



AMER6

The 6th Asian Ministerial
Energy Roundtable

Doha | Qatar

Plenary Session 1:

*Oil Markets – A new normal or just another cycle,
and what does it mean for Asia?*

Background Paper

BCG
ENERGY

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INTERNATIONAL ENERGY FORUM

Disclaimer

The observations presented herein are meant as background for the dialogue at the 6th Asian Ministerial Energy Roundtable. They have been prepared in collaboration with the Boston Consulting Group and should not be interpreted as the opinion of the International Energy Forum or the Boston Consulting Group on any given subject.

Introduction

Market context

- Oil prices are at their lowest, and their volatility at its highest since 2008-2009
- The cycle has been driven by a combination of surging supplies and – until recently – relatively weak demand growth
- Do these new supply sources change the game, and are we facing long-term weakened demand?

Session objectives

- To exchange perspectives on the supply and demand drivers that are shaping the market
- To explore the impacts on the industry and economies in Asia and beyond
- To discuss what shifts in domestic policies and international cooperation initiatives might address the current environment

Key Question:
Is this just another cycle, or a "new normal"?

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Key observations

What has driven the fall in the oil price?

How has the oil industry reacted?

What is the impact on Asian economies?

What is the outlook?

Key questions and discussion

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Key observations

Oil prices have fallen by 60% to ~\$50/bbl since mid 2014, where an “undulating floor” was established in Q1 '15

- Oversupply of ~1 Mbb/d emerged throughout 2014, driven by both supply and demand factors
- Supply further increased in 2015, growing by 3.1 Mbb/d in July y-o-y driven by US tight oil, Iraq, and the broader OPEC
- Simultaneously, demand growth slowed to 0.7 Mbb/d July y-o-y, although signs of stronger recovery are now visible

Crude prices reacted violently as it emerged that OPEC would allow the market to self-correct in this cycle

- On 27th Nov 2014, led by Saudi, OPEC decided to maintain its production quota at 30 Mbb/d
- OPEC is currently producing 31.8 Mbb/d, its highest level in three years – sticking firmly to its strategy

In response, most oil companies announced 2015 capex cuts of 10-30%, and US drilling activity has fallen by over 50%

The immediate effects on Asian economies are contrasting

- Highly dependent upon individual countries' national oil balances and currency effects

The length of the decline has been the longest in the last three decades - where could prices go in the months ahead?

- Current prices around \$50 are unsustainable mid-term; they support only 33% of new production
- There is a de-facto floor around \$35-40 where cash lifting start to be reached for a significant slice of production
- Marginal economics should, in the longer-term, demand prices around \$70/bbl or more under the industry's current cost structure

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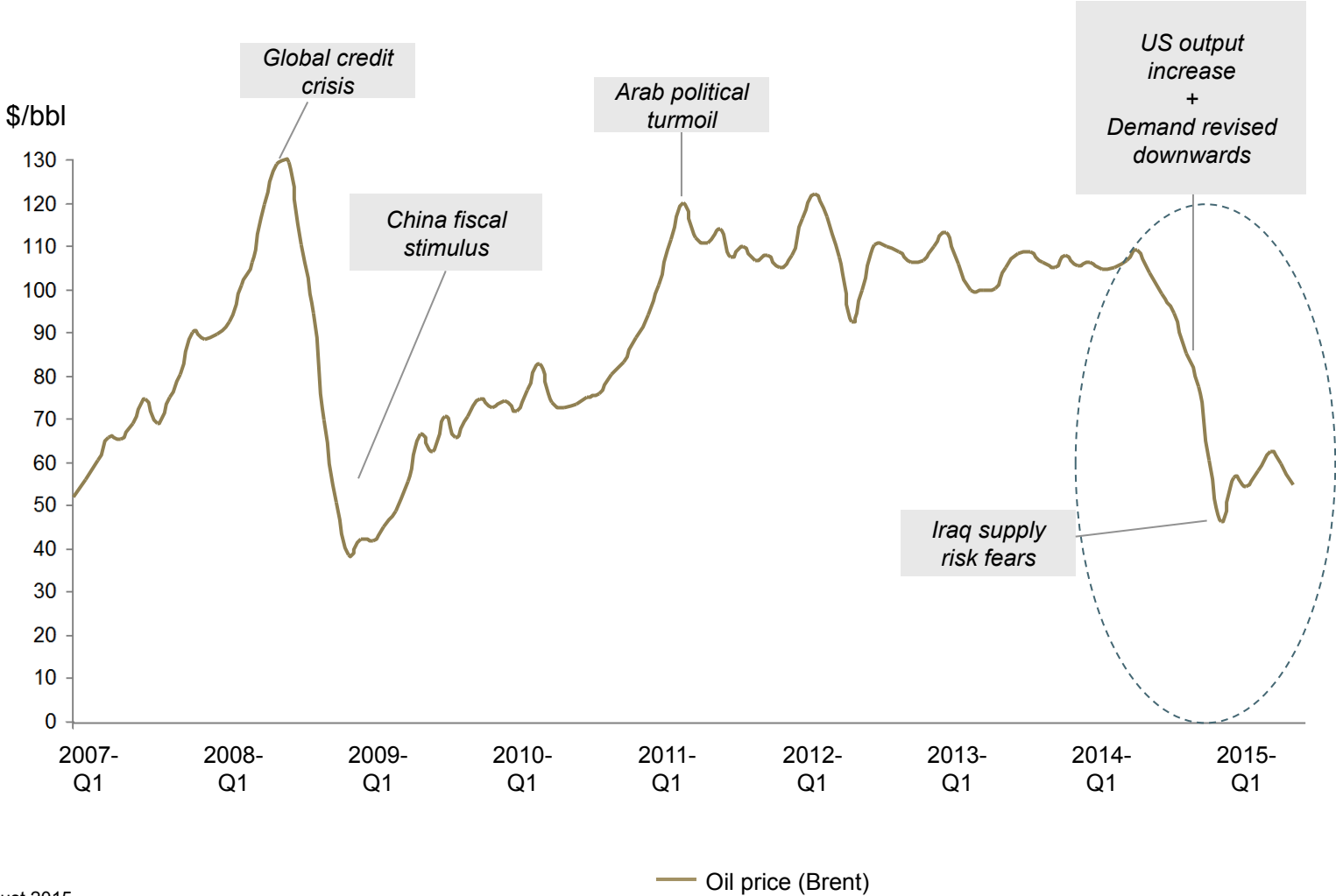
What is the outlook?

Key questions and discussion

Oil prices have fallen by ~60% since June 2014

Geopolitical risk has not trumped market forces

World liquid fuel production and consumption balance

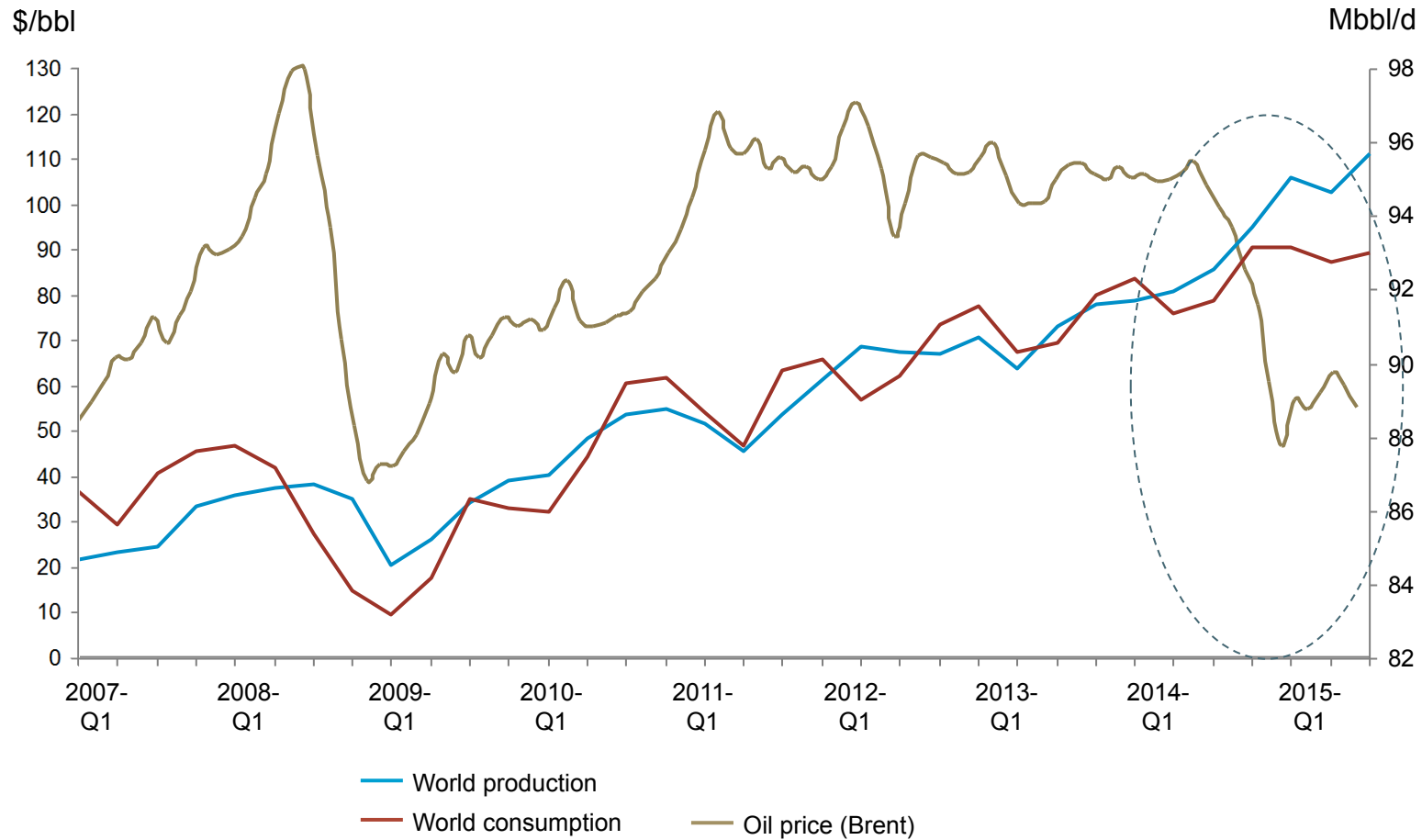


Updated: 11th August 2015
Note: Brent oil prices used
Source: EIA (STEO, Aug 11th, 2015), BCG Analysis

The global supply-demand gap widened strongly in 2Q15

A surplus of +2.7 Mbb/d

World liquid fuel production and consumption balance

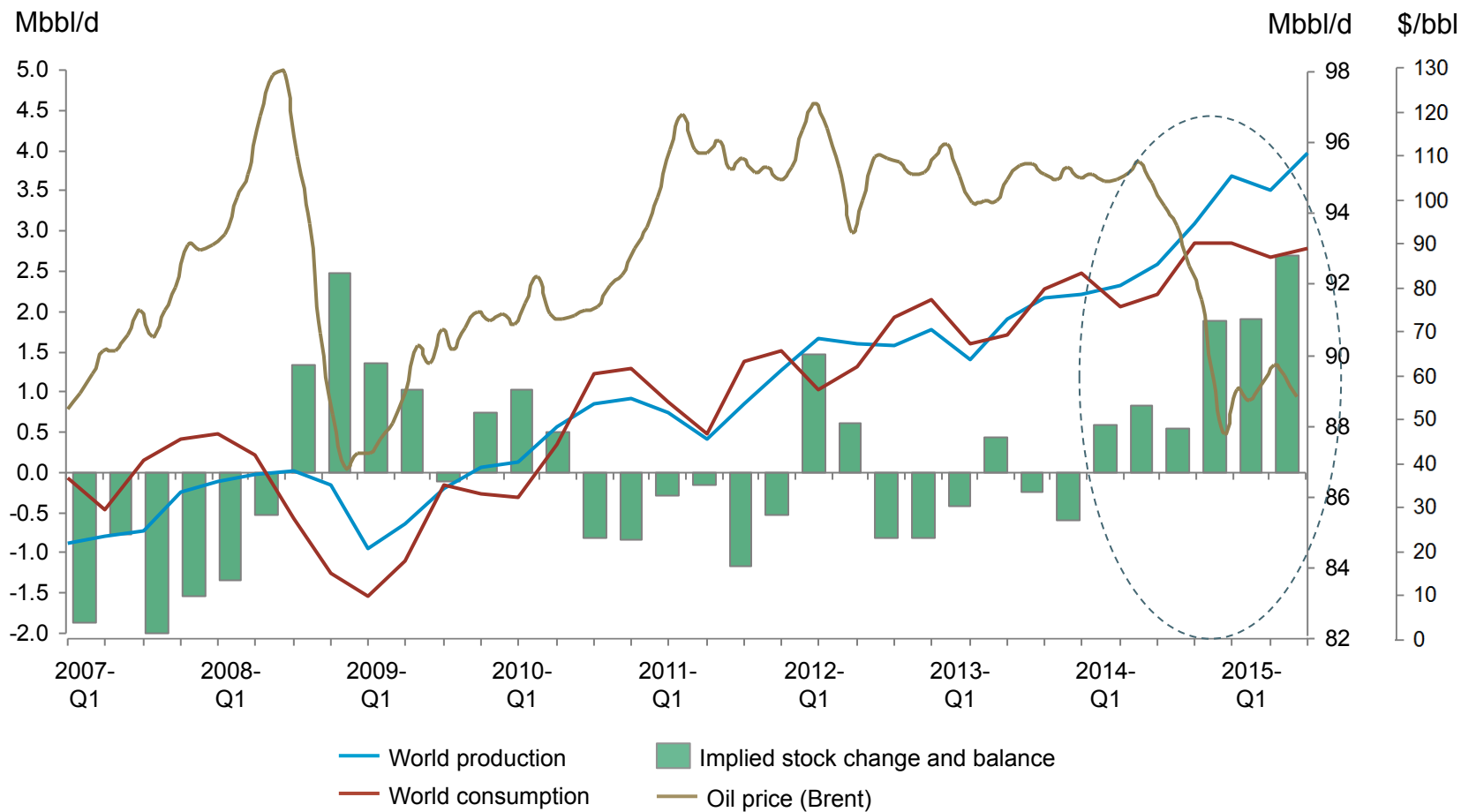


Updated: 11th August 2015
Note: Brent oil prices used
Source: EIA (STEO, Aug 11th, 2015), BCG Analysis

The imbalance created the largest implied inventory accumulation since 2009

Low oil prices, a supply surplus and larger implied stocks - expected until late 2016

World liquid fuel production and consumption balance

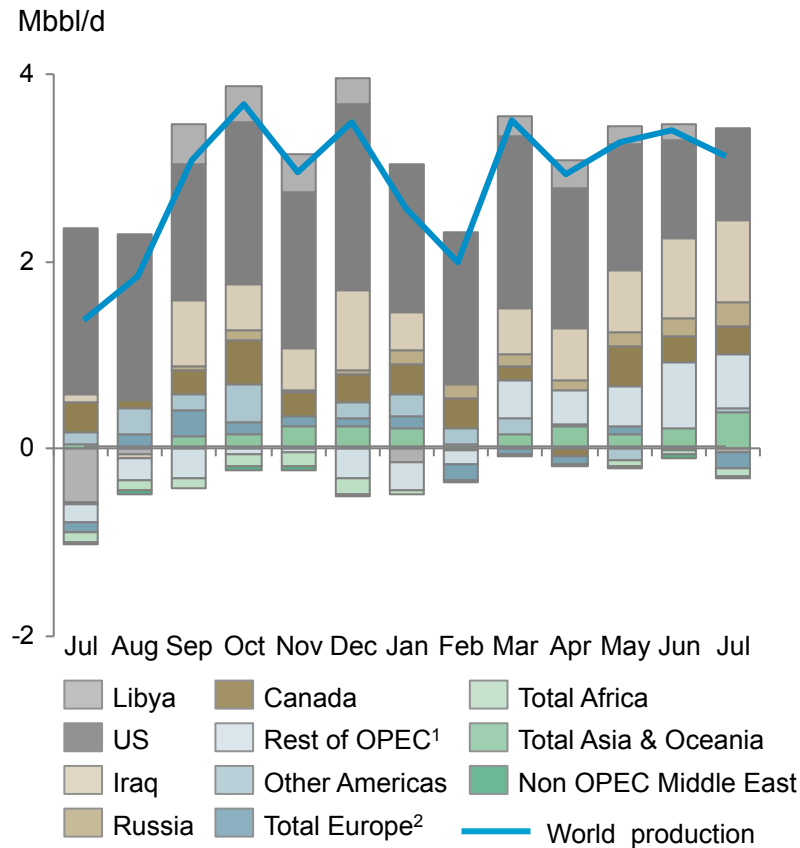


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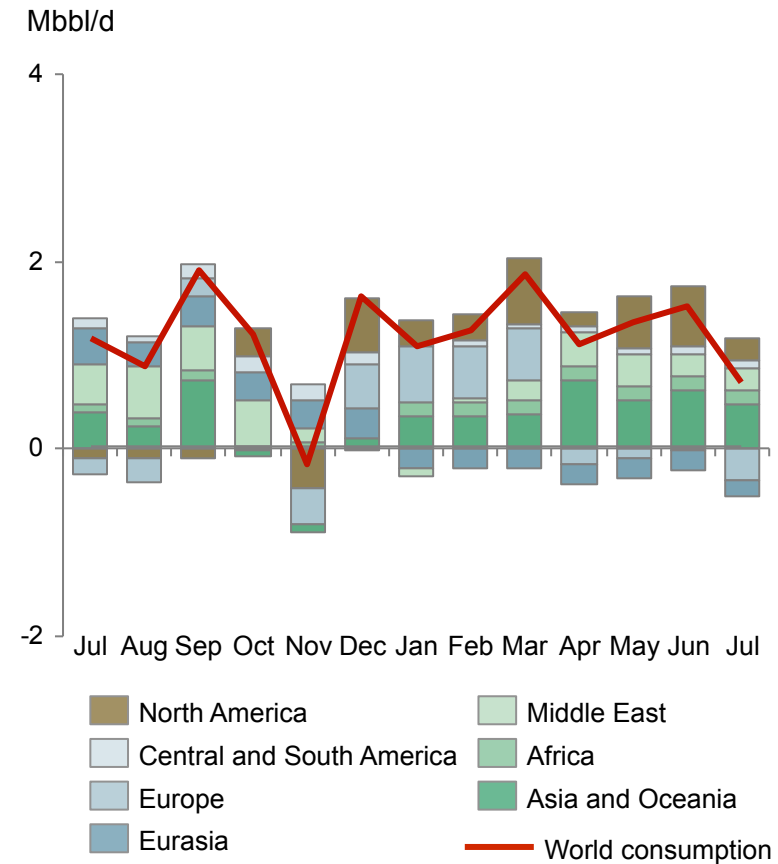
Strong supply growth and less dynamic demand

US tight oil and Iraqi conventional drove 60% of global year-on-year supply growth

Year on year world liquids production change, Jul 2014 – Jul 2015



Year on year world liquids consumption change, Jul 2014 – Jul 2015



Updated: 11th August 2015
 1. Excluding Libya and Iraq 2. Including other FSU and Eastern European countries
 Source: EIA (STEO, Aug 11th, 2015)

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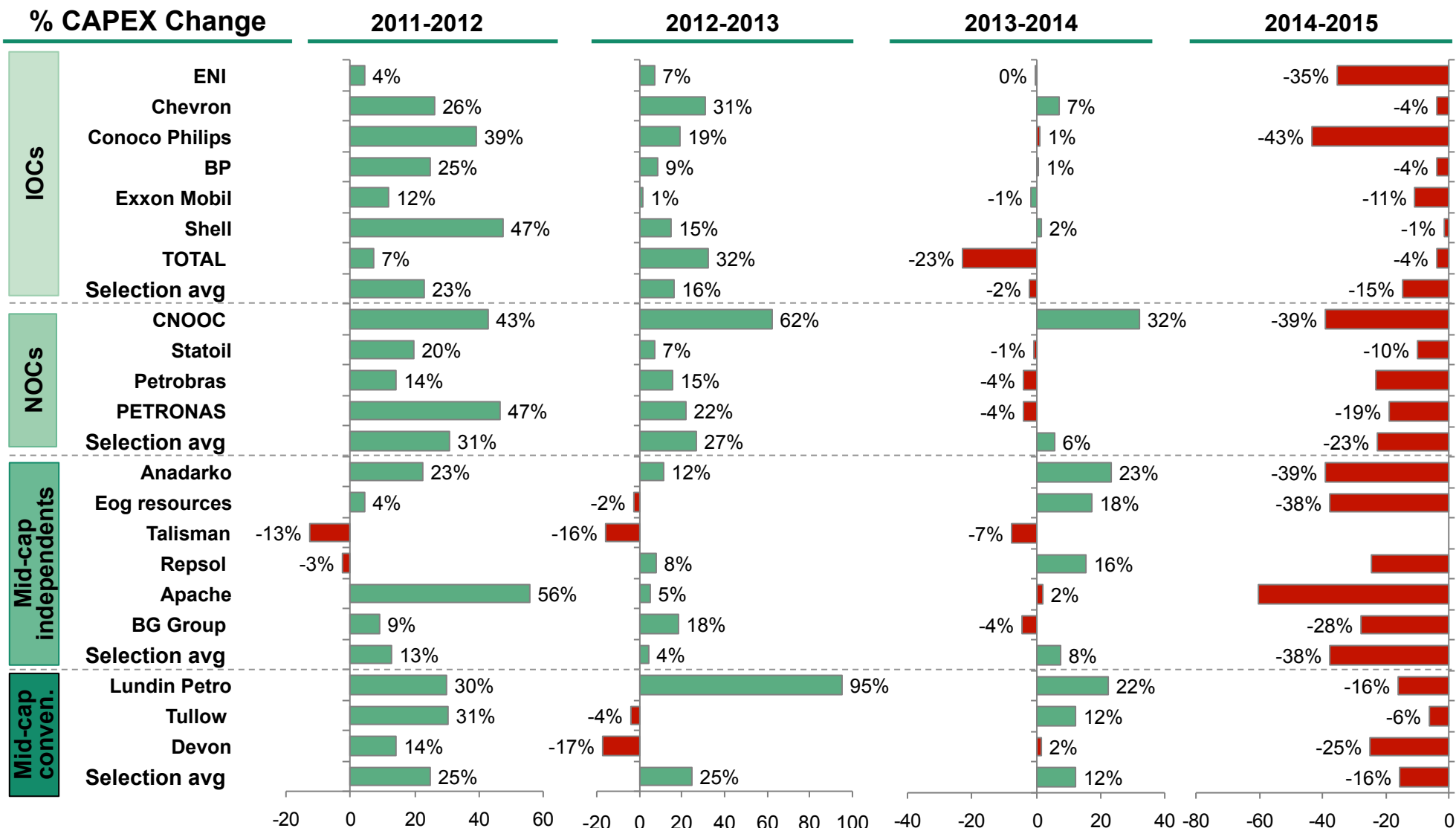
What is the impact on Asian economies?

What is the outlook?

Key questions and discussion

All operators have refocused on capital discipline

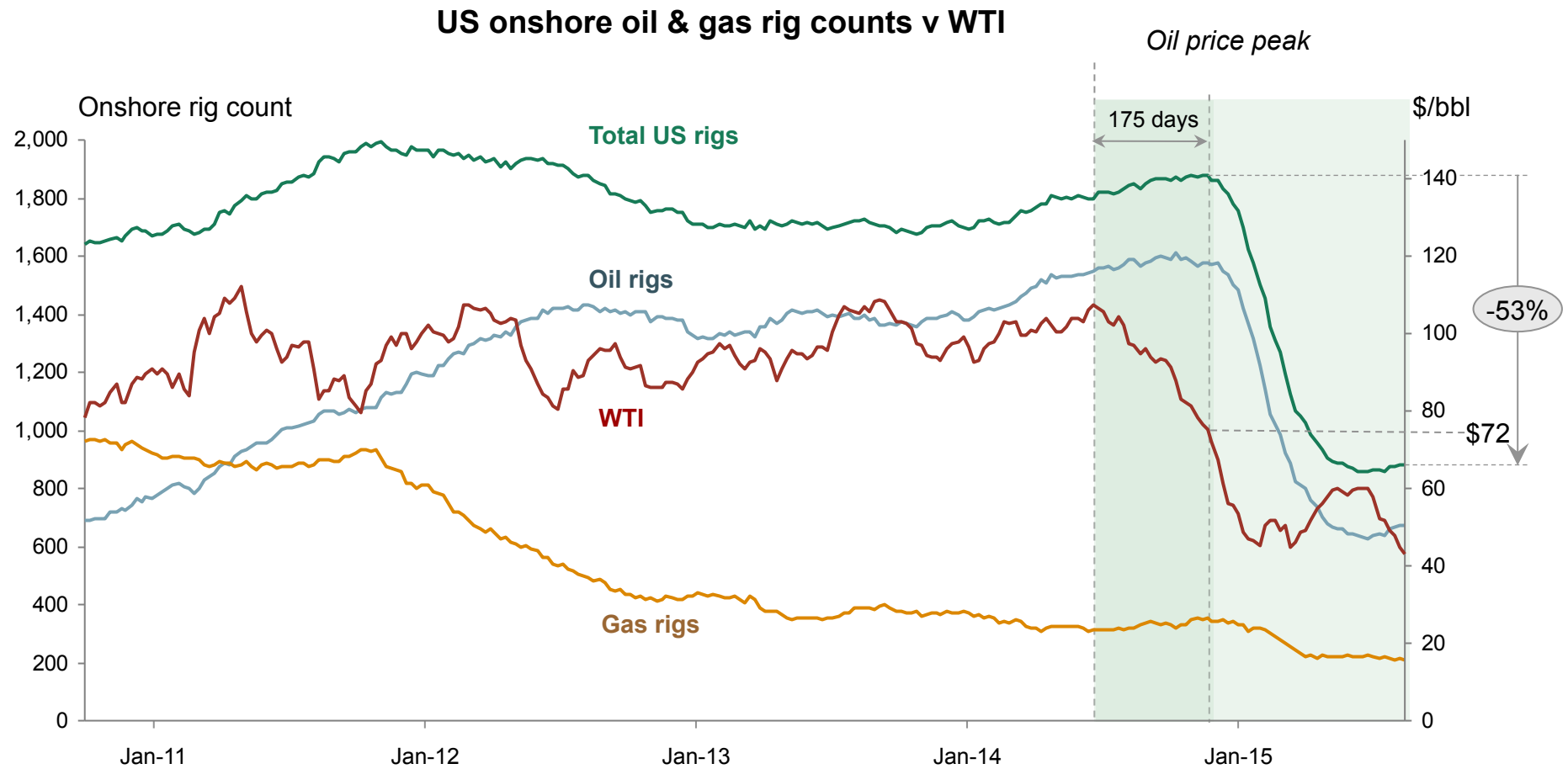
...and long-term cost control



Updated on July 2015

US drilling activity has declined in tandem with lower prices

Rig count is down 53% since November 2014



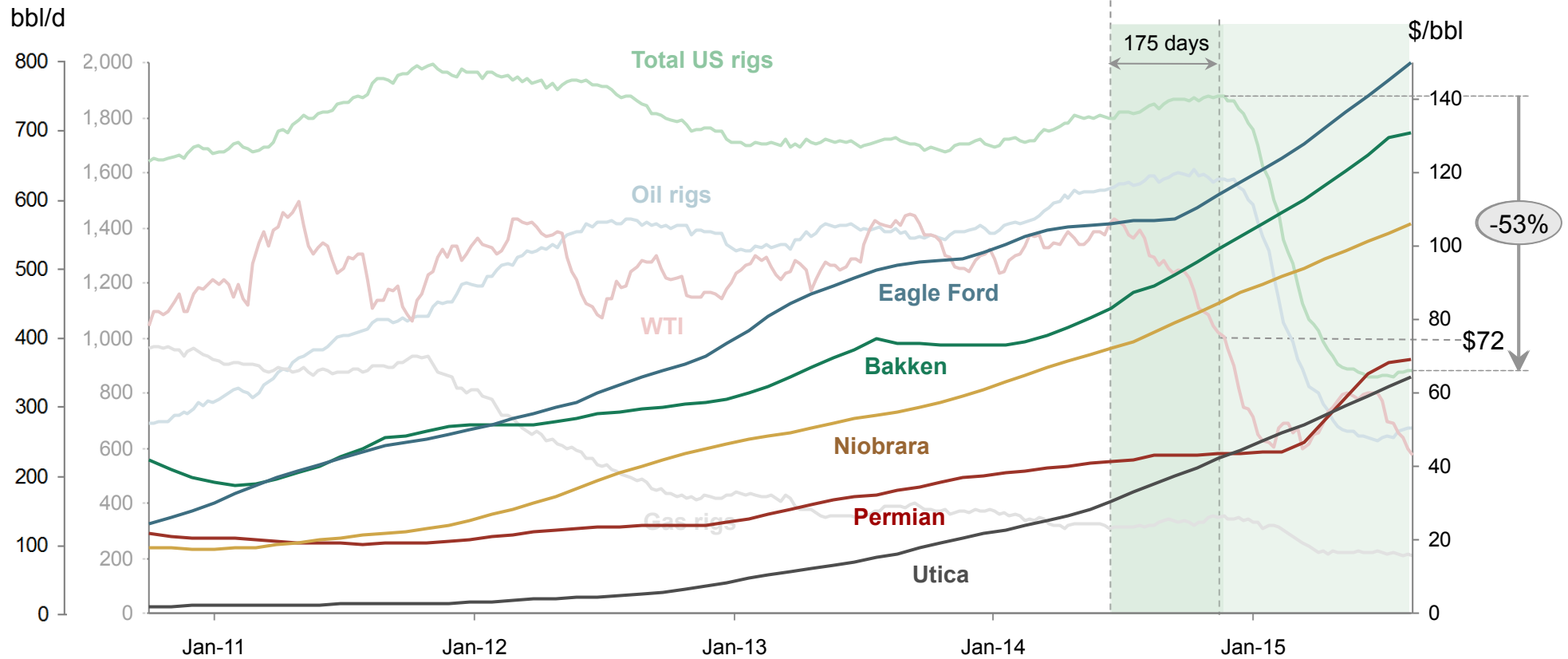
Updated: August 19th 2015
Note: WTI prices used
Source: Baker Hughes, EIA, BCG Analysis

But productivity in light tight oil plays has increased

A slowing of production growth is taking time to emerge

Oil production per rig in selected US onshore basins

Oil price peak



Updated: October 8th 2015
Source: Baker Hughes, EIA, BCG Analysis

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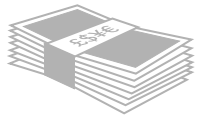
The immediate effects on Asian economies are contrasting

Highly dependent upon individual countries' resource and industrial base

Producing countries & oil-driven industry



- Weakened **trade balance** – also for oil-linked gas



- Less spent on imports for **domestic demand**



- Reduced cost of **fuel subsidies**



- Reduced **industrial demand** (e.g. shipbuilders, rig builders)

Consuming countries & industries



- Improved **trade balance**



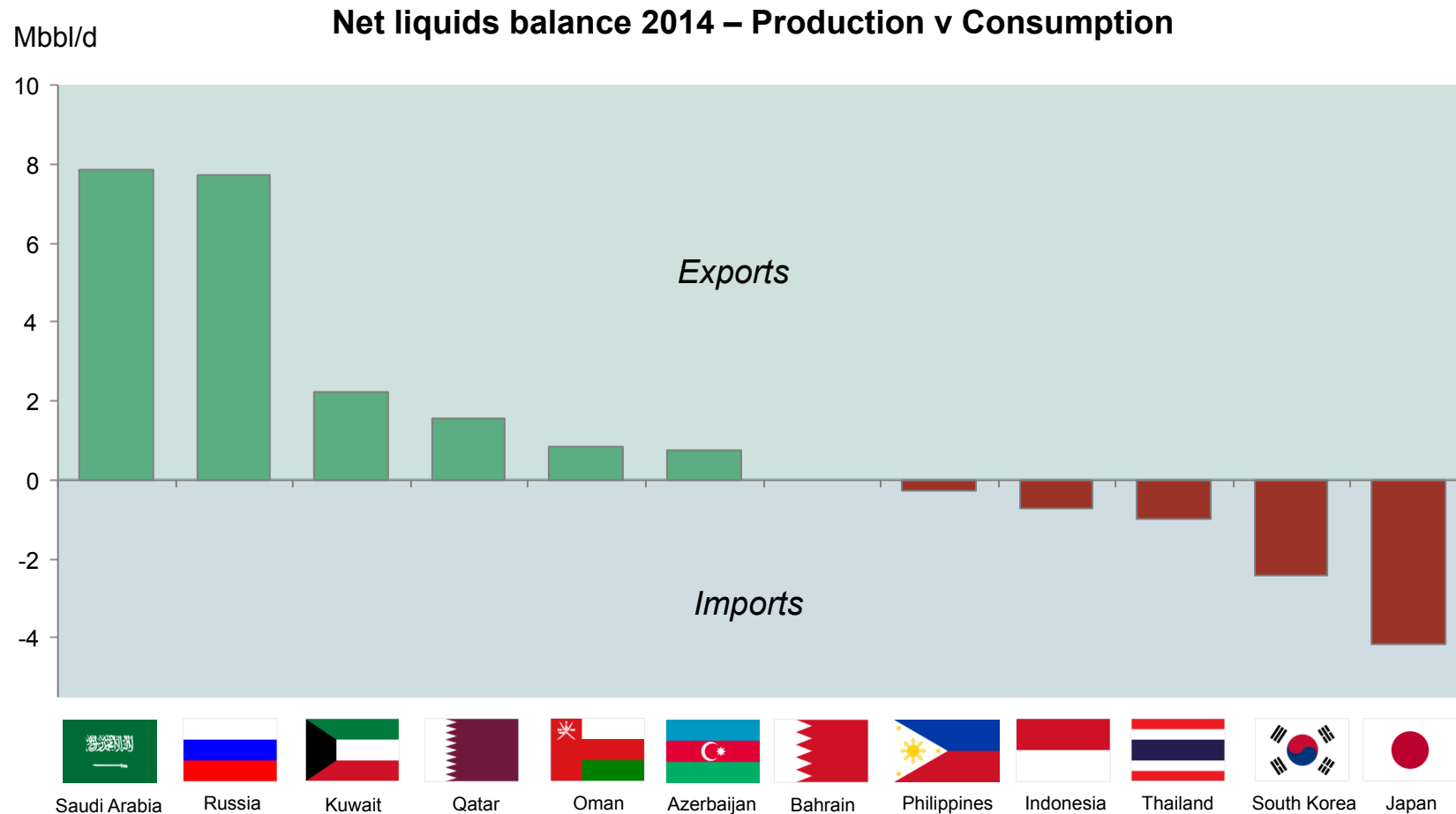
- Reduced input and **logistics costs**



- Improved **export competitiveness** in *some* cases – offset by reduced energy costs in some competing economies (e.g. US)

The impact of the price fall depends upon national balances

Russia and Middle East lead net exports while South and East Asia require imports



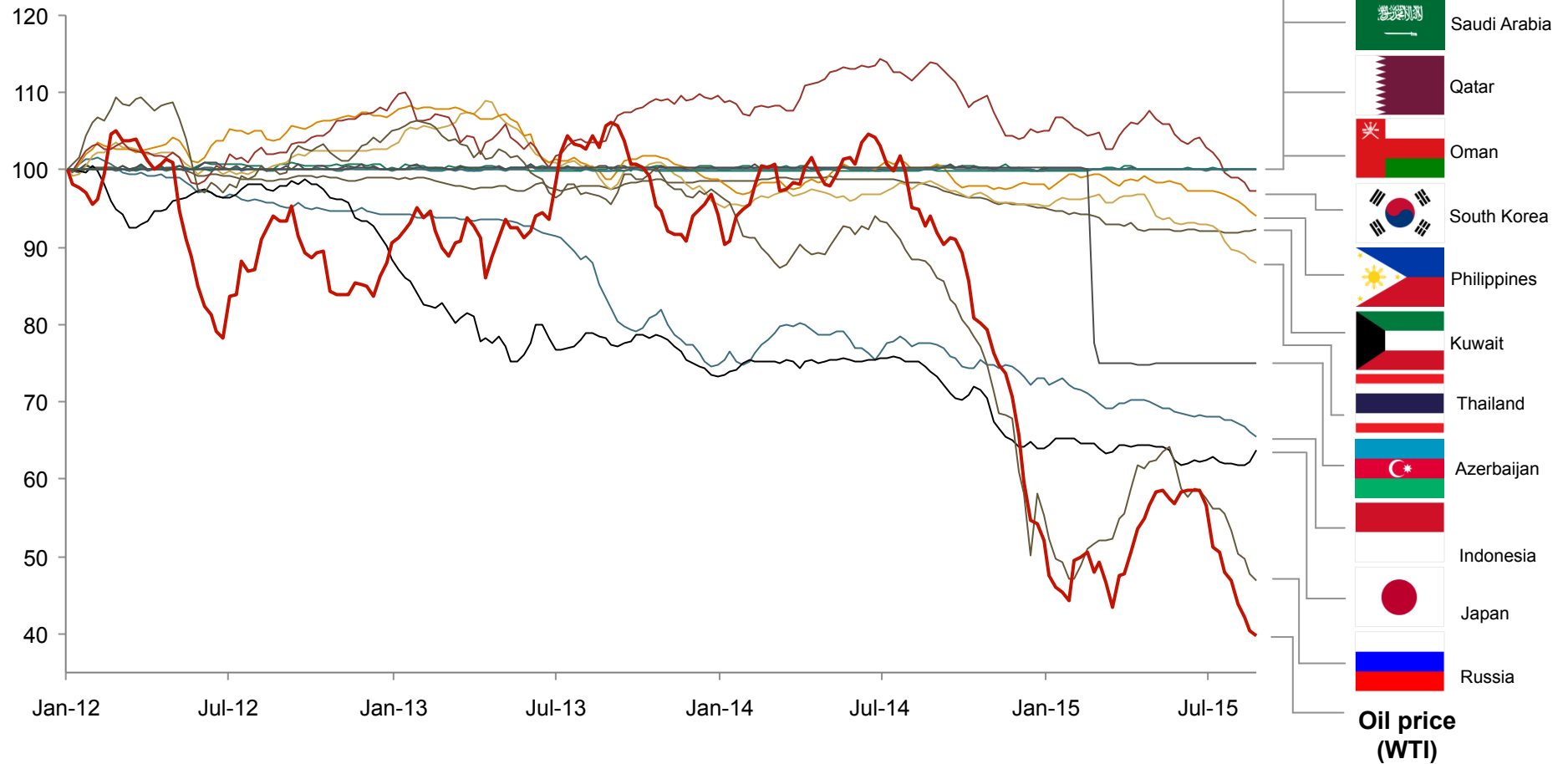
Note: Net liquids balance calculated by production minus consumption
Source: BP Statistical Review 2015, EIA, Rystad

National adjustments heavily affected by currency effects

Due to the effect of USD-denominated oil pricing

Indexed Exchange Rate USD v Local Currency 2012-2015

Index 100 USD vs Currency



Note: WTI oil price used
Source: Bloomberg, BCG Anlysis

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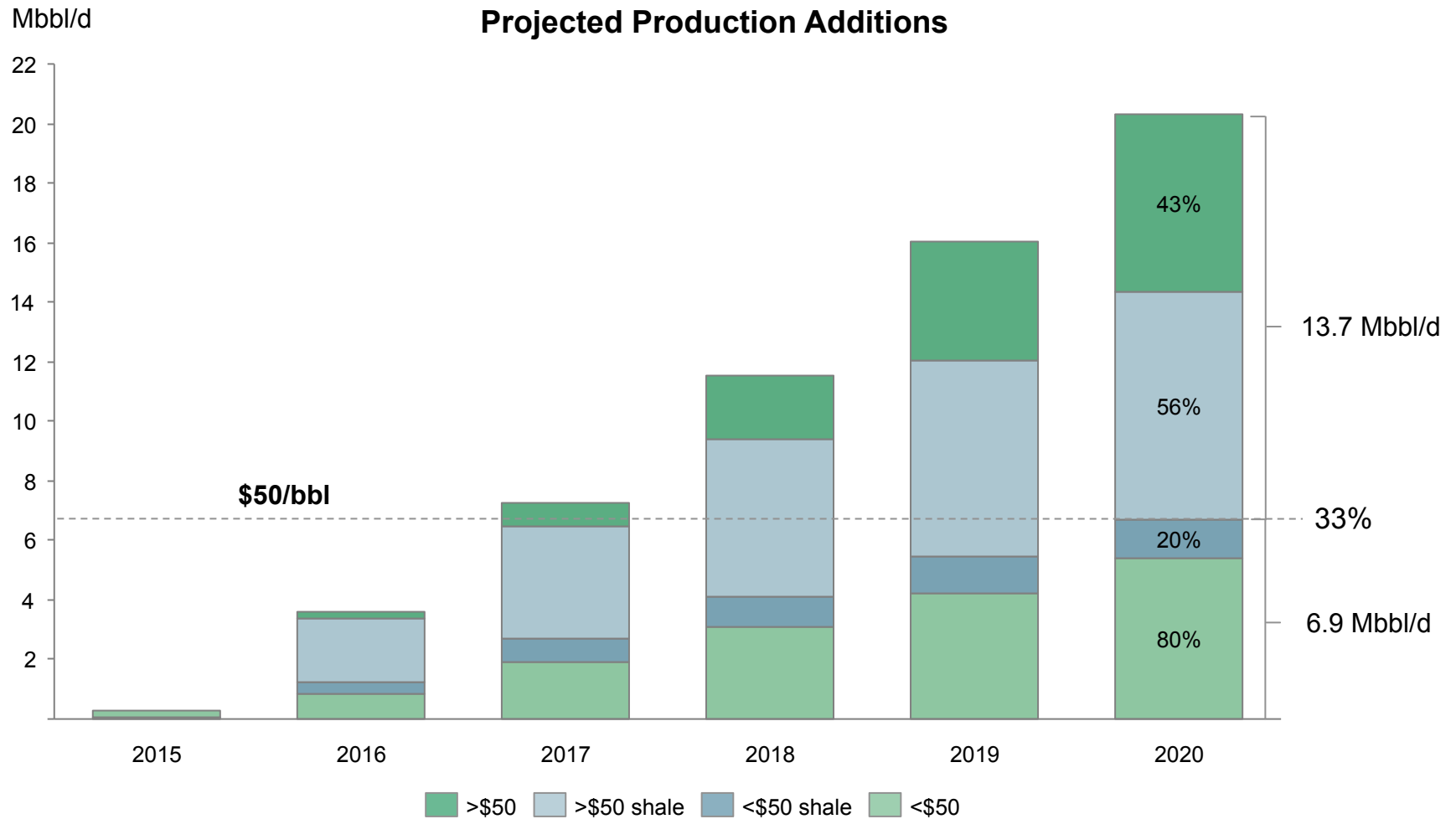
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Outlook: A New Normal?

Oil prices below \$50/b support only 33% of new production to 2020



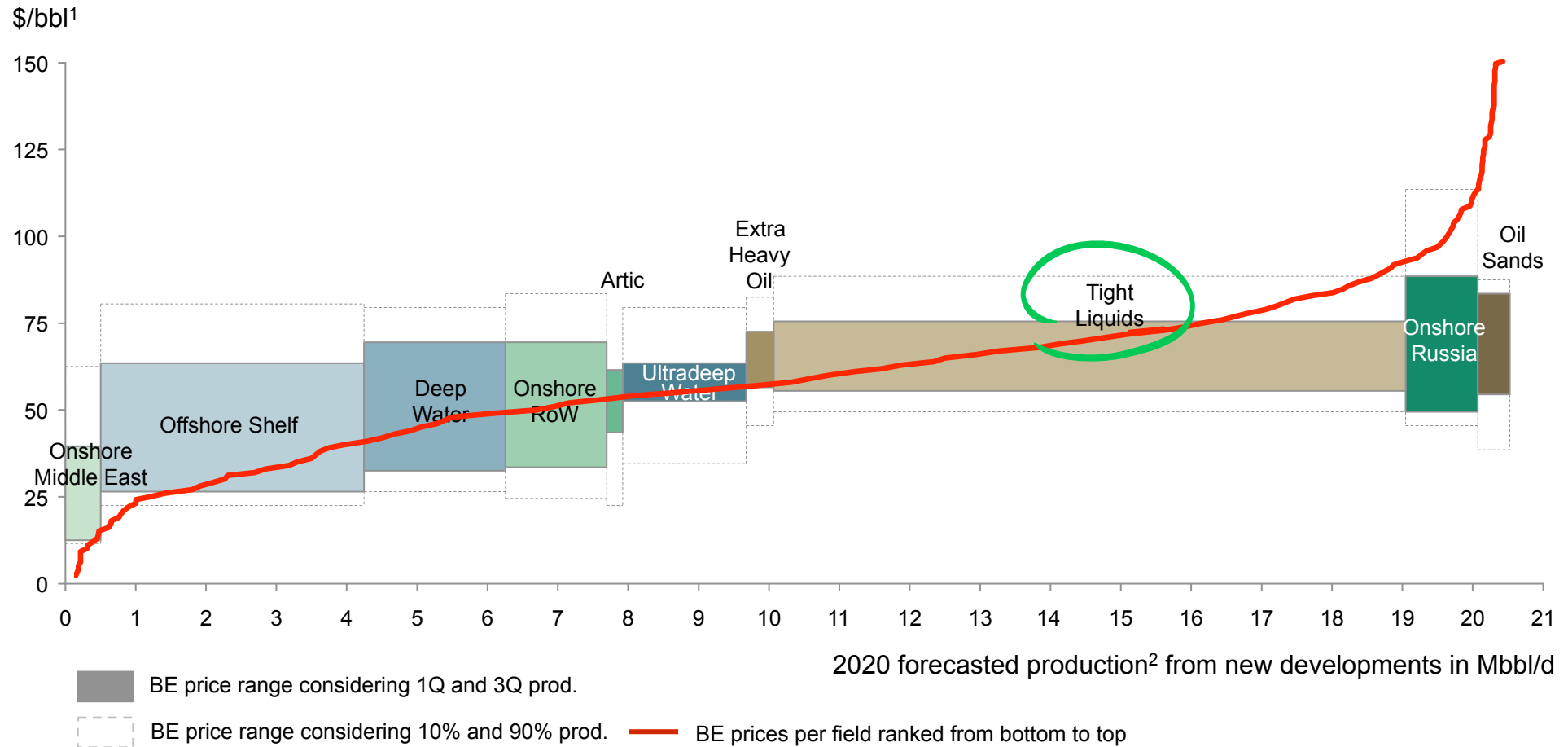
Updated: August 25th 2015

Note: analysis assuming current industry cost structure and terms of fiscal regimes. Increased additions from previous versions result from changes in Rystad's methodology to include shale and tight liquids within non-producing life cycle category. Source: Rystad Energy, BCG Analysis

In the mid-term, full cycle economics demand ~\$60-70/bbl

High impact of the economics of shale/tight liquids in the global supply curve

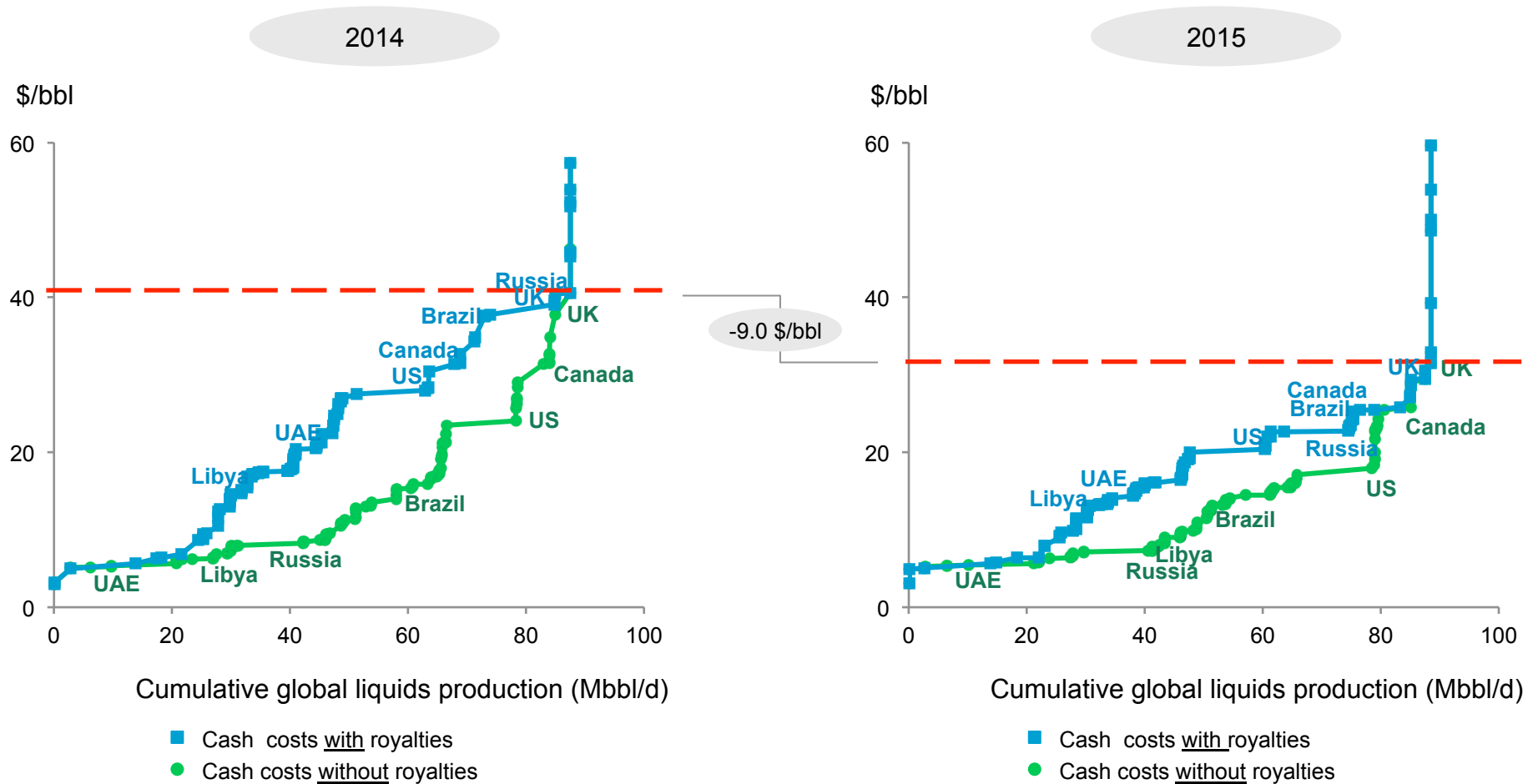
Breakeven price of new oil developments by source to 2020



1. Brent real oil price (2014 \$/bbl) 2. Includes crude oil, condensates and NGLs;
 Note: breakeven prices are calculated considering future cash flows as of today, with a 10% discount rate; BE prices higher than 150 USD/bbl are represented as being 150 USD/bbl
 Source: Rystad Energy UCube (25th August 2015 release)

Operating costs have fallen, defining a floor around \$35/b

Global oil projects cash costs

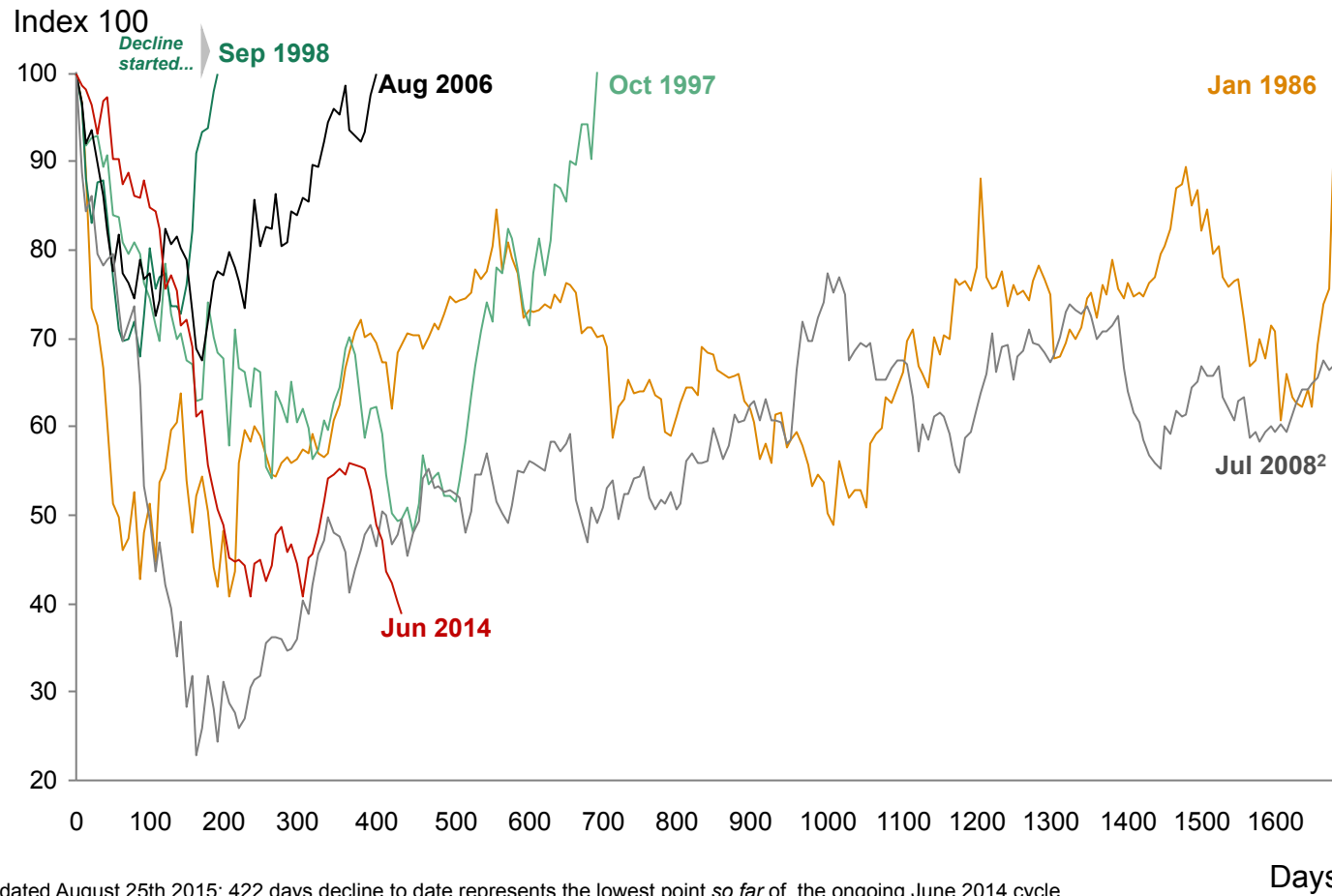


Note 1: Operational costs and production volumes are related to liquids only (crude oil, NGLs and Condensates)
 Note 2: Operational costs include production OpEx, transportation OpEx, taxes OpEx, SG&A OpEx and abandonment costs if applies
 Source: Rystad (June 2015)

Recovery time of historical oil price declines vary drastically

3 out of 5 price declines lasted about 164 days; recoveries took from 107 to 1589 days

Major WTI oil price cycles since 1986



Cycle Start	Decline (Days)	Recovery (Days)	
		70%	100%
Jan 1986	85	283	1589
Oct 1997	165	374	528
Sep 1998	72	17	107
Aug 2006	164	7	233
Jul 2008	163	799	-
Jun 2014	422	-	-

1. Updated August 25th 2015; 422 days decline to date represents the lowest point so far of the ongoing June 2014 cycle
 2. In the July 2008 cycle, prices did not recover to their pre-decline peak of \$145.16
 Note: WTI oil price data plotted every 7 days meaning that some daily troughs may not be fully graphically visible
 Source: EIA, BCG Analysis

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Challenges of a low oil price environment

Key Questions

- How do producers attract investment to maintain levels of production needed to meet demand?
- How does the industry as a whole promote efficient consumption habits despite low oil prices?
- What are the necessary steps to facilitate an orderly process of price formation?
- How do policymakers support national industry and infrastructure dependant on oil revenues?
- What actions could improve market outcomes in the short-, medium- and long-term?

Opportunities of a low oil price environment

Key Questions

- Could the price slide catalyse a refresh of fiscal terms to improve investment attractiveness?
- Is this an opportunity to unwind fuel subsidies?
- How can we increase the quality and availability of market data to prevent oil price volatility?
- Is it the time to address the emerging tax gap in some countries? If so, how?



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