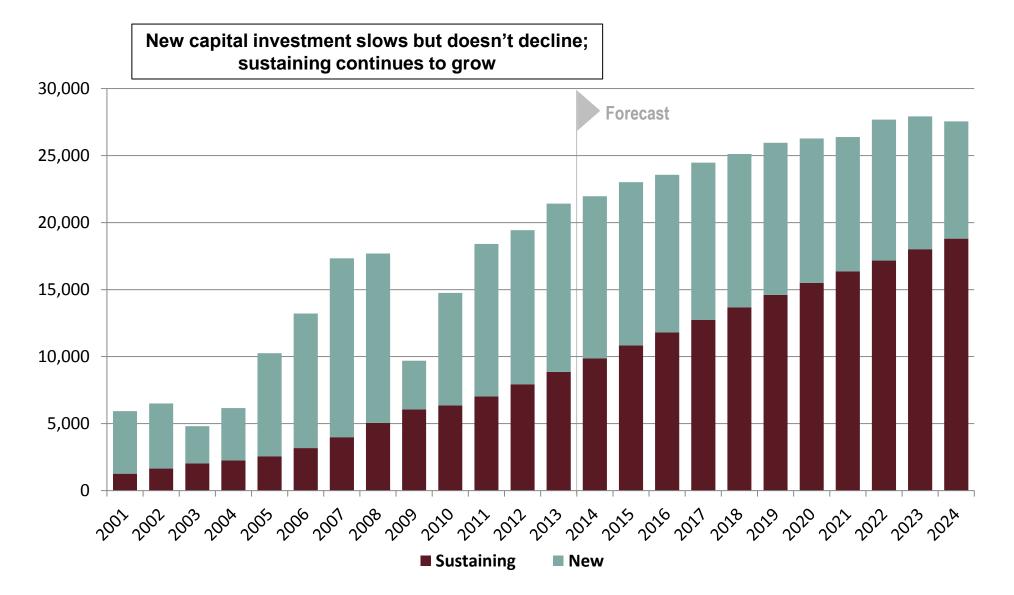
## Construction Best Practices Conference Forecast 2015

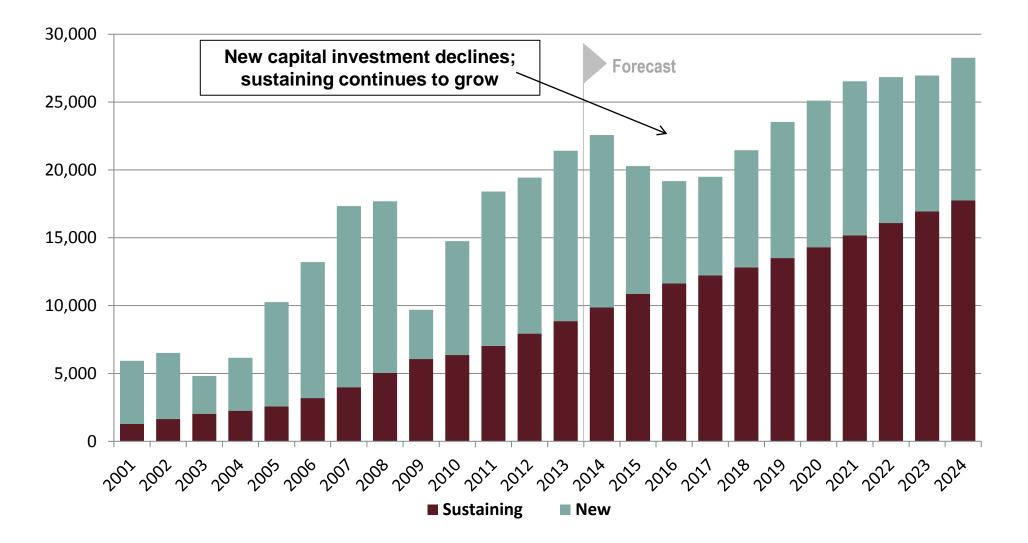
#### What's Coming Down the Pipe?



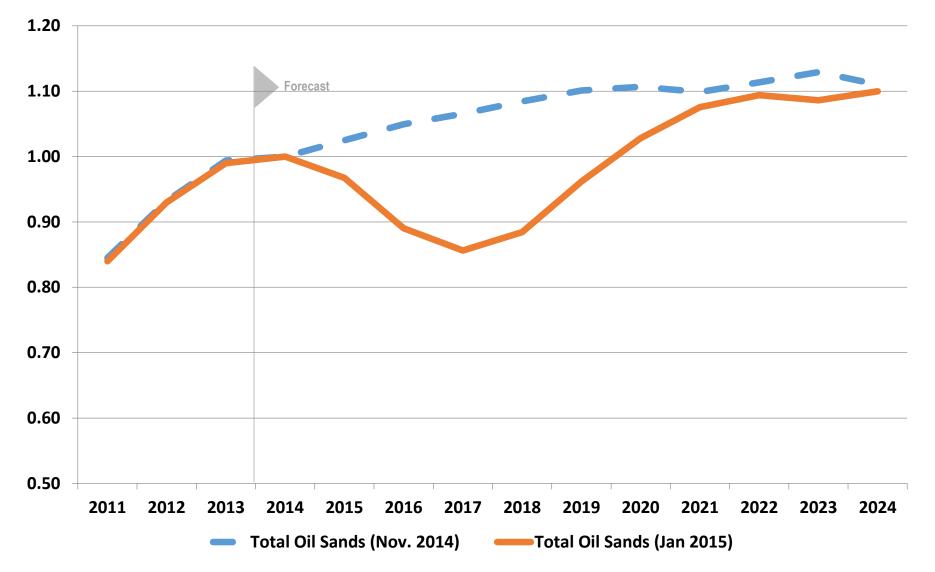
#### **Oil Sands – November 2014** (\$2007 Millions)



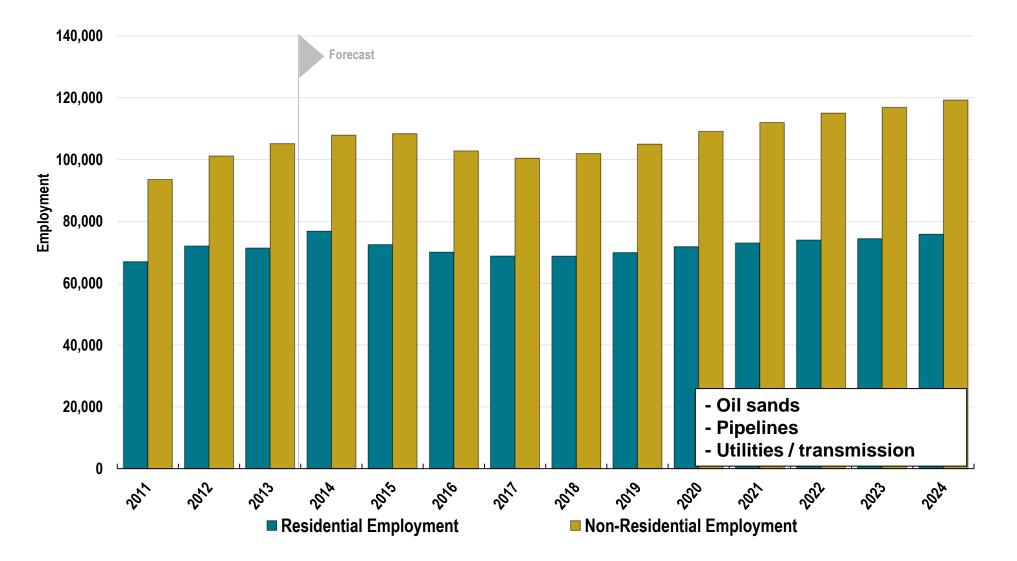
#### Oil Sands – January 2015 (\$2007 Millions)



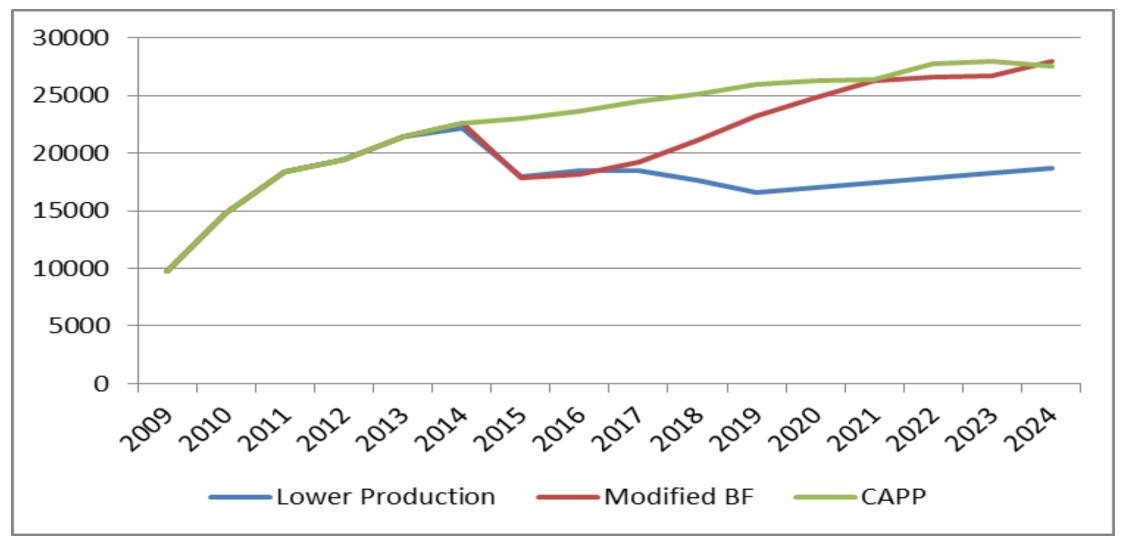
#### **Oil sands construction employment** (2014 = 1.0)

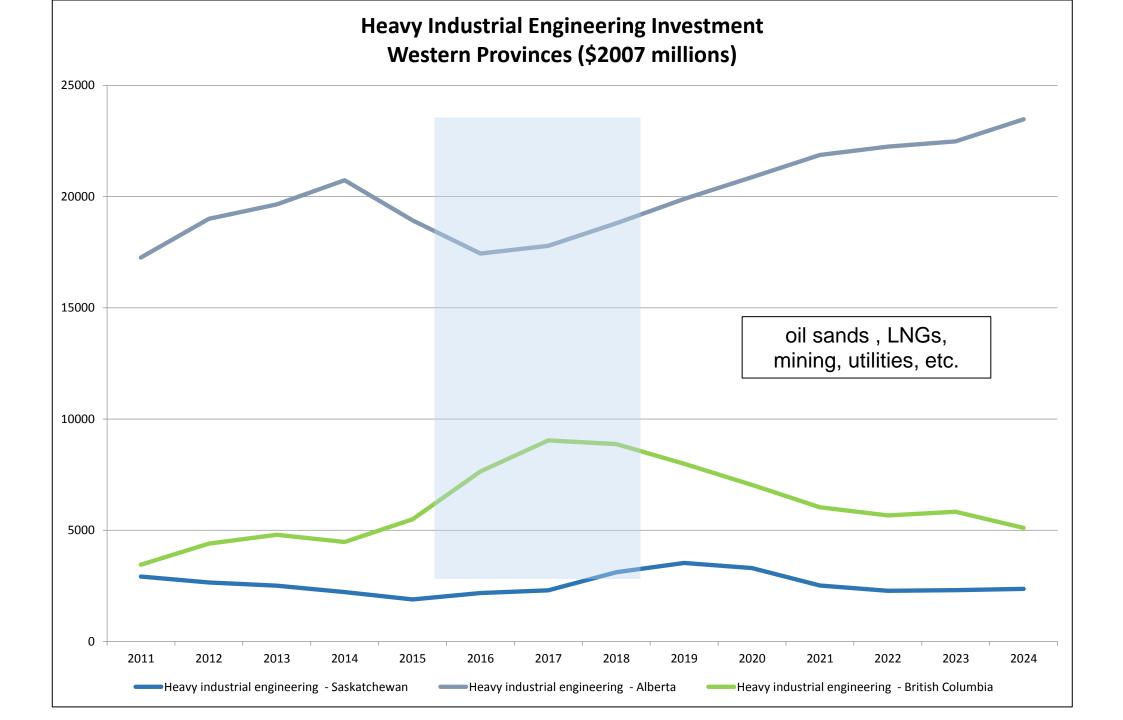


## **Construction Employment Alberta**



## Forecast Oilsands Investment if CAPP Production Forecast Reduced (2007 \$millions)



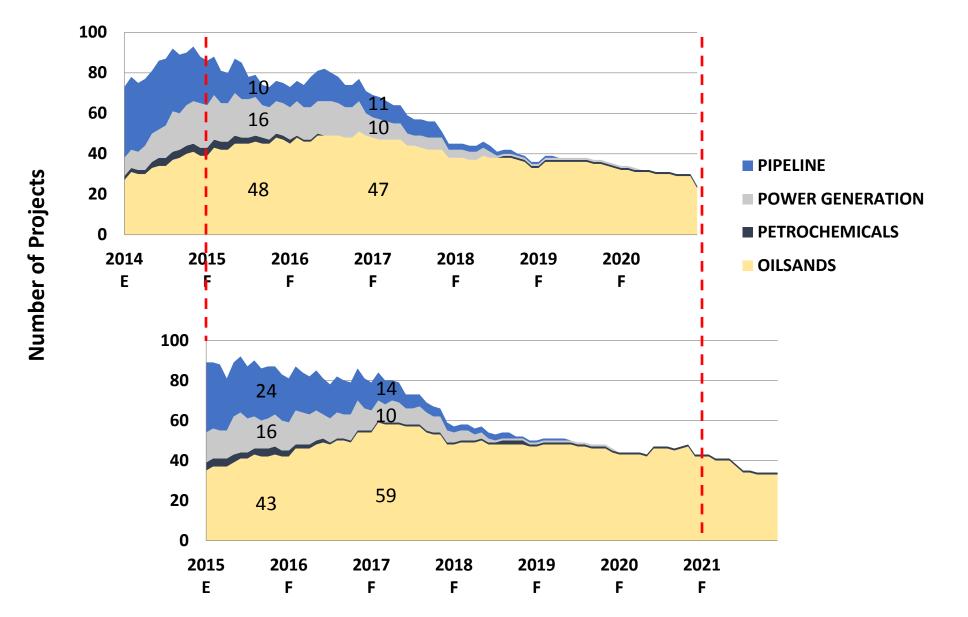


#### 36,000\* construction workers are expected to retire over the next years The province's Alberta will need labour force grows by to attract about workers following the new construction workers 2015-2017 slowdown. over the next 10 years.

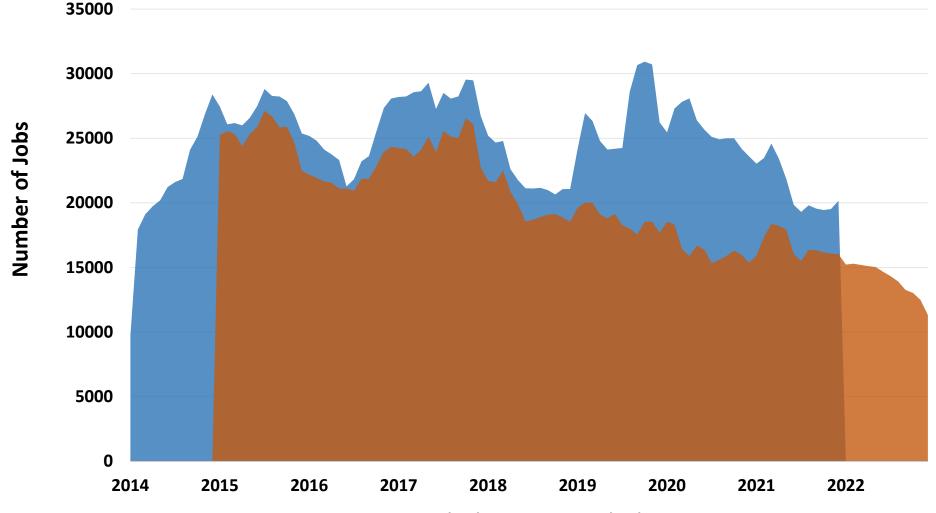
WHAT'S CHANGING IN THE ALBERTA CONSTRUCTION INDUSTRY?

\* 18% of the current labour force Source: BuildForce Canada (data as of February 2015)

#### TIMING OF PLANNED NEW CONSTRUCTION

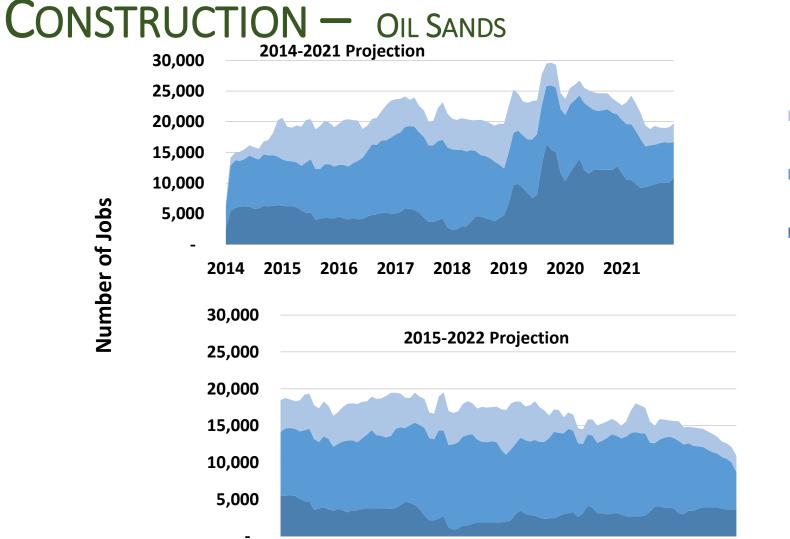


## ON-SITE WORKFORCE NUMBERS FOR PLANNED NEW CONSTRUCTION



2014 projection 2015 projection

## **ON-SITE WORKFORCE NUMBERS FOR PLANNED NEW**

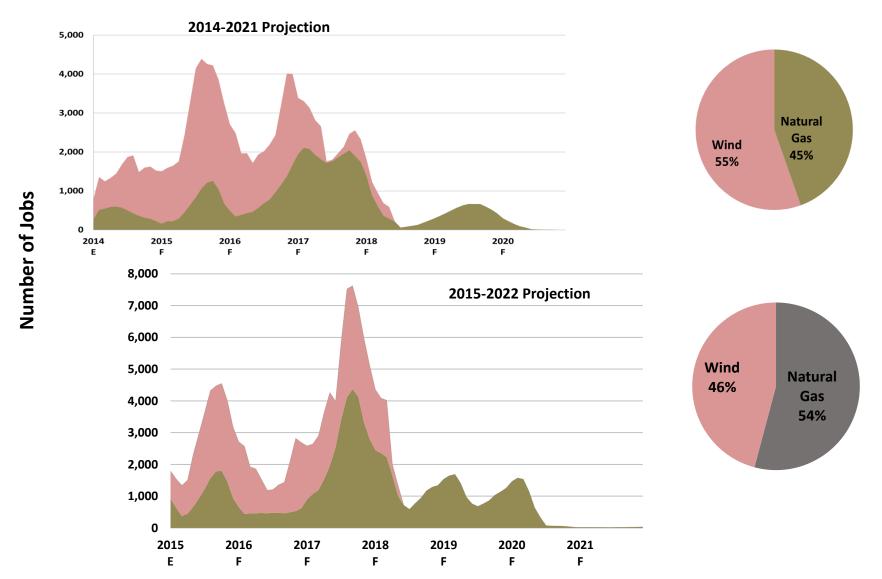


2015 2016 2017 2018 2019 2020 2021 2022

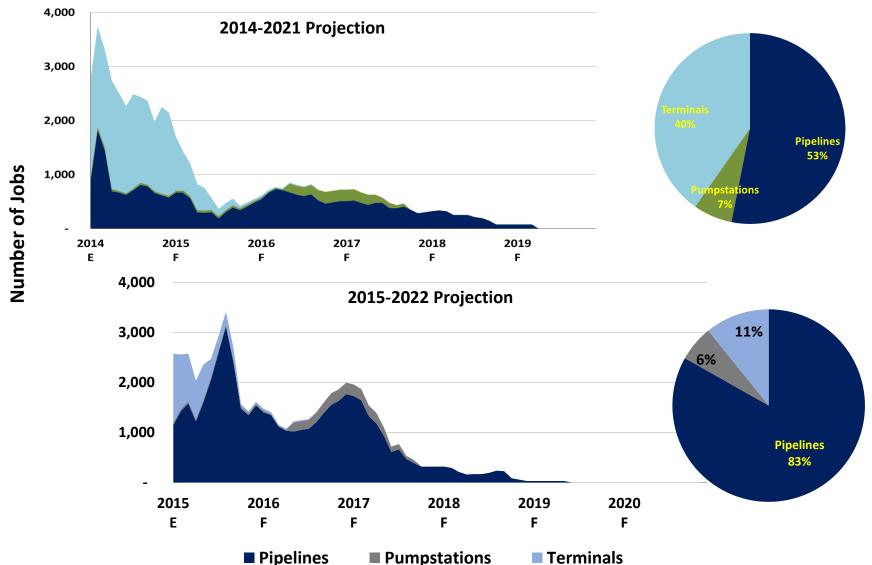
On-site upgrader construction

- On-site in-situ construction
- On-site mining construction

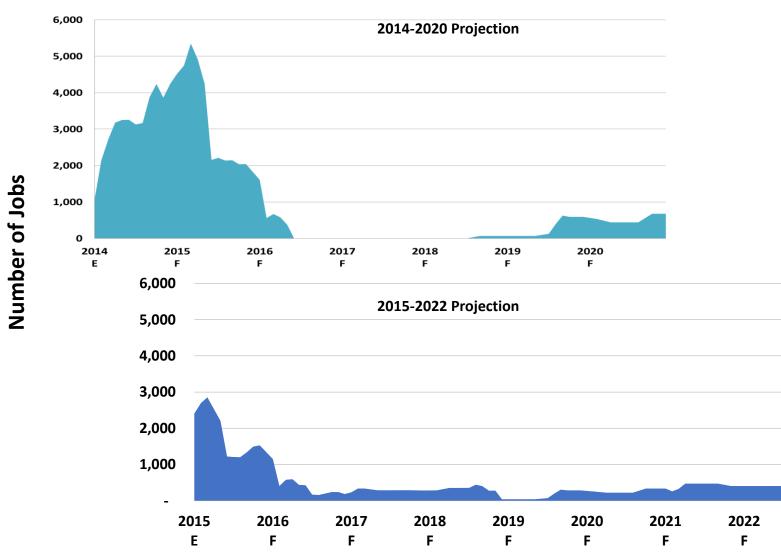
### ON-SITE WORKFORCE NUMBERS FOR PLANNED NEW CONSTRUCTION - POWER GENERATION



### ON-SITE WORKFORCE NUMBERS FOR PLANNED NEW CONSTRUCTION - PIPELINE

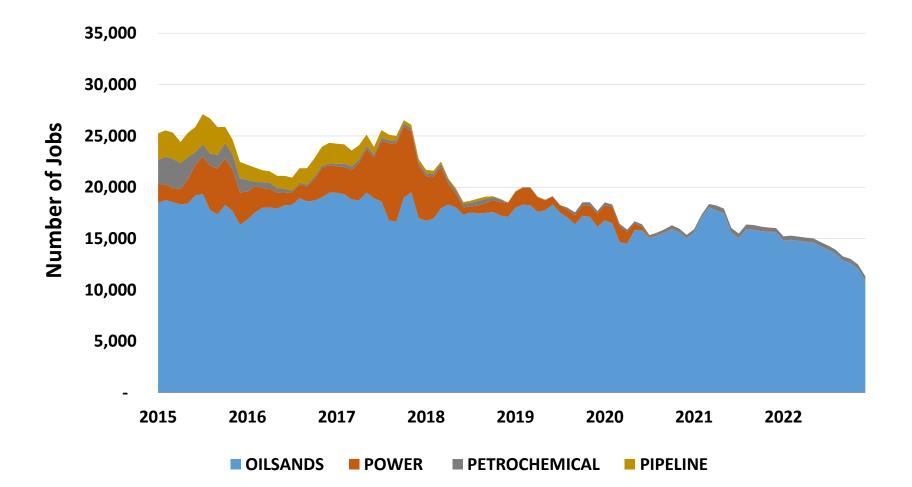


### ON-SITE WORKFORCE NUMBERS FOR PLANNED NEW CONSTRUCTION - PETROCHEMICALS

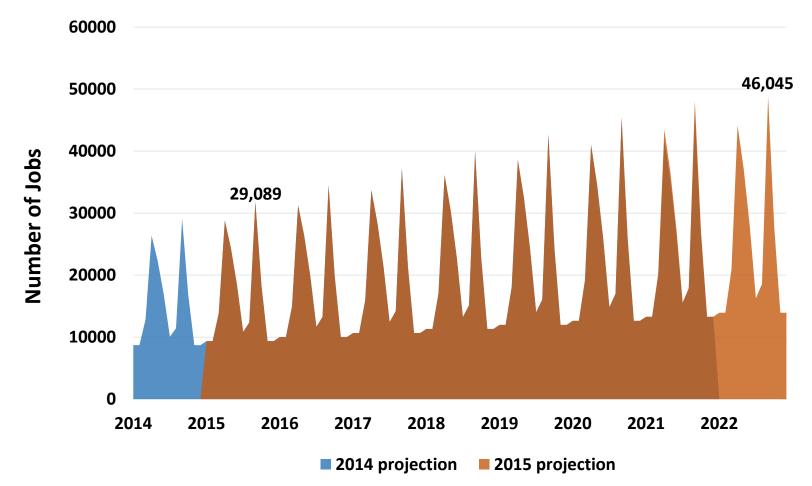


#### **ON-SITE NEW CONSTRUCTION EMPLOYMENT**

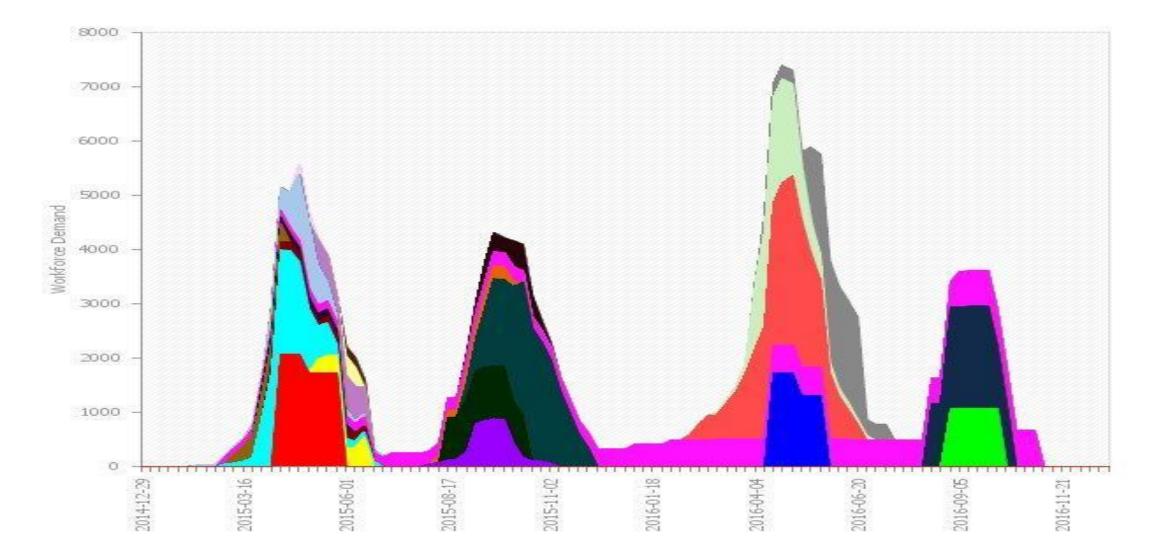
(OIL SANDS, POWER, PIPELINE & PETROCHEMICALS)



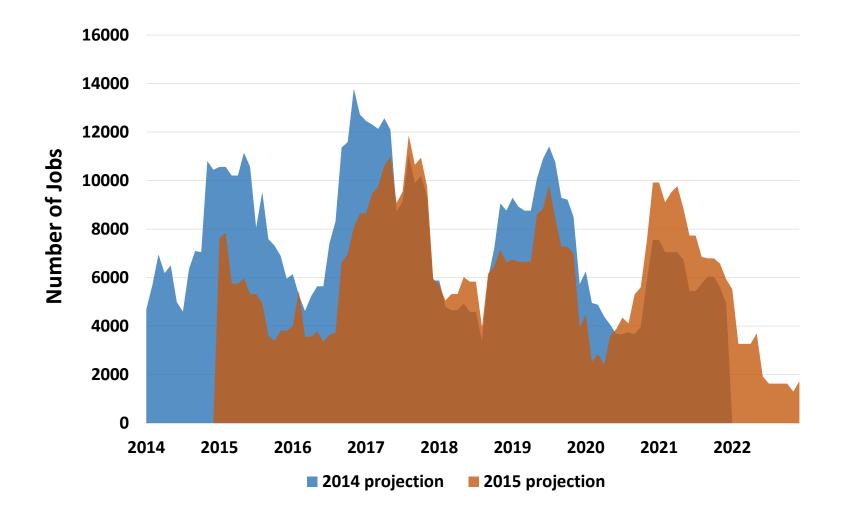
#### ON-SITE TURNAROUND AND ONGOING MAINTENANCE



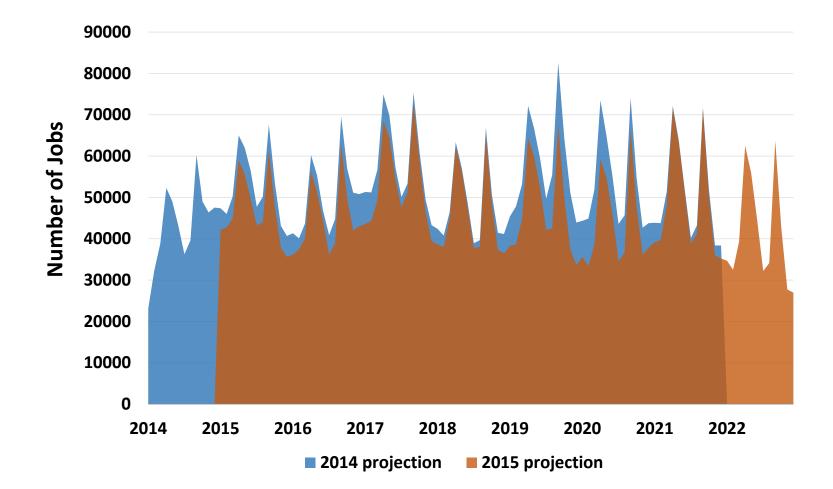
# Estimated Shutdown Workforce Demand 2015-16



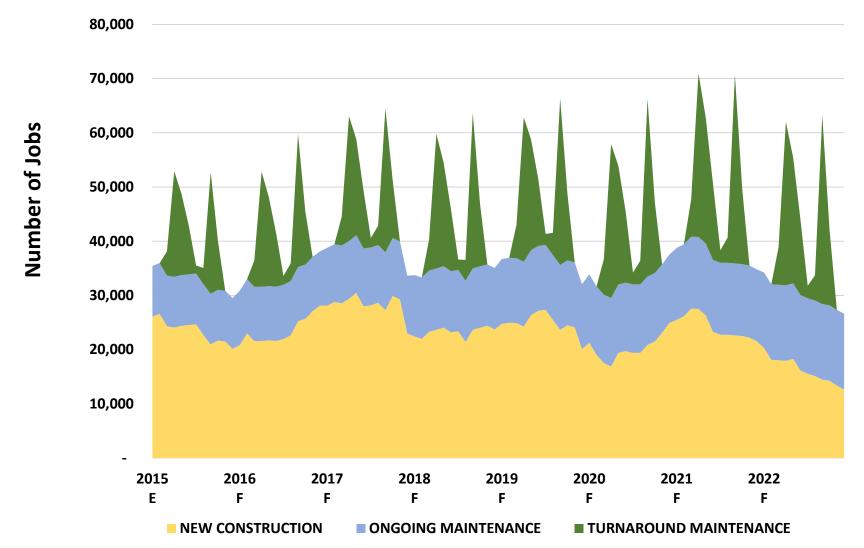
#### **OFF-SITE MODULE FABRICATION**



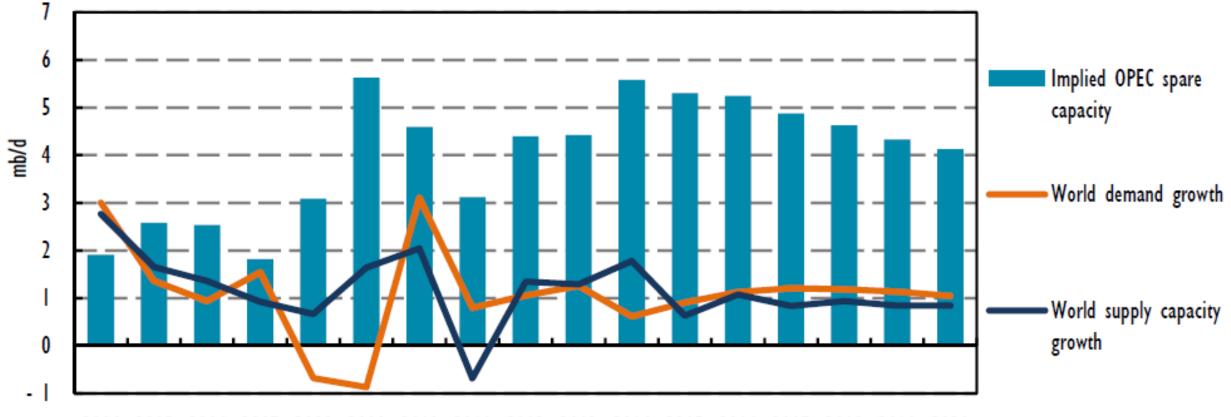
#### ON-SITE CONSTRUCTION, OFF-SITE MODULE FABRICATION, MAINTENANCE



# ON-SITE CONSTRUCTION WORKFORCE REQUIREMENTS BY CONSTRUCTION TYPE

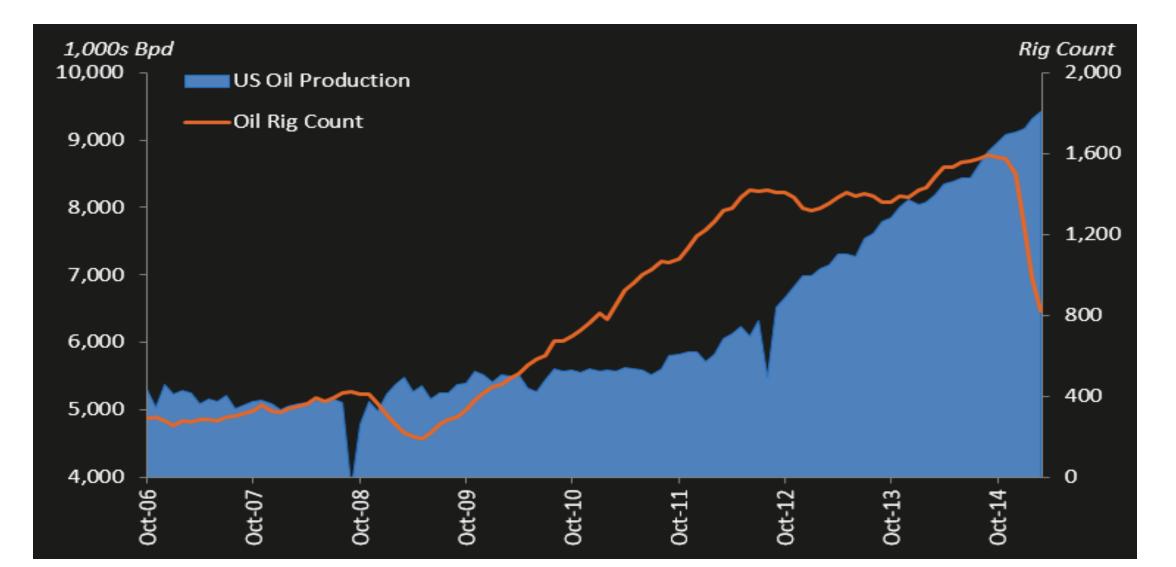


## Oil Supply/Demand Loses Synchronicity



2019 2020 

## US adds four mm/Bpd since January 2010



## How OPEC Supports the Price of Oil

- In 2008 as oil prices fell OPEC cut production
- OPEC increases production 2009 through 2012 to control price increases
- 2012 to 2014 OPEC regulates production to maintain avg. \$110 Brent oil price
- Brent price drops in 2014 in response to Saudi Arabia dropping price to Japan and certain other customers
- Price drops precipitously through latter 2014 yet OPEC maintains very high production levels

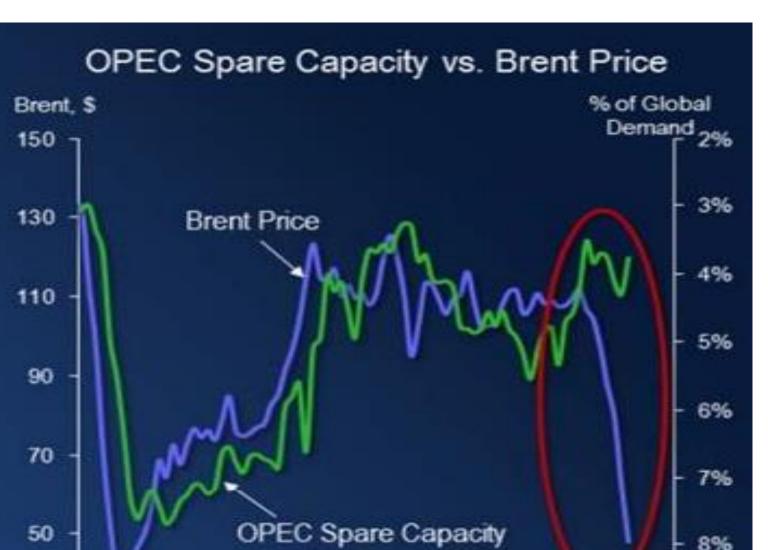
30

2008

2009

2010

• Not all of OPEC supports these production levels



2012

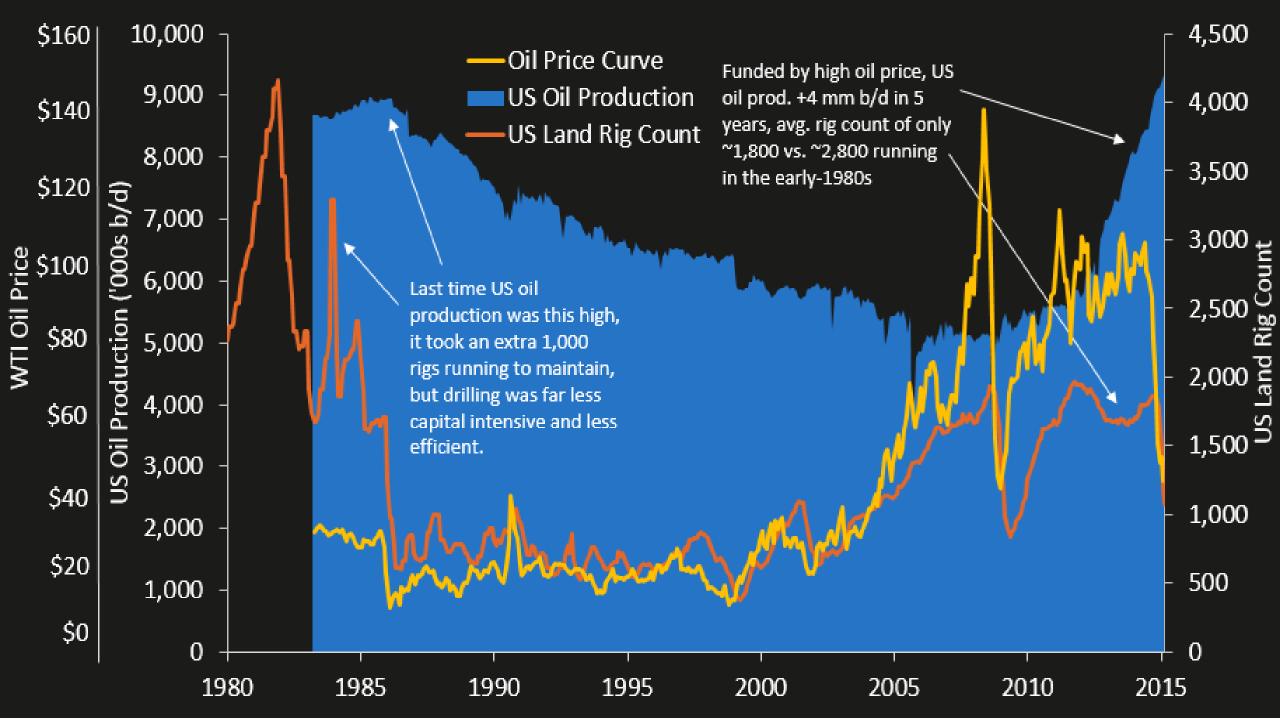
2011

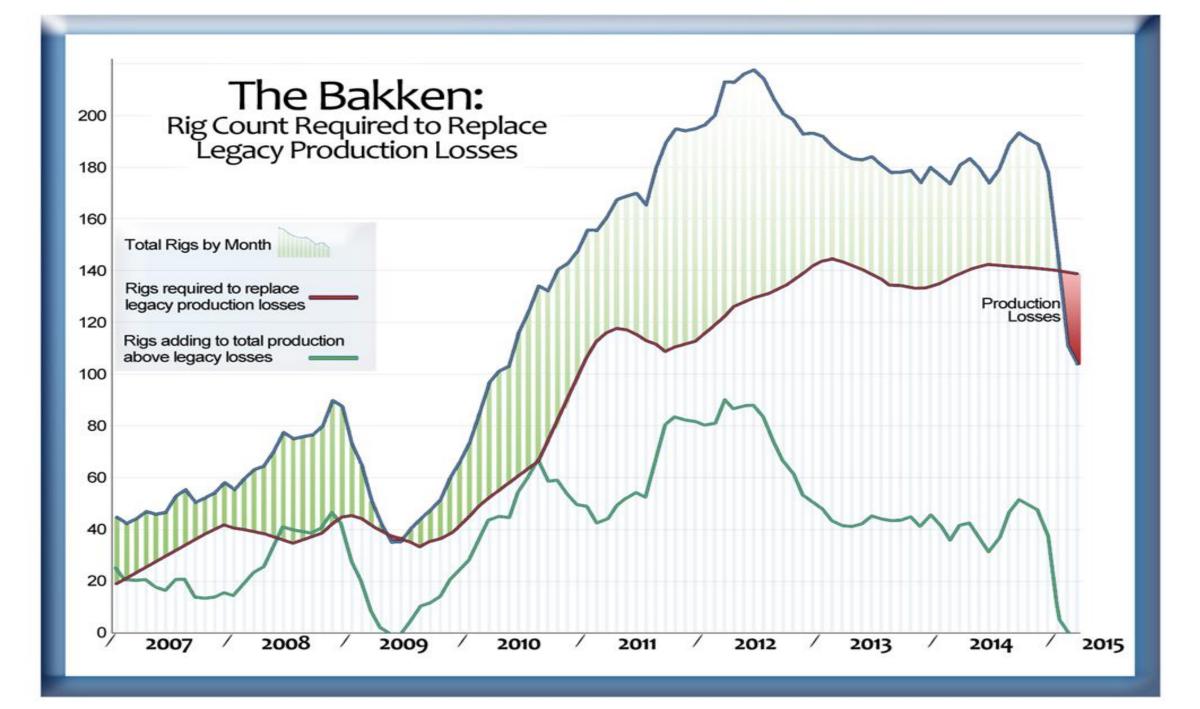
2013

2014

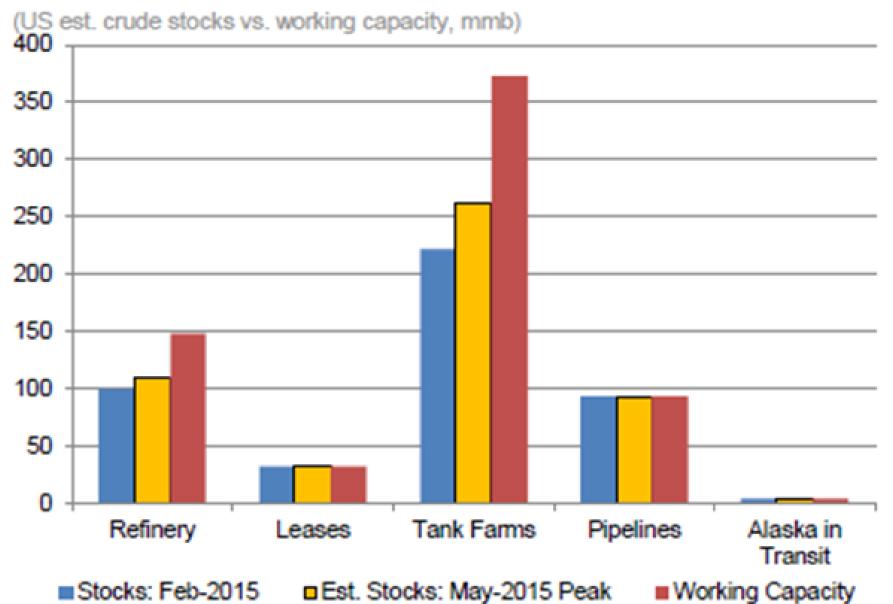
986

2015





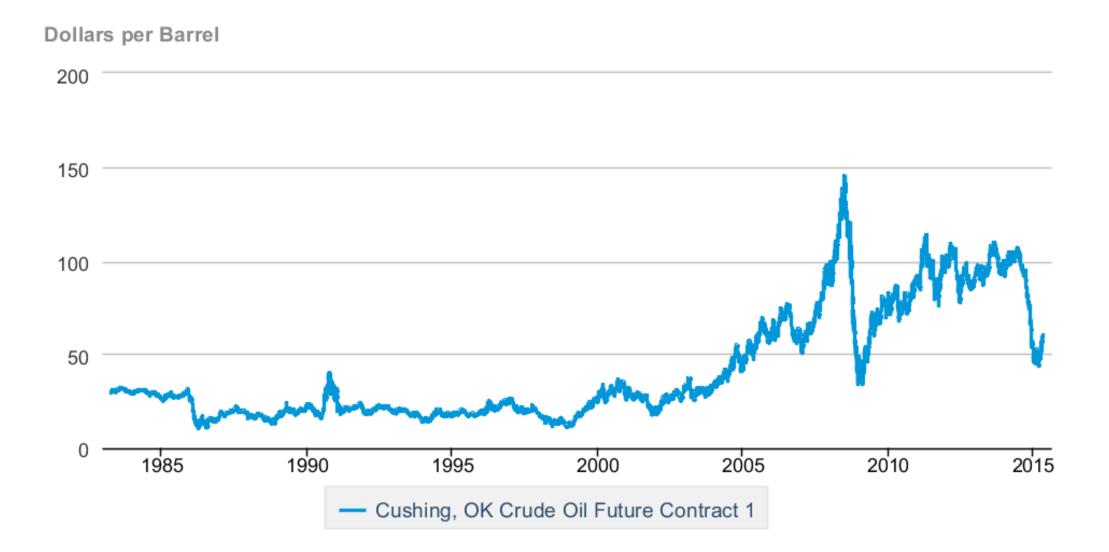
#### Plenty of Storage To Absorb Record US Crude Inventories in 2015



• "Further, it's our view that North America will continue to be the most adaptable market in terms of addressing well economics through both efficiency models and technology uptake. One way to look at it is that the U.S. unconventional business is now the lowest-cost, fastest-tomarket incremental barrel of oil available in the world today." Jeff **Miller, President at Halliburton** 



#### Cushing, OK Crude Oil Future Contract 1





#### Figure ES1. North Sea Brent crude oil spot prices in four cases, 2005-40

2013 dollars per barrel

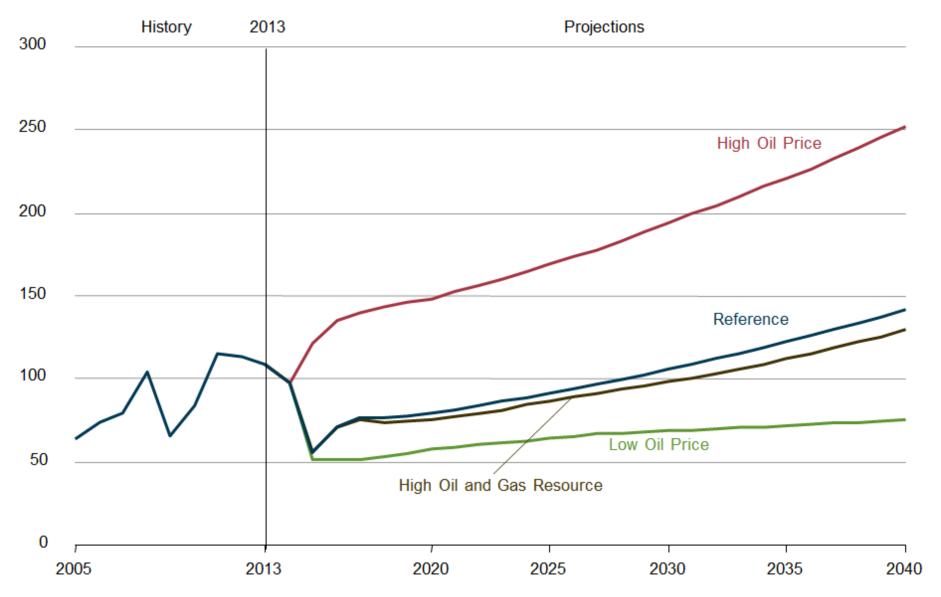
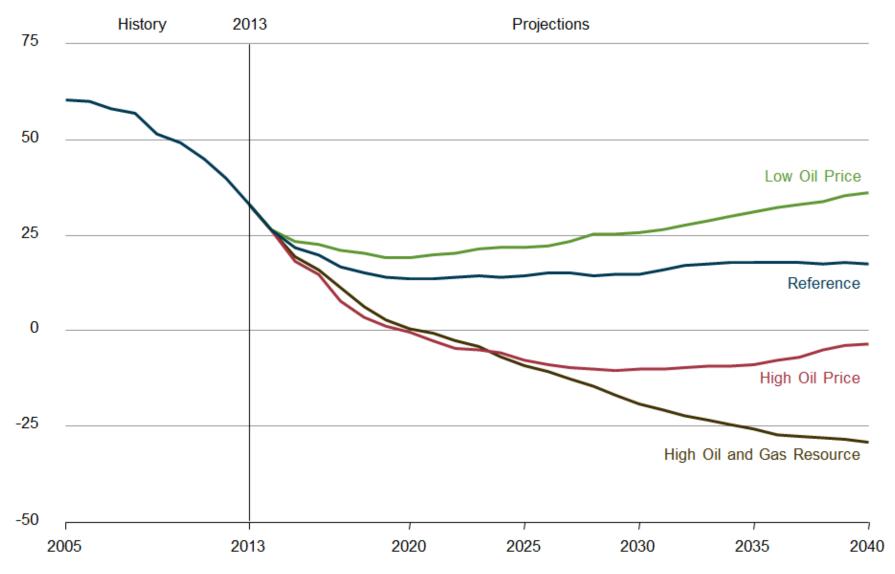


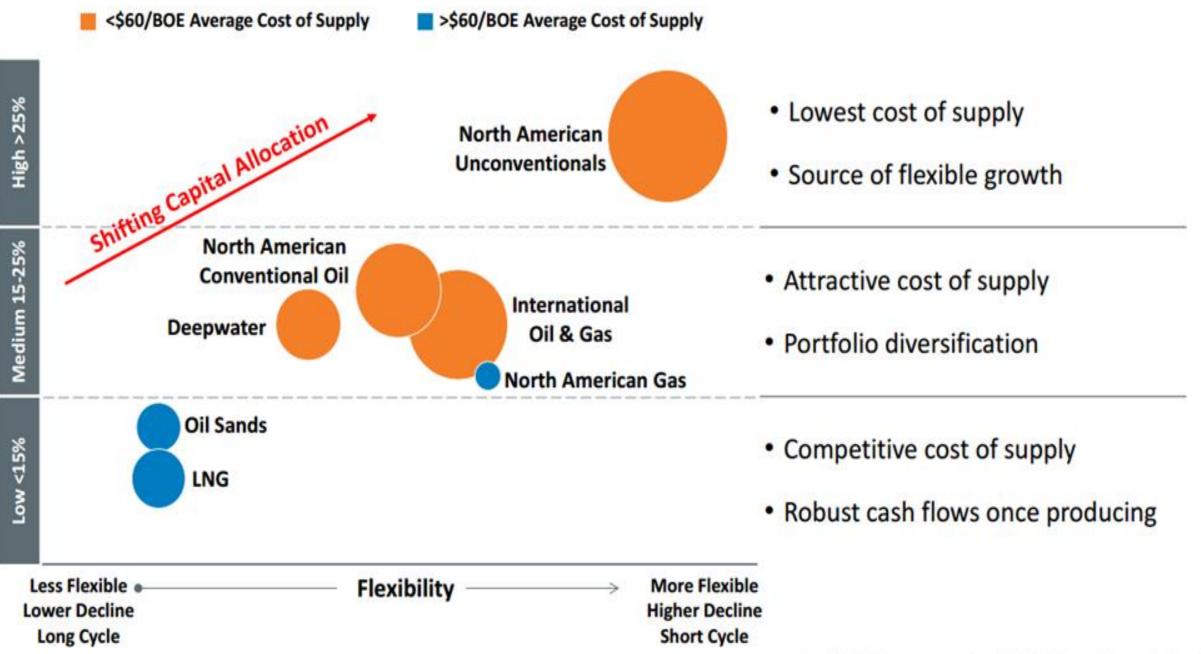


Figure ES4. Net crude oil and petroleum product imports as a percentage of U.S. product supplied in four cases, 2005-40

percent





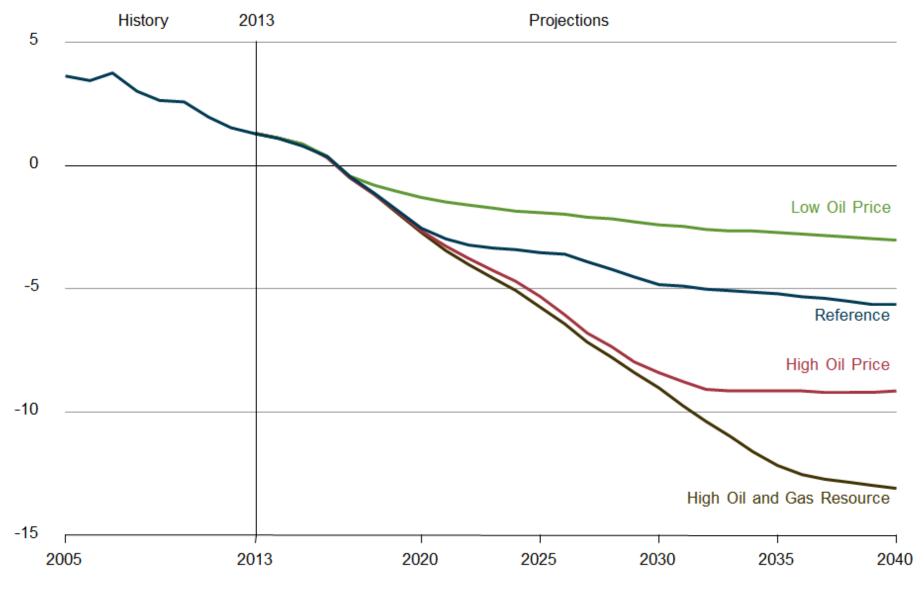


Full-Cycle Project Returns

Size of the bubble represents planned 2015-2017 cumulative capital spend.

#### Figure ES5. U.S. total net natural gas imports in four cases, 2005-40

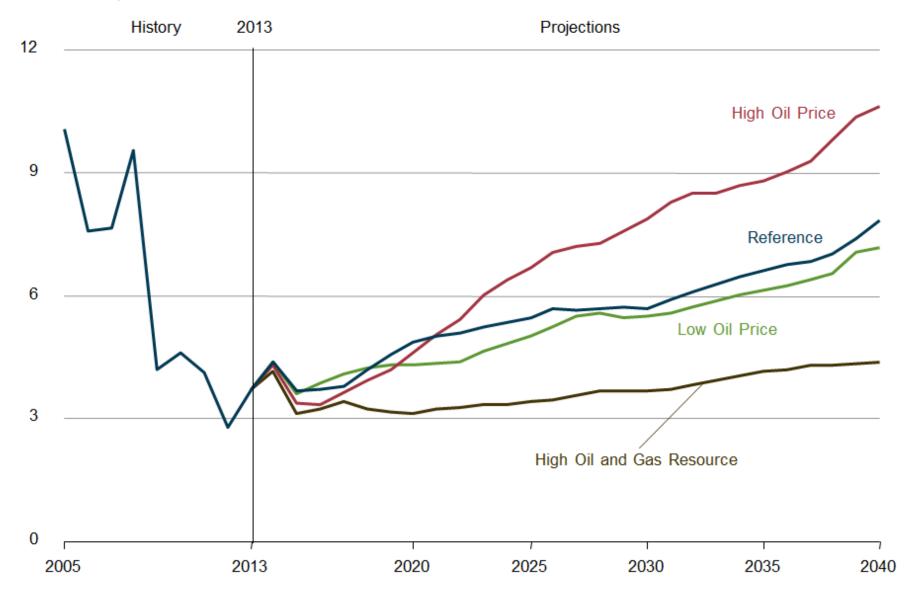
trillion cubic feet





#### Figure ES2. Average Henry Hub spot prices for natural gas in four cases, 2005-40

2013 dollars per million Btu





## US & Russia on Diverging Production Paths

