Business Trends in the International Upstream Sector in the Current Oil Price Environment - 2016 Update

Jonathan Green
Bonmont Energy Sàrl

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That which does not kill me makes me stronger

Friedrich Nietzsche

Jonathan Green is an oil and gas business and competitor intelligence professional. He has over 30 years' experience in business development, government advisory, strategy and analysis.

He is founder and managing director of Bonmont Energy Sàrl, a Swiss-based boutique consultancy established in 2008. The firm specialises in bespoke, in-depth research and analysis projects and business development in the traditional upstream and pipeline industries as well as alternative energy. Clients include smaller firms with limited competitor analysis expertise and larger companies making strategic moves into new areas of business. It has also advised the United Nations Conference for Trade and Development on upstream business and moderated and presented at a number of their conventions in Africa.

Jonathan previously held a managerial role in the Global Business Development department at Addax Petroleum, a Swiss-based exploration and production company and subsidiary of the Chinese state owned enterprise, Sinopec. His responsibilities included the analysis of all external factors influencing the business of his company, screening for potential M&A targets, strategic advisory to the executive, and maintaining senior level contacts within peer companies.

Before joining Addax Petroleum in 2009, Jonathan was Head of New Ventures, Windward Exploration Ltd., an exploration company focused on unlocking the high potential of the Caribbean region. The previous 20 years of his career were spent with IHS, where latterly he was head of its Strategic Consulting Practice in London. He was responsible for business development and providing assistance to governments, NOCs and non-governmental organisations, notably in Japan, Pakistan, Africa, South America, and the Caribbean. He also led a multi-disciplined consulting team providing research, analysis and advice on strategy, asset and corporate evaluation and opportunity screening. His early career began on the well site in Africa and the USA working as a geologist and drilling engineer.

Jonathan has a BSc (Honours) in Geology from the University of Southampton and Masters in Business Administration from Webster University in Geneva. He is a member of the Society of Petroleum Engineers; Geneva Petroleum Club; and American Association of Petroleum Geologists (AAPG) and is a previous member of the AAPG European House of Delegates. He represented Addax Petroleum at various high level industry meetings and was moderator of the Houston Latin America Industry Forum. For 8 years he was Director of Country Coordination for International Pavilion llc, a non-profit AAPG company assisting governments to promote upstream petroleum investment.

The 2015 oil & gas bust was even worse than you thought

Moody's Investors Service 12 Sep 2016

..in terms of the number of recorded bankruptcies as well as the recovery rates for creditors, the oil and gas industry bust may turn out to be on par to the telecoms industry collapse of the early 2000s

Moody's Investors Service 12 Sep 2016

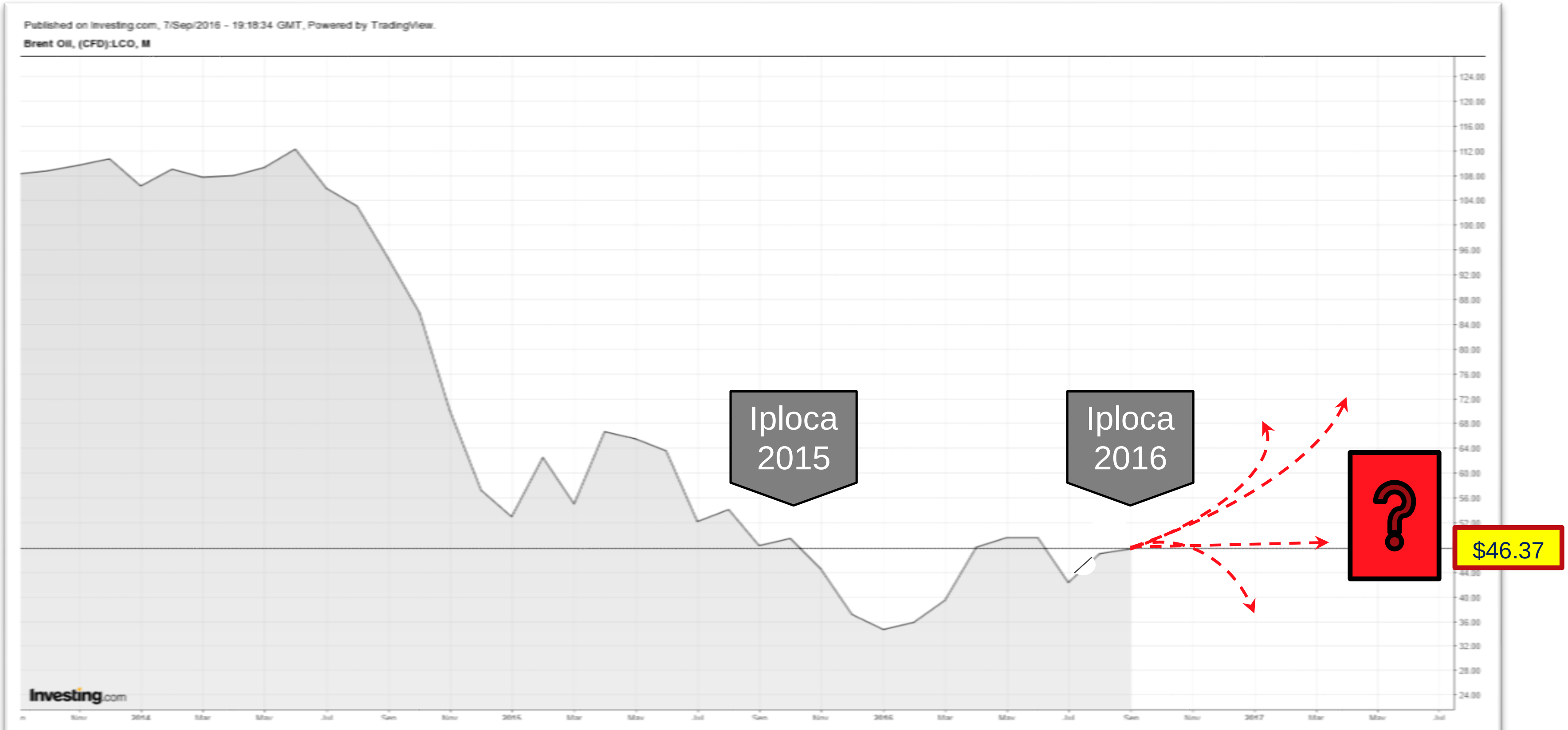
Evolution of the crude oil price

I've had a very successful career as a forecaster……

The number of mistakes I have made are just awesome. There is no number large enough to account for that.

Alan Greenspan, Chairman, Federal Reserve 1987 – 2006

Déjà vu all over again, again



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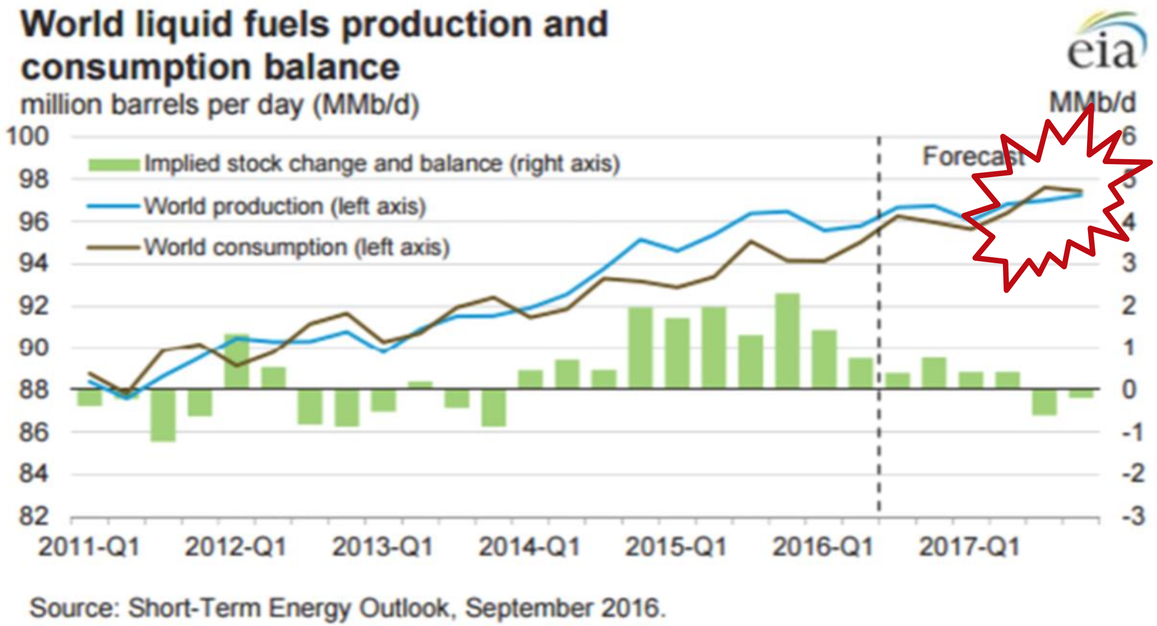
This year’s news in Paris

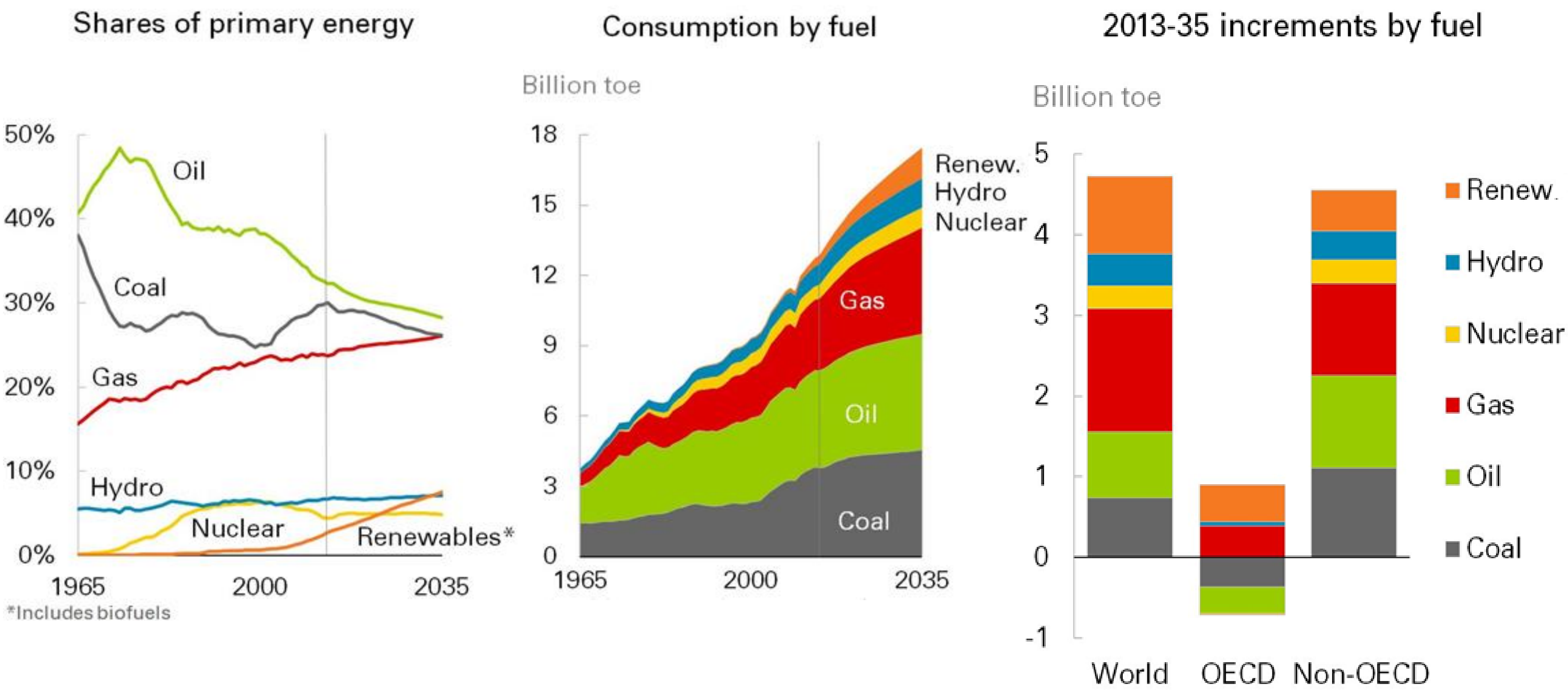
- Oil hit a one-week high on Monday (5 Sept) after Russia and Saudi Arabia agreed to cooperate on stabilizing the oil market. Prices have since fallen due to uncertainty over a deal.
- Saudi Foreign Minister stated “You can’t expect other countries to freeze while you [Iran] reserve the right to increase your production.”
- Blah, blah….
- If OPEC freezes at these levels, these are still record levels that will reinforce current short term prices
- The upcoming meeting is irrelevant in respect to medium to long term price.
- The focus will return to the availability of adequate supply in 2017
- Supply disruptions had only limited impact on price in 2015-16 due to global oversupply; market will be much more susceptible to interruptions post-2017
- Iran's steep oil output growth stalled in past three months suggesting difficulties in raising production to new highs
- Once supply and demand reach equilibrium, it is cost of marginal production that sets the price, not the cost of US LTOs (Light Tight Oil)



World liquid fuels production and consumption balance
million barrels per day (MMb/d)
MMb/d
Forecast
Implied stock change and balance (right axis)
World production (left axis)
World consumption (left axis)
100
98
96
94
92
90
88
86
84
82
6
5
4
3
2
1
0
-1
-2
-3
2011-Q1
2012-Q1
2013-Q1
2014-Q1
2015-Q1
2016-Q1
2017-Q1
Source: Short-Term Energy Outlook, September 2016.


(HALF FULL)

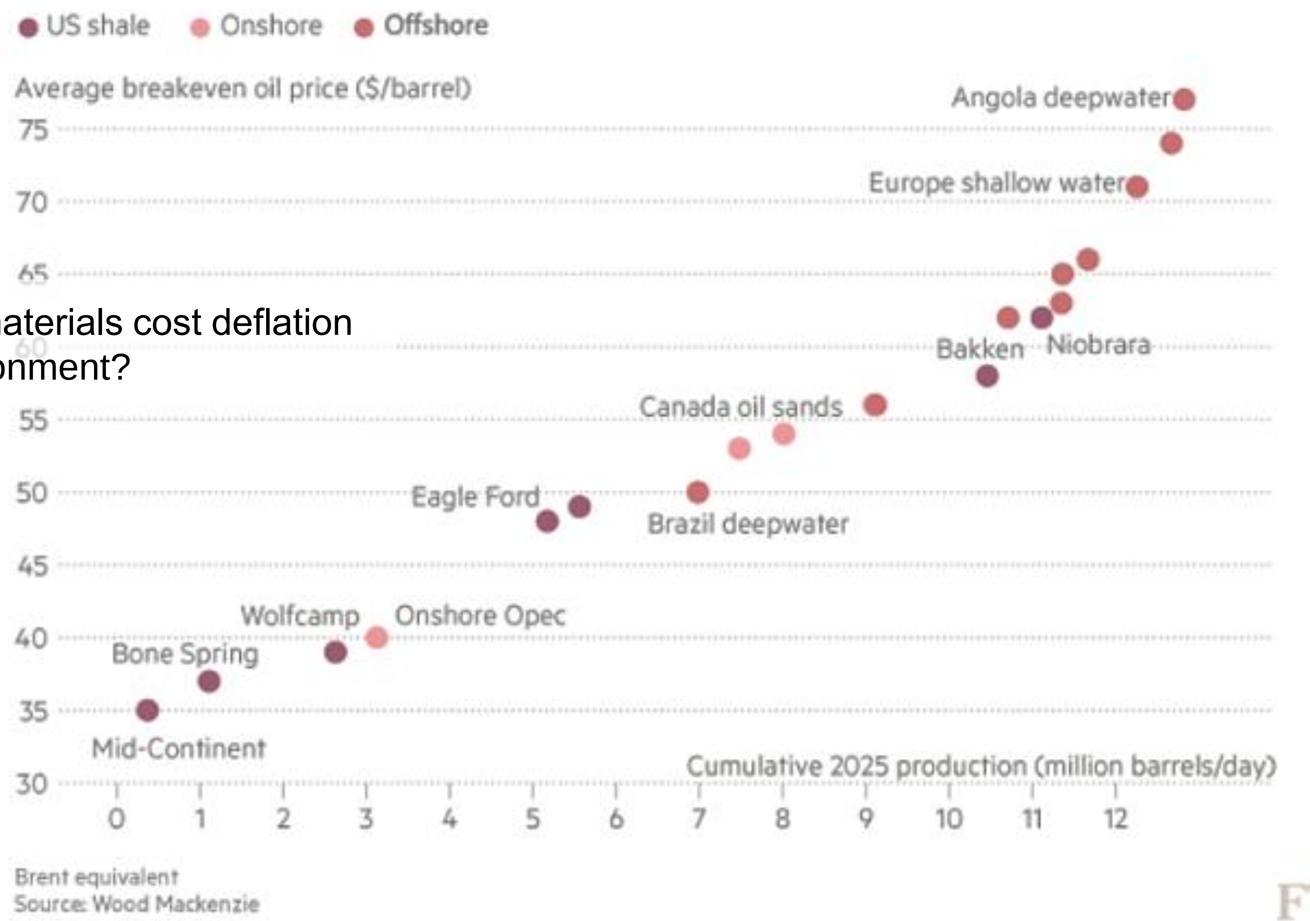
Demand for oil and gas continues to grow



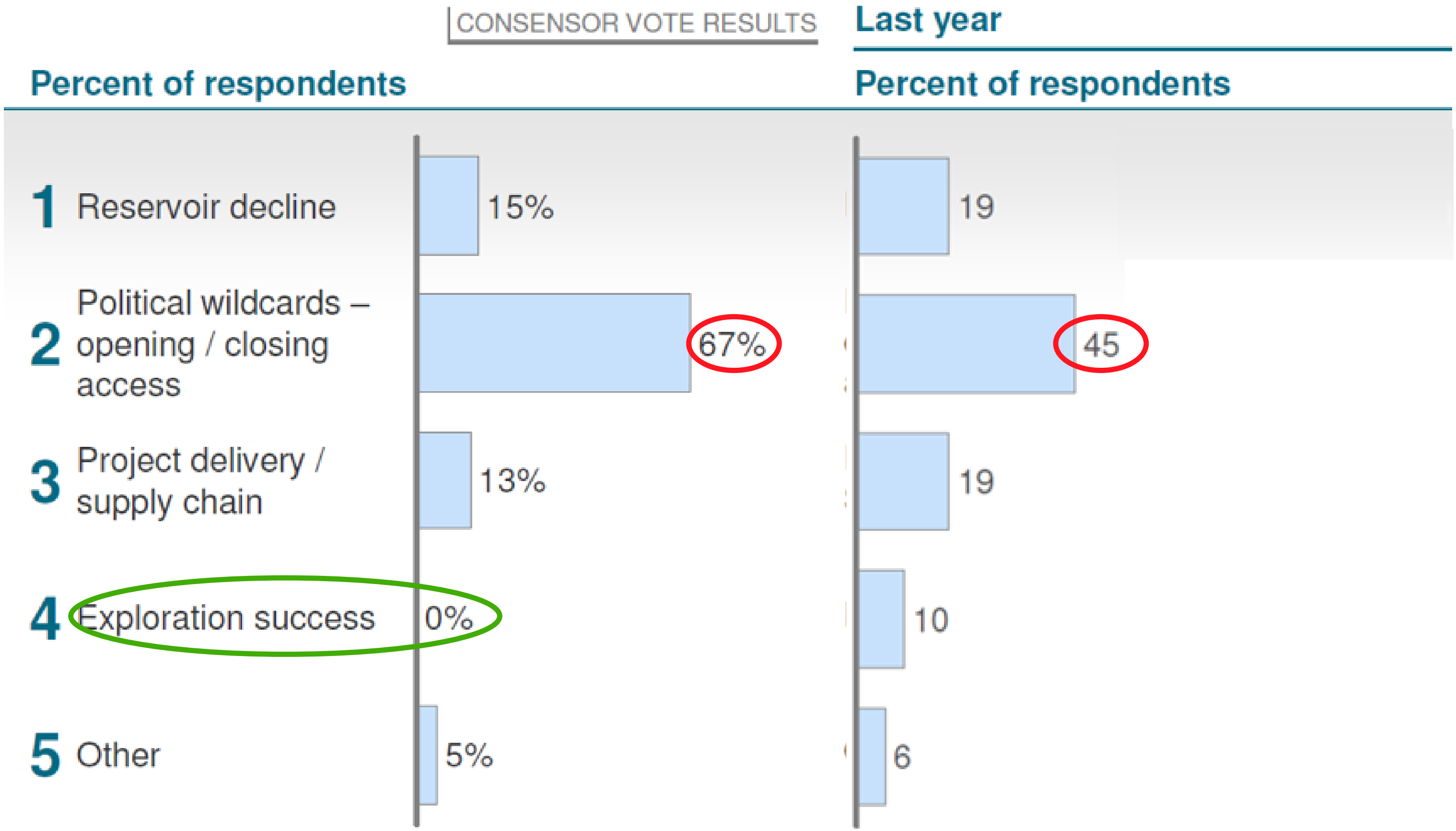
Source: BP Energy Outlook 2035

Potential future global oil projects by average breakeven prices

…. But will current service & materials cost deflation persist in a high oil price environment?



What are the biggest uncertainties driving oil supply to 2025



Source: McKinsey

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Opec fiscal breakeven

Within OPEC countries there is a sharp division between players who can sustain an extended period low prices and those who cannot

ROUGH ESTIMATE

Financial outlook for selected OPEC members

-XX% Budget deficit/ GDP

		Fiscal breakeven USD/bbl, '13	Budget surplus/(deficit) USD billion '13	Cumulative budget deficit USD billion: 2014 @ $90/bbl	2015 @ $50/bbl		2016 @ $50/bbl		Sovereign wealth fund AUM USD billion '13
Spare capacity holders	Saudi Arabia	83	65	17	-74	-9%	-165	-20%	762
	UAE	65	43	20	6	1%	-9	-2%	1,010
	Kuwait	30	57	44	60	33%	75	40%	548
Other members	Algeria	116	-2	-9	-27	-11%	-45	-18%	77
	Ecuador	129	-4	-8	-19	-18%	-30	-27%	0
	Iraq	119	-14	-33	-93	-39%	-153	-59%	18
	Libya	121	-3	-7	-22	-35%	-37	-47%	66
	Nigeria	126	-12	-70	-151	-23%	-232	-33%	N/A
	Venezuela	144	-34	-50	-117	-52%	-184	-76%	1

1 Assume government debt in the next year can be simplified to government debt this year + government deficit this year; Assumes oil export volumes and budget spending will stay the same as 2013
2 Negative ratio means debt, positive ratio (e.g., Kuwait) means cash (no debt) 3 Asset Under Management 4 Crude oil production capacity

SOURCE: IMF World Economic Outlook Database Oct 2014, IMF Regional Economic Outlook 2014, Bloomberg, World Bank, McKinsey Energy Insights, Sovereign Wealth Fund Institute, IEA OMR

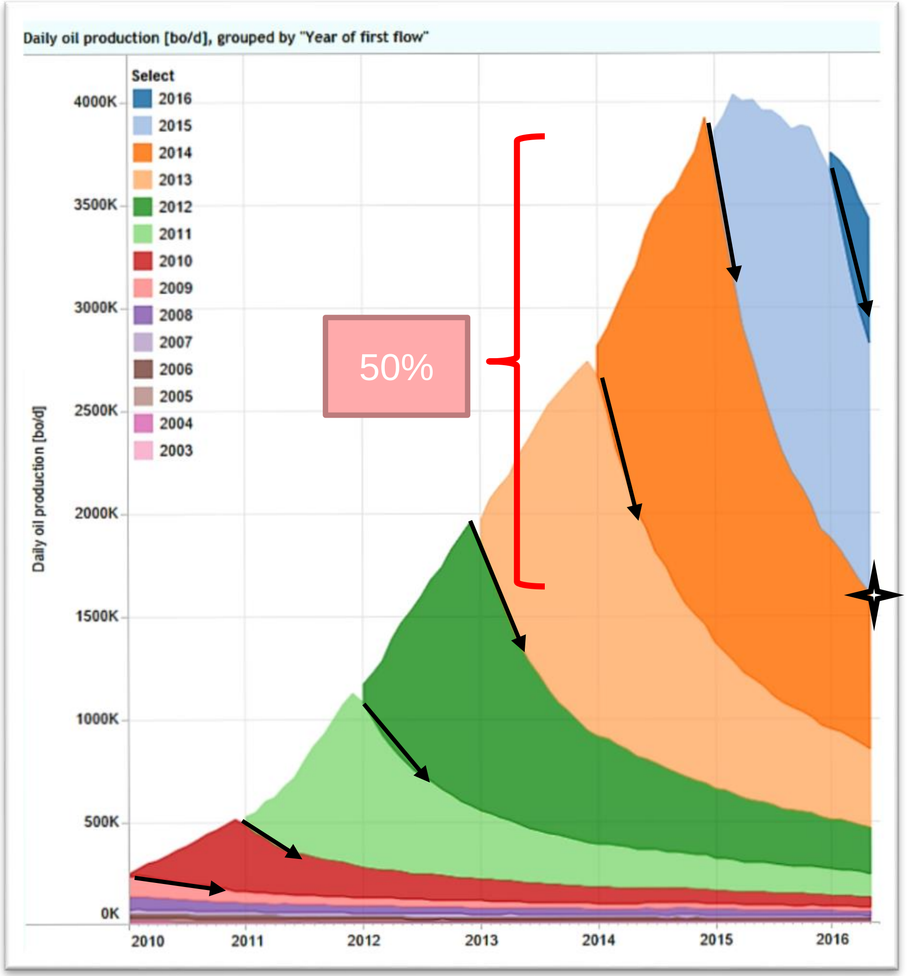
McKinsey & Company | 10

Supply and demand balancing and the threat of interruptions in 2017 and beyond

- The worst has passed for oil prices, which are now too low to ensure investment in the new supplies needed during the rest of the decade (Daniel Yergin, IHS Markit Ltd)
- Spare capacity will shrink to just 1% of global supply/demand in 2017 making the market more susceptible to disruptions
- Oil demand still growing by ~1.2m b/d every year (IEA) and will continue to grow for decades
- Oil supply expected to drop 0.84m b/d in 2016 (IEA)
- At an average decline rate on post-peak production is 5-7% is equivalent to around 3-4.5m b/d of lost production every year. (HSBC)
- By 2040, the world will need to find around 40m bo/d to keep up with growing demand, equivalent to four times the current crude oil output of Saudi Arabia (HSBC)
- New oil discoveries are few in number and small in size; smaller fields decline more rapidly and cost more per barrel to develop
- US oil shale currently represents less than 5% of global supply, meaning that it will not be able to address any significant drop in global supply
- Technology and operational efficiency improvements are slowing and in many cases are simply producing the same oil faster, increasing depletion rates

US Oil shale production 2003 - 2016

- Oil production from 61,652 horizontal wells from 2003 until May 2016 in the major US shale basins.
- Wells that started production since 2015 contributed >50% oil production in May 2016
- Average well productivity in initial 2 years has risen but longer term performance dropped → faster decline rate & smaller ultimate return per well.
  - completion techniques tend to produce the same oil but faster
  - more wells are completed in basins that display faster declines (especially compared with the Bakken)



Source; Enno Peters
http://oilpro.com/post/27132/visualizing-us-shale-oil-production-until-may-2016?utm_source=DailyNewsletter&utm_medium=email&utm_campaign=newsletter&utm_term=2016-09-06&utm_content=Article_4_txt

US Oil shale production projection

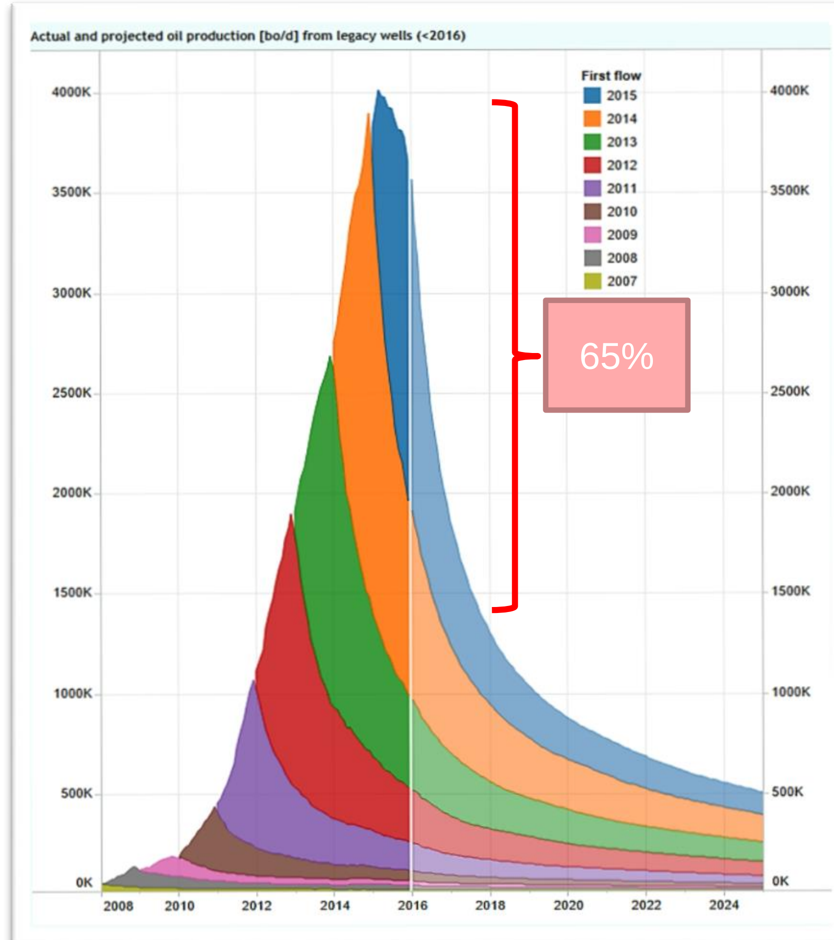
- Projected oil production from Jan 2016 of 46,408 horizontal wells that started production before 2016.

  Key assumption: future behaviour of wells will be similar to past behaviour

- Up to 65% of the output from all the horizontal wells onstream before 2016 may need to be replaced by end 2018

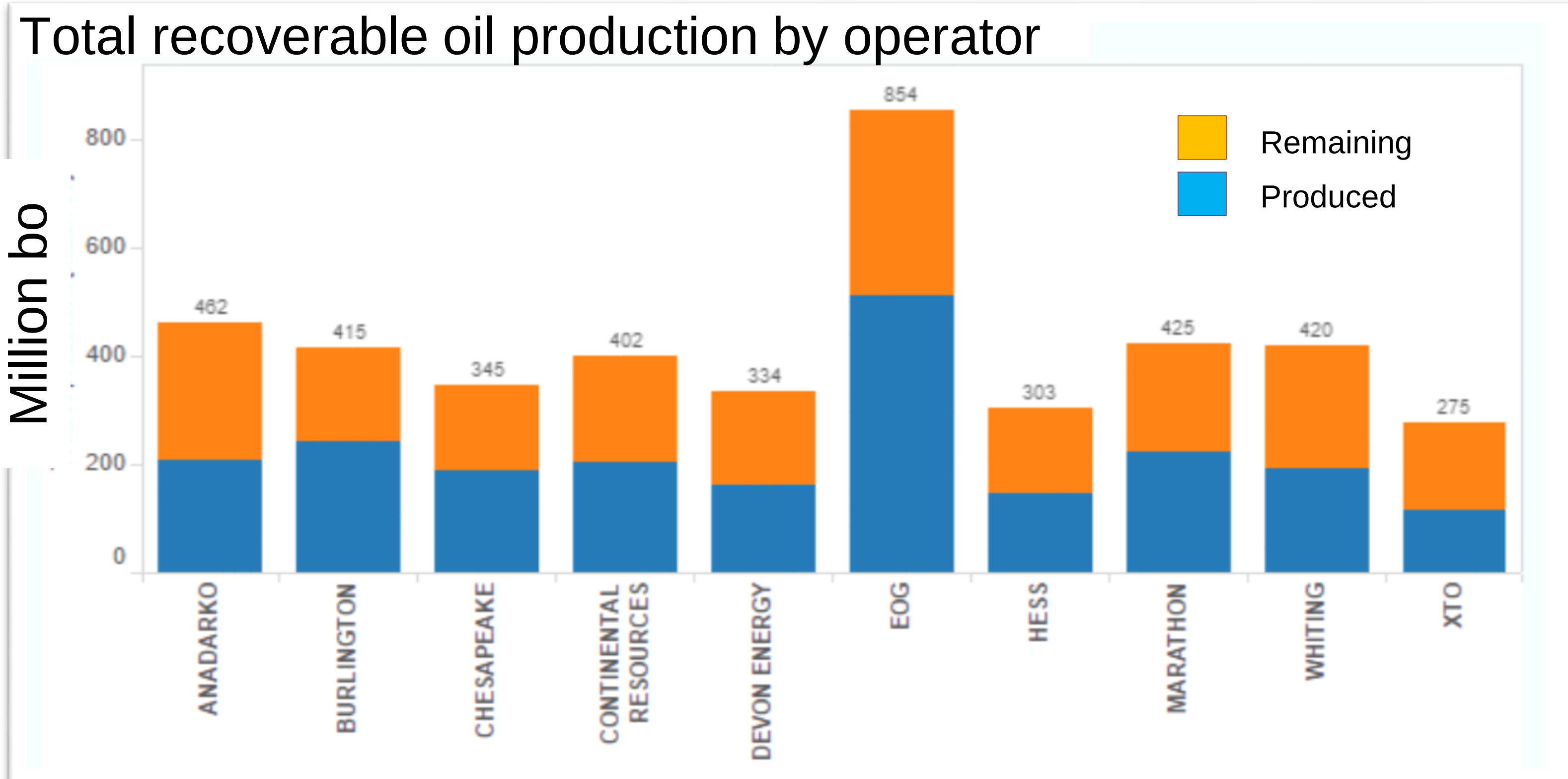
- This could mean 7,000 wells being completed per year simply to maintain production

- With increasing rates of depletion more and more wells will need to be completed simply to maintain current production rates



After: Enno Peters
http://oilpro.com/post/26336/projecting-us-shale-oil-production-interactive-visualization

Market over confident in N American unconventionals acting as swing producer



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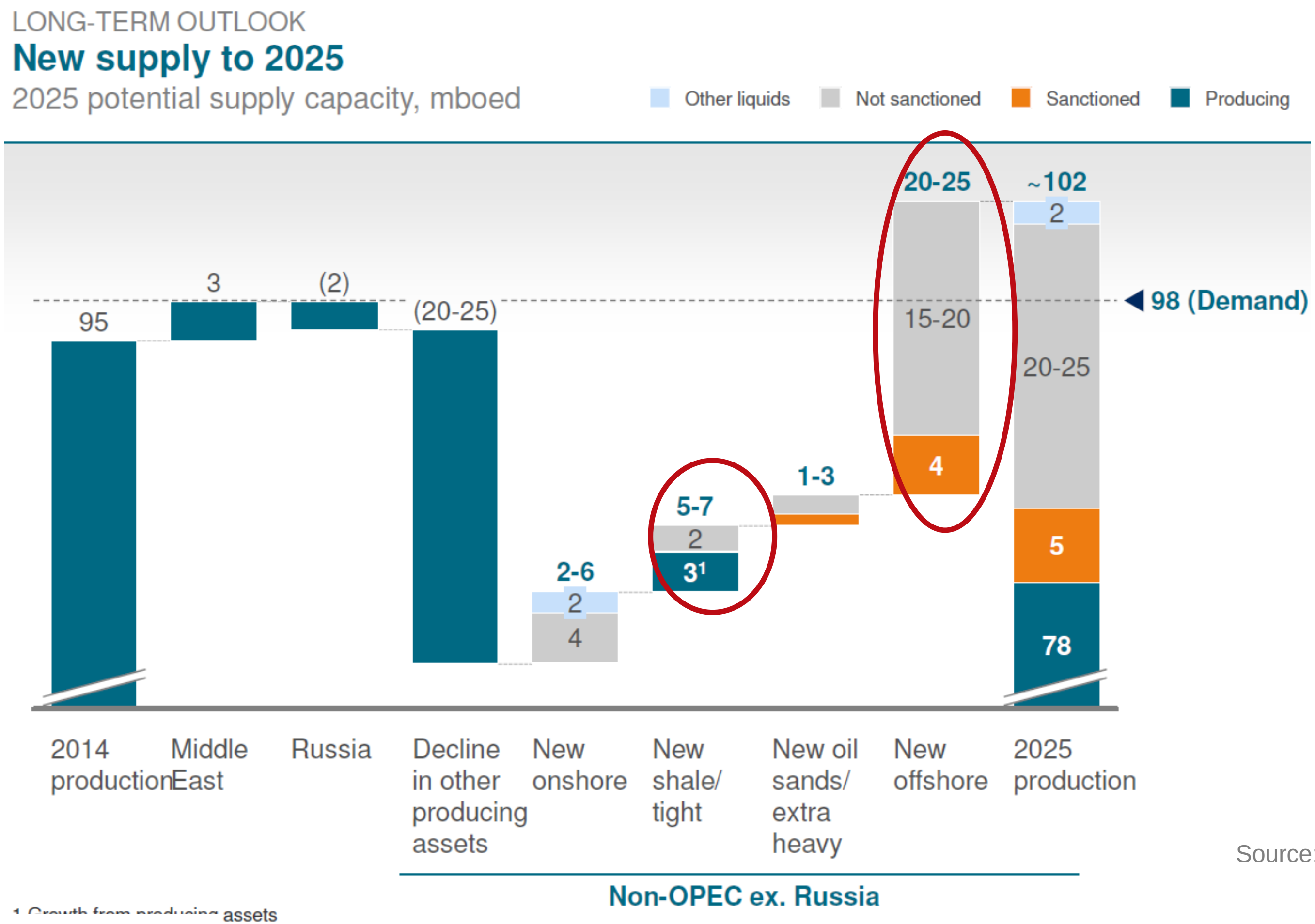
Market over confident in N American unconventionals acting as swing producer

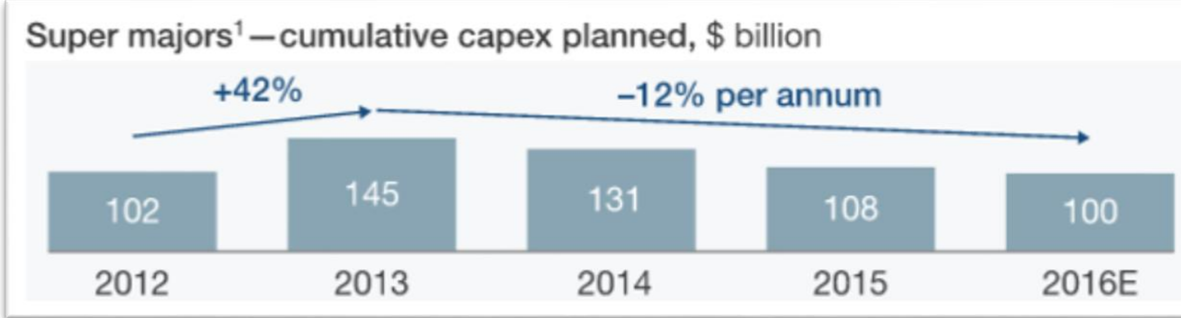
- Efficiencies in expenditure are due to discounting of services, drilling ‘sweet spots’ and stacking all but most efficient rigs and not just to technology
- Technology tends to produce the same oil faster
- ~25% of LTO production comes from companies with negative cash flow from sustaining current production with $50/bbl price environment (McKinsey)
- Reportedly, twice as much money invested in unconventionals than recovered; many of the players massively over leveraged, QE has ended and interest rates are rising
- Global default rate on speculative grade bonds continued to increase in July with oil and gas and mining companies leading the rise (Moody’s)
- Of 102 Moody’s-rated companies to have defaulted since Jan - Aug 2016, 34 were from the oil & gas sector, twice the number for entire 2015
    - ➢ Recovery rates for E&P bankruptcies in 2015 averaged only 21% compared to segment average of 59%
    - ➢ Reserve based loans on average recovered 8% (98% average)
    - ➢ High yield bonds recovered a dismal 6% (30% average)

New hydrocarbon supply to 2025 by resource type



Source: McKinsey

Capex cuts

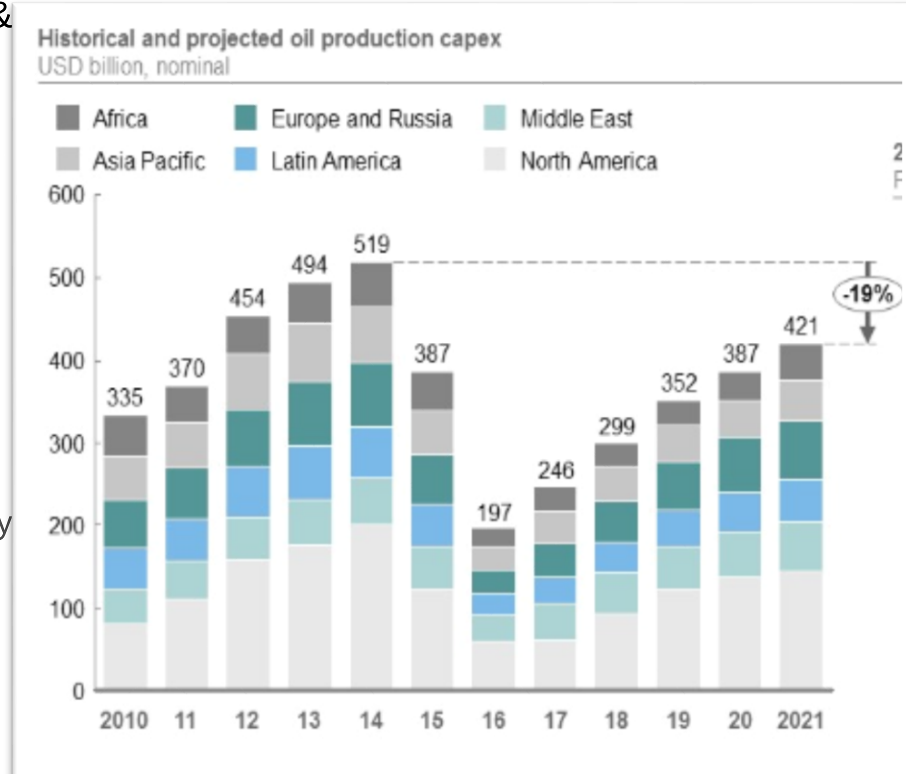


[1] Exxon, Shell, BP & Chevron

- Wood Mackenzie forecasts a cut of $1 trillion of spending on exploration and development from 2015 to 2020
- Global upstream capex cuts 22% or $740 billion
- Conventional exploration cut $260 billion
- US shale: Biggest cuts with 50% drop in CAPEX ($126 billion) between 2016 and 2017 and additional $200 billion to 2020; costs dropped by average 25% in 2015, expected to drop a further 10% in 2016
- North Sea cuts of 36% ($27.5 billion) in last two years and 140 fields shut in and decommissioned at a cost of $78 billion by 2020
- Petrobras has cut Capex by 25% between 2017 & 2021 ($98.4 bn to $74.1 bn); gross debt $124bn

Upstream Capex forecast

- McKinsey estimates global oil production Capex has declined 60% from $519bn to $197 bn between 2014 & 2016
  - 2/3 due to deferrals & cancellation, 1/3 service costs
- Capex projected to grow by 16% through 2021 driven by rebound in Americas, assuming $60-70/bbl crude
- Capex will remain nearly 20% below 2014 level at $420 bn due to continue pressure on service prices:
  - Middle East: fastest recovery, in particular Saudi Arabia, Iran & Iraq.
  - North America: 19% p.a. growth; rebound in LTO (80% total increase); oil sands & conventional spending growth relatively low.
  - Deepwater: capex in Africa and Latin America to reach 2014 levels by 2021;
  - Angola and Nigeria capex to double to USD8 billion
  - Mexico will grow by 25% from very small base.
  - Brazil will grow by 25% due to Petrobras cash constraints and serious FPSO delays in pre-salt projects



[1] Includes capital spending in oil development and production, both greenfield and brownfield. Excludes exploration spending

Source: McKinsey Energy Insight's & Rystad Energy

Exploration failure and oil price spike

- 2015 discoveries: 2.7 bn bbls equivalent to 10% of annual average since 1960
- One of worst years for 65 years and 2016 should be even worse with only 736 mn bbl discovered in first seven months of 2016 (Wood Mackenzie)
- Oil industry incapable of replacing oil produced with only one barrel discovered for every 20 produced (Rystad Energy)
- The situation is aggravated by an inelastic response to deep water costs due to long rig contracts
- 2016 supply surplus of <1 mb/d forecast to become of 800,000 b/d supply deficit in 2017 (BoA)
- Other analysts forecast a 4 mb/d shortfall within the 2018 to 20 period.
- Drawing down the massive global stockpiles will buffer the shortfall temporarily but it is inevitable that prices will respond: the question is how much? how quickly?
- The situation is exacerbated by postponed and cancelled development projects and the lag between FID and first oil, especially with large deep water developments.

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Strategy of a successful independent

Apache
EXPLORING WHAT'S POSSIBLE

POSITIONING APACHE FOR THE UPCYCLE

Steps Taken Through the Downturn

Deliberate Defensive Actions	✓ Completed strategic portfolio review, closed asset sales and significantly deleveraged ✓ Responded quickly and aggressively to the commodity downturn by reducing capital, overhead and operating costs ✓ Aligned activity levels with lower price environment ✓ Preserved relatively stable production volumes in high-margin areas
Positioning for the Long Term	✓ Redirecting capital to onshore North American growth assets ✓ Allocated a high percentage of 2016 capital to strategic testing; expanded and de-risked inventory ✓ Centralized and integrated the capital allocation process ✓ Avoided bottom-of-the-cycle equity issuance and maintained dividend
Capitalizing on the Cycle	✓ Leveraged innovations of the technical teams to organically capture a major new resource play at a low entry cost

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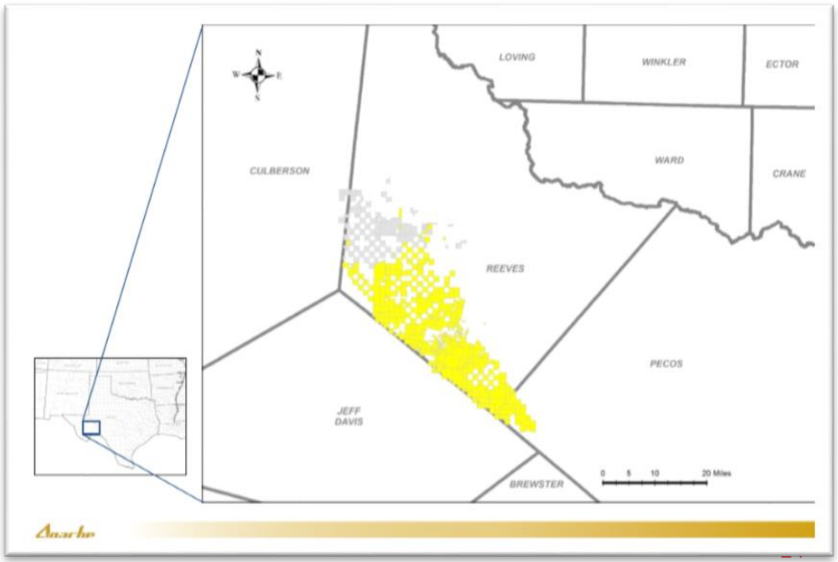
Apache's reward for contrarian thinking

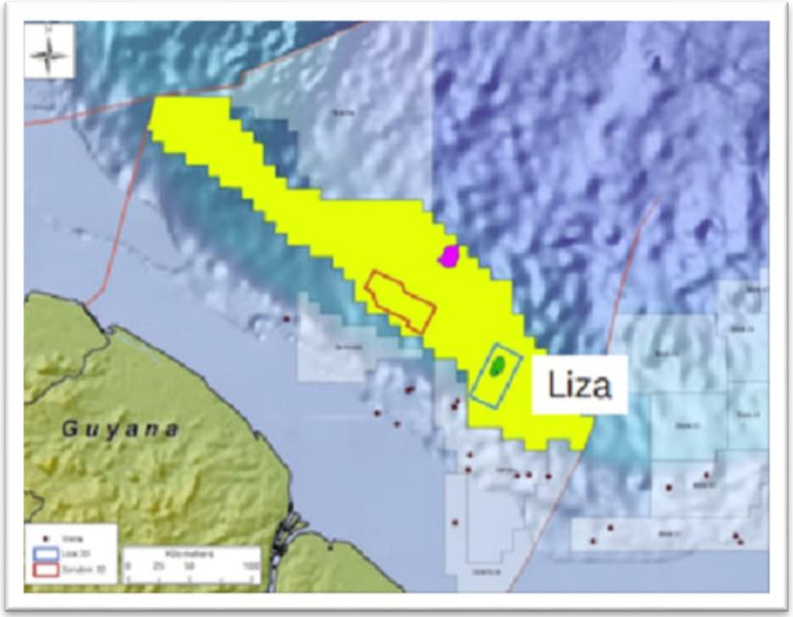
- Apache announces major discovery in West Texas.
- Main play: estimates 75 Tcf rich gas & 3bn bo in place
- "While other companies have focused on acquisitions during the downturn, we took a contrarian approach and focused on organic growth opportunities," (John J. Christmann IV, CEO & president)
- Apache increased 2016 budget, from $1.8 billion to $2 billion, with a dozen or so other shale producers, while weaker competitors fall into bankruptcy
- Main play can support a 6-rig program for over 20; 3,000 future drilling locations identified

Apache
EXPLORING WHAT'S POSSIBLE



Exxon is still an exploration company

- ExxonMobil makes a "world-class oil and gas discovery" with potential recoverable reserves of up to 1.4 bn boe
- Twice the size of the previous estimate, making it potentially worth about $70 billion based on current prices.
- The Liza field lies in 1,750m of water 193 km off the coast of Guyana



Project overrun common in mega-field development projects

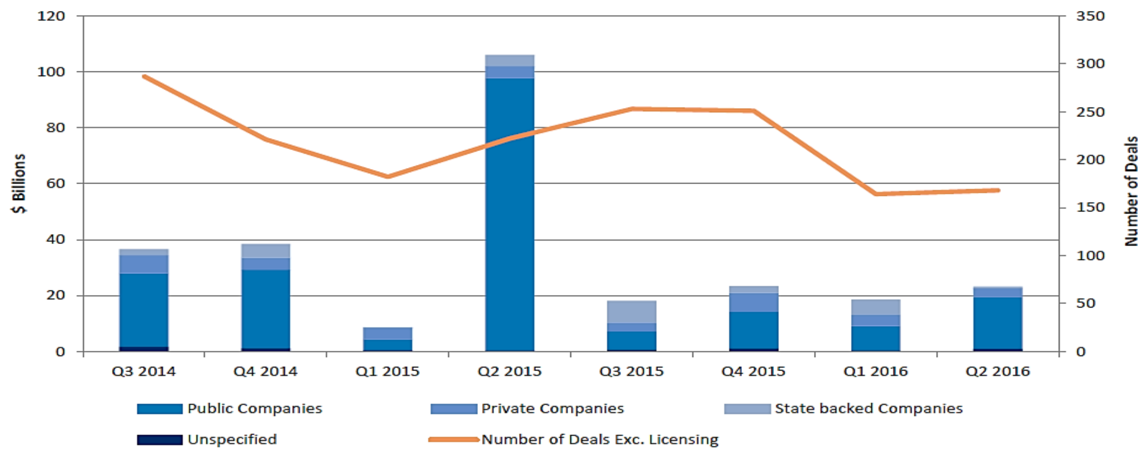
- First discovered in 2000
- Onstream in 2013, eight years late.
- Immediately shut in due to corrosion of pipelines
- Finally onstream in October 2016
- Output by mid-2017 between 100,000 b/d (Kazak gov't) and 360,000 b/d (optr Eni)
- Represents current output of Libya

Major Kashagan oil export routes

On the brink of industry consolidation

- Sellers beginning to lower valuation expectations (Wood Mackenzie)
- Should the recovery follow previous major collapses, M&A should kick off once crude oil prices are perceived to have reached a floor on which they will remain steady and eventually rise. We are probably entering that phase in Q4 2016
- When the oil price recovers there is a risk that investment will initially be in “drilling for oil on Wall Street” and not in developing new major fields, placing further pressure on future supply

Upstream total deal value and deal count by quarter



Source: Evaluate Data

On the brink of industry consolidation

- **Shell**: alleviating rising debt following the $35bn BG acquisition
  - Debt-to-equity ratio nearing declared ceiling of 30% but will not make “fire-sales”
  - Targeting $30bn from asset disposals by end-2018,
  - $6-8 bn in 2016 made up of 17 potential disposals ($3.6bn so far closed, mainly downstream)
  - 10% of upstream production is earmarked for sale including five to ten country exits.
- **Total**: $10bn of disposals by end-2017, mainly mid-stream pipeline infrastructure and downstream, including Atotech chemicals subsidiary for around $3bn
- **Eni**: seeking to dispose of $7bn in assets, including farming down offshore gas development projects in Mozambique and Egypt, with rumours linking Exxon to the Mozambique deal.
- **Repsol**: 5-year strategic plan includes the sale of $6.89 bn of non-core assets and a 38% cut in CAPEX by 2020. It will be deferring development projects, scaling back exploration and squeezing supplier costs. Recently reported to be considering Gas Natural Fenosa sale worth around $2bn
- **Petrobras**: finalising $6bn sale of majority stake in Nova Transportadora do Sudeste, a gas distribution subsidiary. 2016 divestment total to US$9.9 billion and gearing lowered to 52%. Targeting further $4.7 bn of divestments in 2016

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Top 10 upstream M&A deals during Q2 2016

Acquirer	Seller	Brief Description	Total Acquisition Cost ($ million)
Range Resources Corp.	Memorial Resource Development Corp	Range Resources corp acquires Memorial Resource Development Corp.	4,400
Oil Search Ltd.	InterOil Corporation	Oil Search Ltd. acquires InterOil Corporation	2,254
EnerVest Ltd.	BlackBrush Oil and Gas, L.P. & GulfTex	EnerVest acquires Eagle Ford assets from three entities in a concentrated part of Karnes County, Texas	1,300
Det Norske	BP Norge AS	Det Norske acquires BP Norge AS to create a leading independent E&P company on the Norwegian Continental Shelf	1,215
Total S.A.	Oil Search Ltd	Total signs an MOU with Oil Search to acquire a 60% of the interest acquired from InterOil in PRL 15 and 62% of InterOil's exploration assets	1,200
Pampa Energia S.A.	Petrobras Argentina	Pampa Energia SA acquires a 67.19% interest in Petrobras Argentina SA from Petrobras	892
Marathon Oil Corp.	PayRock Energy Holdings, LLC	Marathon Oil Corp acquires PayRock Energy Holdings, LLC	888
Merit Energy Co.	Marathon Oil Corp.	Marathon Oil Corp. disposes of all of its Wyoming upstream and midstream assets	870
Teine Energy Ltd.	Penn West Petroleum Ltd.	Teine Energy Ltd. acquires Penn West Petroleum's Saskatchewan assets, which include assets in the Dodsland Viking area	747
Suncor Energy Inc.	Syncrude Canada Ltd. (stake acquired from Murphy Oil)	Suncor Energy Inc. acquires Murphy's 5% non-operated working interest in Syncrude Canada Ltd.	720

Source: Evaluate Energy M&A and Deal Analytics Database

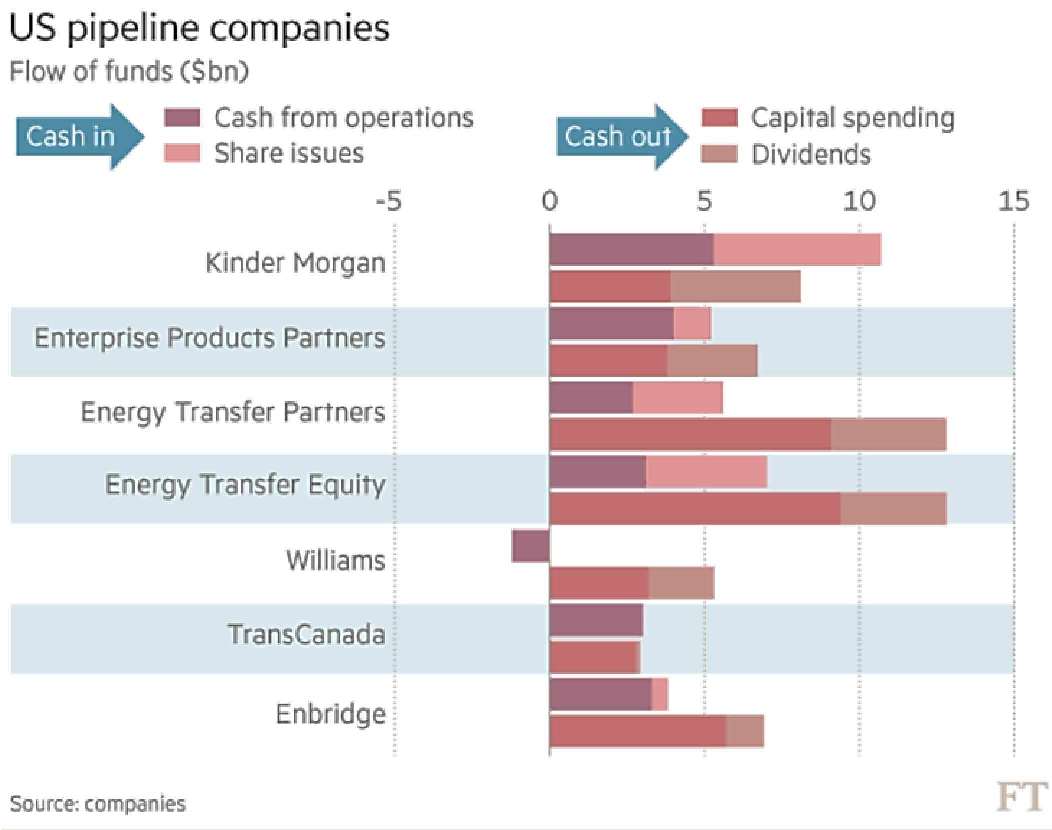
The buyers

- **Private equity**: Neptune (funded by Carlyle Group and CVC Capital Partners) $5bn target investment in North Sea, North Africa and SE Asia. Private equity considered likely buyers of North Sea assets.
- **Siccar Point** (owned by **Blackstone** and **Bluewater Energy**)
  - Purchased 8.9% interest from JX Nippon in Mariner heavy oil field, Central North Sea. Production start-up mid-2018, delayed from 2016
- **Oil Shale**: $30.4bn spent on M&A in US E&P so far in 2016, nearly half in Permian Basin, the lowest cost, large oil shale region of US

The buyers

- **ExxonMobil**:
  - Purchased InterOil for $3.6bn to acquire a large onshore gas development asset in Papua New Guinea
  - Rumoured farming into Eni's Mozambique gas assets
  - Has been expected to purchase Anadarko for a number of years
- **BP**: signs second Chinese shale gas PSC with CNPC
- **Woodside:** acquires Scarborough stake in NW Shelf from BHP for up to $400m

The buyers



- **Enbridge:** acquires Spectra in $28bn creating largest North American pipeline company. Expected to generate cost savings of $415m & $200m in tax benefits per year

Share price performance
September 2015

MAJORS	Share Price Performance (% change)			
	1 week	1 month	2015 YTD	1 year
Eni	0.3%	-8.4%	-0.4%	-26.2%
Total	-3.0%	-10.5%	-6.0%	-22.8%
ExxonMobil	-3.5%	-6.1%	-21.6%	-26.3%
Statoil	-4.6%	-11.4%	-7.8%	-33.1%
Chevron	-4.7%	-10.0%	-31.7%	-39.5%
Shell	-5.6%	-12.7%	-27.8%	-37.0%
BP	-6.3%	-13.4%	-17.8%	-25.7%

INTERNATIONAL INDEPENDENTS	Share Price Performance (% change)			
	1 week	1 month	2015 YTD	1 year
Oil Search	-0.1%	-6.1%	-14.3%	-30.2%
LUKoil	-2.5%	-2.0%	10.5%	15.3%
OMV	-2.7%	-5.6%	1.4%	-24.5%
BG	-3.7%	-12.0%	10.7%	-22.3%
Kosmos Energy	-4.2%	-4.9%	-21.7%	-33.1%
Woodside	-4.6%	-12.6%	-19.5%	-28.9%
Lundin	-6.2%	-14.8%	-4.6%	-16.0%
Cairn	-7.3%	-12.9%	-21.2%	-20.2%
Inpex	-7.5%	-12.6%	-15.5%	-25.6%
Pacific E&P	-9.0%	11.0%	-43.7%	-81.5%
Origin Energy	-10.0%	-30.2%	-34.2%	-51.4%
Tullow Oil	-10.2%	-17.9%	-51.6%	-72.4%
Premier Oil	-10.3%	-25.8%	-43.5%	-72.8%
Repsol	-10.7%	-21.7%	-21.9%	-35.5%
Santos	-17.4%	-38.7%	-46.9%	-71.1%

INTERNATIONAL NORTH AMERICANS	Share Price Performance (% change)			
	1 week	1 month	2015 YTD	1 year
ConocoPhillips	0.8%	-5.4%	-31.7%	-40.9%
Marathon	-1.7%	-20.2%	-42.2%	-59.6%
Hess	-1.9%	-2.1%	-23.7%	-43.7%
Occidental	-3.0%	0.9%	-13.6%	-29.1%
Anadarko	-3.7%	-8.0%	-17.2%	-37.0%
Murphy Oil	-4.7%	-11.3%	-43.3%	-52.0%
Apache	-5.3%	-6.3%	-32.2%	-57.0%
Noble Energy	-11.0%	-9.6%	-35.2%	-56.7%

FOCUSED NORTH AMERICANS	Share Price Performance (% change)			
	1 week	1 month	2015 YTD	1 year
Newfield	5.1%	1.7%	22.5%	-20.4%
California Resources	-0.3%	-18.8%	-37.9%	-
Continental Resources	-0.5%	-4.8%	-19.9%	-60.6%
EOG	-0.5%	0.2%	-16.5%	-26.5%
Chesapeake	-1.6%	-9.1%	-62.9%	-72.1%
Pioneer	-2.4%	-5.2%	-20.5%	-40.8%
Encana	-3.5%	-6.7%	-50.8%	-69.8%
Southwestern Energy	-4.0%	-10.6%	-43.7%	-61.0%
Range Resources	-4.8%	-3.7%	-31.7%	-50.8%
Devon	-4.9%	-17.6%	-34.4%	-44.5%
Denbury	-14.4%	-0.6%	-56.2%	-78.5%

NATIONAL OIL COMPANIES	Share Price Performance (% change)			
	1 week	1 month	2015 YTD	1 year
YPF	5.9%	1.4%	-3.2%	-30.8%
Rosneft	-0.8%	4.8%	24.8%	3.3%
Gazprom	-2.6%	0.6%	9.6%	3.4%
Ecopetrol	-2.9%	-5.1%	-27.9%	-55.4%
CNOOC	-4.8%	-6.7%	-15.7%	-43.4%
Petrobras	-5.4%	-16.4%	-15.1%	-62.7%
Sinopec Corp	-7.1%	-16.6%	-23.0%	-40.9%
ONGC	-7.4%	-15.3%	-33.9%	-48.4%
PTTEP	-9.3%	-17.2%	-34.4%	-55.5%
PetroChina	-10.5%	-21.1%	-32.4%	-50.0%

Source: Wood Mackenzie Corporate Dashboard 4 Sep 2015

BONMONT energy

Share price performance September 2016

MAJORS	Share Price Performance (% change)			
	1 week	1 month	2016 YTD	1 year
Total	1.3%	6.1%	6.6%	9.8%
Eni	0.8%	4.5%	-0.6%	-5.1%
ExxonMobil	0.2%	0.4%	12.1%	19.4%
Chevron	-0.4%	1.3%	12.2%	29.3%
Statoil	-0.5%	1.1%	6.7%	7.5%
BP	-0.9%	4.1%	21.8%	24.8%
Shell	-1.0%	2.0%	26.6%	19.0%

FOCUSED US	Share Price Performance (% change)			
	1 week	1 month	2016 YTD	1 year
Denbury	3.9%	20.3%	58.4%	-13.7%
Chesapeake	3.1%	34.7%	46.7%	-10.6%
Pioneer	2.3%	15.1%	46.5%	55.1%
Range Resources	2.1%	4.0%	64.4%	6.3%
Continental Resources	2.0%	17.4%	118.8%	65.6%
California Resources	1.9%	14.1%	-55.3%	-71.7%
Newfield	1.7%	8.1%	37.9%	36.8%
Devon	-0.4%	22.6%	38.3%	8.7%
Encana	-1.3%	25.4%	92.3%	43.3%
EOG	-1.4%	11.3%	25.6%	14.4%
Southwestern Energy	-3.0%	1.2%	95.9%	-11.1%

FOCUSED CANADIANS	Share Price Performance (% change)			
	1 week	1 month	2016 YTD	1 year
Cenovus	-0.2%	7.4%	10.1%	7.5%
CNRL	-0.2%	6.6%	38.7%	46.0%
Husky	-0.8%	7.9%	14.5%	-24.9%

ASIAN NOCs	Share Price Performance (% change)			
	1 week	1 month	2016 YTD	1 year
ONGC	0.1%	8.0%	-1.2%	6.0%
Sinopec Corp	0.0%	0.5%	20.1%	12.9%
PetroChina	-1.5%	-2.4%	2.0%	-14.1%
PTTEP	-1.5%	0.6%	38.9%	7.4%
CNOOC	-2.1%	1.7%	16.7%	6.6%

Source: Wood Mackenzie Corporate Dashboard 2 Sep 2016

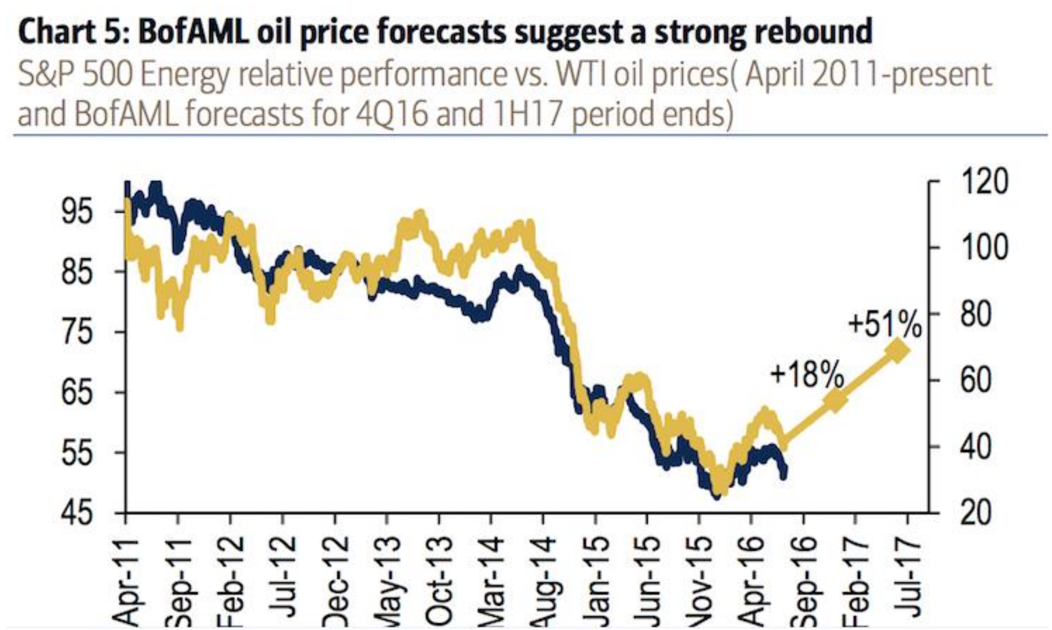
LATIN AMERICAN	Share Price Performance (% change)			
	1 week	1 month	2016 YTD	1 year
Petrobras	8.1%	19.5%	102.5%	53.9%
YPF	0.5%	-4.5%	17.7%	-12.8%
Ecopetrol	0.0%	9.5%	18.9%	-13.2%

RUSSIAN	Share Price Performance (% change)			
	1 week	1 month	2016 YTD	1 year
Rosneft	-0.2%	10.3%	38.2%	40.5%
Gazprom	-0.5%	0.8%	-0.4%	-4.9%
LUKoil	-0.7%	8.0%	28.0%	23.1%

DIVERSIFIED INDEPENDENTS	Share Price Performance (% change)			
	1 week	1 month	2016 YTD	1 year
Repsol	3.6%	15.0%	26.9%	11.1%
Anadarko	2.2%	9.4%	16.3%	-18.8%
Occidental	0.4%	6.0%	14.7%	9.1%
Apache	-2.0%	2.7%	15.3%	18.7%
Marathon	-2.9%	20.1%	23.0%	-8.2%
Noble Energy	-3.1%	-0.6%	4.0%	12.9%
ConocoPhillips	-3.3%	2.8%	-12.4%	-15.1%
Hess	-6.3%	2.6%	9.5%	-7.7%
Murphy Oil	-7.1%	4.2%	19.4%	-7.9%

FOCUSED INTERNATIONALS	Share Price Performance (% change)			
	1 week	1 month	2016 YTD	1 year
Kosmos Energy	3.4%	16.0%	18.3%	-8.6%
Inpex	1.5%	13.1%	-26.7%	-24.2%
OMV	1.0%	9.1%	-2.6%	12.9%
Cairn	0.4%	11.9%	21.8%	35.0%
Lundin	0.2%	9.8%	24.6%	39.6%
Tullow Oil	-2.1%	23.1%	36.6%	10.2%
Oil Search	-3.2%	-6.4%	-0.1%	0.6%
Santos	-4.0%	1.7%	16.8%	3.9%
Woodside	-5.4%	6.2%	-2.2%	-9.7%
Premier Oil	-6.8%	25.7%	41.2%	-30.9%

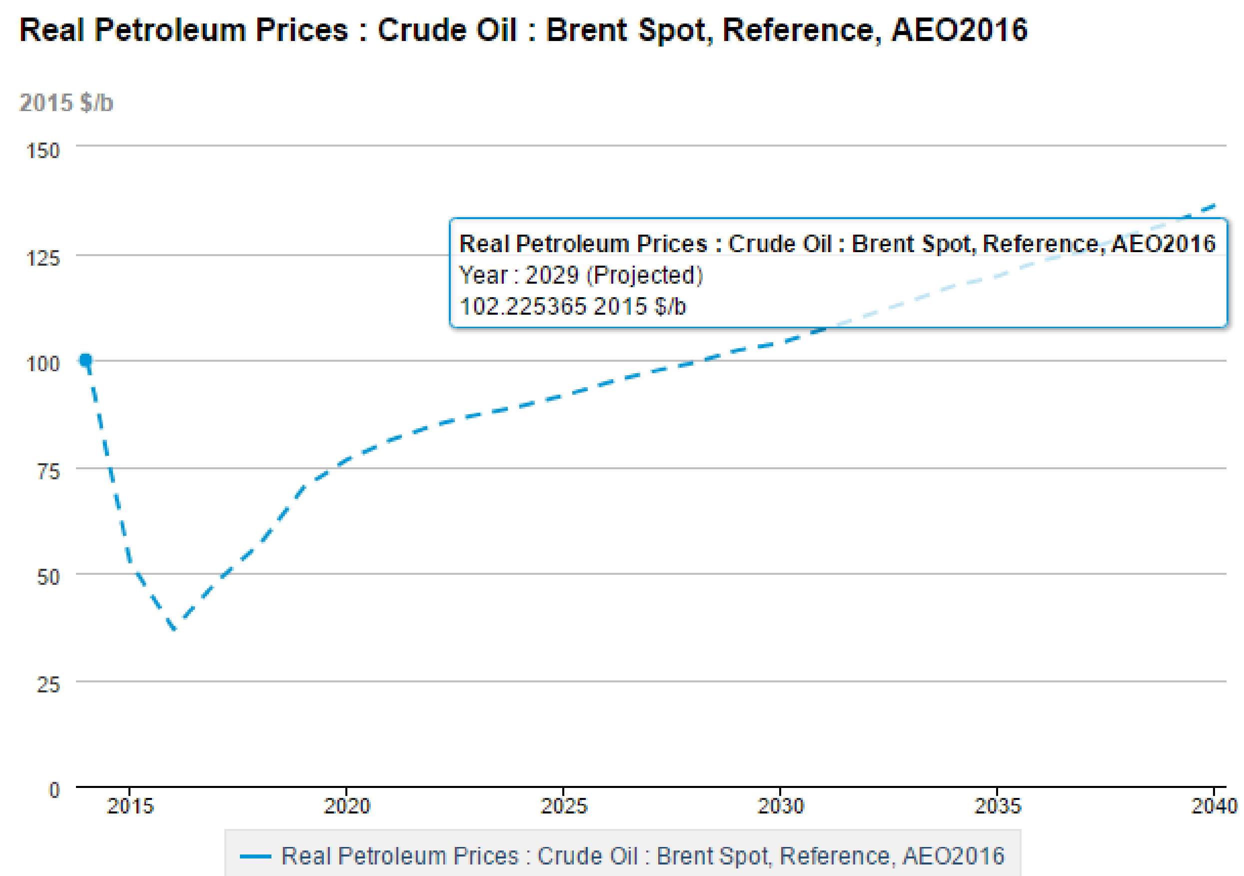
Medium term recovery? Place your bets!



Goldman Sachs crushes hopes of an oil price recovery

Crude will continue to trade within the $45-50 band over next 12 months.

EIA reference case for Brent Crude to 2040



Annual Energy Outlook 2016 (AEO2016)

Comparisons of oil price projections

Table CP2. Comparisons of oil price projections, 2025, 2030, 2035, and 2040 (2015 dollars per barrel)

	2015		Projections 2025		Projections 2030		Projections 2035		Projections 2040	
	WTI	Brent	WTI	Brent	WTI	Brent	WTI	Brent	WTI	Brent
AEO2016 (Reference case)	48.67	52.32	85.41	91.59	97.06	104.00	112.45	119.64	129.11	136.21
AEO2016 (Low Oil Price case)	48.67	52.32	36.57	43.09	42.38	48.94	53.02	59.23	67.00	72.99
AEO2016 (High Oil Price case)	48.67	52.32	180.49	187.69	197.83	206.75	211.77	220.71	222.27	229.91
AEO2015 (Reference case)	54.58	57.58	88.02	94.34	102.98	109.37	120.34	126.51	140.45	146.26
ArrowHead Economics	58.00	58.00	66.00	66.00	68.00	69.00	71.00	73.00	75.00	77.00
Strategic Energy & Economic Research (SEER)[a]	--	--	--	40.40	--	40.40	--	43.44	--	45.46
Energy Security Analysis (ESAI)	--	52.45	--	80.00	--	80.00	--	87.10	--	94.10
IHS Global Insight (GI)[b]	48.83	-	95.41	--	96.26	-	95.62	--	95.15	--
ICF[a]	--	--	--	75.61	--	75.76	--	75.76	--	--
Energy Ventures Analysis (EVA)[a]	--	--	--	64.59	--	65.84	--	67.09	--	--
IEA (Current Policies Scenario)[c]	--	--	--	--	--	130.00	--	--	--	150.00
OPEC Reference Basket[d]	--	--	--	--	--	88.41	--	--	--	95.00

-- = No data reported.
[a]Inflated from 2014 to 2015 dollars using GDP chain-type price index from the AEO2016 Reference case.
[b]Deflated from nominal dollars using IHS Global Insight deflator.
[c]IEA mixed crude oil import prices are based on OECD member country reporting.
[d]OPEC uses a basket of crudes reflecting the mix of the crude markers of its member exporting countries.

Source. EIA Annual Energy Outlook 2016 (AEO2016)

Business Trends in the International Upstream Sector in the Current Oil Price Environment - 2016 Update

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Thank you