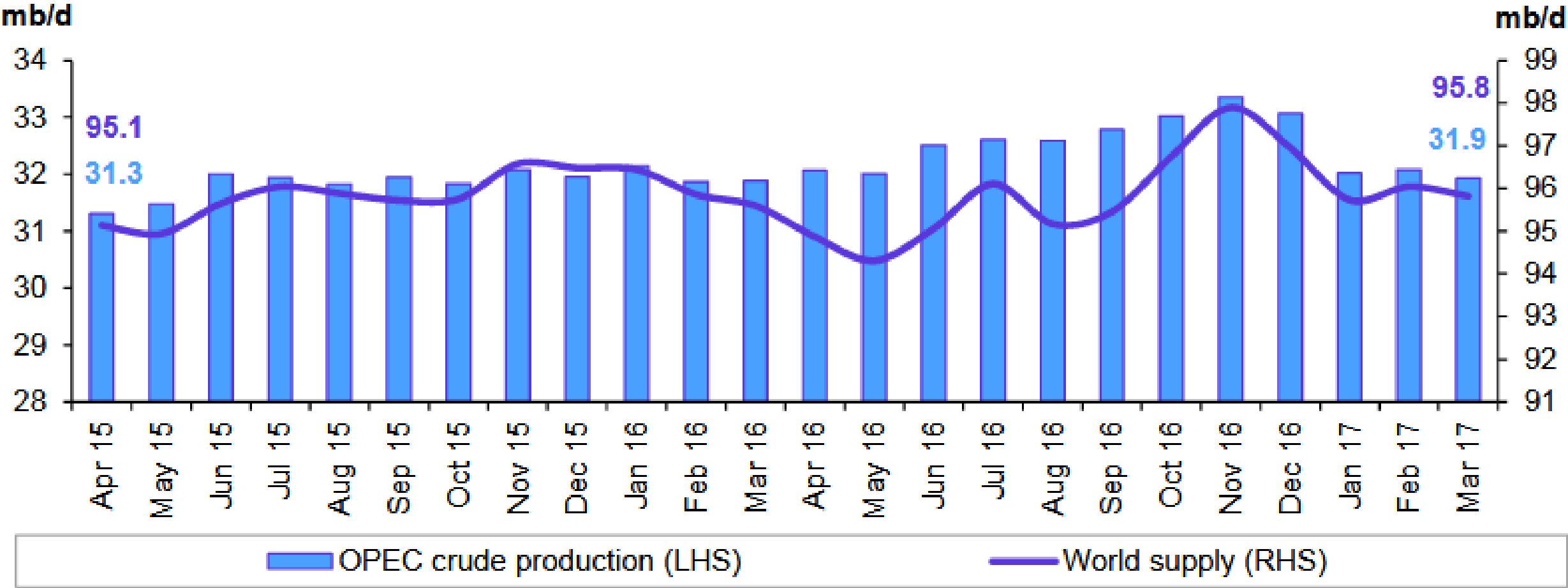
million barrels per day



- Implied stock change and balance (right axis)
- World production (left axis)
- World consumption (left axis)

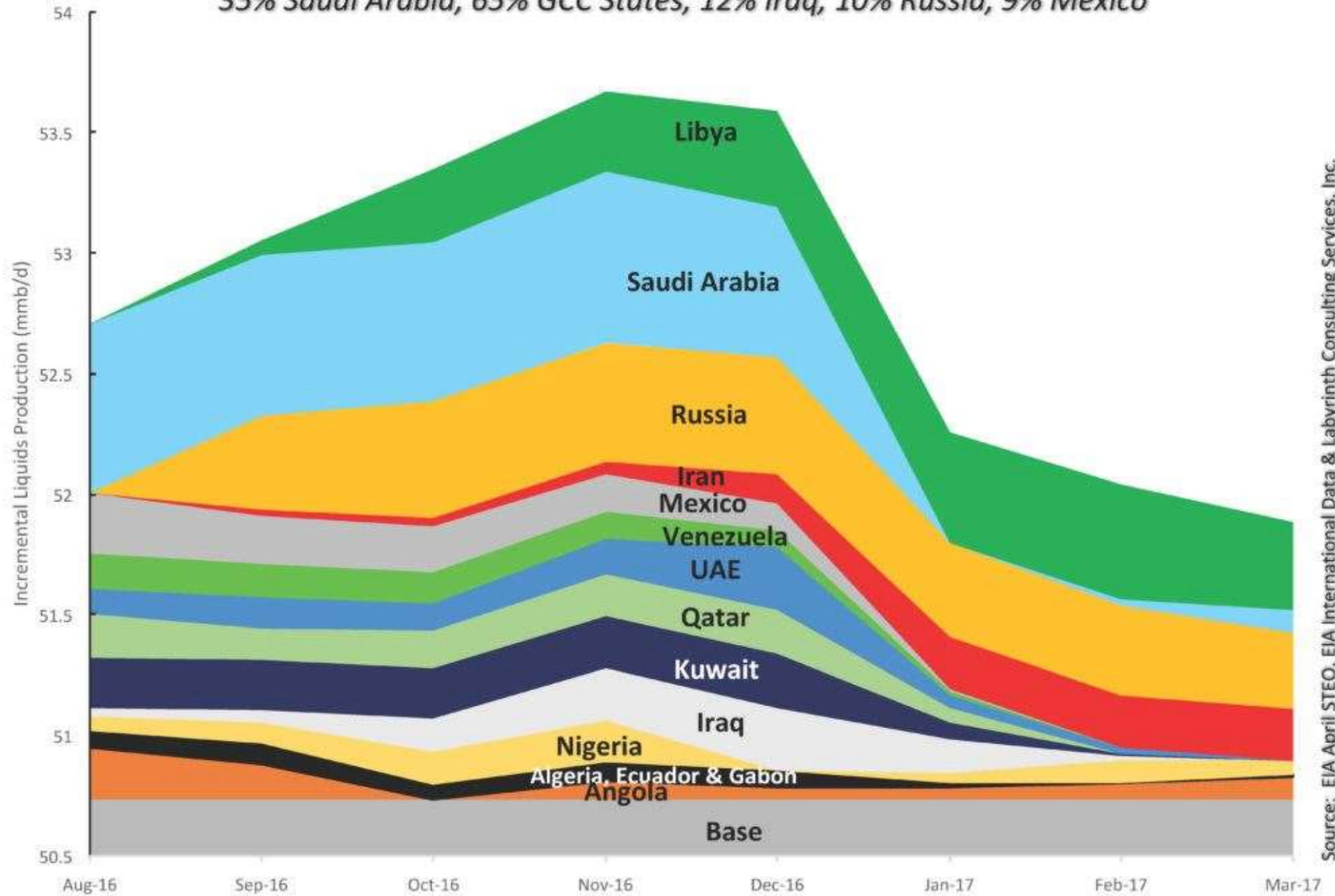


OPEC and world oil supply



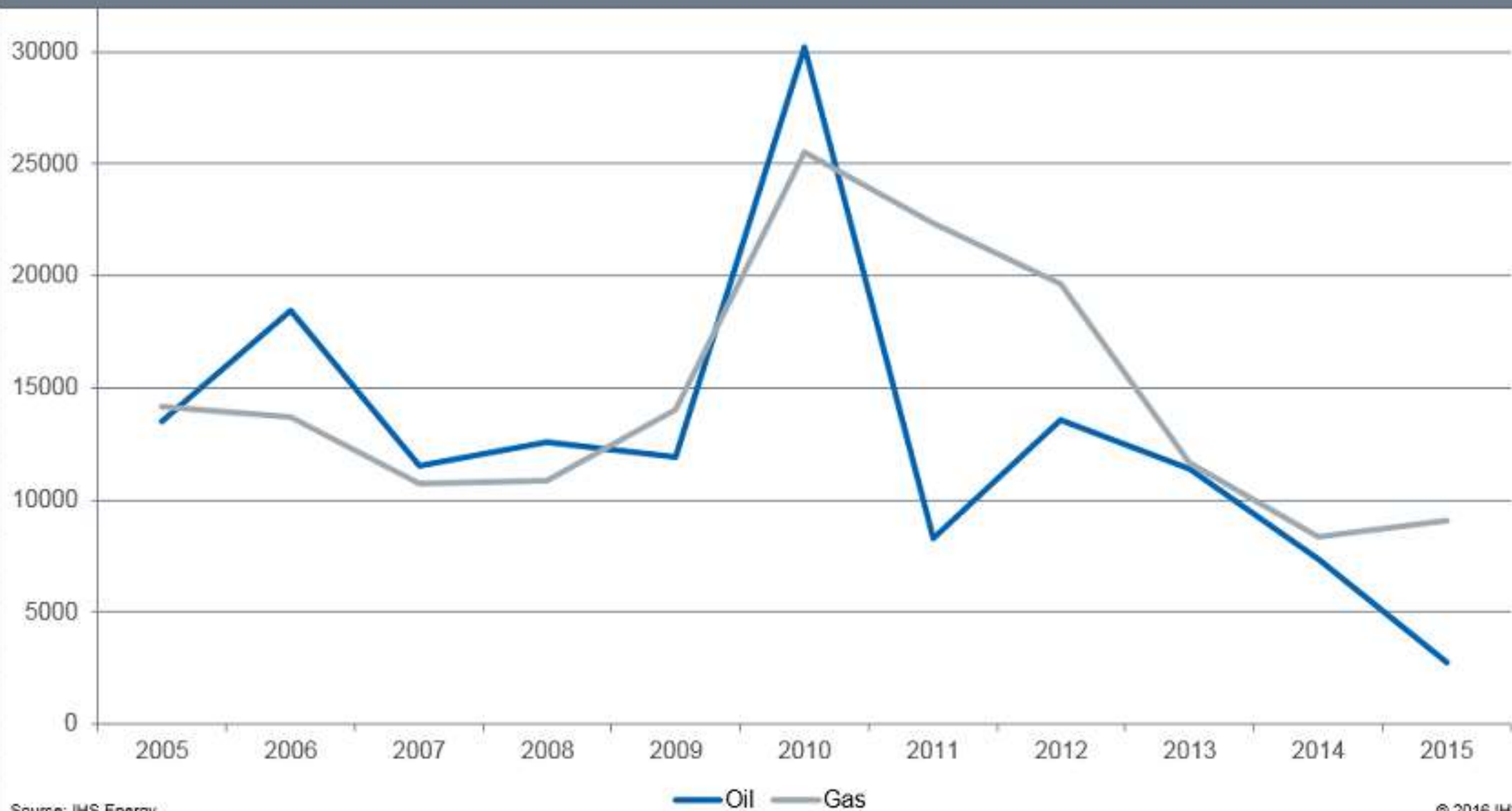
Source: OPEC Secretariat.

**OPEC-NOPEC Have Cut 1.8 mmb/d Liquids Since November 2016**  
*35% Saudi Arabia, 65% GCC States, 12% Iraq, 10% Russia, 9% Mexico*

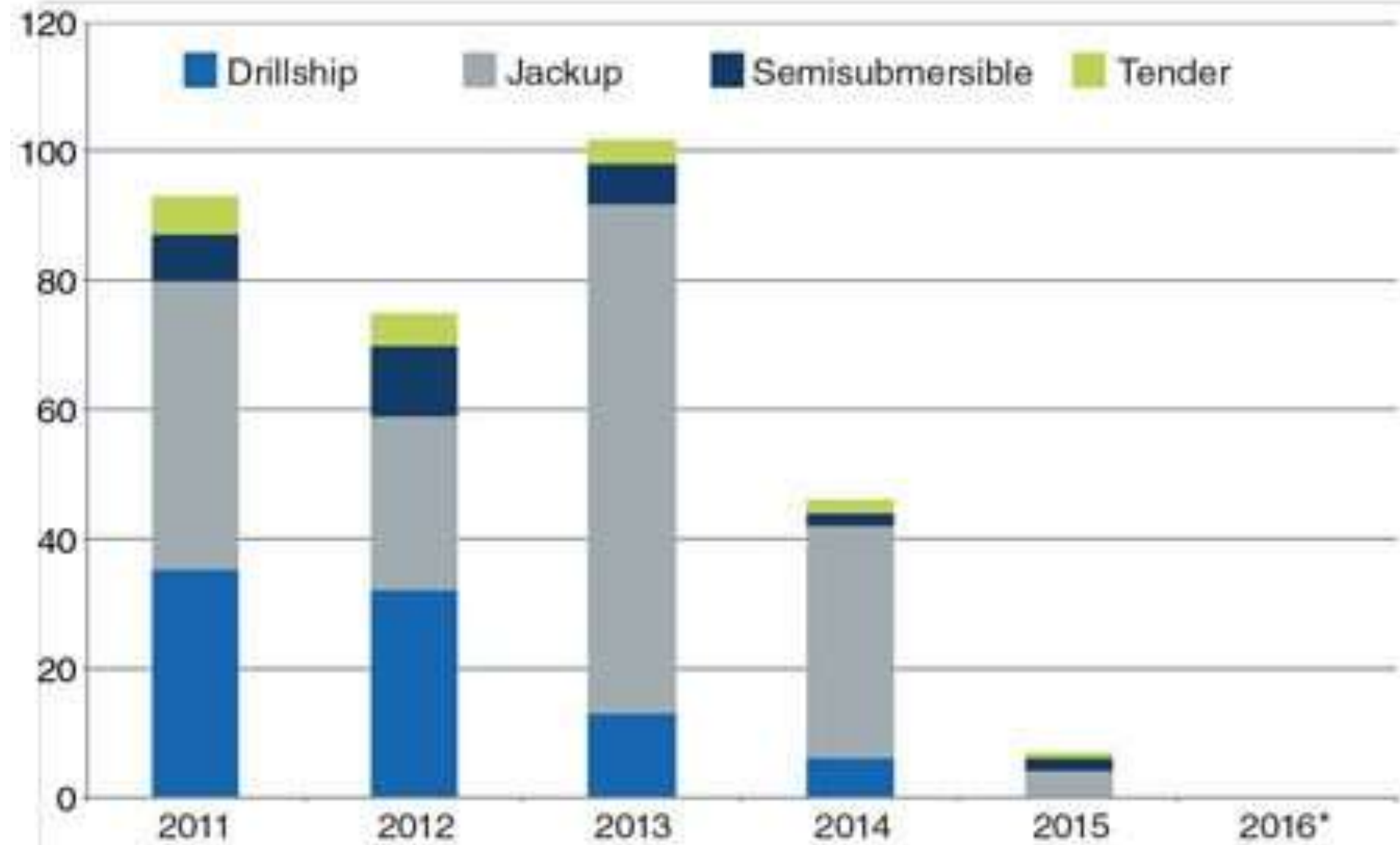


Source: EIA April STEO, EIA International Data & Labyrinth Consulting Services, Inc.

## Conventional Oil Volumes Found Annually Outside North America (million barrels of oil equivalent (MMboe))



## Rig orders by year

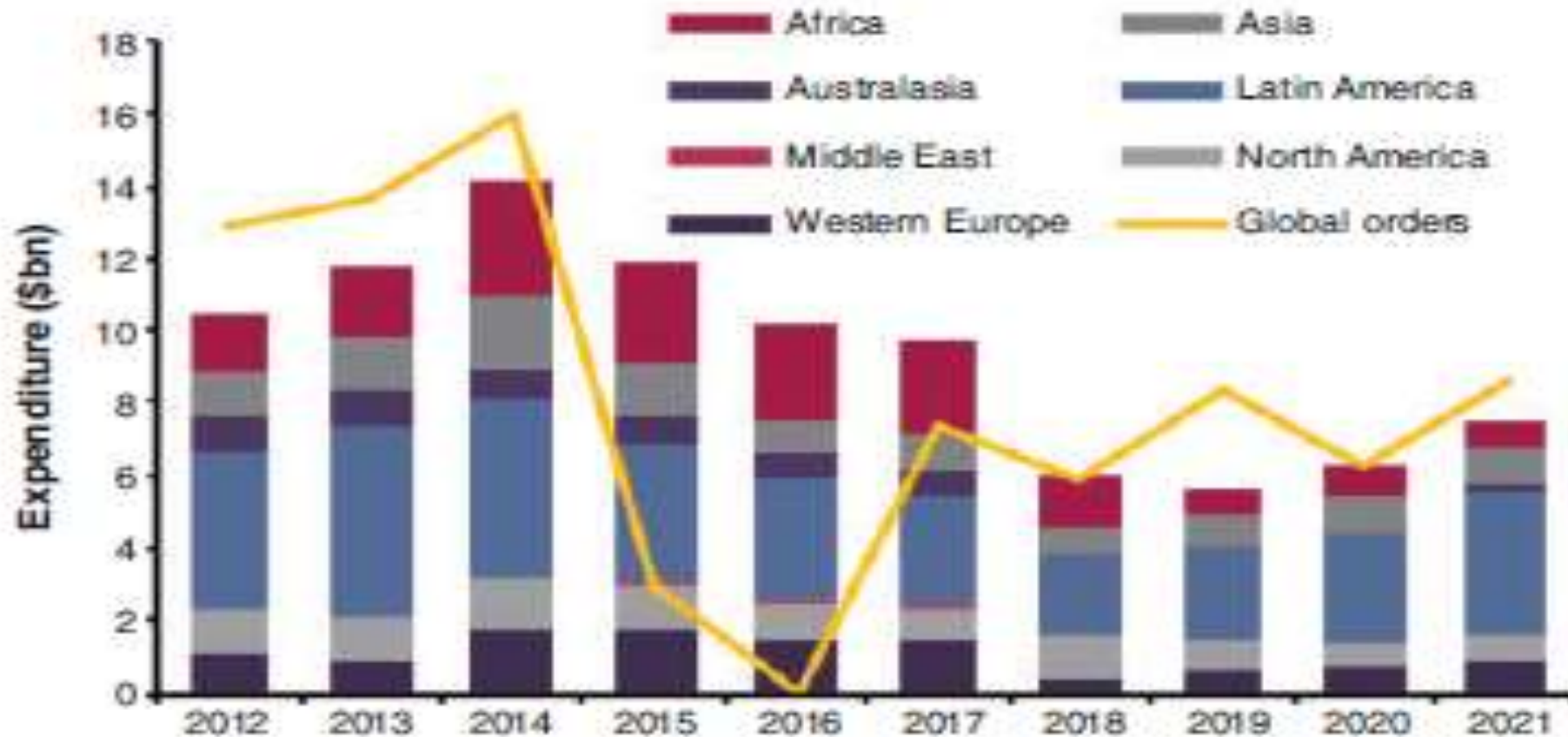


Source: IHS Petrodata

Notes: \*YTD May 2016

# Orders for Floating Oil/Gas Production Facilities Predicted to Rise This Year

**Phased FPS Installation Capex by Region 2012-2021**



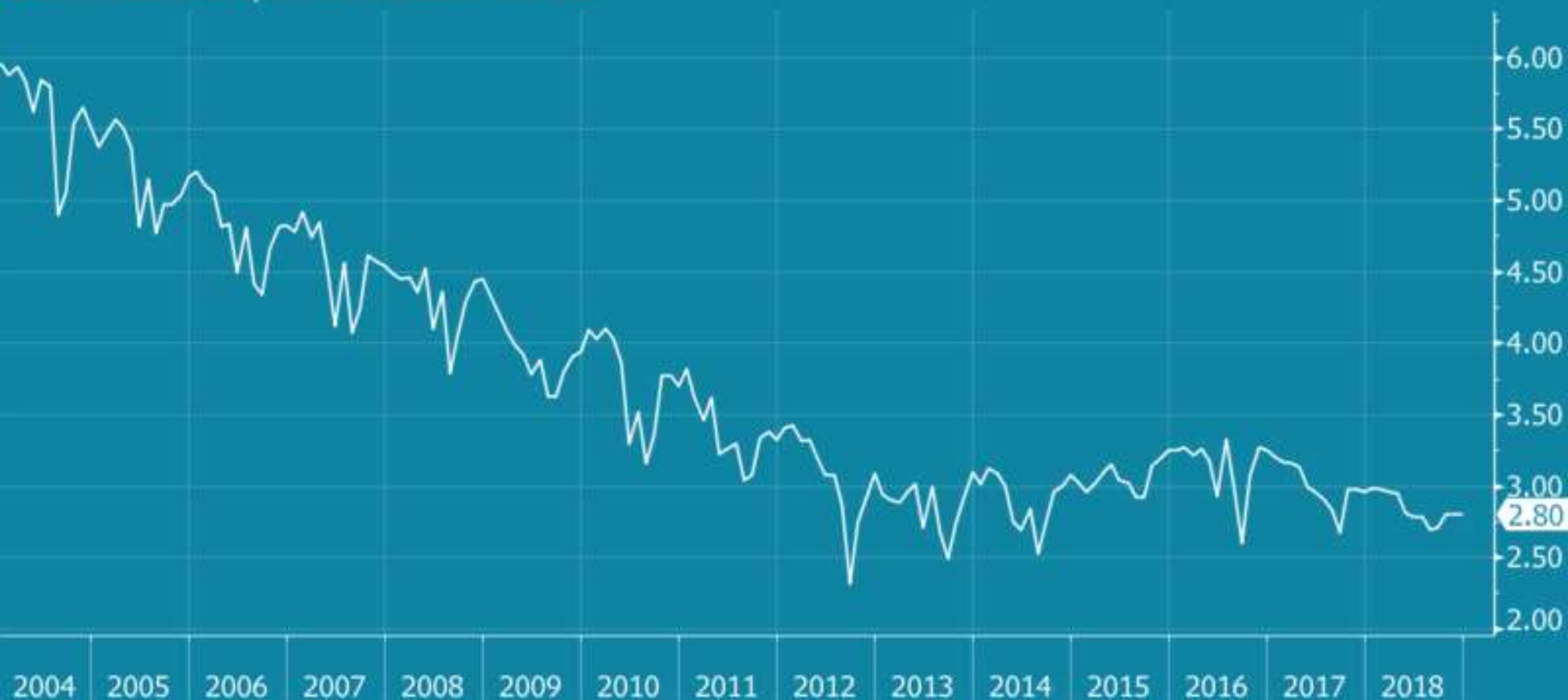
Courtesy/Source: Douglas-Westwood, World Floating Production Market Forecast 2017-2021



# Terminal Decline

North Sea oil output, million barrels per day

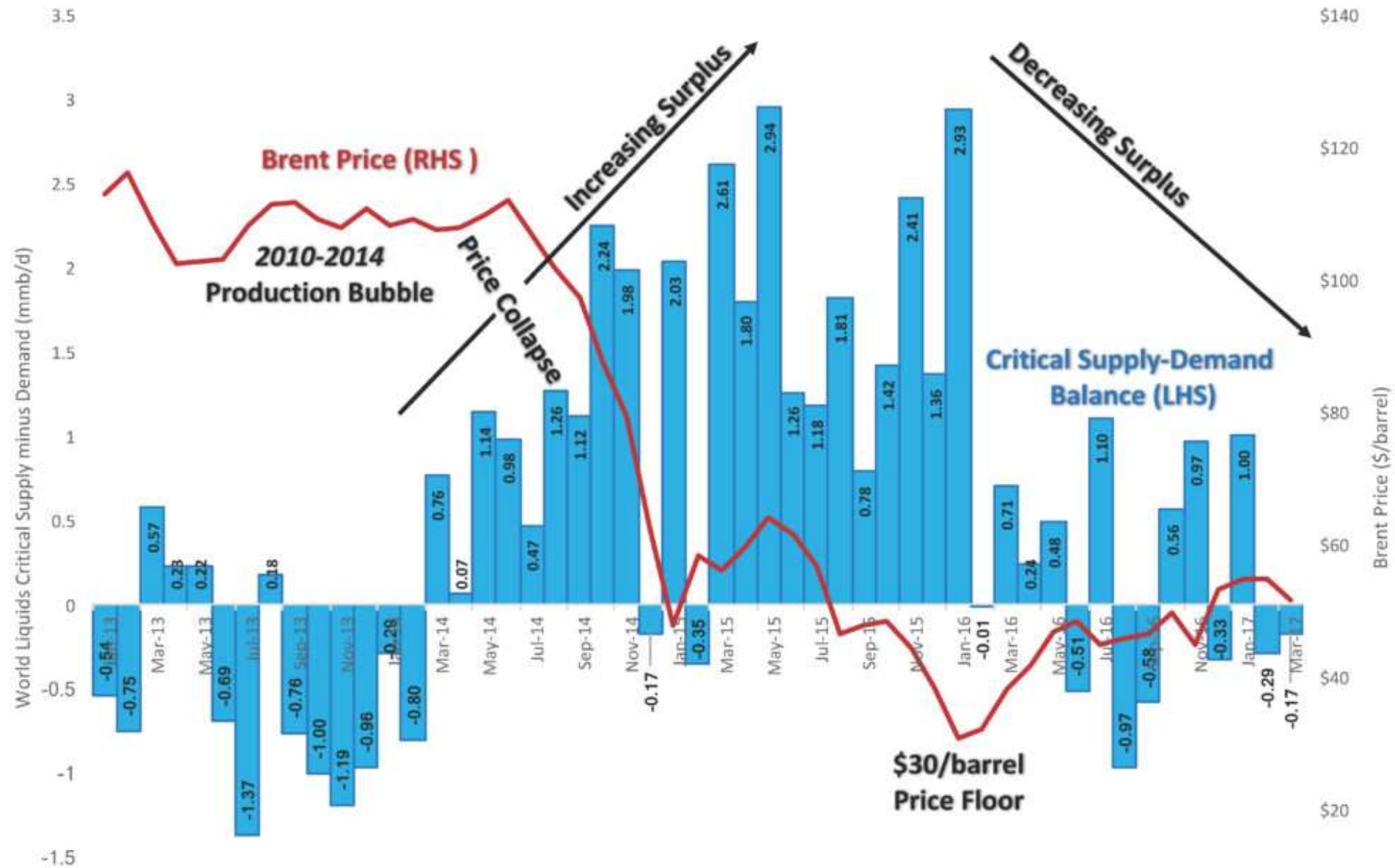
■ World Crude Oil & Liquid Fuels Production North Sea



Source: U.S. Energy Information Administration

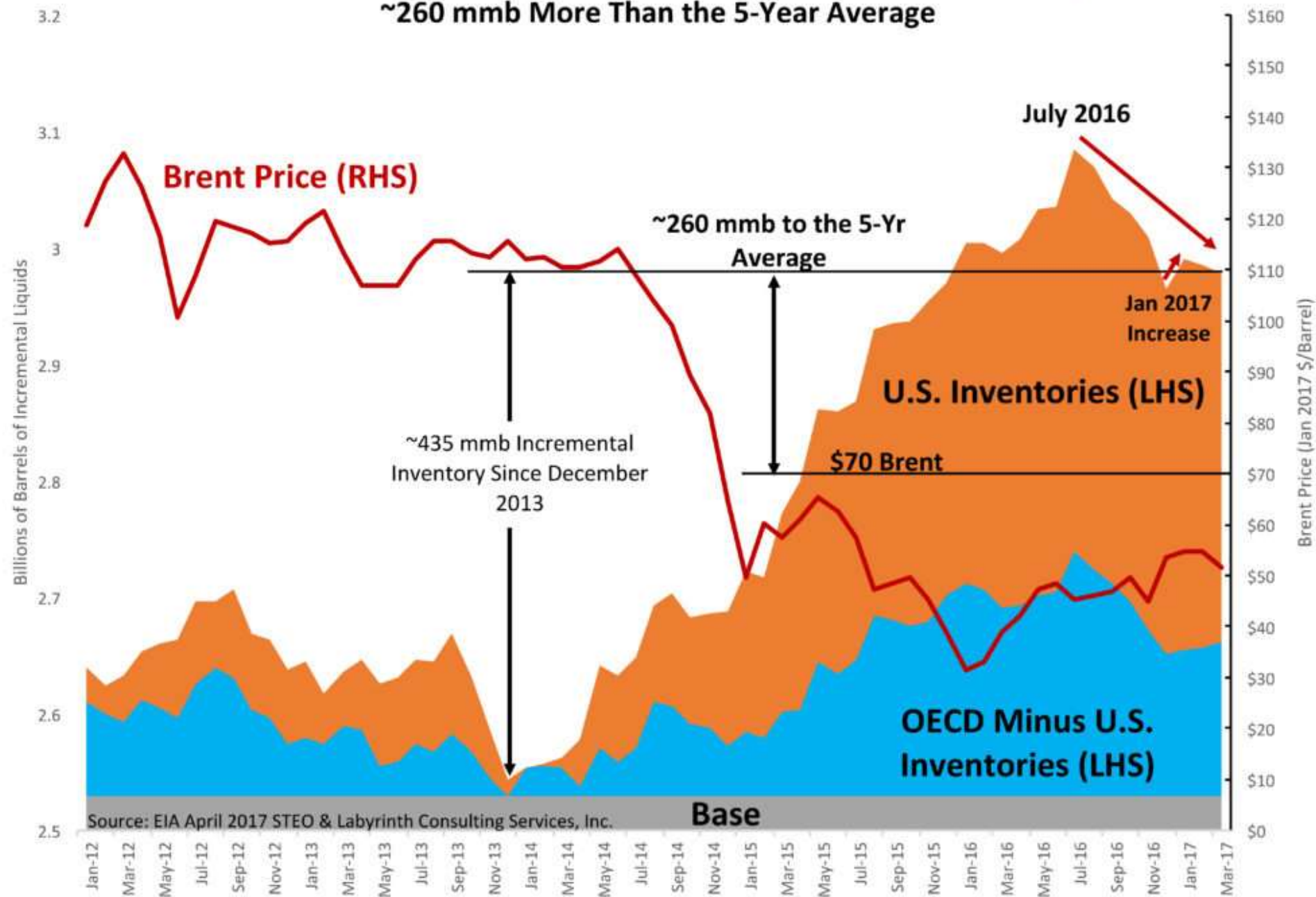
Bloomberg

## Critical Supply & Demand Are In Approximate Balance

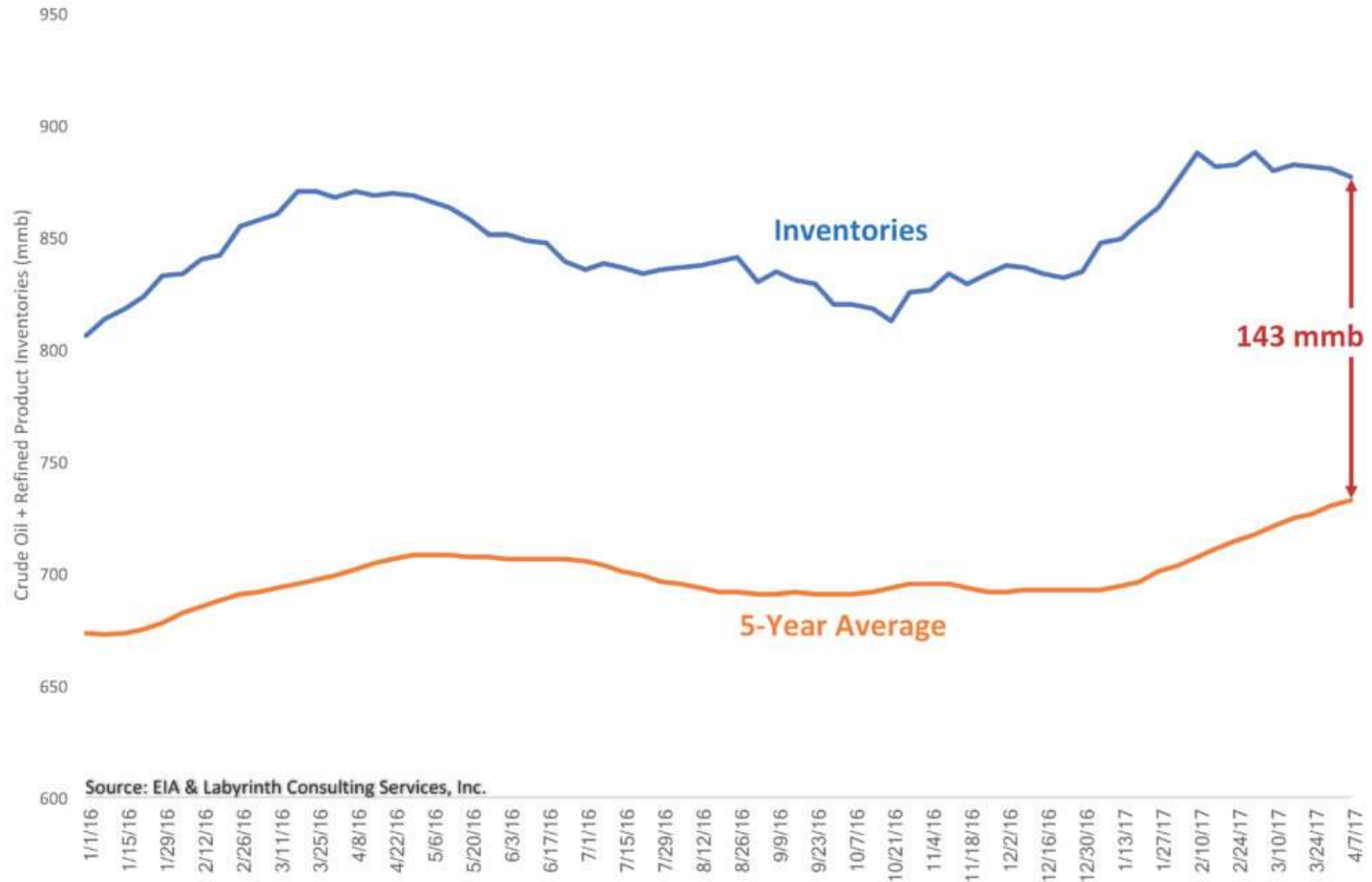


# OECD Inventories Have Fallen More Than 100 mmb Since July 2016

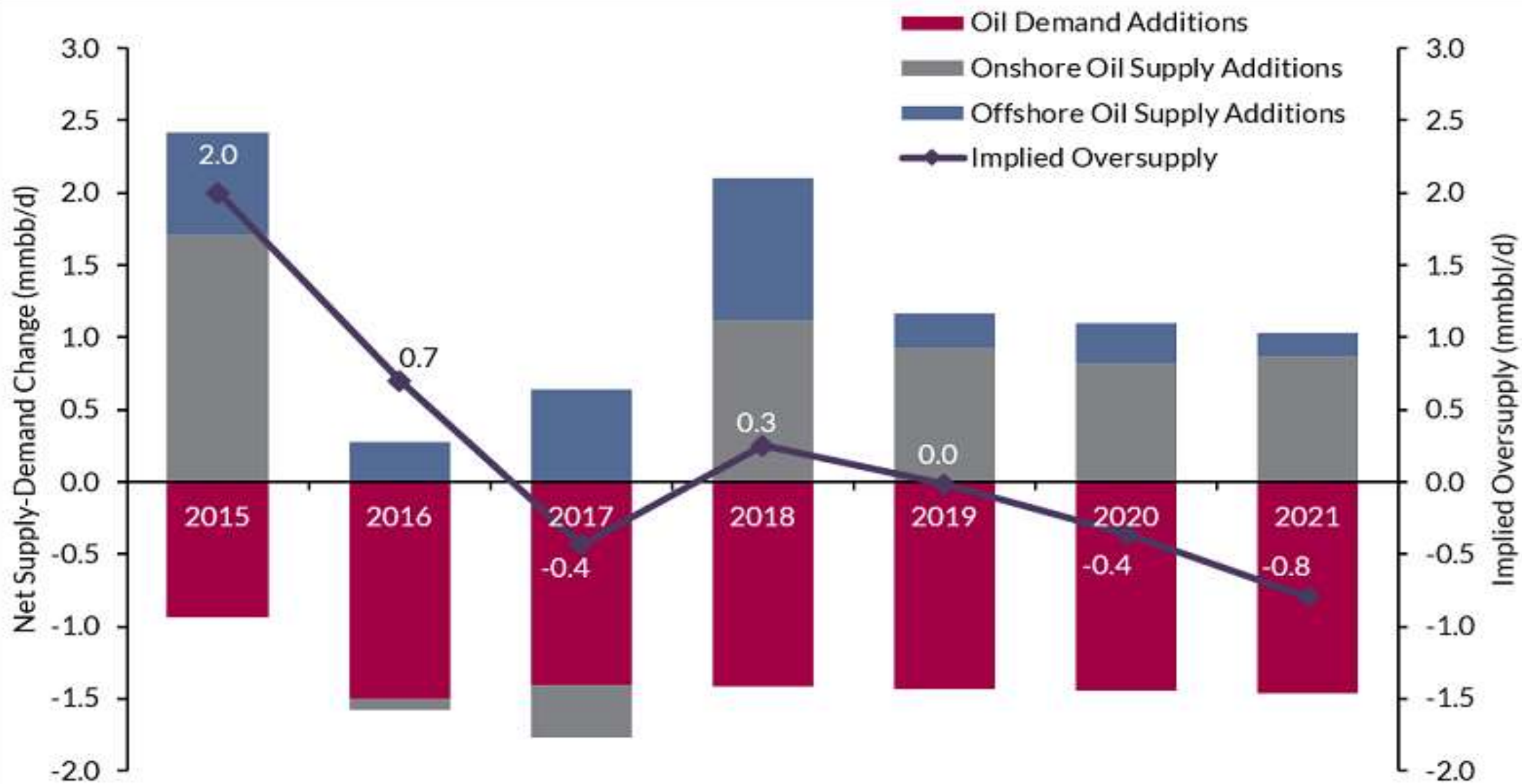
~260 mmb More Than the 5-Year Average



## U.S. Crude Oil + Refined Product Inventories Must Fall 143 Million Barrels To Reach The 5-Year Average & Higher Oil Prices



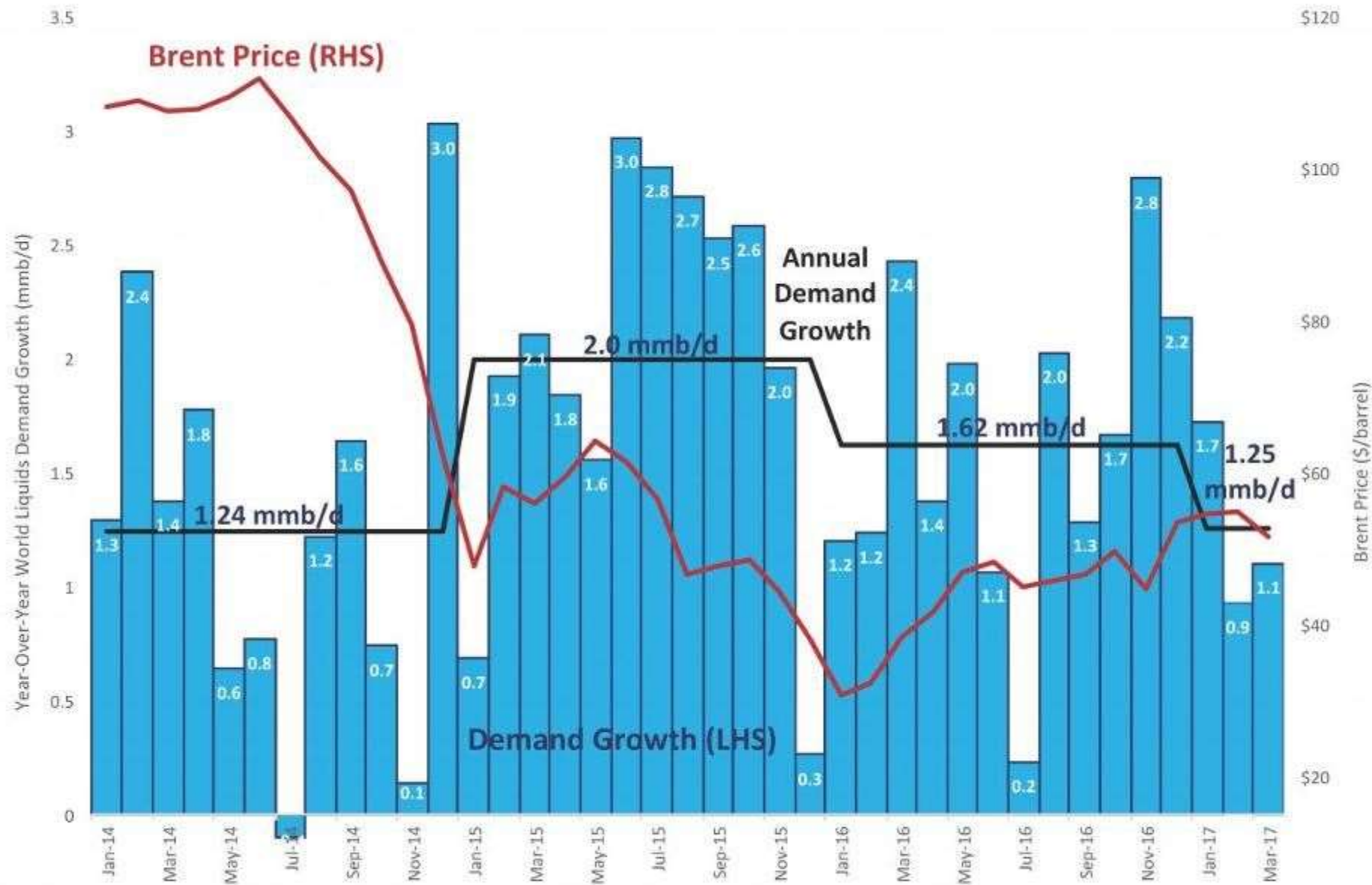




*Oil Supply-Demand Balance 2015-2021*

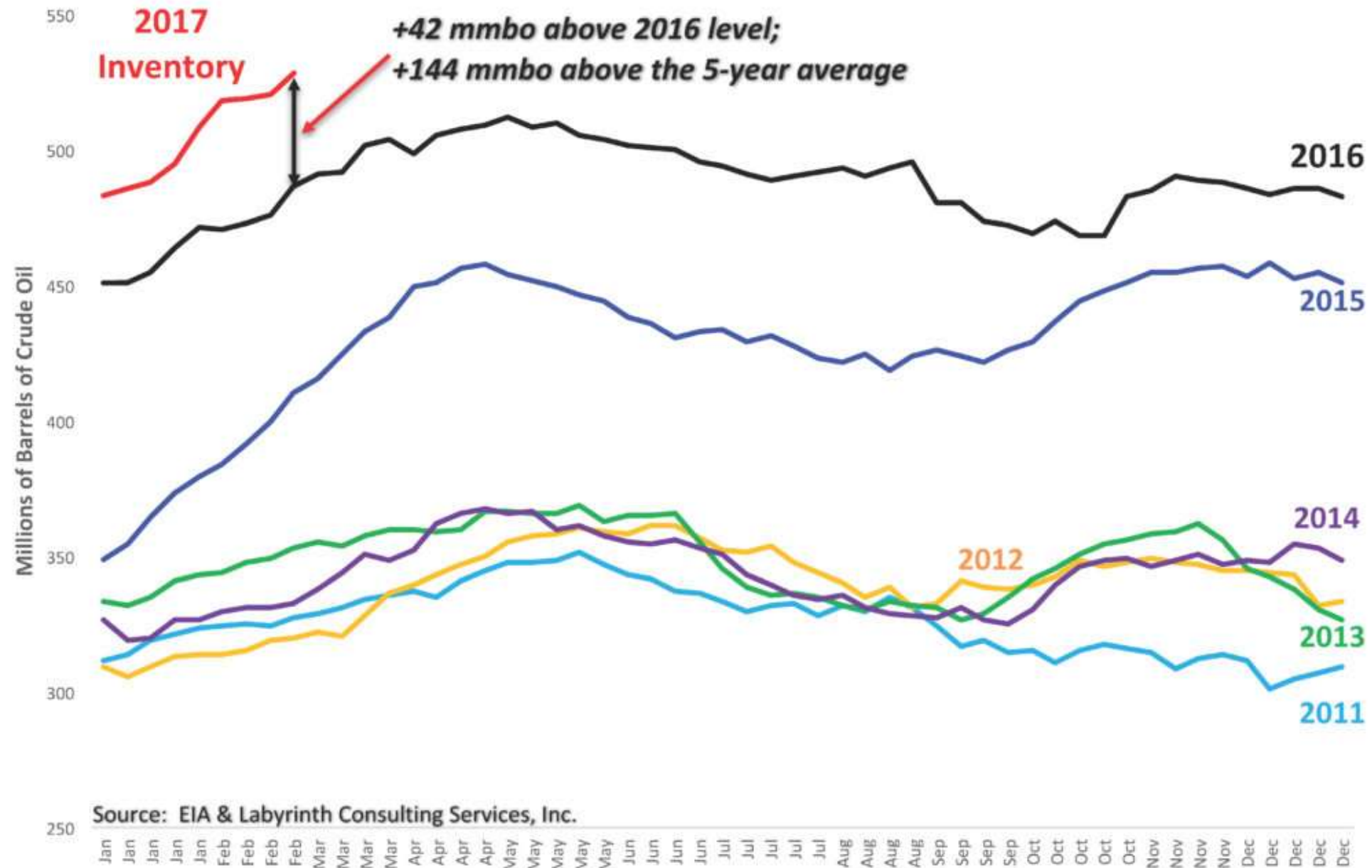


## 2017 Demand Growth Has Fallen To 1.25 mmb/d

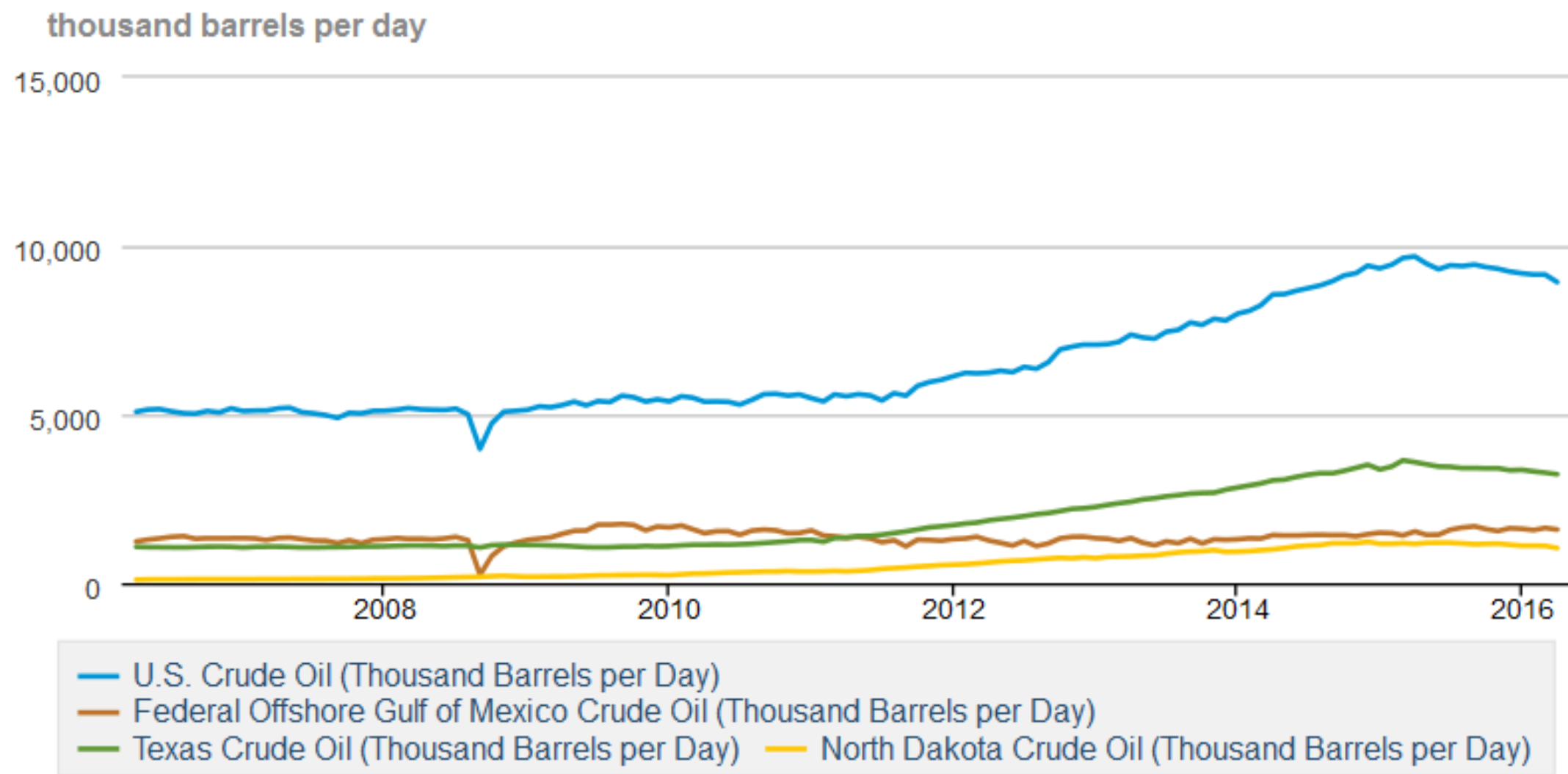


# U.S. Crude Oil Inventory 5 Year Comparison

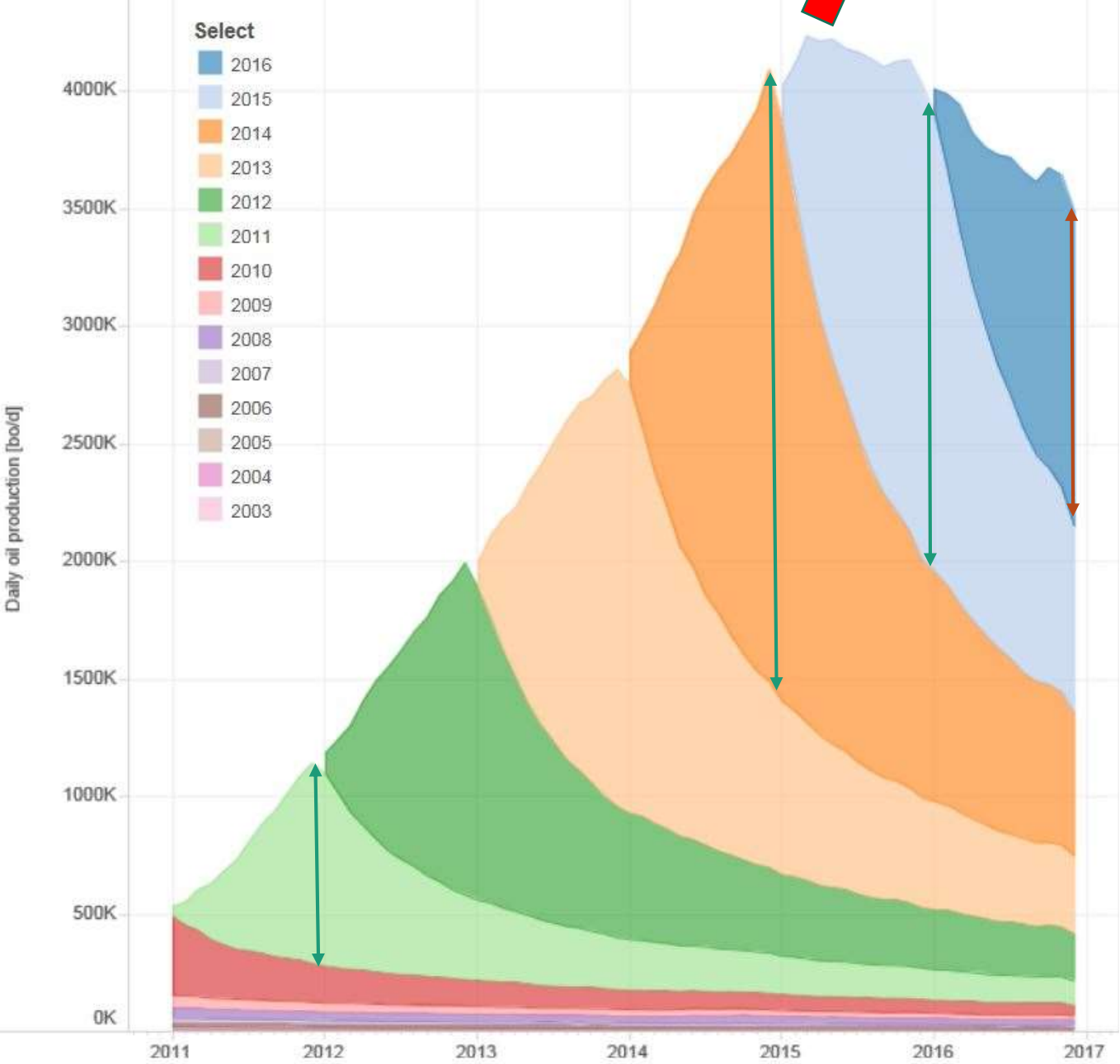
+8.2 mmb Addition Fairly Normal For Re-Stocking Season: + 10.4 mmb in 2016, +5.3 mmb 5-Yr Avg.



# U.S. crude oil production



US Daily Horizontal Well Production by Year of First Flow



Had the price not collapsed in 2014 they would be at 6.8 million bpd by now!

2016 drilled less than 6,000 wells -added 1.4 million bpd – total production down over 600K bpd

2015 drilled less than 10,000 wells -added 2 million bpd but by the end of the year total production was down

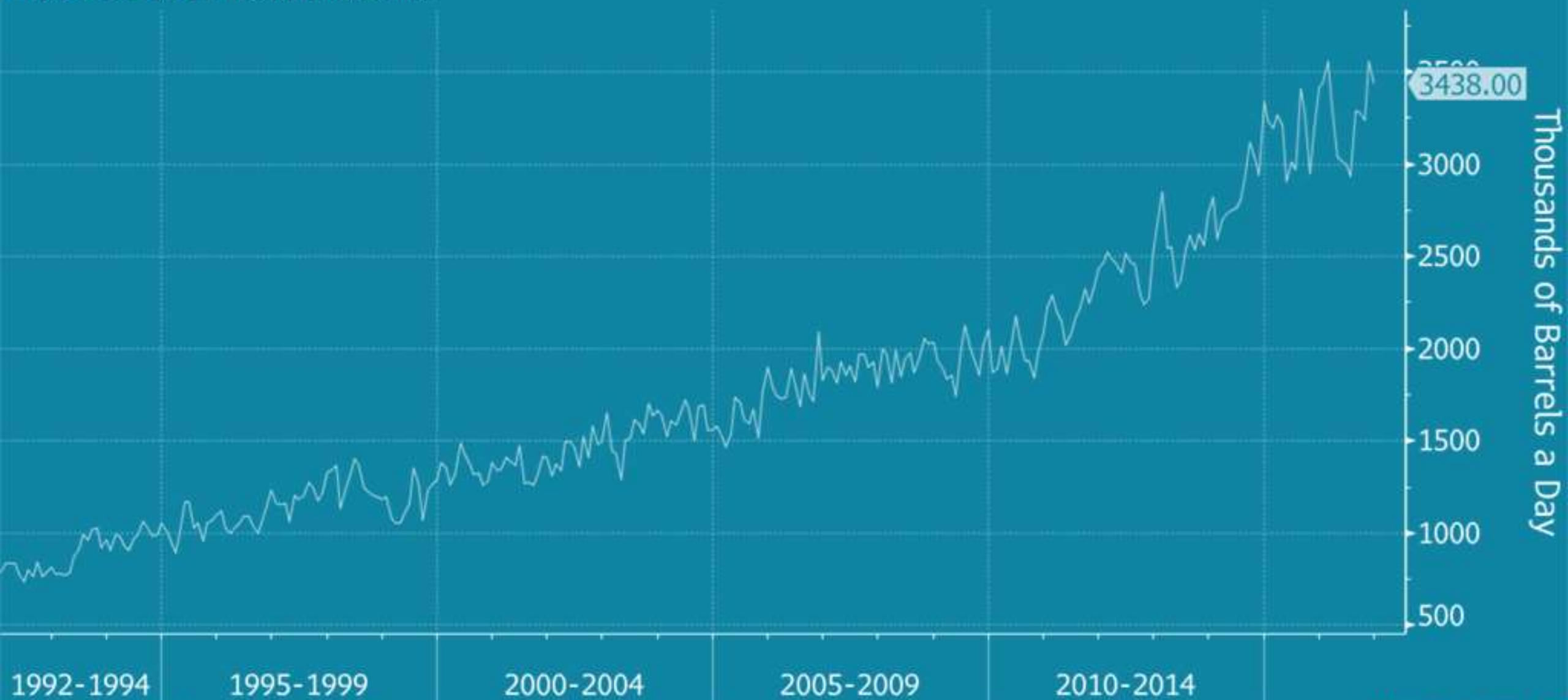
2014 drilled 14261 wells -added 2,600,680 bpd but by Nov. the price of oil collapsed

2011 drilled 7638 wells -added 850,000 bpd

# Steady Rise

## U.S. Crude Imports From Canada

■ DOE Crude Oil US Import Data/Canada

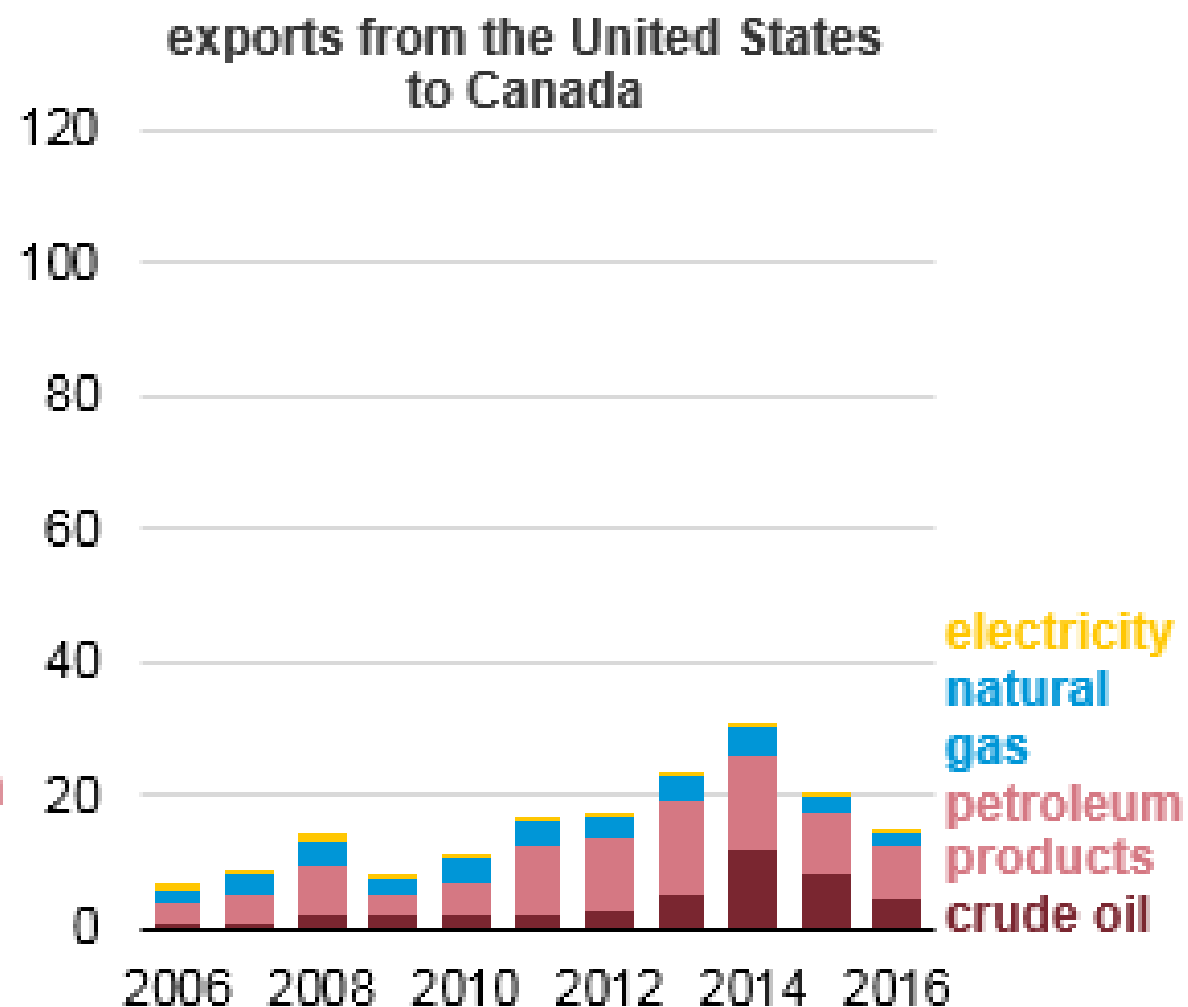
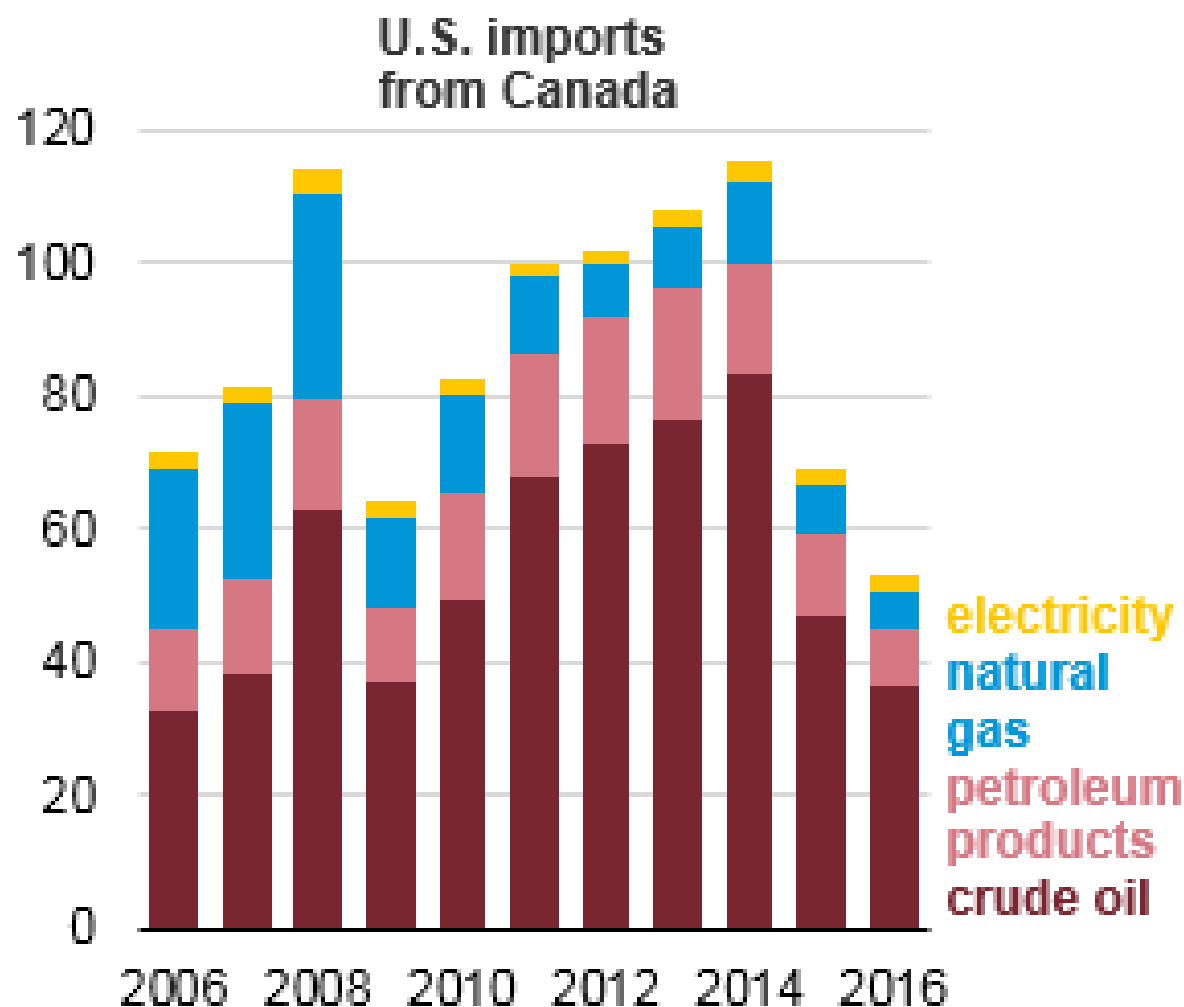


Source: U.S. Department of Energy

Bloomberg

# Value of selected energy trade between Canada and the United States (2006-16)

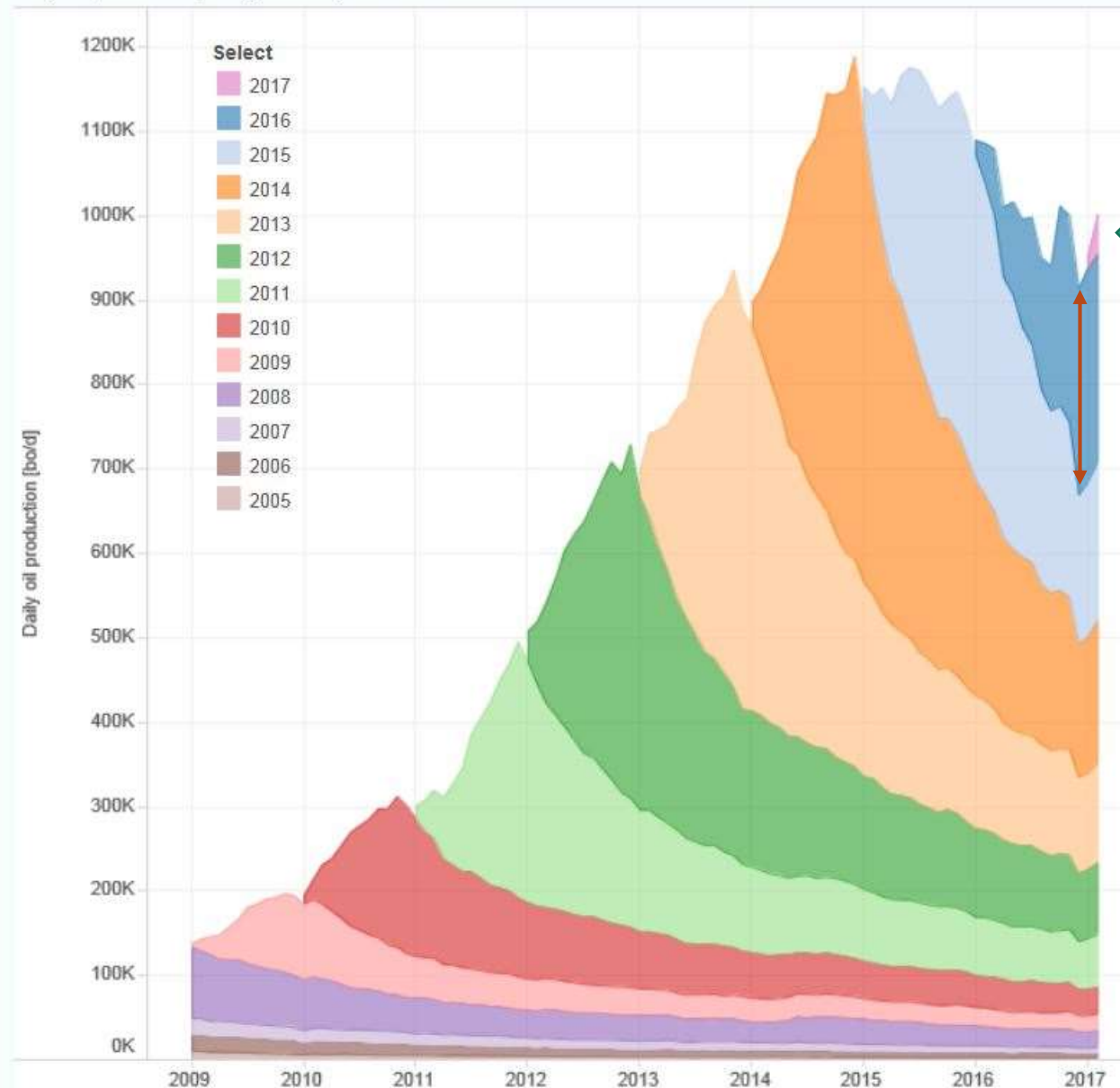
billion dollars





## North Dakota (Bakken)

Daily oil production [bo/d], shown by "Year of first flow"

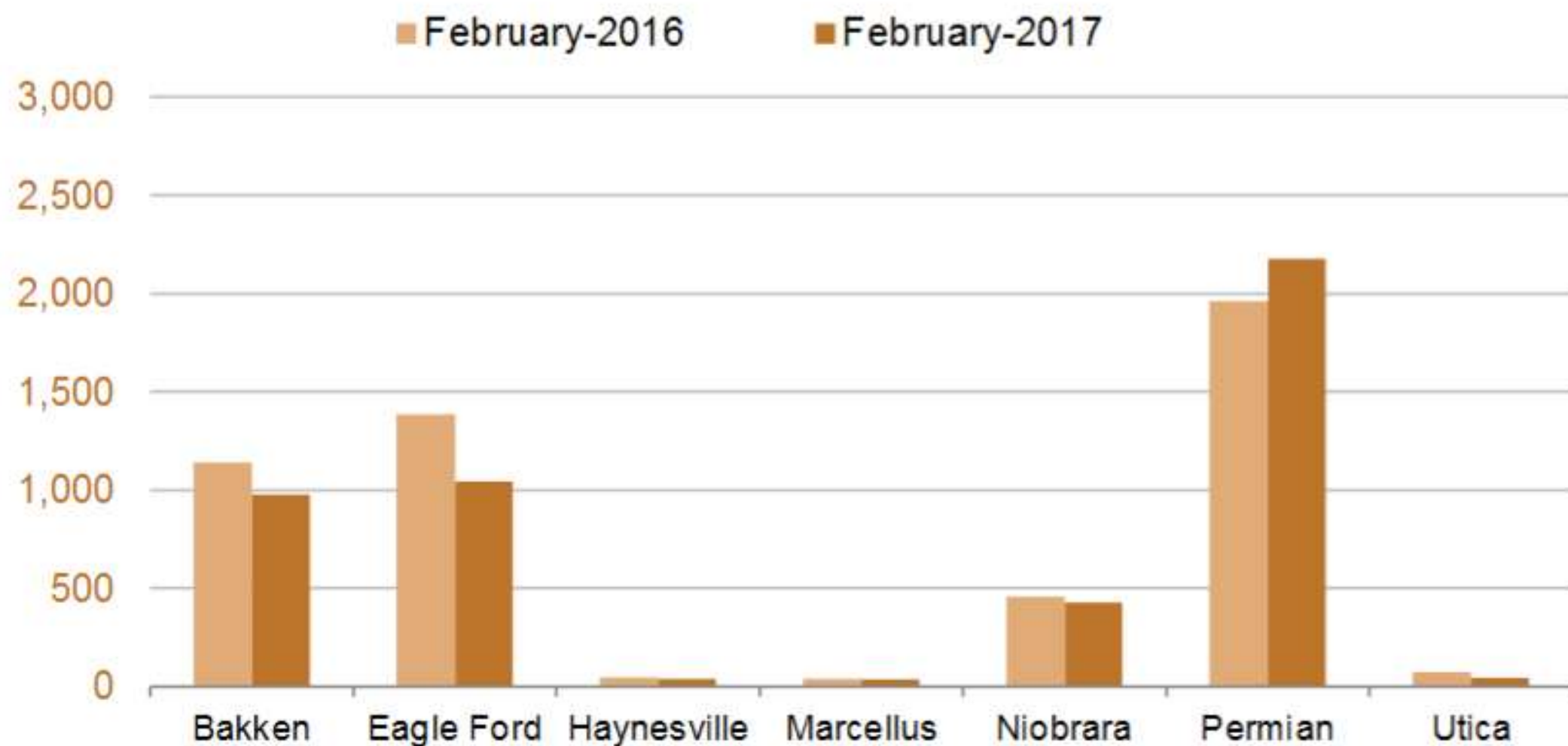


This graph includes production to February of 2017 which appears to be increasing

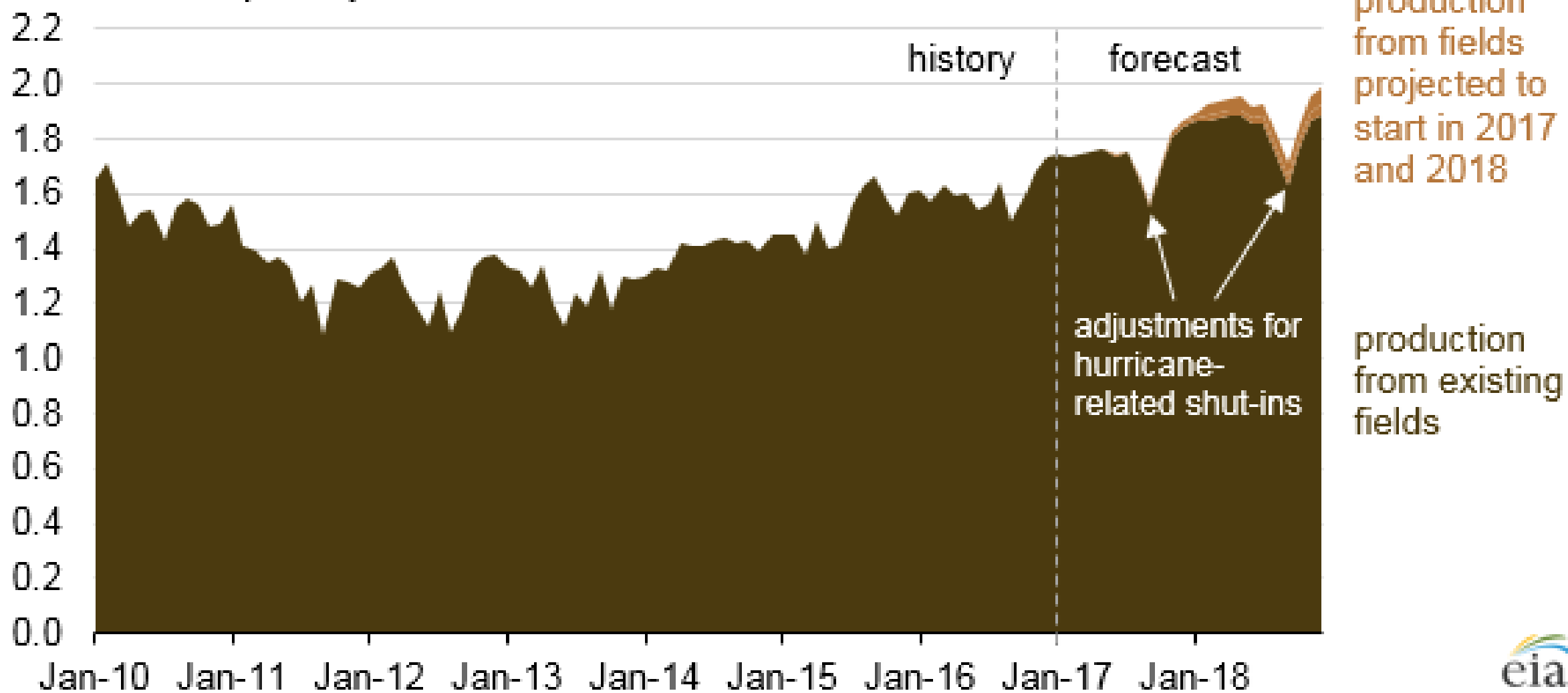
2016 only 736 wells drilled (down 68% from 2014) producing 245,000 Bpd – total production at the end of 2016 was down 23% from the peak in 2014.

## Oil production

thousand barrels/day

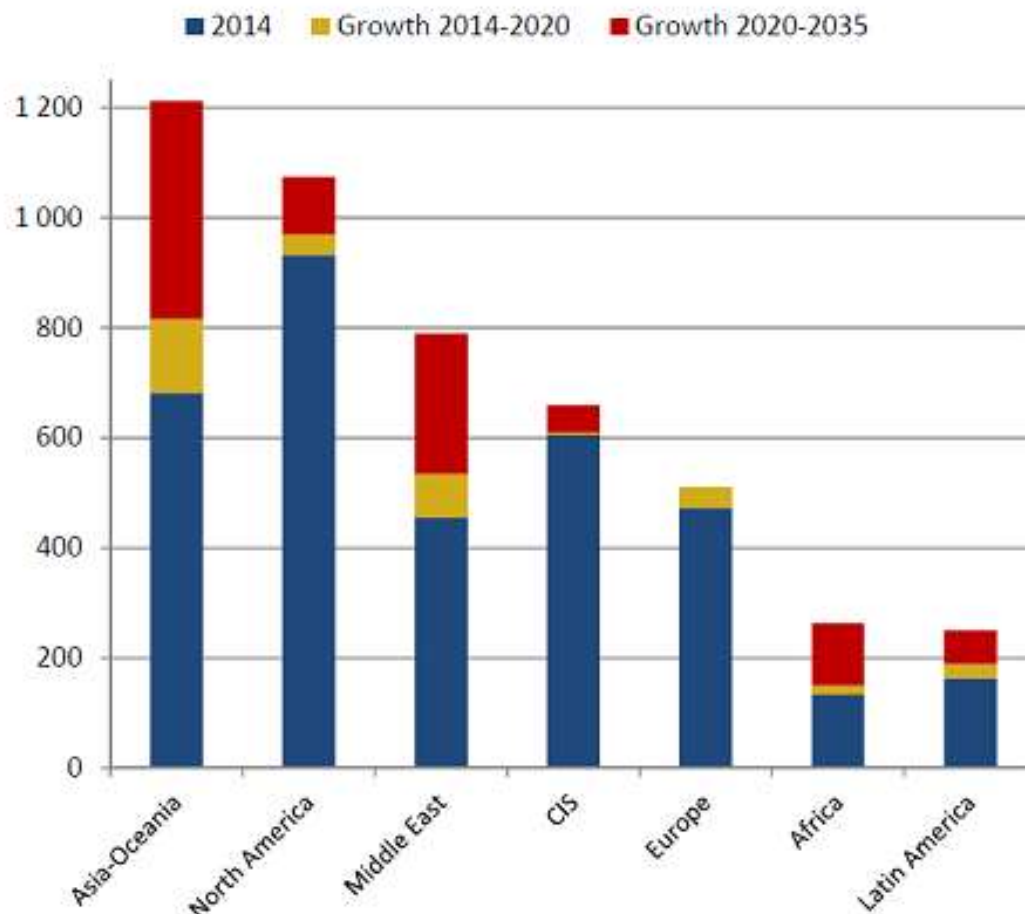


Monthly oil production from U.S. Federal Gulf of Mexico  
million barrels per day

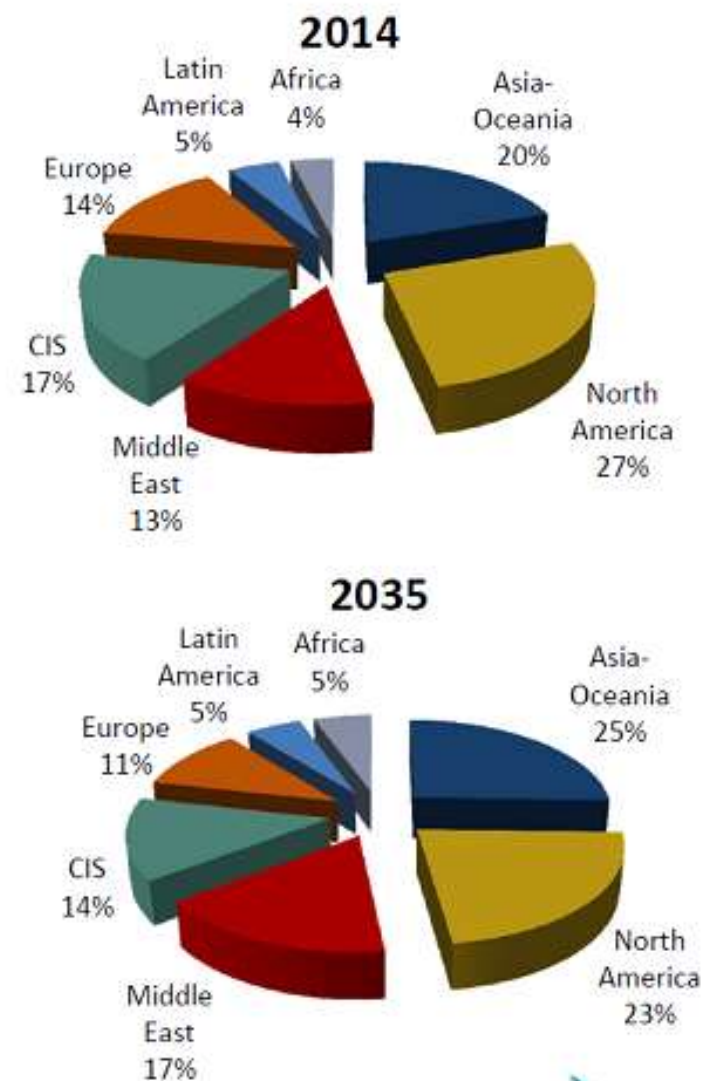


Source: U.S. Energy Information Administration, [Short-Term Energy Outlook](#) April 2017

# Natural gas demand prospects



Unit: Bcm





Sources: Elsevier Journal of Petroleum Exploration and Development, Energy-pedia News, ifeng.com, OilandGasGeology.com, Oil Patch Asia, Platts, Rigzone, U.S. Energy Information Administration, U.S. Geological Survey, World Energy Council.

