Thomson Reuters Oil Research & Forecasts Presents:

GLOBAL CRUDE OIL MARKET OUTLOOK

IADC South East Asia Chapter Meeting

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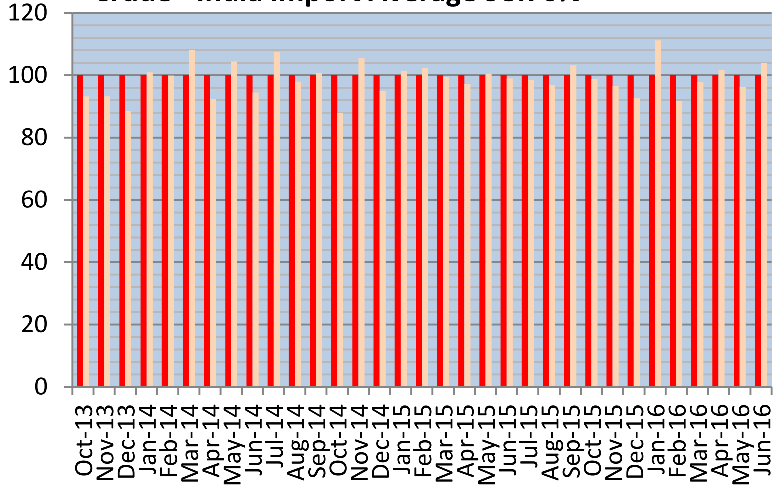
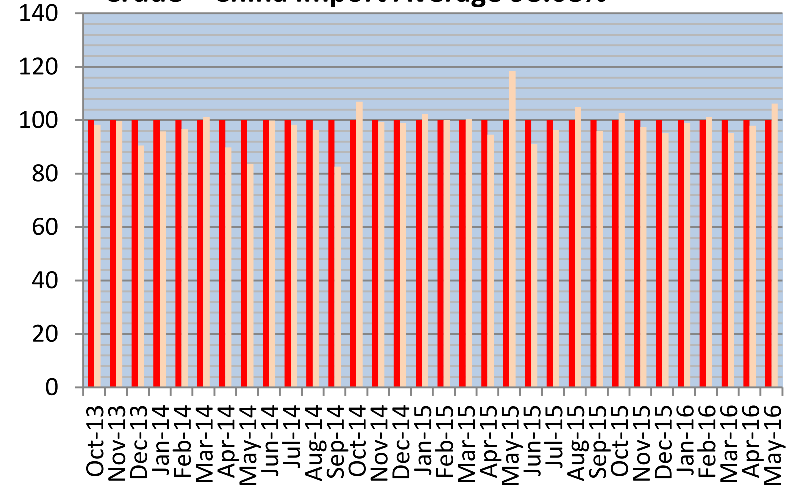
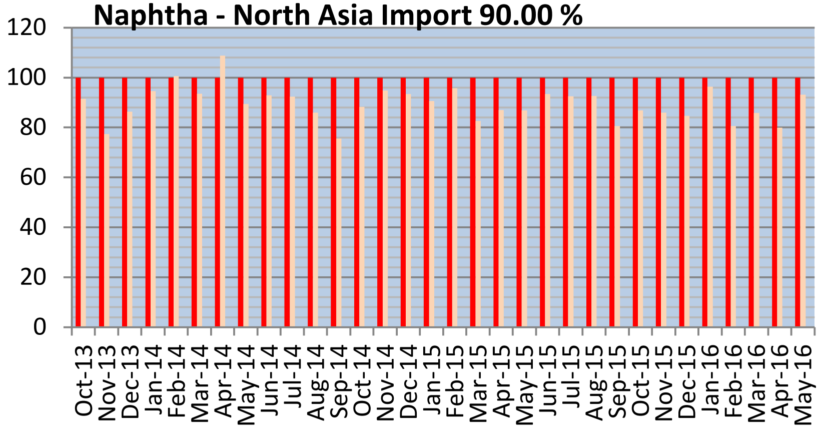
Crude - India Import Average 98.76%



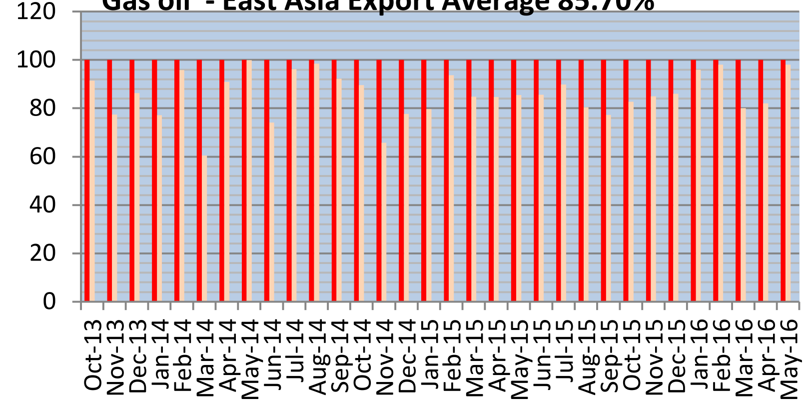
Crude – China Import Average 98.08%



Naphtha - North Asia Import 90.00 %



Gas oil - East Asia Export Average 85.70%



Why is this important to global markets?

Thomson Reuters Wins 2015 Data Provider Of The Year Award At Energy Risk Asia Awards - Thomson Reuters Accurate And Unbiased Solution For Forecasting China Crude Oil Flows. This is the 2nd consecutive year that we have won the award.

"Despite recent jitters, China is more important than ever to the global oil market. Thomson Reuters has done a fine job at delivering actionable insight about China-related trade flows." -- ***Mark Pengelly, Editor of Energy Risk***

GLOBAL OIL MARKET OUTLOOK:

CRUDE OIL

"Prices have gone up by 15-20% since end-November, following OPEC/Russia's announcement of an unprecedented production cut. How will this impact the market's fundamentals in 2017 and how has that changed its key drivers?"

the answer company
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GLOBAL OIL MARKET OUTLOOK - CRUDE

- **Crude oil prices have risen by about 20% since the announcement of OPEC's and Russia's output cuts, with prices rising to a range of $52-$58/bbl since end-November, before falling under the 100-day resistance to $50-$52/bbl currently, from its previous range of $45-$50/bbl.**

- **Despite this, we believe that the market remains amply-supplied and are driven by the same three fundamentals:-**

  - **Shale production in the US, which continues unabated at near record-high levels well above 8 million barrels-per-day despite the pervasive low-price environment,**

  - **Output from major producers mainly Saudi Arabia, Iran, Iraq and Russia, which remain at high levels for each despite the production cut,**

  - **China's continued strong demand that has seen record-high monthly imports year-after-year.**

GLOBAL OIL MARKET OUTLOOK - CRUDE

The fundamentals impacting the Shale Producers in the United States is as follows:-

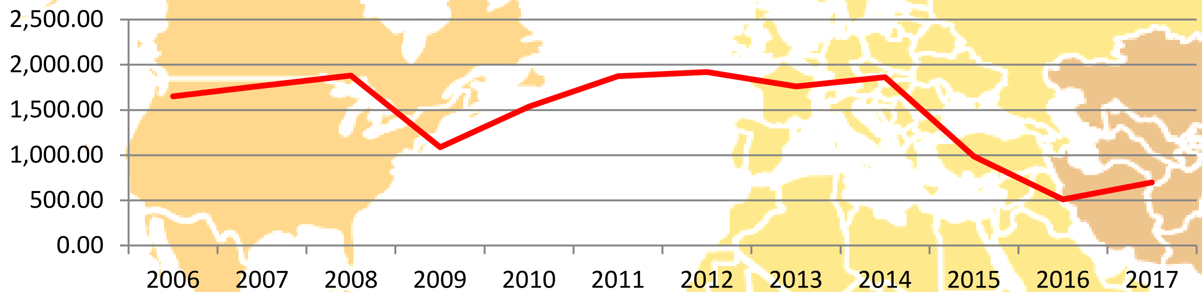
- **Production, which had consistently fallen for almost every single week between January and October 2016, have rebounded strongly since, to above 9 million barrels-per-day (bpd).**
- **Rig counts, which plunged to 10-year lows of around 400 per month in May, have also rebounded to above the 750-mark, though still well below the 2011-2014 averages of 1,700-2,000 per month.**
- **It is quite clear that the US shale drillers are one of the main beneficiaries of the OPEC/Russia cuts, well recovering from their woes that saw a record 68 bankruptcy filings less than a year ago.**

GLOBAL OIL MARKET OUTLOOK - CRUDE

Year	mln bpd
2006	5.14
2007	5.16
2008	4.94
2009	5.31
2010	5.50
2011	5.65
2012	6.23
2013	7.47
2014	8.54
2015	9.31
2016	8.77
2017	9.00

- Weekly US Crude Production had stayed remarkably resilient, even when price levels were at its lowest sub-$35/bbl levels in Q1, averaging at above 8 million bpd per week, well above year-averages of below 8 million bpd from 2013 and earlier.
- Already, in the first few weeks of 2017, it has improved to an average of 9 million bpd/week, not so far from 2015's record-high of 9.31 million bpd/week.
- With the stronger price environment currently, we expect production is likely to increase further and could well past the record-high by the year-end.

GLOBAL OIL MARKET OUTLOOK - CRUDE



- Weekly Rig Counts have rebounded to above 700 this year, up from to at-least 10-year lows under 500 from March-Sept 2016 this year, steadily rising every single week from 404 in May to a 15-month high of 768 in March.
- This is not too far away from the 2015 average of just under 1000, when production peaked at 9.3 million bpd, suggesting this isn't too far away.

US Rig Count Month-Average by Year

Year	No of Rigs
2006	1,649.08
2007	1,767.75
2008	1,879.04
2009	1,087.44
2010	1,538.92
2011	1,874.13
2012	1,918.98
2013	1,761.59
2014	1,861.63
2015	984.82
2016	512.40
2017	722.90

*as of Mar 10 week

GLOBAL OIL MARKET OUTLOOK - CRUDE

- OPEC and Russia agreed to a joint output cut for the 1st time since 2001, with effect from January 2017.
- The cartel is sharing a 1.2 million bpd cut among its members from October levels, reducing its collective output to about 32.6 million bpd.
- Russia will cut another 300,000 bpd, while other Non-OPEC producers, Azerbaijan and Kazakhstan said they will join.
- Prices rallied in response, with front-month Brent jumping by over 15% to price range of $52-$58/bbl since late November.
- The question remains - what is its impact on the fundamental supply-demand balance?


News: WRAPUP-OPEC in first joint oil cut with Russia since 2001, Saudis take "big hit"

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WRAPUP-OPEC in first joint oil cut with Russia since 2001, Saudis take "big hit" - Reuters News

01-Dec-2016 10:08:48 AM

Adds Indonesia suspension detail, analyst comment

- Saudis to cut output by 0.5 million bpd
- Iraq to reduce production, Iran will raise slightly
- Qatar says Russia also joins cuts with 0.3 mln bpd
- Brent oil jumps 9 percent to more than $50/barrel
- Indonesia suspends OPEC-membership after recently rejoining

RELATED

GLOBAL OIL MARKET OUTLOOK - CRUDE

- The cuts will essentially bring production back to January 2016 levels of 32.65 million bpd for OPEC – which was a record high at the time.
- Similarly for Russia, which will see its new production levels at 10.9 million bbls, steady to January's then-record high of 10.88 million bbls and its 2016 monthly average of 10.91 million bpd, as of October.
- Saudi Arabia, OPEC's largest producer, is the only one that will produce at significantly reduced levels, at 10.25 million bpds, vs its 2016 average of 10.41 million bpd.

Month-Year	Saudi	Iraq	Iran	UAE	Kuwait	Venezuela	Angola	Algeria	Nigeria	Indonesia	Qatar	Ecuador	Libya	Gabon	TOTAL	Russia
Jan-2016	10.25	4.30	3.05	2.89	2.80	2.44	1.63	1.11	1.90	0.70	0.66	0.54	0.38		32.65	10.88
Oct-2016	10.53	4.58	3.64	3.08	2.92	2.23	1.47	1.09	1.65	0.73	0.64	0.55	0.50	0.21	33.82	11.20
2016 Avg	10.41	4.35	3.46	2.93	2.85	2.33	1.68	1.10	1.62	0.73	0.65	0.54	0.35	0.21	33.10	10.91
Cut	0.49	0.21	0.09	0.14	0.13	0.10	0.08	0.05	0.00	Suspended	0.03	0.03	0.00	0.01	1.17	0.30
Jan-2017	10.04	4.37	3.73	2.94	2.79	2.14	1.39	1.04	1.65	0.73	0.61	0.52	0.50	0.20	32.65	10.90
% Cut	*4.62%*	*4.59%*		*4.51%*	*4.49%*	*4.26%*	*5.44%*	*4.59%*	*0.00%*		*4.69%*	*4.73%*	*0.00%*	*4.29%*	*3.45%*	*2.68%*

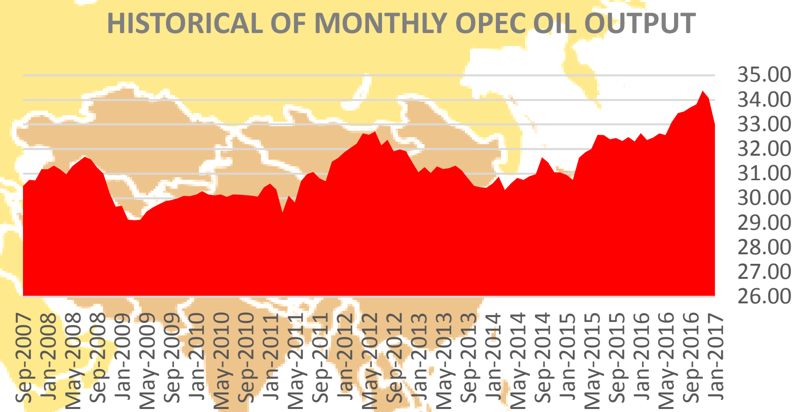
GLOBAL OIL MARKET OUTLOOK - CRUDE

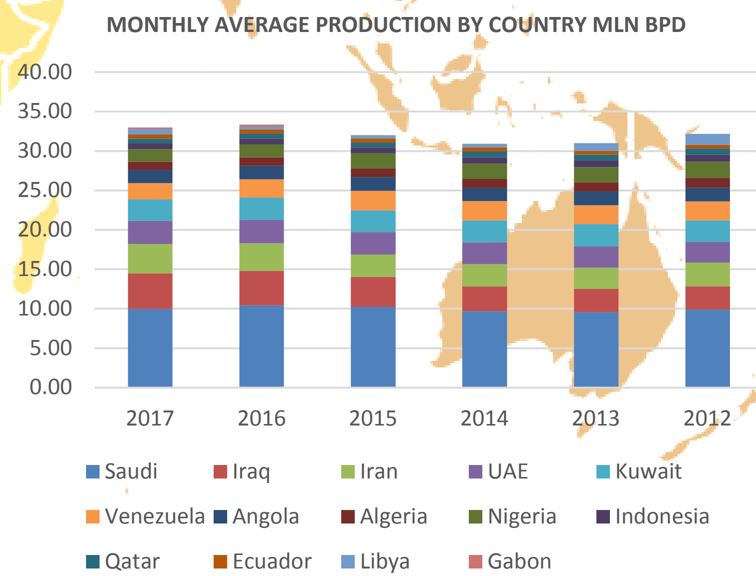
- So what did OPEC/Russia actually do in the first 2 months of 2017, in terms of compliance with the output cuts?
- For all intents and purposes, the first month of the cuts went well – the average output for Jan and Feb was 32.21 million bpd, more than the amount that they committed to cut by, and below the forecasted 32.65 million bpd.
- This was led by Saudi Arabia who cut 700,000 bpd, 6.65% of its October 2016 to an average output of 9.83 million bpd and followed by most of the other OPEC members whose output lower-to-steady to 2016 monthly levels.
- The exceptions were Iraq, at 4.49 million bpd vs its 2016 average of 4.35 million bpd, and Russia, at 11.11 million bpd, vs 10.91 million bpd.

Month-Year	Saudi	Iraq	Iran	UAE	Kuwait	Venezuela	Angola	Algeria	Nigeria	Indonesia	Qatar	Ecuador	Libya	Gabon	TOTAL	Russia
Jan-2016	10.25	4.30	3.05	2.89	2.80	2.44	1.63	1.11	1.90	0.70	0.66	0.54	0.38		32.65	10.88
Oct-2016	10.53	4.58	3.64	3.08	2.92	2.23	1.47	1.09	1.65	0.73	0.64	0.55	0.50	0.21	33.82	11.20
2016 Avg	10.41	4.35	3.46	2.93	2.85	2.33	1.68	1.10	1.62	0.73	0.65	0.54	0.35	0.21	33.10	10.91
Cut	0.49	0.21	0.09	0.14	0.13	0.10	0.08	0.05	0.00	Suspended	0.03	0.03	0.00	0.01	1.17	0.30
Jan 2017 (forecast)	10.04	4.37	3.73	2.94	2.79	2.14	1.39	1.04	1.65	0.73	0.61	0.52	0.50	0.20	32.65	10.90
% Cut	*4.62%*	*4.59%*		*4.51%*	*4.49%*	*4.26%*	*5.44%*	*4.59%*	*0.00%*		*4.69%*	*4.73%*	*0.00%*	*4.29%*	*3.45%*	*2.68%*
2017 Avg (actual)	9.83	4.49	3.75	2.99	2.72	2.06	1.66	1.09	1.61	0.73	0.63	0.53	0.68	0.20	32.21	11.11
Cut	0.55	0.07	Exempted	0.15	0.20	0.18	-0.18	0.01	Exempted		0.01	0.02	Exempted	0.01	1.55	0.09
% Cut	5.22%	1.53%		4.87%	6.85%	8.07%	-12.24%	0.92%			1.56%	3.64%		4.76%	*4.58%*	0.80%

GLOBAL OIL MARKET OUTLOOK - CRUDE

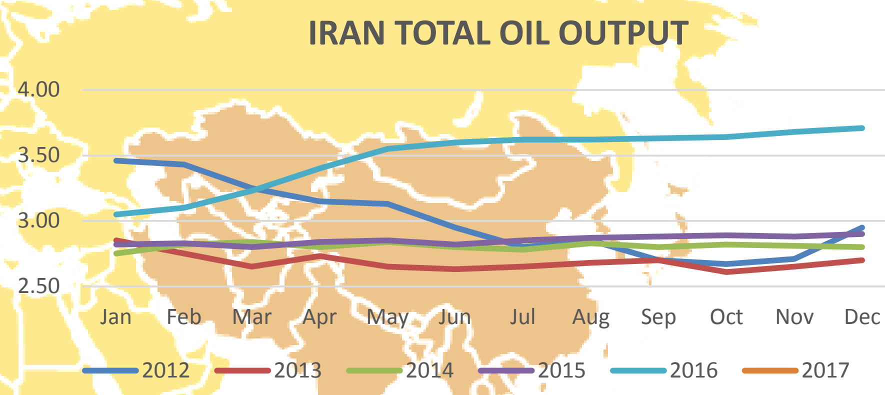
- OPEC had consistently ramped up production last year and output levels have hit record highs seven times, starting January 2016, and for every month from June, culminating in November's 34.38 million bpd, averaging 2016 yet at an all-time high of 33.23 million bpd/month.
- The cartel's largest producers has ramped up production between 2013 and 2016, with the Saudis hitting record-high of 10.4 million bpd/month last year.
- Iraq's 2017 output of 4.49 million bpd is still well above its 2016 average of 4.35 million bpd and its highest month-average output since at least 2004, signaling that it has not given up its objective to gain more market share.





GLOBAL OIL MARKET OUTLOOK - CRUDE

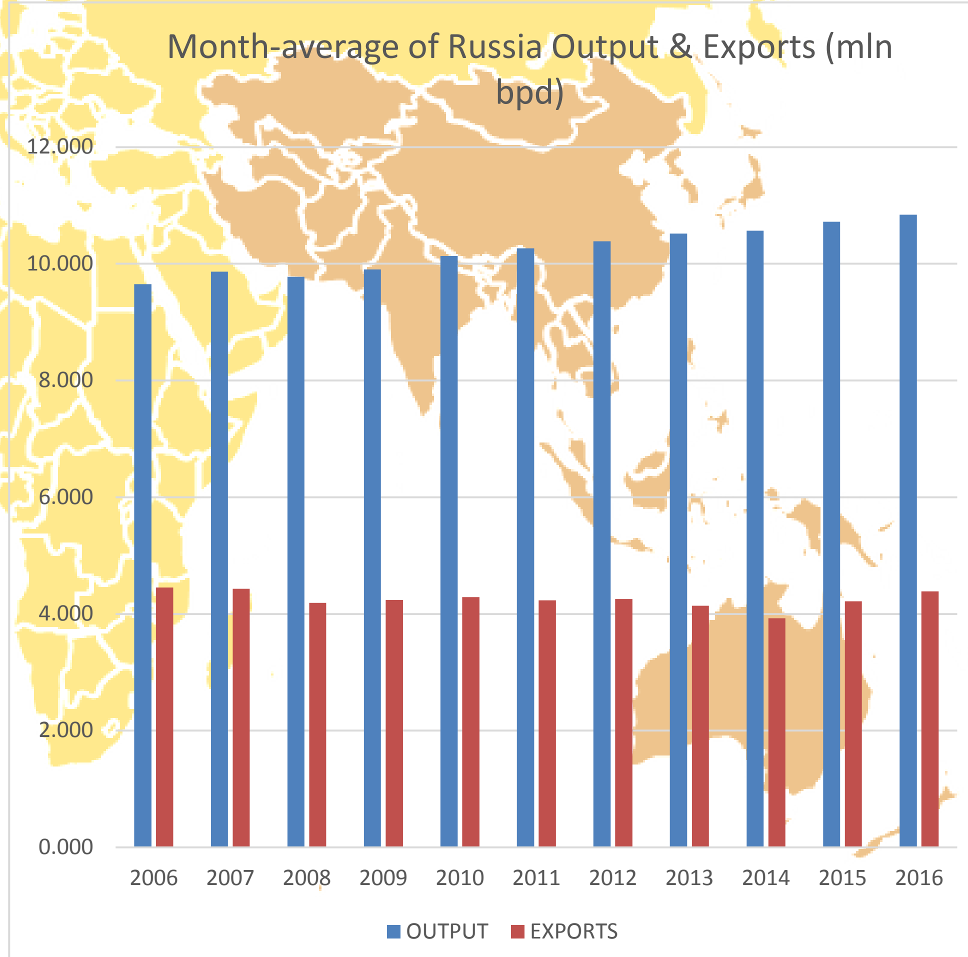
- Iran, currently OPEC's 3rd largest producer, has been exempted from the cuts and allowed to boost output by 90,000 bpd, bringing its production level to 3.8 million bpd.
- Its 2017 output is just shy of the target level at 3.75 million bpd, steadily rising from 3 million bpd since sanctions were lifted 12 months earlier.
- Exports have nearly doubled, September levels hit a pre-sanctions high of 2.8 million bpd. China, India, Japan and S Korea accounted for the lion's share, about half the collective total, up by 40% on-year. Its market share in Europe also jumped six times to 580,000 bpd by June.



Month	2012	2013	2014	2015	2016	2017
Jan	3.46	2.85	2.75	2.82	3.05	3.73
Feb	3.43	2.75	2.82	2.83	3.10	3.76
Mar	3.25	2.65	2.84	2.80	3.23	
Apr	3.15	2.73	2.80	2.84	3.40	
May	3.13	2.65	2.84	2.85	3.55	
Jun	2.95	2.63	2.80	2.82	3.60	
Jul	2.80	2.65	2.78	2.85	3.62	
Aug	2.85	2.68	2.83	2.87	3.62	
Sep	2.70	2.70	2.80	2.88	3.63	
Oct	2.67	2.61	2.82	2.89	3.64	
Nov	2.71	2.65	2.81	2.88	3.68	
Dec	2.95	2.70	2.80	2.90	3.71	
Total	**36.05**	**32.25**	**33.69**	**34.23**	**38.12**	
Average	**3.00**	**2.69**	**2.81**	**2.85**	**3.47**	**3.75**

GLOBAL OIL MARKET OUTLOOK - CRUDE

- Russian production, like OPEC's, surged in 2016, averaging at a record high of 10.96 million bpd/month this year and hit all-time highs three times, culminating at 11.2 million bpd for each month of October, November and December.
- 2017's average levels of 11.11 million bpd is still well above the 2016 average, and had been a record-high when it hit that level last September.
- Similarly, exports also averaged at an a 9-year high of 4.43 million bpd this year, and hit its second-highest level ever, at 4.69 million bpd, in April.



GLOBAL OIL MARKET OUTLOOK - CRUDE

- Despite the production cut, OPEC/Russia's exports to most Asian buyers, notably China, have remained steady-to-higher.
- OPEC exports to China, for the 1st 2 months of 2017, averaged at 18.26 million mt/month, steady to the 2016 monthly average of 18.37 million mt, based forecasts by Thomson Reuters Oil Research.
- Individually, exports from Saudi Arabia, Iraq, and Angola have increased, respectively to 4.41 million mt, 3.3 million mt and 3.87 million mt, up from 4.24 million mt, 3.02 million mt and 3.65 million mt.

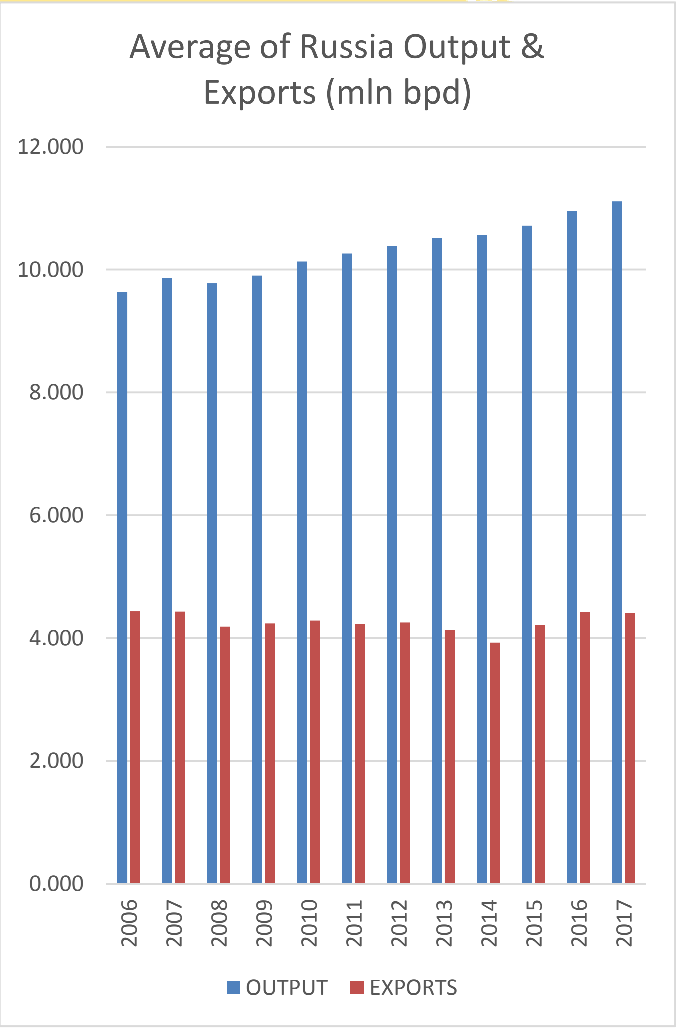
Month-average OPEC/Russia Flows to China (mt) by Year

Year	SAUDI ARABIA	IRAQ	IRAN	UAE	KUWAIT	VENEZUELA	ANGOLA	NIGERIA	INDONESIA	QATAR	ECUADOR	LIBYA	GABON	ALGERIA	RUSSIA	OPEC*
2017	4,411,380	3,301,750	2,355,000	706,000	1,120,000	1,685,610	3,873,685	130,000	197,435	0	145,000	130,000	201,605	0	3,636,730	**18,257,465**
2016	4,250,282	3,018,037	1,608,123	1,015,302	1,361,637	1,679,721	3,645,968	70,701	237,374	40,022	95,331	84,657	264,837	0	4,373,255	**18,371,989**
2015	4,211,836	2,676,178	2,217,994	1,047,475	1,202,341	1,334,073	3,225,627	54,882	134,623	22,247	116,438	178,790	129,862	25,686	3,535,977	**16,578,052**
2014	4,138,489	2,381,696	2,288,438	971,021	885,030	1,172,123	3,387,531	166,370	31,288	30,083	62,220	80,462	129,567	74,866	2,759,013	**15,799,184**
2013	4,491,581	1,959,486	1,786,763	856,321	778,911	754,364	3,334,438	87,703	57,054	10,896	59,097	199,540	39,861	152,934	2,037,142	**14,568,946**
2012	4,491,717	1,307,057	1,834,136	728,641	874,323	62,051	3,346,362	78,044	45,710	82,959	74,473	608,916	25,884	214,329	2,027,476	**13,774,601**
2011	4,189,365	1,147,803	2,313,050	561,265	795,282	71,160	2,595,832	88,815	55,086	58,918	44,968	216,008	14,112	181,022	1,540,860	**12,332,686**
2010	3,719,168	936,524	1,776,623	440,422	819,494	56,946	3,281,826	107,585	116,178	46,681	67,527	614,441	35,240	146,164	1,270,434	**12,164,819**
2009	3,496,093	596,917	1,928,937	275,559	589,648	85,616	2,681,039	116,102	269,653	51,235	149,108	528,708	22,560	133,752	1,275,310	**10,924,928**
2008	3,030,699	155,007	1,776,867	381,574	491,359	70,263	2,491,166	36,206	116,100	73,151	87,327	265,828	72,245	74,803	969,856	**9,122,594**
2007	2,194,351	117,676	1,711,397	304,242	302,691	41,479	2,083,049	74,594	190,332	23,558	19,550	242,150	73,894	134,402	1,210,524	**7,513,366**

GLOBAL OIL MARKET OUTLOOK - CRUDE

- Overall Russian exports for January 2017 are at 11.11 million bpd, above its 2016 month-average of 10.96 million bpd, while exports are steady at 4.41 million bpd, vs 2016's 4.43 million bpd.
- Similarly, its exports to Asia are at 6 million mt for January, above the 2016 average of 5.73 million mt/month, mainly to China, South Korea, Japan and Singapore, and accounting for about 7% of the region's total demand of just over 80 million mt/month

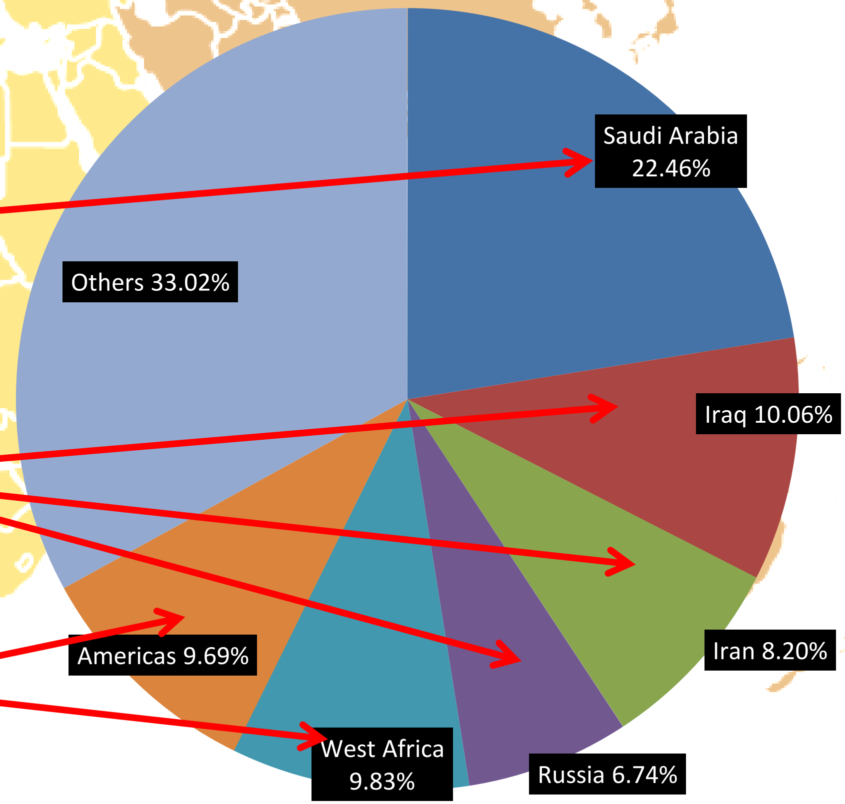
Month Average (mln bpd)		
Year	OUTPUT	EXPORTS
2006	9.635	4.441
2007	9.864	4.432
2008	9.777	4.187
2009	9.904	4.240
2010	10.134	4.290
2011	10.264	4.235
2012	10.387	4.256
2013	10.515	4.138
2014	10.567	3.929
2015	10.718	4.217
2016	10.956	4.429
2017	11.110	4.409



GLOBAL OIL MARKET OUTLOOK - CRUDE

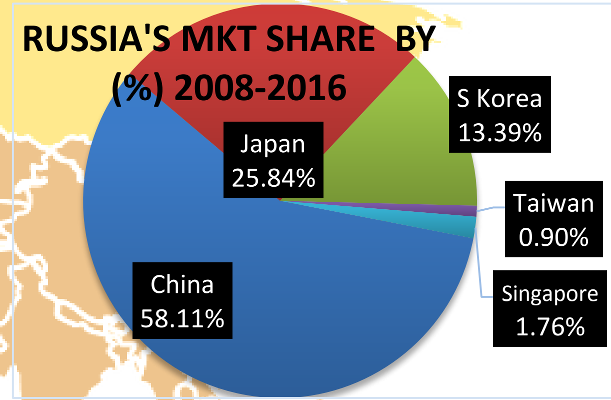
- Market share among the world's largest suppliers to Asia has largely remained steady in the first two months of the year, despite the OPEC cuts.
- Saudi Arabia remains the largest single supplier, with over 20% market share.
- The other major individual suppliers, Iraq, Iran and Russia have 7-10% each.
- West Africa, led by Angola and Nigeria, as well as the Americas, led by Venezuela, each has 9-10%.

CRUDE SUPPLIERS TO ASIA BY % MARKET SHARE



GLOBAL OIL MARKET OUTLOOK - CRUDE

- China is the largest buyer of Russian crude in Asia, consistently accounting for 60-70% of the total exports into the region since 2014, despite nearly tripling monthly volumes in the last 8 years.
- Last year, China's imports of Russian crude hit yet another record-high, at 4.37 million mt/month, tripling from 1.44 million mt/month in 2008, mostly of the ESPO grade, and accounting for more than 75% of Russia's total exports to Asia, up from under 65% in 2014-15.
- The jump in Chinese imports this year have come at the expense of Japan and S Korea.
- Japan imported 825,000 mt, or 14% of the total Russia exports down from 1.1-1.2 million mt in 2014-15, or about 25%, though still way above pre-2013 volumes of under 600,000-700,000 mt.
- South Korea imported 468,000 mt, or 8% of the total, this year, down from nearly 700,000 mt in 2015, or 12%, and steady to 2013-14.

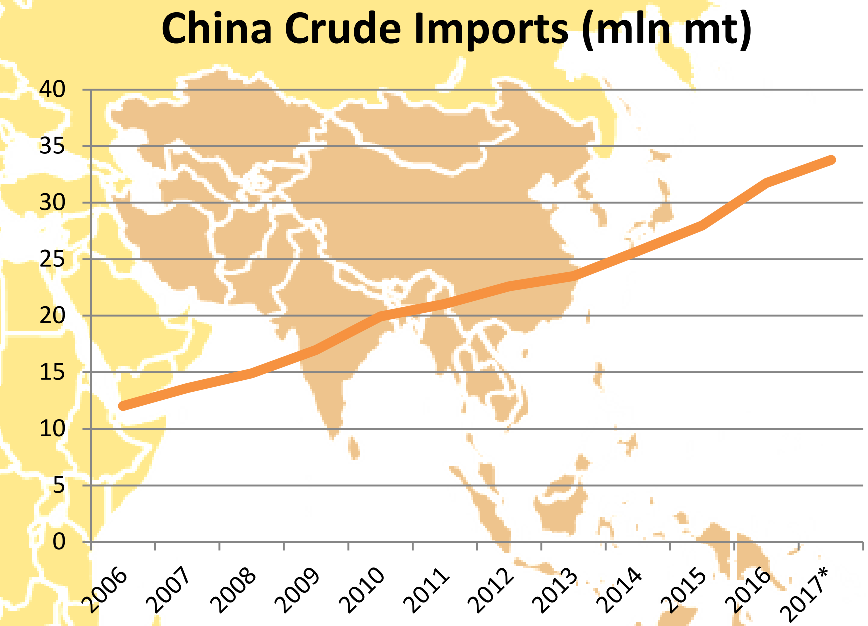


MARKET SHARE BY %

Year	China	Japan	S Korea	Taiwan	Singapore
2008	53.16%	32.02%	13.97%	0.00%	0.85%
2009	51.73%	28.42%	12.45%	5.52%	1.88%
2010	42.16%	36.62%	18.60%	0.94%	1.68%
2011	54.72%	22.35%	21.65%	0.21%	1.07%
2012	63.57%	22.27%	11.66%	0.26%	2.24%
2013	55.80%	28.80%	11.56%	0.46%	3.38%
2014	61.27%	26.09%	9.91%	0.37%	2.37%
2015	64.20%	21.56%	12.57%	0.30%	1.37%
2016	76.37%	14.42%	8.17%	0.00%	1.04%
8 Yr Average	**58.11%**	**25.84%**	**13.39%**	**0.90%**	**1.76%**

GLOBAL OIL MARKET OUTLOOK - CRUDE

Year	China Crude Imports (mln mt)	% Growth
2006	12.02	
2007	13.6	12.45%
2008	14.91	9.68%
2009	16.98	13.86%
2010	19.94	17.43%
2011	21.05	5.53%
2012	22.59	7.34%
2013	23.51	4.08%
2014	25.7	9.29%
2015	27.99	8.80%
2016	31.75	13.43%
2017*	34.29	8.00%



- **China's continued strong demand has seen it buy record-high volumes every year for at least the last 10, culminating in 2016's all-time high of 31.75 million mt/month, despite a slowdown in its manufacturing activity, as a result of its the weakening economy that has seen its GDP fall to 6.5-7%. This trend looks to continue in 2017, with imports already averaging at yet another record-high of 34.29 million mt for the first 2 months of the year.**

GLOBAL OIL MARKET OUTLOOK - CRUDE

China's seemingly voracious appetite is driven by 3 major factors:-

- **New crude import licenses has now given to 29 smaller, private refiners, called Teapots, with quotas to buy up to 73.77 million mt of crude last year. Another 45.64 milion mt of quotas, the 1st of 2 batches, have been given out to 22 licensees this year. The 2nd batch is expected in Q2.**
- **This is fresh demand as the teapots have previously used mostly straight-run fuel oil as feedstock.**
- **The government's objective of having 90 days of supply cover has led about 31.97 mln mt filling its strategic reserves (SPR) by the start of the year, beginning in earnest in H1 2014, when Phase 2 of the program started.**
- **Declining domestic crude production that has seen output fall to 16.02 million mt/month for Q4, vs 17.18 million mt/month for Q1.**

Company	2016 (KT/year)	2017 (batch 1)
Dongming Petrochemical	750	657
Panjin North Asphalt	700	567
Sinochem Hongrun	530	509
Shandong Kenli	252	224
Lijin Petrochemical	350	312
Yatong Petrochemical	276	201
Baota Petrochemical	616	46
Huifeng Petrochemical	416	167
Tianhong Chemical	440	375
Luqing Petrochemical	258	218
Chambroad Petrochemical	331	78
Qirun Chemical	220	208
Haiyou Petrochemical	320	43
Wudi Xinyue	240	120
Shandong Hengyuan	350	175
Luqing Group	404	202
Hebei Xinhai	372	186
Shandong Jinchi	300	150
Shandong Shenchi	252	126
Total amount	7377	4564

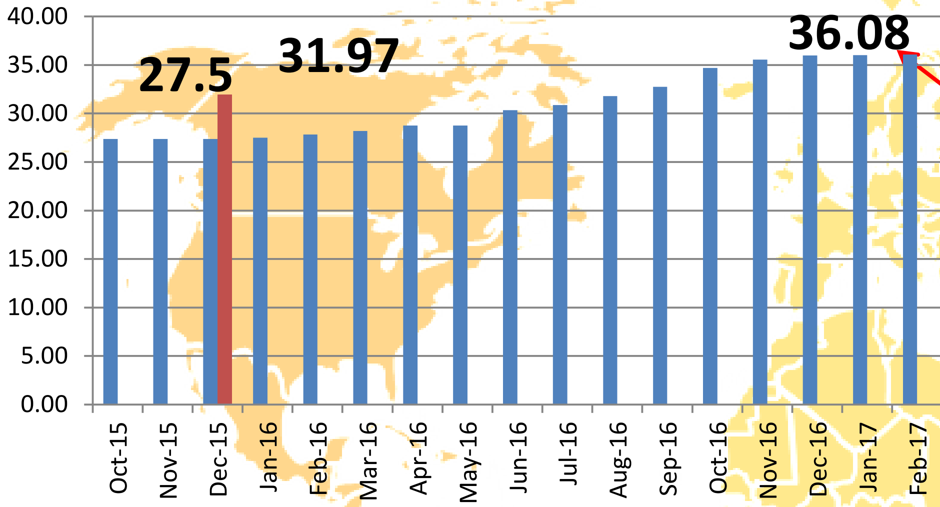
GLOBAL OIL MARKET OUTLOOK - CRUDE

Chinese Strategic Petroleum Reserve Sites

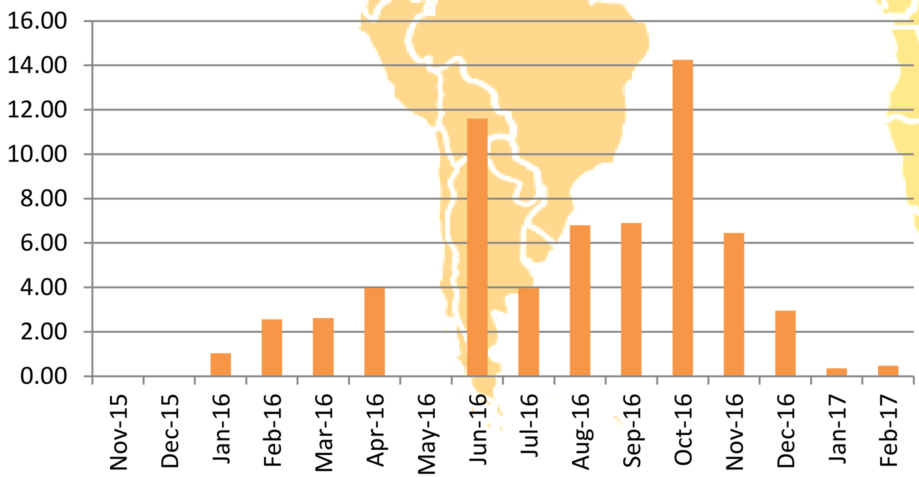
Phase	Operator	Location	Capacity	Status	Completion
Phase 1	Sinopec	Zhenhai,Zhejiang	32.7	filled	3Q06
	Sinochem	Zhoushan,Zhejiang	31.4	filled	4Q07
	Sinopec	Huangdao,Shandong	20.1	filled	4Q07
	CNPC	Dalian,Liaoning	18.9	filled	4Q08
Total			103.1		
Phase 2A	CNPC	Lanzhou,Gansu	18.9	filled	1H11
	CNPC	Dushanzi,Xinjiang	18.9	filled	1H11
	Sinopec	Tianjin Phase 1	20.1	filled	2014
	Sinopec	Huangdao,Shandong	18.9	filled	2014
Total			76.8		
Phase 2B	CNPC	Shanshan,Xinjiang	39	not filled	2014
	CNPC	Jintan,Jiangsu	15.7	not filled	2014
	CNOOC	Huizhou,Guangdong	31.4	not filled	2014
	CNPC	Jinzhou,Liaoning	18.9	filling	2014
	Sinopec	Zhoushan,Zhejiang	19	filling	2014
	Sinopec	Zhanjiang,Guangdong	44	filling	2015
Phase 3	Sinopec	Tianjin Phase 2	20.1	filling	2015
Total			188.1		
Phase 3	unknown	Wanzhou,Chongqing	N.A.	planned	2020
	Sinopec	Caofeidian,Hebei	38	planned	2020
	Sinopec	Yangpu,Heinan	N.A.	planned	2020
	CNPC	Rizhao,Shandong	N.A.	planned	2020
	CNPC	Daqing,Heilongjiang	N.A.	planned	2020
	CNPC	Yunnan Province	N.A.	planned	2020
	CNPC	Qinzhou,Guangxi	N.A.	planned	2020

- The 90 days of forward cover is equivalent to 616 million bbls that will mostly be held in its SPR tanks that has seen Phase 1 and the 1st part of Phase 2 (2A) fully filled.
- Under Phases 1 and 2A, about 179.9 million bbls of capacity has been filled.
- Phase 2B has begun filling in earnest, although the pace of filling has eased since Q4 2015 amid competition from the newly-licensed teapots for supplies.
- A 3rd Phase of undisclosed capacity is planned and scheduled for completion by 2020.

GLOBAL OIL MARKET OUTLOOK - CRUDE



Seaborne Crude Into SPR By-Month



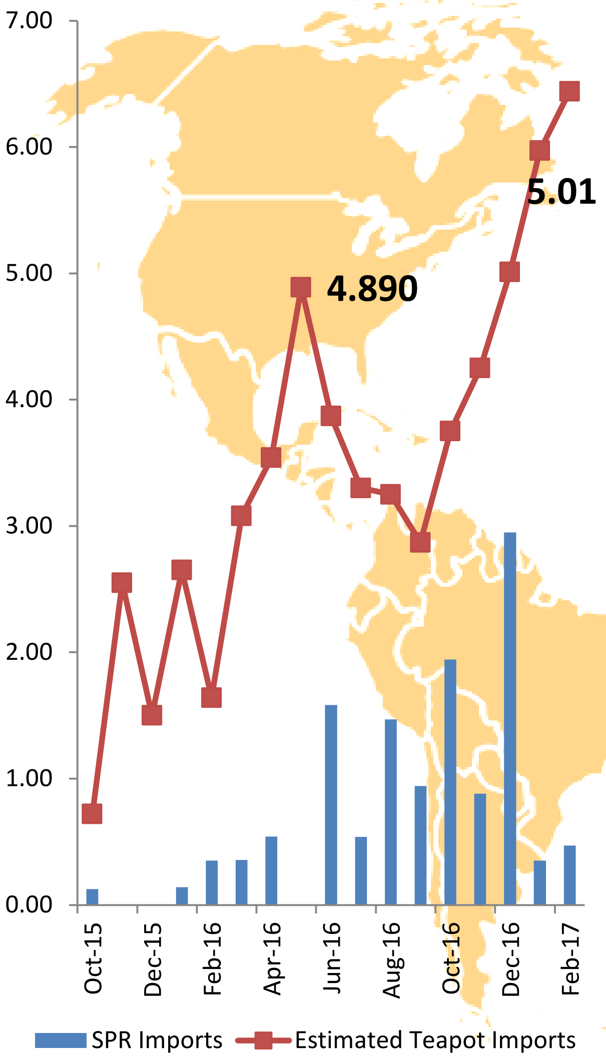
- **By our assessments, which covers only seaborne crude moving into SPR tanks, we have 27.5 mln mt in storage as of Jan 1, 2016, or equivalent to 86% of the official figure of 31.97 mln mt.**
- **The difference, we believe, is made up of domestic crude, pipeline volumes and cargoes that moved from bonded tanks.**
- **By Feb 2017, we have 36.08 mln mt, which includes volumes in the four active Phase 2B SPR storages and a commercial facility.**
- **The commercial storage, CEFC's plant in Hainan, started filling in July and has about 94.5% of its 9.5 mln mt capacity filled by end Nov.**

GLOBAL OIL MARKET OUTLOOK - CRUDE

Phase	Operator	Location	Cap Filled (Jan 2016)	Cap Filled (Dec 2016)	Capacity	Status	Completion
Phase 1	Sinopec	Zhenhai,Zhejiang	32.7	32.7	32.7	filled	3Q06
	Sinochem	Zhoushan,Zhejiang	31.4	31.4	31.4	filled	4Q07
	Sinopec	Huangdao,Shandong	20.1	20.1	20.1	filled	4Q07
	CNPC	Dalian,Liaoning	18.9	18.9	18.9	filled	4Q08
Total			103.1	103.1	103.1		
Phase 2A	CNPC	Lanzhou,Gansu	18.9	18.9	18.9	filled	1H11
	CNPC	Dushanzi,Xinjiang	18.9	18.9	18.9	filled	1H11
	Sinopec	Tianjin Phase 1	20.1	20.1	20.1	filled	2014
	Sinopec	Huangdao,Shandong	18.9	18.9	18.9	filled	2014
Total			76.8	76.8	76.8		
Phase 2B	CNPC	Shanshan,Xinjiang	0	0	39	not filled	2014
	CNPC	Jintan,Jiangsu	0	0	15.7	not filled	2014
	CNOOC	Huizhou,Guangdong	0	8.96	31.4	filling	2014
	CNPC	Jinzhou,Liaoning	0.49	18.4	18.9	filling	2014
	Sinopec	Zhoushan,Zhejiang	2.35	2.35	19	filling	2014
	Sinopec	Zhanjiang,Guangdong	17.37	24.96	44	filling	2015
Phase 3	Sinopec	Tianjin Phase 2	1.46	20.1	20.1	filling	2015
Commercial	CEFC	Hainan		8.98	9.5	filling	2016
Total			21.67	83.75	188.1		
Phase 3	unknown	Wanzhou,Chongqing			N.A.	planned	2020
	Sinopec	Caofeidian,Hebei			38	planned	2020
	Sinopec	Yangpu,Heinan			N.A.	planned	2020
	CNPC	Rizhao,Shandong			N.A.	planned	2020
	CNPC	Daqing,Heilongjiang			N.A.	planned	2020
	CNPC	Yunnan Province			N.A.	planned	2020
	CNPC	Qinzhou,Guangxi			N.A.	planned	2020
		Grand Total (mln bbls)	201.57	263.65			
		Full 90 Days' Cover	616	42.8%	%of 90 Days Cover		
*86% of Official value		Grand Total (mln mt)*	27.50	35.97			

- Five of the 7 facilities under Phase 2B – in Huizhou, Jinzhou, Zhoushan, Zhanjiang and Tianjin – are being filled through 2016, with about 8.47 million mt going into SPR.
- Two of the sites, Jinzhou and Tianjin, are now completely filled.
- About 44.5% of the total Phase 2B capacity has been filled by end-Dec.
- About 42.8% of the 90 Days Cover has been filled so far.
- The slower pace of SPR-filling this year is largely due to competition for supply from the teapots, particularly at the year end when they are rushing to fill their quotas.

GLOBAL OIL MARKET OUTLOOK - CRUDE



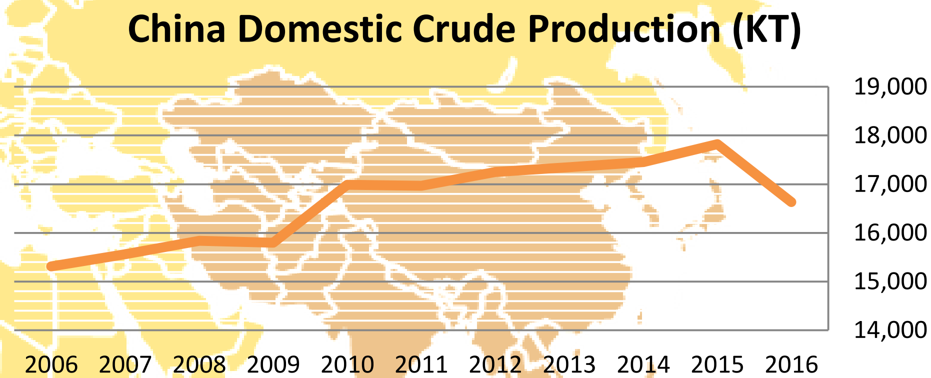
China Teapots Crude Imports

Mln mt	2015	2016	2017
Jan	1.20	2.65	5.97
Feb	0.88	1.64	6.44
Mar	0.55	3.08	
Apr	1.06	3.54	
May	1.84	4.89	
Jun	2.34	3.87	
Jul	2.83	3.30	
Aug	1.95	3.25	
Sep	1.00	2.87	
Oct	0.72	3.75	
Nov	2.55	4.25	
Dec	1.50	5.01	
Avg	**1.54**	**3.51**	
Q1	**0.88**	**2.46**	
Q2	**1.75**	**4.10**	
Q3	**1.93**	**3.14**	
Q4	**1.59**	**4.34**	

- **Imports by the teapots jumped above 2 million mt/month for every quarter since Q1 2016, breaching the 4-million mt/month mark in Q2 and Q4, and averaging at 3.51 mln mt/month for the year.**
- **The rush to fill the government quotas has led to even larger imports above 5 million mt/month between Dec 16 and Feb 17, averaging at 5.8 million mt/month for the period.**
- **That imports by the teapots are inversely proportional to SPR flows lends weight to the conclusion that they are competing for supply.**
- **The teapots' need to import is more urgent because they have quotas to fill, while SPR filling is more discretionary.**

GLOBAL OIL MARKET OUTLOOK - CRUDE

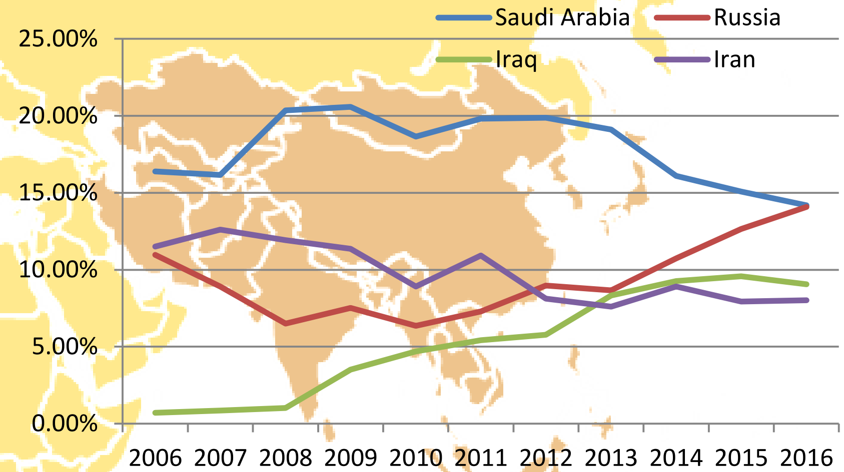
- A key driver for China's record-high imports in 2016 was the massive on-year drop in domestic crude production to an average of 16.6 million mt/month for the year, its lowest since 2009.
- The impact of the fall was made more pronounced by the fact that has steadily risen over the preceding 10 years, rising from 15.3 million mt/month to 17.8 million mt/month in 2015.
- Domestic production is expected to rebound this year, following an announcement that China's oil majors will expand production at mature oilfields, with CNOOC set to spend $10 billion, or 40% more than in 2016.



Months	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	29,727	30,435	30,783	30,265	31,981	33,722	33,688	33,604	33,698	34,150	34,108
Mar	15,717	15,647	16,004	15,823	16,916	17,574	17,269	17,681	17,638	18,065	17,373
Apr	15,125	15,407	15,414	15,594	16,262	16,960	16,891	17,152	16,979	17,500	16,587
May	15,720	16,055	16,182	16,032	17,153	17,429	17,432	17,725	17,756	18,136	16,871
Jun	15,315	15,722	15,963	15,714	16,883	17,146	16,499	17,443	17,502	18,116	16,579
Jul	15,736	15,470	16,170	16,143	17,224	17,299	17,026	17,170	17,342	18,103	16,723
Aug	15,543	15,910	16,026	16,322	17,428	17,113	17,528	17,303	17,488	18,167	16,449
Sep	14,995	15,271	15,566	15,724	17,192	16,291	17,432	16,878	17,159	17,740	15,975
Oct	15,499	15,806	16,350	16,255	17,755	16,670	17,906	18,069	17,936	18,087	16,051
Nov	15,091	15,314	15,860	15,669	17,520	16,462	17,391	17,279	17,630	17,660	16,090
Dec	15,252	15,673	15,706	16,065	17,518	16,980	17,936	17,899	18,323	18,154	16,772
Total	**183,720**	**186,710**	**190,024**	**189,606**	**203,832**	**203,646**	**206,998**	**208,203**	**209,451**	**213,878**	**199,578**
Average	**15,310**	**15,559**	**15,835**	**15,801**	**16,986**	**16,971**	**17,250**	**17,350**	**17,454**	**17,823**	**16,632**

GLOBAL OIL MARKET OUTLOOK - CRUDE

- Russia is one of the main winners in the ongoing battle for market share among Asian buyers, especially China, overtaking Saudi Arabia as the largest supplier by volume, with 4.37 million mt/month, or 13.76% of market share.
- The other big winner is Iraq, which saw its market share in China rise to about 9.5% since 2014, up from pre 2011 levels of less than 5%, averaging 3.02 million mt/month.
- In contrast, Saudi Arabia's market share for China has slipped to under 14% in 2016, down from 19-20%, although absolute volumes remain large, averaging 4.25 million mt/month.
- Iran's market share for China has remained fairly steady at 7-9%, even post-sanctions, down from pre-sanction levels of 11-12%.



China Crude Imports by Market Share

Year	Saudi Arabia	Russia	Iraq	Iran
2006	16.39%	10.97%	0.71%	11.51%
2007	16.15%	8.92%	0.86%	12.60%
2008	20.35%	6.51%	1.03%	11.92%
2009	20.59%	7.51%	3.52%	11.36%
2010	18.65%	6.37%	4.70%	8.92%
2011	19.81%	7.29%	5.43%	10.93%
2012	19.89%	8.97%	5.78%	8.12%
2013	19.10%	8.67%	8.34%	7.60%
2014	16.10%	10.73%	9.27%	8.91%
2015	15.07%	12.65%	9.58%	7.93%
2016	13.39%	13.76%	9.51%	8.21%

GLOBAL OIL MARKET OUTLOOK – CRUDE (CONCLUSION)

- **We believe China will continue its buying at currently strong levels in the medium term, though the growth is expected to be less than 13-14% seen in 2016.**
- **In the near-term, we expect the volumes from the teapots to be lower-to-steady, as most have struggled to fill their quotas in 2016, prompting the government to issue lower quotas. However, the number of teapots given import licenses will increase over time gradually and this will lead to rising imports in the longer term.**
- **SPR filling will continue as just over 40% of the 90 days' forward cover has been filled and is expected to pick up the slack in imports by the teapots.**
- **Near-term import demand is expected to be limited by a rise in CAPEX by China's oil majors to expand domestic crude production at mature oilfields.**

GLOBAL OIL MARKET OUTLOOK – CRUDE (CONCLUSION)

- The market remains oversupplied, and will stay so in the near term, as the output cut from OPEC and Russia, despite early strong levels of compliance, are at very modest levels. Production is at around January 2016 levels for both, which was then a record-high. There is talk of extending the output cuts beyond June and deepening them when OPEC meets again in May.

- We believe the 15-20% price jump since then is more driven by sentiment, and the recent fall is reflective of prevailing fundamentals.

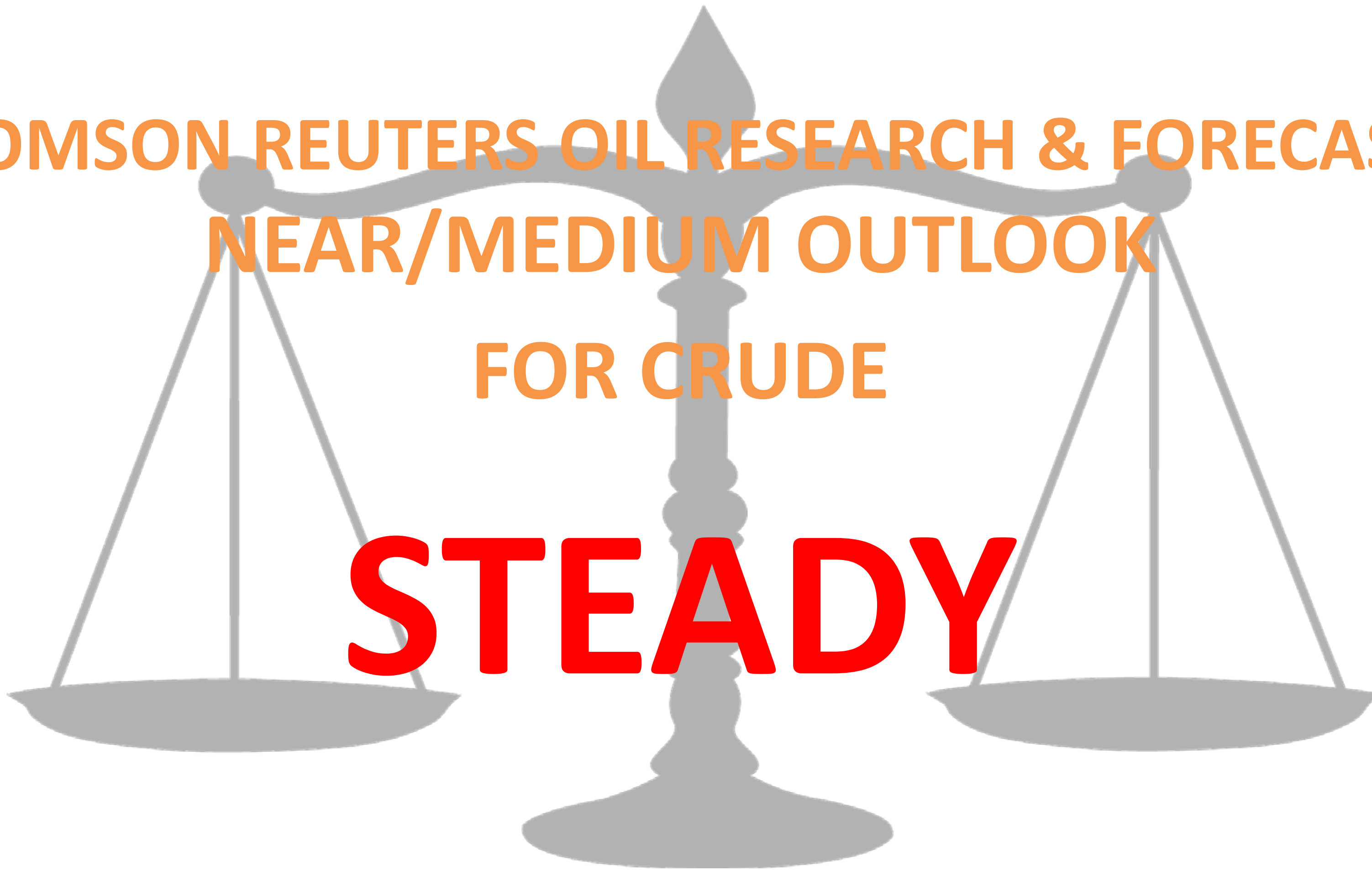
- We believe that the objective of OPEC's cuts is to stabilize prices at level acceptable to the major producers and to remove the threat of individual producers dumping barrels into the market unchecked in the relentless pursuit of market share, as they had done before November.

- The previous strategy of relentless pursuit of market share in a bid to price-out US Shale Drillers, by allowing prices to fall as they had, has failed. The US players have proven their resilience and are now a major player on the oil table.

GLOBAL OIL MARKET OUTLOOK – CRUDE (CONCLUSION)

- **The price rebound has already attracted more US shale production, not only with the increased production levels and rig count, but created also a new arbitrage of US cargoes heading to Asia, with 500,000-600,000 mt seen arriving for each month of Q1.**
- **However, we believe the increased shale production will not threaten OPEC/Russia's dominance, especially in the Asian market, particularly China, as the US' ability to export remains limited by a largely closed price arbitrage. And they could be further limited if the Trump administration imposes the "destination-based border-adjusted corporate tax (BTA)", which will increase taxes on crude imports into the country, and could raise domestic prices by up to 25%, keeping US crudes at home.**
- **We believe that most of the producers are satisfied with the current equilibrium although the preservation/expansion of market share remains the unstated objective for each.**

OIL-TRADING – CHANGING TRENDS:
THE FUNDAMENTAL PERSPECTIVE (CRUDE)



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