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PESA Oil and Gas 101

Energy Markets
We are at the Tail End of a Supply Driven Downturn

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Please read disclosure/risk information and Analyst Certification beginning on slide 57.

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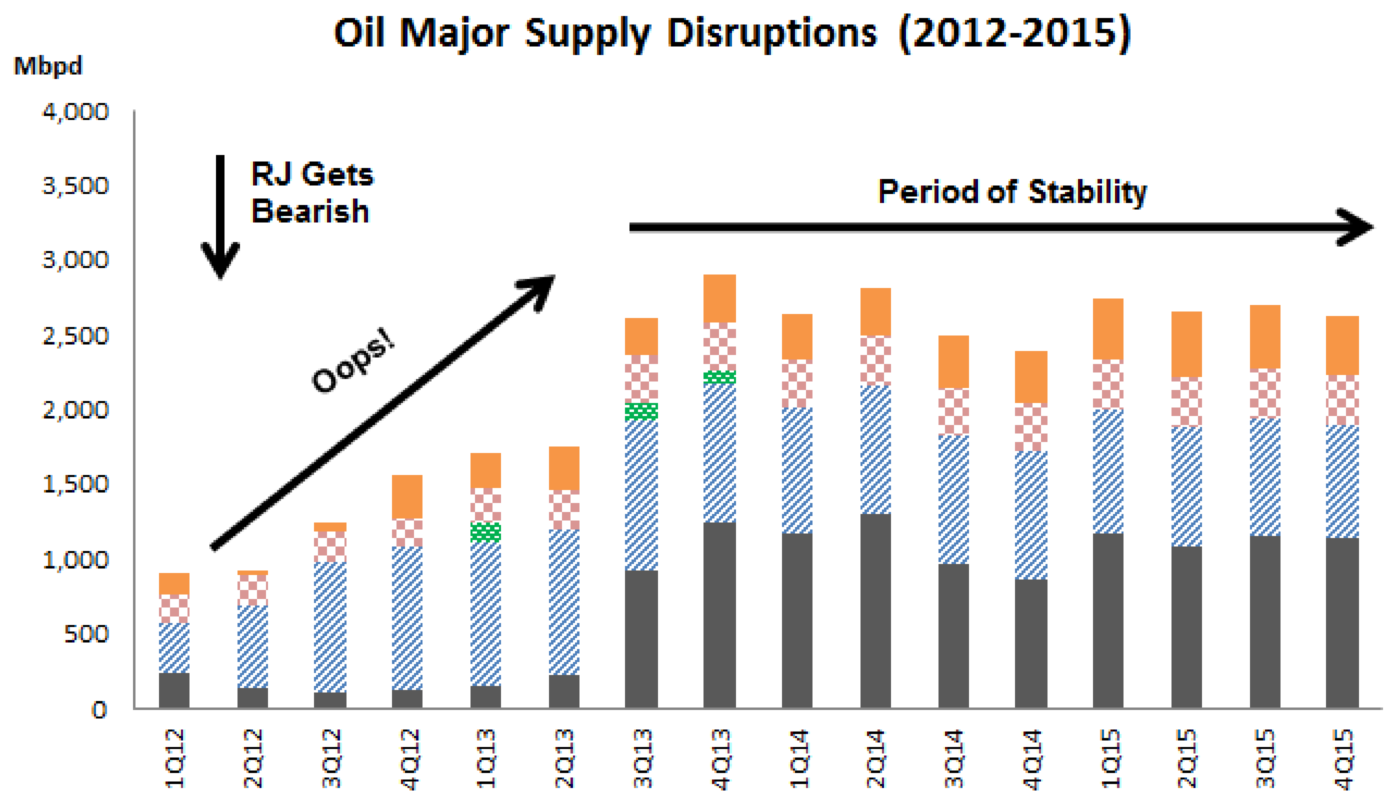
RJ Energy Outlook: Historical Perspective

We turned bearish on crude in mid-2012

- Worried about surging U.S. supply
- Numbers said $65 was correct equilibrium oil price
- We were wrong for two years as OPEC supply fell by 2.5 million bpd
- Oil prices fell when outages stabilized

Supply Interruptions Important…



Source: IEA, Raymond James research

Why Did Energy Prices Collapse in 2014/15?

- OPEC flooding the market (Saudi, Iraq, Iran)
- U.S. supply posting huge growth
  - First time in 40 years
- Supply was the problem

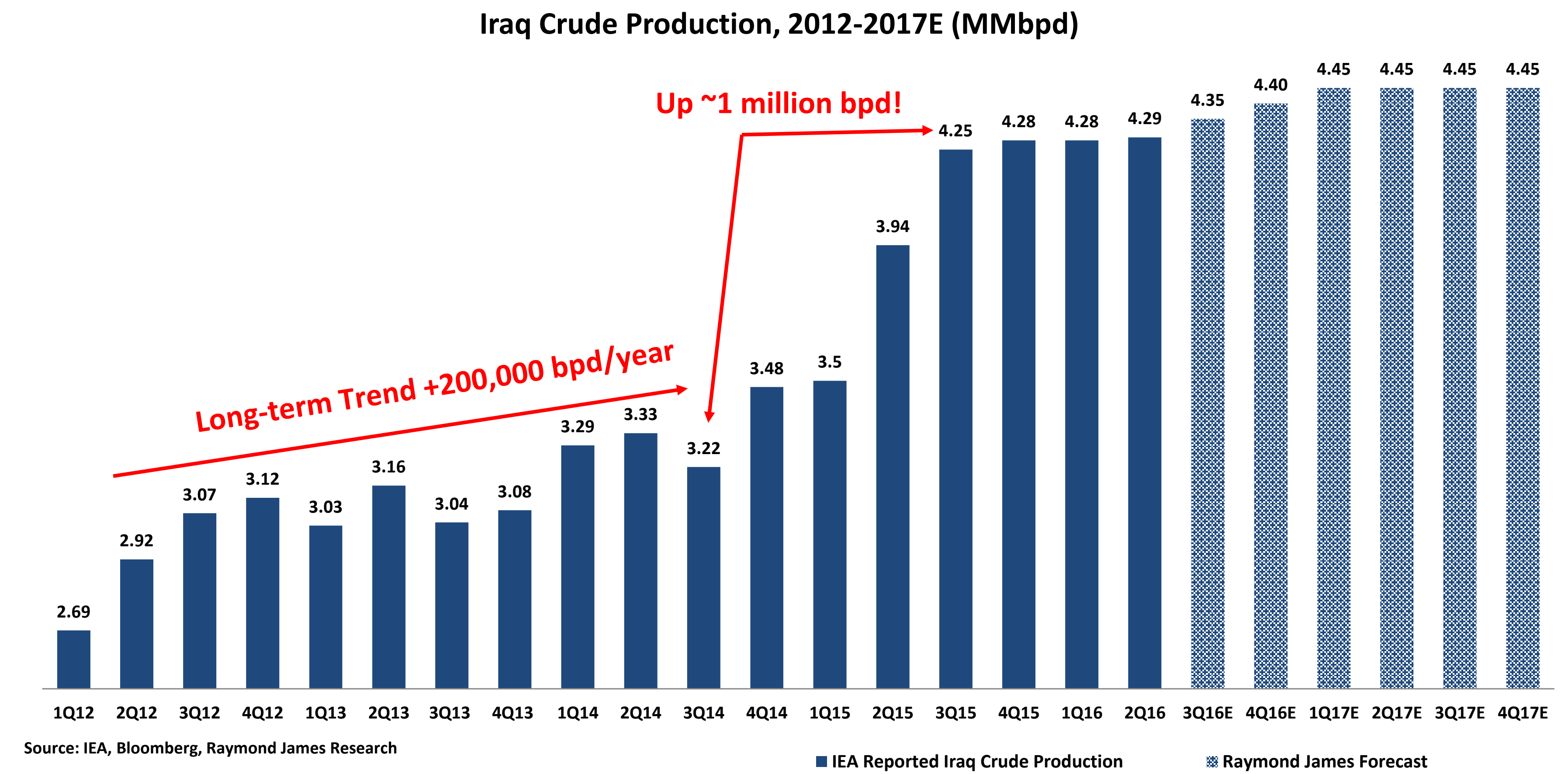
Current Energy Overview

- Very bullish on oil prices relative to futures strip: Crude prices move much higher in 2017
- Natural gas rebounds in in 2017: N.E. gas keeps a lid long-term prices – volatile differentials
- Oilfield has overcorrected in 2015/16: Expect a sharp rebound in 2017/18

How has the Oil & Gas World Changed?

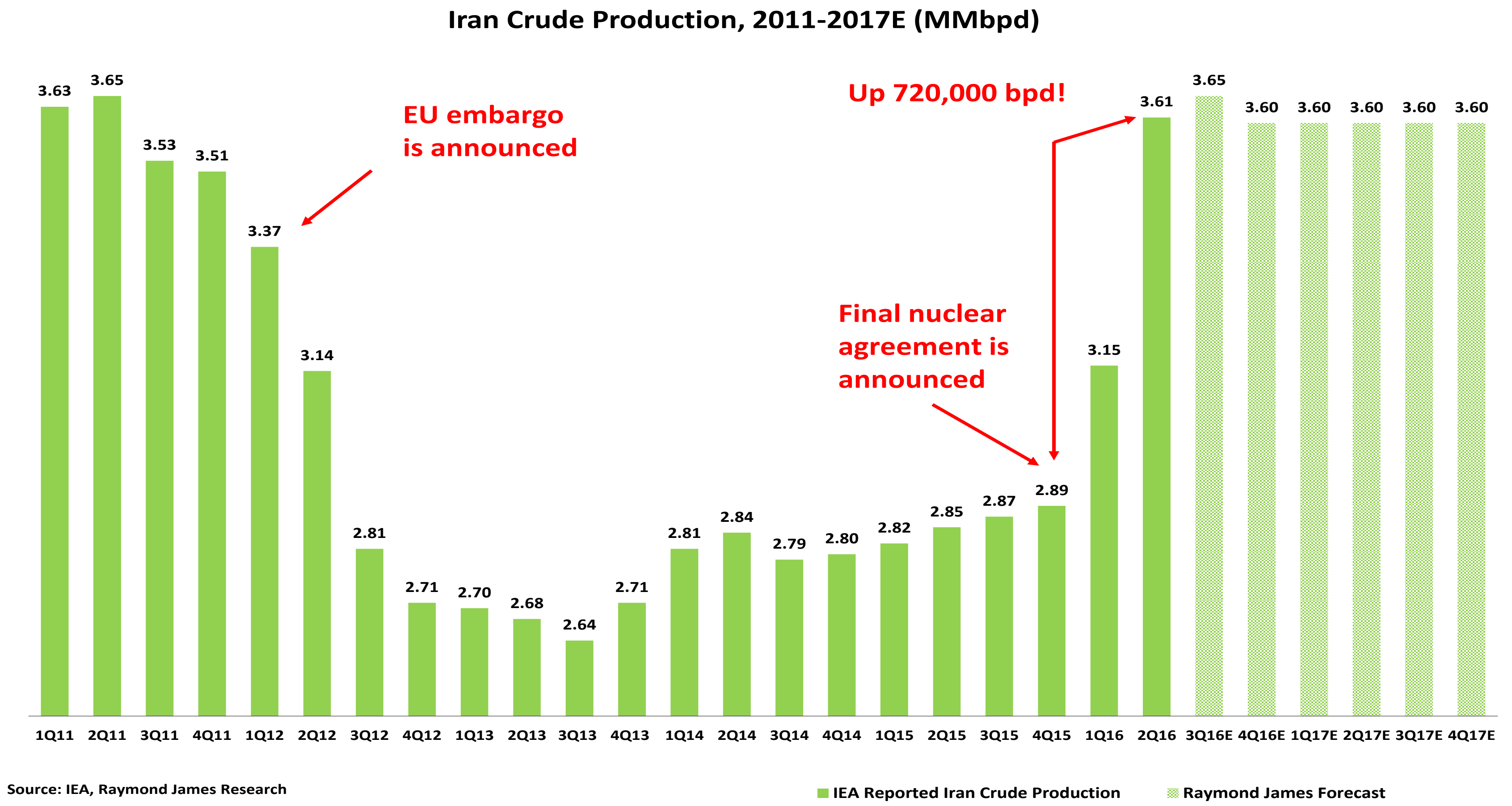
- No excess oil capacity – first time in 40 years
- U.S. has become lowest cost producer for oil & gas
  - Most underestimate the U.S. efficiency gains
  - Extraction cost falling rapidly
  - U.S. oil supply is cheap, resilient, and substantial
- U.S. growth displaces offshore/international

Problem #1: Iraq's Production Surge



Source: IEA, Bloomberg, Raymond James Research

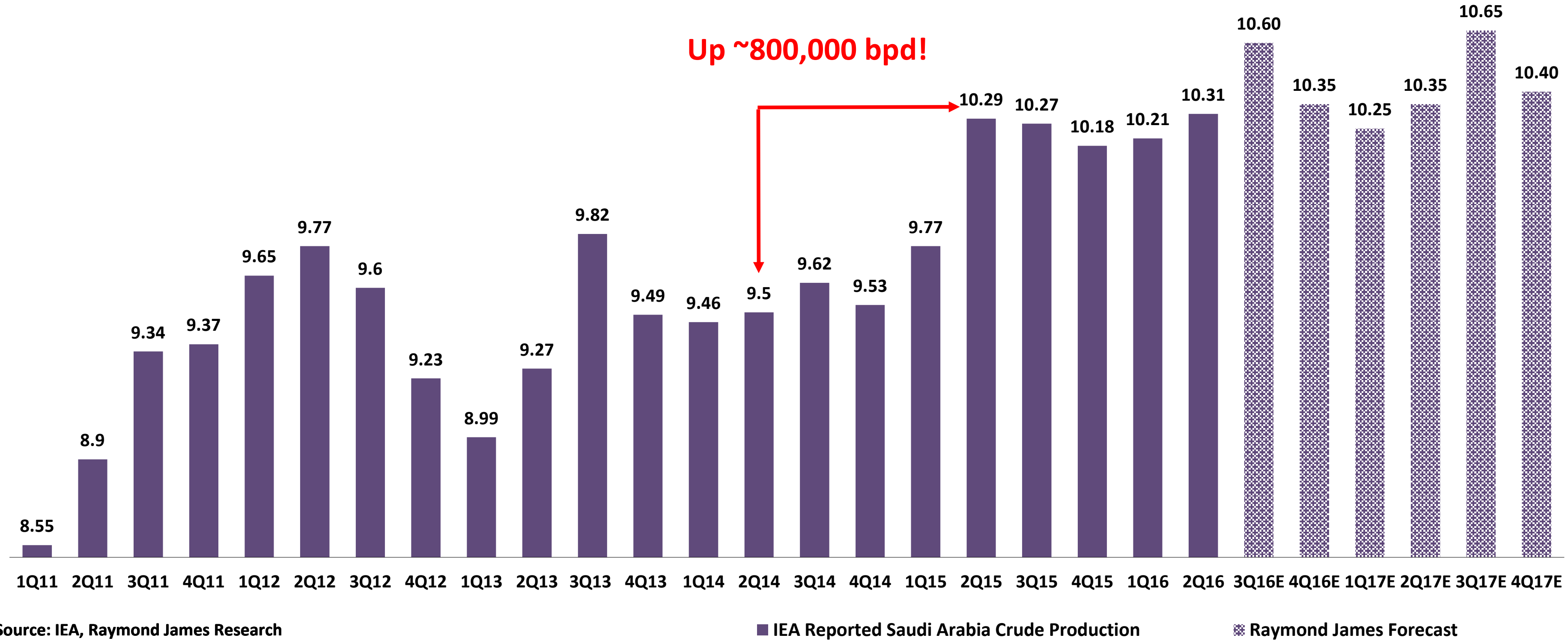
Problem #2: Iran Returns to Market



Source: IEA, Raymond James Research

Problem #3: Saudi Production Surged

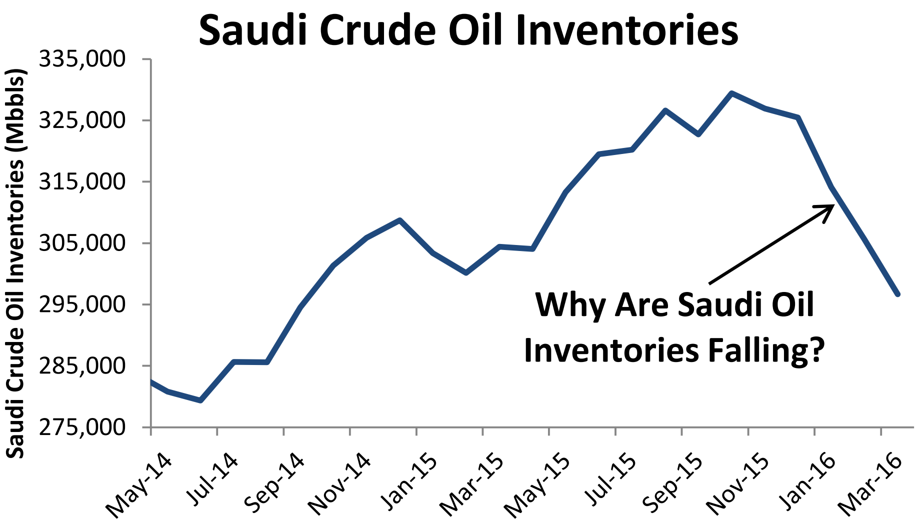
Saudi Arabia Crude Production (excl. Neutral Zone), 2011-2017E (MMbpd)



Source: IEA, Raymond James Research

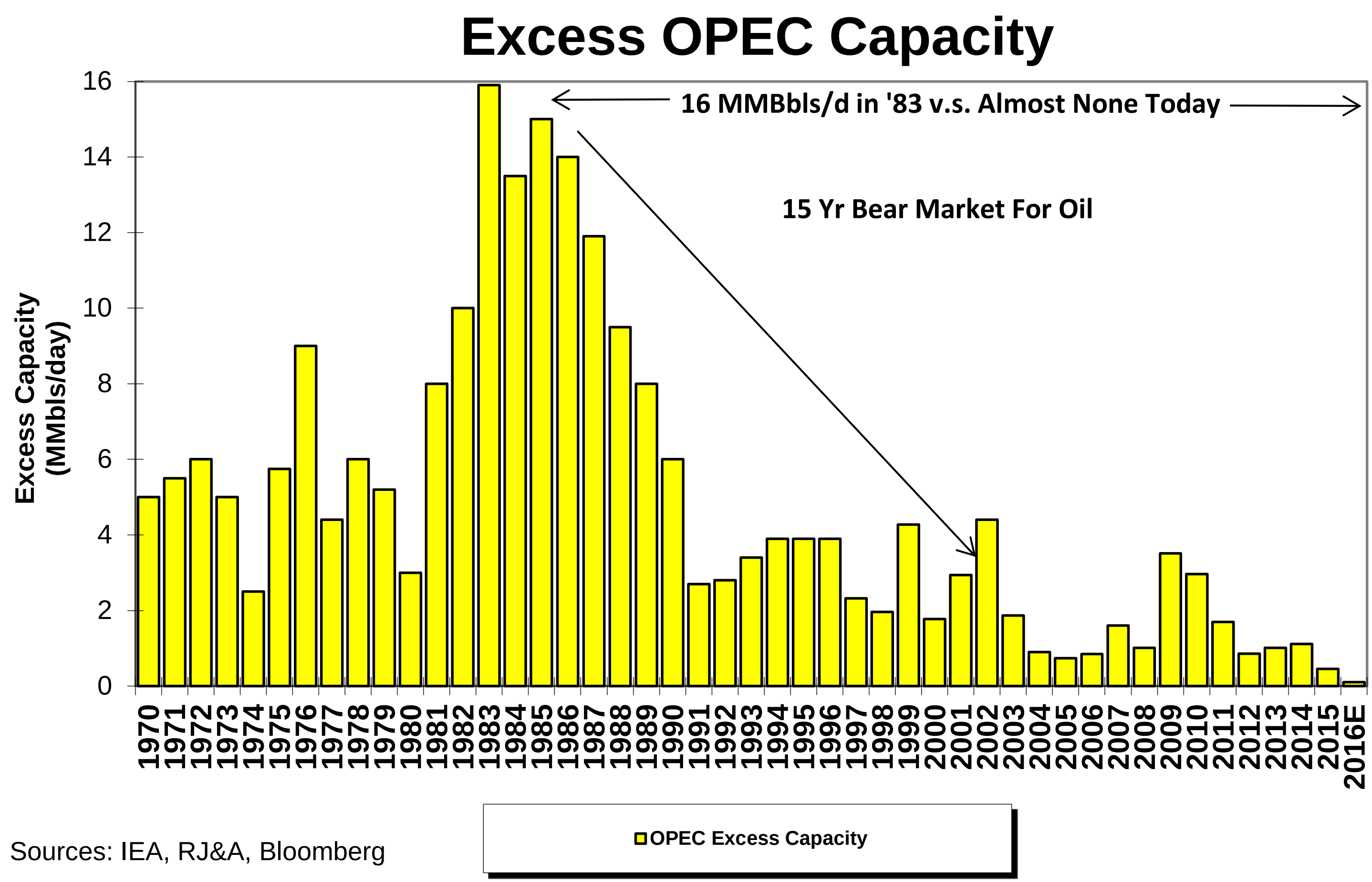
Does Saudi Really Have 2 MMbpd More?

- If they have it, …
  - Why haven't we seen it?
  - Why are Saudi inventories falling?



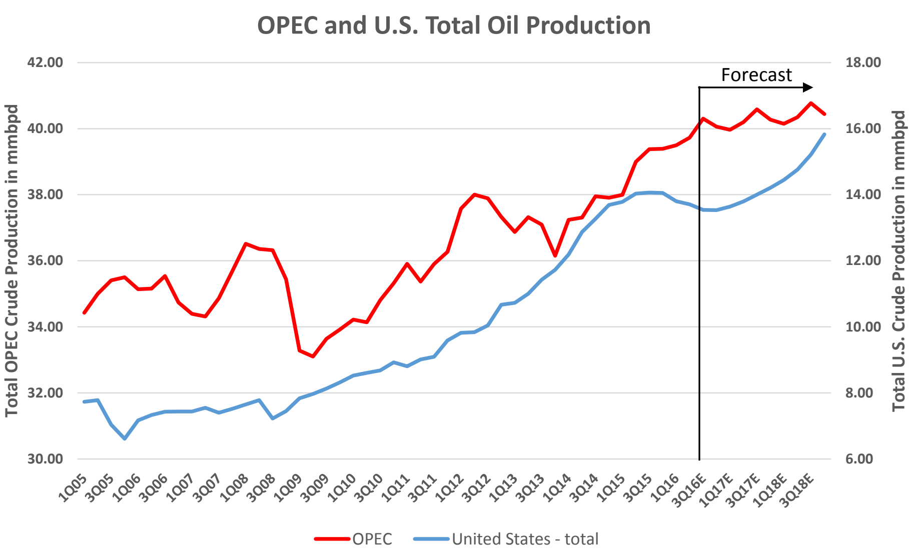
Source: JODI

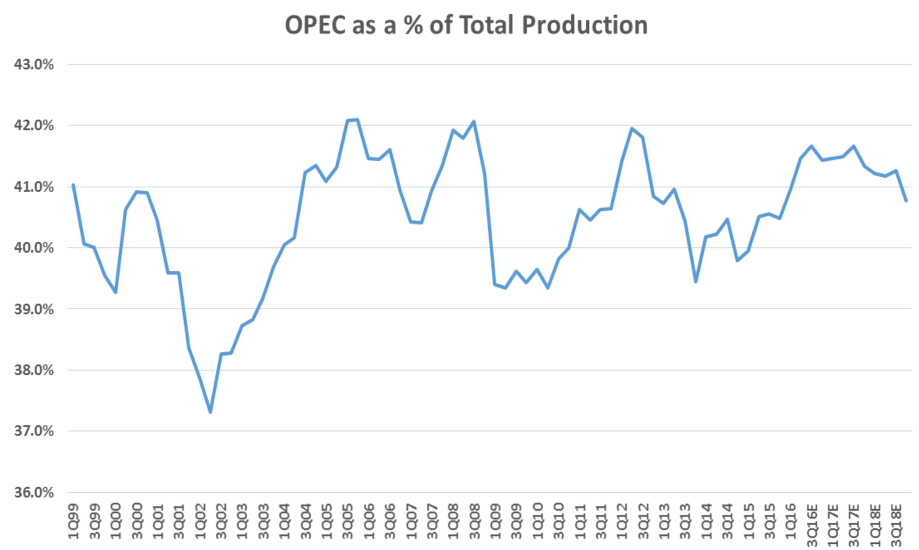
The Oil Truck Has No Shock Absorbers



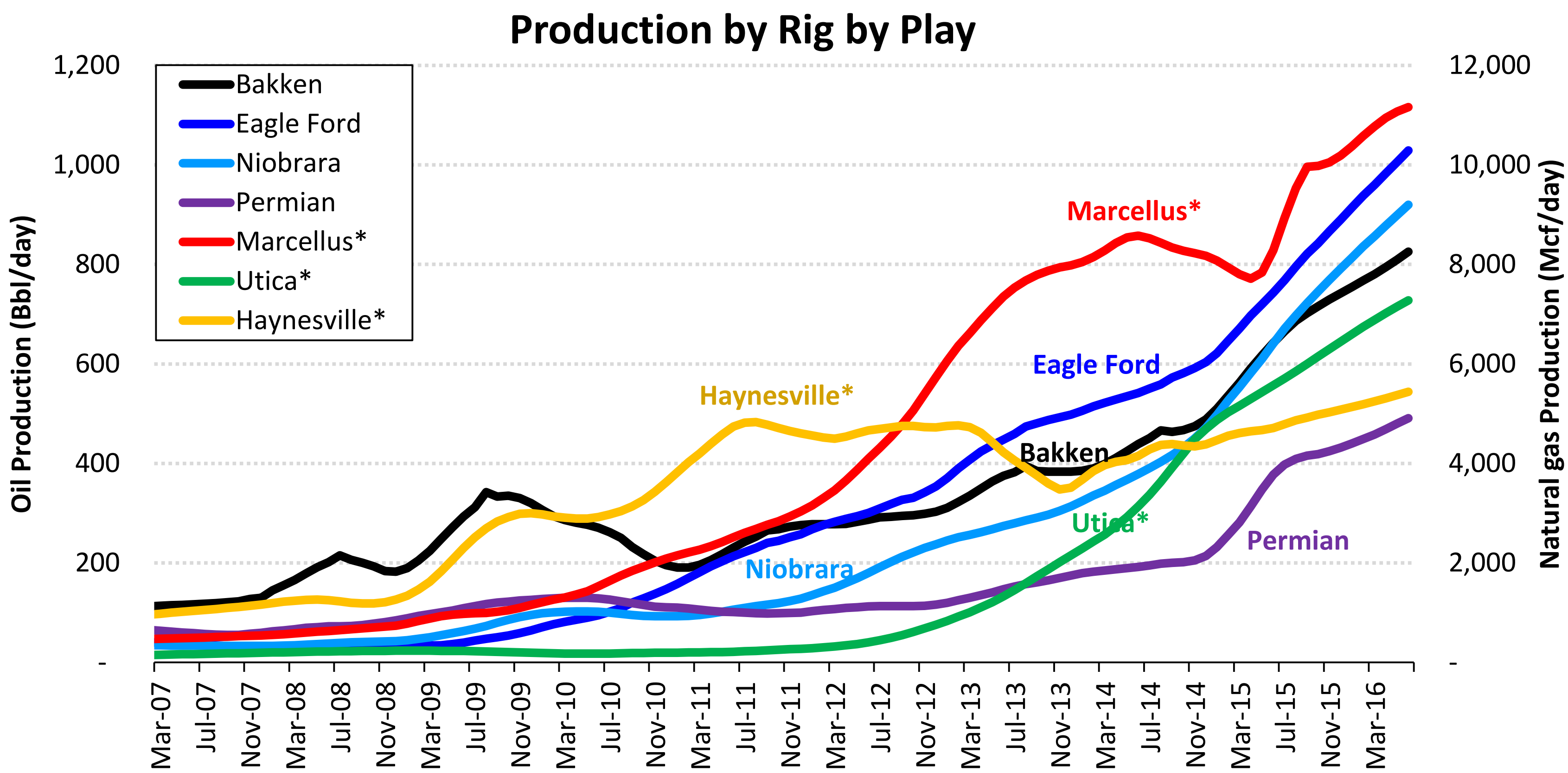
Sources: IEA, RJ&A, Bloomberg

Total OPEC and U.S. Production





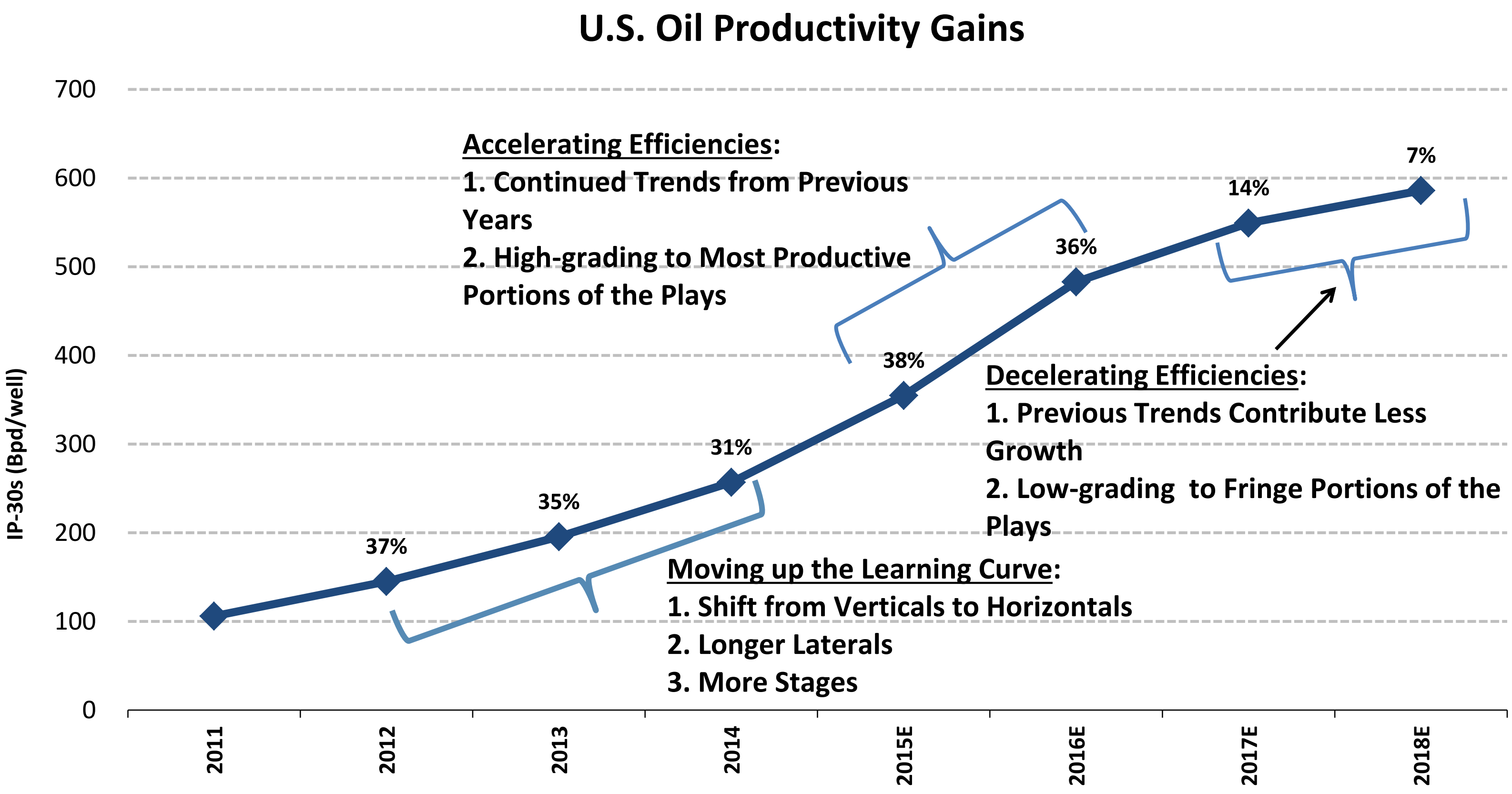
Efficiency Gains are Driving Growth



Sources: EIA and Raymond James Research

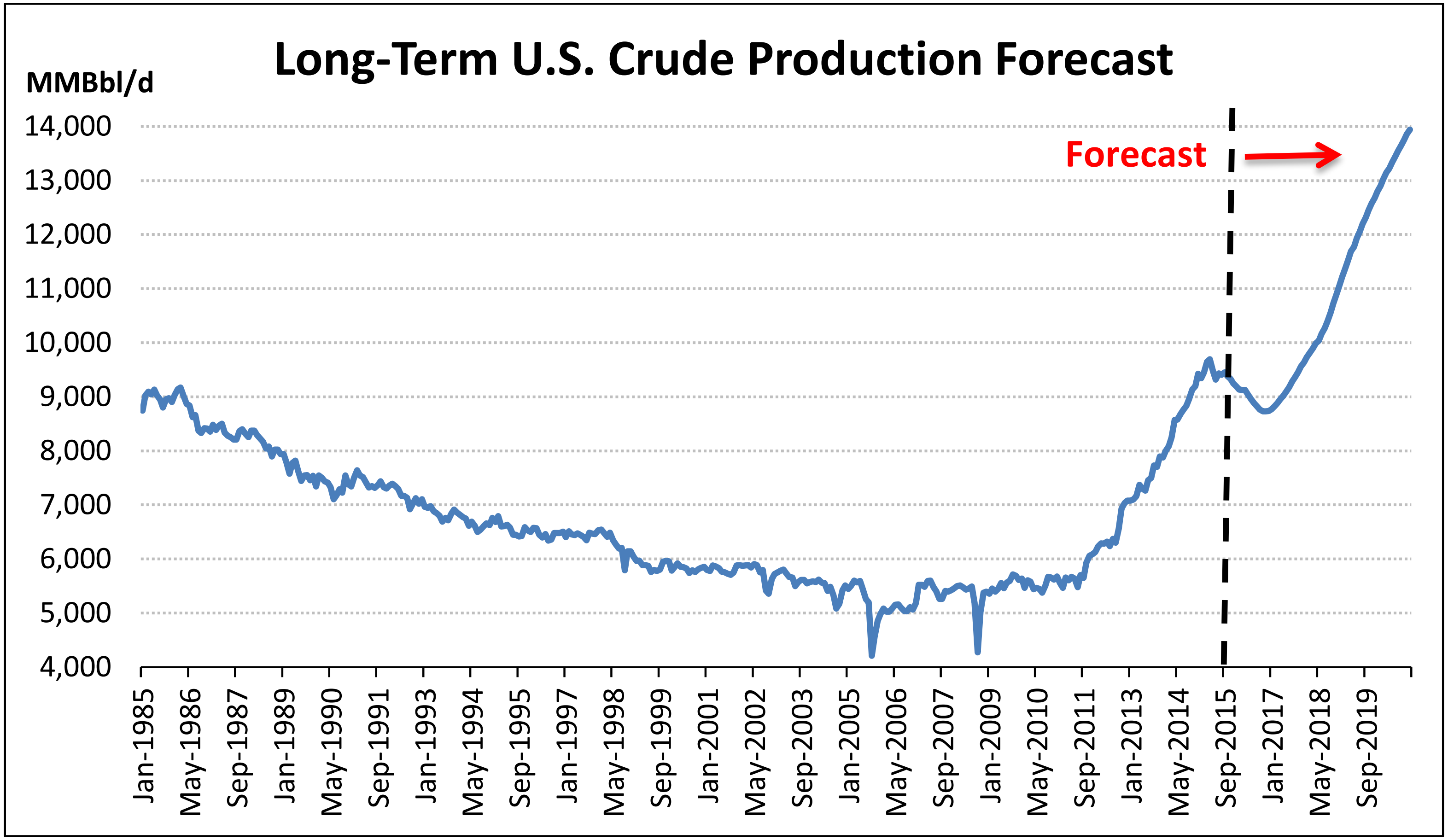
* On Secondary Axis

Well Productivity Growth Should Slow in 2017/18



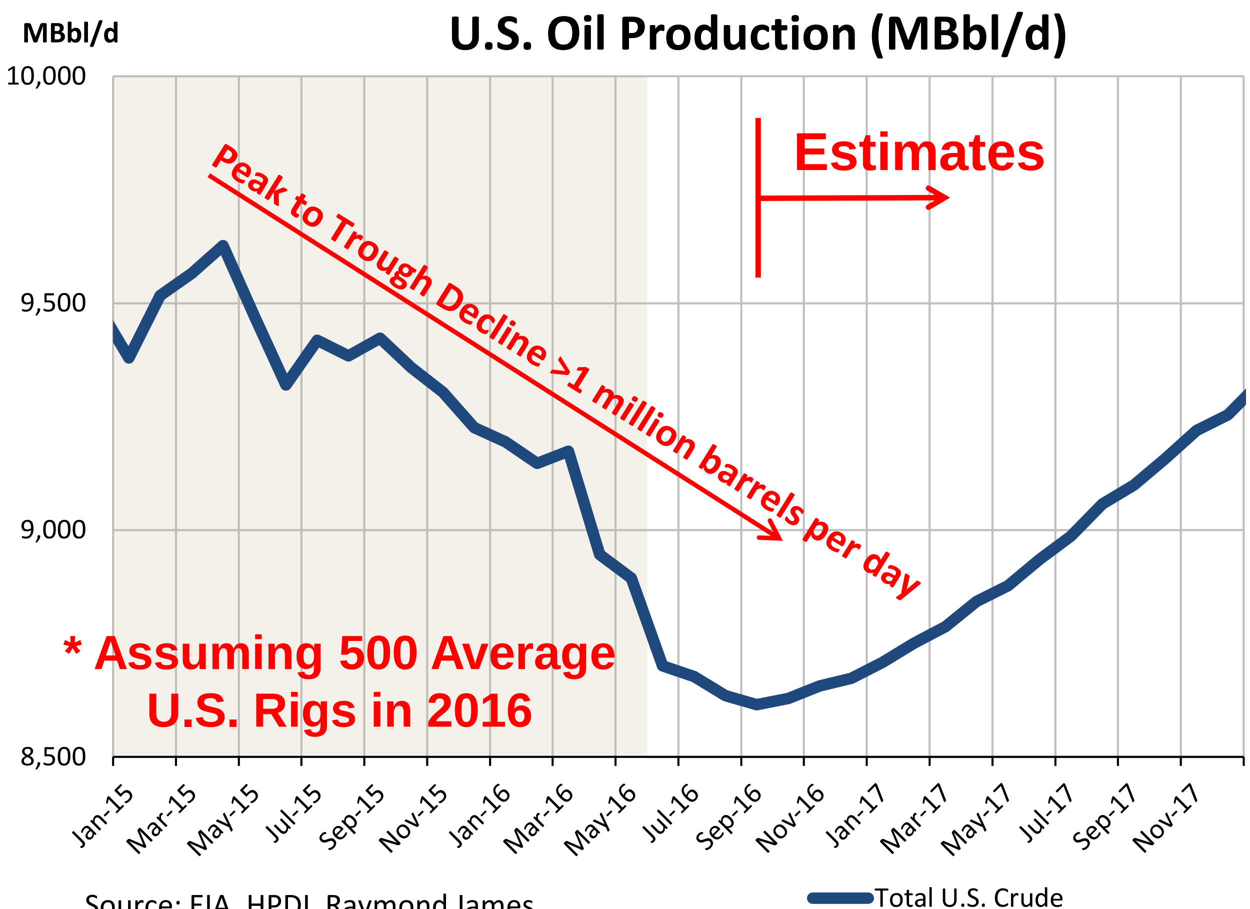
Sources: EIA, HPDI, and Raymond James Research

U.S. Oil Growth Potential Still Staggering!



Source: HPDI, EIA, Raymond James Research

U.S. Oil Supply Bottoms in Late-2016



Source: EIA, HPDI, Raymond James

What is U.S. Supply Sensitivity to Activity?

U.S. Rigs

U.S. Rig Count Forecast				Y/Y Change
	Rig Count Assumption			Y/Y % Δ
	-20%	Base	+20%	Base
2014		**1,858**		6%
2015		**976**		-47%
2016E	406	**507**	608	-48%
2017E	640	**800**	960	58%
2018E	880	**1,100**	1,320	38%

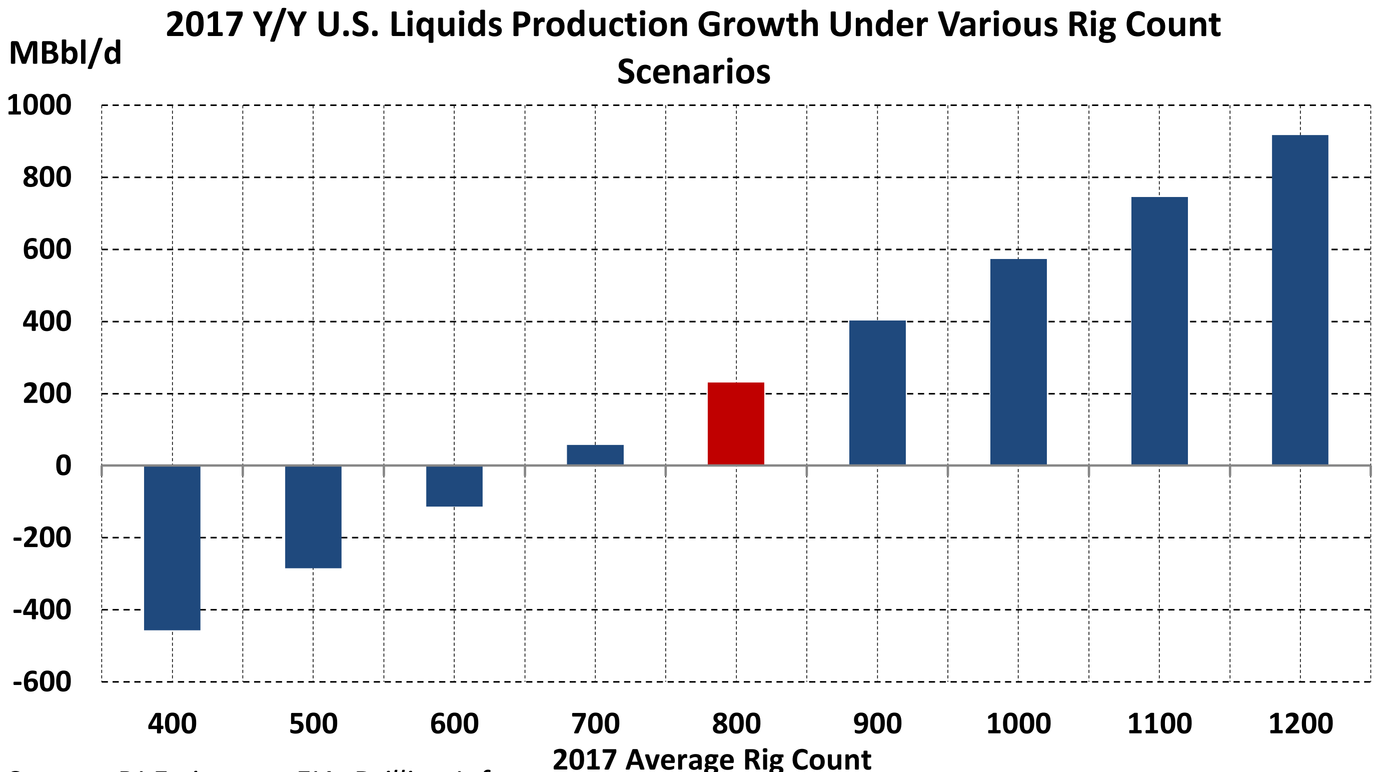
Source: EIA, HPDI, Raymond James

U.S. Oil Supply Growth

U.S. Liquids Production Growth (y/y growth in MBbl/d)			
	Impact from Rig Count Change		
	-20%	Base	+20%
2014		**1,665**	
2015		**966**	
2016E	(426)	**(337)**	(234)
2017E	(171)	**222**	631
2018E	767	**1,127**	1,490

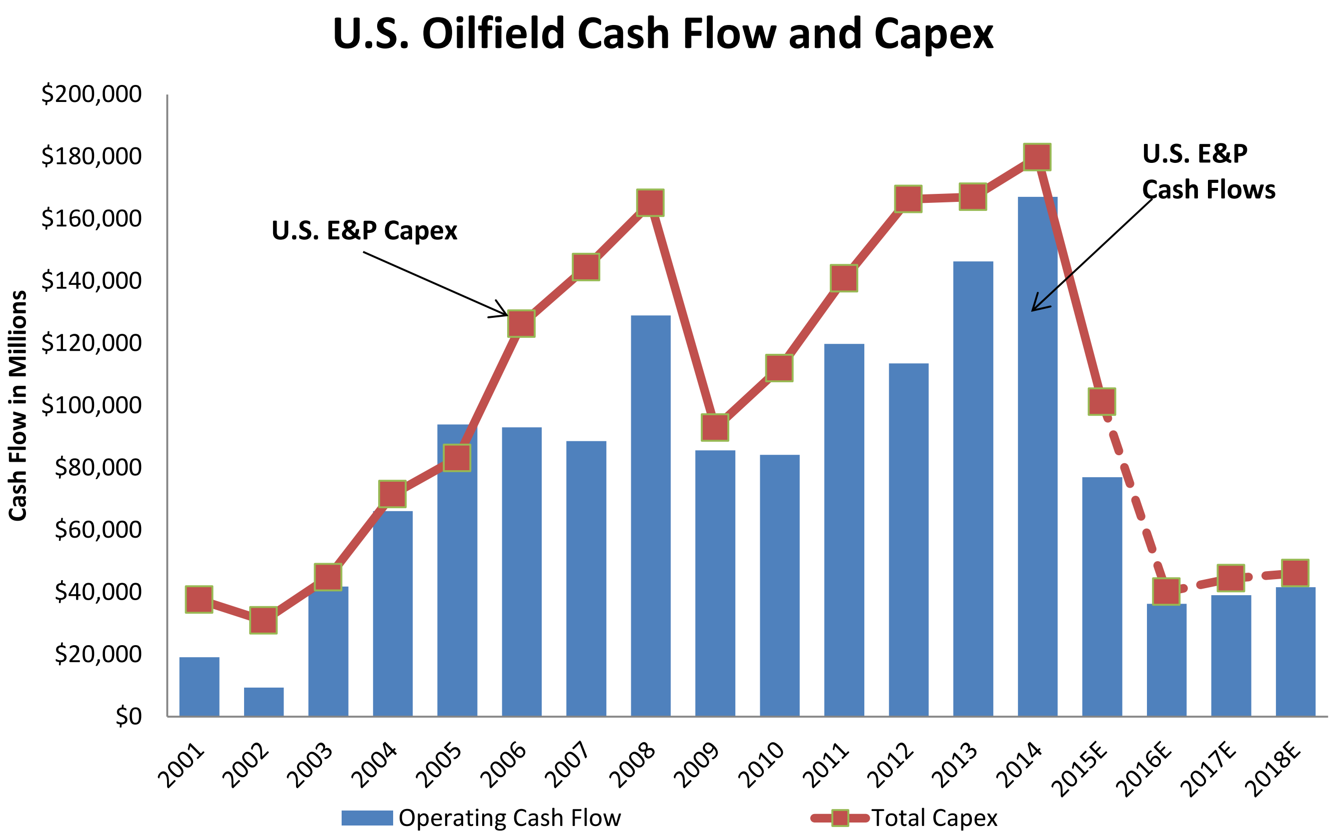
Source: EIA, HPDI, Raymond James Research

Rig Count Largest Driver of Production Changes



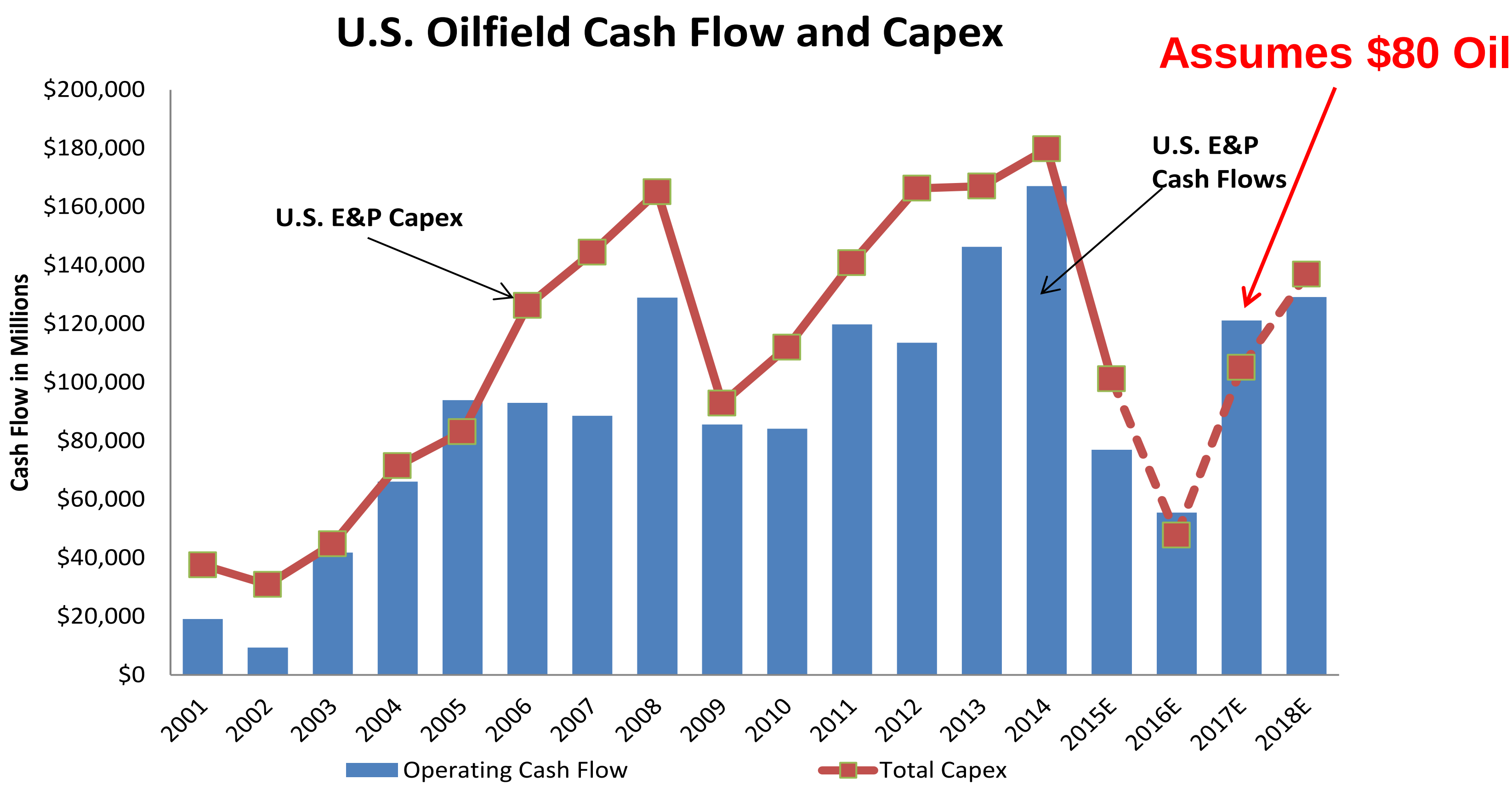
Source: *RJ Estimates, EIA, Drilling Info*
Assumes 2016 rig count remains unchanged from current estimate
Assumes oil rig percentage of 80%

U.S. Oil Service Industry is Dying at "Strip" Prices



Source: Raymond James Research; Spears & Associates; EIA; Company Reports; Bloomberg

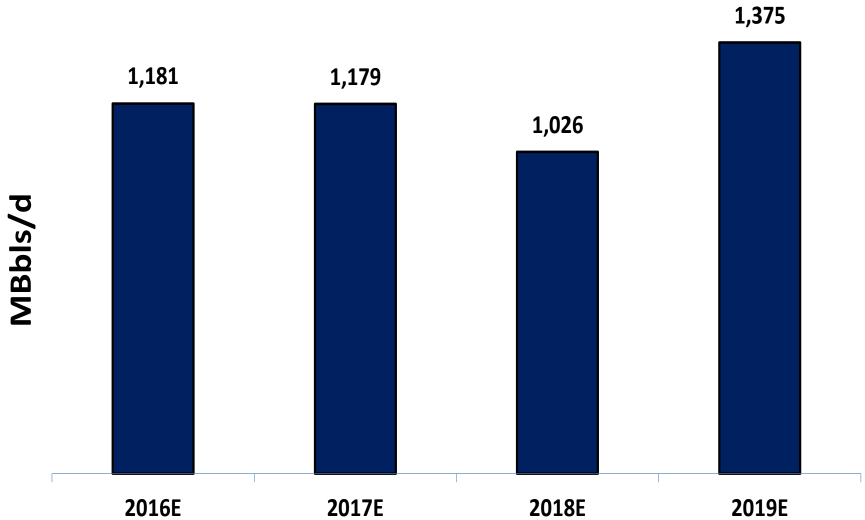
E&P Cash Flows Must Recover



Source: Raymond James Research; Spears & Associates; EIA; Company Reports; Bloomberg

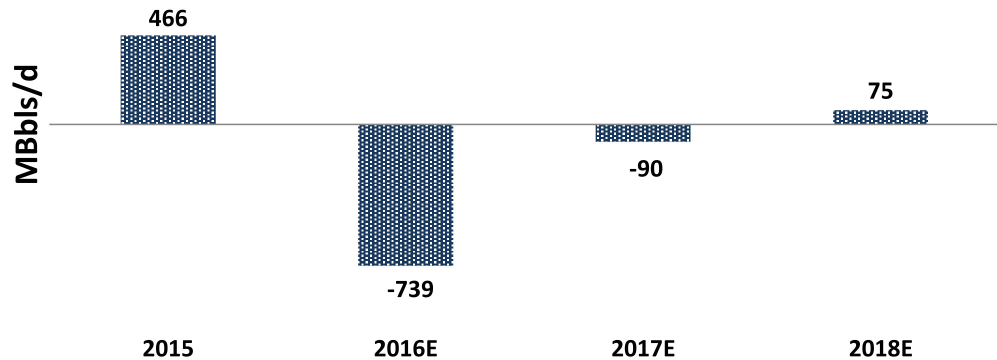
Non-U.S. Supply Assumptions Very Conservative

Oil Project Delays and Cancellations, by Start Year



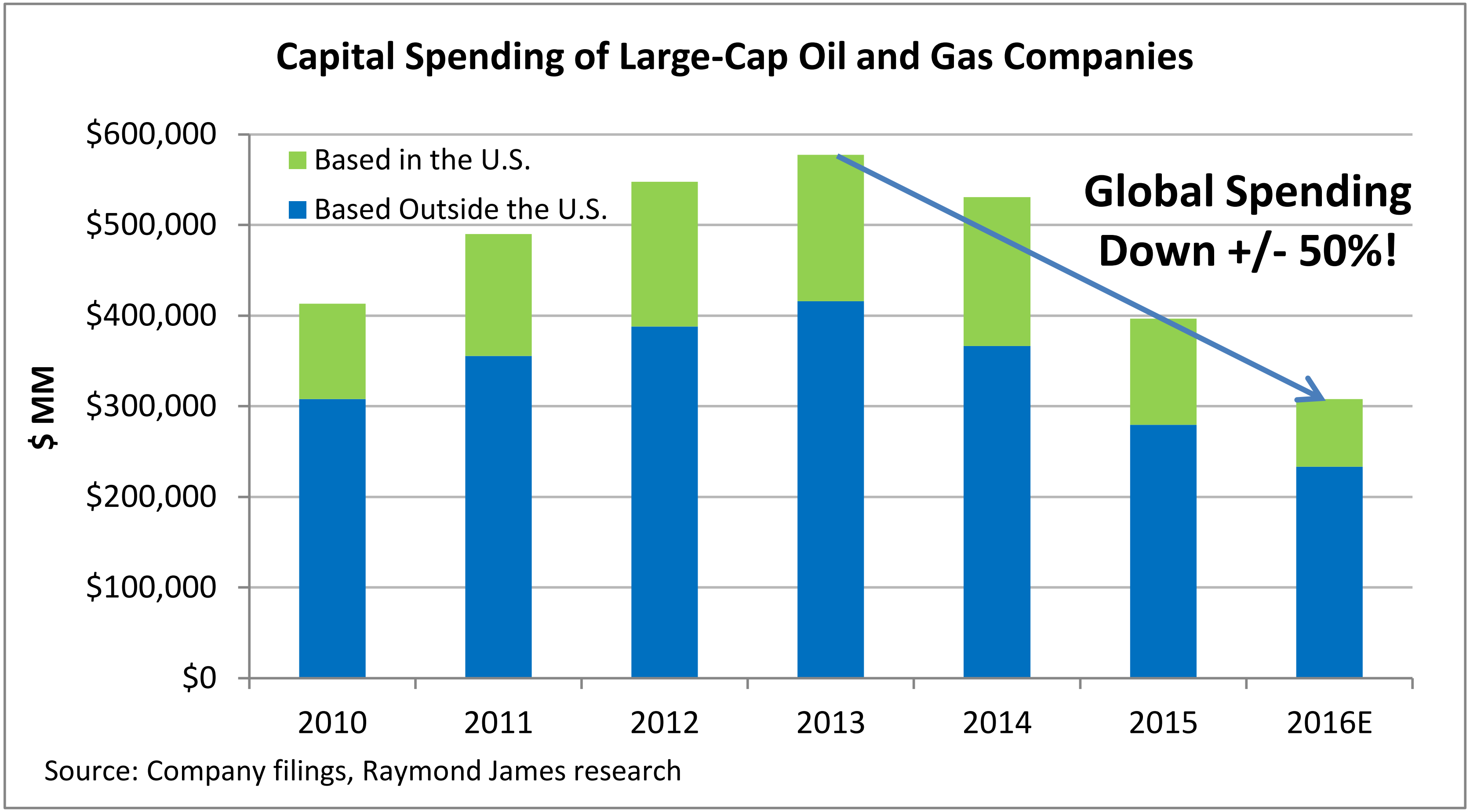
Sources: IEA, Raymond James Research

Non-OPEC/Non-U.S. Y/Y Oil Production Change



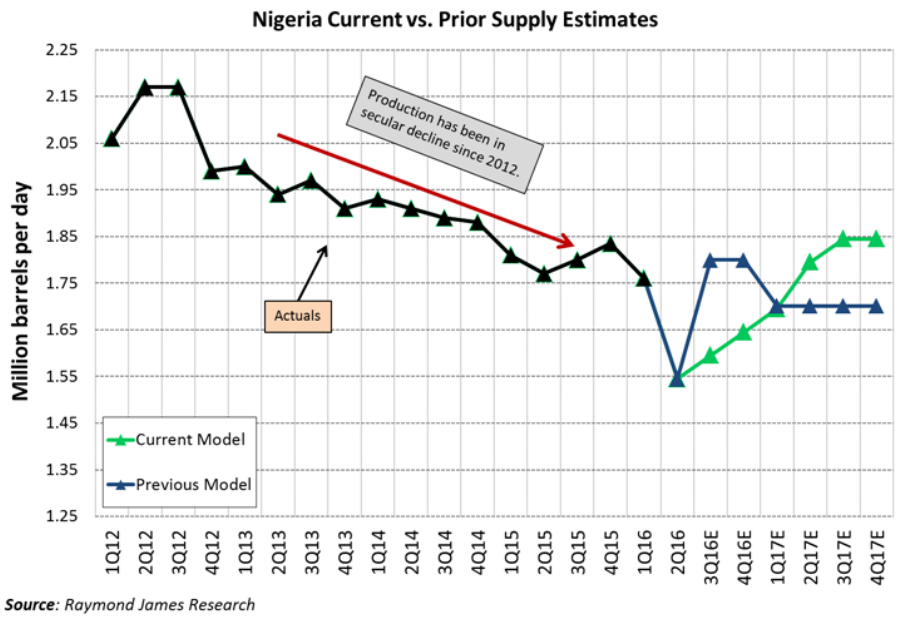
Source: IEA, Raymond James estimates

Global Capex Down 30+% Two Years in a Row ?

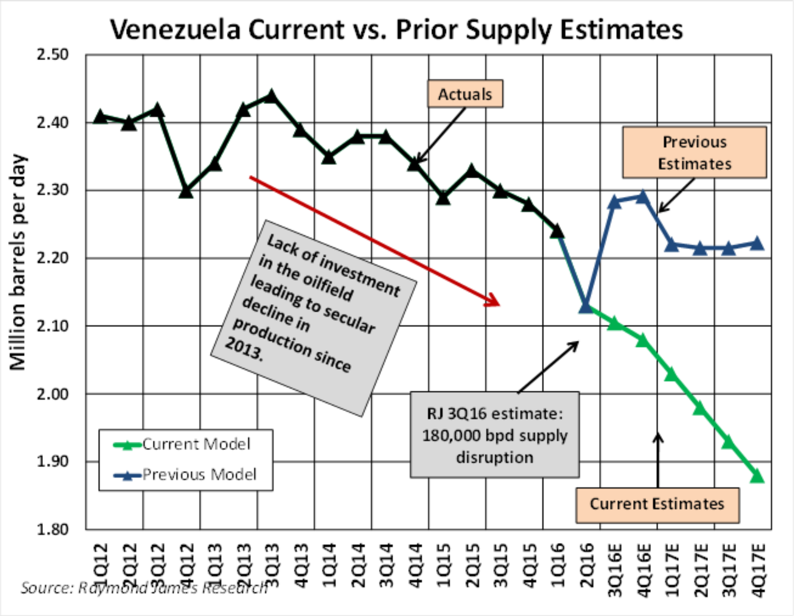


Geopolitical Disruption

Nigeria

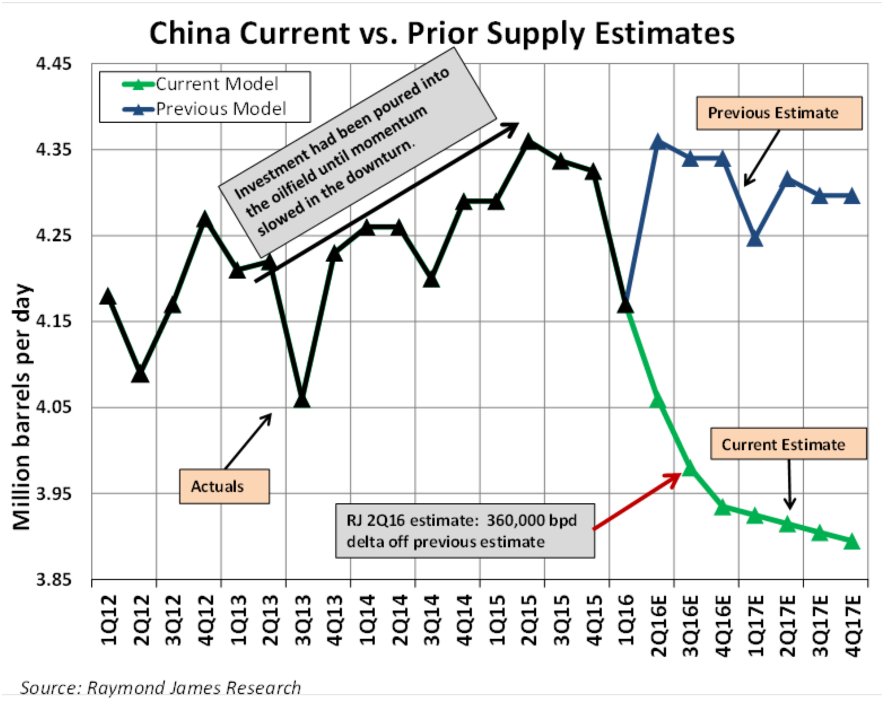


Venezuela

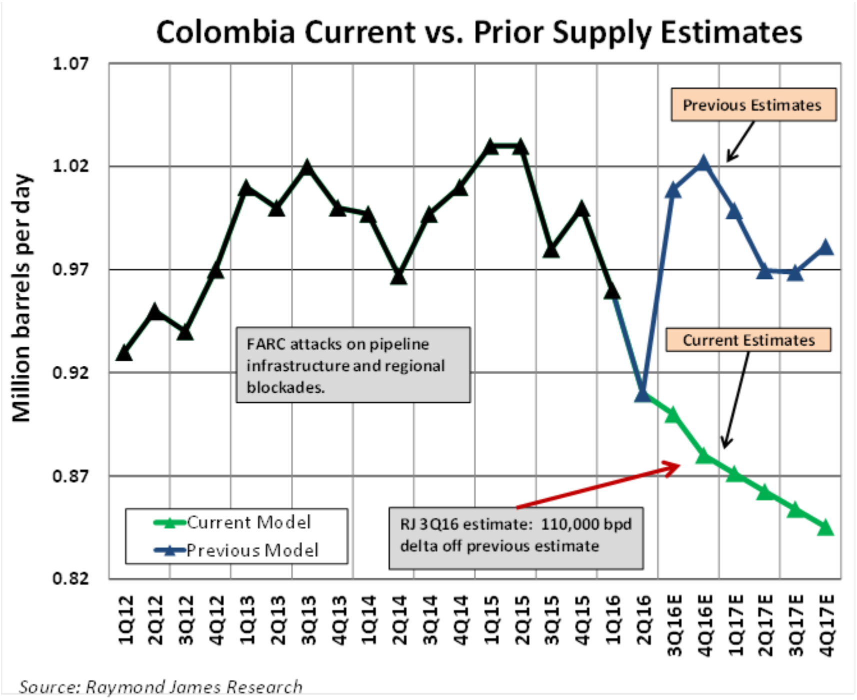


Structural Declines

China

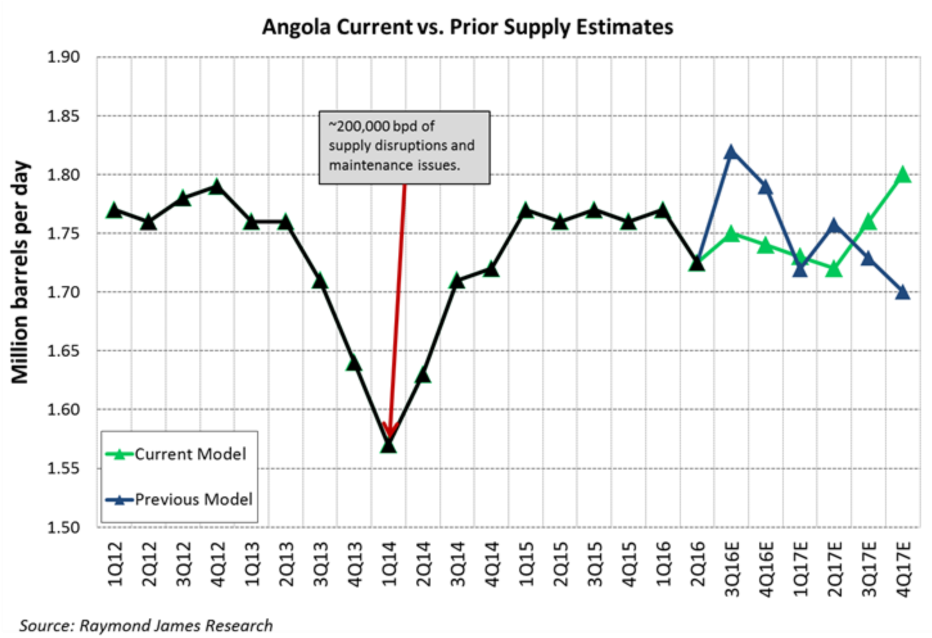


Colombia

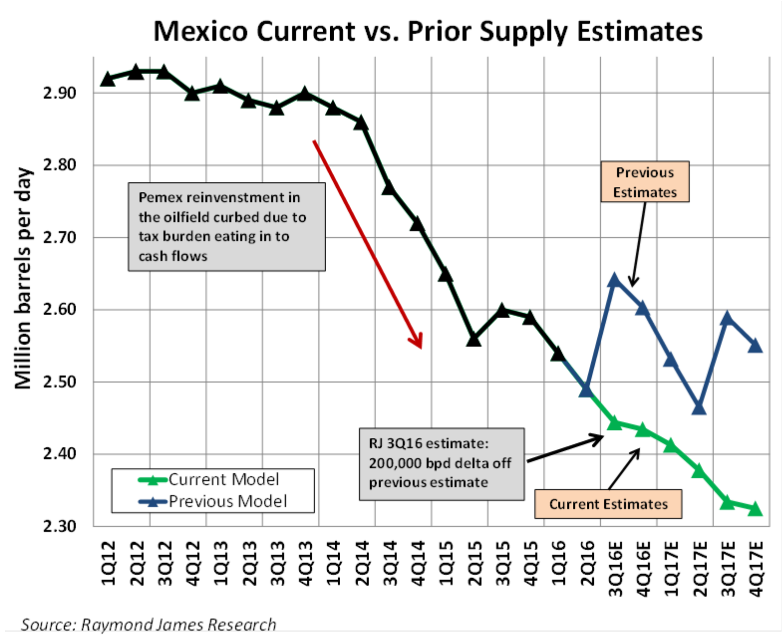


Structural Declines (Continued)

Angola

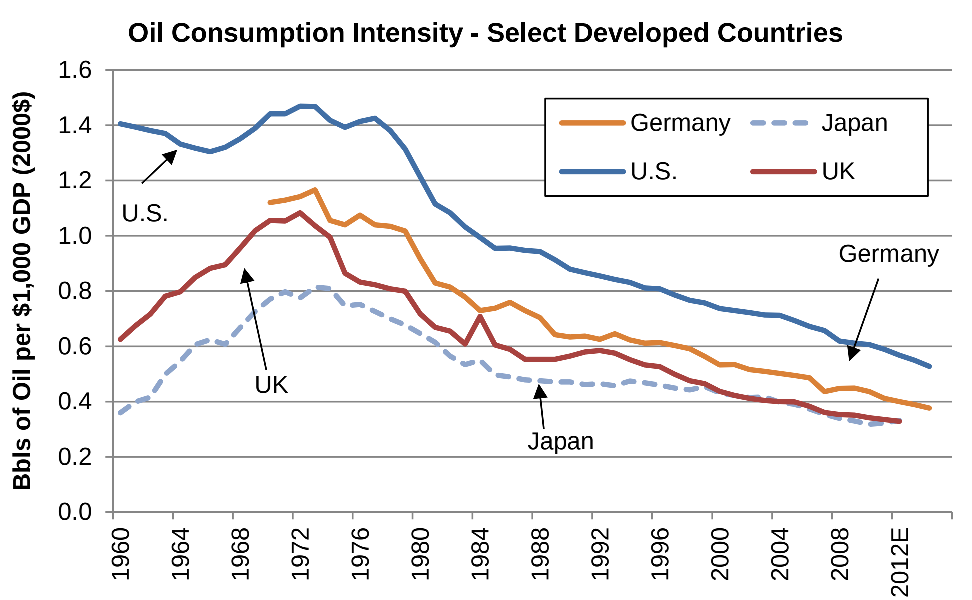


Mexico

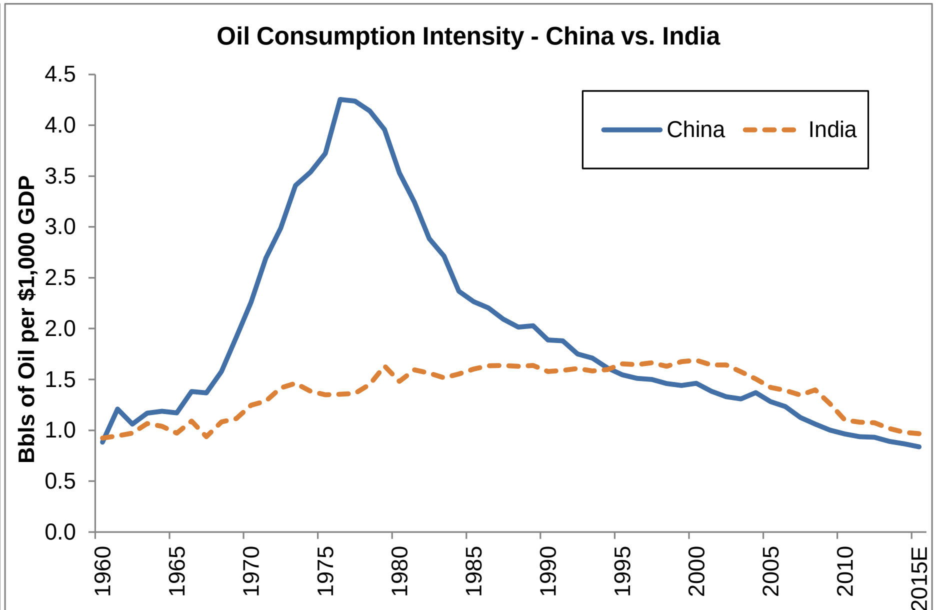


OIL DEMAND HAS NOT BEEN THE PROBLEM

Long-Term Efficiency Trends Are Real, But…

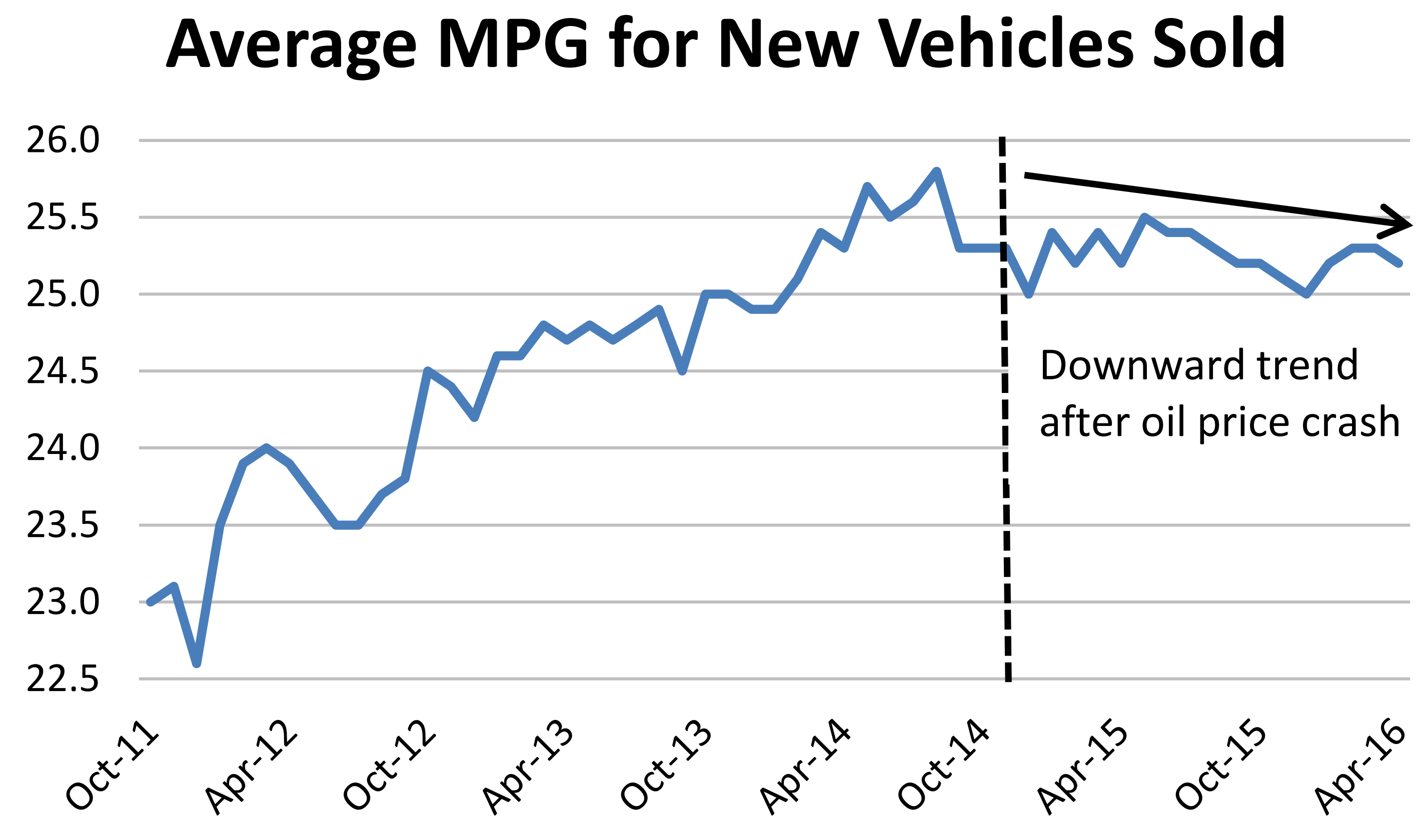


Source: EIA, IEA, World Bank, CIA World Factbook



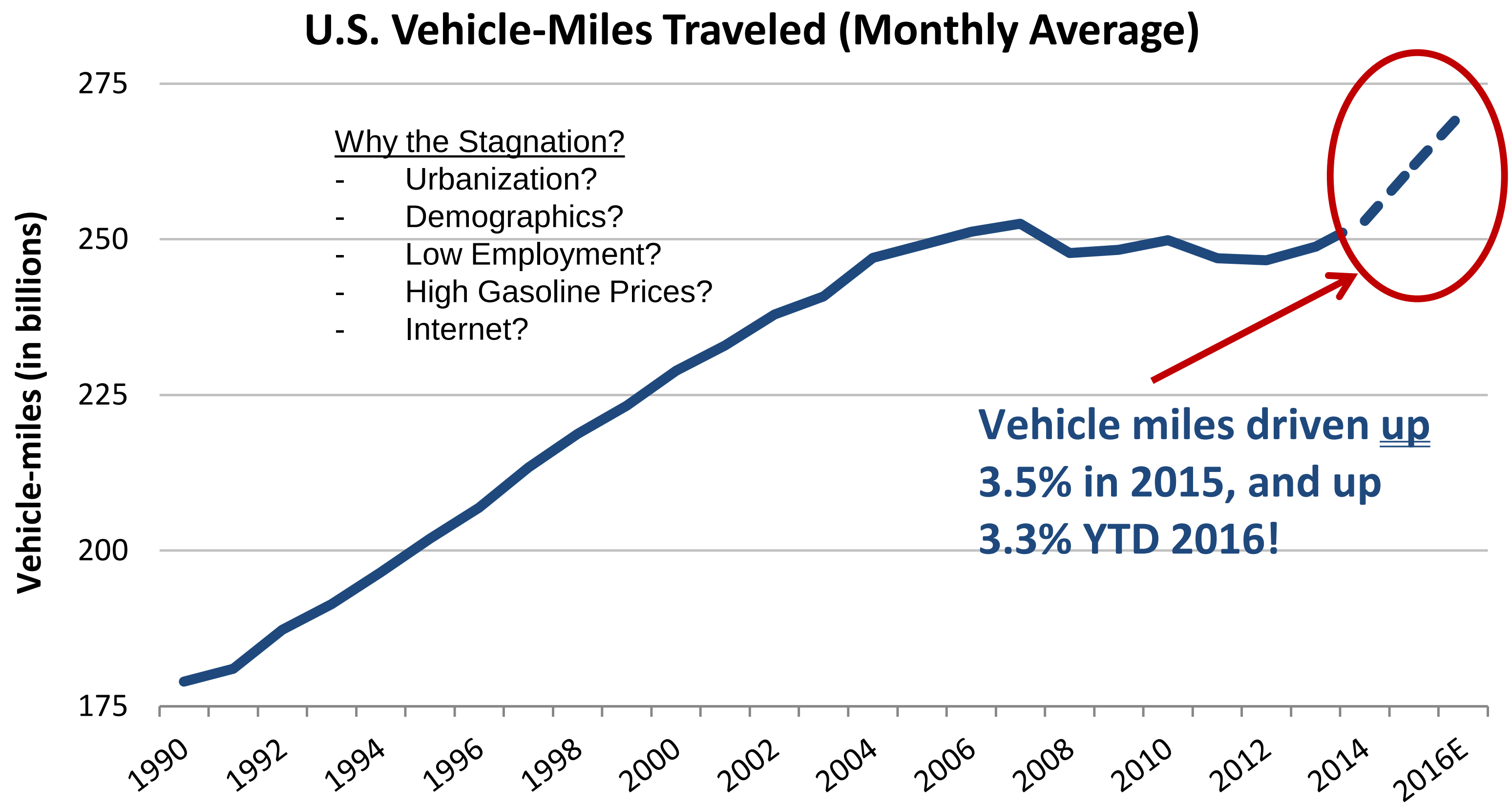
Source: EIA, IEA, IMF, World Bank

Cheap Gasoline is Slowing U.S. Efficiency Trend



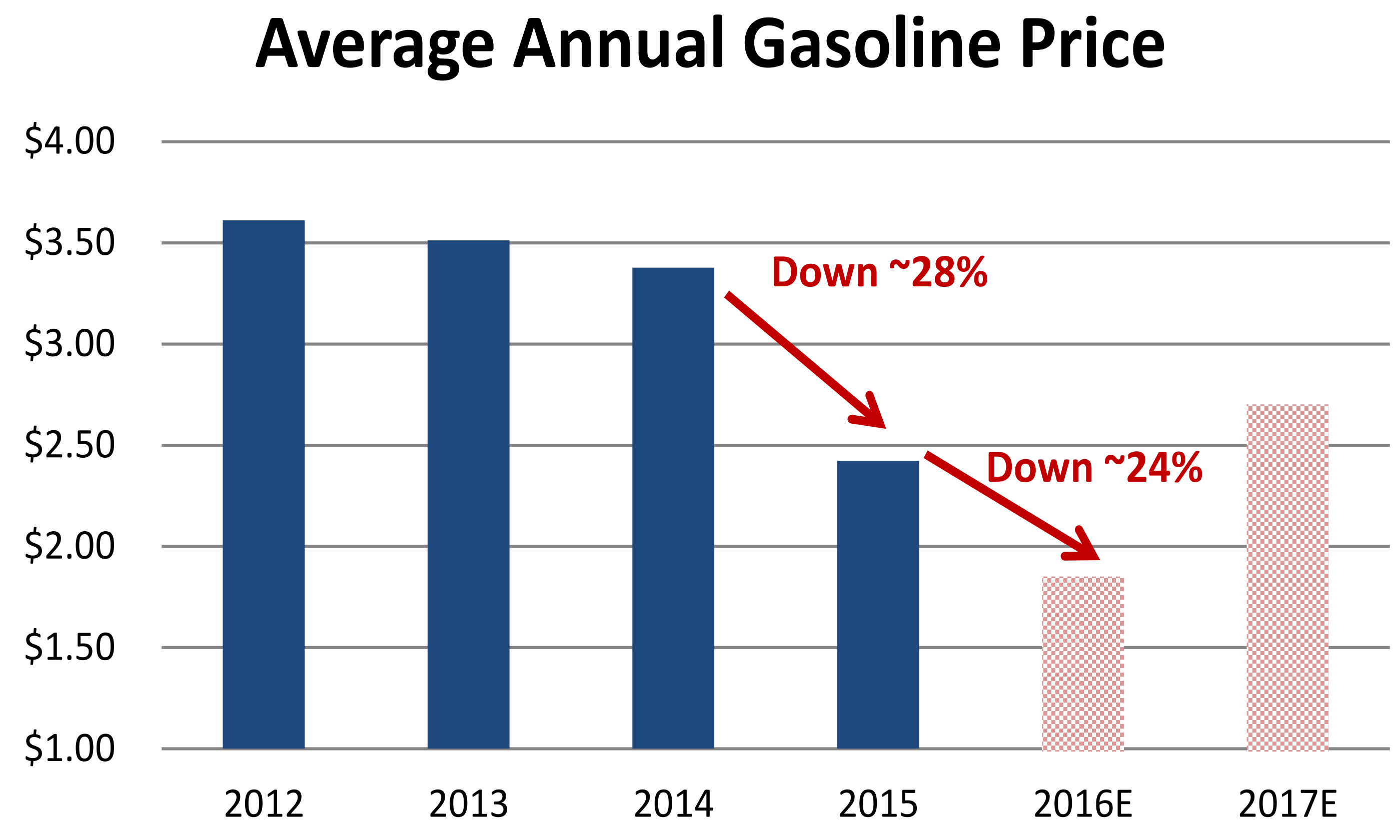
Source: University of Michigan Transportation Research Institute

Driving Trends Are Changing



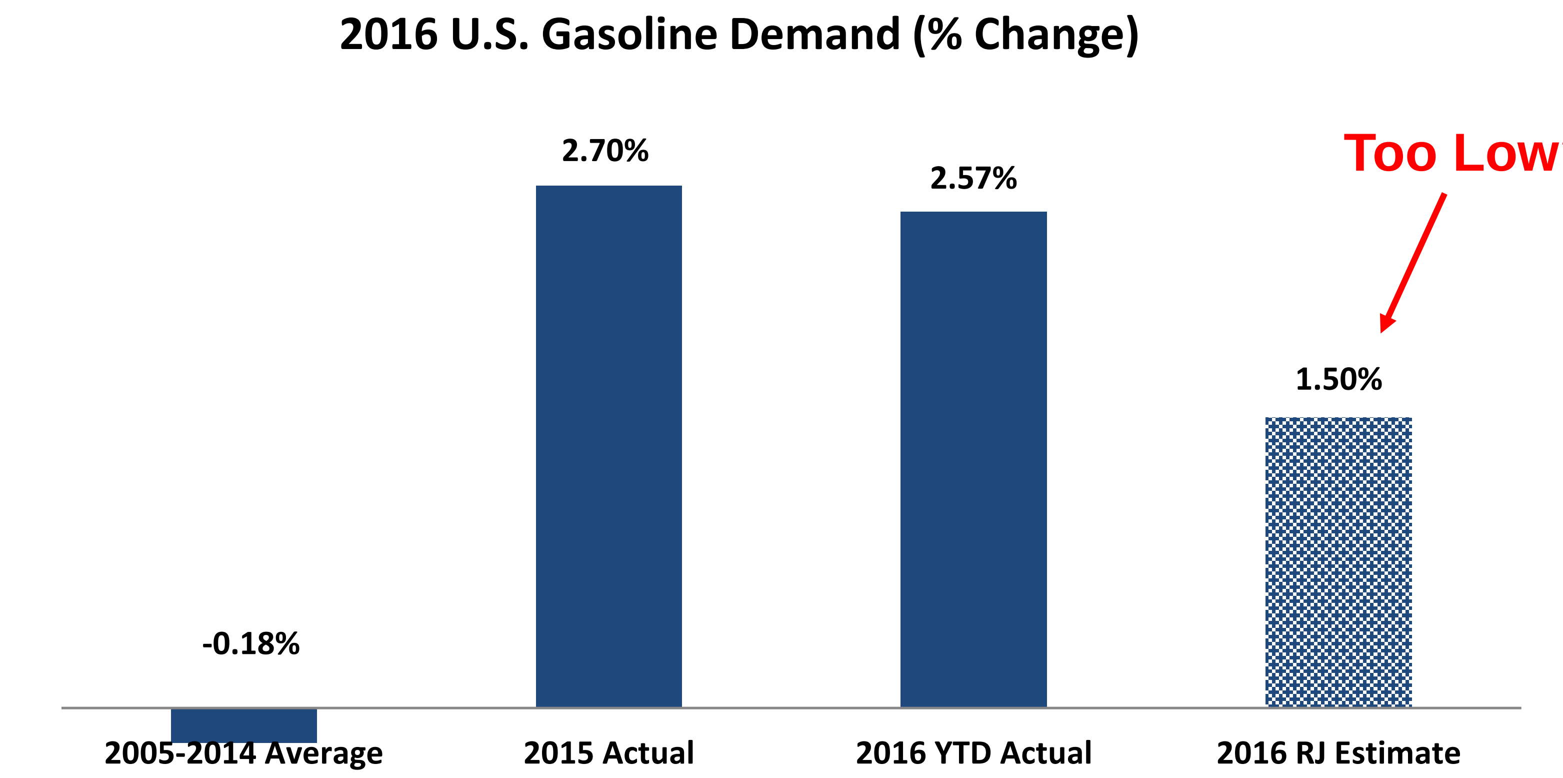
Source: U.S. Department of Transportation

2016 Gasoline Prices Lower Than 2015



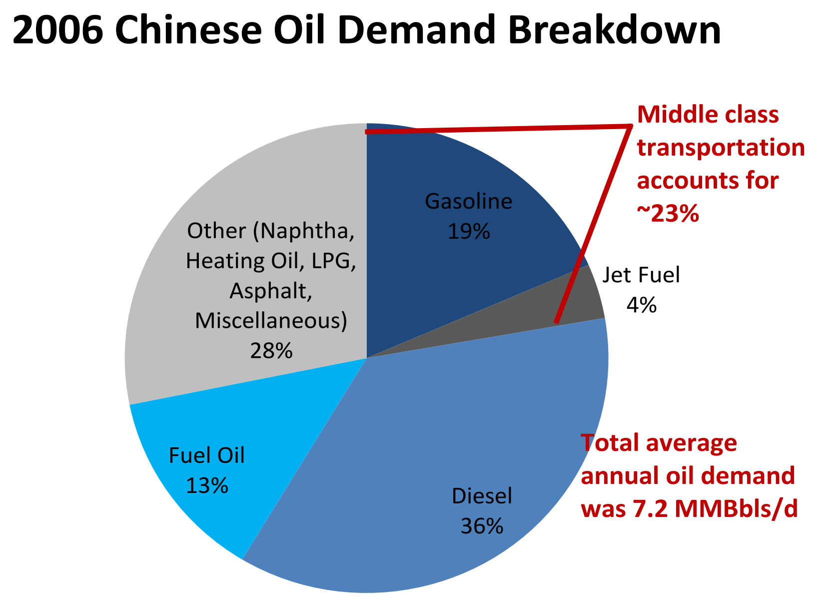
Source: *EIA, RJ Research*

So, U.S. Gasoline Demand Is Responding!

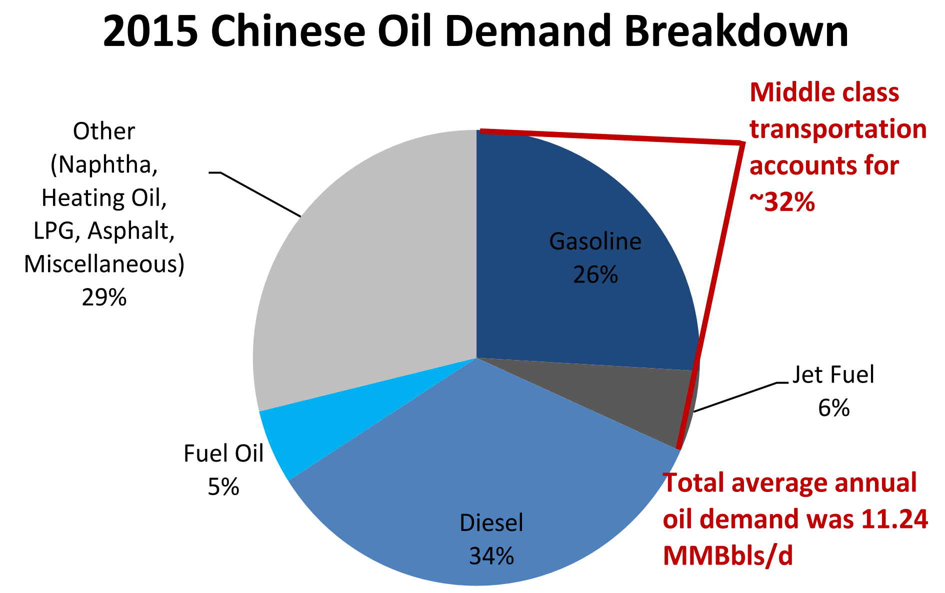


Source: EIA

Gasoline Now "Driving" Chinese Demand

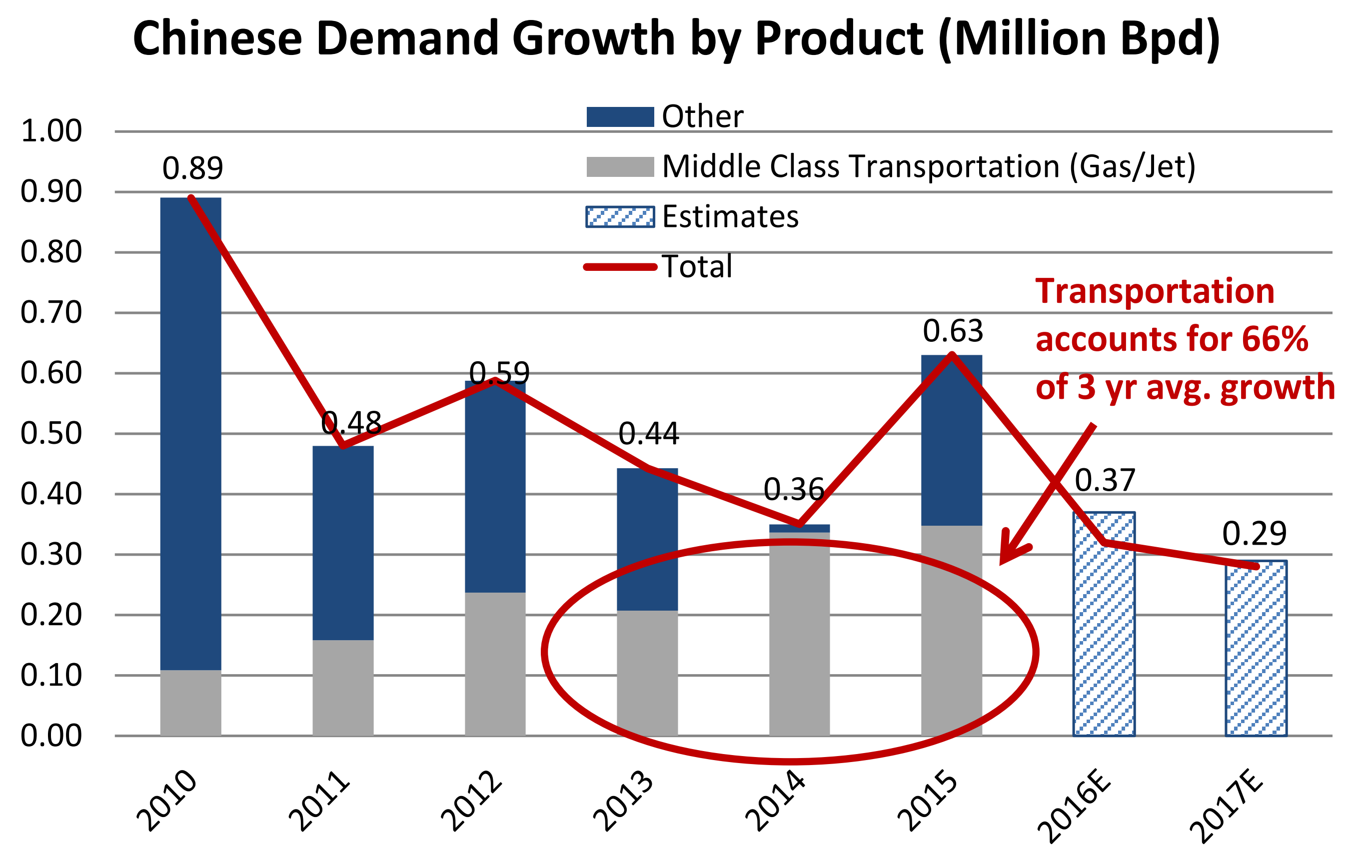


Source: *Bloomberg, IEA, National Bureau of Statistics of China, Raymond*



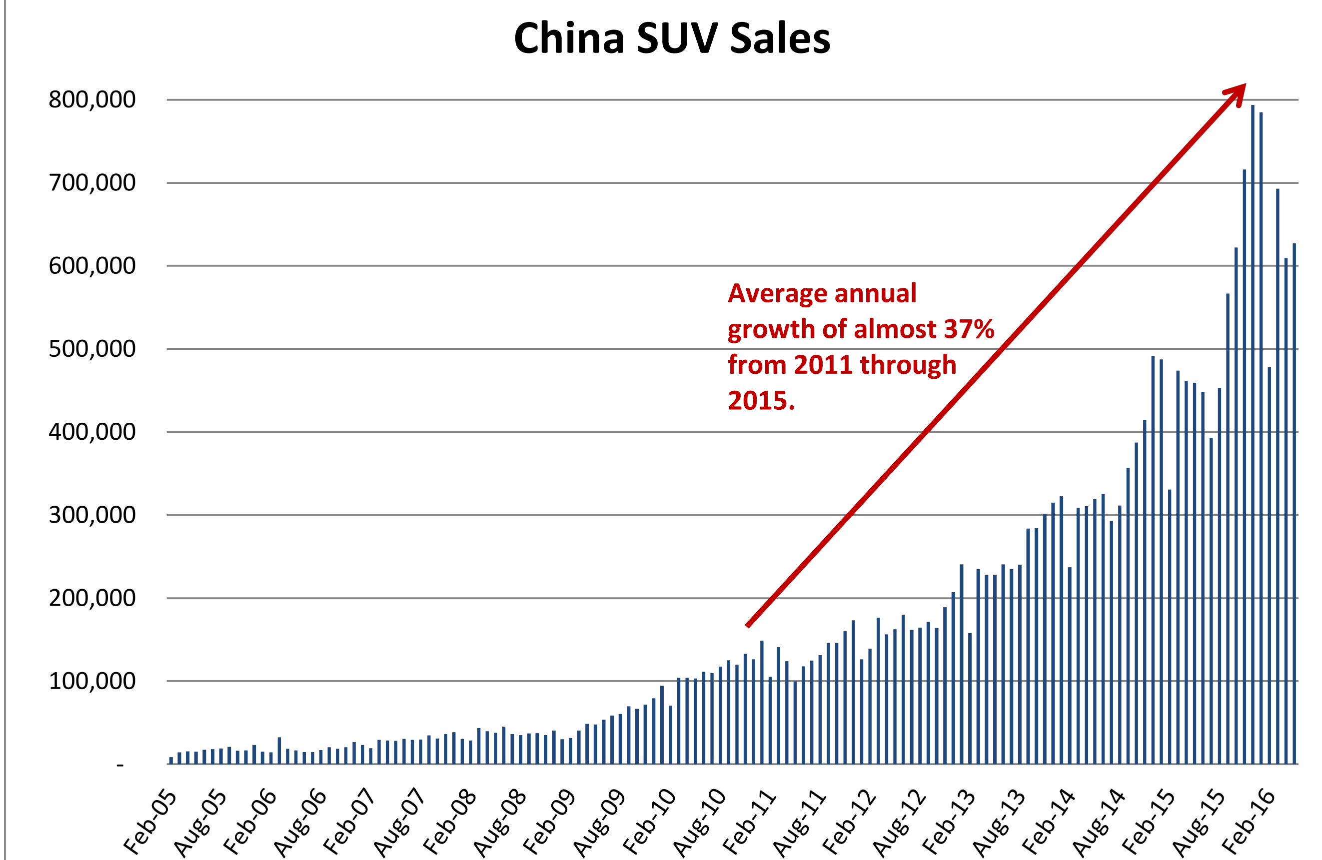
Source: *Bloomberg, IEA, National Bureau of Statistics of China, Raymond*

China Oil Demand Problem Overstated !



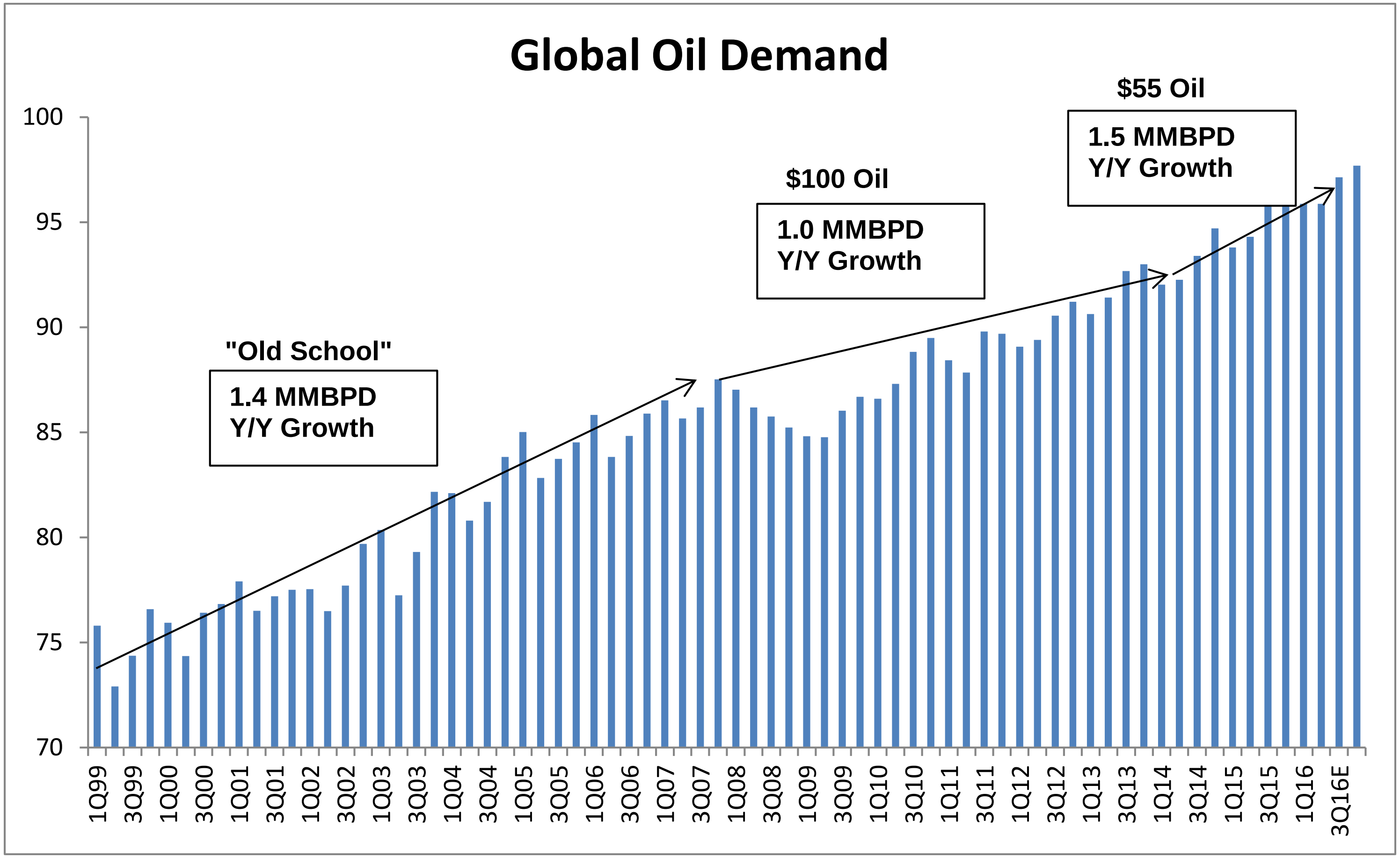
Source: *Bloomberg, IEA, National Bureau of Statistics of China, RJ Research*

Chinese SUV Sales Steadily Climbing



Source: *National Bureau of Statistics of China, Bloomberg*

Lower Oil Prices Have Stimulated Demand



Source: IEA, Raymond James Research

We Think Global Oil Demand is Stout!

Oil Demand: Year-Over-Year Changes

Region	2015	2016E	2017E	2018E
North America	0.9%	1.0%	0.0%	0.0%
Europe	1.9%	0.4%	-1.0%	-1.0%
Pacific (mainly Japan)	-0.3%	0.0%	-1.0%	-1.0%
CIS (mainly Russia)	-1.0%	1.8%	0.5%	0.5%
China	6.4%	3.2%	2.5%	2.5%
Other Asia	4.1%	4.9%	3.7%	3.7%
Latin America	-0.7%	-0.7%	1.0%	1.0%
Middle East	1.8%	0.8%	2.0%	2.0%
Africa	3.7%	2.6%	1.9%	1.9%
Total Demand Growth* (Jan. 2016)	***1.8 MMbpd***	***1.4 MMbpd***	***1.2 MMbpd***	***1.2 MMbpd***
Total Demand % Growth* (Jan. 2016)	***2.0%***	***1.4%***	***1.2%***	***1.2%***
Total Demand Growth* (Current)	**1.8 MMbpd**	**1.7 MMbpd**	**0.9 MMbpd**	**1.0 MMbpd**
Total Demand % Growth* (Current)	**2.0%**	**1.8%**	**0.9%**	**1.0%**
IEA Estimate (MMbpd)	**1.9 MMbpd**	**1.2 MMbpd**	**1.2 MMbpd**	
IEA Estimate (%)	**2.0%**	**1.3%**	**1.3%**	

Source: IEA, IMF, Raymond James research

* After missing barrels

Where Does That Leave Our Global Oil Model?

(Assumes No Additional Interruptions)

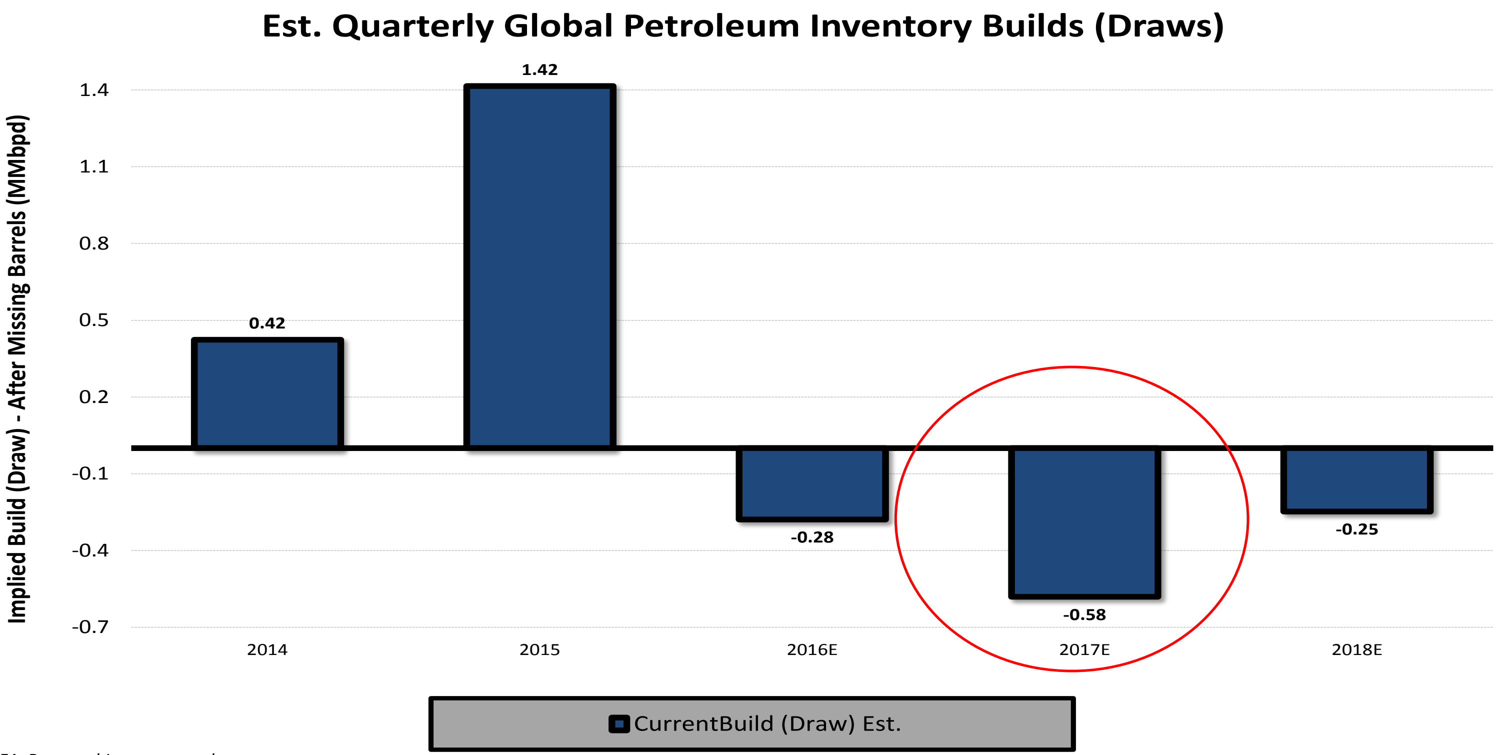
Current Model

Oil Supply-Demand: Year-Over-Year Changes
(MMbpd)

Source	2014A	2015A	2016E	2017E	2018E
Previous Year Build/Draw	-0.7	0.4	1.4	-0.3	-0.6
U.S. Supply Growth	1.8	1.0	-0.3	0.3	1.2
Other Non-OPEC Non-U.S.	-0.2	0.5	-0.6	-0.1	0.1
OPEC Supply Growth	0.7	1.3	1.0	0.4	0.2
Saudi Arabia	*0.1*	*0.6*	*0.2*	*0.0*	*0.0*
Iraq	*0.3*	*0.7*	*0.3*	*0.1*	*0.0*
Iran	*0.1*	*0.0*	*0.6*	*0.1*	*0.0*
Total Global Supply	***2.4***	***2.8***	***0.0***	***0.6***	***1.4***
RJ Demand (incl. "Missing Bbls")	**1.2**	**1.8**	**1.7**	**0.9**	**1.0**
IEA Demand Estimate	1.3	1.6	1.4	1.3	N/A
Inventory Build Est.	**0.4**	**1.4**	**-0.3**	**-0.6**	**-0.2**

Source: IEA, Raymond James research

Supply Cycle's Final Stages?



***Source**: IEA, Raymond James research*

Where Could We Be Wrong on Oil?

Bearish:

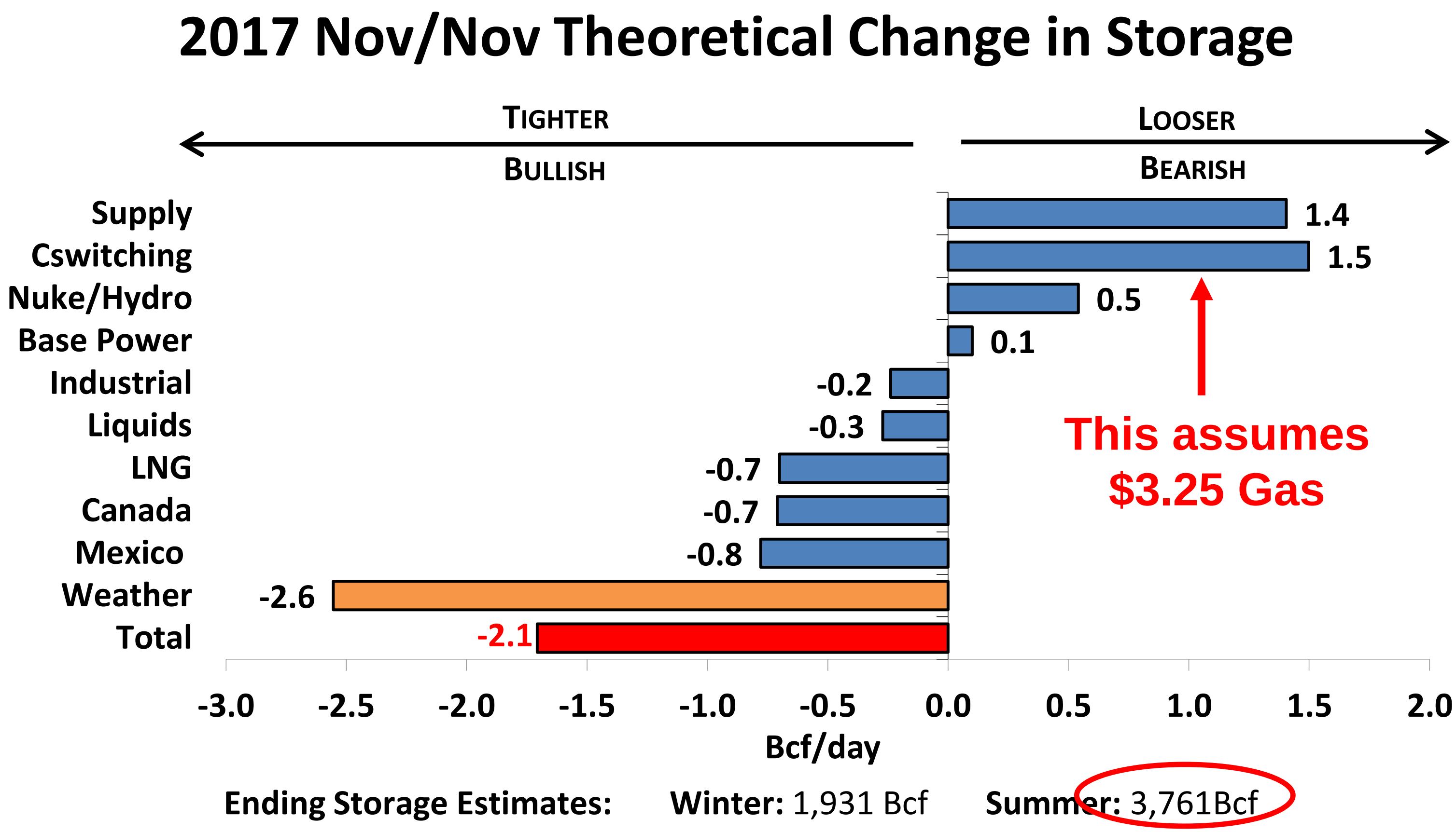
- Will U.S. Efficiency Gains Continue?
- Does Saudi Have More Capacity?
- Hyperbolic U.S. $ Risk?

Bullish:

- Will OPEC Cut?
- Non-US, Non-OPEC Supply Decline?
- Middle East Production Risk Still Exists!

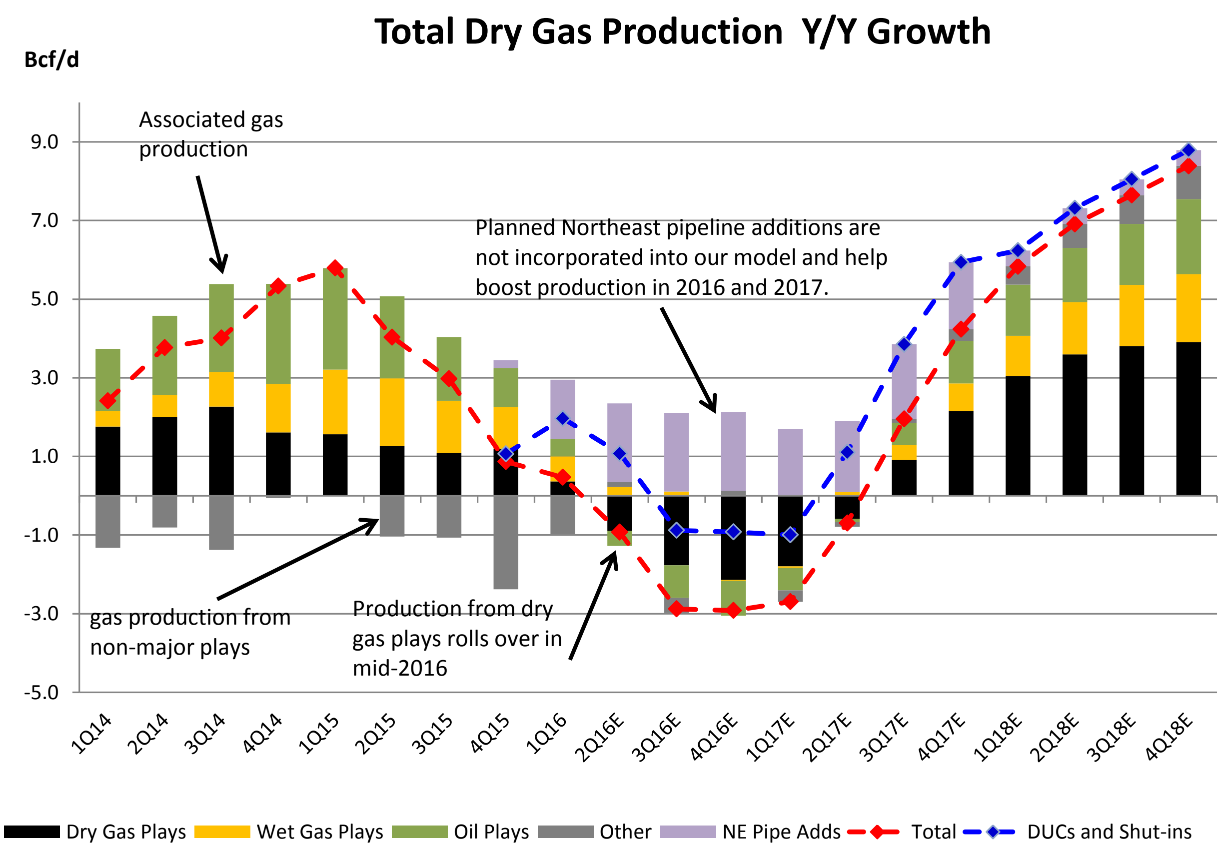
Gas Should Rally in 2017—Plenty of U.S. Gas Sub-$3.00 Long-Term

2017 Gas Outlook Very Bullish



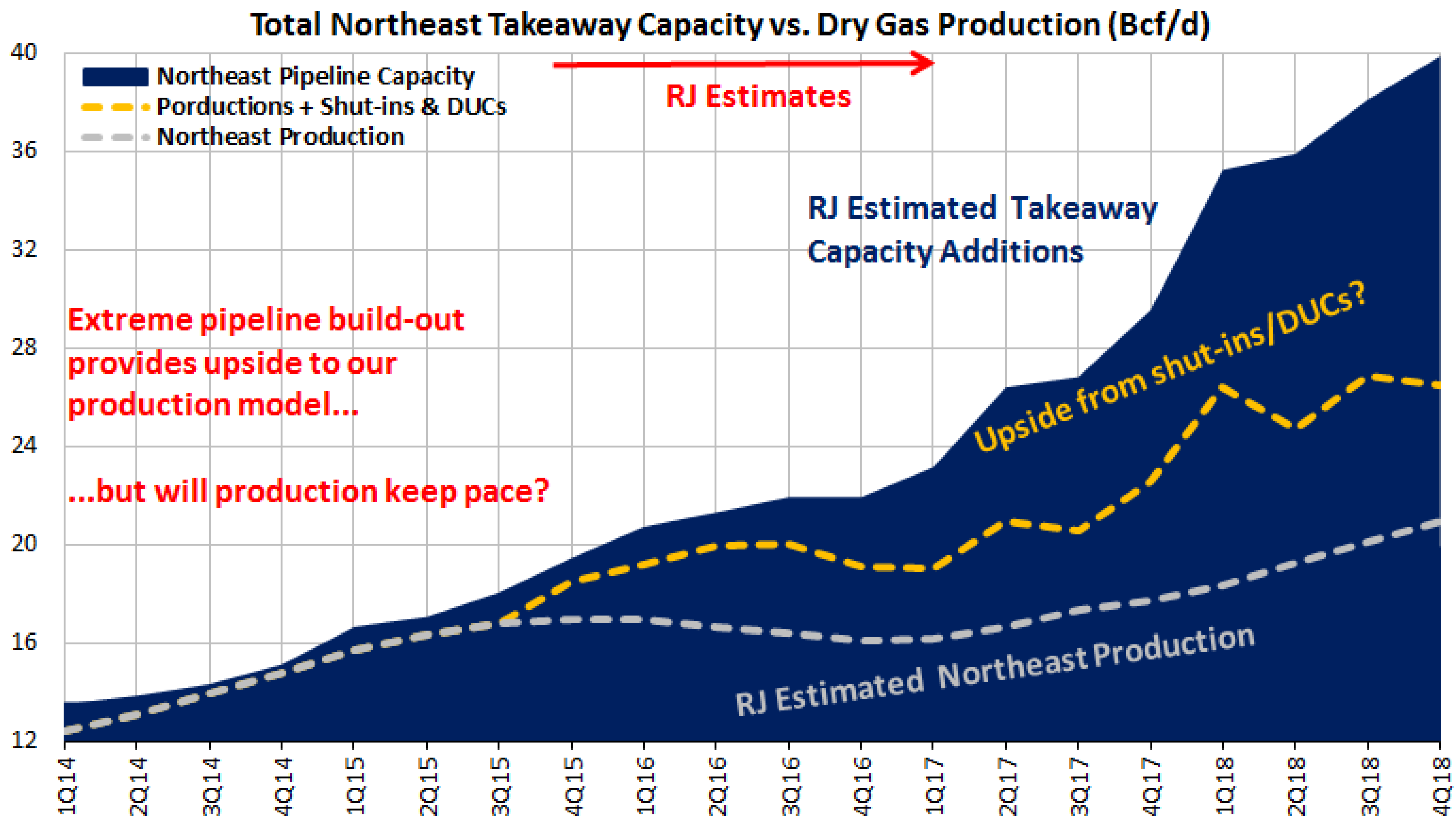
Source: HPDI. EIA. Raymond James Estimates

Pipelines Are Key to U.S. Gas Supply



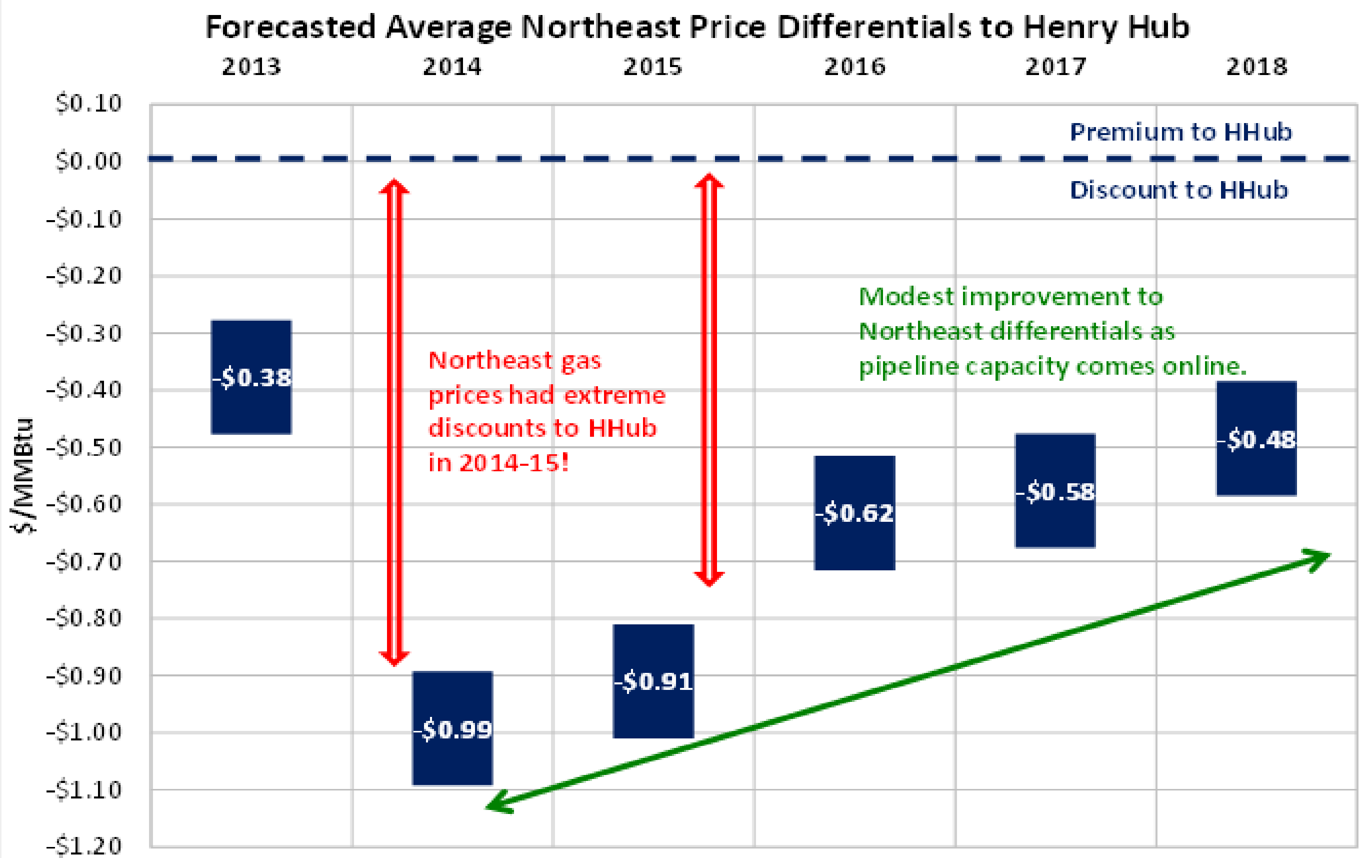
Source: HPDI, EIA, Raymond James Estimates

NE Takeaway Capacity Staggering for Next 3 Years



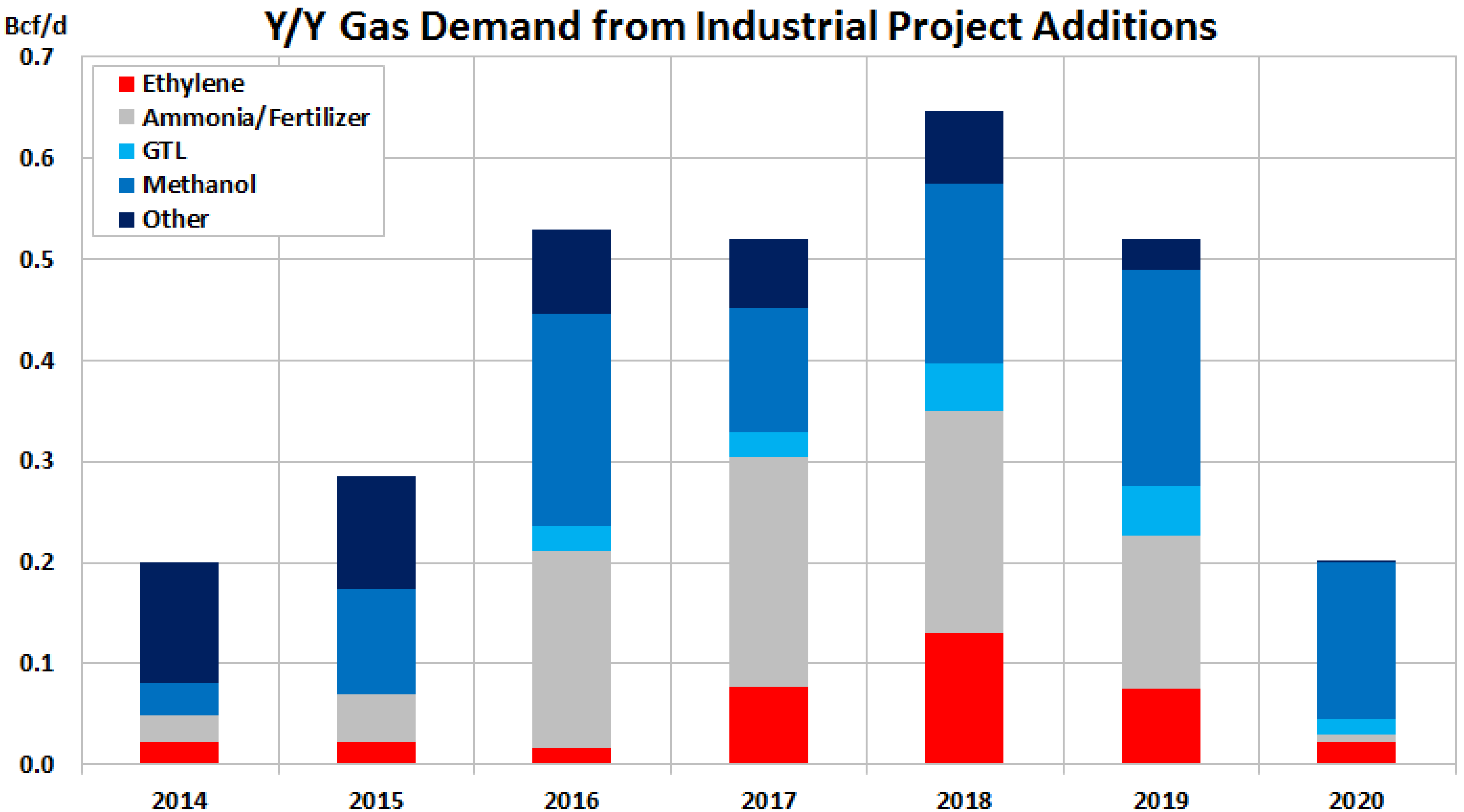
Source: Comapny/partnership data, Raymond James research, EIA.

Northeast Price Differentials Improve, For Now



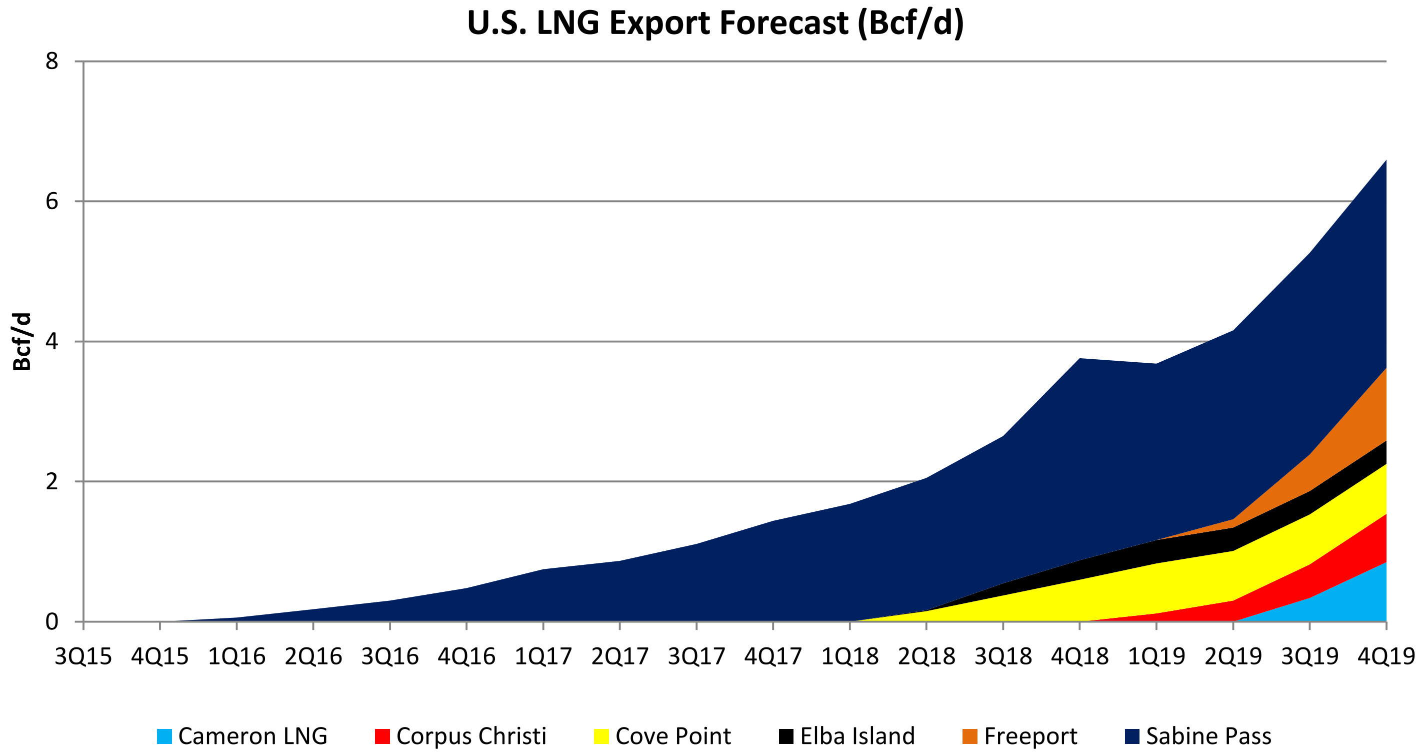
Source: Bloomberg, Raymond James Research.

Demand Tailwinds Exist for Gas



Sources: Raymond James Research, Ammoniaindustry.com, ICIS, AOGR, Downstream Today, RBN Energy, Enterprise Products

LNG: 7+ Bcf/d of Potential Exports by 2020



Source: Company reports, Raymond James research

Natural Gas Rally in 2017!

RJ&A Henry Hub Natural Gas Price Forecast (as of July 2016)

2016	Q1 16A	Q2 16A	Q3 16E	Q4 16E	2016E
Bloomberg Consensus	$2.01	$2.13	$2.33	$2.50	$2.24
NYMEX Futures	$2.01	$2.13	$2.91	$3.12	$2.54
Old RJ Gas	$2.01	$2.13	$2.05	$2.30	$2.12
New RJ Gas	**$2.01**	**$2.13**	**$2.75**	**$3.00**	**$2.47**

2017	Q1 17E	Q2 17E	Q3 17E	Q4 17E	2017E
Bloomberg Consensus	$2.90	$2.80	$2.90	$3.05	$2.91
NYMEX Futures	$3.41	$3.05	$3.08	$3.17	$3.18
Old RJ Gas	$2.70	$2.60	$2.55	$2.75	$2.65
New RJ Gas	**$3.50**	**$3.25**	**$3.00**	**$3.25**	**$3.25**

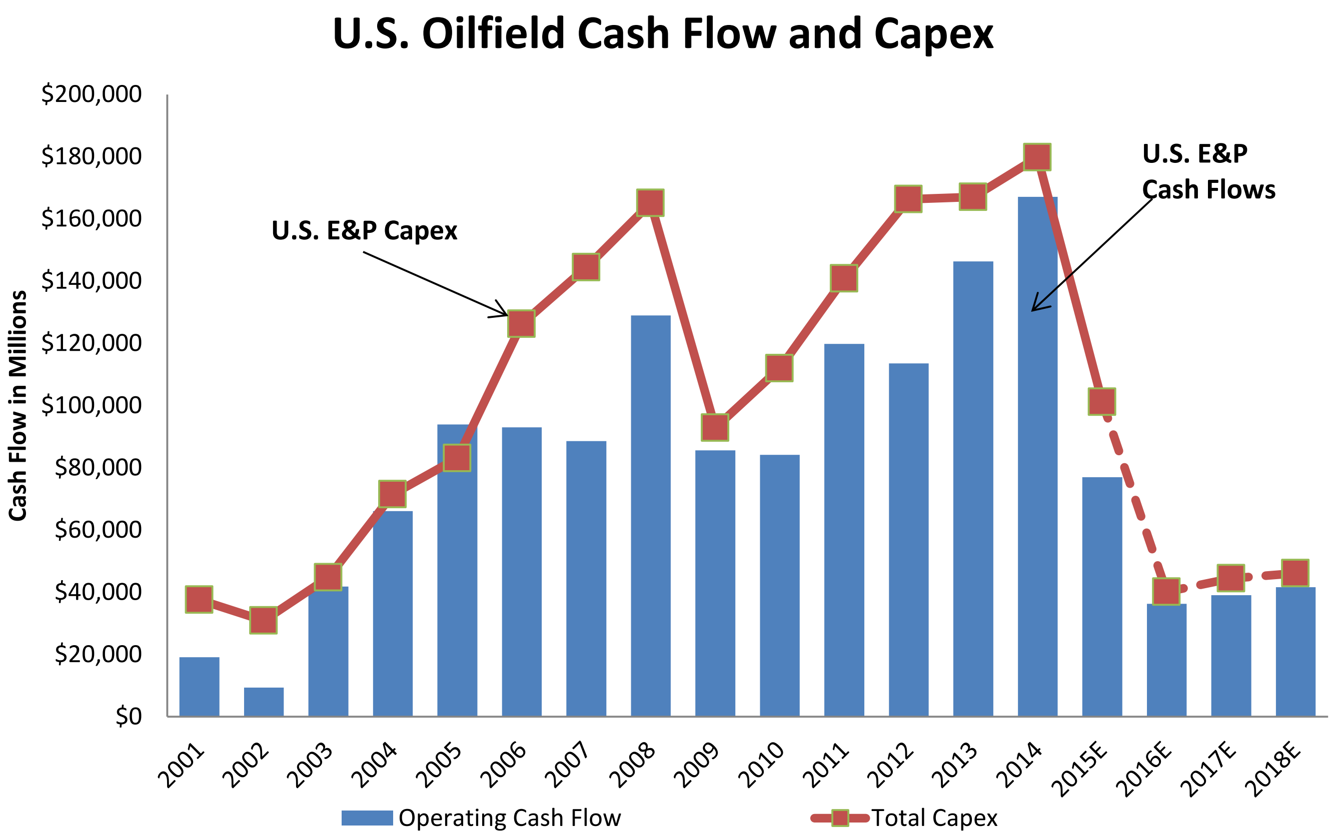
2018	Q1 18E	Q2 18E	Q3 18E	Q4 18E	2018E
Bloomberg Consensus	$3.00	$3.00	$3.00	$3.00	$3.00
NYMEX Futures	$3.34	$2.86	$2.90	$3.00	$3.02
Old RJ Gas	$2.50	$2.50	$2.50	$2.50	$2.50
New RJ Gas	**$3.25**	**$3.00**	**$2.75**	**$3.00**	**$3.00**

2019 (+)	Long-Term Forecast	
Bloomberg Consensus		$3.01
NYMEX Futures		$3.24
Old RJ Gas		$2.50
RJ Long-Term Gas		**$2.50**

Source: Bloomberg, Thomson Reuters, Raymond James research

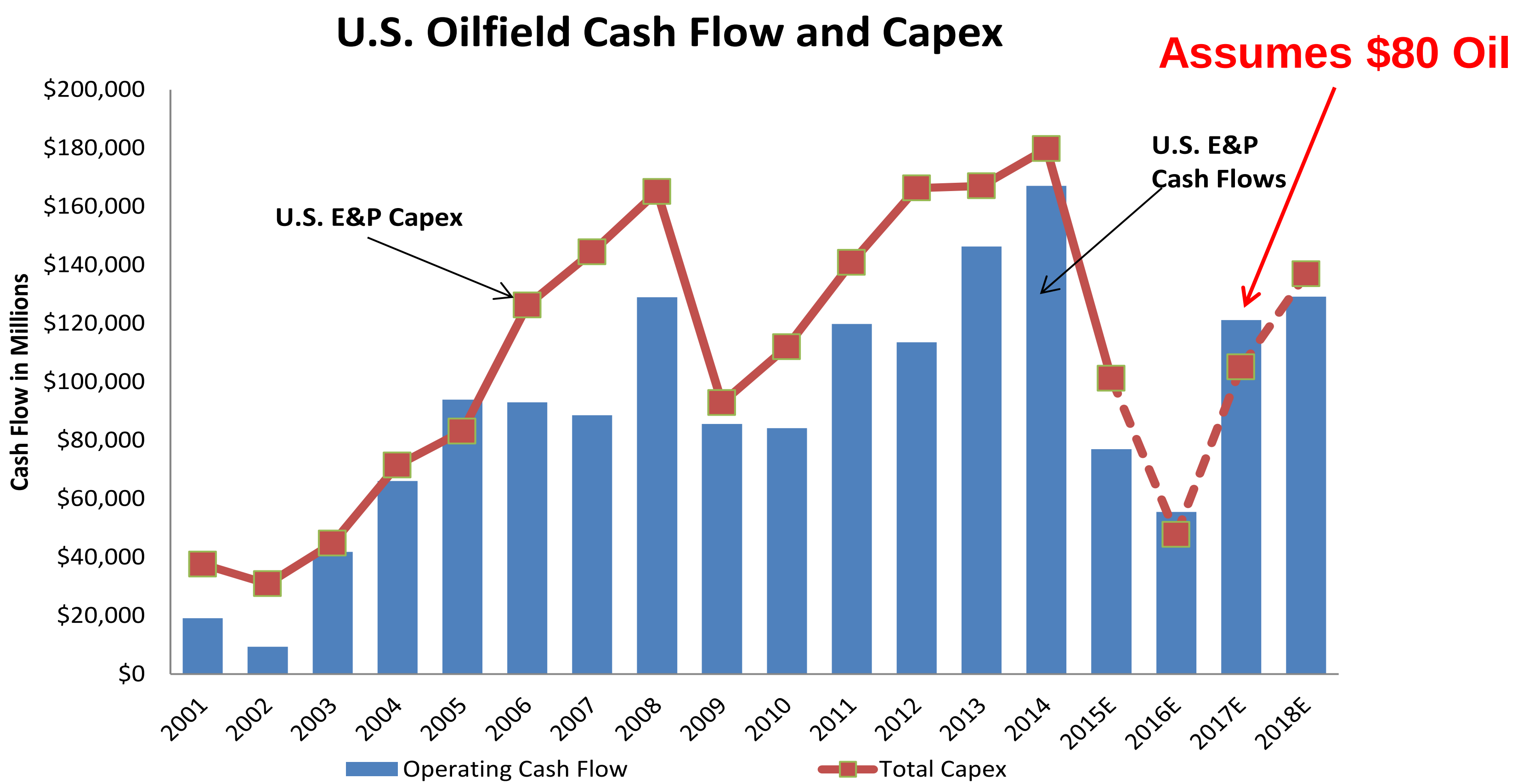
How Will Oilservice Cycle Unfold?

U.S. Oil Service Industry is Dying at "Strip" Prices



Source: Raymond James Research; Spears & Associates; EIA; Company Reports; Bloomberg

Our View: E&P Cash Flows Must Recover

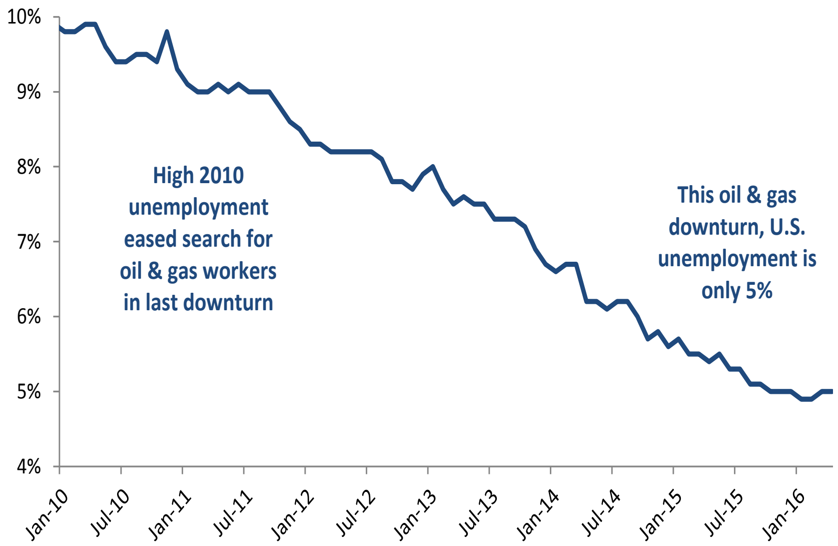


Source: Raymond James Research; Spears & Associates; EIA; Company Reports; Bloomberg

U.S. Supply Constraints

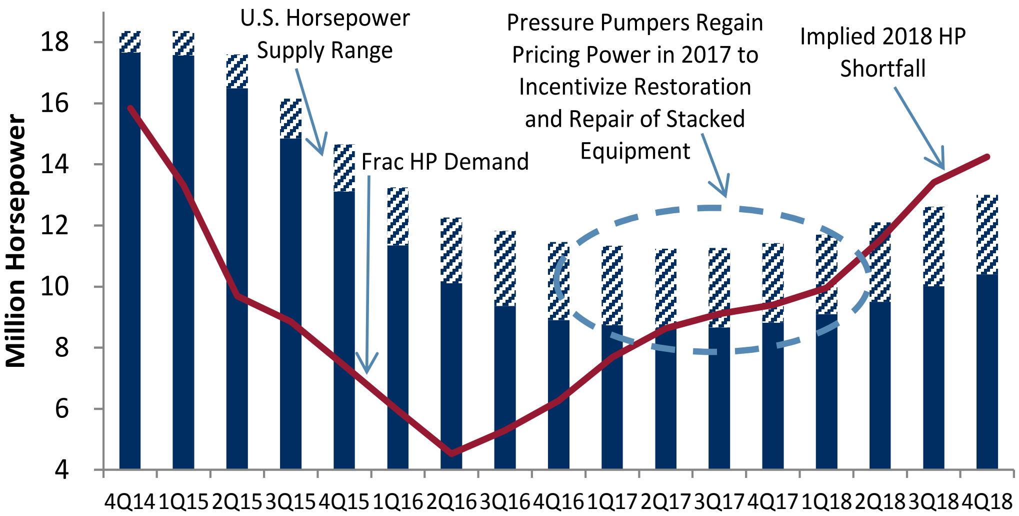
- **Balance Sheets, Labor, Frac Equipment**

U.S. Unemployment Rate, 2006-present



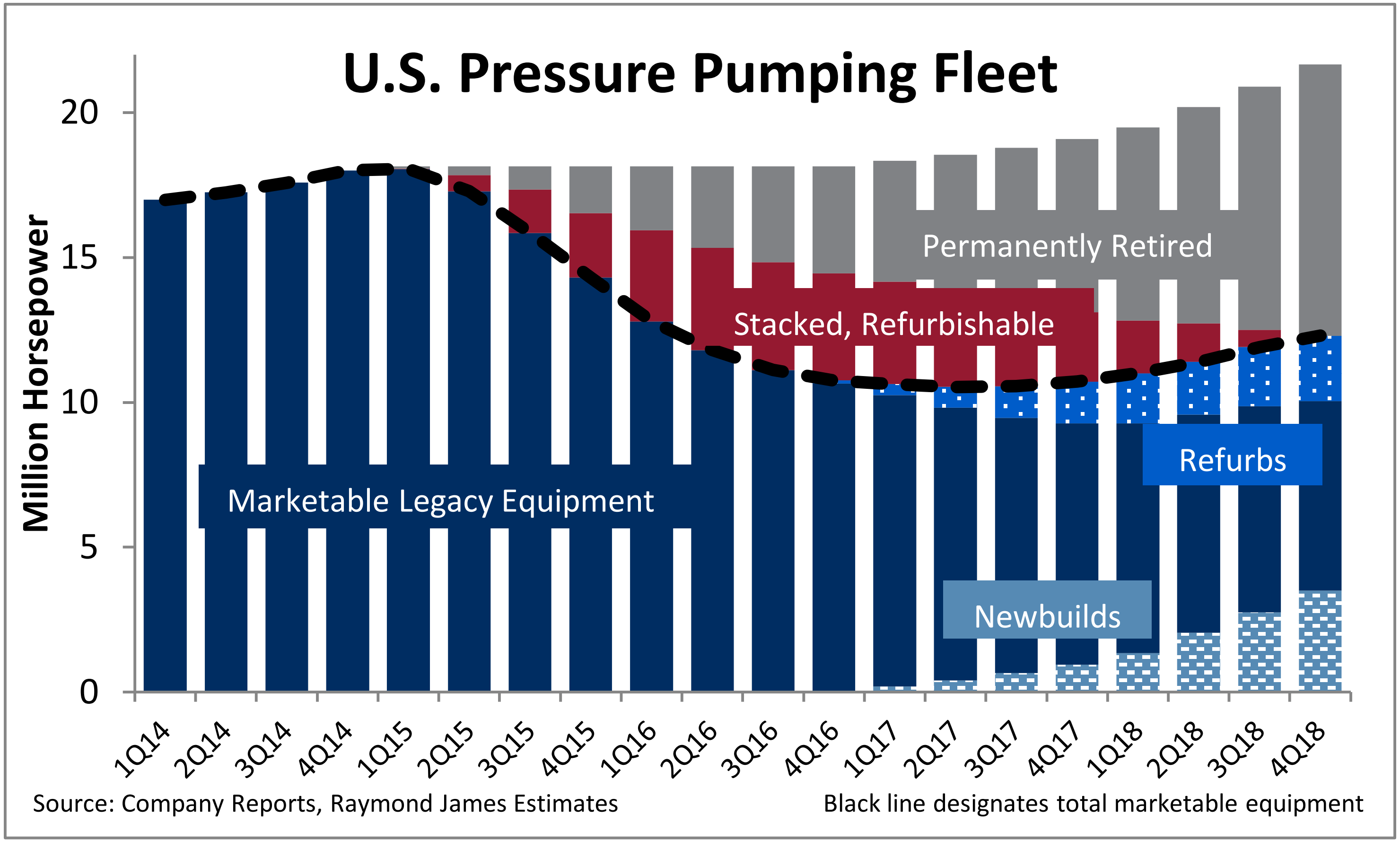
Source: Bureau of Labor Statistics, U.S. Department of Labor

U.S. Pressure Pumping Fleet vs. Demand

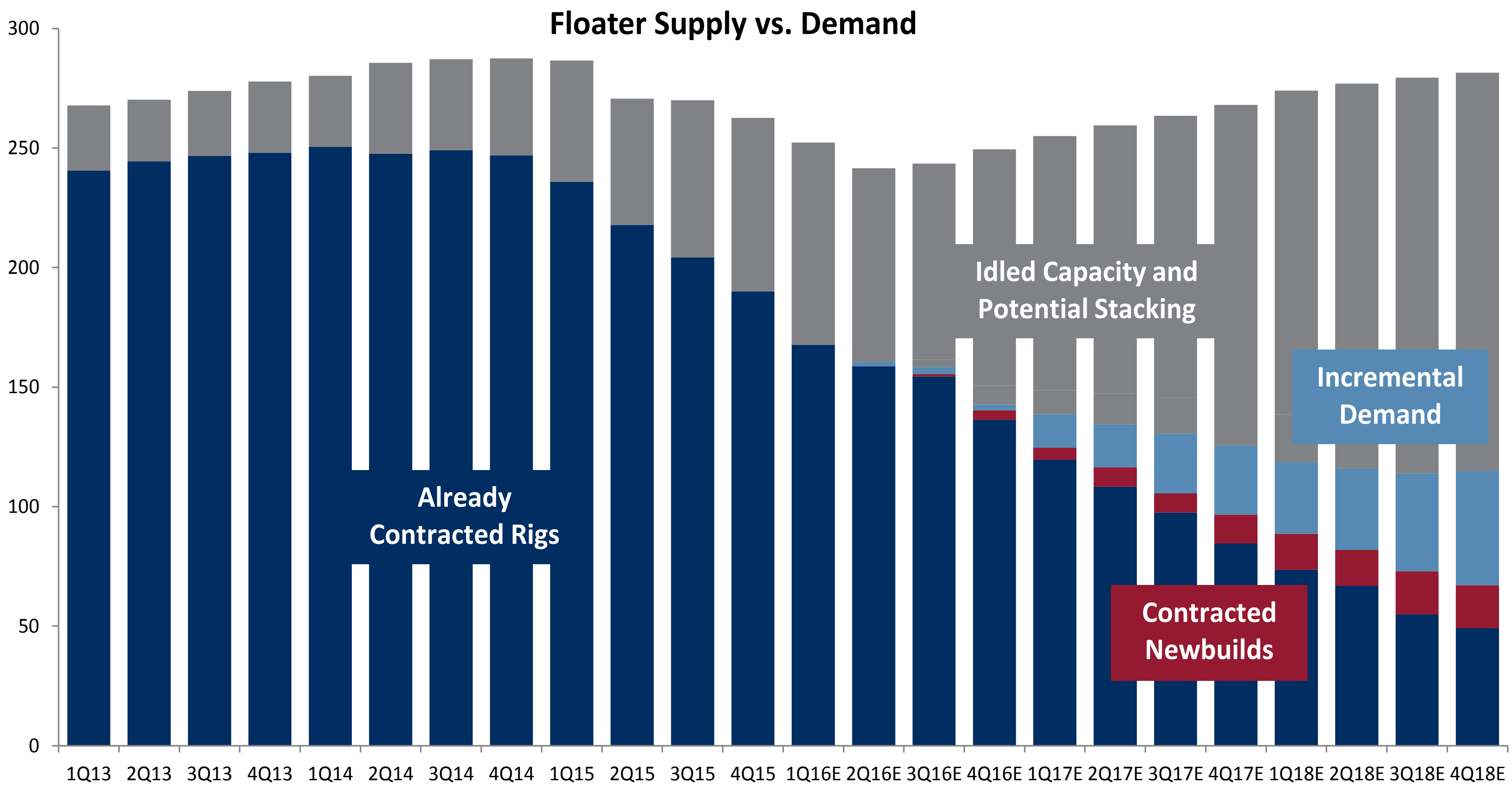


Supply Denotes Active and Available HHP with Minimal Incremental Capex
Source: Company Reports, IHS, Baker Hughes, Raymond James Research

Legacy Equipment Must be Rebuilt



Offshore Will Take Much Longer



Sources: IHS Petrodata, RJ Estimates

Conclusions

- Supply cycle is in its late stages
- U.S. can find a lot of oil @ $60+ and takes market share
- U.S. rig activity surges in 2017/18
- Gas gets bounce in 2017, but remains challenged long-term

World Oil Supply

(Millions of barrels per day)

SUPPLY	2014	YOY%	2015	YOY%	1Q16	2Q16E	3Q16E	4Q16E	2016E	YOY%	1Q17E	2Q17E	3Q17E	4Q17E	2017E	YOY%	2018E	YOY%
United States - non-bio	11.99	17.2%	12.94	7.9%	12.77	12.62	12.33	12.25	12.49	-3.5%	12.36	12.57	12.85	13.23	12.75	2.1%	14.16	11.0%
United States - bio	1.02	2.8%	1.05	2.8%	1.05	1.11	1.11	1.12	1.10	4.8%	1.12	1.13	1.13	1.14	1.13	3.2%	1.13	0.0%
North America	20.09	10.9%	20.97	4.4%	20.94	20.16	20.49	20.45	20.51	-2.2%	20.67	20.32	21.05	21.48	20.88	1.8%	22.26	6.6%
Europe	3.33	0.3%	3.46	4.0%	3.62	3.35	3.17	3.44	3.39	-2.0%	3.47	3.22	3.05	3.31	3.26	-3.9%	3.12	-4.4%
Pacific	0.51	4.6%	0.47	-8.3%	0.45	0.45	0.51	0.48	0.47	1.1%	0.43	0.43	0.49	0.46	0.46	-3.5%	0.44	-3.5%
Total OECD	23.93	9.2%	24.90	4.1%	25.00	23.96	24.17	24.37	24.37	-2.1%	24.58	23.98	24.59	25.25	24.60	0.9%	25.82	5.0%
CIS	13.87	0.5%	14.00	0.9%	14.20	13.97	13.92	14.05	14.03	0.3%	14.17	14.06	14.15	14.30	14.17	1.0%	14.49	2.3%
Other Europe	0.14	0.0%	0.14	0.0%	0.14	0.14	0.14	0.14	0.14	0.0%	0.14	0.14	0.14	0.14	0.14	0.0%	0.14	0.0%
China	4.25	1.7%	4.33	1.8%	4.18	4.06	4.05	4.05	4.08	-5.6%	4.03	4.03	4.03	4.03	4.03	-1.4%	4.07	1.0%
Other Asia	2.63	-25.9%	2.73	3.8%	2.75	2.67	2.57	2.68	2.67	-2.3%	2.69	2.63	2.54	2.64	2.62	-1.7%	2.55	-2.6%
Latin America	4.96	6.4%	5.16	4.1%	4.50	5.03	5.19	4.93	4.91	-4.8%	4.39	4.96	5.17	4.93	4.86	-1.0%	4.87	0.1%
Middle East	1.32	-2.9%	1.25	-5.1%	1.27	1.27	1.27	1.27	1.27	1.6%	1.24	1.24	1.24	1.24	1.24	-2.6%	1.21	-2.6%
Africa	2.28	0.1%	2.26	-1.0%	2.17	2.16	2.15	2.13	2.15	-4.6%	2.13	2.11	2.10	2.09	2.11	-2.1%	2.08	-1.2%
Total NON-OECD	29.45	-1.7%	29.86	1.4%	29.21	29.29	29.29	29.25	29.26	-2.0%	28.78	29.17	29.35	29.36	29.17	-0.3%	29.41	0.8%
Other Biofuels	0.66	16.6%	0.67	1.5%	0.70	0.68	0.68	0.68	0.68	2.0%	0.71	0.70	0.70	0.70	0.70	2.0%	0.74	6.8%
Processing Gains	2.21	1.1%	2.24	1.4%	2.27	2.24	2.24	2.24	2.24	0.0%	2.27	2.24	2.24	2.24	2.24	0.0%	2.24	0.0%
Total Non-OPEC	56.25	3.0%	57.67	2.5%	57.18	56.17	56.38	56.54	56.56	-1.9%	56.34	56.08	56.87	57.54	56.70	0.3%	58.21	2.7%
Saudi Arabia	9.53	1.4%	10.13	6.3%	10.21	10.25	10.30	10.20	10.24	1.1%	10.21	10.25	10.30	10.20	10.24	0.0%	10.24	0.0%
Iran	2.81	4.8%	2.86	1.7%	3.15	3.60	3.60	3.60	3.49	22.2%	3.60	3.60	3.60	3.60	3.60	3.1%	3.63	0.8%
Venezuela	1.96	-1.8%	1.90	-3.2%	1.86	1.81	1.79	1.76	1.80	-5.1%	1.74	1.71	1.69	1.66	1.70	-5.9%	1.60	-5.9%
Iraq	3.33	8.2%	3.99	19.9%	4.28	4.30	4.35	4.40	4.33	8.5%	4.40	4.40	4.40	4.40	4.40	1.5%	4.40	0.0%
Nigeria	1.90	-2.7%	1.80	-5.2%	1.76	1.36	1.55	1.65	1.58	-12.3%	1.65	1.75	1.75	1.75	1.73	9.3%	1.63	-5.8%
United Arab Emirates	2.76	-0.1%	2.88	4.4%	2.81	2.81	2.81	2.81	2.81	-2.3%	2.81	2.81	2.81	2.81	2.81	0.0%	2.81	0.0%
Kuwait	2.61	2.3%	2.75	5.4%	2.83	2.70	2.80	2.80	2.78	1.3%	2.80	2.80	2.80	2.80	2.80	0.6%	2.80	0.0%
Libya	0.46	-48.7%	0.40	-12.7%	0.36	0.36	0.36	0.36	0.36	-11.8%	0.36	0.36	0.36	0.36	0.36	0.0%	0.36	0.0%
Angola	1.66	-3.4%	1.76	6.4%	1.77	1.76	1.75	1.74	1.76	-0.3%	1.72	1.70	1.68	1.66	1.69	-3.7%	1.61	-4.7%
Algeria	1.12	-2.8%	1.11	-0.9%	1.10	1.10	1.10	1.10	1.10	-1.1%	1.09	1.09	1.09	1.09	1.09	-1.0%	1.07	-2.0%
Qatar	0.71	-3.4%	0.66	-7.2%	0.66	0.66	0.66	0.66	0.66	0.6%	0.66	0.66	0.66	0.66	0.66	0.0%	0.66	0.0%
Neutral Zone	0.38	-26.1%	0.07	-81.6%	0.00	0.15	0.30	0.30	0.19	166.9%	0.30	0.30	0.30	0.30	0.30	59.0%	0.30	0.0%
Ecuador	0.55	5.7%	0.54	-1.8%	0.54	0.54	0.52	0.53	0.53	-1.8%	0.52	0.52	0.50	0.51	0.52	-3.0%	0.50	-3.0%
Indonesia	0.70		0.69	-1.0%	0.71	0.69	0.69	0.68	0.69	0.5%	0.68	0.68	0.68	0.68	0.68	-1.9%	0.68	0.0%
OPEC Crude	30.48	1.7%	31.55	3.5%	32.06	32.10	32.59	32.60	32.34	2.5%	32.55	32.64	32.62	32.49	32.58	0.7%	32.29	-0.9%
OPEC NGLs	6.50	3.9%	6.68	2.7%	6.77	6.81	6.81	6.81	6.81	2.0%	6.91	6.95	6.95	6.95	6.95	2.0%	7.08	2.0%
Total OPEC	36.98	2.1%	38.23	3.4%	38.83	38.91	39.39	39.41	39.15	2.4%	39.45	39.58	39.57	39.43	39.52	1.0%	39.37	-0.4%
TOTAL SUPPLY	93.23	2.6%	95.90	2.9%	96.01	95.08	95.78	95.95	95.70	-0.2%	95.80	95.66	96.44	96.98	96.22	0.5%	97.58	1.4%
Implied Inv. Build/(Draw)-RJ Est.	0.36		1.17		0.84	-0.64	-1.14	-1.41	-0.60		-0.25	-0.72	-1.62	-1.30	-0.98		-0.61	
Implied Inv. Build/(Draw)-After Missing Bbl Adj.	0.22		0.99		0.43	-0.86	-1.36	-1.62	-0.81		-0.46	-0.94	-1.83	-1.51	-1.19		-0.83	

Source: IEA, RJ&A Estimates

World Oil Demand

(Millions of barrels per day)

3.2%

DEMAND	2014	YOY%	2015	YOY%	1Q16	2Q16E	3Q16E	4Q16E	2016E	YOY%	1Q17E	2Q17E	3Q17E	4Q17E	2017E	YOY%	2018E	YOY%
North America	**24.14**	0.2%	**24.36**	0.9%	24.21	24.41	24.85	24.93	**24.61**	1.0%	24.21	24.17	25.10	24.93	**24.61**	0.0%	**24.61**	0.0%
Europe	**13.45**	-1.2%	**13.71**	1.9%	13.47	13.63	14.21	13.75	**13.77**	0.4%	13.34	13.49	14.07	13.61	**13.63**	-1.0%	**13.56**	-0.5%
Pacific (mainly Japan)	**8.13**	-2.5%	**8.10**	-0.3%	8.57	7.65	7.78	8.42	**8.10**	0.0%	8.49	7.57	7.70	8.34	**8.02**	-1.0%	**7.99**	-0.4%
Total OECD	**45.72**	**-0.7%**	**46.17**	**1.0%**	**46.26**	**45.69**	**46.84**	**47.10**	**46.48**	**0.7%**	**46.04**	**45.23**	**46.87**	**46.88**	**46.26**	**-0.5%**	**46.16**	**-0.2%**
CIS (mainly Russia)	**4.92**	4.3%	**4.87**	-1.0%	4.85	4.91	5.08	4.99	**4.96**	1.8%	4.87	4.94	5.10	5.02	**4.98**	0.5%	**5.01**	0.5%
Other Europe	**0.67**	2.4%	**0.70**	3.7%	0.70	0.69	0.71	0.71	**0.70**	0.7%	0.70	0.69	0.71	0.71	**0.70**	0.0%	**0.70**	0.0%
China	**10.70**	3.4%	**11.39**	6.4%	11.54	11.79	11.83	11.87	**11.76**	3.2%	11.83	12.08	12.12	12.16	**12.05**	2.5%	**12.35**	2.5%
Other Asia	**12.05**	2.6%	**12.54**	4.1%	13.11	13.17	12.88	13.46	**13.16**	4.9%	13.60	13.65	13.36	13.96	**13.64**	3.7%	**14.07**	3.2%
Latin America	**6.80**	2.6%	**6.76**	-0.7%	6.53	6.74	6.82	6.76	**6.71**	-0.7%	6.59	6.80	6.88	6.82	**6.78**	1.0%	**6.84**	1.0%
Middle East	**8.03**	1.4%	**8.17**	1.8%	7.78	8.38	8.63	8.16	**8.24**	0.8%	7.93	8.55	8.81	8.32	**8.40**	2.0%	**8.57**	2.0%
Africa	**3.97**	2.2%	**4.12**	3.7%	4.25	4.22	4.13	4.31	**4.23**	2.6%	4.33	4.30	4.21	4.39	**4.31**	1.9%	**4.42**	2.5%
Total NON-OECD	**47.15**	**2.7%**	**48.55**	**3.0%**	**48.75**	**49.90**	**50.07**	**50.25**	**49.75**	**2.5%**	**49.85**	**51.02**	**51.19**	**51.39**	**50.87**	**2.2%**	**51.97**	**2.2%**
TOTAL DEMAND (RJ Est.)	**92.87**	**1.0%**	**94.72**	**2.0%**	**95.01**	**95.59**	**96.91**	**97.35**	**96.22**	**1.6%**	**95.89**	**96.25**	**98.06**	**98.26**	**97.13**	**0.9%**	**98.12**	
Actual Missing Barrels	**0.28**		**0.10**		**0.30**				**0.08**									
Missing Bbls Adjustment (1/2 actual)	**0.14**		**0.19**		**0.23**	**0.23**	**0.23**	**0.23**	**0.23**		**0.23**	**0.23**	**0.23**	**0.23**	**0.23**		**0.23**	
TOTAL RJ DEMAND (inc. Miss. Bbls Adj)	**93.01**	**1.2%**	**94.91**	**2.0%**	**95.54**	**95.81**	**97.14**	**97.58**	**96.45**	**1.6%**	**96.11**	**96.48**	**98.28**	**98.49**	**97.35**	**0.9%**	**98.35**	**1.0%**
IEA DEMAND EST	**92.88**	**1.1%**	**94.73**	**2.0%**	**95.01**	**95.29**	**96.67**	**96.79**	**95.94**	**1.3%**								
Y/Y bbl/day Change (IEA Est.)	**0.97**		**1.85**		1.41	1.17	1.00	1.31	**1.21**									
Y/Y % Change (IEA Est.)	**1.1%**		**2.0%**		1.5%	1.2%	1.0%	1.4%	**1.3%**									
Y/Y bbl/day Change (Before Missing Bbl Adj.)	**0.94**		**1.85**		1.41	1.46	1.25	1.88	**1.50**		0.88	0.66	1.15	0.91	**0.90**		**1.00**	
Y/Y % Change	**1.0%**		**2.0%**		1.5%	1.6%	1.3%	2.0%	**1.6%**		0.9%	0.7%	1.2%	0.9%	**0.9%**		**1.0%**	
Y/Y bbl/day Change (After Missing Bbl Adj.)	**1.07**		**1.90**		1.75	1.50	1.29	1.92	**1.54**		0.58	0.66	1.15	0.91	**0.90**		**1.00**	
Y/Y % Change	**1.2%**		**2.0%**		1.9%	1.6%	1.3%	2.0%	**1.6%**		0.6%	0.7%	1.2%	0.9%	**0.9%**		**1.0%**	
World Real GDP Growth		3.4%		3.1%						3.4%					**3.6%**			

Source: IEA, RJ&A Estimates

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Strong Buy (SB1) Expected to appreciate, produce a total return of at least 15%, and outperform the S&P 500 over the next six to 12 months. For higher yielding and more conservative equities, such as REITs and certain MLPs, a total return of at least 15% is expected to be realized over the next 12 months.

Outperform (MO2) Expected to appreciate and outperform the S&P 500 over the next 12-18 months. For higher yielding and more conservative equities, such as REITs and certain MLPs, an Outperform rating is used for securities where we are comfortable with the relative safety of the dividend and expect a total return modestly exceeding the dividend yield over the next 12-18 months.

Market Perform (MP3) Expected to perform generally in line with the S&P 500 over the next 12 months.

Underperform (MU4) Expected to underperform the S&P 500 or its sector over the next six to 12 months and should be sold.

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Market Perform (MP3) The stock is expected to perform generally in line with the S&P/TSX Composite Index over the next twelve months and is potentially a source of funds for more highly rated securities.

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High Risk/Income (H/INC) Medium to higher risk equities of companies that are structured with a focus on providing a meaningful dividend but may face less predictable earnings (or losses), more leveraged balance sheets, rapidly changing market dynamics, financial and competitive issues, higher price volatility (beta), and potential risk of principal. Securities of companies in this category may have a less predictable income stream from dividends or distributions of capital.

High Risk/Growth (H/GRW) Medium to higher risk equities of companies in fast growing and competitive industries, with less predictable earnings (or losses), more leveraged balance sheets, rapidly changing market dynamics, financial or legal issues, higher price volatility (beta), and potential risk of principal.

High Risk/Speculation (H/SPEC) High risk equities of companies with a short or unprofitable operating history, limited or less predictable revenues, very high risk associated with success, significant financial or legal issues, or a substantial risk/loss of principal.

Stock Charts, Target Prices, and Valuation Methodologies

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