

US
**OIL PRICE
OUTLOOK**

FEBRUARY 2017



Key Messages

1. OPEC output deal may have a limited impact on prices. Despite signs of compliance, implementation and monitoring is challenging in some countries
2. Going forward, inventory correction and the lagged effect of CAPEX cuts should lead to higher prices
3. The recovery of U.S. shale production is expected to prevent a steep upturn in prices; nevertheless, there is uncertainty on the extent and speed of the rebound
4. Little to no upside from demand. Demand growth continues to be supported by emerging markets and the U.S., but it has eased
5. Slow recovery and convergence to \$60/bbl, which would be a sweet spot for both consumers and producers

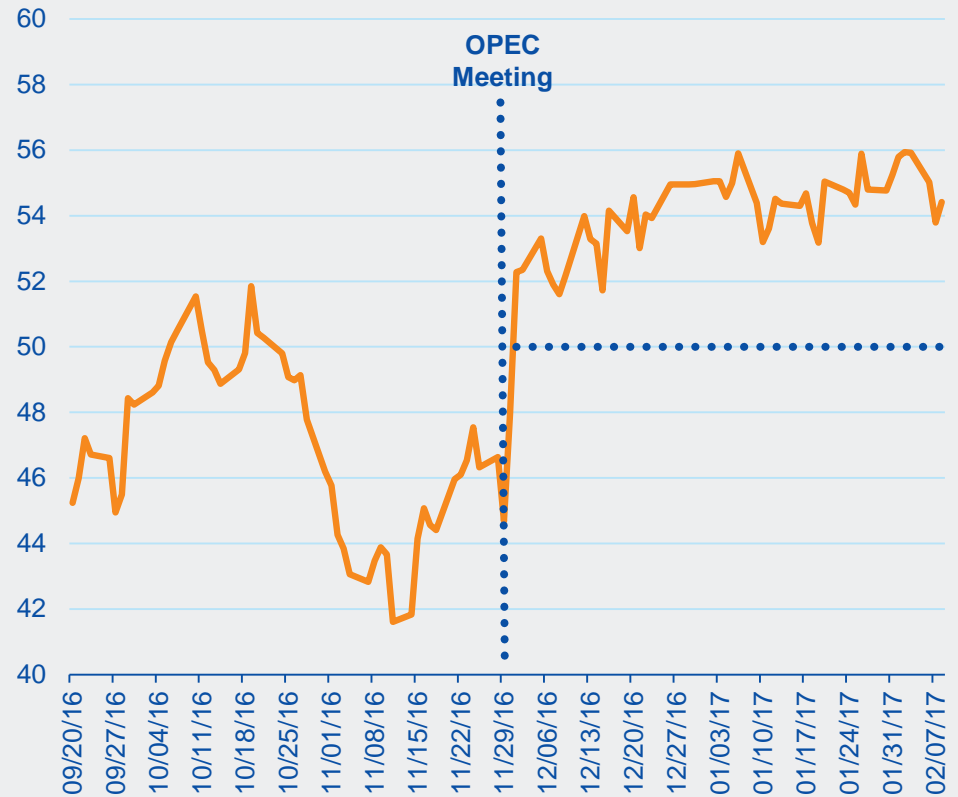
OPEC DEAL

OPEC deal carries prices back above \$50/bbl

- Deal should be seen as an effort to stabilize the market
- Rather than triggering a rapid and sustained increase in prices, cuts imposed an effective price floor

BRENT CRUDE OIL PRICES

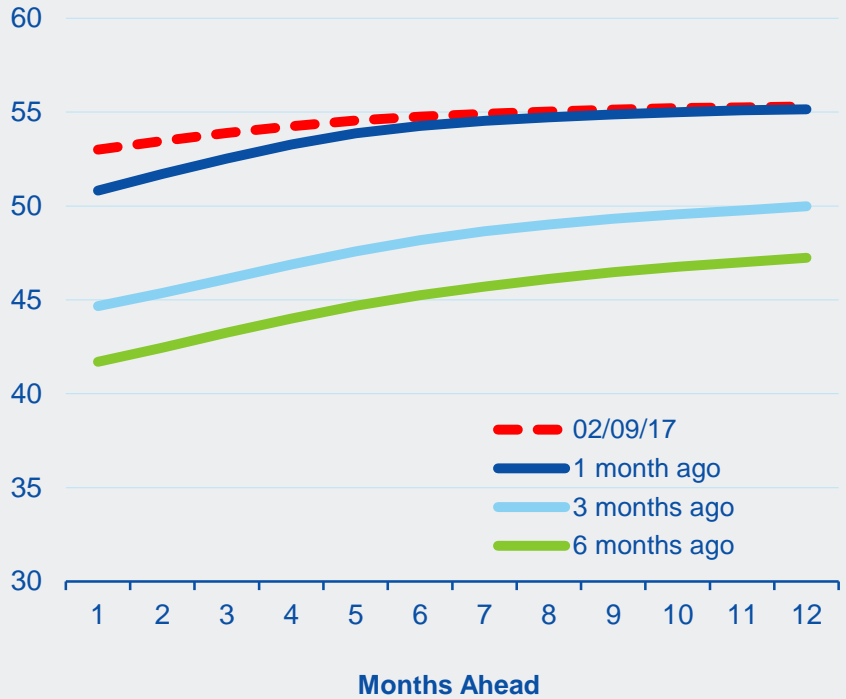
\$ per barrel



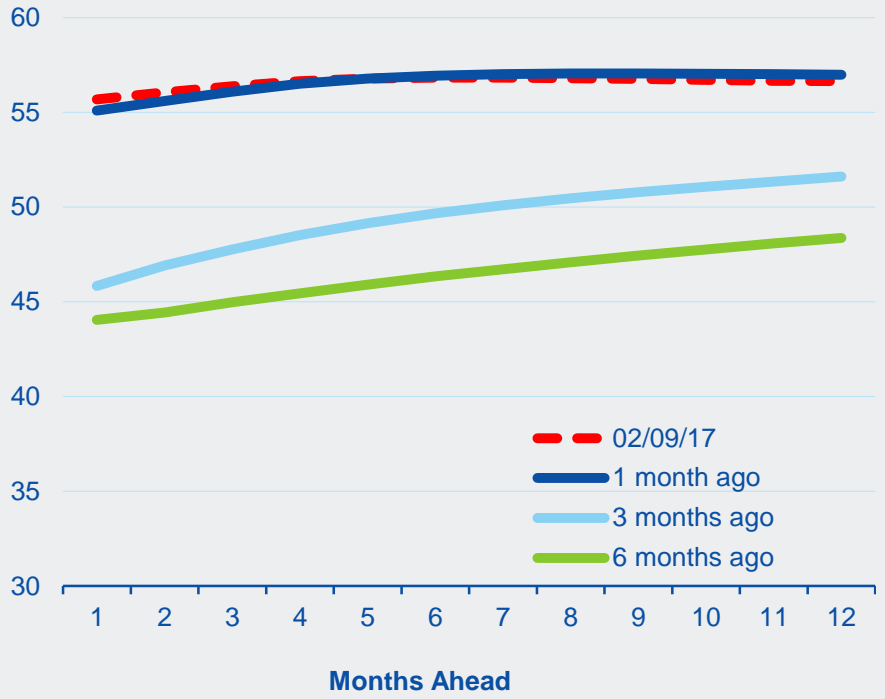
FUTURES

Futures rise as markets perceive that OPEC has retaken its role of market stabilizer

WTI CRUDE FUTURES
\$ per barrel



BRENT CRUDE FUTURES
\$ per barrel



OPEC MONITOR

January was first big test for OPEC production deal, with estimated compliance more than halfway to target

OPEC PROGRESS TOWARDS PRODUCTION COMMITMENTS*

	Production Cut Goal (K, bbl/d)	Goal Achieved?	Status Update
Saudi Arabia	486	✓	Estimated cuts of 500K bbl/d, surpassing target
Iraq	210	✗ (120)	Kurdistan region unwilling to cooperate with cuts; difficulties in lowering output without triggering contractual obligations to pay IOCs
UAE	139	✓	Estimated cuts of 160K bbl/d, surpassing target
Kuwait	131	✓	Estimated cuts of 150K bbl/d, surpassing target
Venezuela	95	✗ (70)	Announced in late December that cut would be implemented starting Jan. 1, but then Maduro announced plan to stabilize oil prices
Angola	78	✗ (0)	State oil company has announced output cuts in accordance with deal
Algeria	50	✓	Estimated cuts of 70K bbl/d, surpassing target
Qatar	30	✗ (5)	Started informing customers in December of supply cuts starting Jan. 1
Ecuador	26	✗ (20)	Reduction to be result of allowing production at mature oil fields to fall; peak reductions to occur in March and April
Gabon	9	✓	Estimated cuts of 15K bbl/d, surpassing target; rejoined OPEC in July; faced falling oil production last year, headlined by a large-scale strike by oil workers

*No production adjustment for Libya or Nigeria; Proposed production increase of 90K for Iran
Source: BBVA Research, Bloomberg & news sources

NOPEC MONITOR

Bulk of non-OPEC production cuts to come from Russia, but achievement of goal will take time

NON-OPEC PROGRESS TOWARDS PRODUCTION COMMITMENTS

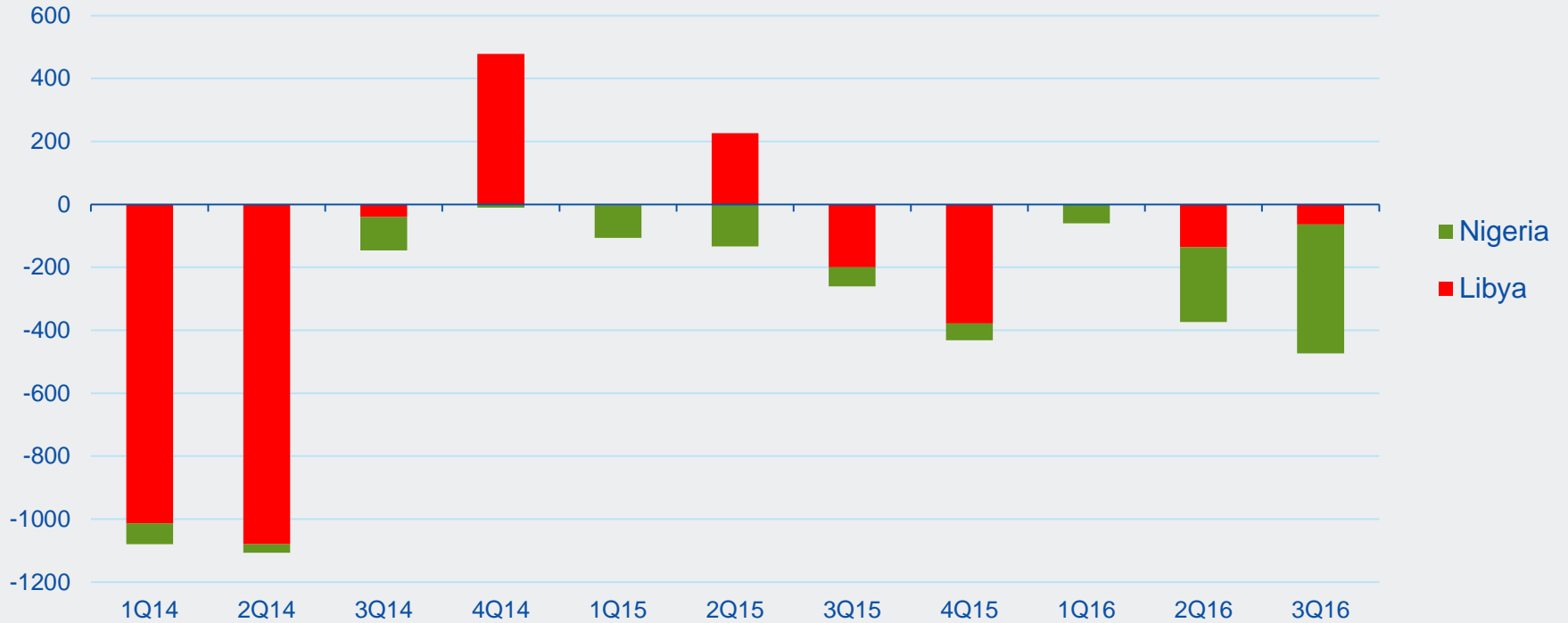
	Production Cut Goal (K, bbl/d)	Goal Achieved?	Status Update
Russia	300	✘ (117)	Surpassed Jan. goal of 50K; expect to reach 300K by end of 1H2017, but has announced increase in oil exports in 2017
Mexico	100	?	Reduction to be result of allowing production at mature oil fields to fall
Oman	45	?	Energy minister said that daily production quotas for oil producing companies have been set, but that country will maintain production of 1M bbl/d this year.
Azerbaijan	35	✓	Began implementing production cuts on January 1. Energy minister said output had been cut to 789K in Jan
Kazakhstan	20	✓	Energy ministry stated that commitment had already been met, but plans to increase output in 2017
Malaysia	20	?	State oil firm to implement cuts starting in January; 2 nd straight year of production decline
Equatorial Guinea	12	?	Applied to join OPEC
Bahrain	10	?	No status update
South Sudan	8	✘	In the process of doubling crude production after 2 year halt
Brunei	4	?	No status update
Sudan	4	?	No status update

SUPPLY

Upside risks from Libya and Nigeria remain subdued

OPEC: CHANGE IN CRUDE OIL PRODUCTION BY COUNTRY

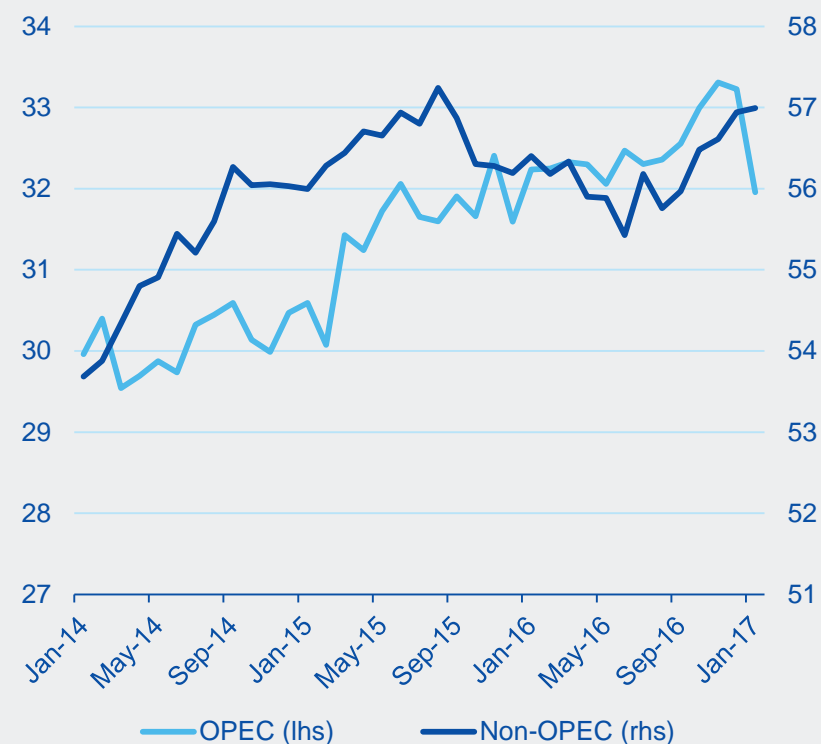
YoY, million barrels per day



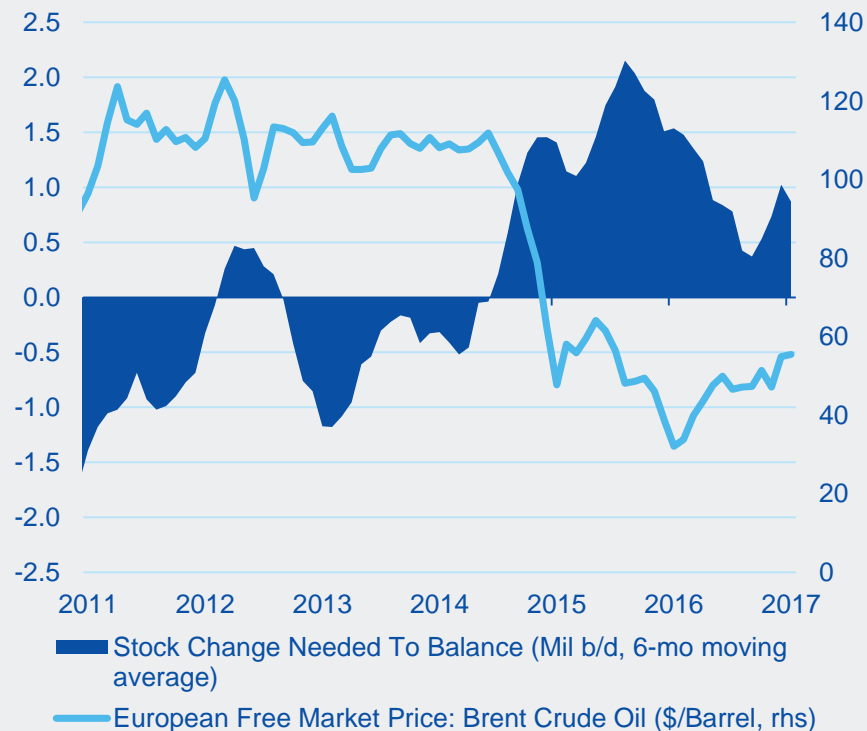
OPEC DEAL

OPEC could decide to extend its production quotas in 2H17, but some members say this may be unnecessary

CRUDE OIL SUPPLY
Million barrels per day



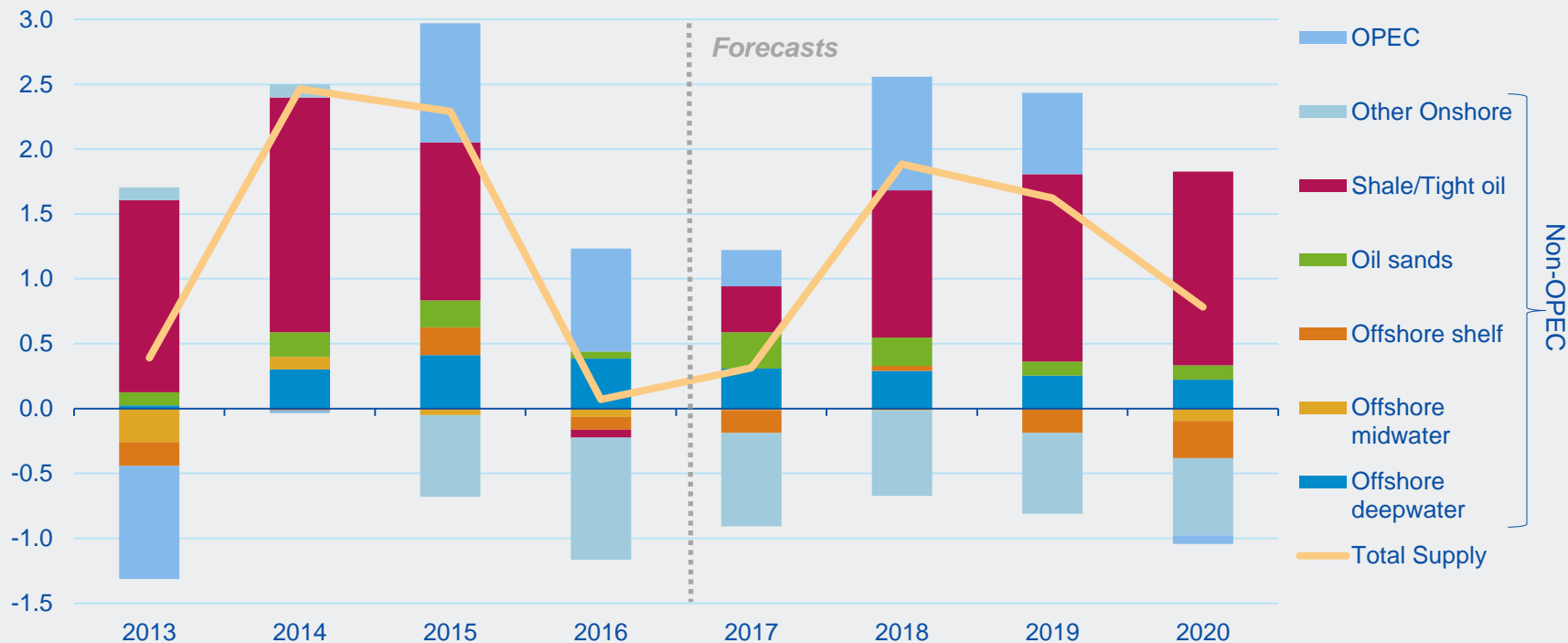
SUPPLY AND DEMAND BALANCE



SUPPLY
 A more competitive environment will continue to hinder the ability of OPEC to stabilize the market

NET ADDITIONS IN GLOBAL LIQUIDS SUPPLY BY SUPPLY SEGMENT GROUP

YoY, million barrels per day

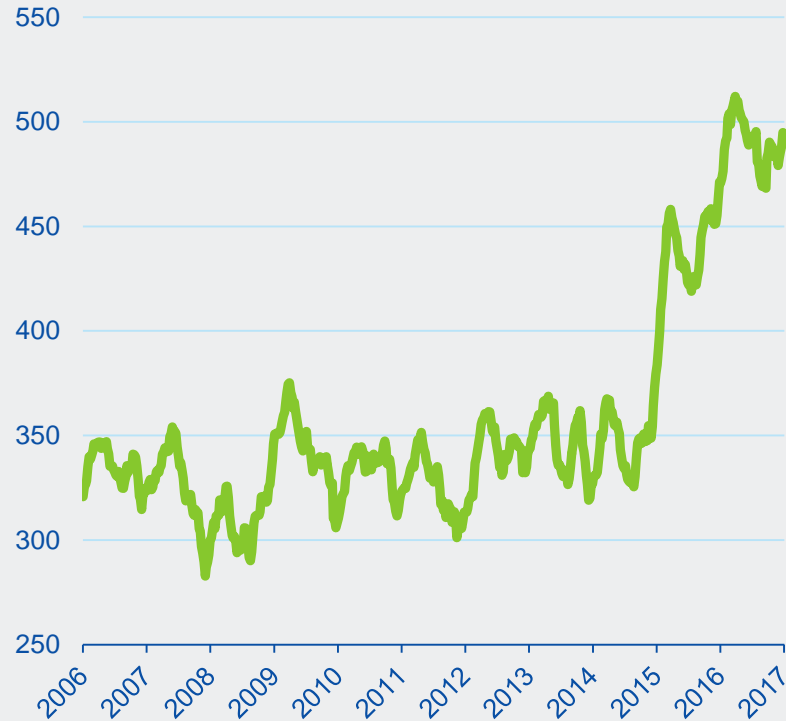


INVENTORIES

Signs of a more balanced market will emerge as inventories continue to decline

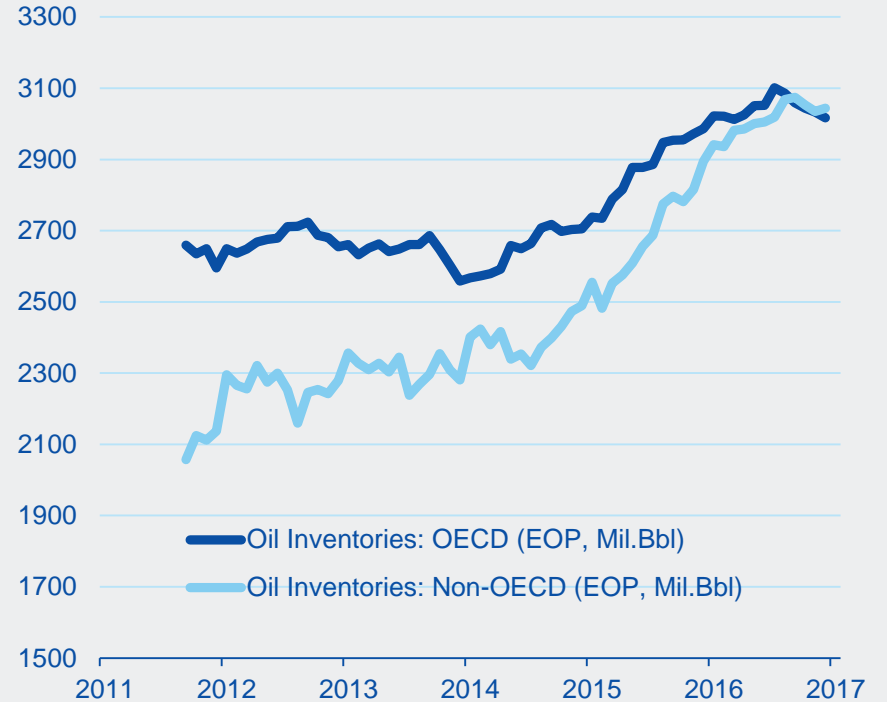
U.S. STOCKS OF CRUDE OIL EXCLUDING SPR

EOP, million barrels



GLOBAL OIL INVENTORIES

EOP, million barrels

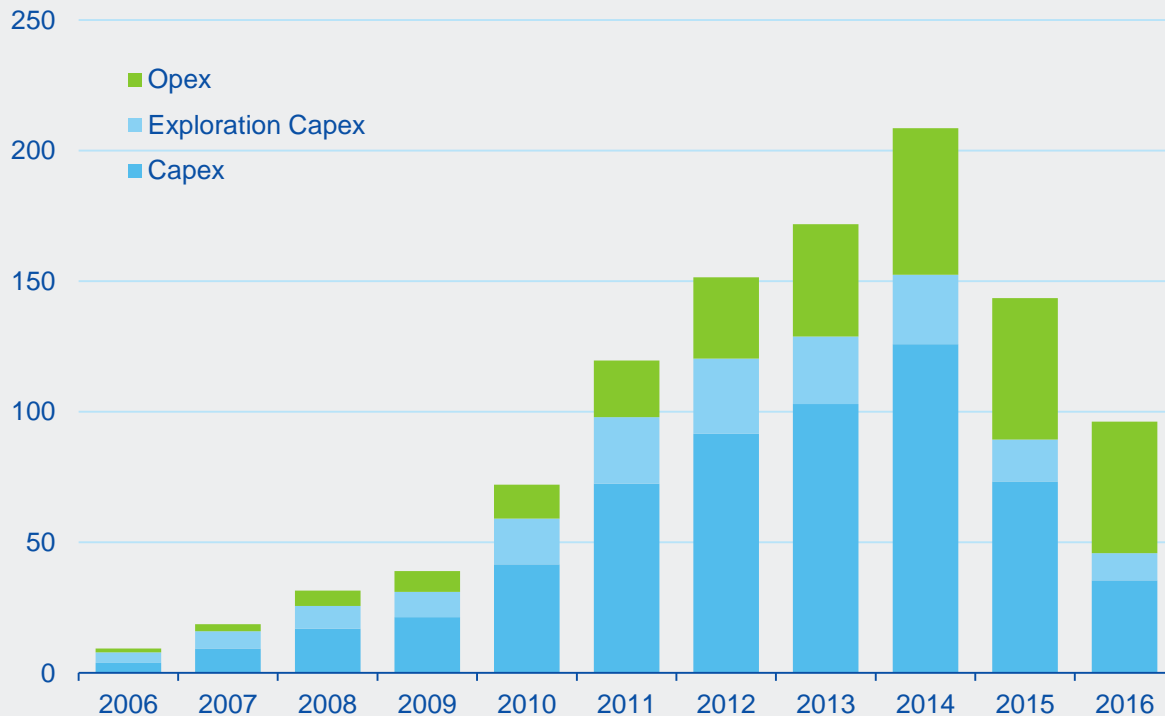


CAPEX

Shale producers to increase CAPEX in response to upturn in prices

CAPITAL AND OPERATING EXPENDITURES FOR U.S. SHALE OIL

Billion USD



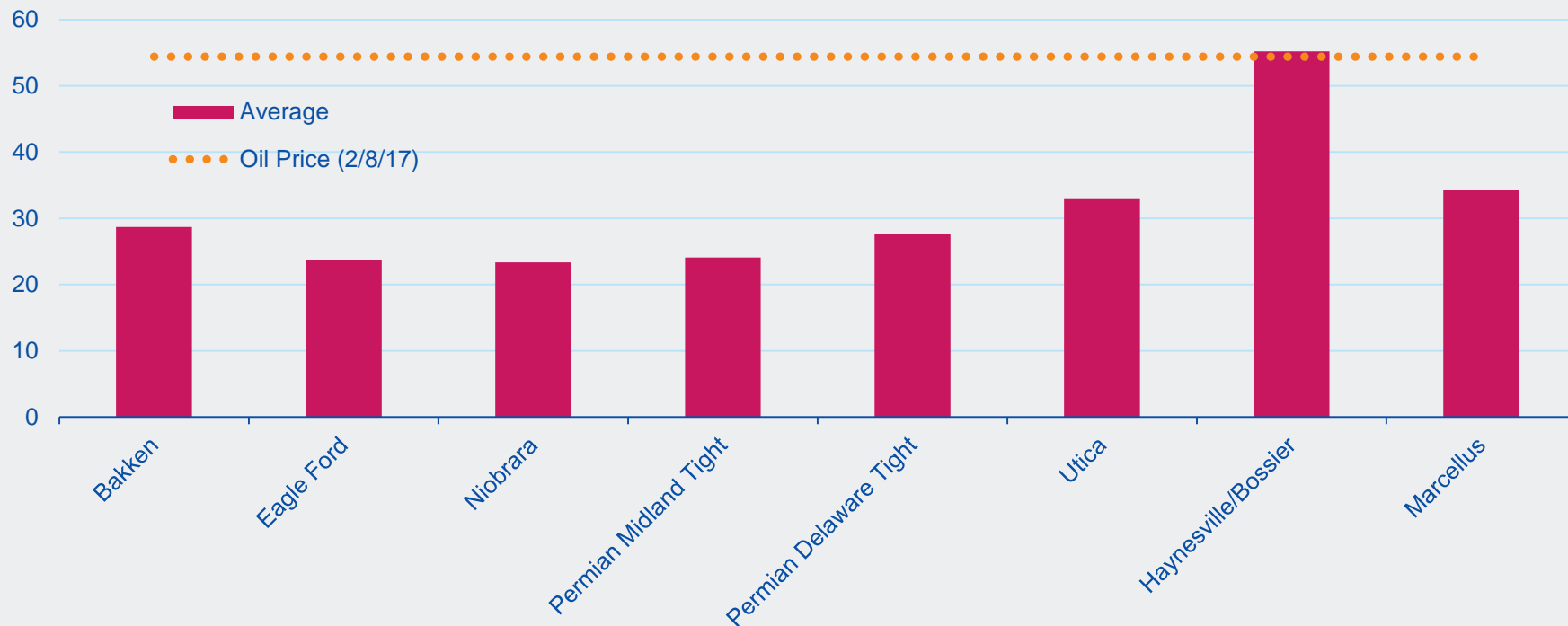
- Slowdown in capital spending resulted from a weak price environment
- Many shale companies covering CAPEX with cash flows, moving away from strong reliance on debt
- CAPEX expected to rise this year, especially as larger U.S. companies spend on drilling and completing wells

U.S. RECOVERY

Economics of fracking continue to remain favorable

ASSET BREAKEVEN OIL PRICE BY SHALE PLAY, PRODUCING

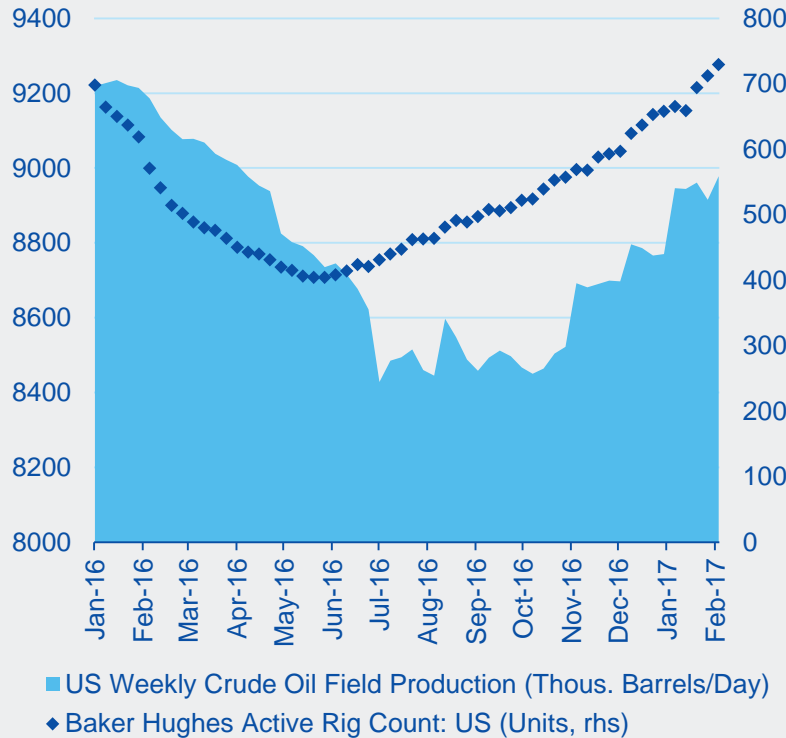
USD/bbl, Brent-linked



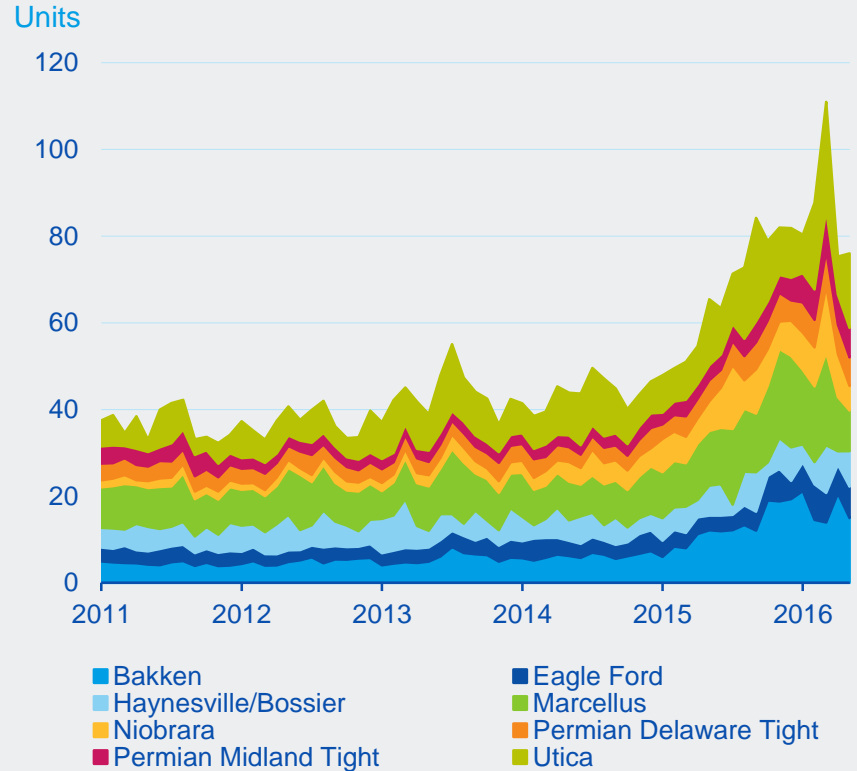
U.S. RECOVERY

Recent production gains explained by uptick in completed wells

U.S. ACTIVE RIG COUNT AND CRUDE OIL PRODUCTION



U.S. RATIO OF DCU TO COMPLETED WELLS



POLICY

Trump's America First Energy Plan: Make oil & gas great again

Corporate Tax Reform

- Destination Based Cash Flow Tax (DBCFT) – would lower corporate tax rate to 20%
- U.S. oil industry incentivized to **export more crude oil** and products and import less; refiners would shift toward **domestic crude sourcing**

Keystone and Dakota Access Pipelines

- Advancing pipelines is expected to decrease costs of moving oil to refineries and **lower breakevens**
- However capacity to generate further **investments** in oil and gas will be challenged by the current levels of oil prices

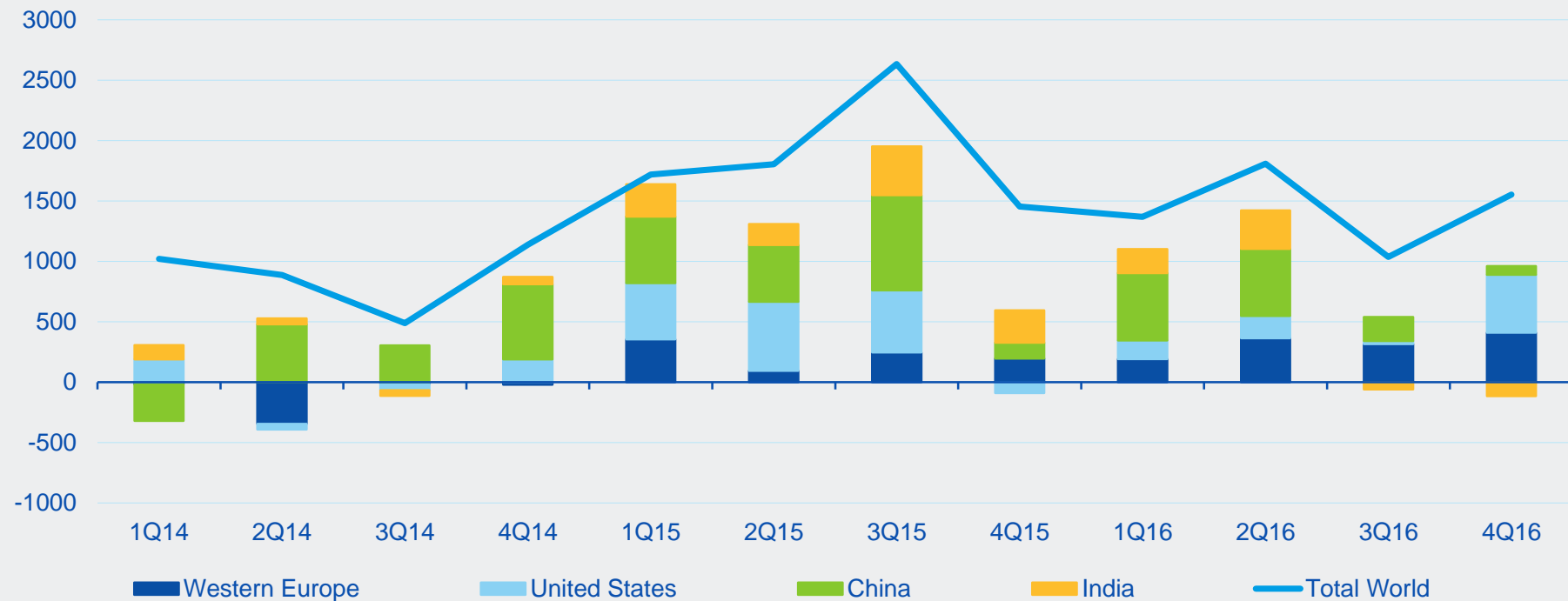
Deregulation

- Withdrawal from CPP, COP21; elimination of Climate Action Plan
- Suspending social cost of carbon calculation
- Possibility of **turning over federal lands** to local control, which could facilitate drilling

DEMAND
 Non-OECD countries expected to lead demand in long-term, despite signs of slowing growth

OIL PRODUCT DEMAND

YoY % change, million barrels per day

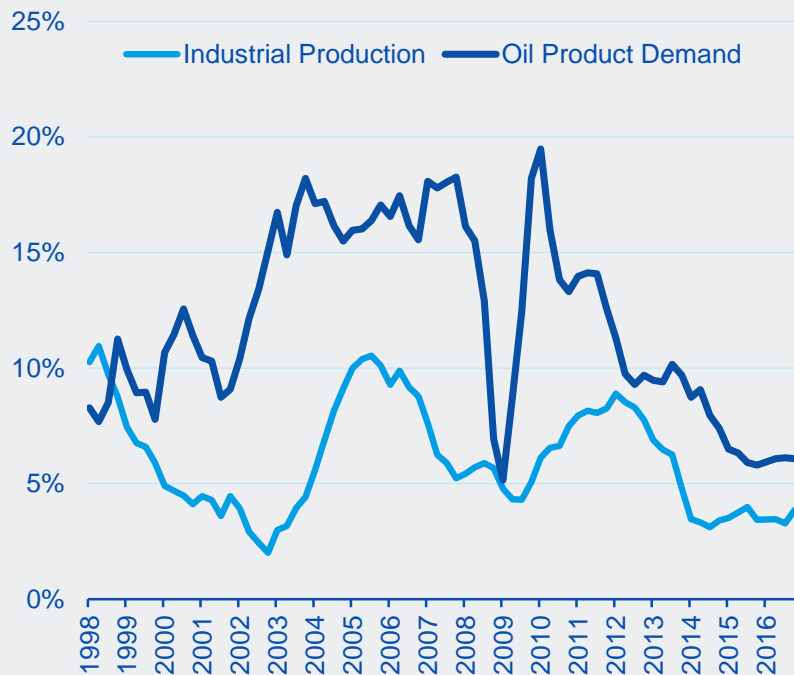


CHINA

China's rebalancing and transition to a cleaner economy may result in slower growth of demand for fossil fuels

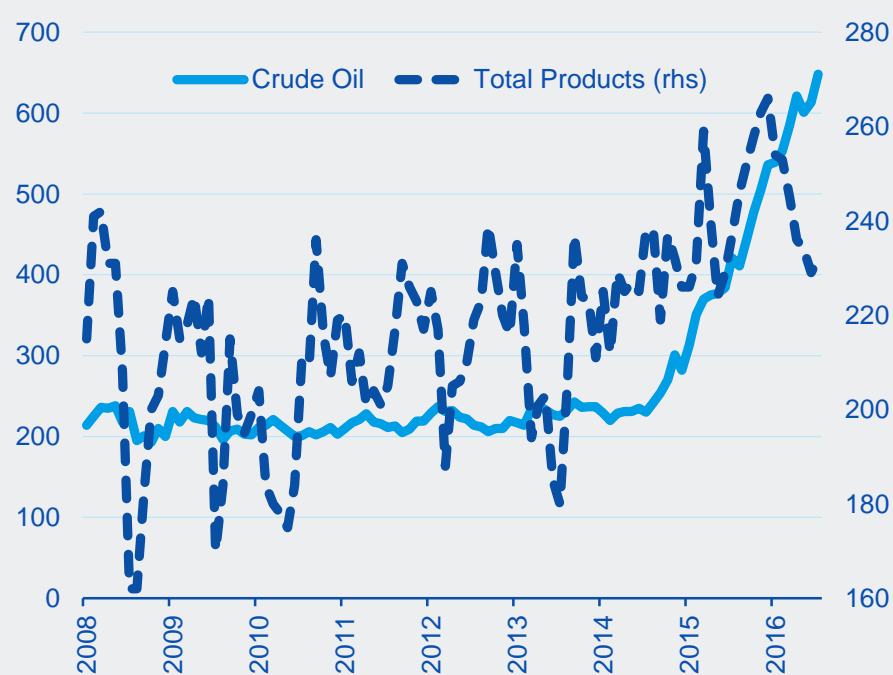
CHINA: OIL PRODUCT DEMAND AND INDUSTRIAL PRODUCTION

YoY % change



CHINA: CRUDE AND TOTAL PETROLEUM PRODUCTS INVENTORIES

EOP, million barrels

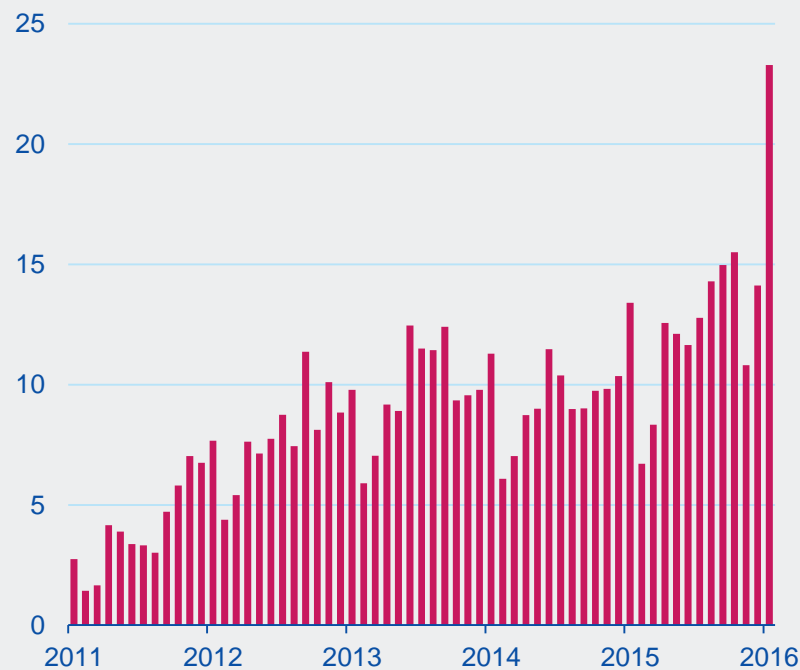


ELECTRIC VEHICLES

Improvements in lithium-ion batteries could make electric vehicles cost competitive by 2020

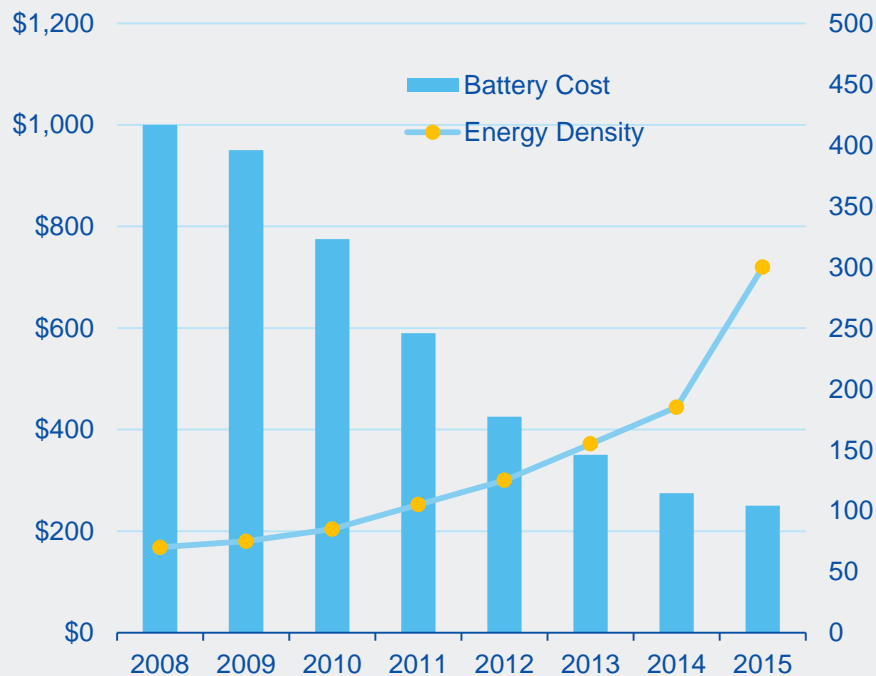
U.S. NEW PLUG-IN VEHICLE SALES

Thousands



PHEV* BATTERY ENERGY COST AND DENSITY

\$USD/kwh & Wh/L



Source: BBVA Research & Electric Drive Transportation Association

*PHEV = Plug-in hybrid electric vehicle
Source: BBVA Research & U.S. Department of Energy, International Energy Agency

OIL PRICE FORECASTS

Slight upward revisions to 2017 and 2018 figures

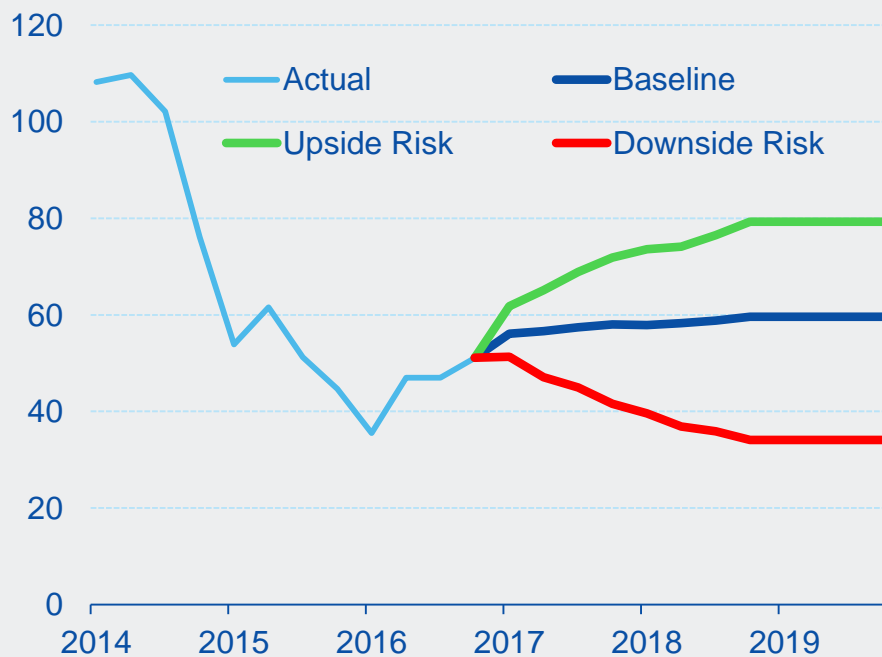
CRUDE OIL PRICE FORECASTS

Brent, \$ per barrel, avg

	Baseline	Upside	Downside
2015	52.8	52.8	52.8
2016	45.2	45.2	45.2
2017	57.0	66.9	46.2
2018	58.7	75.8	36.6
2019	59.6	79.3	34.1

CRUDE OIL PRICE FORECASTS

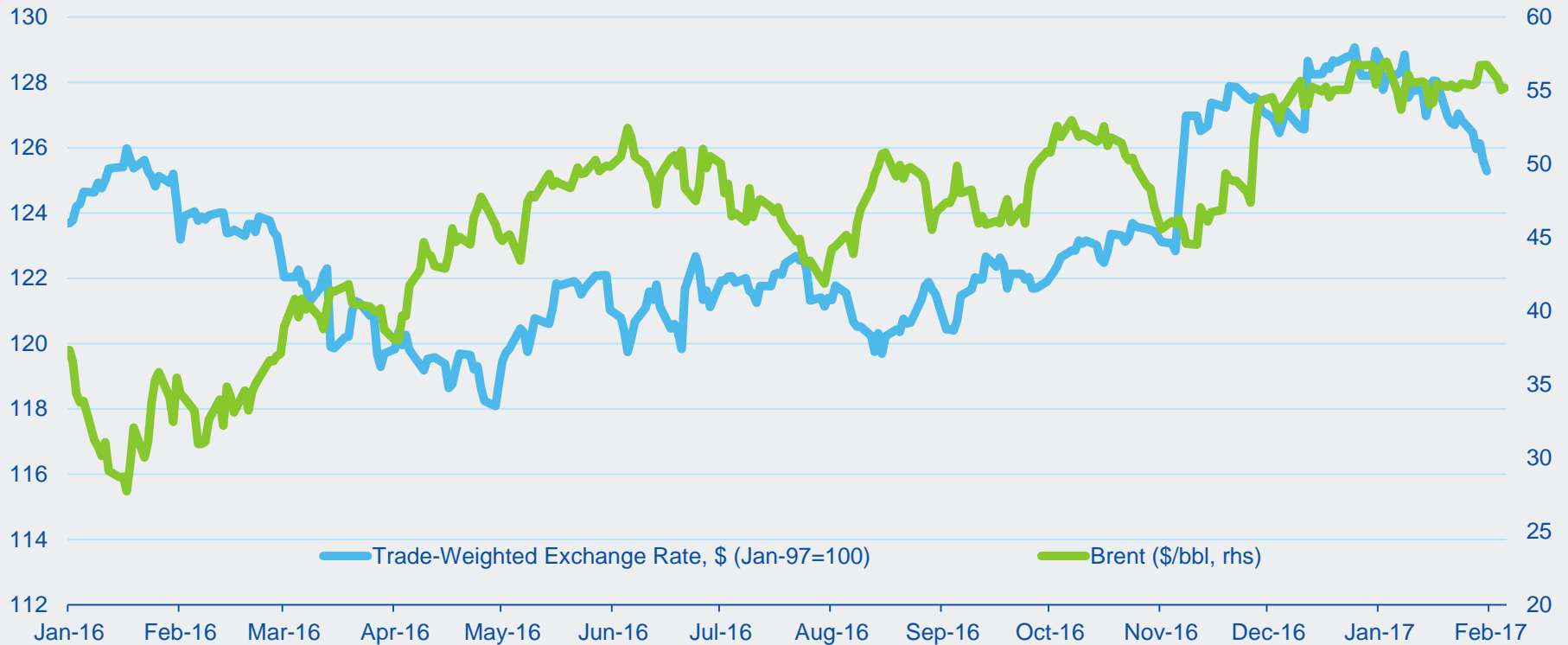
Brent, \$ per barrel, avg



EXCHANGE RATE

Prices are expected to move above our previous baseline, but increases could be limited by a strong dollar

OIL PRICES AND U.S. DOLLAR

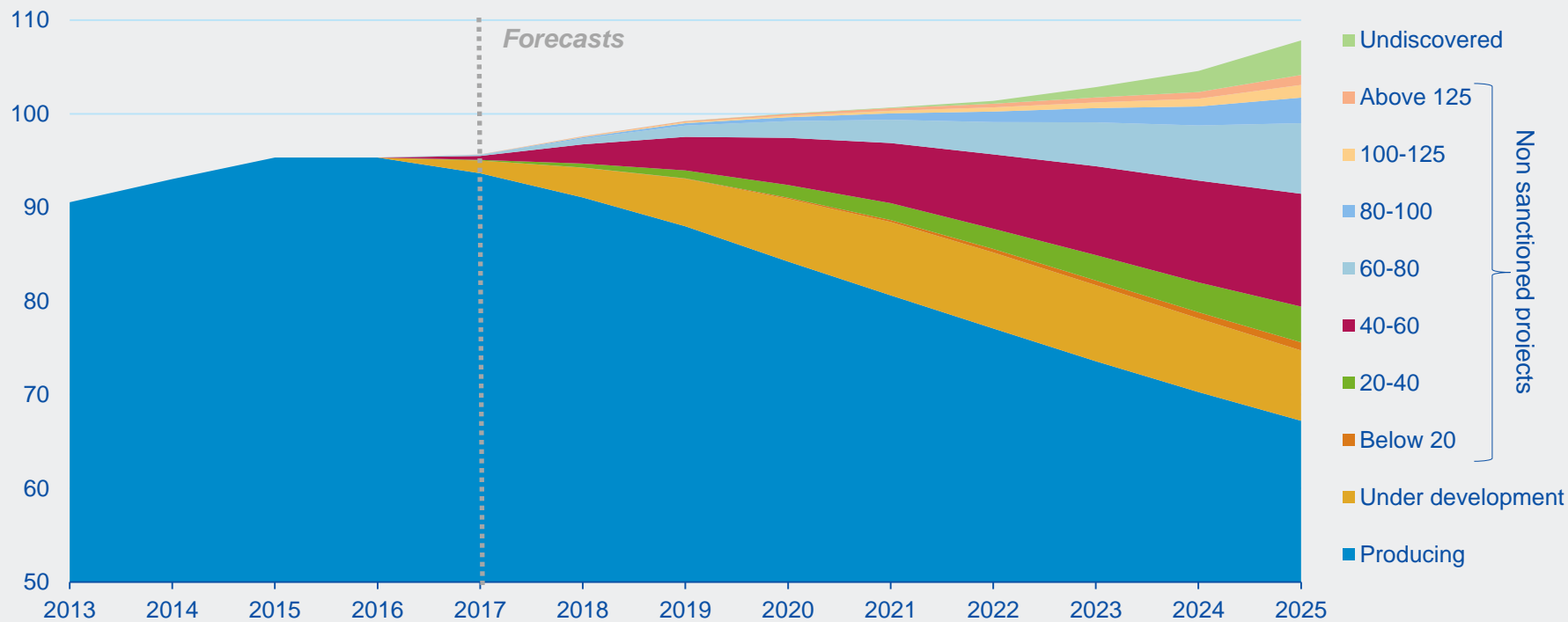


SUPPLY

More than half of liquids from new supply sources are expected to be commercial below \$60/bbl

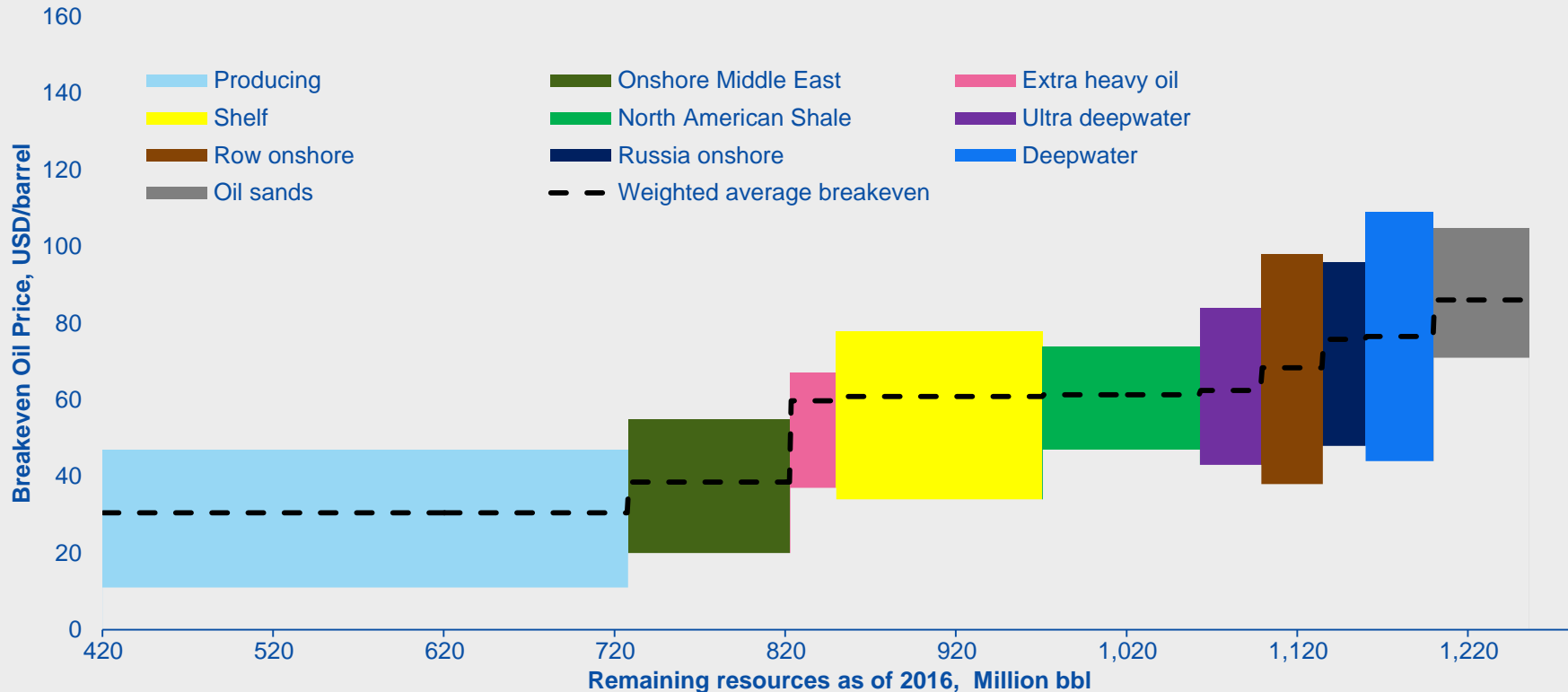
GLOBAL LIQUIDS PRODUCTION BY LIFE CYCLE AND BREAKEVEN PRICE

Million barrels per day



SUPPLY
\$60/bbl would make several projects profitable again, but high-cost producers would still be out of the market

COST OF SUPPLY CURVE



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