Oil and Gas Restructurings: Unique and Complex Capital Structures and Challenges

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Oil and Gas Restructurings: Unique and Complex Capital Structures and Challenges

McKinsey Recovery & Transformation Services

American Bankruptcy Institute
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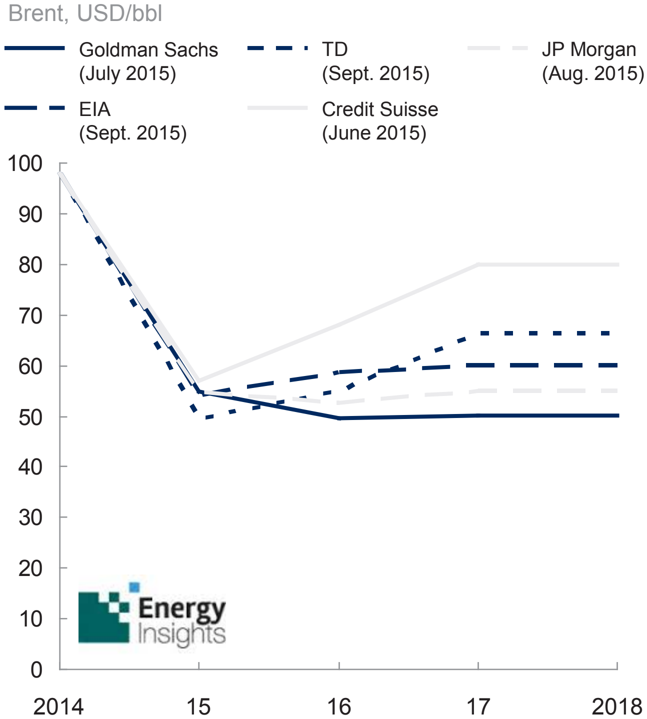
There is a broad range of expectations for crude oil price going forward

Industry oil price forecasts in 3Q 2015

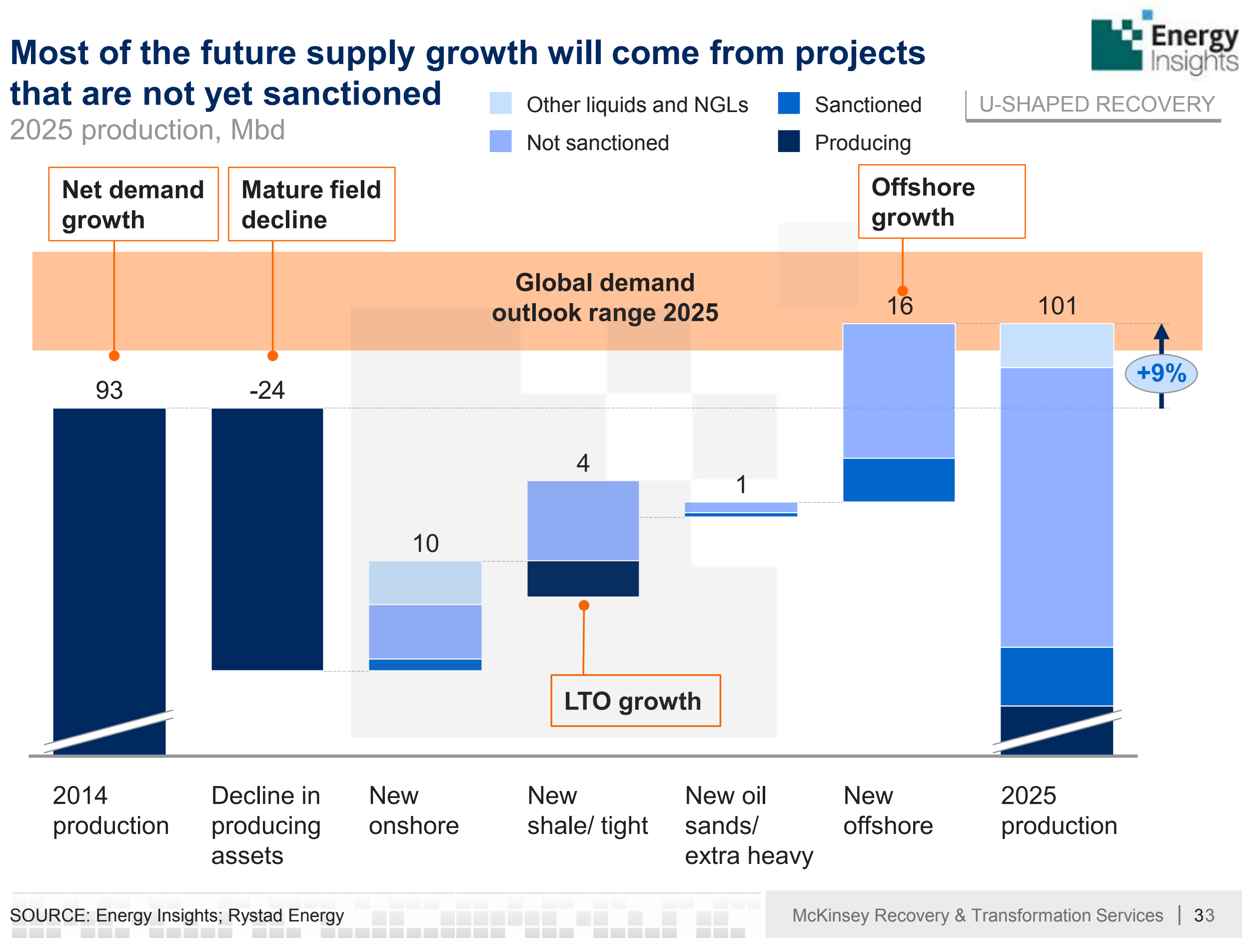


"Near-term downside risks to oil prices could come from **reduced crude demand in Asia**, **deteriorating Atlantic Basin crude prospects** and **potential inventory liquidation by the National Iranian Oil Company.**" JP Morgan, Aug. 2015

"**long-term oil prices of $50 per barrel are not economically viable**... ...a free oil market will eventually produce a relatively stable price based on supply and demand conditions, but until the market gets to that point, investors should expect 'volatility with shorter and scarier price-cycles." Credit Suisse, June 2015

"...efficiency is improving in all the mature regions and productivity is sharply improving in almost all the shale places in the U.S... ...we think [there] will be a multi (year) deflationary trend in oil. **If we look to the end of the decade, we see oil at $50, as this productivity continues and as costs keep coming down**." Goldman Sachs, July 2015

SOURCE: Press search; bank reports


Most of the future supply growth will come from projects that are not yet sanctioned
2025 production, Mbd
Energy Insights
U-SHAPED RECOVERY
Other liquids and NGLs
Sanctioned
Not sanctioned
Producing
Net demand growth
Mature field decline
Offshore growth
Global demand outlook range 2025
LTO growth
93
-24
10
4
1
16
101
+9%
2014 production
Decline in producing assets
New onshore
New shale/ tight
New oil sands/ extra heavy
New offshore
2025 production
SOURCE: Energy Insights; Rystad Energy
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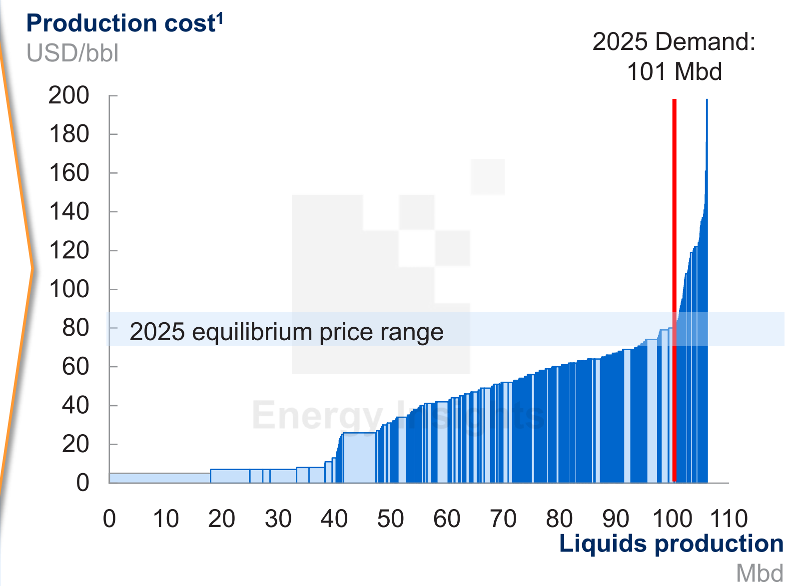
In the long-term, we can see a crude price equilibrium around $70-85/bbl, assuming OPEC maintains a ~40% market share

Key drivers

- The market clears at USD 70-85/bbl in the long-term as supply-demand balances through
  1. Dampened long-term demand growth
  2. Continued LTO growth
  3. Delays and cancellations in oil sands and deepwater projects
  4. OPEC maintains market share above 40% and modulates production to keep the prices in check
  5. In long-term, the tail of the cost curve is very steep therefore small changes in demand can cause big price shifts

Global liquids cost curve[1] in U-shaped Recovery, 2025



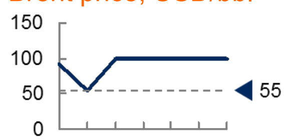
1 Includes technical cost (capex, opex, exploration cost) and government take (taxes and royalties); cash cost for existing fields and full life cycle cost for new fields developments

SOURCE: Energy Insights; Rystad Energy

We continue to talk about the future prices by four cases

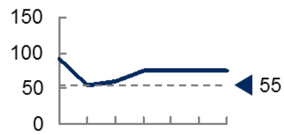
Scenarios | **What do you have to believe for this scenario**

V-shaped Recovery



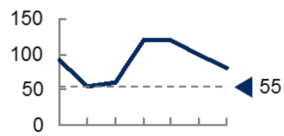
- Major supply disruptions in Venezuela/Russia/ Brazil due to economic turmoil or Middle East due to political instability

U-shaped Recovery



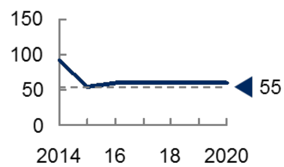
- Longer downturn cause delays to mega projects (e.g., Deepwater, oil sands) and slowdown in LTO
- OPEC production cut after signals of non-OPEC supply cuts, or movement in futures curve could result in faster price increase

Under-investment



- Under-investment in new projects during 2015-17 down cycle creates an under-supplied market in the mid term

Supply Abundance



- Technology disruption or large factor costs adjustments drive down breakeven cost for new production to $50-60/bbl levels
- OPEC members (Saudi, Iraq, Iran) fight for market share producing at max capacity

SOURCE: Energy Insights

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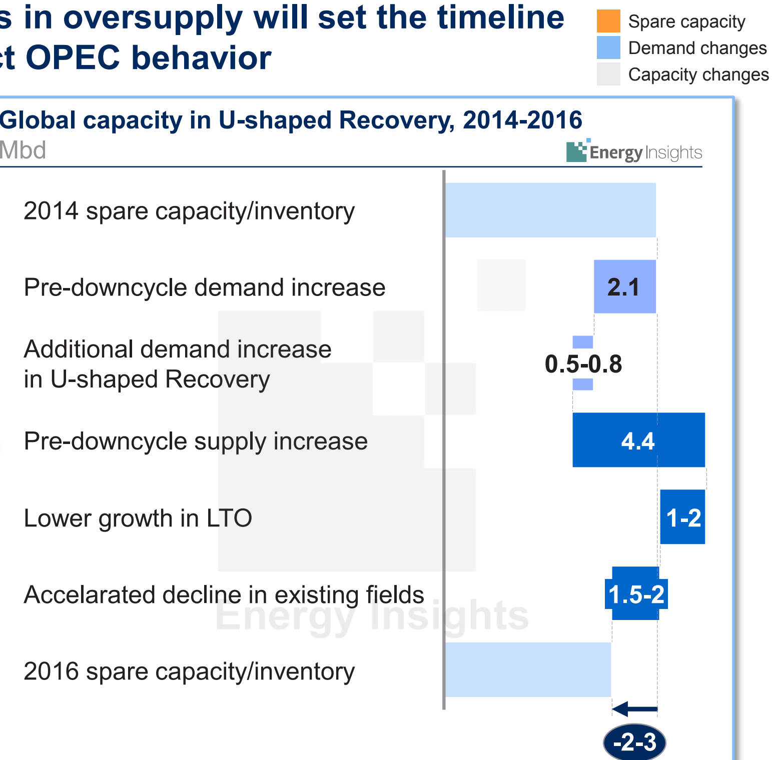
In the short-term, decreases in oversupply will set the timeline for price recovery and affect OPEC behavior

Key drivers

- A 2-3 Mbd decrease in oversupply could be seen over 2015-2016, driven by
  1. Increasing demand
  2. Change in new LTO capacity
  3. Decline of conventional production
- 4 OPEC can keep low prices until sufficient capacity has exited to maintain future spare capacity at a level where OPEC can regulate pricing (~3 Mbd in the long term)
- 5 In the very short term, prices could experience volatility due to multiple uncertainties

Global capacity in U-shaped Recovery, 2014-2016
Mbd



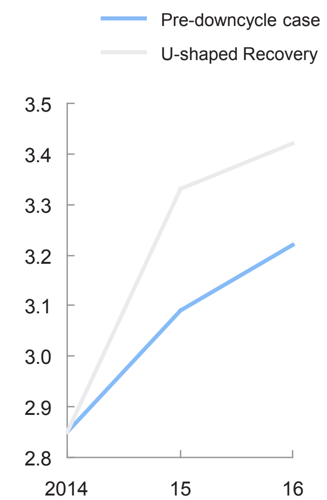
1 Incremental decline of 4% of the 2014 production for conventional onshore, conventional shelf, and heavy oil
2 LTO capacity originally expected to increase by 1.5 Mbd in 2015 and 1.1 Mbd in 2016

SOURCE: Energy Insights

1 In the short-term, low oil prices should create a near-term demand bump through 2016, driven by developing nations and OECD Europe

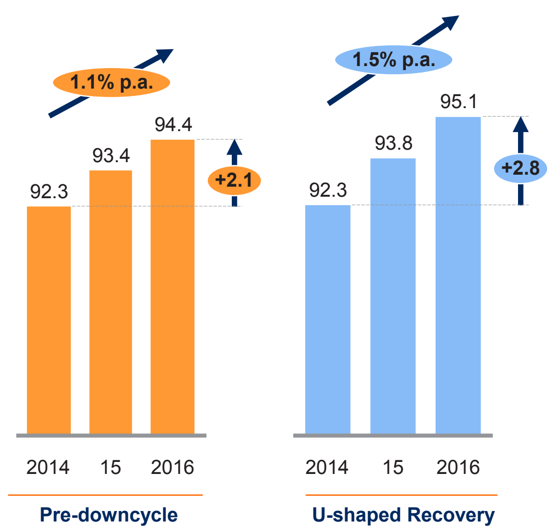
Global GDP is expected to get a boost from low oil prices…

Global GDP growth, %



…which will drive a short-term increase in oil consumption

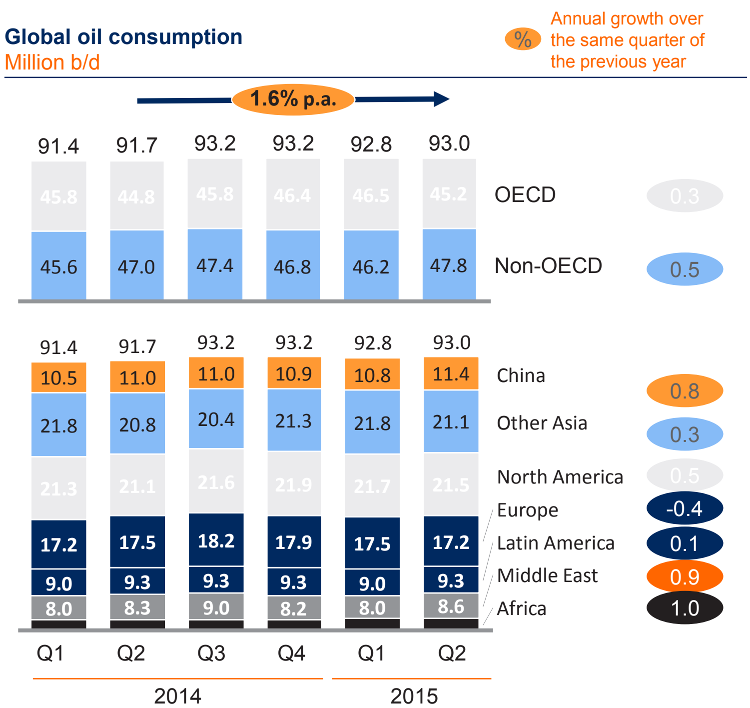
Global petroleum products demand, Mbd



- Higher demand in U-shaped Recovery due lower oil prices and stronger GDP growth in regions such as China, Brazil and Europe
- Subsidy reductions in key demand growth regions (i.e. India & ASEAN) are expected to taper short term growth as effective product prices to customers will remain largely unchanged
- Oil exporter regions such as Russia, West Africa and the Arab Gulf are heavily impacted on the downside as revenues decline

SOURCE: Energy Insights

1 Oil consumption grew by 1.3 Mbd in Q2 2015 compared to the same quarter in 2014, despite economic slowdown



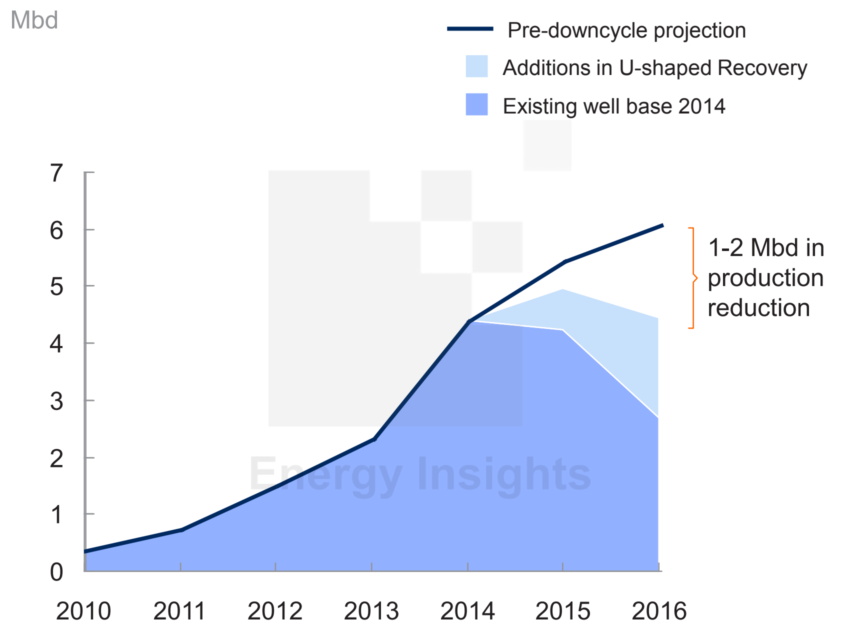
- Oil consumption has grown by 0.4% in the second quarter adding 0.3 Mbd driven primarily by Non-OECD countries
- Despite the slowdown in economic growth in the second half of 2014 and thus far in 2015, China continues to be the main driver of non-OECD consumption growth and it grew by 0.6Mbd compared to the previous quarter
- European oil demand declined by 0.3 Mbd over the previous quarter due to sluggish GDP growth and the Eurozone crisis
- IEA revised its oil demand expectations upwards for 2015 end-year from 1.1Mbd to 1.4Mbd in the last quarter. Energy Insights forecast for 1.5 Mbd stays unchanged for the year

SOURCE: Energy Information Administration; Energy Insights

2 North America LTO production is expected to decline in 2016, while in the pre-downcycle outlook it was growing to over 6 Mbd

U-SHAPED RECOVERY

US and Canada light tight oil production

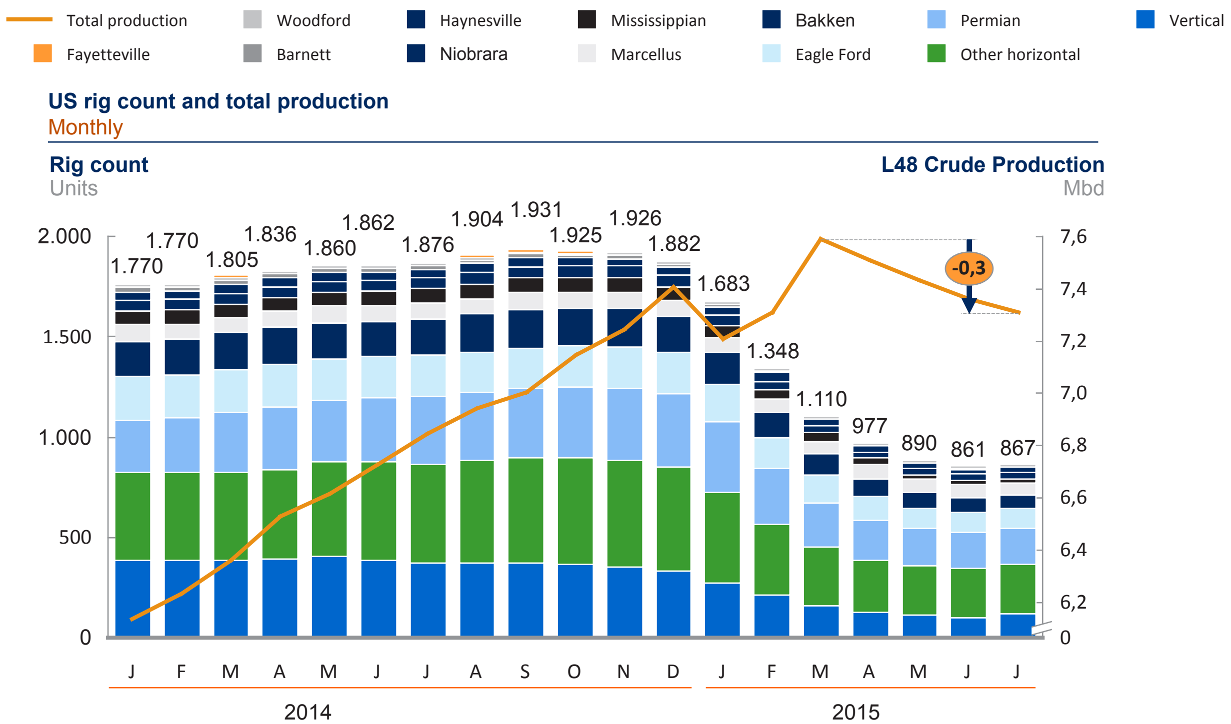


Despite the sharp decrease in number of rigs, LTO production is expected to grow in 2015 and decline slightly in 2016 due to:

- High-grading of activity (focus on more prolific basins)
- Increased rig efficiency
- Cost deflation
- Continued IP learning

SOURCE: Energy Insights

2 From a monthly perspective, we are already starting to see a decline in production for US L48 onshore

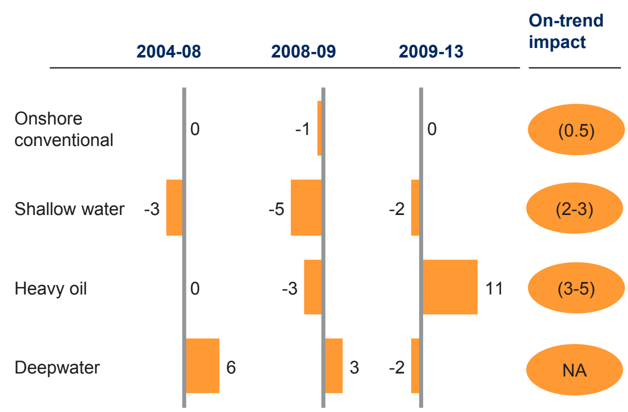


SOURCE: Energy Information Administration; Baker Hughes; Energy Insights

3 We will likely see accelerated production decline due to low reinvestment in existing fields, as happened in the 2009 downturn

Accelerated decline in existing fields during 2008-09 downturn

Excluding OPEC production cuts[1], annual growth rate, percent



Decline from existing fields could accelerate during low oil price periods due to lower investment in infield drilling, enhanced oil recovery (EOR), and rig workovers

- Although these minor projects have typically good economics, capex for new projects are committed to the market and companies tend to cut capex for existing fields first as it is discretionary

Russian oil output is expected to fall 8 percent in the next two years, according to a top Russian oil executive. "Everyone will reduce production because everyone is reducing drilling," Fedun [the VP of Lukoil] said. He added he expected drilling in Siberia to drop by as much as 15-20 percent.

Bloomberg, March 2015

Mexico oil production declined by 10.5% y-o-y as natural decline keeps is running ahead of new production coming on stream. Reportedly, Cantarell, Mexico's biggest field, witnessed decline of -30% y-o-y to just 240kbbl/d

Tudor Pickering Holt Energy, Jul 2015

1 Saudi Arabia, UAE and Kuwait cut their production intentionally to rebalance the market therefore are excluded from this calculation

SOURCE: Rystad; Energy Insights; Tudor Pickering Holt Energy; Press search

4 Major OPEC spare capacity holders have strong public finances and can sustain low oil prices for the next few years

ROUGH ESTIMATE

Financial outlook for selected OPEC members

Energy Insights

-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

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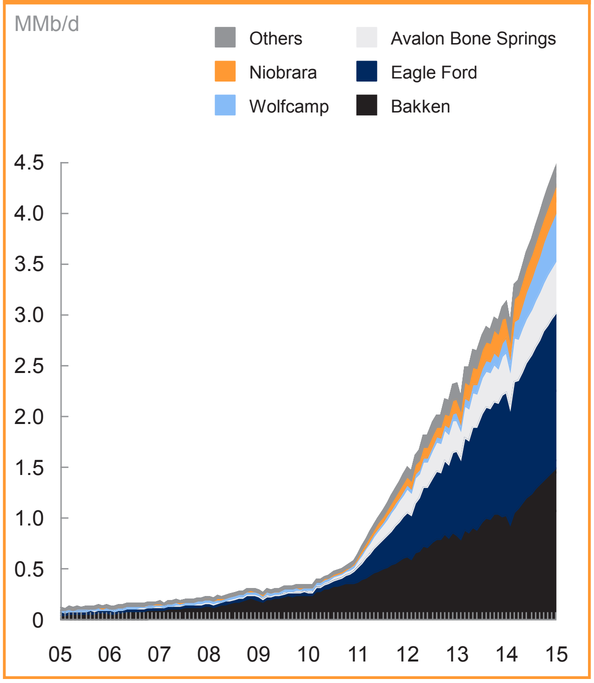
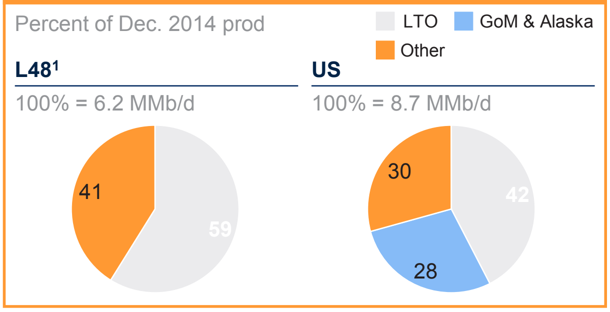
  – Short-term outlook
  – **North America deep dive**

Light tight oil (LTO) has grown by more than 50% per year since 2010 and now is over 40% of total US crude production

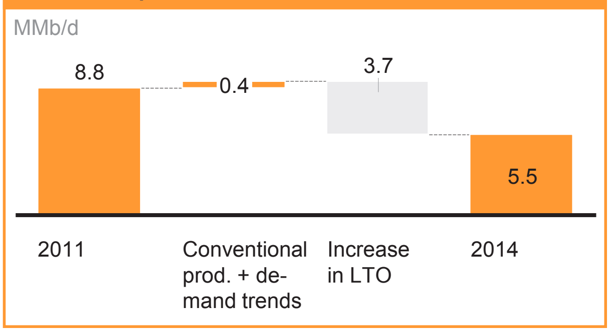
U.S. LTO production[1]



Proportion of US crude oil production



US crude imports



1 Includes light tight oil production in the Lower 48 states. Production is from oil-bearing plays with primarily horizontal drill types (includes condensate from Eagle Ford Wet Gas region

SOURCE: Drilling Info; EIA; Energy Insights, a McKinsey Solution, EI North America Supply Model

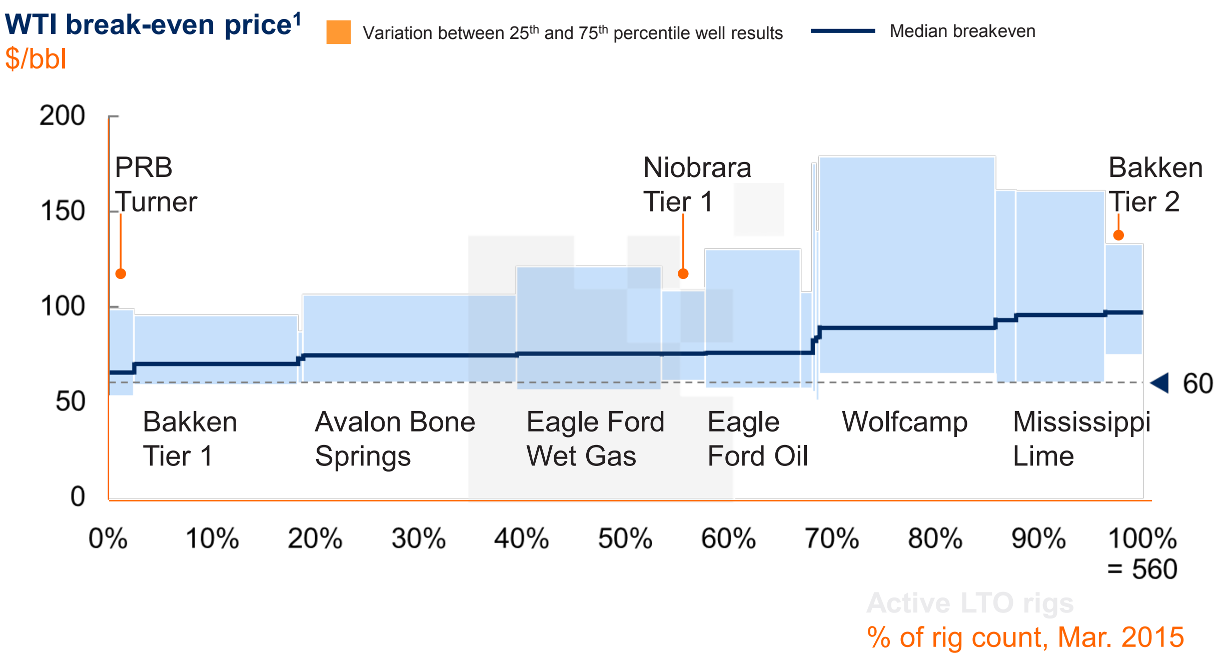
Since the peak in October 2014, activity has been cut across all LTO basins, with marginal basins receiving the largest proportional cuts

Sub-basin	Active rig per basin: October 2014	Active rig per basin: April 2015	Delta: Rigs	Delta: Percent
Avalon Bone Springs	197	97	-100	-51
Wolfcamp	156	92	-64	-41
Bakken Tier 1	135	81	-54	-40
Eagle Ford Oil	101	40	-61	-60
Mississippi Lime	98	37	-61	-62
Bakken Tier 2	50	15	-35	-70
Eagle Ford East Oil	35	6	-29	-83
Niobrara Tier 1	33	21	-12	-36
PRB Turner	32	10	-22	-69
Permian Central Basin	22	8	-14	-64
Eaglebine	11		-11	-100
Tuscaloosa	11	1	-10	-91
Niobrara Tier 3	10		-10	-100
Bakken Tier 3	7		-7	-100

SOURCE: RigData; Energy Insights

Variability in well results across LTO plays suggests that not all drilling will be out of the money at low oil prices

US LTO drilling activity by play and break-even price



1 Half-cycle break-even price of WTI for a new well excludes finding and land costs, includes drilling and completion capex, field and gathering opex, wellhead differential, royalties, severance tax and 10% rate of return

SOURCE: Energy Insights North America Supply Model (July 2015)

Outlook for LTO based on resource, development cost, oil price

Re-source	1 Resource quality	▪ Well spacing: determines how closely wells can be drilled/drilling inventory ▪ Non-productive acreage: percent of play that is inaccessible for drilling ▪ Longevity of wells: well life
	2 IP learning	▪ Growth EUR: increase in production per well and shape of decline curve
	3 New play discoveries	▪ Number of new plays in "pipeline": number of prospective plays in the exploration phase that could prove out in the next 5 years
Develop-ment cost	4 Drilling and completion costs	▪ Rig efficiency: drilling time per foot ▪ Input usage intensity: volume of proppant, chemicals, water used per well ▪ Cyclical pricing: inflation/compression of oilfield services due to oil prices
Realized Price	5 Global oil price	▪ Global oil supply/demand balance: volume of OPEC spare capacity ▪ Cost of marginal production: marginal cost of barrel of new supply
	6 Brent differentials	▪ US transportation differentials: difference field and WTI / LSS ▪ Brent Vs. LSS differentials: based on US export policy ▪ Quality differentials: difference to WTI benchmark
Other risks	7 Access to capital	▪ Capital constraints limit the ability to develop otherwise economic resources
	8 Right to operate	▪ Fracturing regulations: potential to limit development – likely at a local level ▪ Crude-by-rail: potential limitation on transportation

SOURCE: Energy Insights

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