

Monthly Oil – Short Term Bearish

So far in 2013 we have issued 8 short term oil market reports. 5 of them have been bearish and 3 have been bullish. Directionally we have been correct in 5 out of the 8 reports. This is about spot on our long-term average performance which is 35 correct out of 55 published reports (64% correct). Our target is to have a hit ratio above 51% on the direction because the oil market is a flip of the coin market and the average participant should hence be at 50%. We conclude bearish in this 9th short term report of 2013. It is a little bit too early for the new year rally in oil prices that we have often seen and we see a fairly high risk in the short term for players taking profit on the currently very high Brent-WTI spread which is this time mainly caused by an unsustainably large Brent-LLS spread instead of mainly consisting of a large LLS-WTI spread.

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MARKETS

Monthly Oil Price Scorecard

-Please read on paper or zoom in on screen

Monthly Scorecard	Comments	Oil Price	Weight
Overall Outlook	So far in 2013 we have issued 8 short term oil market reports. 5 of them have been bearish and 3 have been bullish. Directionally we have been correct in 5 out of the 8 reports. This is about spot on our long-term average performance which is 35 correct out of 55 published reports (64% correct). Our target is to have a hit ratio above 51% on the direction because the oil market is a flip of the coin market and the average participant should hence be at 50%. We conclude bearish in this 9th short term report of 2013. It is a little bit too early for the new year rally in oil prices that we have often seen and we see a fairly high risk in the short term for players taking profit on the currently very high Brent-WTI spread which is this time mainly caused by an unsustainably large Brent-LLS spread instead of mainly consisting of a large LLS-WTI spread.	BEARISH	
Fundamentals			
Global Fundamental Balance	Weak global supply-demand balance	BEARISH	MEDIUM
Refinery Margins (Crack Spreads)	Refinery margins on the weak side in the Med and in Singapore	BEARISH	LOW
OECD Oil Stock Levels	Fairly neutral overall stock levels	NEUTRAL	MEDIUM
US Oil Statistics - Fundamentals	Supply keeps on growing quicker than demand	BEARISH	MEDIUM
Other Important Energy News	Huge momentum in LNG trucking in China	BEARISH	LOW
Chinese Oil Statistics & News	Still weak growth in oil demand in China for October	BEARISH	MEDIUM
OPEC	Still large unplanned outages in OPEC - Libya still struggling	BULLISH	MEDIUM
Non-OPEC	Non-OPEC supply growth now also outside North America - IEA expect record growth next year	BEARISH	MEDIUM
Seasonals			
Temperature Outlook	Colder than normal in the US - Normal in Japan/Korea - Colder than normal in Continental Europe	BULLISH	LOW
Hurricanes & Other Weather	Hurricane season is not a factor at this time of year	NEUTRAL	LOW
North Sea Fundamentals	The BFOE loading program is much higher than earlier this summer/autumn	BEARISH	MEDIUM
Political Risk			
Iraq, Iran, Nigeria, Venezuela, US, Russia, Israel, China, etc	An interim nuclear deal was reached with Iran - But large challenges remains	BULLISH	LOW
Other factors			
Hot Money Net Exposure (Speculators)	Fairly neutral net positions right now	NEUTRAL	MEDIUM
Market Psychology/Sentiment/Macroeconomics	Positive market sentiment in the broader risk market (as long as QE continues??)	BULLISH	MEDIUM
Technical/Price Trends	Does the Brent market risk profit taking on the currently very high Brent-WTI spread?	BEARISH	MEDIUM

Fundamental Balances & Forecasted OECD stocks

Fundamental Balances DNB Markets vs IEA, OPEC, EIA

DNB Markets World Oil Supply-Demand Balance:	2008	Change	2009	Change	2010	Change	2011	Change	2012	Change	2013	Change	2014
OECD Demand	48.1	-2.0	46.1	0.6	46.7	-0.6	46.1	-0.5	45.6	0.0	45.6	0.1	45.7
Non-OECD Demand	37.7	1.2	38.9	2.2	41.1	1.3	42.4	1.4	43.8	1.1	44.9	1.0	45.9
Total Demand	85.8	-0.8	85.0	2.9	87.9	0.6	88.5	0.9	89.4	1.1	90.5	1.1	91.6
Non-OPEC Supply	49.2	0.6	49.9	1.0	50.8	0.2	51.0	0.5	51.5	1.2	52.7	1.5	54.2
OPEC NGL's and non-conventional oil	4.5	0.6	5.1	0.5	5.6	0.4	5.9	0.4	6.3	0.1	6.4	0.2	6.6
Global Biofuels	1.4	0.2	1.6	0.2	1.8	0.0	1.9	0.0	1.9	0.1	2.0	0.2	2.2
Total Non-OPEC supply	55.2	1.4	56.5	1.7	58.2	0.5	58.8	0.9	59.6	1.4	61.1	1.9	62.9
Call on OPEC crude (and stocks)	30.7	-2.2	28.5	1.2	29.7	0.1	29.8	0.0	29.8	-0.3	29.5	-0.7	28.7
OPEC Crude Oil Supply (Last known number dragged fwd)	31.6	-2.5	29.1	0.1	29.2	0.7	29.9	1.4	31.3	-0.9	30.4	-0.5	29.9
Implied World Oil Stock Change	1.0		0.6		-0.5		0.1		1.5		1.0		1.2

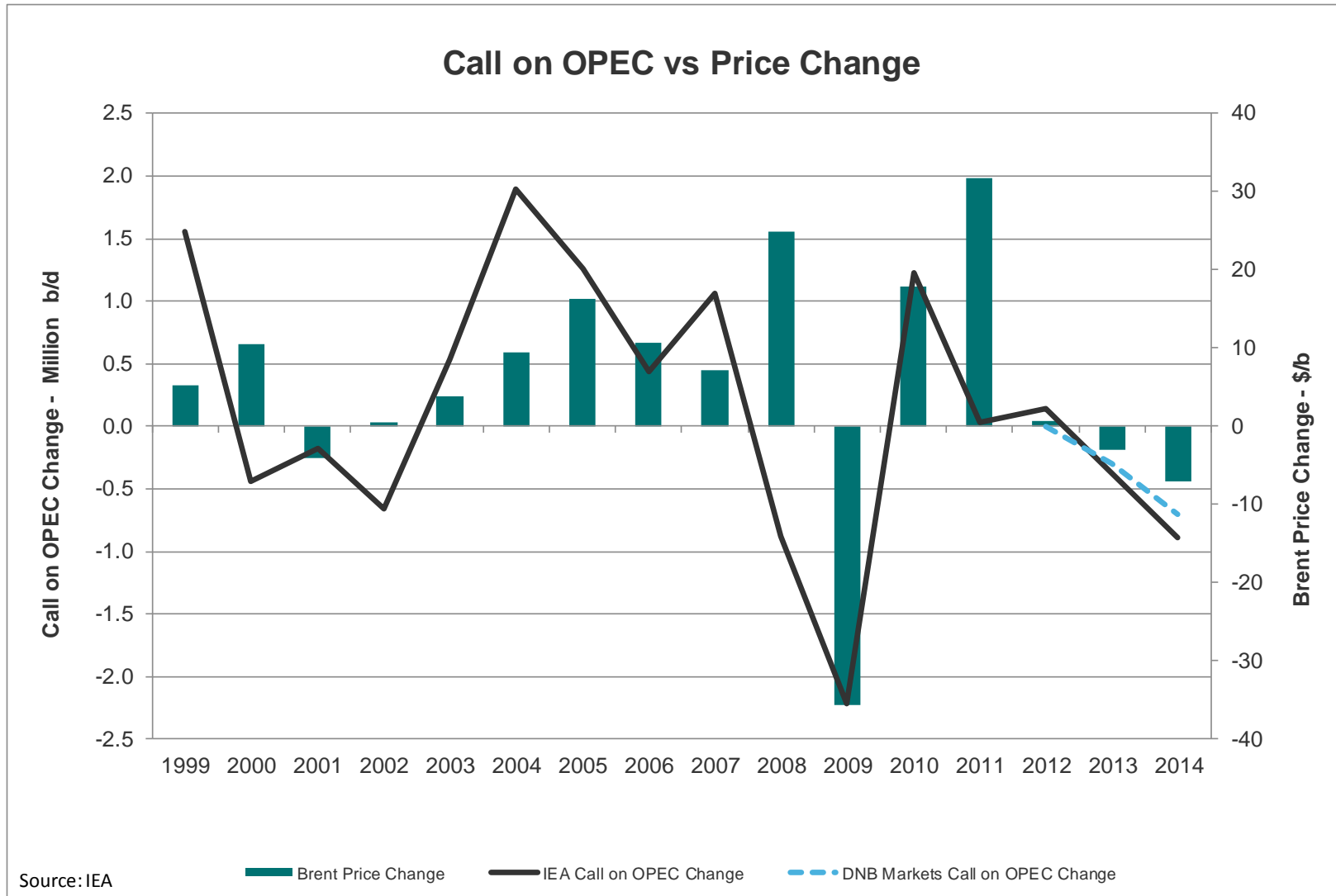
IEA World Oil Supply-Demand Balance (Nov 2013):	2008	Change	2009	Change	2010	Change	2011	Change	2012	Change	2013	Change	2014
OECD Demand	48.4	-2.0	46.4	0.6	47.0	-0.5	46.5	-0.5	45.9	-0.2	45.7	-0.3	45.5
Non-OECD Demand	37.9	1.2	39.1	2.3	41.4	1.1	42.5	1.6	44.1	1.3	45.3	1.4	46.7
Total Demand	86.3	-0.8	85.5	2.9	88.4	0.6	89.0	1.0	90.0	1.0	91.0	1.1	92.1
Non-OPEC Supply	49.2	0.6	49.9	1.0	50.8	0.2	51.0	0.5	51.5	1.2	52.7	1.7	54.4
OPEC NGL's and non-conventional oil	4.5	0.6	5.1	0.5	5.6	0.4	5.9	0.4	6.3	0.1	6.4	0.2	6.6
Global Biofuels	1.4	0.2	1.6	0.2	1.8	0.0	1.9	0.0	1.9	0.1	2.0	0.1	2.1
Total Non-OPEC supply	55.2	1.4	56.5	1.7	58.2	0.5	58.8	0.9	59.6	1.4	61.1	2.0	63.1
Call on OPEC crude (and stocks)	31.2	-2.2	28.9	1.2	30.2	0.0	30.2	0.2	30.4	-0.4	30.0	-0.9	29.1
OPEC Crude Oil Supply (Last known number dragged fwd)	31.6	-2.5	29.1	0.1	29.2	0.7	29.9	1.4	31.3	-0.9	30.4	-0.5	29.9
Implied World Oil Stock Change	0.5		0.2		-1.0		-0.3		0.9		0.4		0.8

OPEC World Oil Supply-Demand Balance (Nov 2013):	2008	Change	2009	Change	2010	Change	2011	Change	2012	Change	2013	Change	2014
OECD Demand	48.4	-2.0	46.4	0.6	47.0	-0.5	46.5	-0.5	46.0	-0.3	45.7	-0.2	45.5
Non-OECD Demand	37.7	0.7	38.4	1.9	40.3	1.3	41.6	1.3	42.9	1.2	44.1	1.2	45.3
Total Demand	86.1	-1.3	84.8	2.5	87.3	0.8	88.1	0.8	88.9	0.9	89.8	1.0	90.8
Non-OPEC Supply (Incl all Biofuel)	50.4	0.7	51.1	1.2	52.3	0.1	52.4	0.5	52.9	1.2	54.1	1.2	55.3
OPEC NGL's and non-conventional oil	4.1	0.2	4.3	0.7	5.0	0.4	5.4	0.2	5.6	0.2	5.8	0.1	5.9
Total Non-OPEC supply	54.5	0.9	55.4	1.9	57.3	0.5	57.8	0.7	58.5	1.4	59.9	1.3	61.2
Call on OPEC crude (and stocks)	31.6	-2.2	29.4	0.6	30.0	0.3	30.3	0.1	30.4	-0.5	29.9	-0.3	29.6
OPEC Crude Oil Supply (Last known number dragged fwd)	31.2	-2.5	28.7	0.5	29.2	0.7	29.9	1.4	31.3	-0.9	30.4	-0.5	29.9
Implied World Oil Stock Change	-0.4		-0.7		-0.8		-0.4		0.9		0.5		0.3

EIA World Oil Supply-Demand balance (Nov 2013):	2008	Change	2009	Change	2010	Change	2011	Change	2012	Change	2013	Change	2014
OECD Demand	47.6	-2.2	45.4	0.7	46.1	-0.3	45.8	0.1	45.9	-0.1	45.8	-0.2	45.6
Non-OECD Demand	38.2	0.7	38.9	2.1	41.0	1.5	42.5	0.8	43.3	1.2	44.4	1.3	45.8
Total Demand	85.8	-1.5	84.3	2.7	87.1	1.2	88.3	0.9	89.2	1.1	90.2	1.1	91.4
Non-OPEC Supply (Incl all Biofuel)	49.7	0.8	50.5	1.3	51.8	0.2	52.0	0.7	52.7	1.6	54.2	1.5	55.7
OPEC NGL's and non-conventional oil	4.5	0.3	4.8	0.8	5.5	-0.3	5.3	0.5	5.8	0.1	5.8	0.3	6.1
Total Non-OPEC supply	54.1	1.1	55.2	2.1	57.3	-0.1	57.2	1.2	58.4	1.6	60.1	1.8	61.8
Call on OPEC crude (and stocks)	31.7	-2.6	29.1	0.7	29.8	1.3	31.1	-0.3	30.8	-0.6	30.2	-0.6	29.6
OPEC Crude Oil Supply (Last known number dragged fwd)	31.3	-2.2	29.1	0.1	29.2	0.7	29.9	1.4	31.3	-0.9	30.4	-0.5	29.9
Implied World Oil Stock Change	-0.4		0.0		-0.6		-1.1		0.6		0.2		0.3

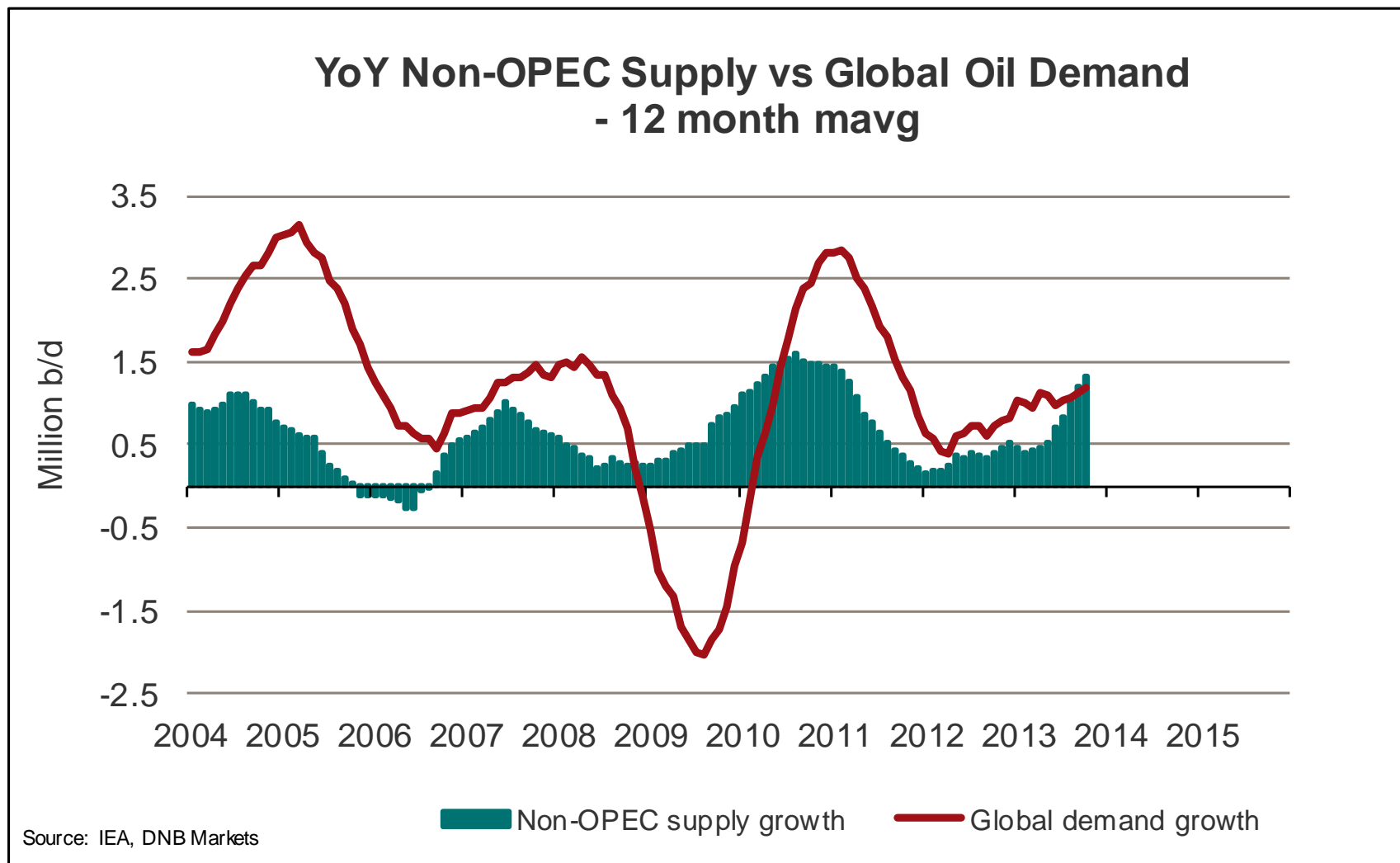
The Average Price Drops If Call On OPEC Drops

- The average oil price drops if the "Call on OPEC" drops significantly

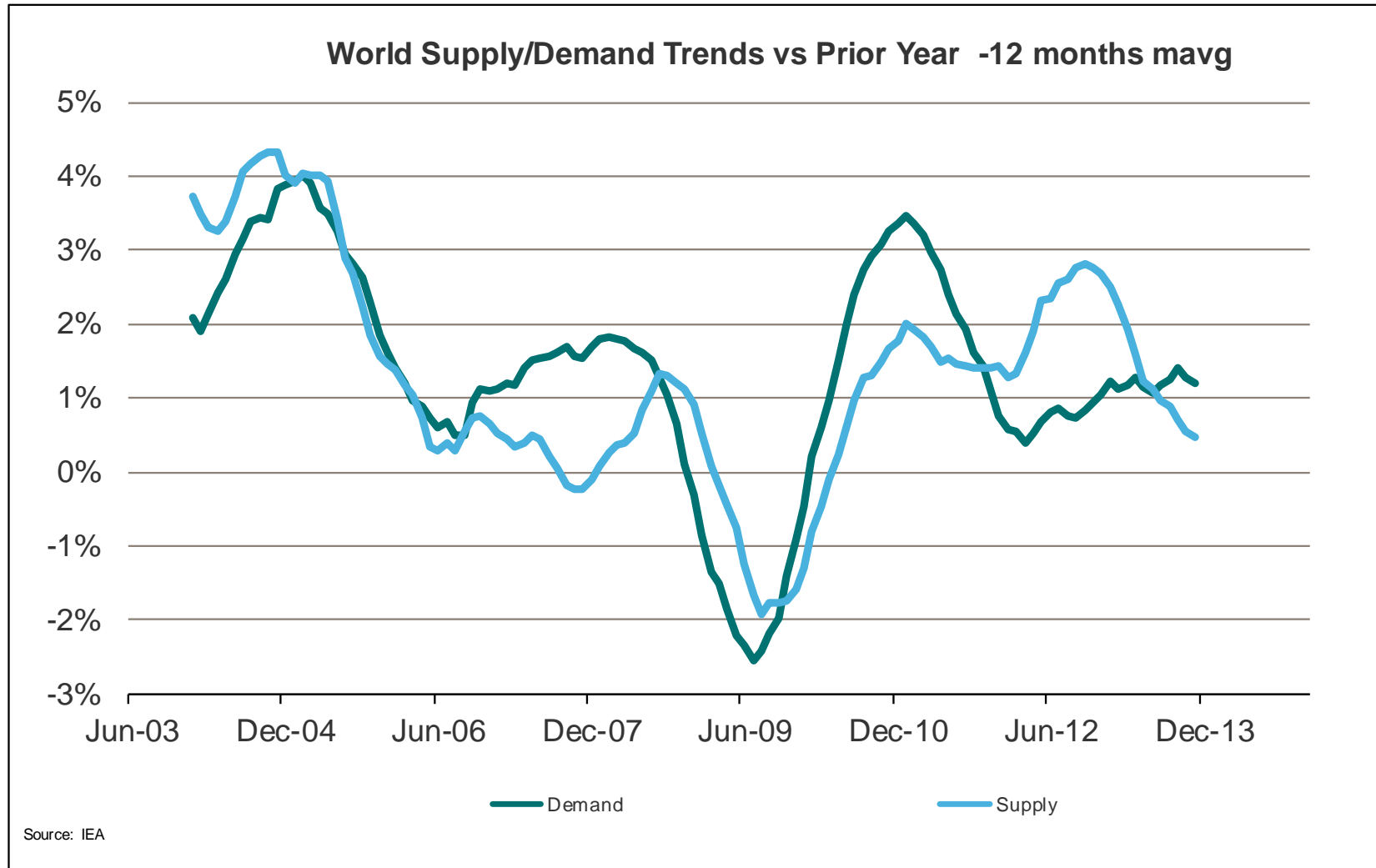


Non-OPEC Growth vs Global Oil Demand Growth

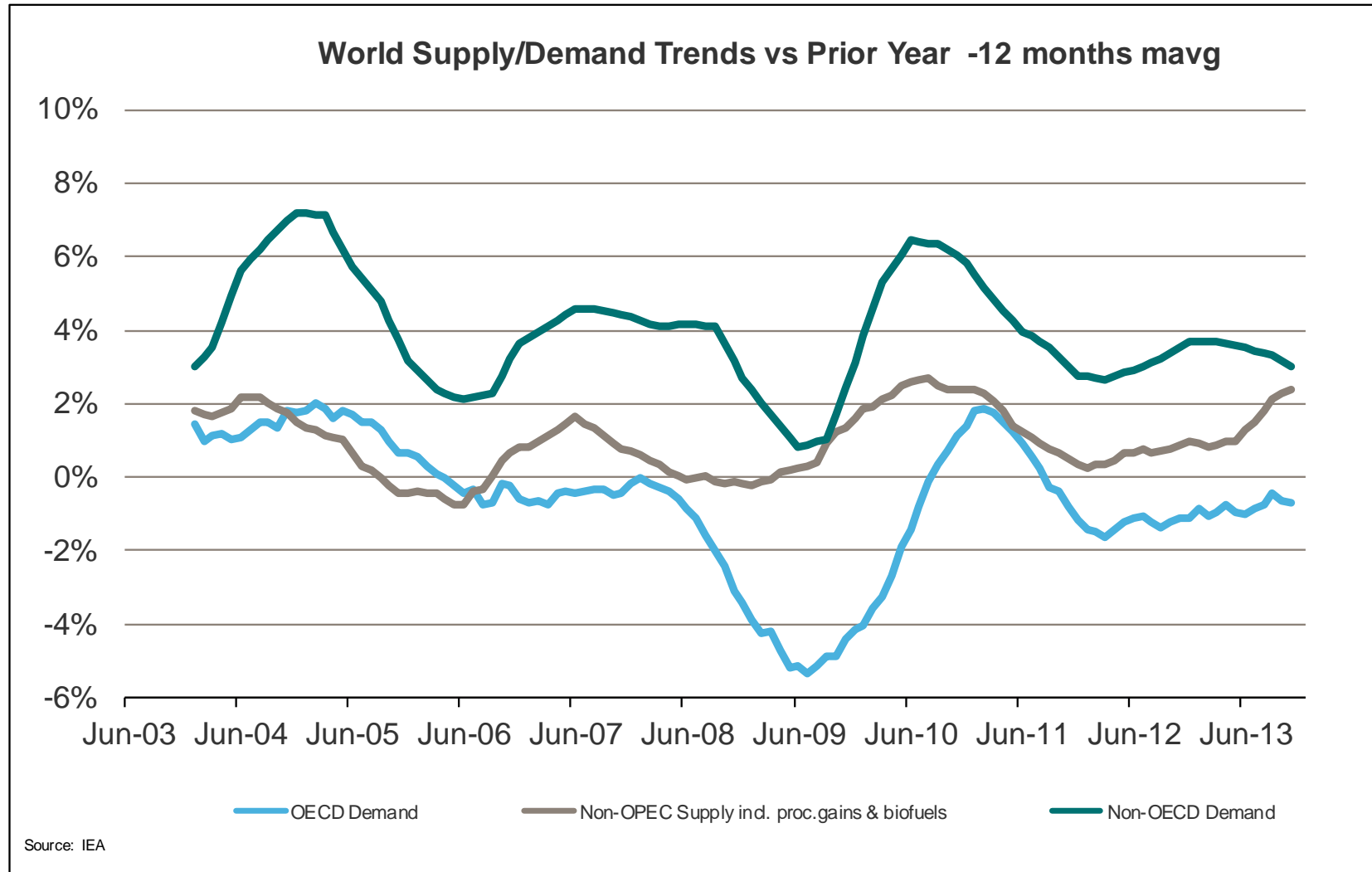
- Non-OPEC supply growth now above global oil demand growth



Trend Line Global Oil Supply & Oil Demand

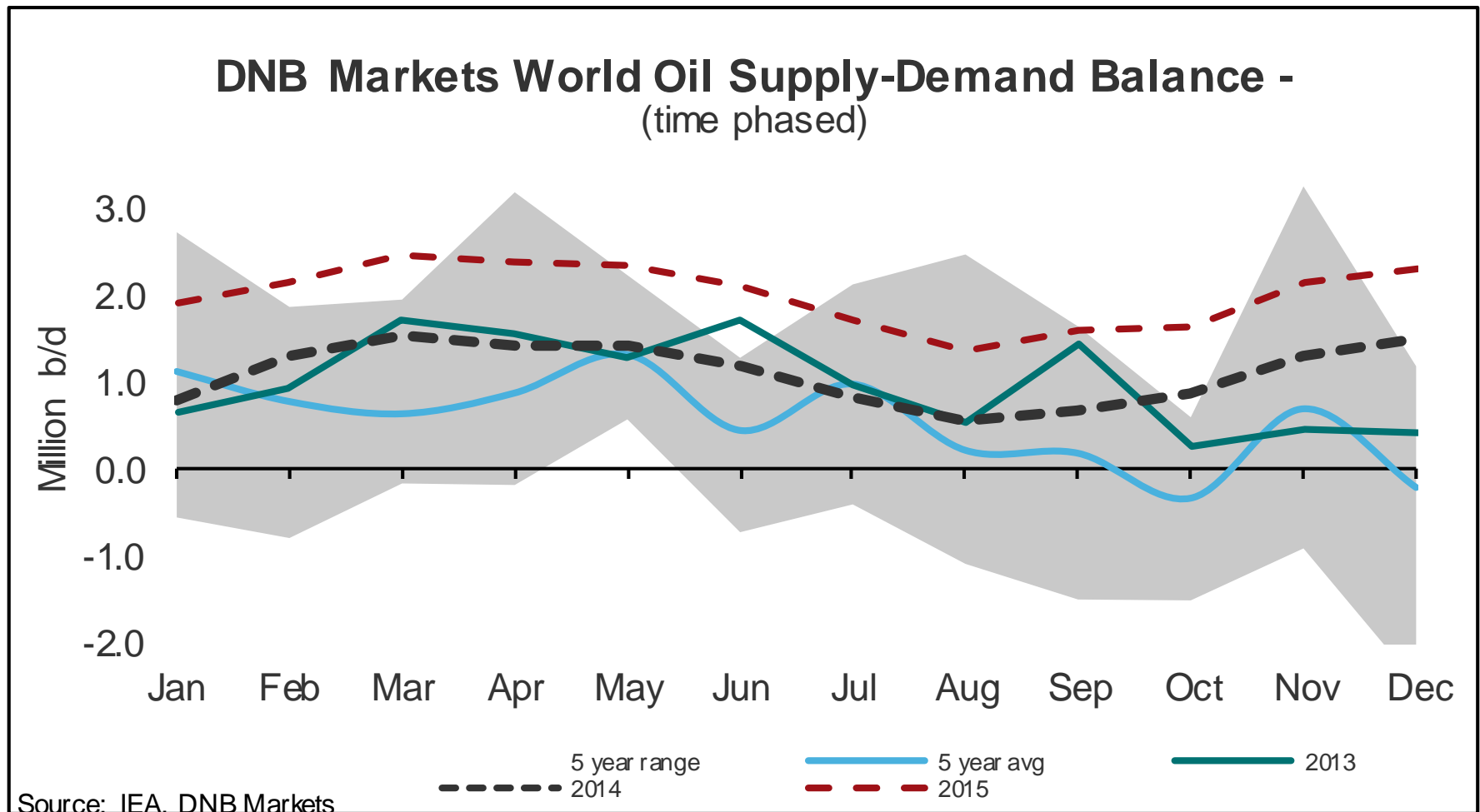


Trend Line Global Oil Supply & Oil Demand



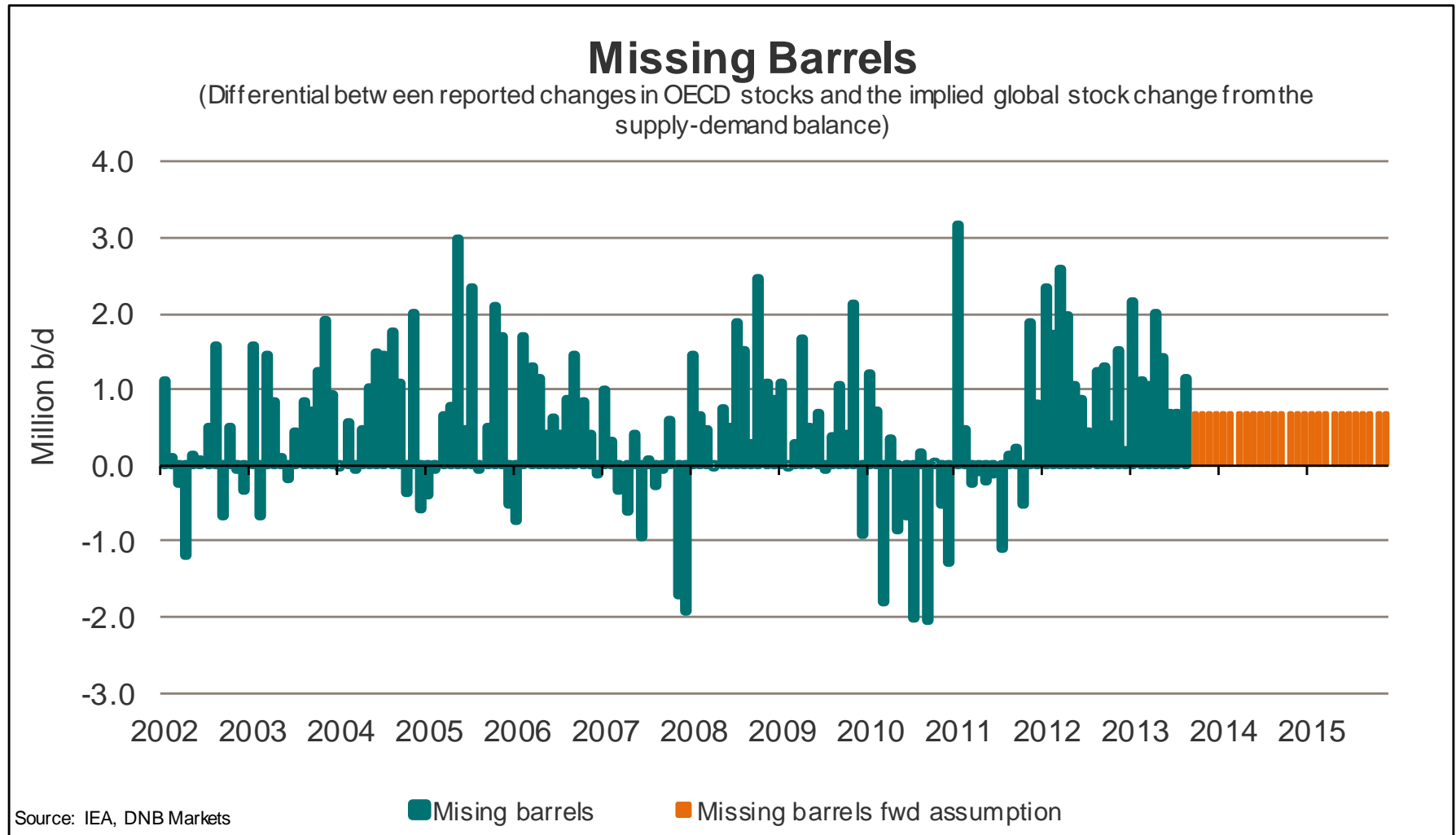
DNB Markets Global Fundamental Oil Balance

- If OPEC continue to produce at the latest known level (based on IEAs latest assessment of OPEC crude output)



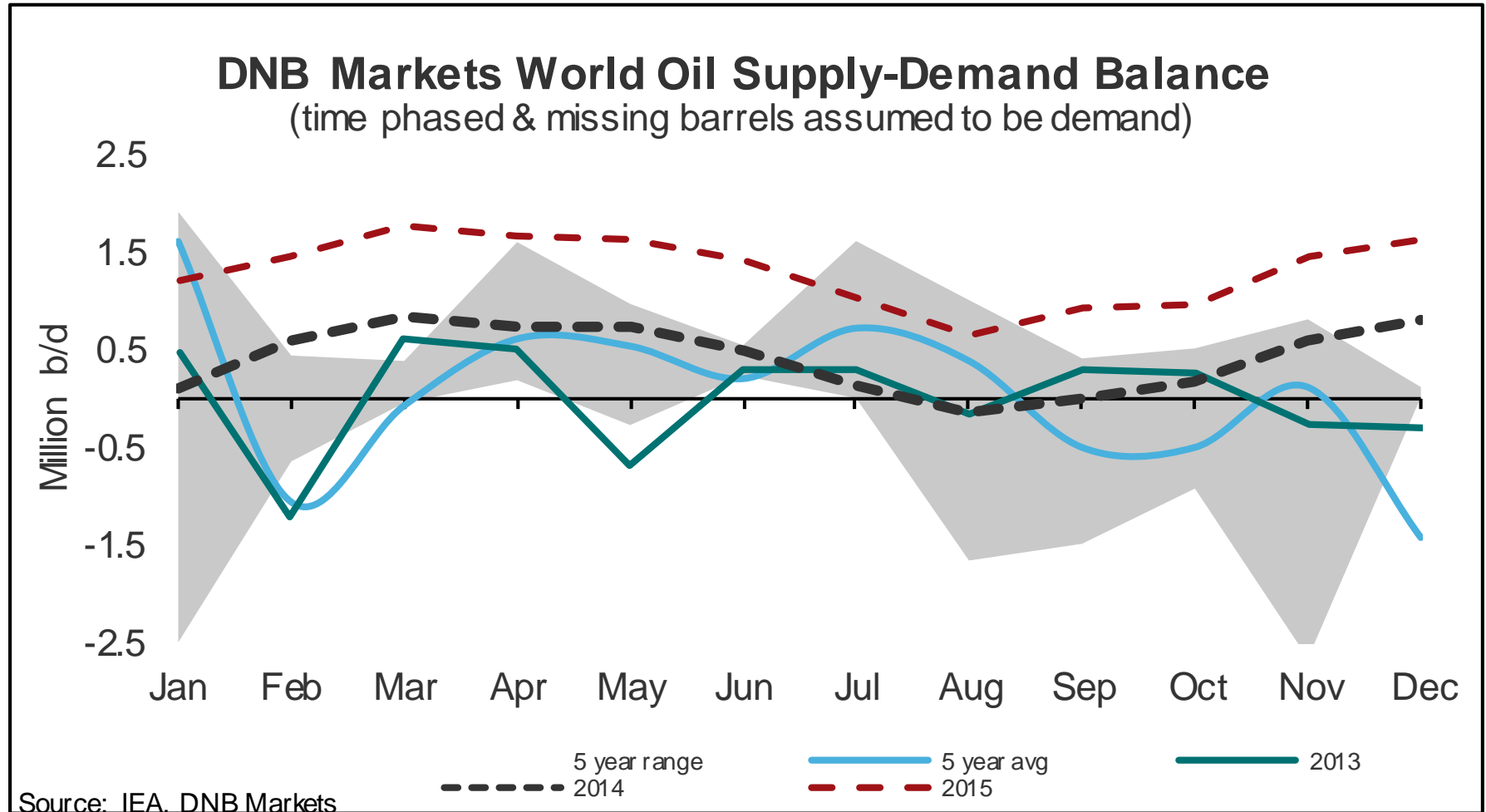
Missing Oil Barrels

- Difference between reported OECD stock changes and the calculated global stock change based on supply vs demand
- If the graph is positive it means demand was higher than reported, supply lower than reported or stock builds in Non-OECD



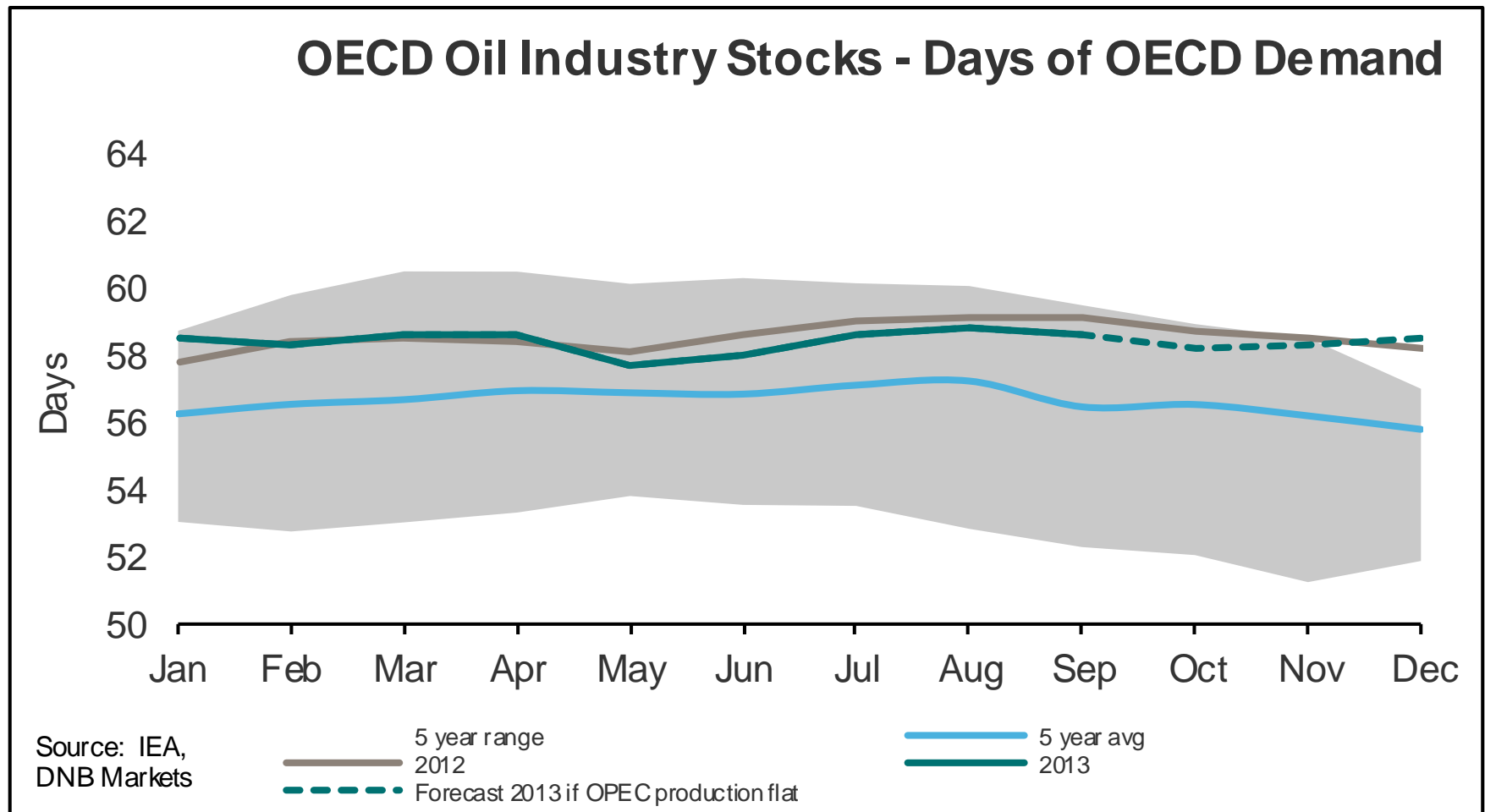
Global Supply-Demand Balance Adjusted For Missing Barrels

- Supply-demand balance adjusted for missing barrels better explains oil price changes in recent years



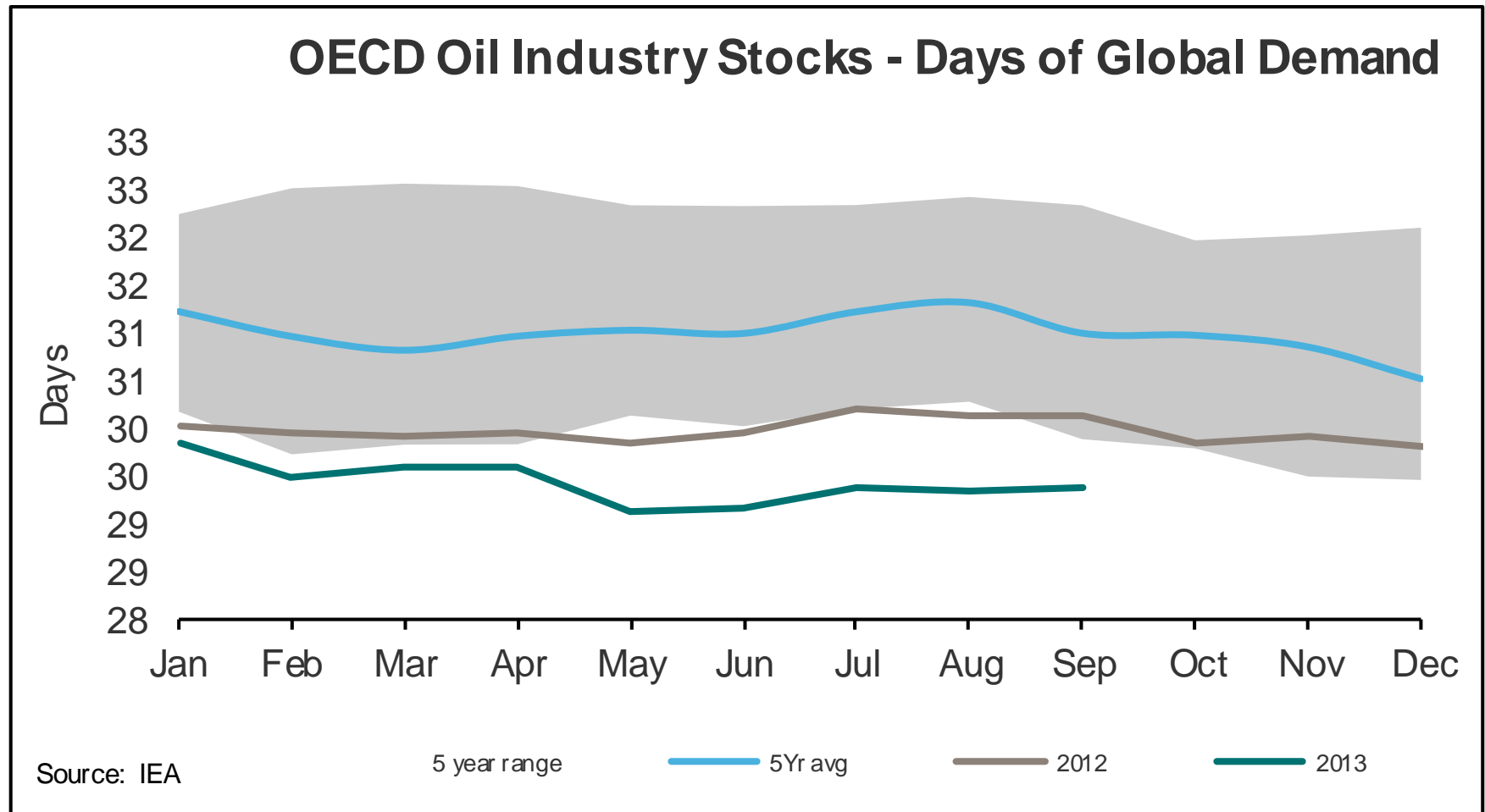
OECD Oil Stocks (Not including floating storage)

- If OPEC continue to produce at latest known level (from the IEA database)



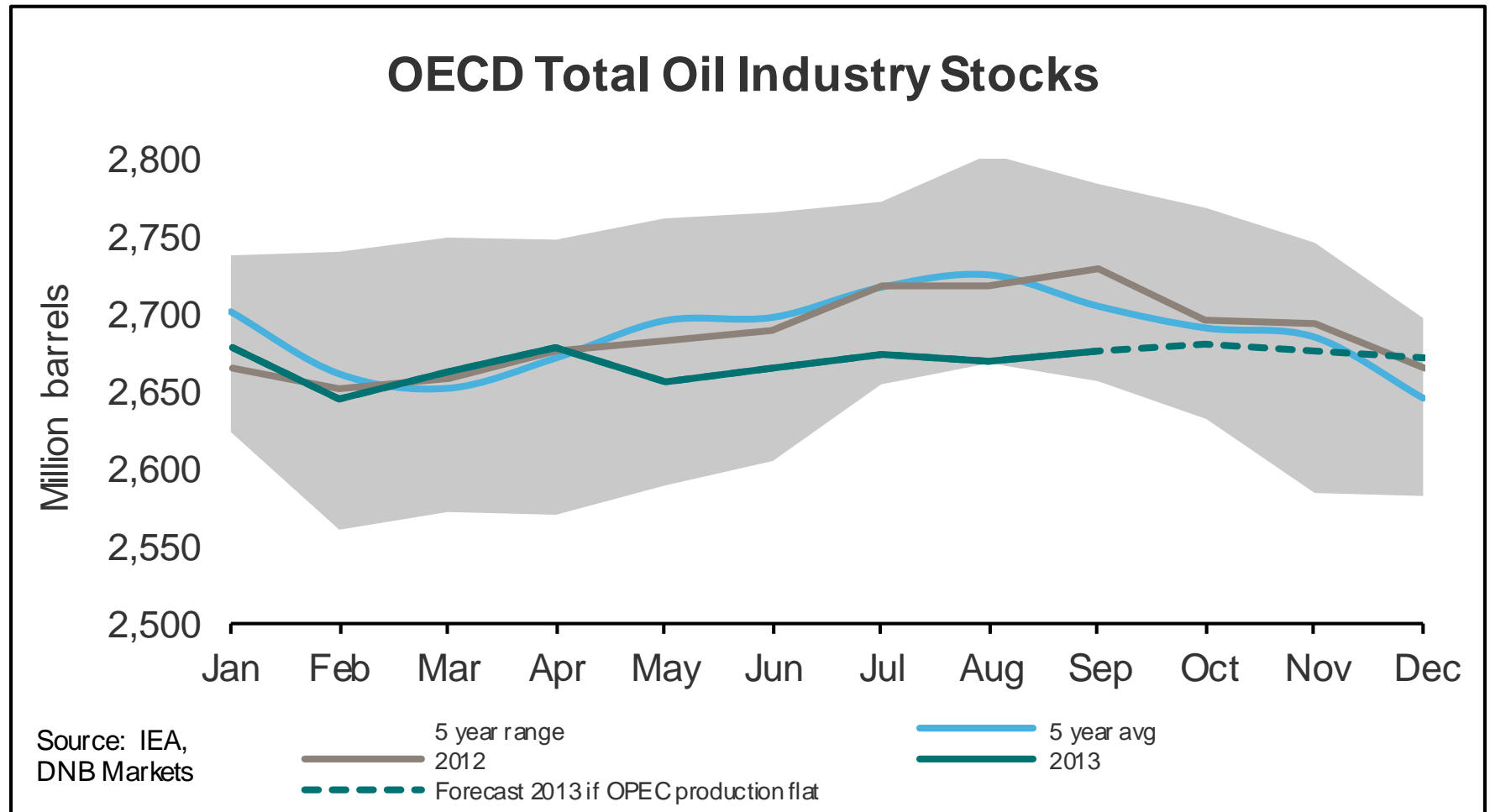
OECD Stocks vs Global Demand Instead of vs OECD Demand

- Not including floating storage



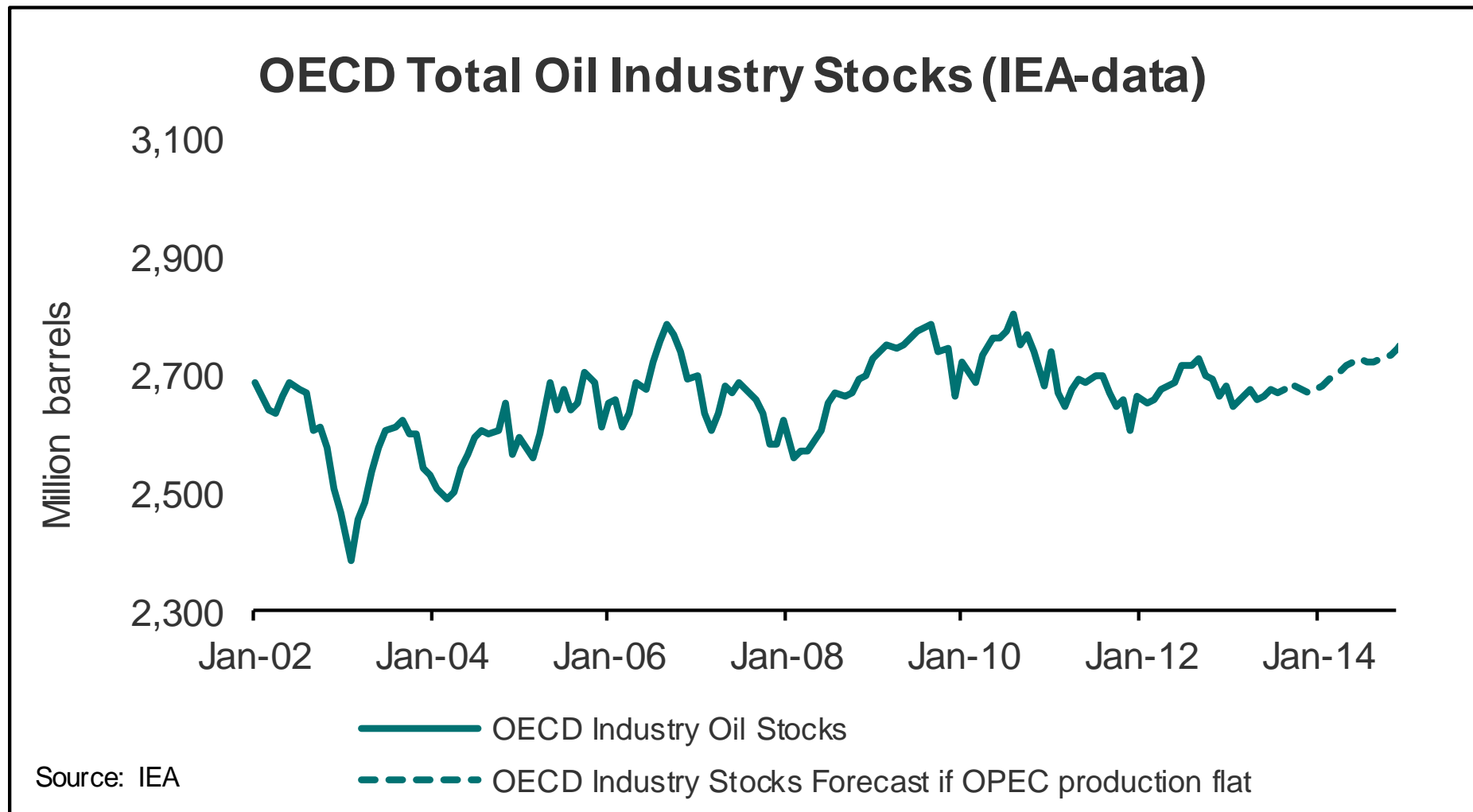
OECD Stocks Measured In Barrels Instead Of Days

- Not including floating storage



OECD Stocks Measured In Barrels Instead Of Days

- Not including floating storage



IEA's Supply/Demand Numbers

IEA Year-On-Year Demand Changes (IEA Forecast)

- Summary for key regions in thousand b/d

IEA Demand (YoY-changes)	2007	2008	2009	2010	2011	2012	2013	2014
North America (Canada, Mexico)	104	-70	-153	112	34	50	-10	-1
US	-20	-1,243	-723	409	-227	-405	104	-32
Europe	-177	-93	-758	-12	-412	-504	-144	-82
Australia, New Zealand, Japan, Korea	-7	-316	-385	121	59	330	-169	-147
Total OECD	-100	-1,722	-2,019	631	-546	-529	-218	-262
Europe/Africa Med & FSU	194	150	-141	78	164	260	214	178
Middle East AG/Asia Pacific/East Africa	1,154	436	1,234	1,750	834	1,003	844	960
Middle East AG excl. Iran and Saudi	144	212	123	127	57	104	111	118
Iran	95	45	59	-209	-35	-20	-28	18
Saudi Arabia	87	152	196	218	104	133	97	107
Asia Pacific/East Africa excl. China and India	315	-16	384	541	238	152	249	233
China	381	-70	408	1,003	394	488	368	379
India	132	114	66	70	77	148	46	104
West Africa	79	51	23	89	48	71	6	64
Latin America (excl. Mexico)	113	360	57	357	91	230	194	155
Total Non-OECD	1,540	996	1,172	2,273	1,137	1,564	1,257	1,356
North America	84	-1,313	-876	522	-193	-355	95	-33
Europe/Africa Med & FSU	17	57	-899	66	-248	-244	70	96
Middle East AG/Asia Pacific/East Africa	1,146	119	849	1,871	893	1,333	675	813
Middle East AG	144	212	123	127	57	104	111	118
Asia Pacific/East Africa	308	-333	-2	662	296	481	80	86
West Africa	79	51	23	89	48	71	6	64
Latin America (excl. Mexico)	113	360	57	357	91	230	194	155
Total World	1,440	-726	-847	2,904	591	1,035	1,039	1,094

IEA Demand From Key Regions

- Summary for key regions in thousand b/d

Demand (levels)	2006	2007	2008	2009	2010	2011	2012	2013	2014
North America (Canada, Mexico)	4,353	4,456	4,386	4,233	4,346	4,379	4,430	4,447	4,442
US	21,050	21,031	19,788	19,065	19,474	19,247	18,842	18,950	18,925
Europe and Med	15,981	15,805	15,712	14,954	14,942	14,532	14,038	13,796	13,691
Australia, New Zealand, Japan, Korea, Chile	8,851	8,844	8,527	8,142	8,263	8,322	8,651	8,511	8,378
Total OECD	50,235	50,135	48,413	46,394	47,025	46,480	45,961	45,703	45,437
Europe/Africa Med & FSU	6,750	6,943	7,093	6,952	7,029	7,193	7,458	7,683	7,869
Middle East AG/Asia Pacific/East Africa	22,413	23,566	24,002	25,236	26,986	27,820	28,821	29,680	30,673
Middle East AG excl. Iran and Saudi	1,673	1,817	2,028	2,151	2,278	2,335	2,436	2,534	2,654
Iran	1,815	1,909	1,954	2,013	1,804	1,769	1,749	1,721	1,740
Saudi Arabia	2,033	2,120	2,272	2,467	2,685	2,789	2,921	3,027	3,138
Asia Pacific/East Africa excl. China and India	6,949	7,264	7,248	7,632	8,173	8,410	8,565	8,804	9,038
China	7,205	7,586	7,516	7,925	8,927	9,321	9,809	10,202	10,597
India	2,738	2,870	2,984	3,049	3,120	3,197	3,342	3,392	3,507
West Africa	1,014	1,093	1,144	1,163	1,248	1,296	1,360	1,364	1,430
Latin America (excl. Mexico)	5,194	5,308	5,667	5,724	6,081	6,172	6,401	6,564	6,712
Total Non-OECD	35,370	36,910	37,906	39,074	41,344	42,481	44,040	45,291	46,684
North America	25,403	25,487	24,174	23,298	23,820	23,627	23,272	23,397	23,368
Europe/Africa Med & FSU	22,731	22,748	22,805	21,906	21,971	21,725	21,495	21,479	21,560
Middle East AG/Asia Pacific/East Africa	31,264	32,410	32,529	33,378	35,249	36,142	37,472	38,190	39,052
Middle East AG	1,673	1,817	2,028	2,151	2,278	2,335	2,436	2,534	2,654
Asia Pacific/East Africa	15,800	16,108	15,775	15,773	16,435	16,732	17,216	17,314	17,417
West Africa	1,014	1,093	1,144	1,163	1,248	1,296	1,360	1,364	1,430
Latin America (excl. Mexico)	5,194	5,308	5,667	5,724	6,081	6,172	6,401	6,564	6,712
Total World	85,605	87,045	86,319	85,468	88,369	88,961	90,001	90,994	92,121

IEA Supply Changes & Changes Since Prior Report

- Summary for key non-OPEC countries in thousand b/d

Liquids Supply	Change 2007	Change 2008	Change 2009	Change 2010	Change 2011	Change 2012	Change 2013	Change 2014
Canada	101	-73	-31	128	193	225	268	212
Mexico	-210	-315	-186	-20	-17	-23	-32	-24
Norway	-221	-86	-107	-222	-96	-126	-49	-2
United Kingdom	0	-96	-88	-120	-246	-172	-73	-43
United States	40	-83	455	354	351	1,056	1,059	885
Azerbaijan	212	44	144	-9	-118	-45	-2	-31
Kazakhstan	58	24	133	60	11	-18	52	117
Russia	236	-73	196	247	141	131	133	118
South Sudan	0	0	0	0	171	-140	72	189
China	33	72	-7	273	24	74	-17	93
Brazil	29	63	131	113	56	-44	-39	130
Colombia	5	57	82	116	130	29	64	94
Oman	-27	47	55	53	24	31	27	6
Sum:	256	-420	777	972	624	979	1,463	1,744

Change since prior report

Liquids Supply	Change 2007	Change 2008	Change 2009	Change 2010	Change 2011	Change 2012	Change 2013	Change 2014
Canada	0	0	0	0	0	0	4	-45
Mexico	0	0	0	0	0	0	6	5
Norway	0	0	0	0	0	0	11	17
United Kingdom	0	0	0	0	0	0	23	-27
United States	0	0	0	0	0	5	41	55
Azerbaijan	0	0	0	0	0	0	5	3
Kazakhstan	0	0	0	0	0	0	-14	-2
Russia	0	0	0	0	0	0	28	90
Sudan	0	0	0	0	0	0	0	-4
China	0	0	0	0	0	0	8	1
Brazil	0	0	0	0	0	0	-5	-27
Colombia	0	0	0	0	0	0	-6	6
Oman	0	0	0	0	0	0	0	0
Sum:	0	0	0	0	0	5	100	72

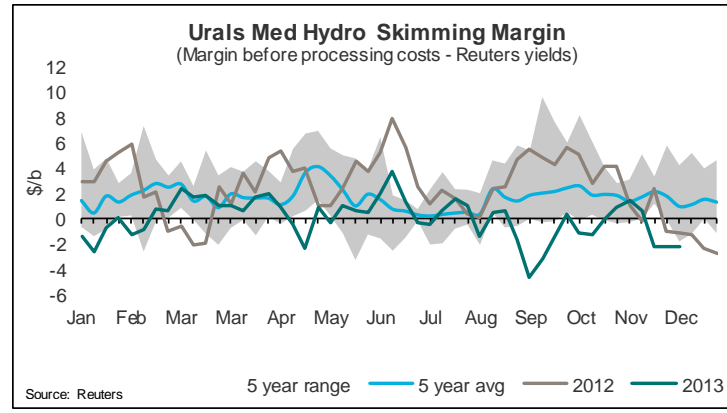
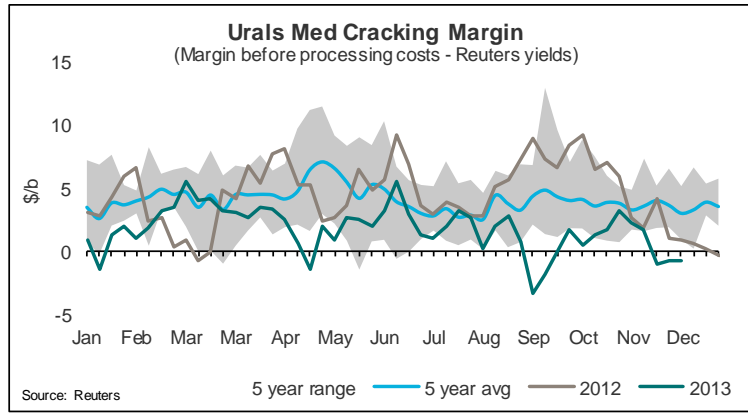
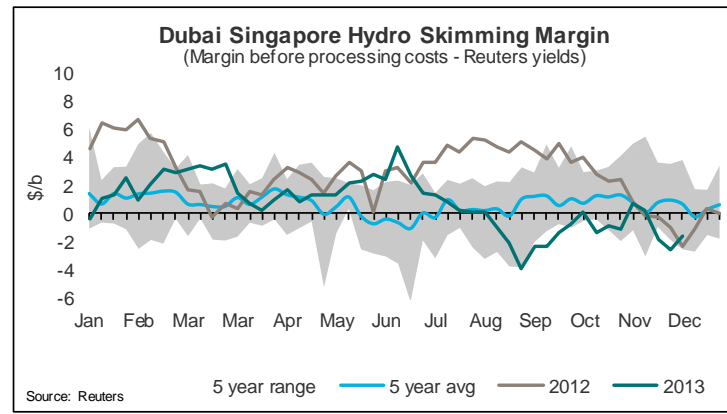
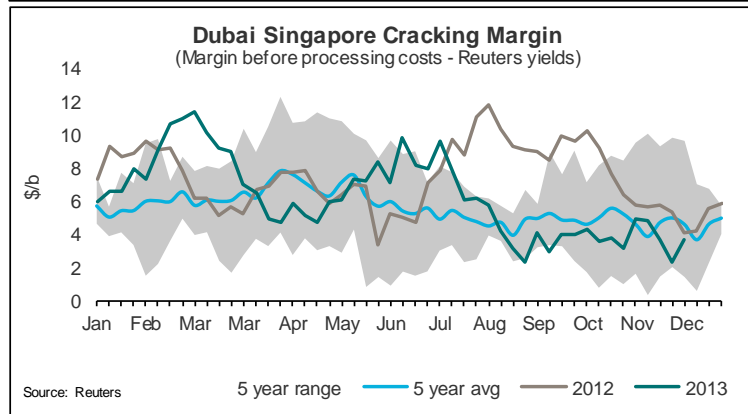
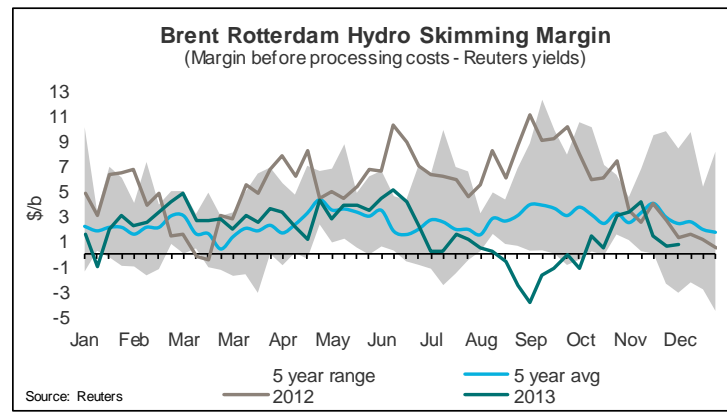
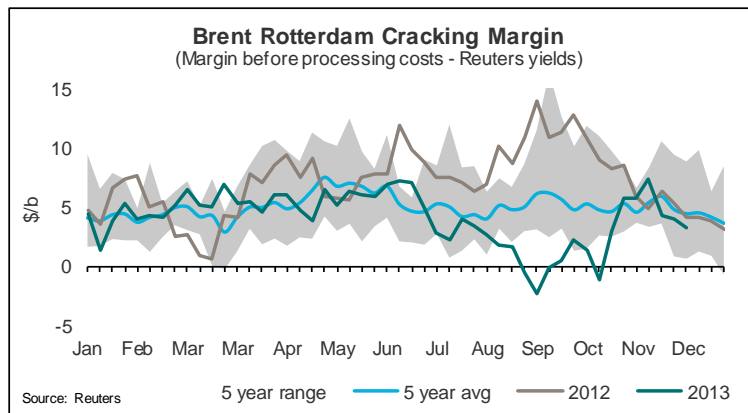
IEA Supply By Key Non-OPEC Countries

- Summary for the key non-OPEC countries in thousand b/d

Liquids Supply	2006	2007	2008	2009	2010	2011	2012	2013	2014
Canada	3,208	3,309	3,236	3,205	3,333	3,526	3,751	4,019	4,230
Mexico	3,691	3,481	3,166	2,980	2,960	2,943	2,920	2,888	2,863
Norway	2,772	2,552	2,465	2,358	2,136	2,040	1,914	1,865	1,864
United Kingdom	1,664	1,664	1,569	1,481	1,361	1,115	943	871	828
United States	7,007	7,048	6,965	7,420	7,774	8,125	9,181	10,240	11,125
Azerbaijan	650	863	906	1,050	1,042	924	879	878	847
Kazakhstan	1,361	1,419	1,442	1,575	1,635	1,645	1,627	1,679	1,796
Russia	9,850	10,086	10,013	10,209	10,456	10,597	10,728	10,861	10,979
South Sudan	0	0	0	0	0	171	31	103	292
China	3,707	3,740	3,811	3,804	4,078	4,101	4,175	4,159	4,252
Brazil	1,807	1,836	1,898	2,030	2,143	2,199	2,155	2,116	2,246
Colombia	529	534	590	672	788	918	947	1,011	1,105
Oman	740	713	759	814	867	891	922	949	955
Sum:	36,987	37,242	36,822	37,600	38,571	39,196	40,175	41,637	43,381

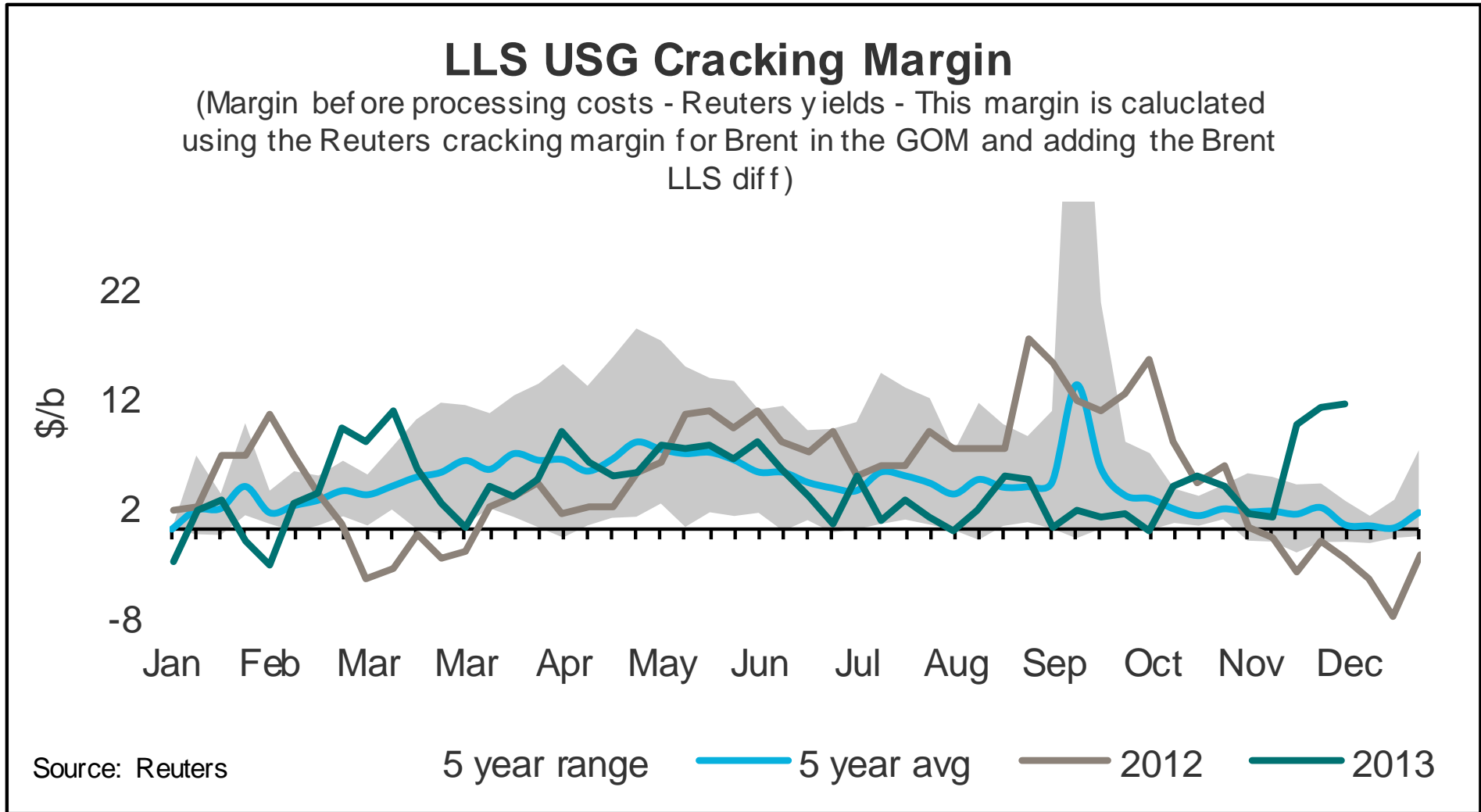
Margins, Cracks & Refinery Runs

Refinery Margins Before Processing Costs



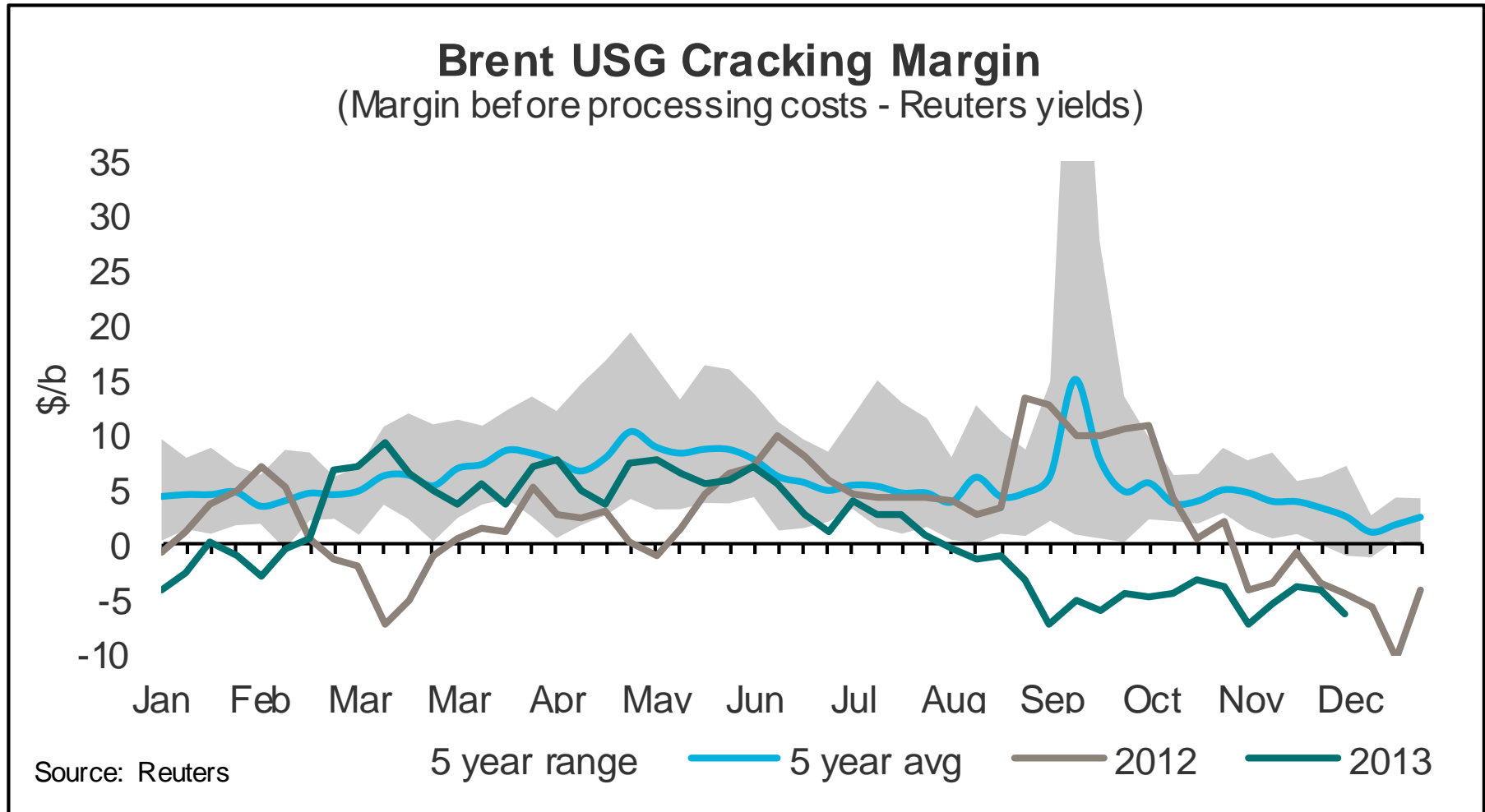
US GOM Margin Based On LLS

- Reuters yields

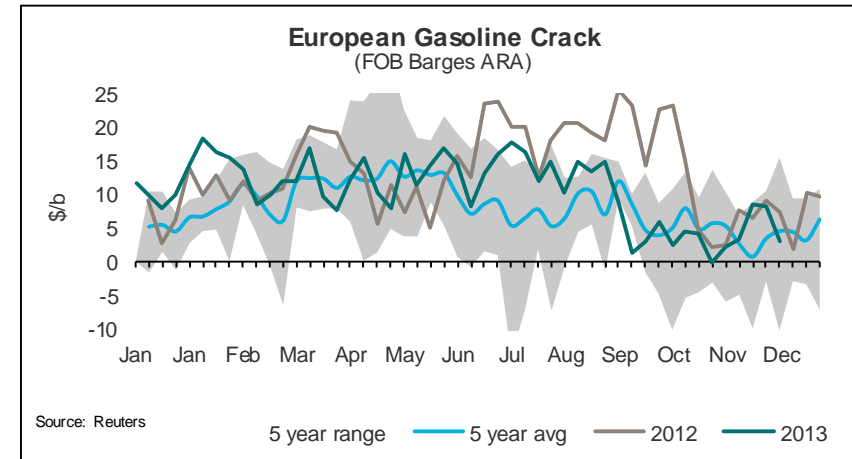
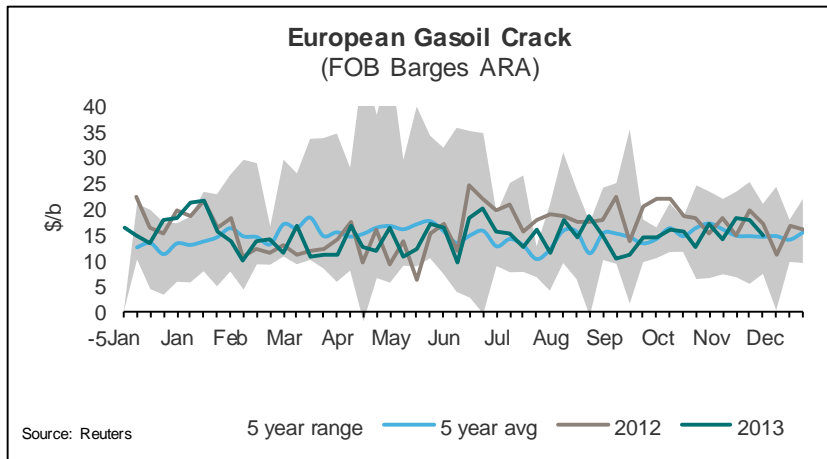
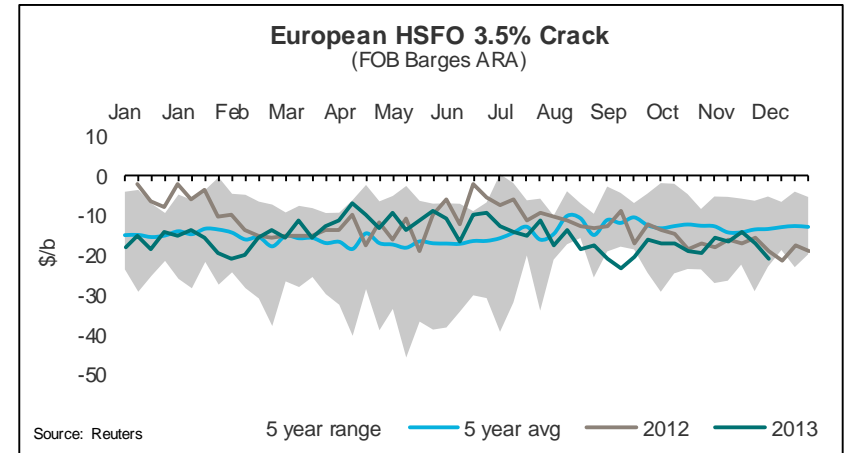
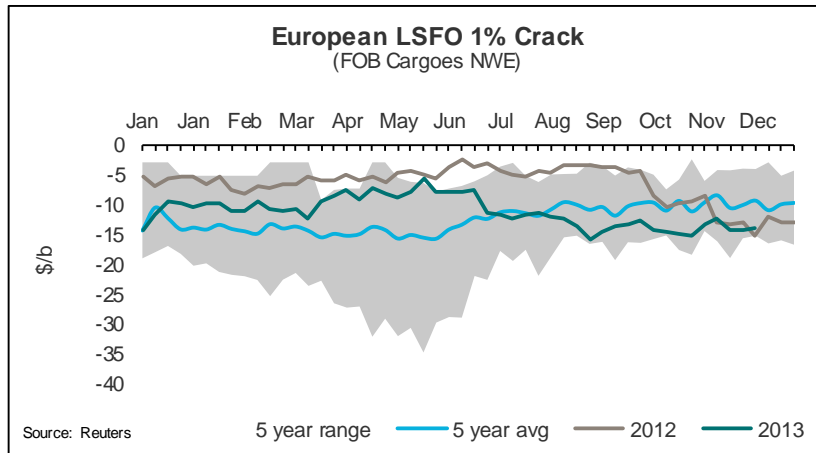


US GOM Margin Based On International Crude

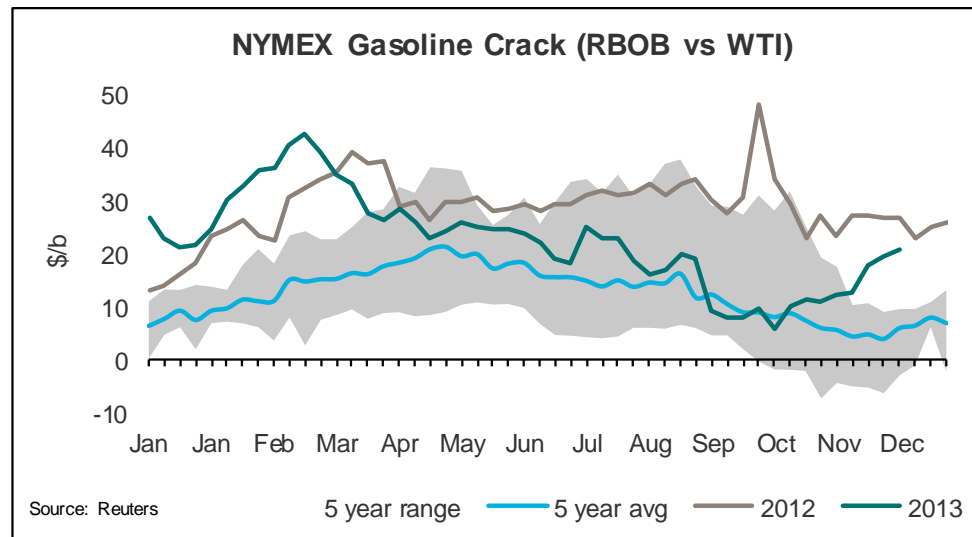
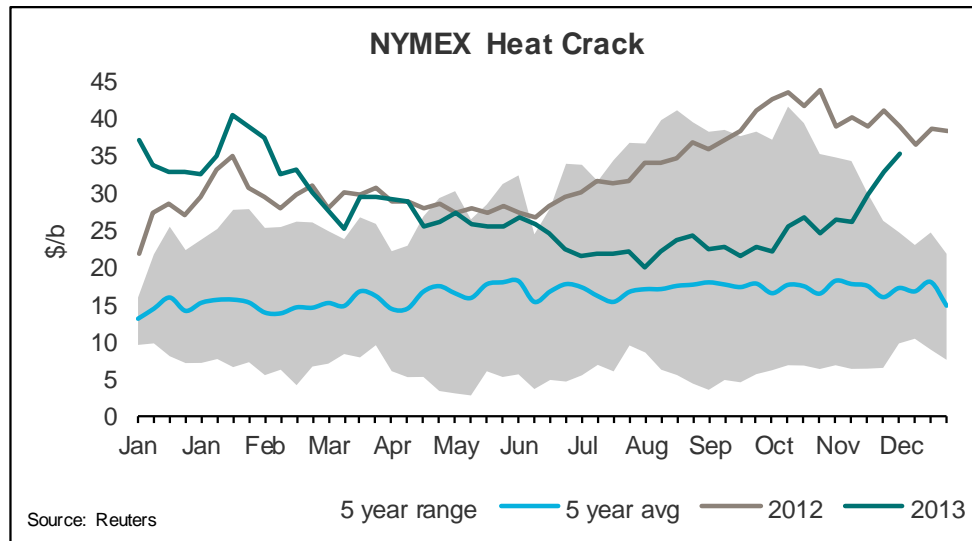
- Reuters yields



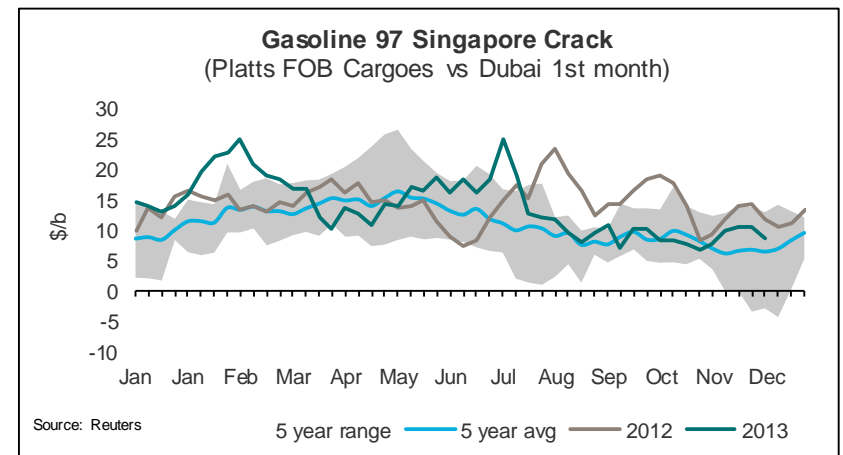
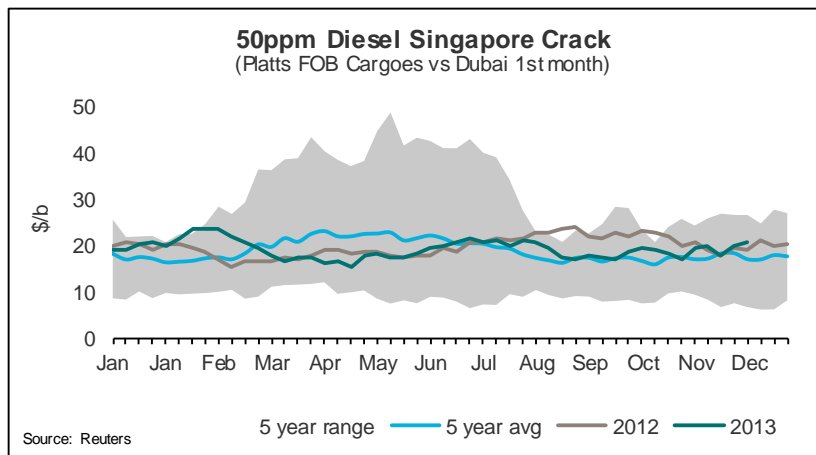
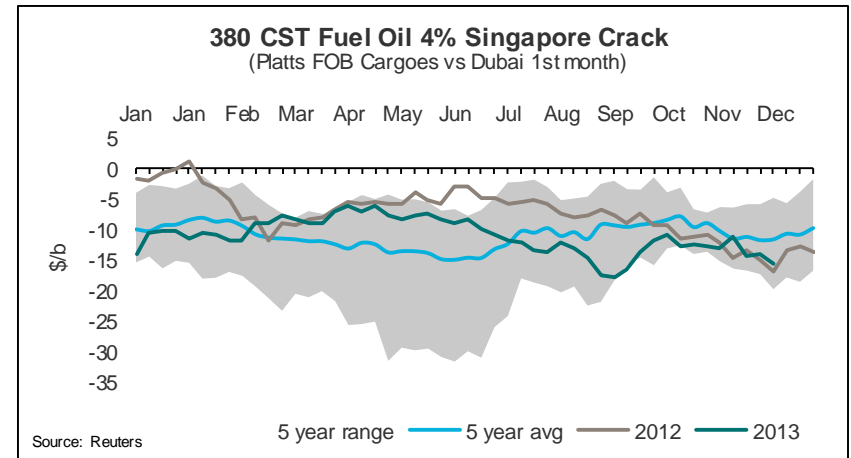
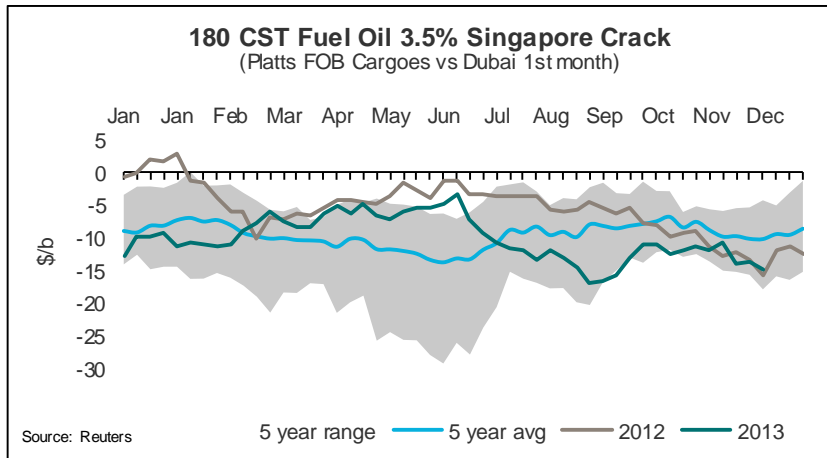
Key Product Crack Spreads - Europe



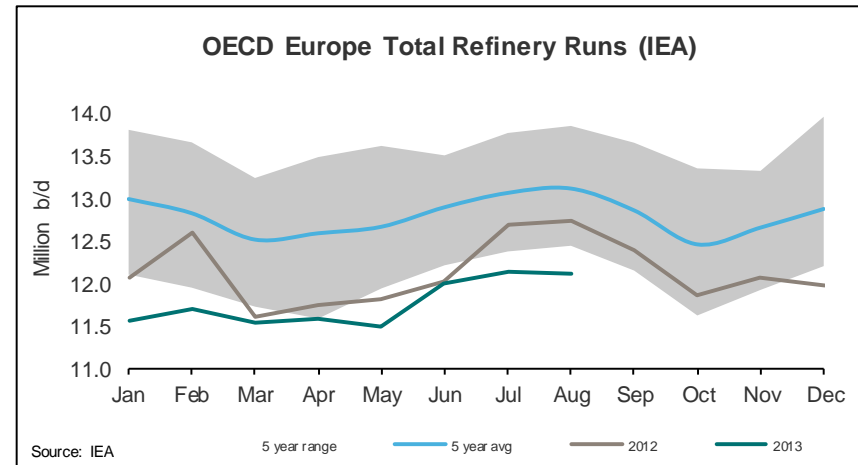
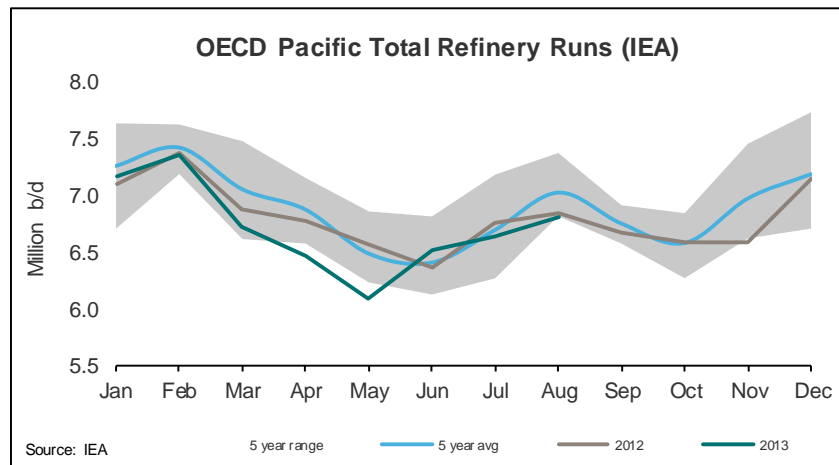
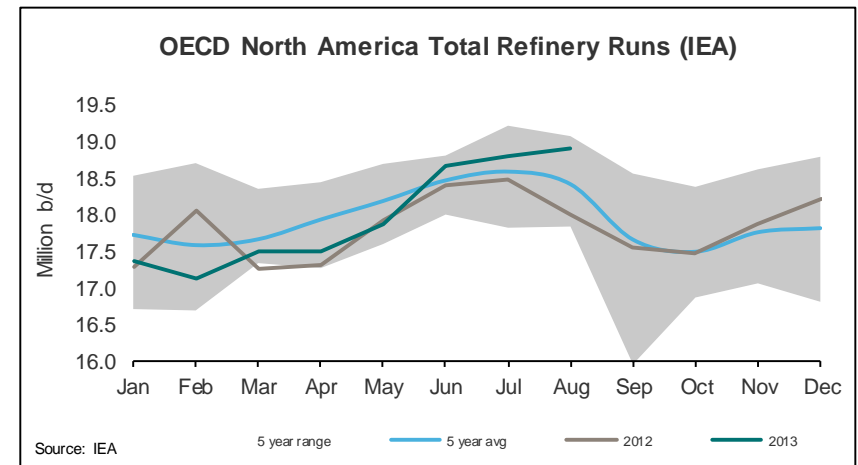
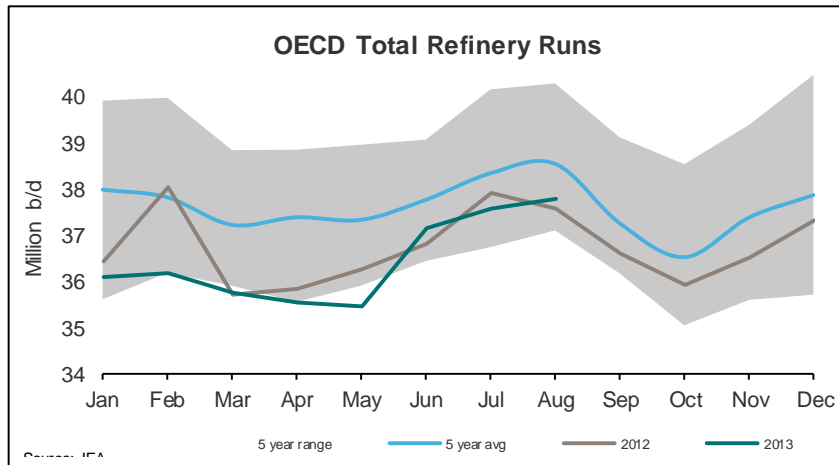
Key Product Crack Spreads – New York (NYMEX)



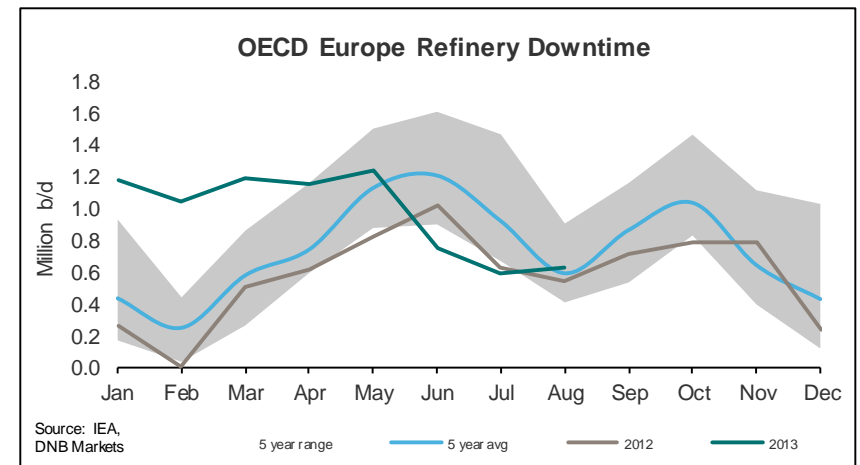
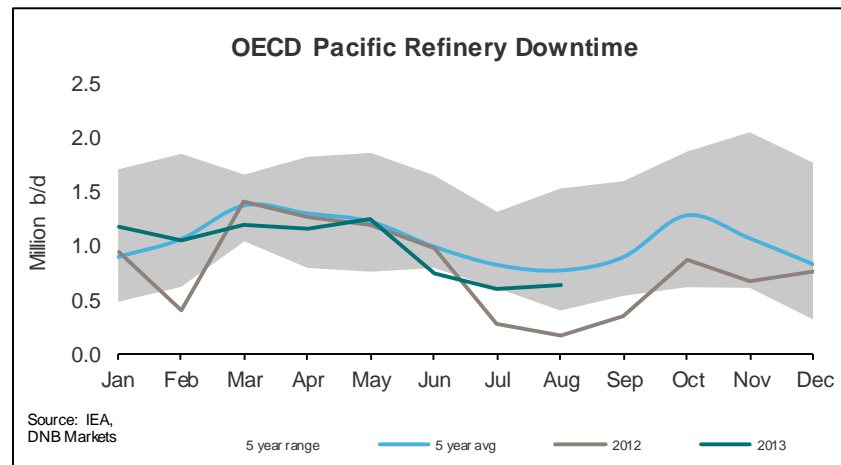
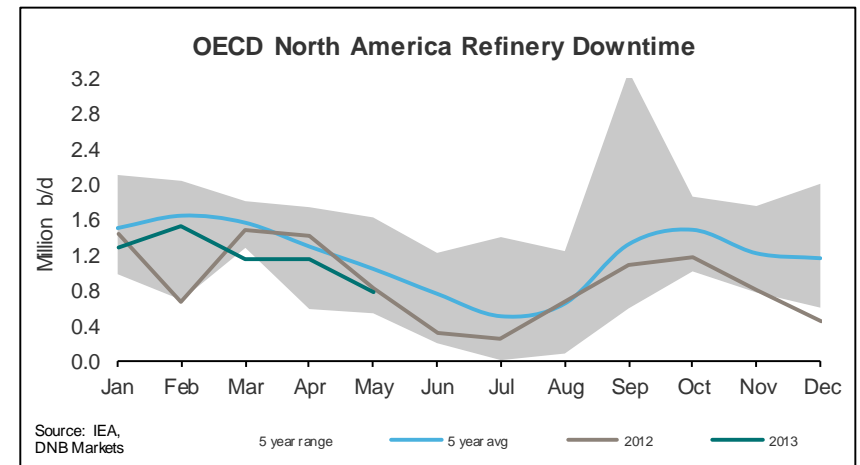
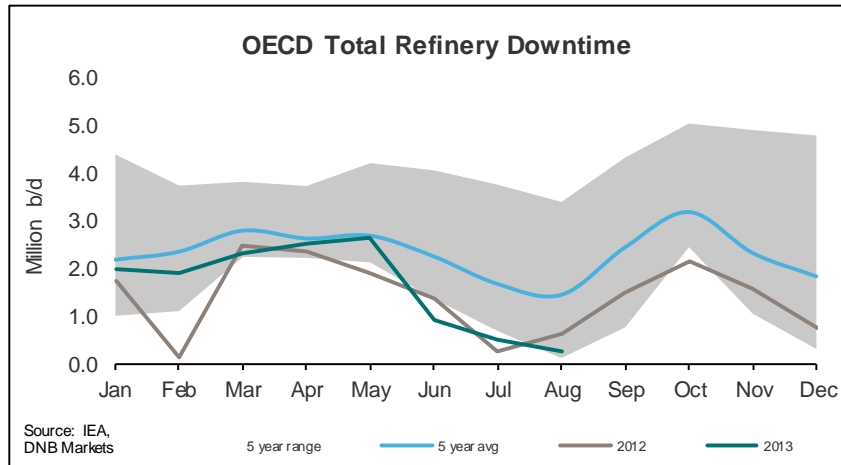
Key Product Crack Spreads - Singapore



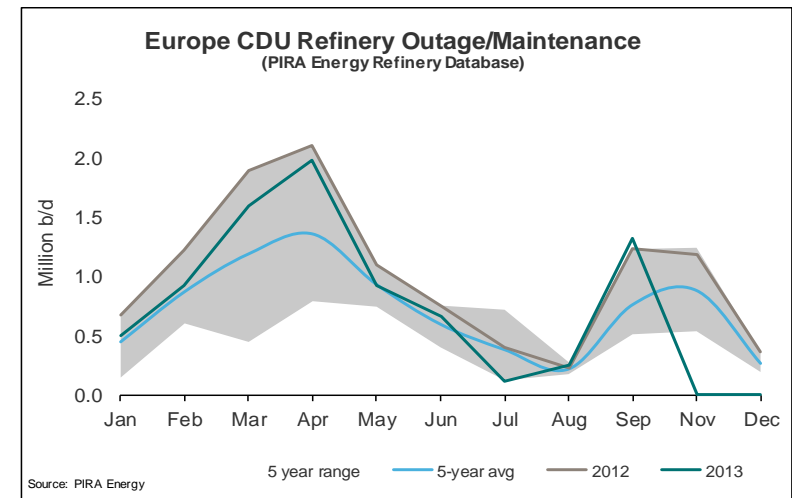
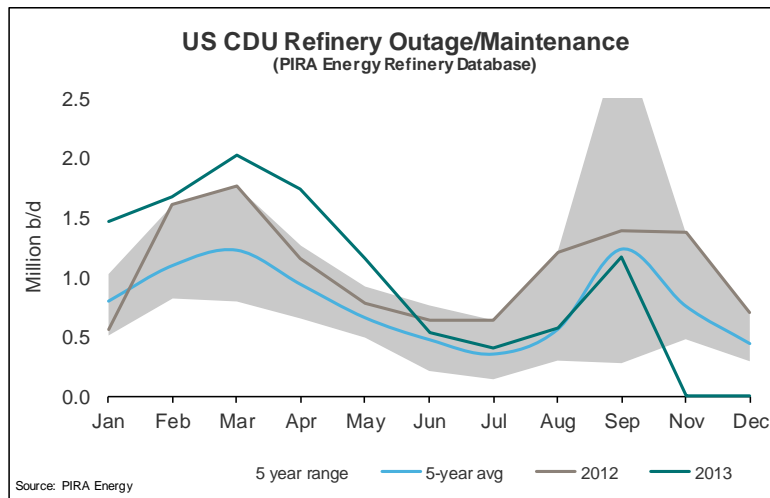
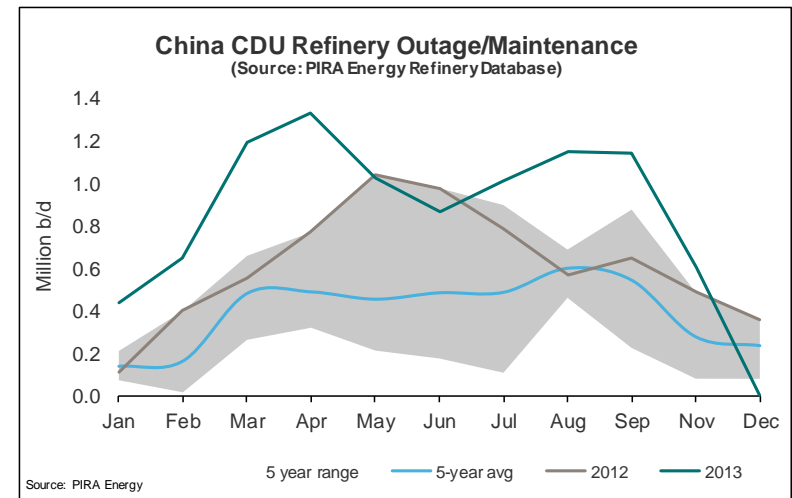
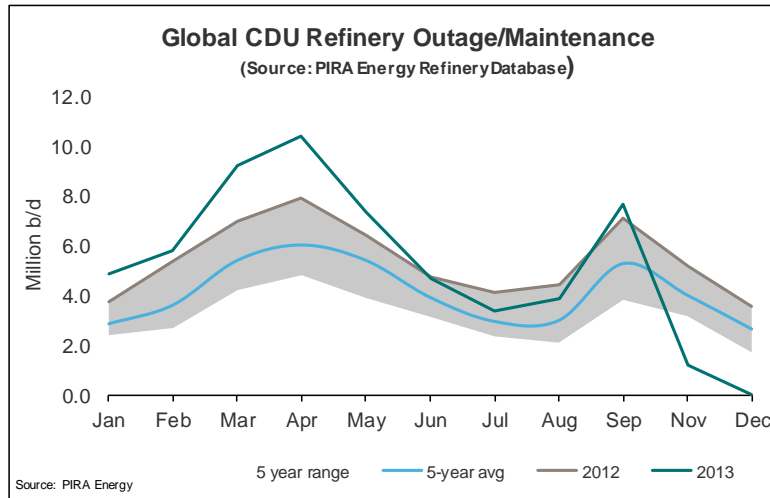
OECD Refinery Run Rates (IEA-Data)



OECD Refinery Downtime (IEA-Data and DNB Calculations)

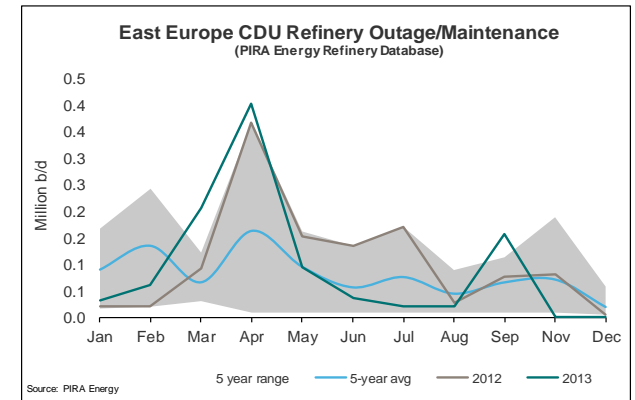
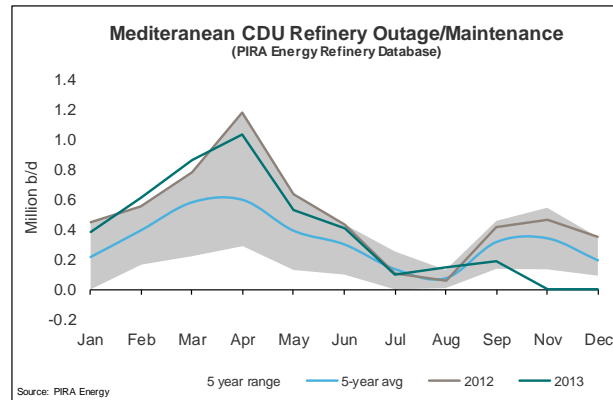
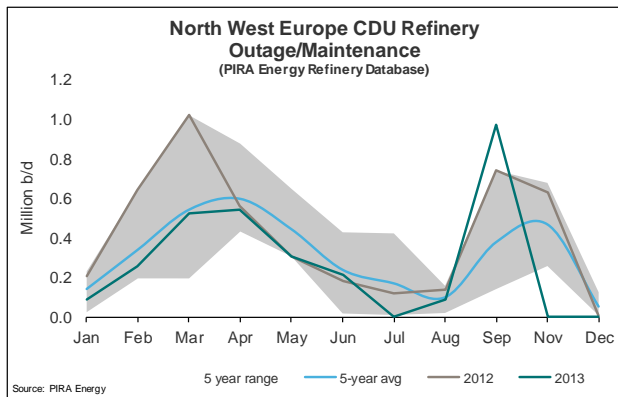
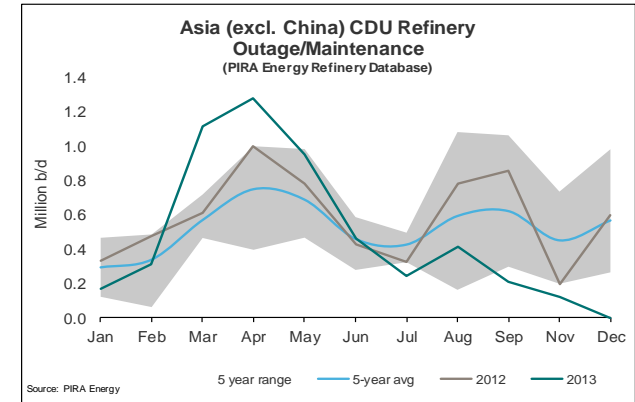
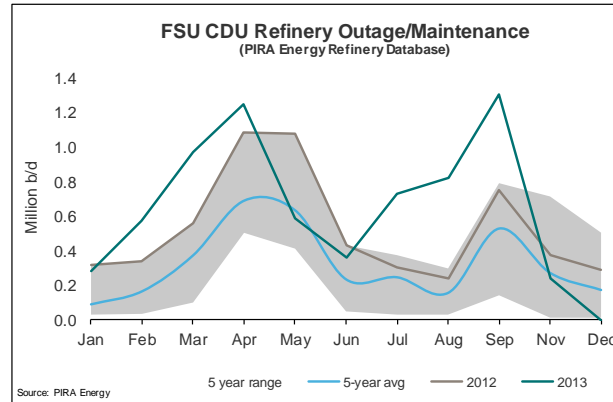
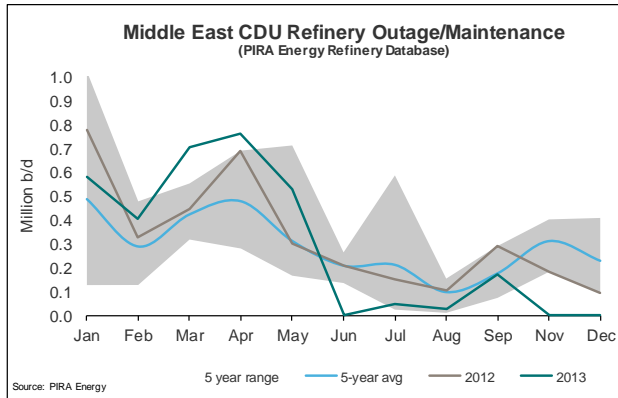


Refinery Outages & Planned Maintenance

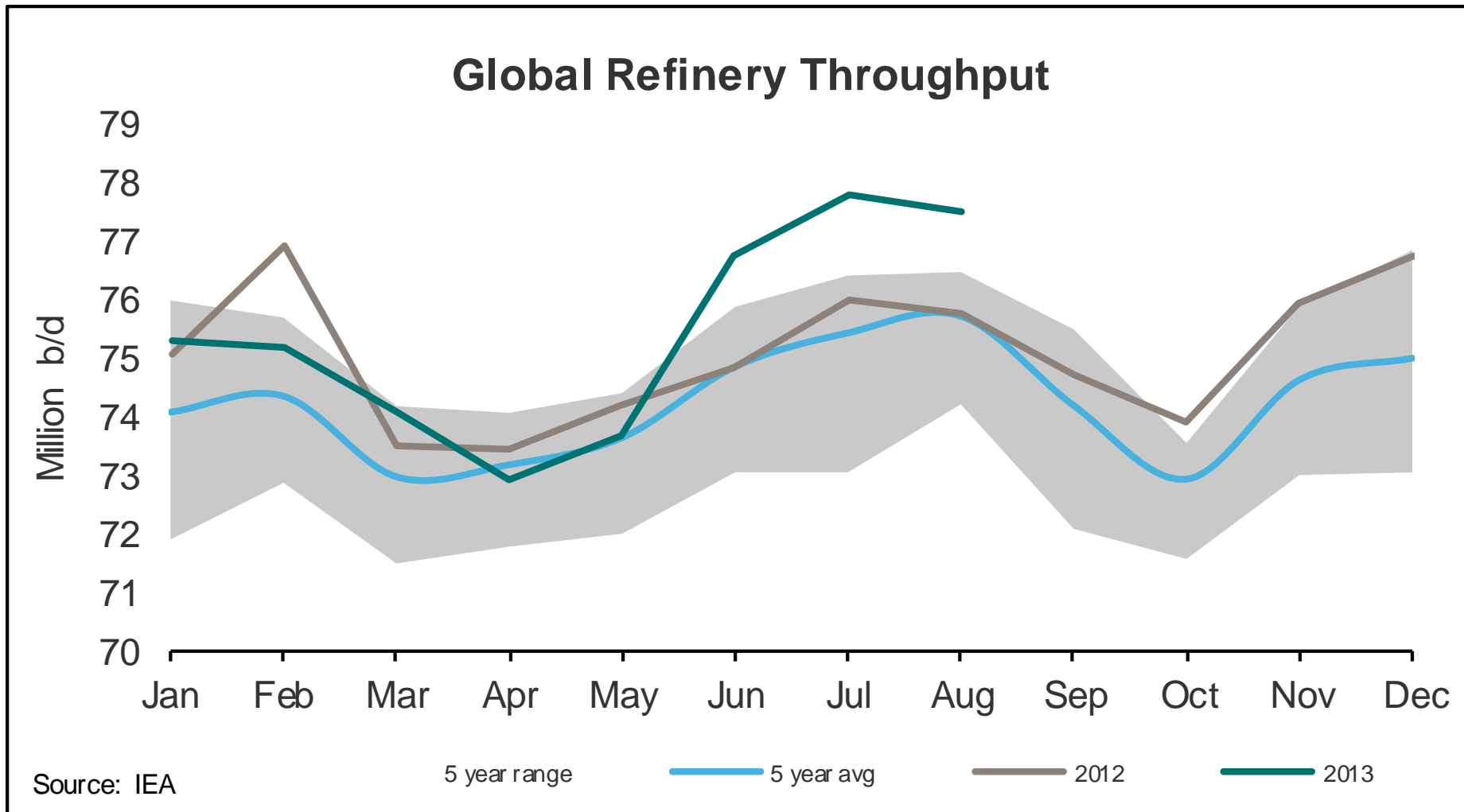


Refinery Outages & Planned Maintenance

- Per region

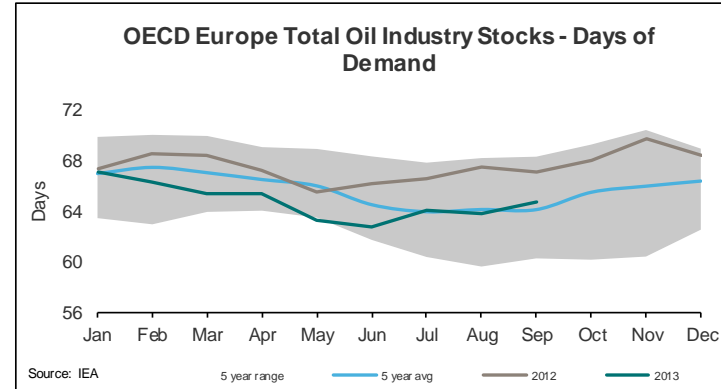
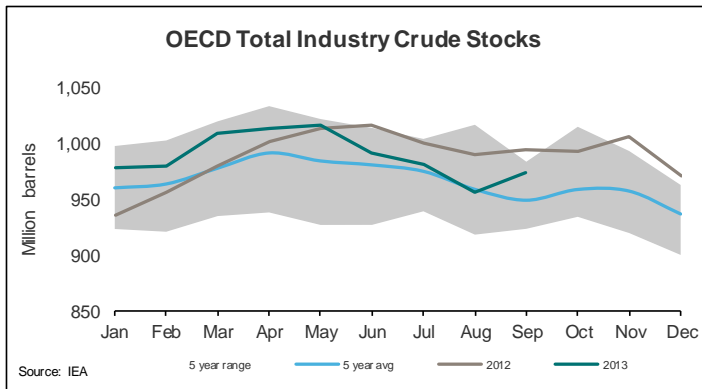
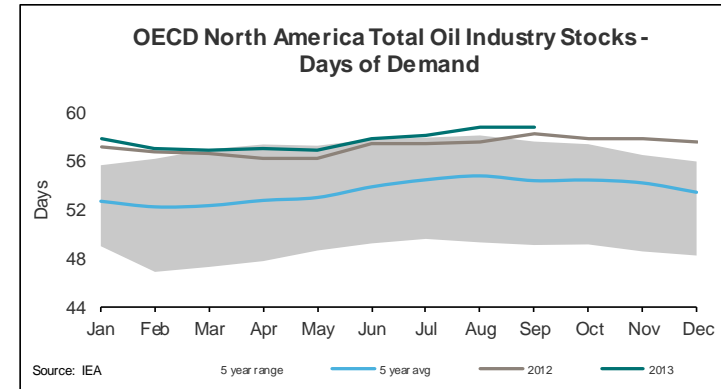
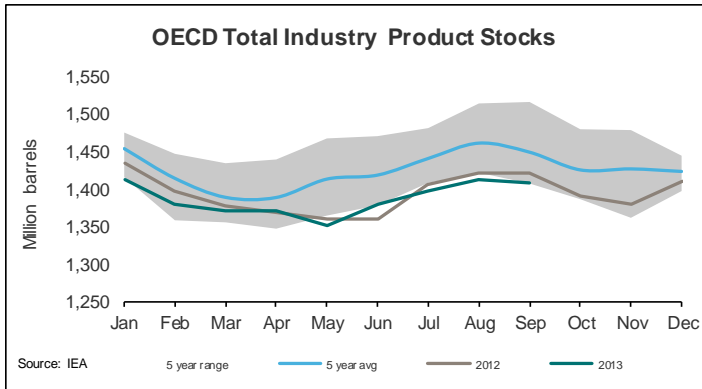
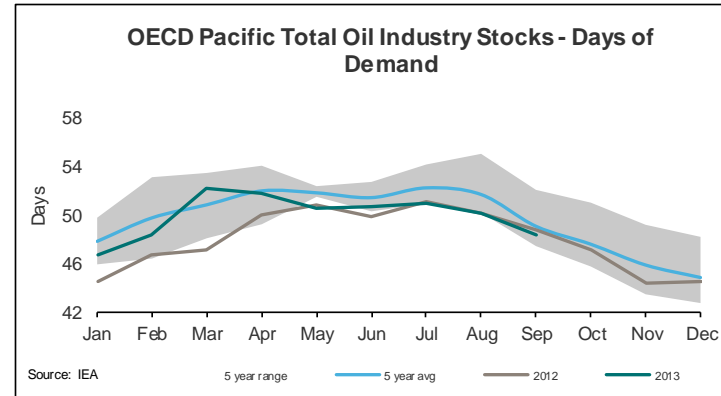
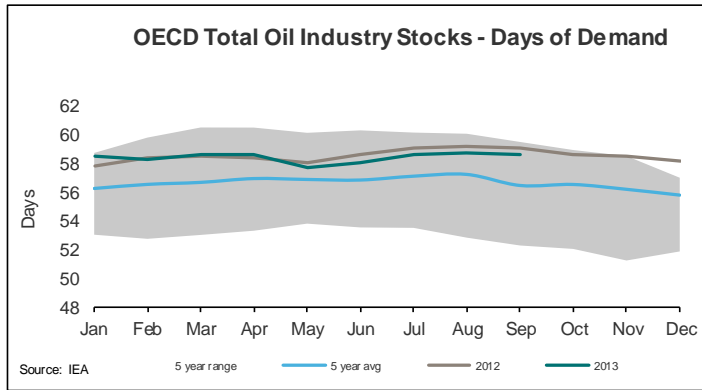


Global Refinery Intake (IEA-Assessment)

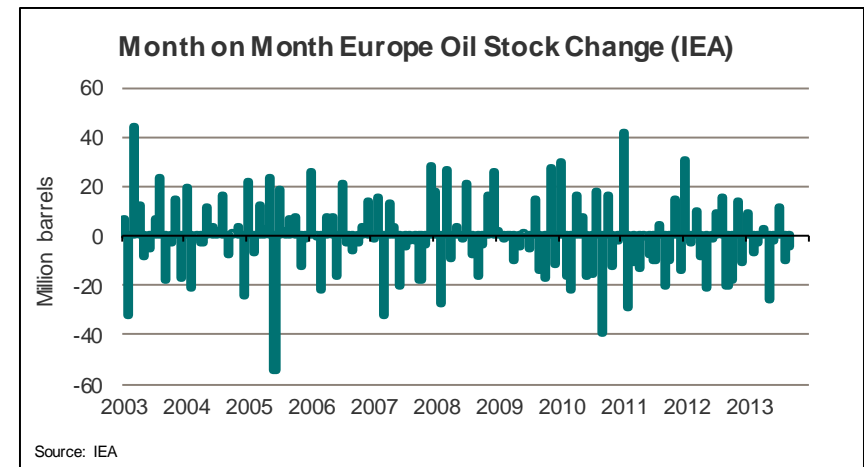
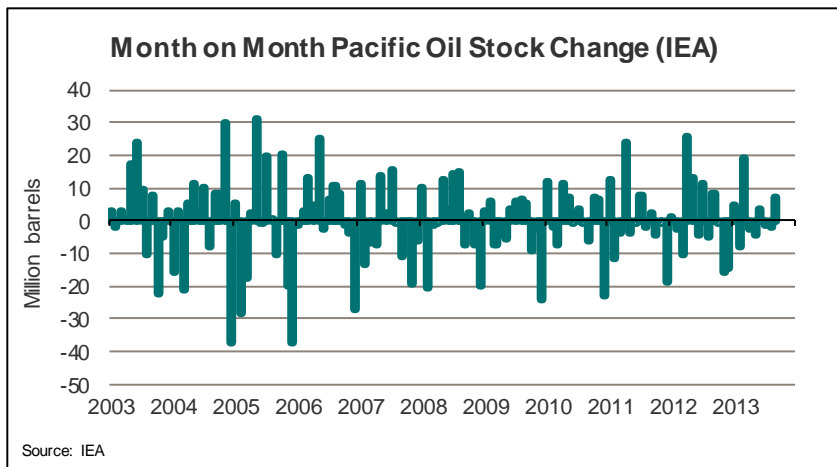
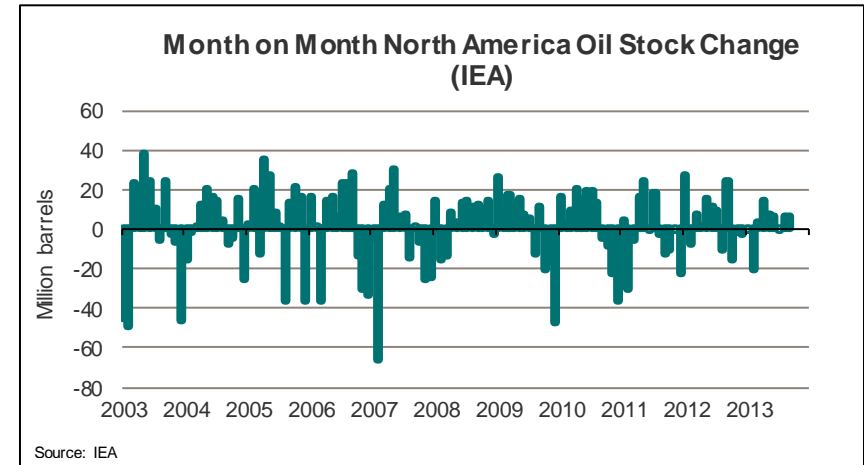
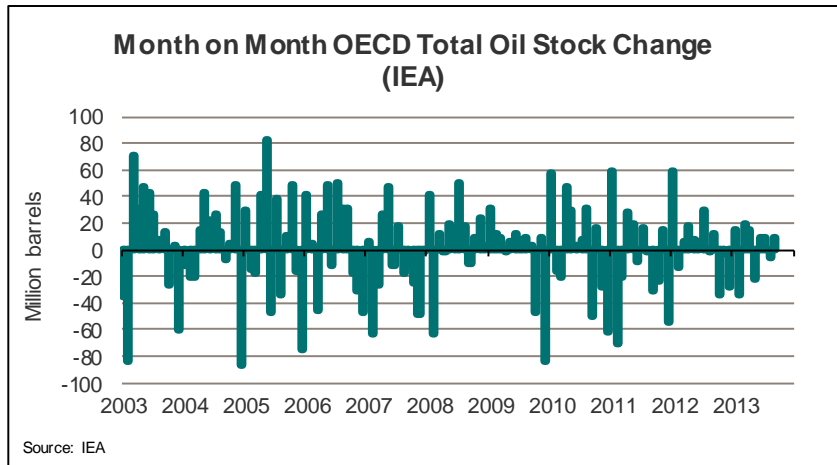


Oil Stocks In Different Regions

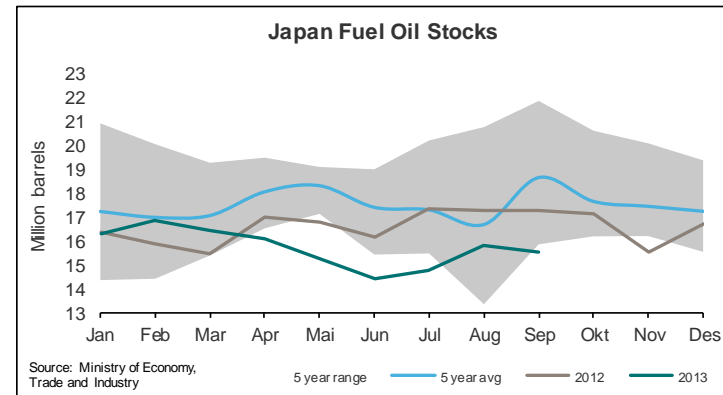
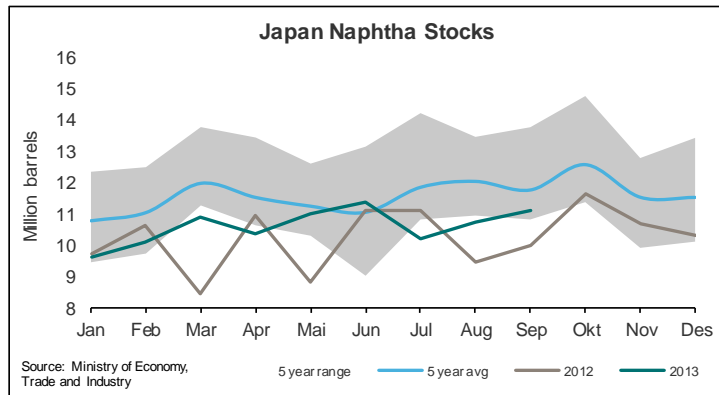
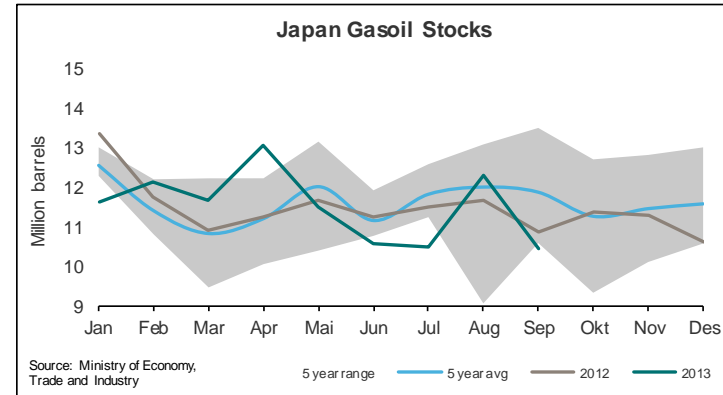
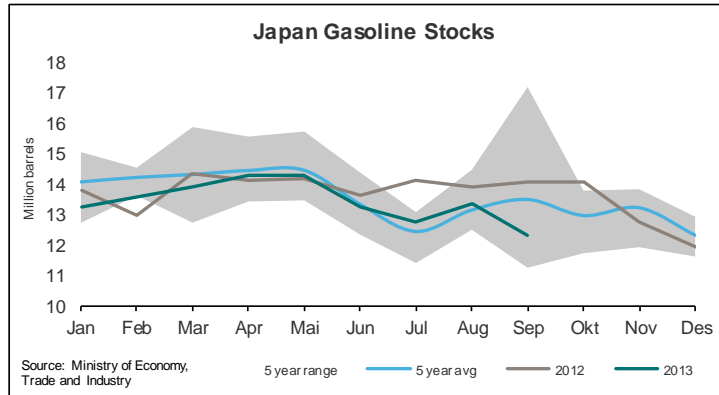
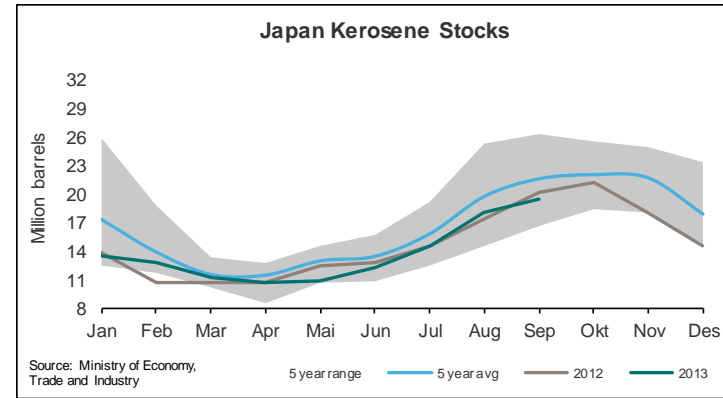
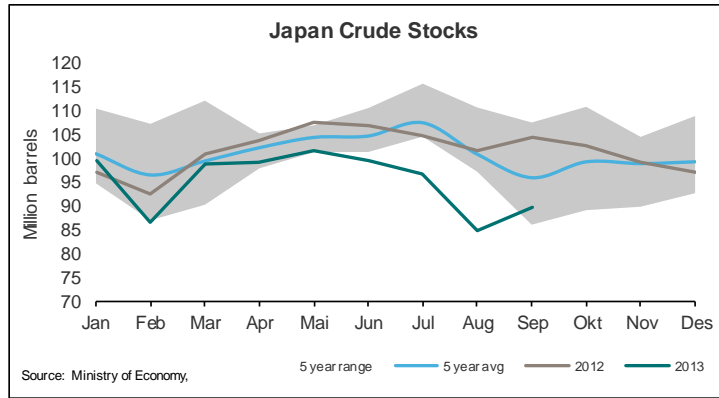
IEA's OECD Oil Stocks Reporting



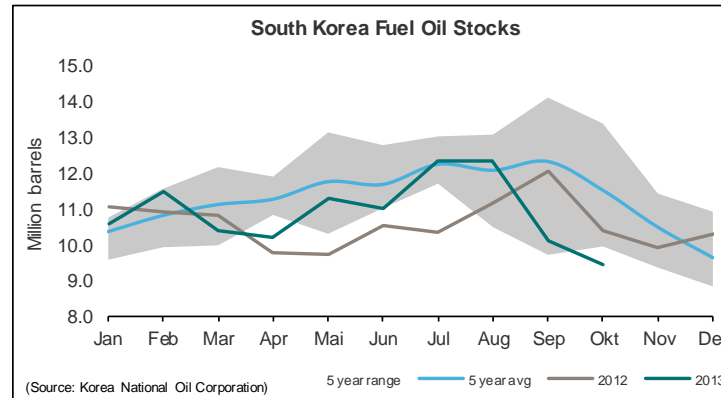
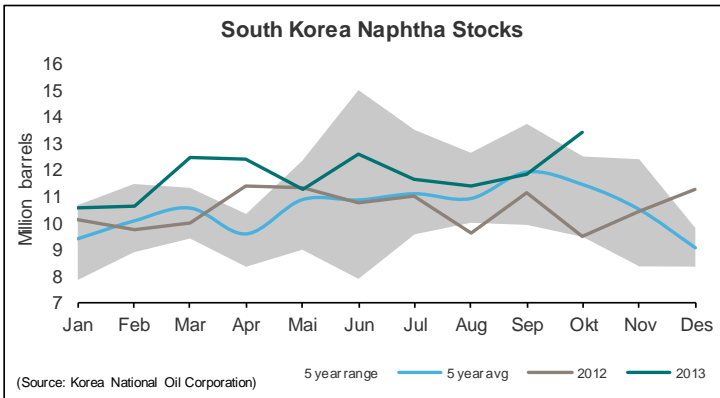
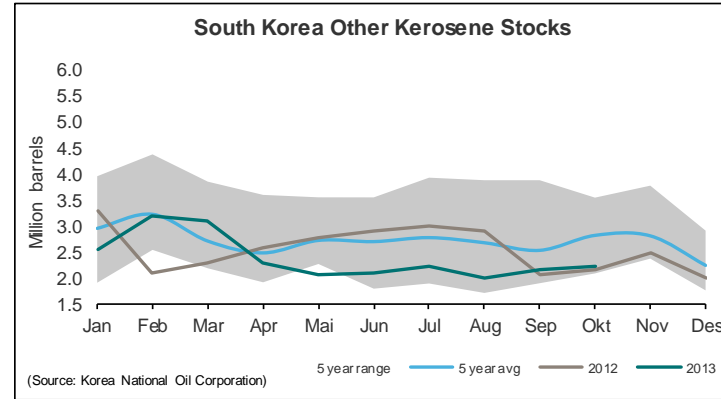
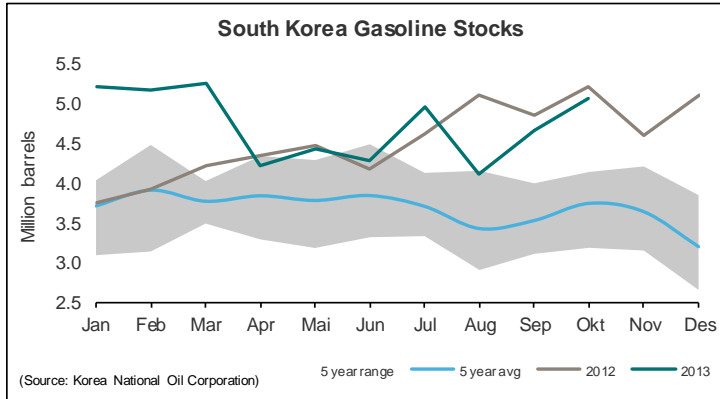
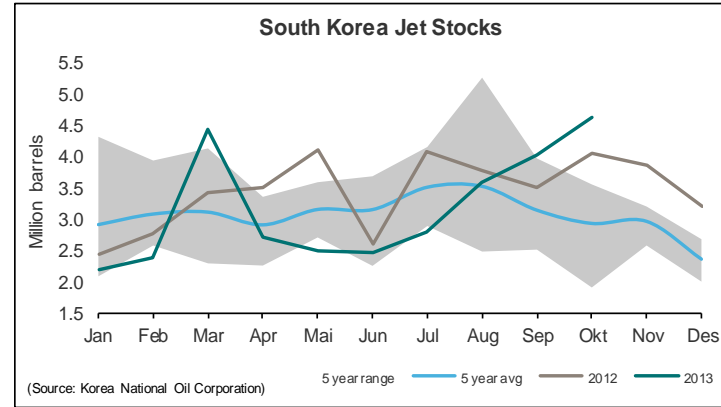
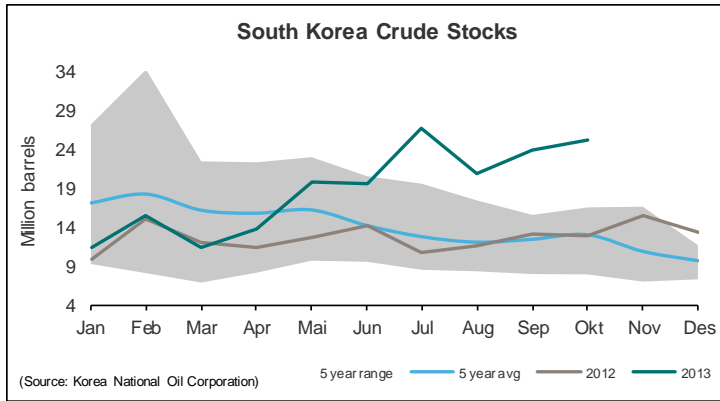
Month on Month OECD Oil Stock Changes



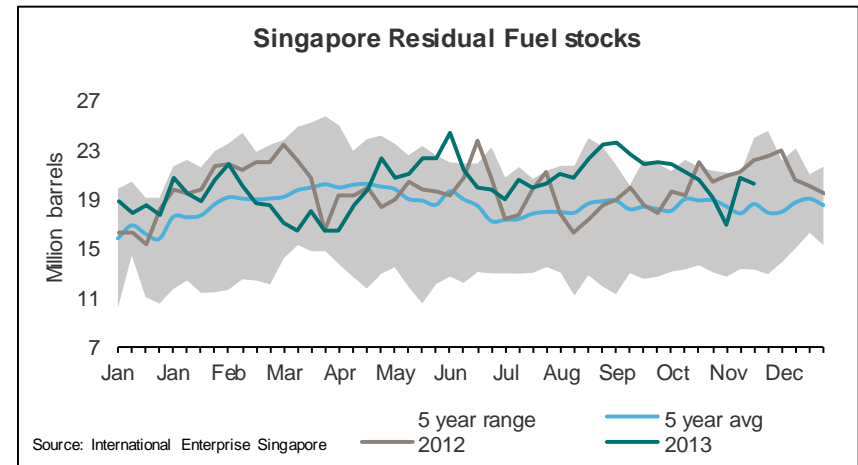
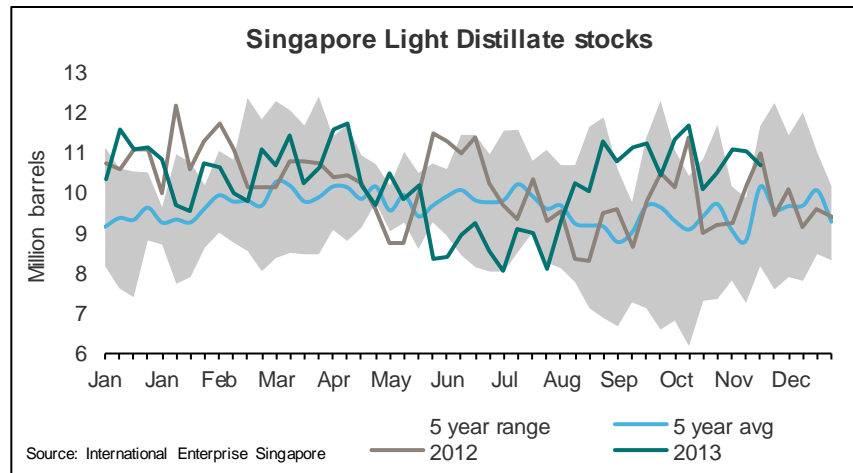
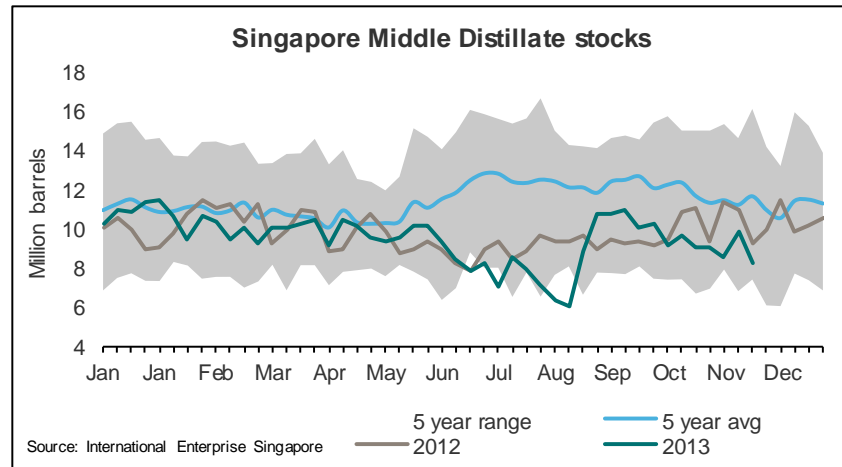
Japanese Oil Stocks



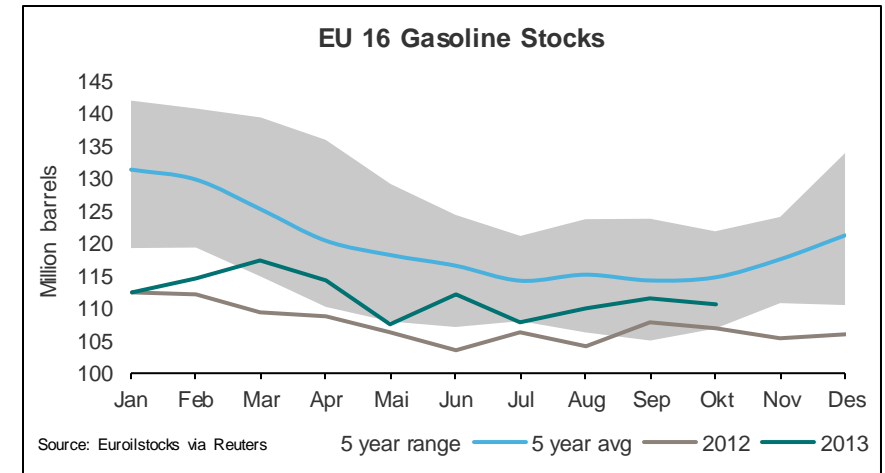
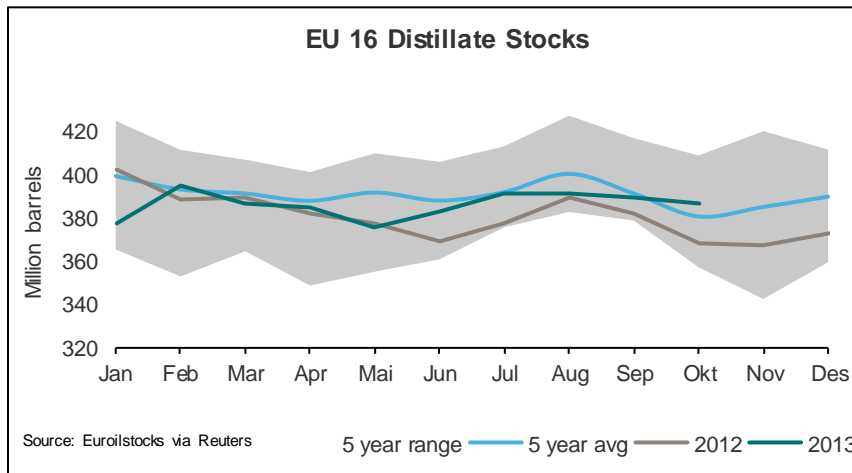
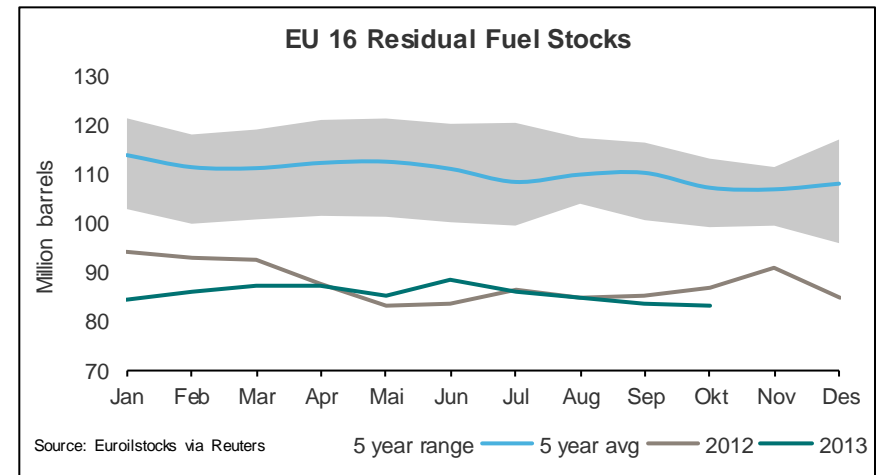
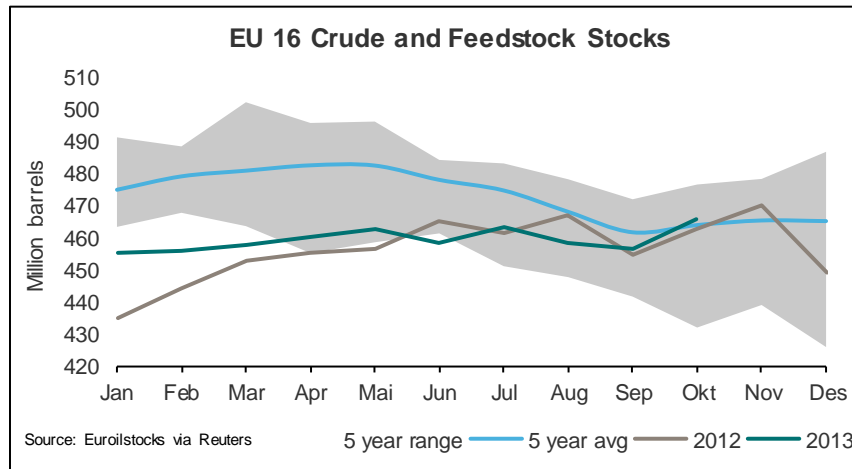
South Korean Oil Stocks



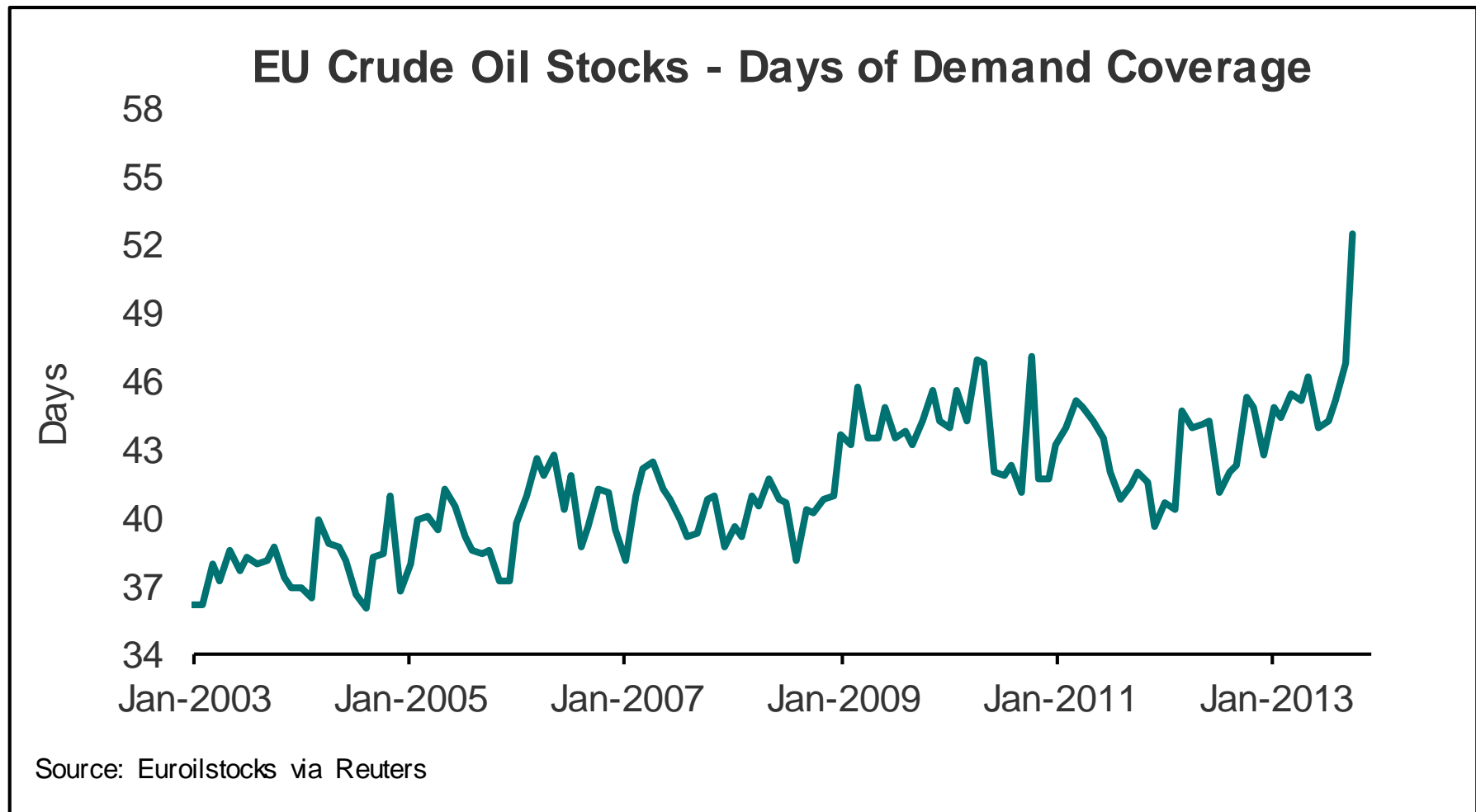
Singapore Weekly Oil Stocks



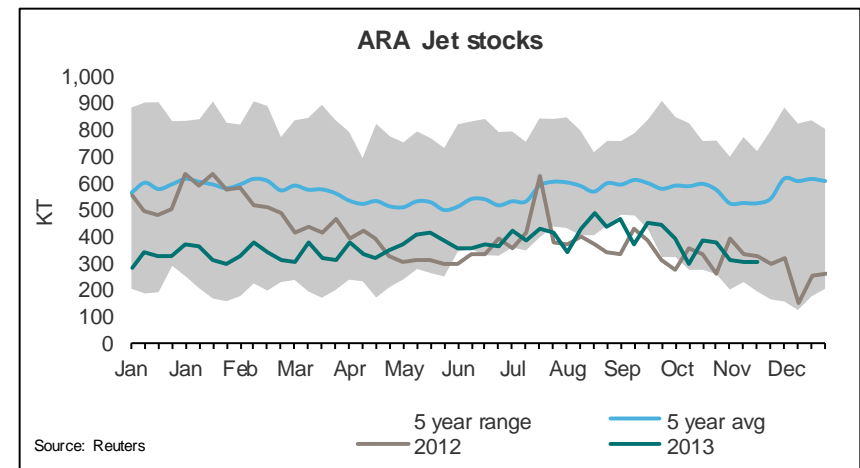
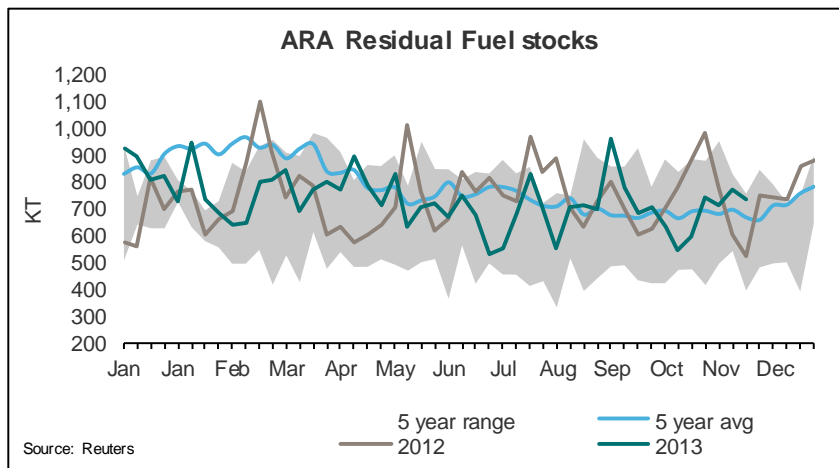
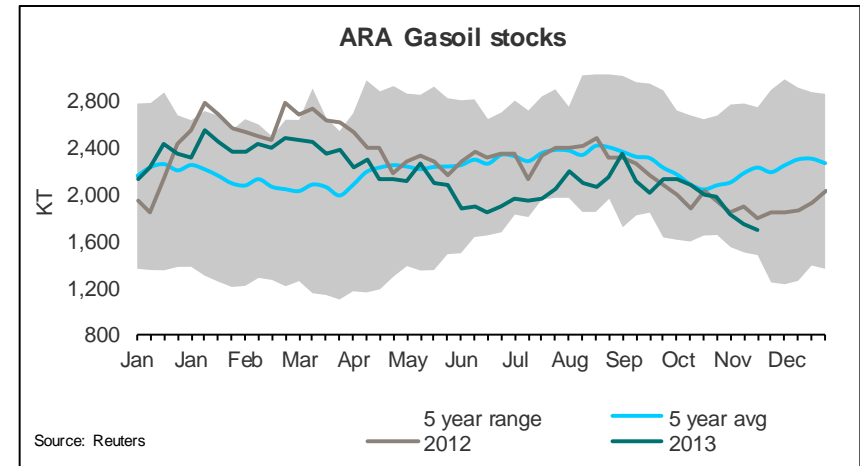
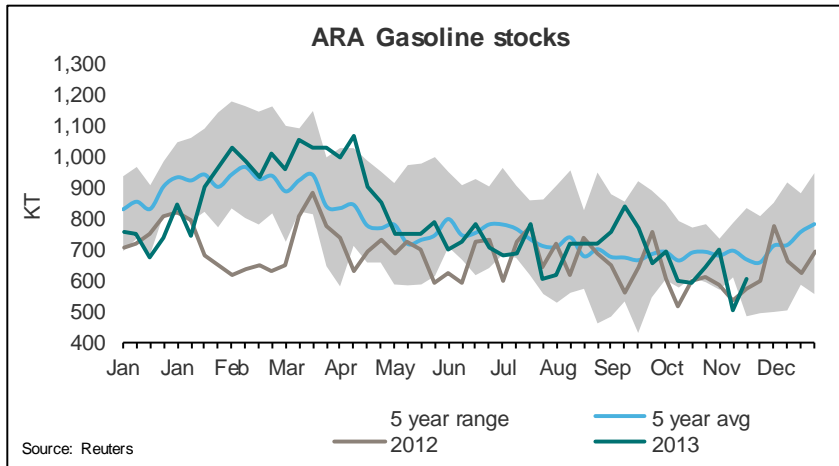
European Oil Stocks (EU 16)



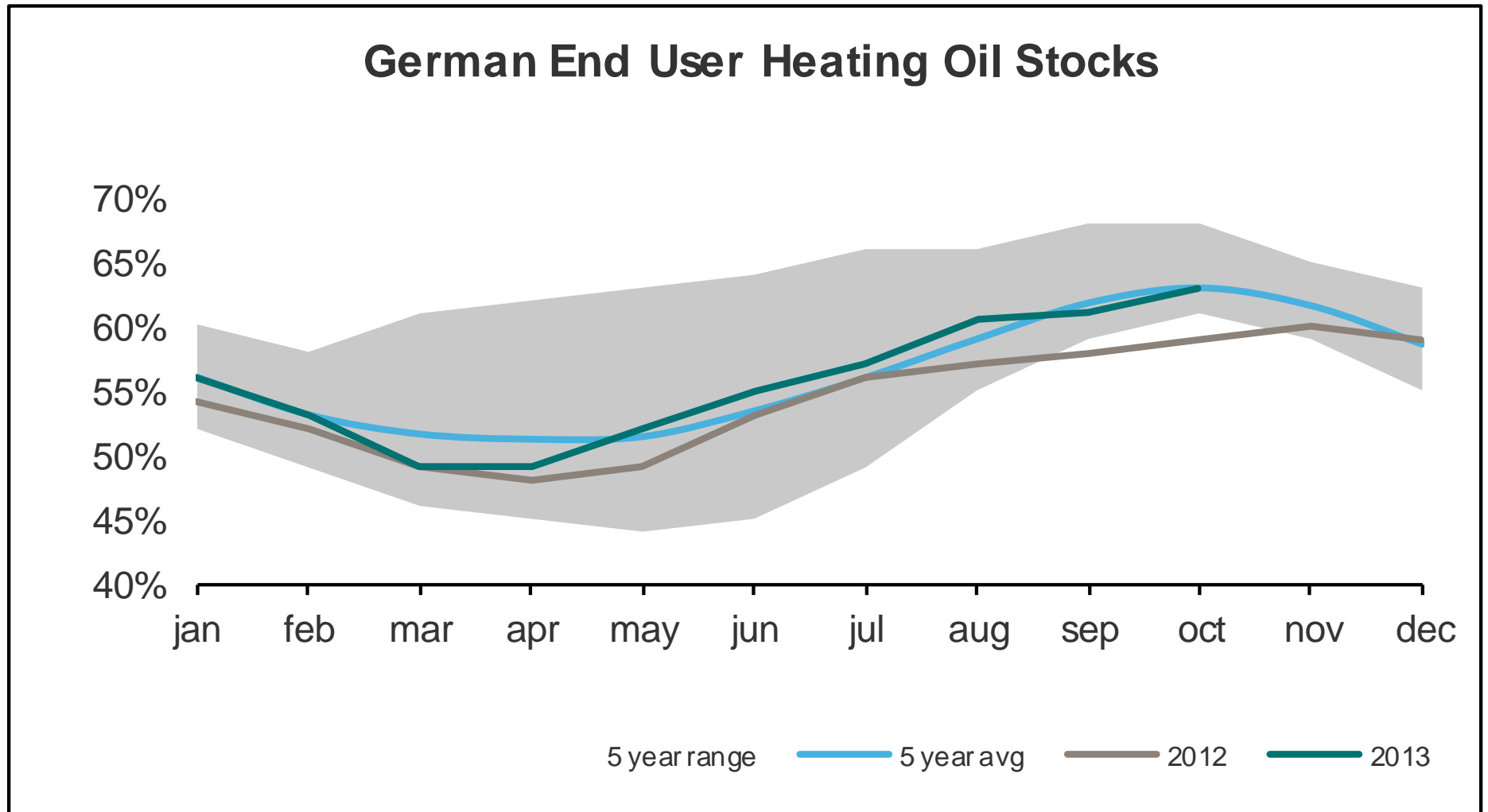
European Crude Oil Stocks In Days Of Coverage (EU 16)



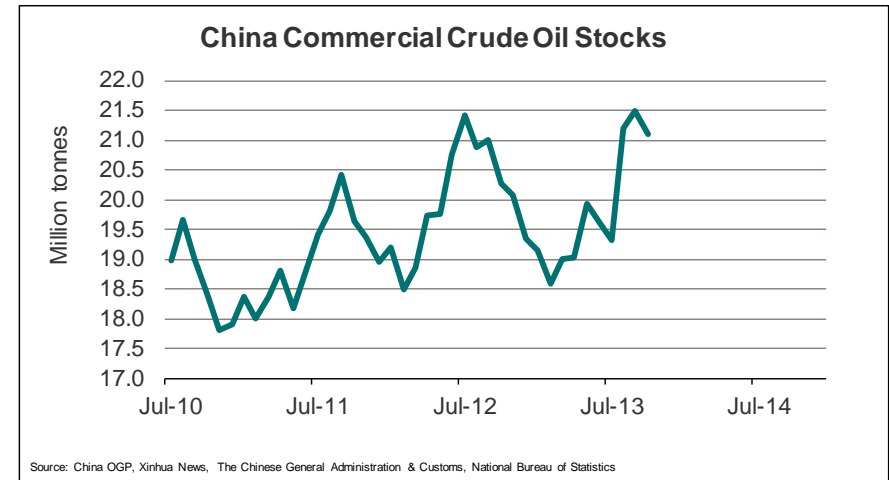
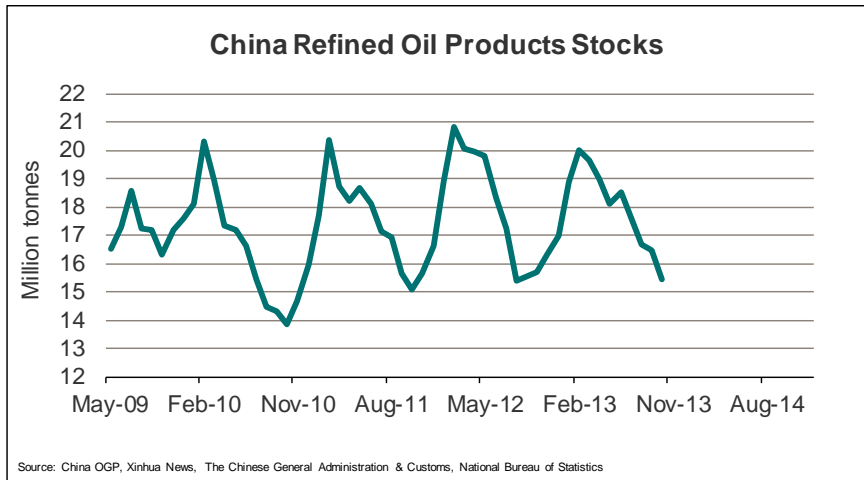
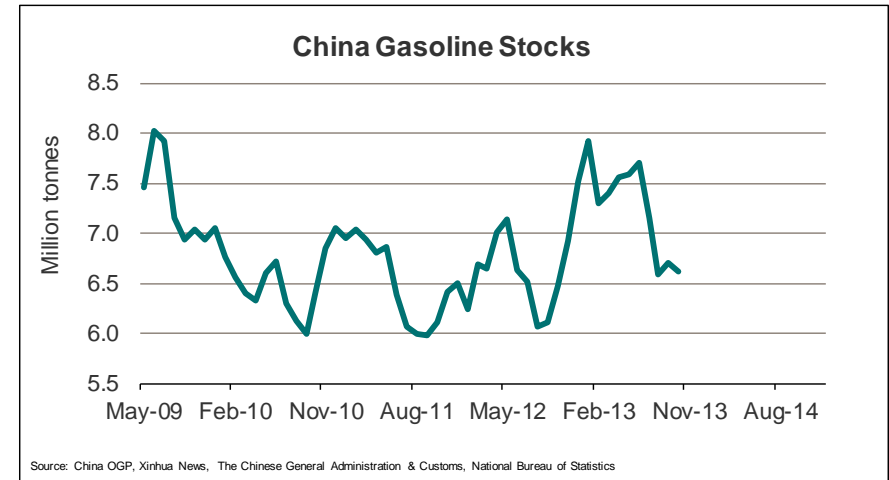
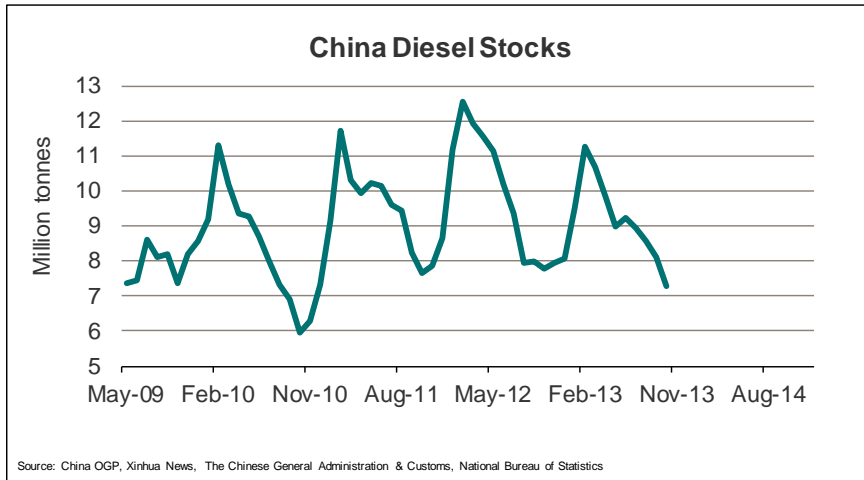
ARA (Amsterdam-Rotterdam-Antwerp) Weekly Oil Stocks



German End User Heating Oil Stocks

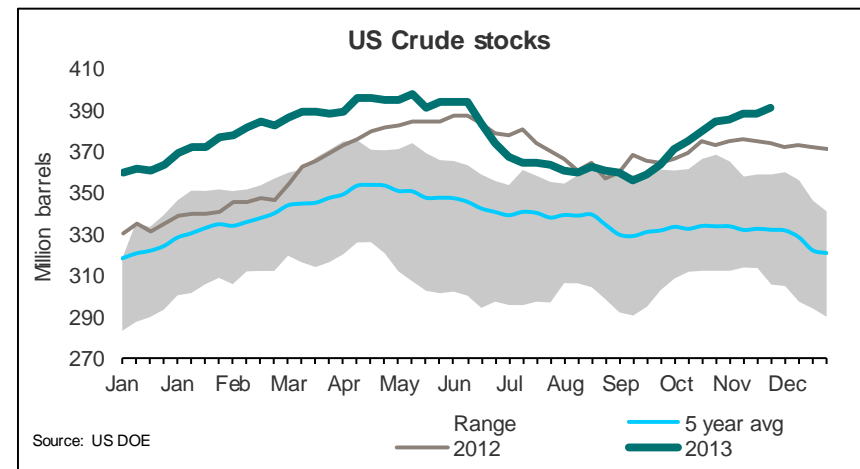
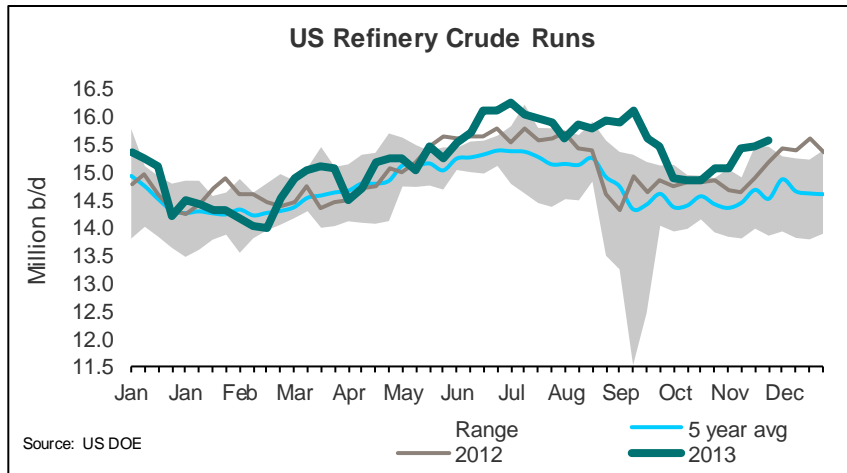
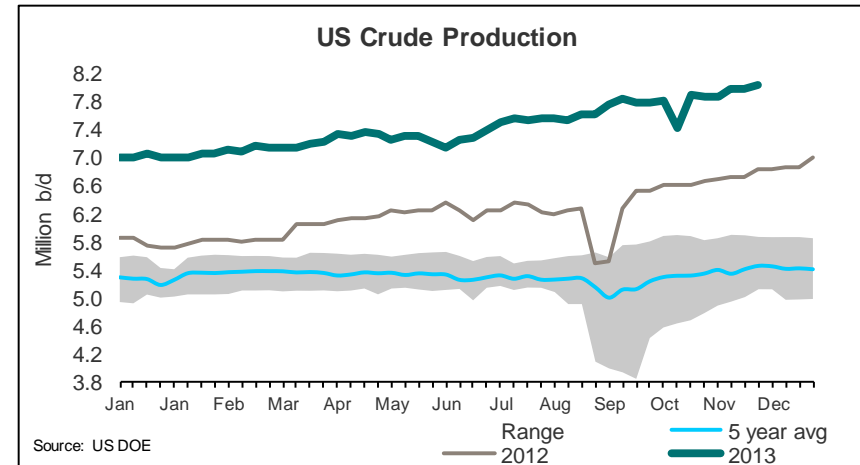
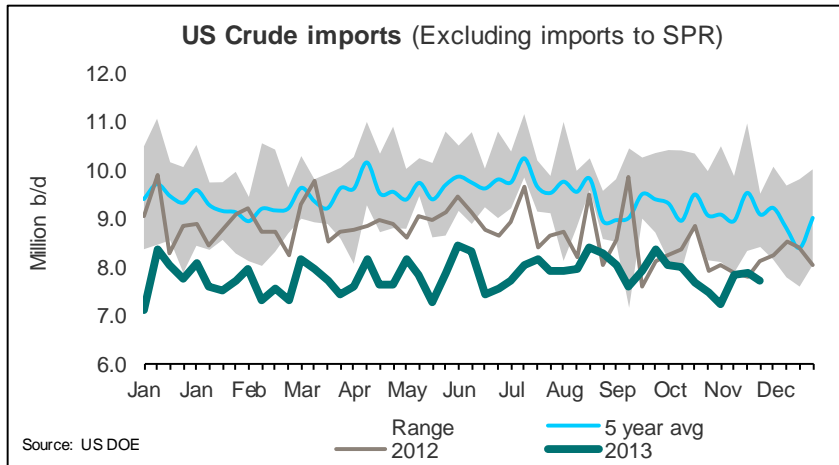


Chinese Commercial Oil Stocks



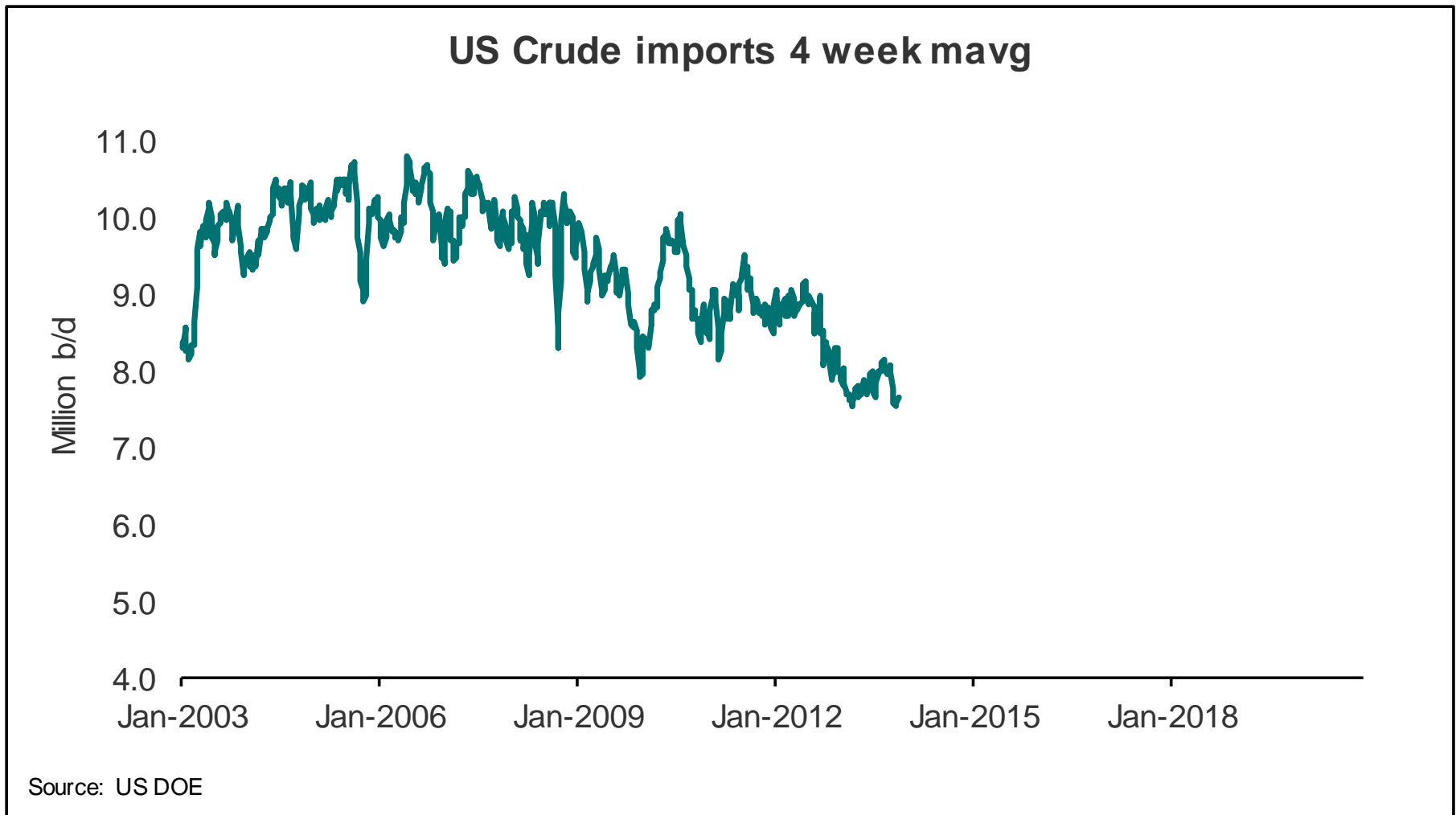
Weekly US Oil Stats

Weekly US Crude Stats

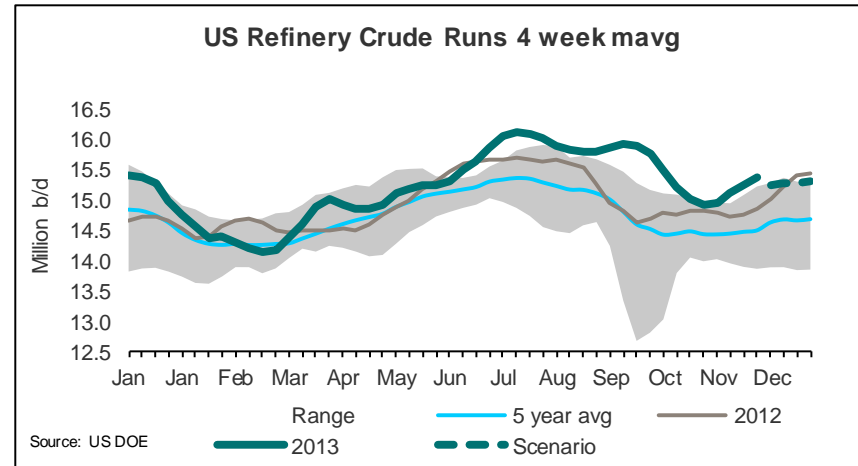
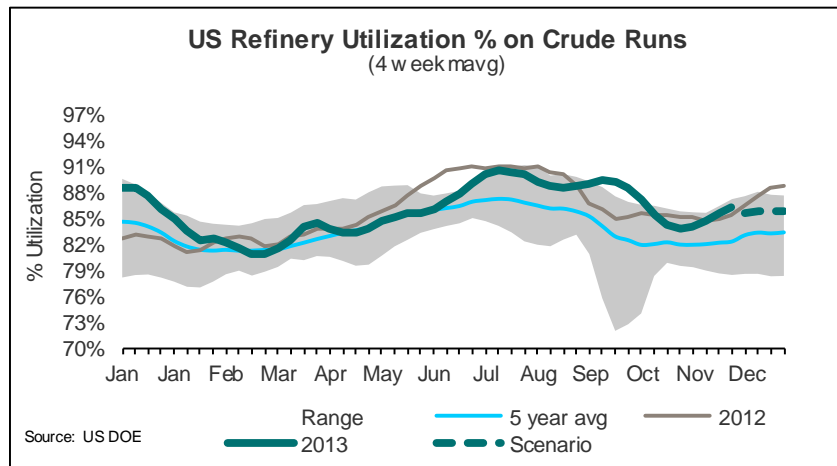
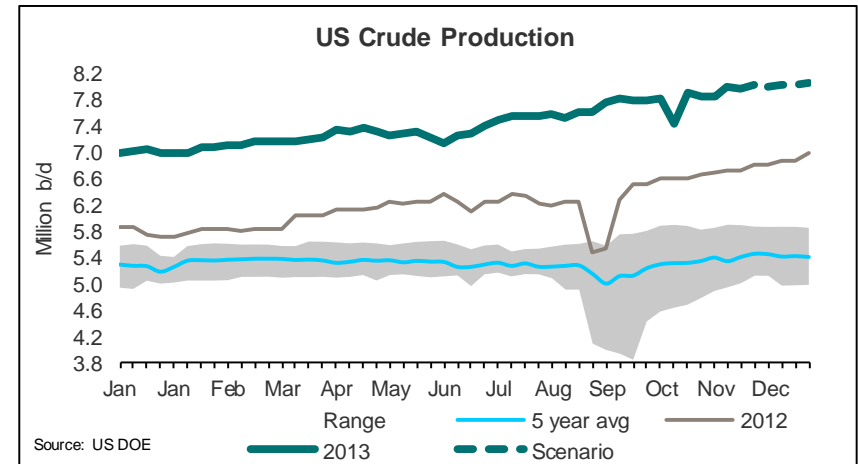
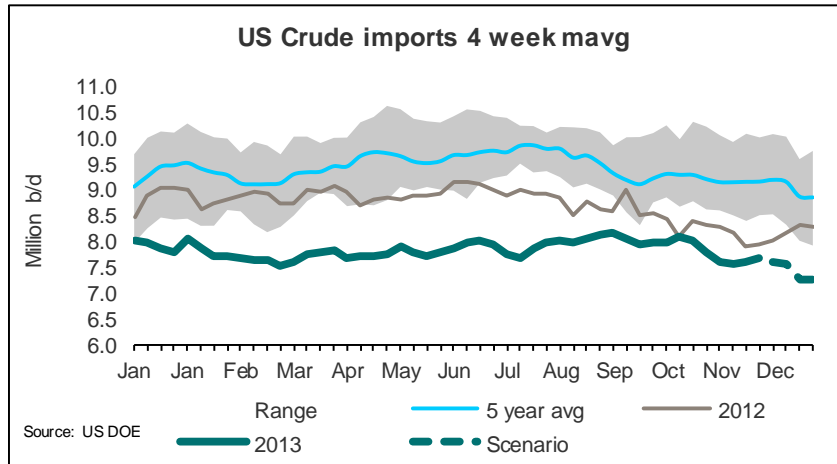


We Are Starting To See The Effect Of The US Shale Now

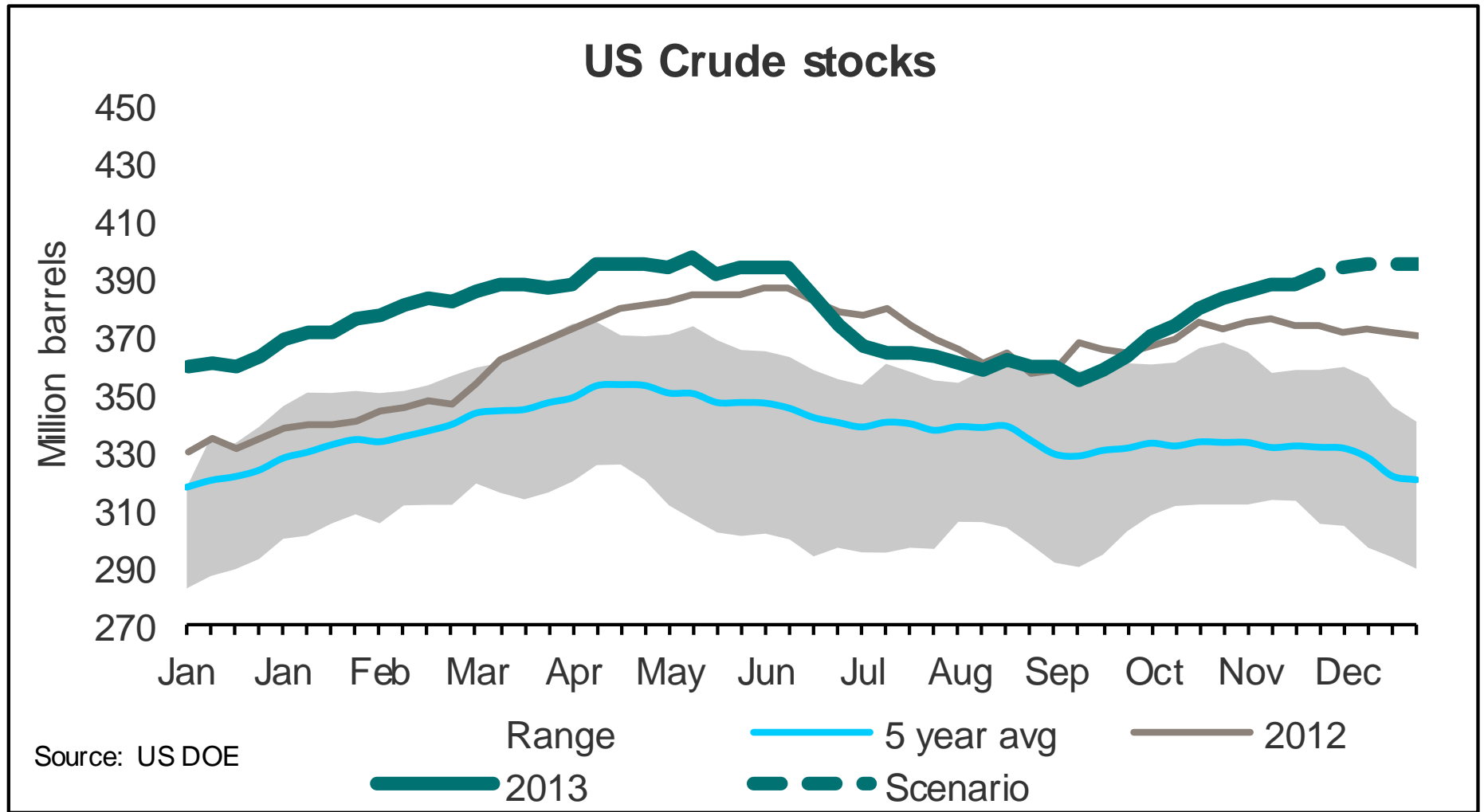
- US crude imports has started to drop but this is just the beginning



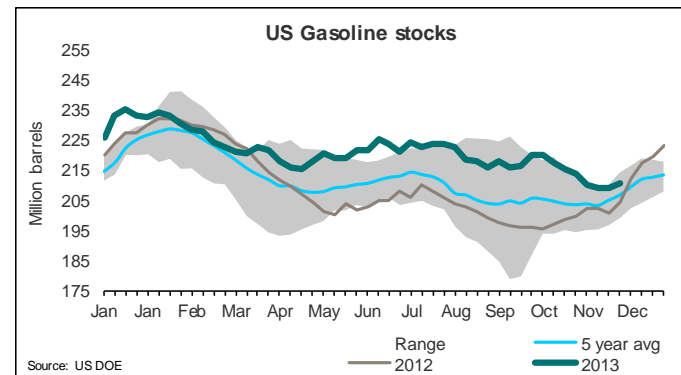
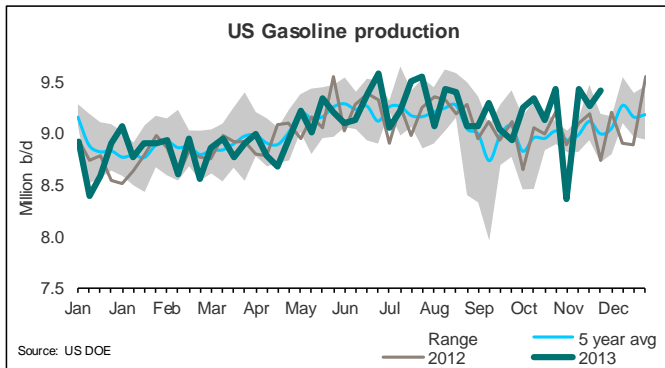
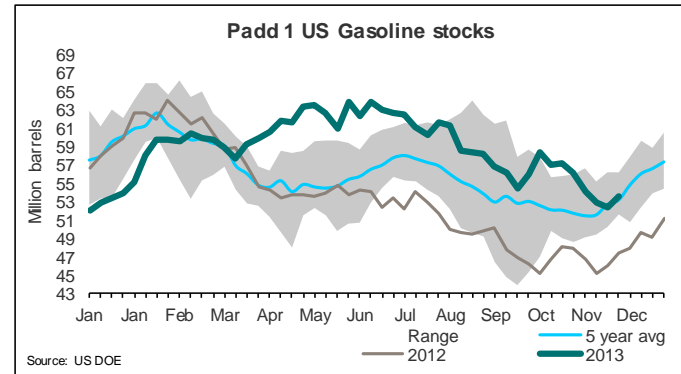
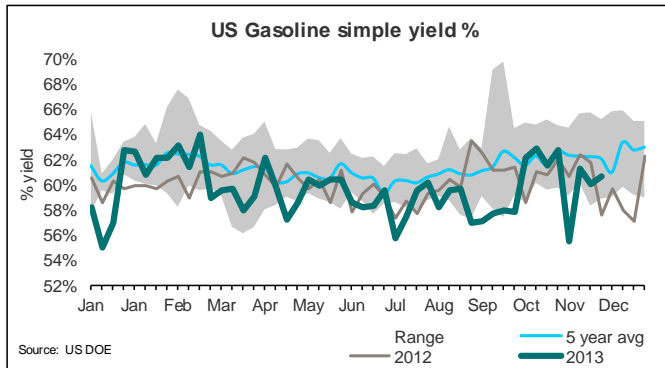
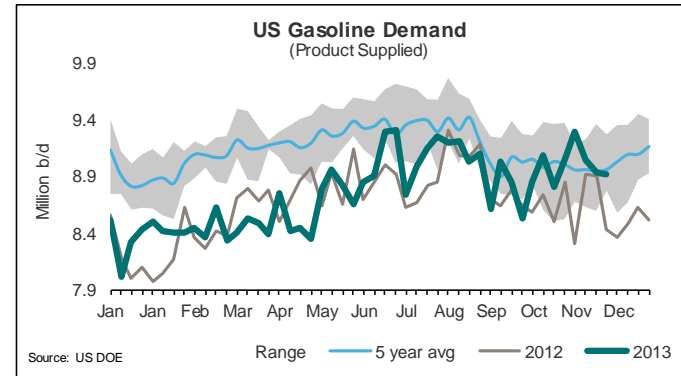
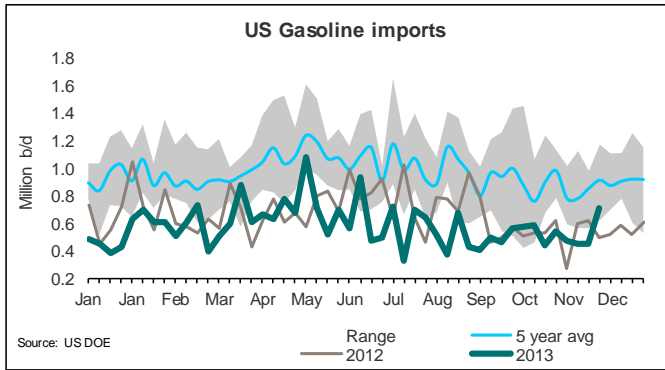
Weekly US Crude Stats – Forecast



US Crude Stocks – Forecast

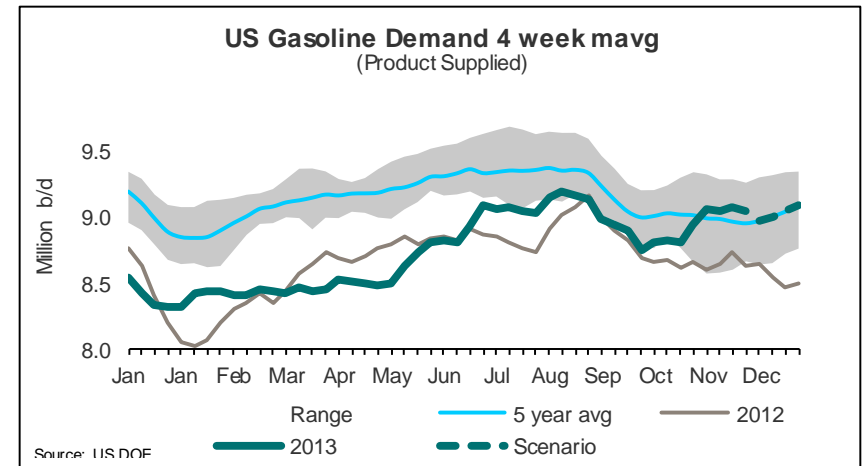
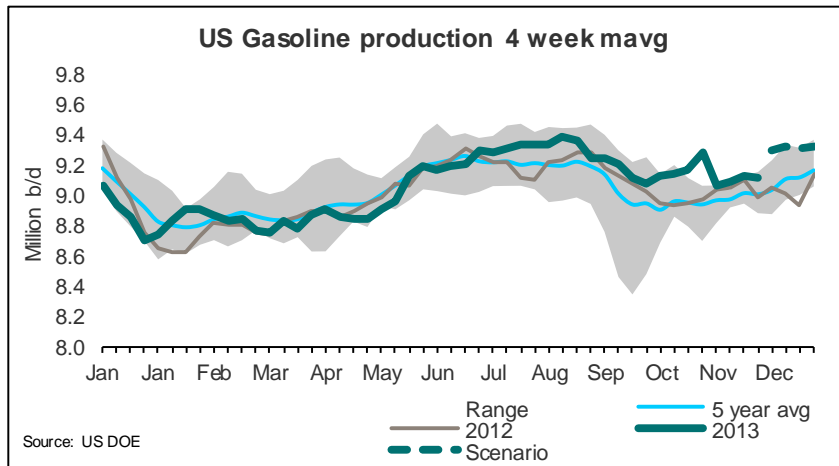
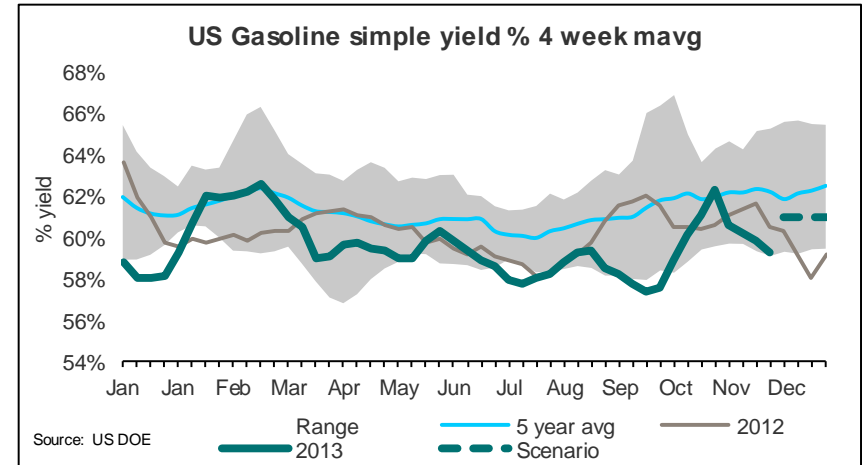
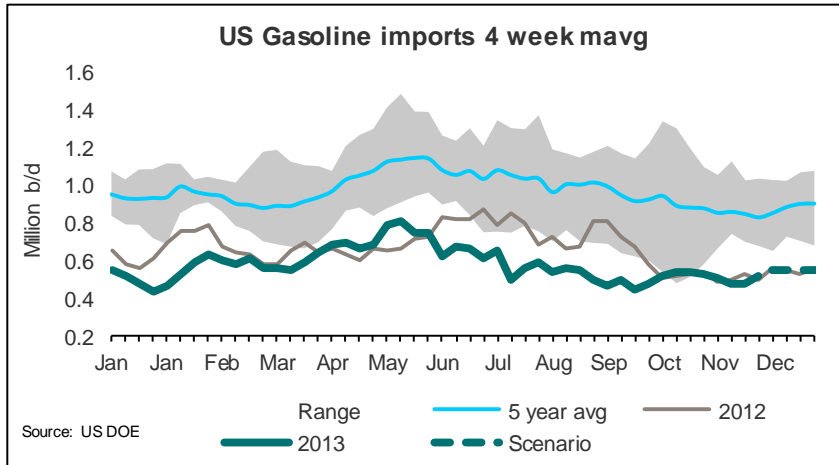


Weekly US Gasoline Stats

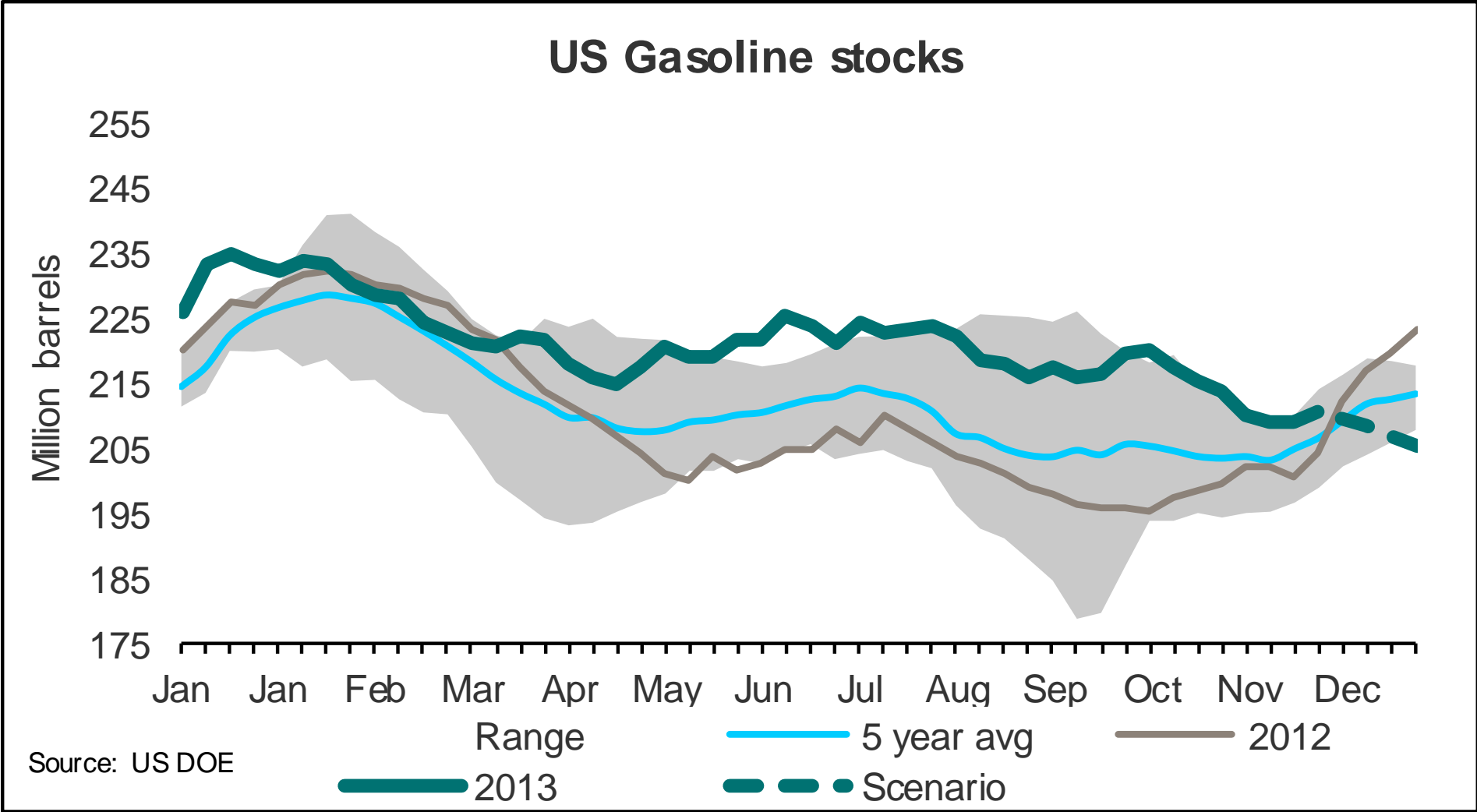


MARKETS

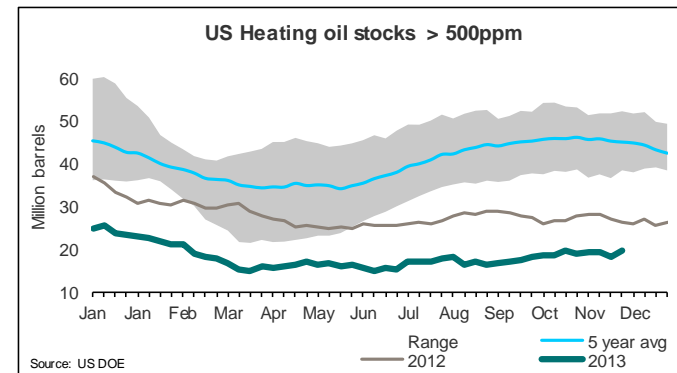
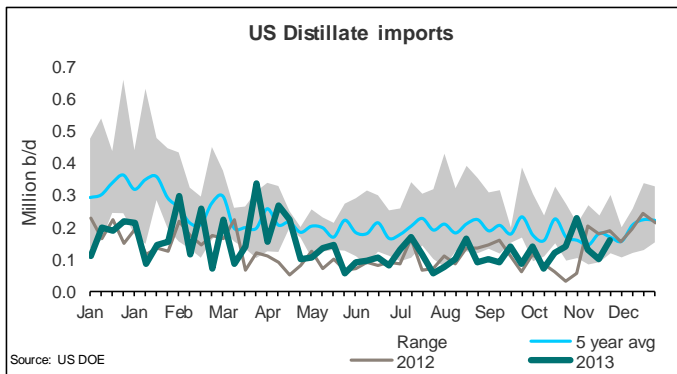
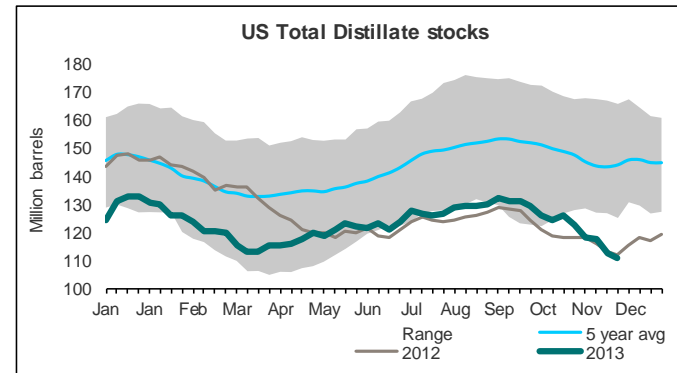
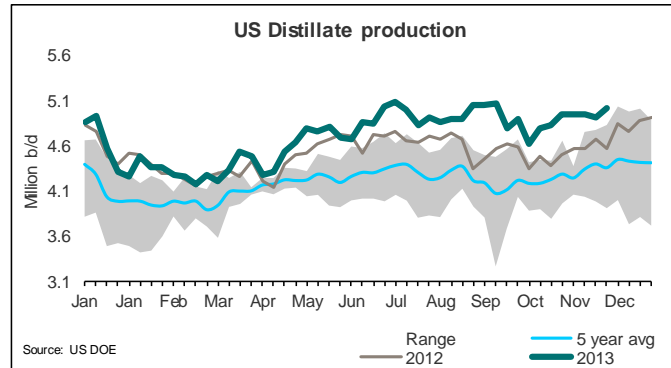
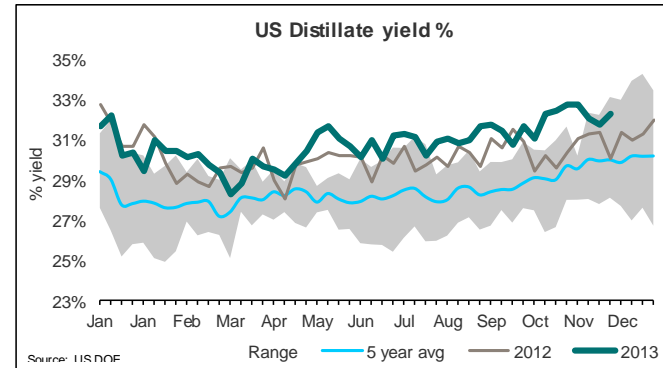
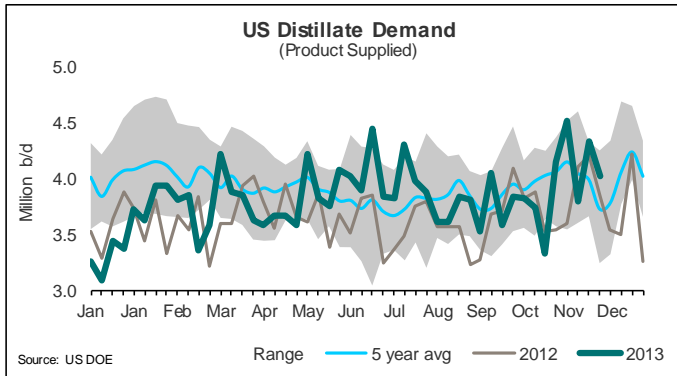
US Gasoline Stats – Forecast



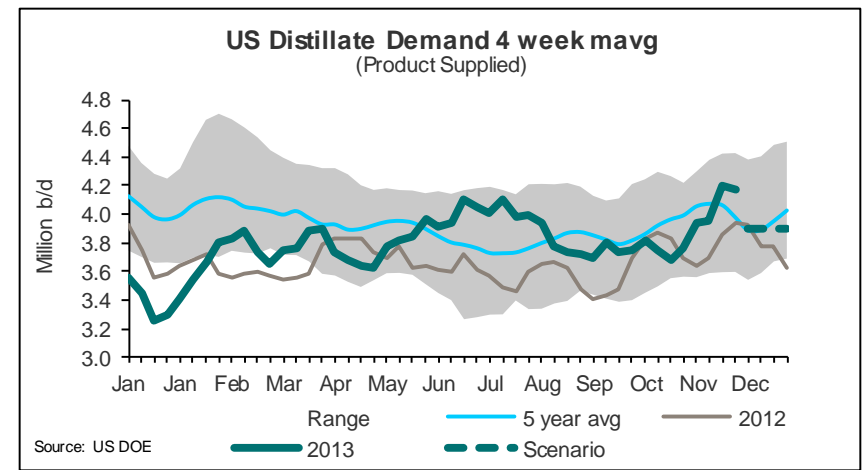
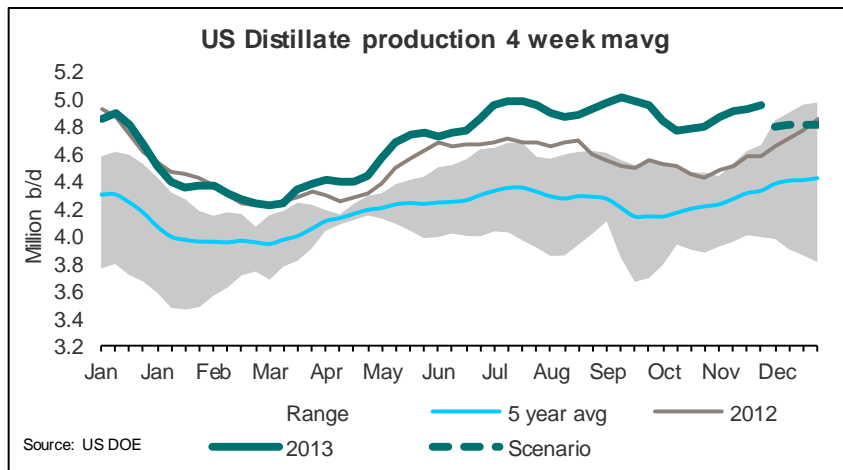
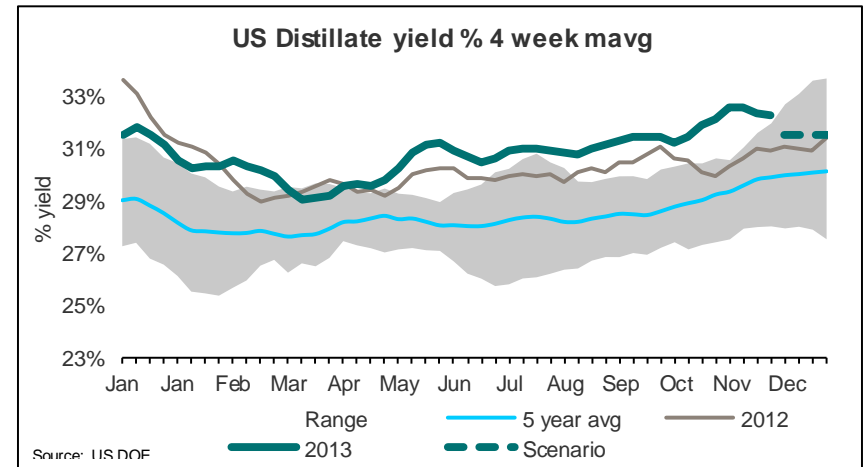
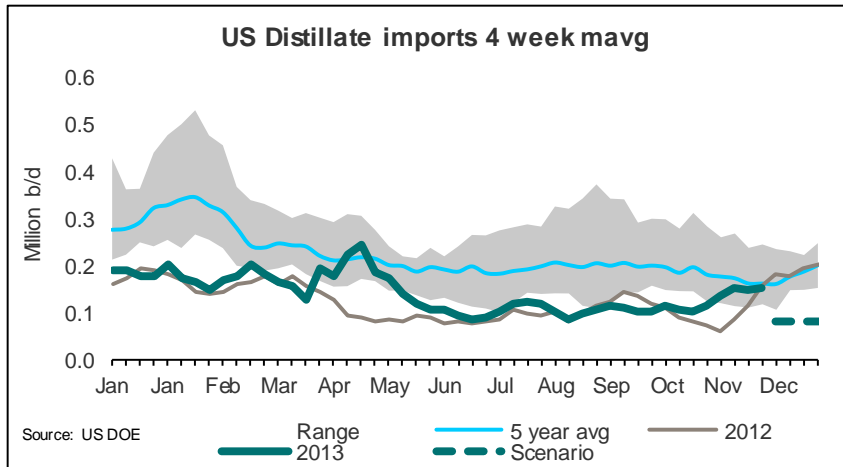
US Gasoline Stocks – Forecast



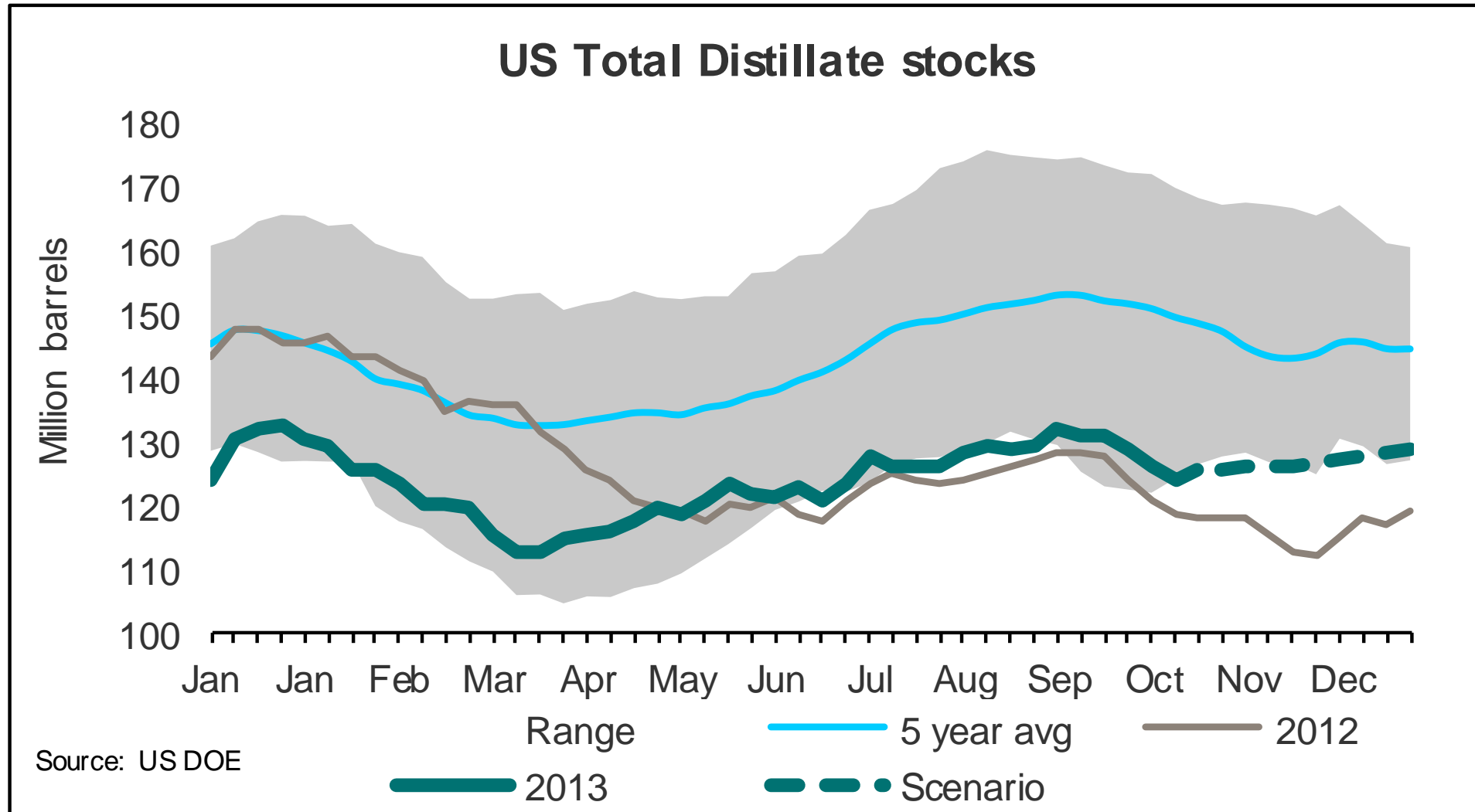
Weekly US Distillate Stats



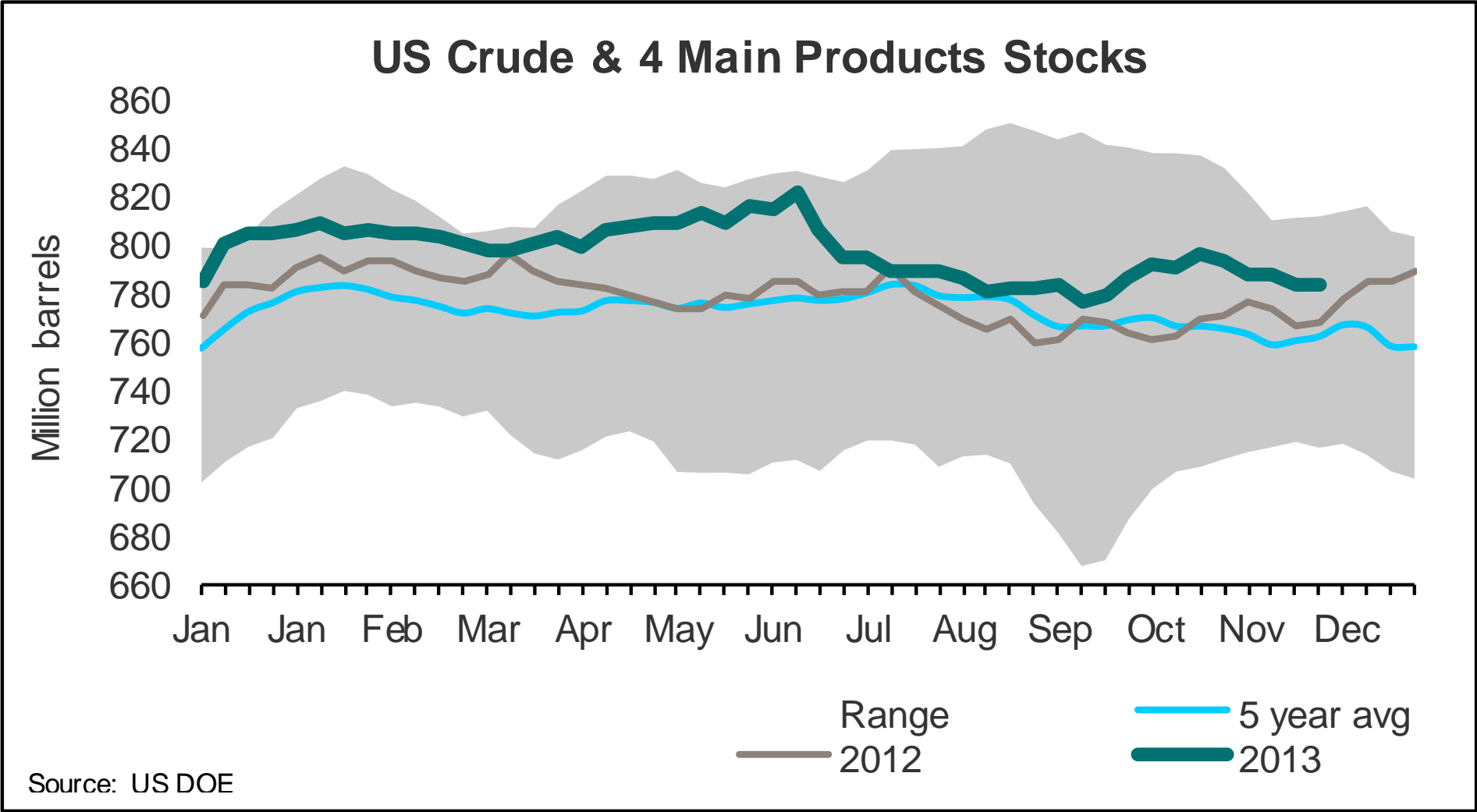
Weekly US Distillate Stats – Forecast



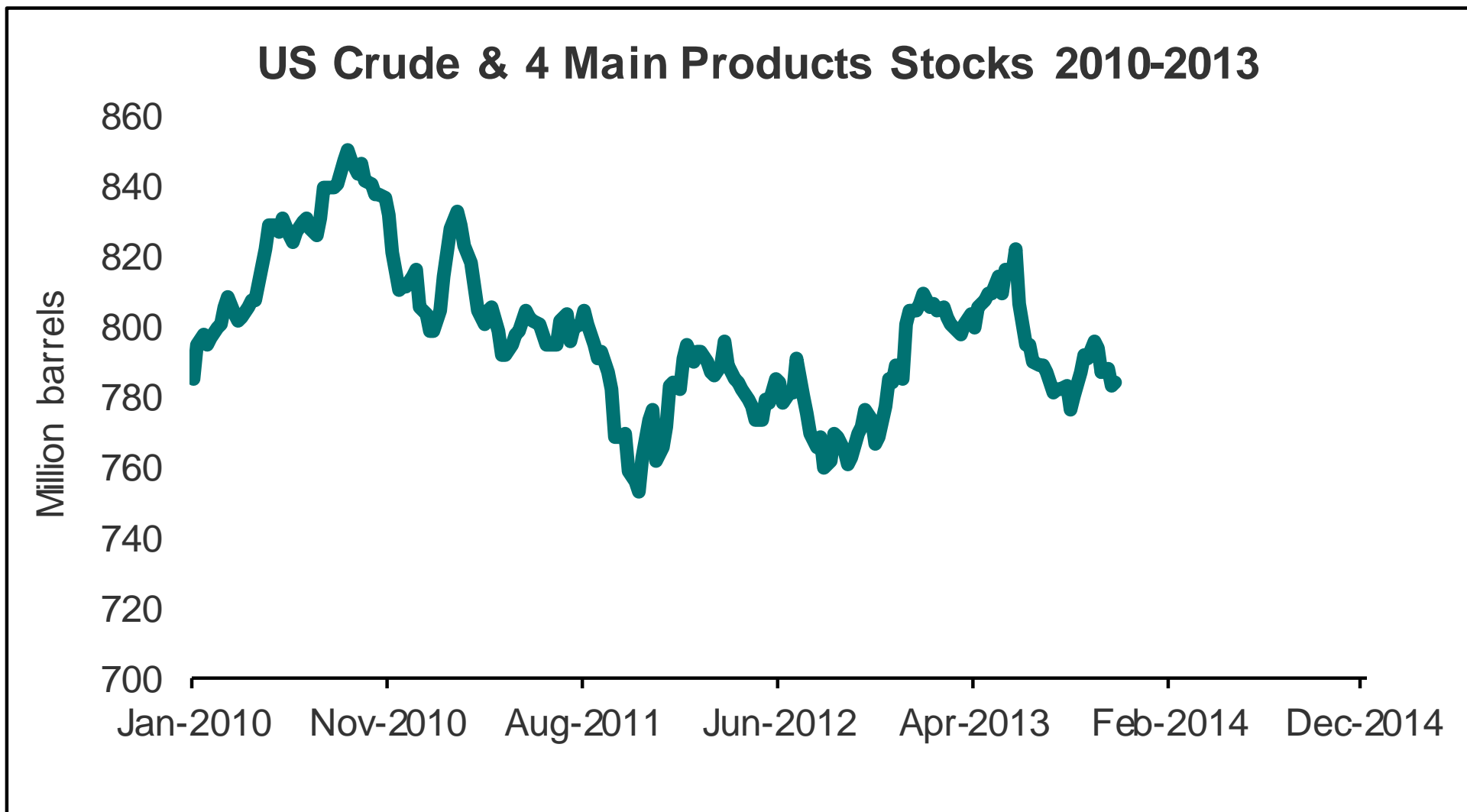
US Distillate Stocks – Forecast



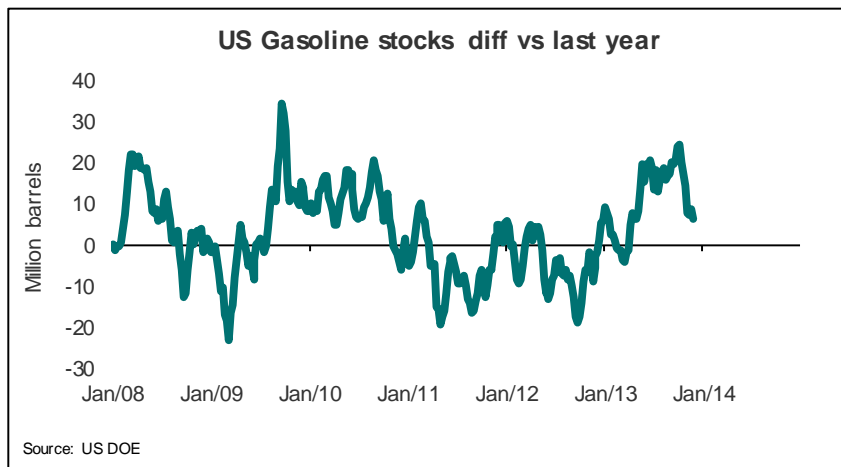
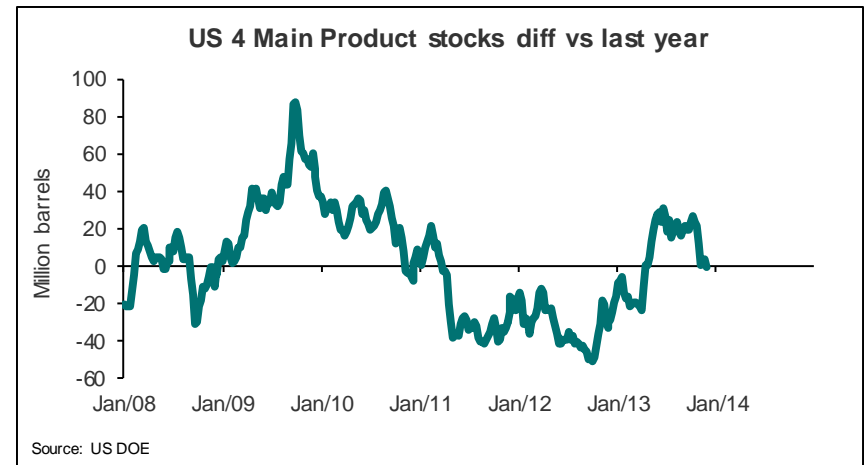
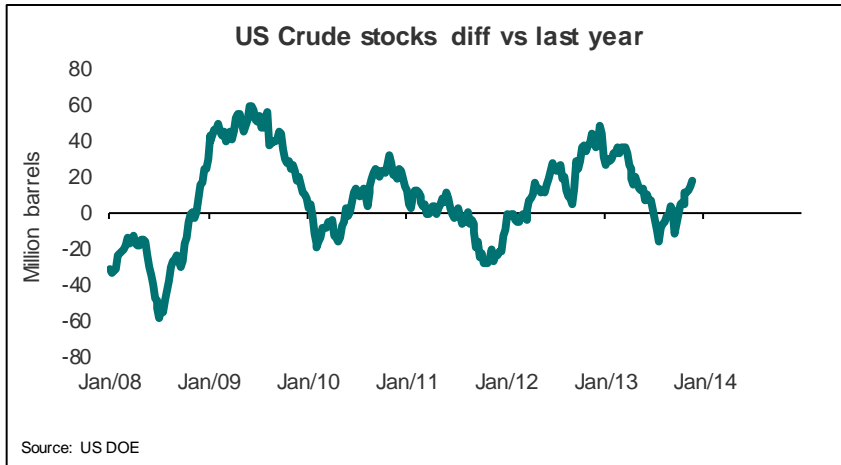
US Crude & 4 Main Products Stocks



US Crude & 4 Main Products Stocks

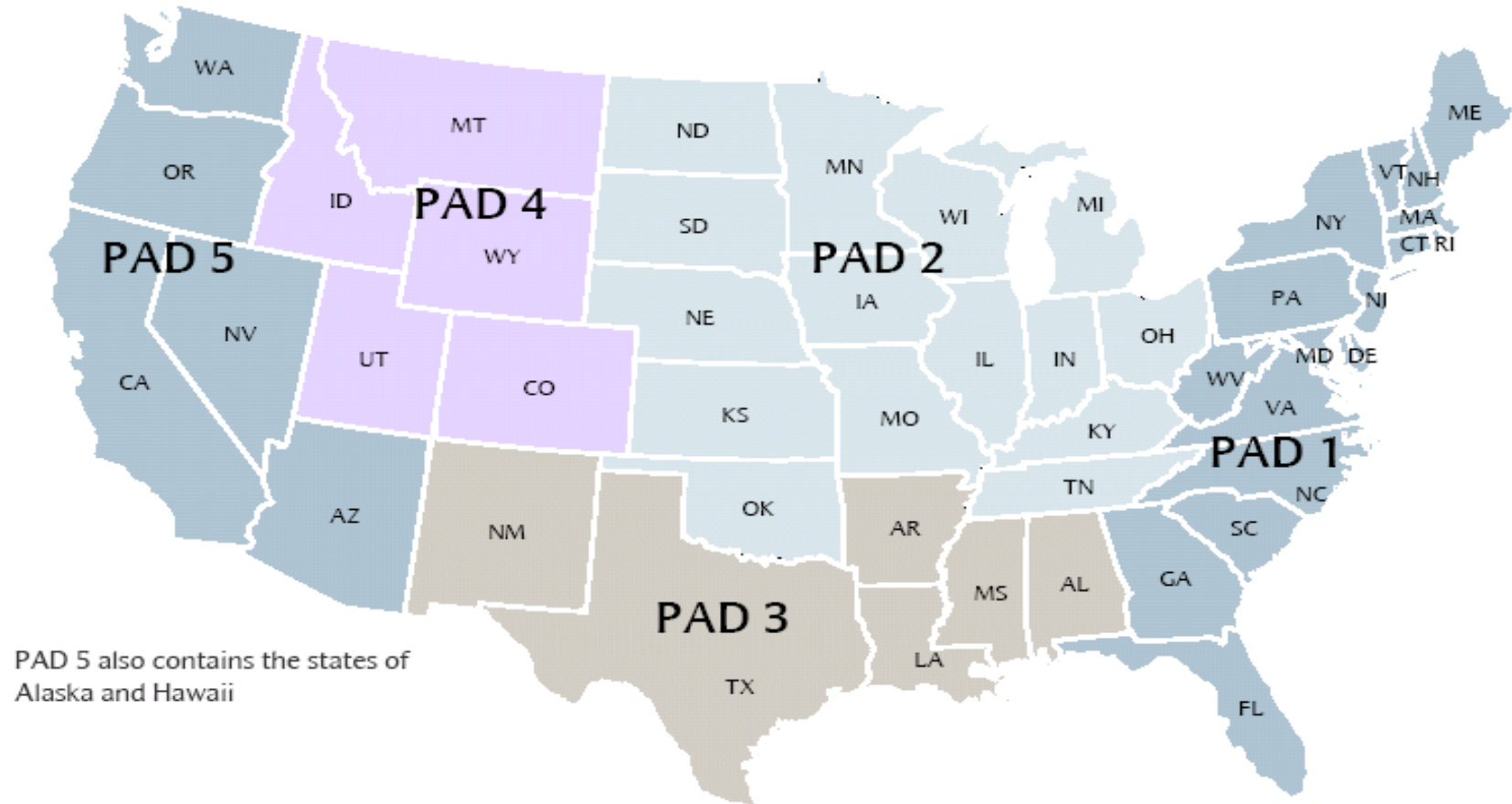


US Crude & 4 Main Products Stocks – Diff To Last Year



PADD's that are used in the US statistical oil data reporting

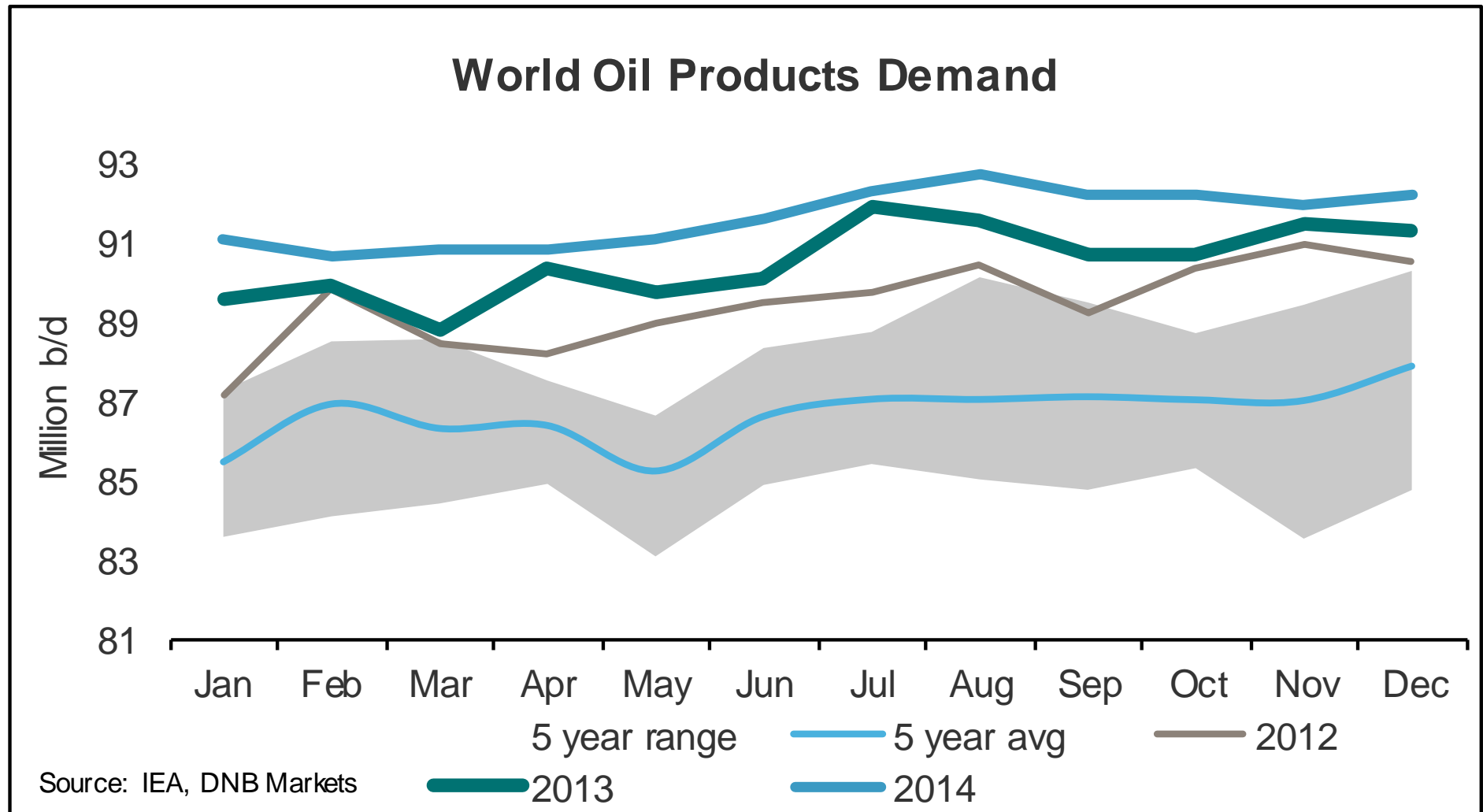
(PADD = Petroleum Administration Defense Districts)



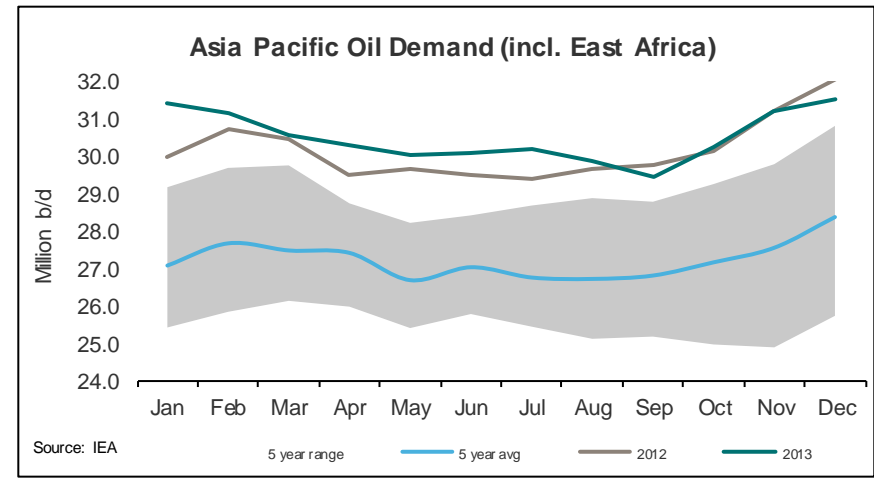
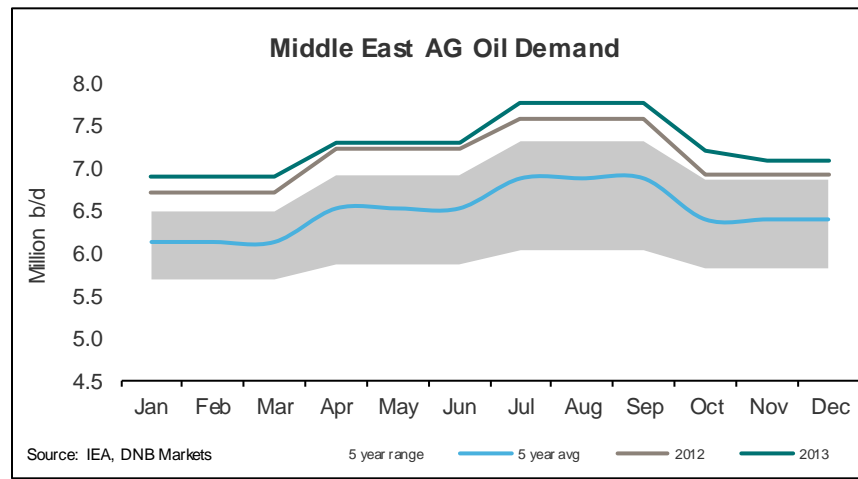
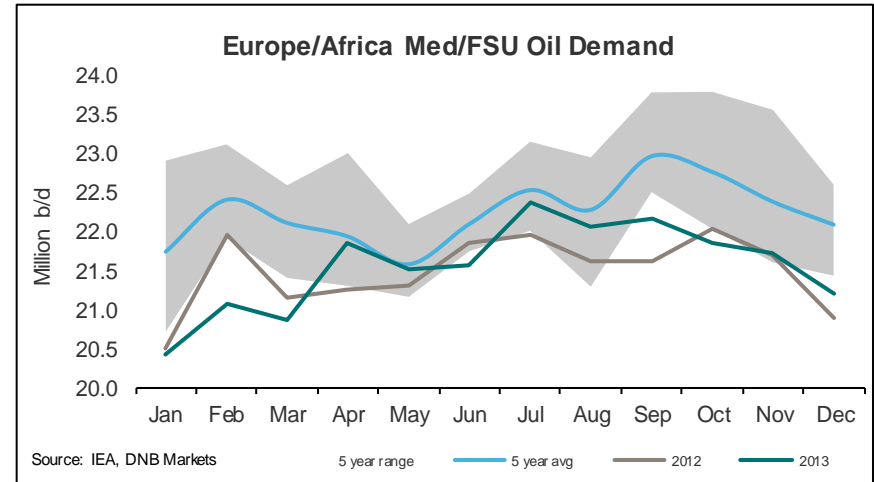
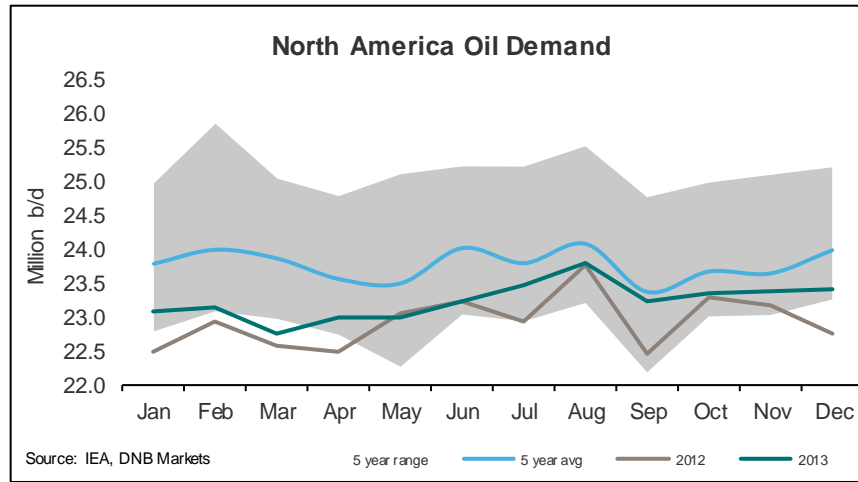
PADD 5 also contains the states of Alaska and Hawaii

Demand

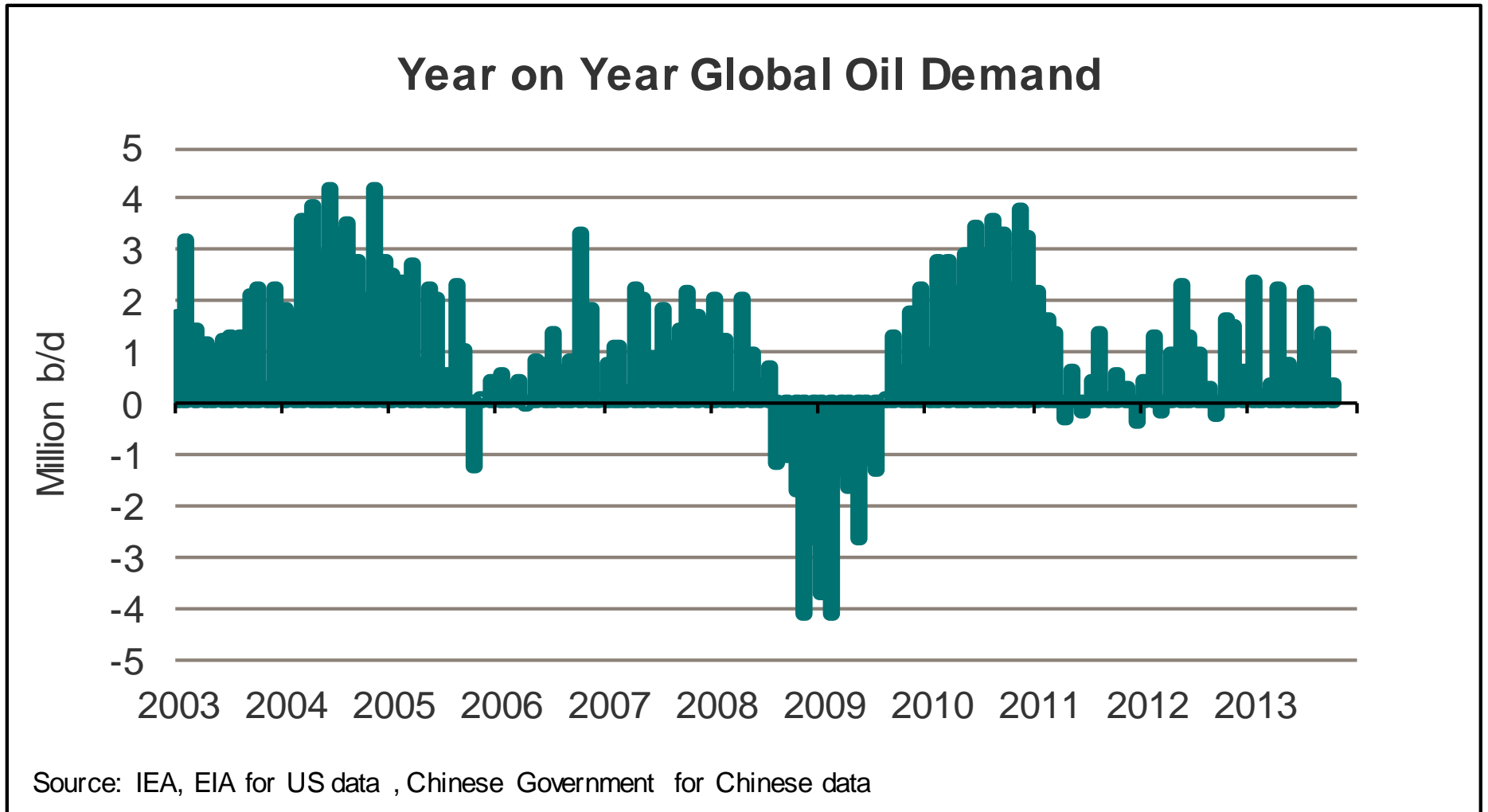
Global Oil Demand



Oil Demand By Key Region



Global Oil Demand Growth



Global Oil Demand 2012

Year-on-Year Demand Change (kbd)	Q1-12	Q2-12	Q3-12	Q4-12	2012
North America (Canada, Mexico)	-84	38	-7	254	50
US	-614	-178	-380	-394	-392
Europe	-482	-278	-851	-406	-504
Australia, New Zealand, Japan, Korea	436	540	199	144	330
Total OECD	-744	123	-1,039	-403	-516
Europe/Africa Med & FSU	333	260	273	174	260
Middle East AG excl. Iran and Saudi	140	117	92	66	104
Iran	-5	54	-57	-72	-20
Saudi Arabia	88	152	226	64	133
Asia Pacific/East Africa excl. China and India	10	280	133	183	152
China	260	116	286	758	355
India	143	161	191	96	148
West Africa	89	35	74	84	71
Latin America (excl. Mexico)	217	221	178	305	230
Total Non-OECD	1,275	1,396	1,396	1,658	1,431
North America	-698	-139	-387	-141	-341
Europe/Africa Med & FSU	-149	-18	-578	-232	-244
Middle East AG/Asia Pacific/East Africa	1,072	1,420	1,070	1,238	1,200
Middle East AG	223	323	261	58	216
Asia Pacific/East Africa	849	1,097	809	1,180	984
West Africa	89	35	74	84	71
Latin America (excl. Mexico)	217	221	178	305	230
Total World	531	1,519	357	1,254	915

DNB Global Oil Demand Assumptions For 2013

Year-on-Year Demand Change (kbd)	Q1-13	Q2-13	Q3-13	Q4-13	2013
North America (Canada, Mexico)	110	89	-87	-75	9
US	223	57	528	382	298
Europe	-541	-33	136	-80	-129
Australia, New Zealand, Japan, Korea	-214	-89	-148	-199	-162
Total OECD	-422	25	429	28	15
Europe/Africa Med & FSU	119	208	338	134	200
Middle East AG excl. Iran and Saudi	110	90	122	90	103
Iran	-71	-76	21	22	-26
Saudi Arabia	157	49	48	87	85
Asia Pacific/East Africa excl. China and India	352	254	247	148	250
China	441	403	162	-140	216
India	69	13	-18	56	30
West Africa	6	0	-17	26	4
Latin America (excl. Mexico)	223	241	216	98	194
Total Non-OECD	1,406	1,182	1,119	521	1,057
North America	333	146	441	307	307
Europe/Africa Med & FSU	-422	175	474	54	70
Middle East AG/Asia Pacific/East Africa	844	644	434	64	497
Middle East AG	196	63	191	200	162
Asia Pacific/East Africa	648	581	243	-135	334
West Africa	6	0	-17	26	4
Latin America (excl. Mexico)	223	241	216	98	194
Total World	984	1,206	1,548	550	1,072

DNB Global Oil Demand Assumptions For 2014

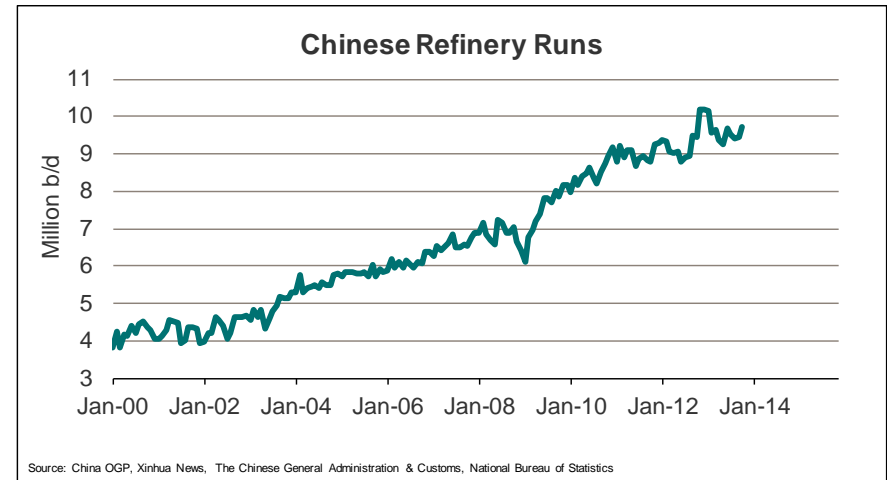
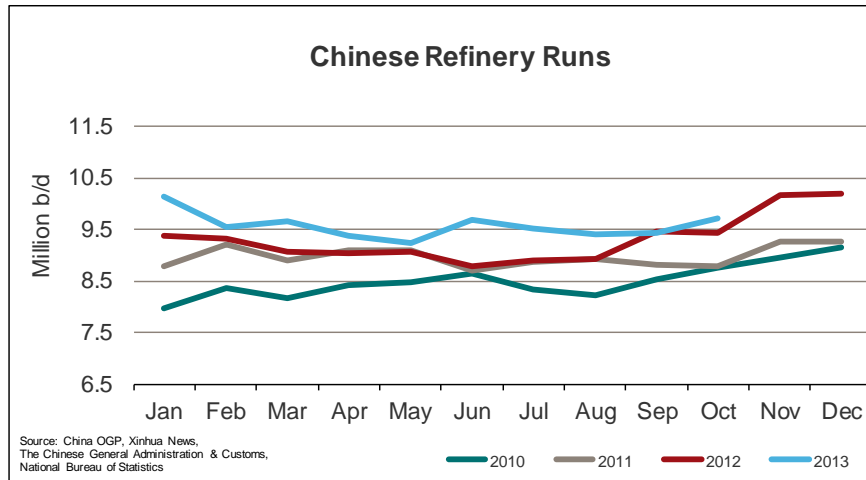
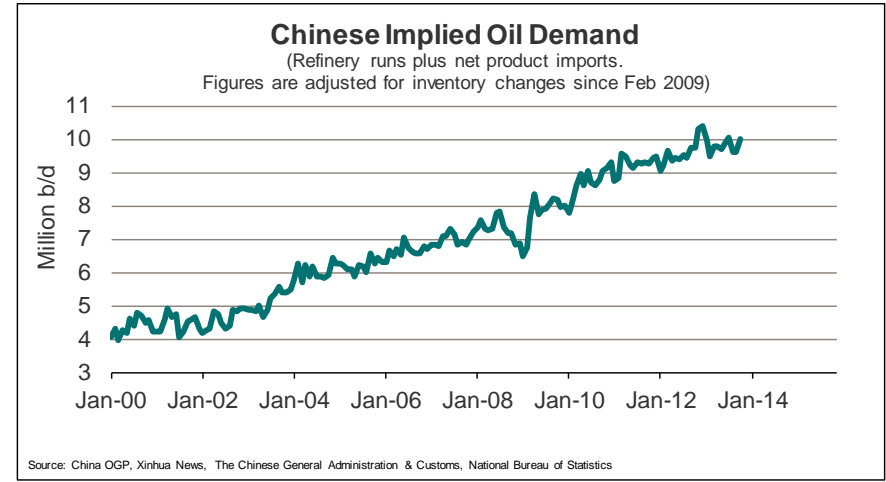
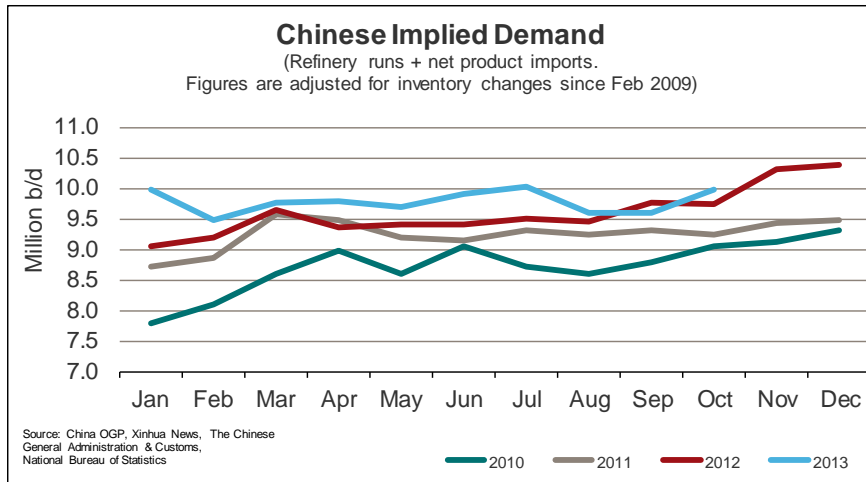
Year-on-Year Demand Change (kbd)	Q1-14	Q2-14	Q3-14	Q4-14	2014
North America (Canada, Mexico)	83	19	67	24	48
US	70	70	70	70	70
Europe	141	11	-26	47	43
Australia, New Zealand, Japan, Korea	-36	42	-74	-38	-26
Total OECD	258	143	36	103	135
Europe/Africa Med & FSU	208	163	101	162	158
Middle East AG excl. Iran and Saudi	79	89	48	89	76
Iran	13	13	18	21	16
Saudi Arabia	119	81	4	126	82
Asia Pacific/East Africa excl. China and India	118	122	155	124	130
China	387	367	456	217	356
India	16	-20	89	-21	16
West Africa	29	30	35	19	28
Latin America (excl. Mexico)	174	122	112	133	136
Total Non-OECD	1,143	967	1,017	870	999
North America	153	89	137	94	118
Europe/Africa Med & FSU	349	174	74	208	201
Middle East AG/Asia Pacific/East Africa	696	694	695	518	651
Middle East AG	211	184	70	236	175
Asia Pacific/East Africa	485	511	626	282	476
West Africa	29	30	35	19	28
Latin America (excl. Mexico)	174	122	112	133	136
Total World	1,401	1,109	1,054	972	1,134

DNB Global Oil Demand – Historicals & Assumptions

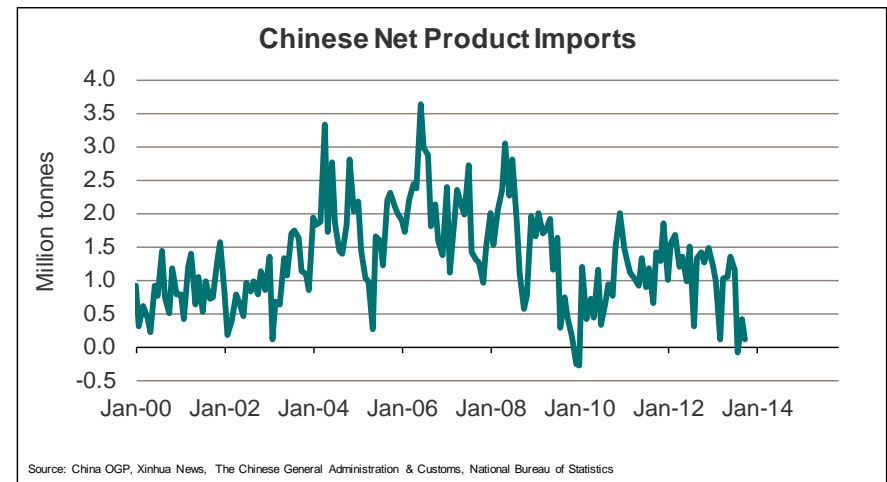
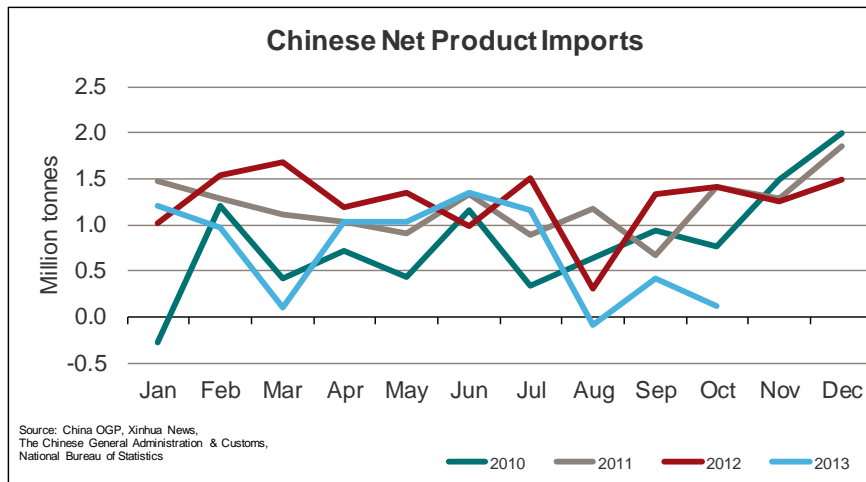
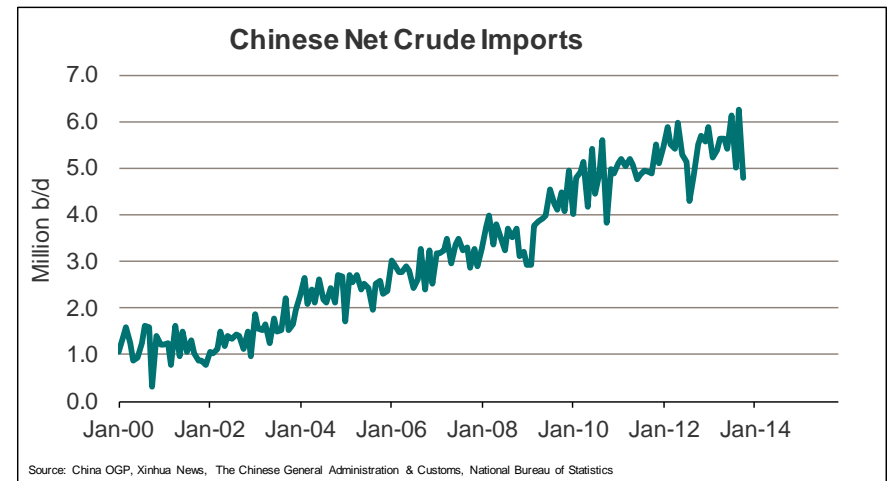
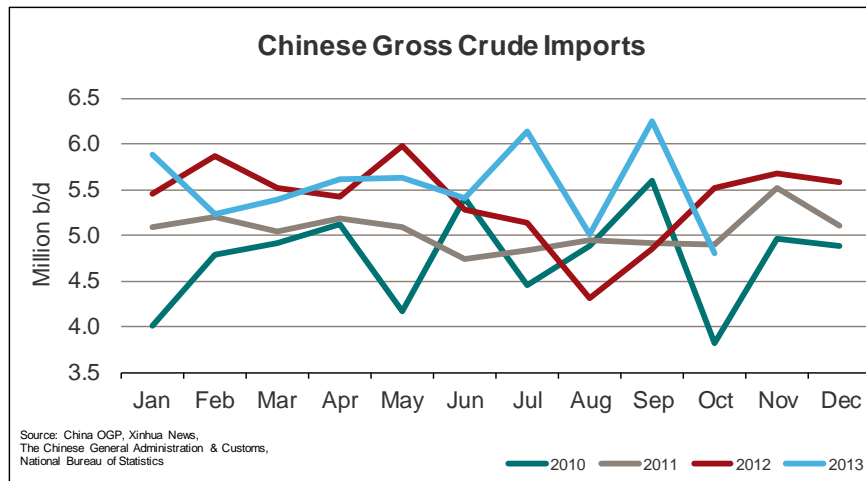
Demand change in Million b/d	Change 2008	Change 2009	Change 2010	Change 2011	Change 2012	YoY Last 3 mts	2013 YTD Chg:	Change 2013	Change 2014
North America (Canada, Mexico)	-70	-153	112	34	50	-163	10	9	48
US	-1,188	-725	407	-297	-392	449	272	298	70
Europe	-93	-758	-12	-412	-504	-13	-168	-129	43
Australia, New Zealand, Japan, Korea	-316	-385	121	59	330	-256	-157	-162	-26
Total OECD	-1,667	-2,021	629	-616	-516	17	-43	15	135
Europe/Africa Med & FSU	150	-141	78	164	260	289	219	200	158
Middle East AG excl. Iran and Saudi	212	123	127	57	104	122	109	103	76
Iran	45	59	-209	-35	-20	19	-36	-26	16
Saudi Arabia	152	196	218	104	133	77	90	85	82
Asia Pacific/East Africa excl. China and India	-16	384	541	238	152	212	270	250	130
China	328	450	956	523	355	16	308	216	356
India	114	66	70	77	148	28	31	30	16
West Africa	51	23	89	48	71	0	0	4	28
Latin America (excl. Mexico)	360	57	357	91	230	176	214	194	136
Total Non-OECD	1,393	1,214	2,227	1,266	1,431	939	1,204	1,057	999
North America	-1,257	-878	519	-263	-341	286	282	307	118
Europe/Africa Med & FSU	57	-899	66	-248	-244	276	51	70	201
Middle East AG/Asia Pacific/East Africa	516	890	1,825	1,022	1,200	219	614	497	651
Middle East AG	408	377	136	126	216	218	162	162	175
Asia Pacific/East Africa	109	514	1,689	896	984	0	452	334	476
West Africa	51	23	89	48	71	0	0	4	28
Latin America (excl. Mexico)	360	57	357	91	230	176	214	194	136
Total World	-273	-808	2,855	650	915	956	1,160	1,072	1,134

Chinese Oil Demand & Refinery Throughput

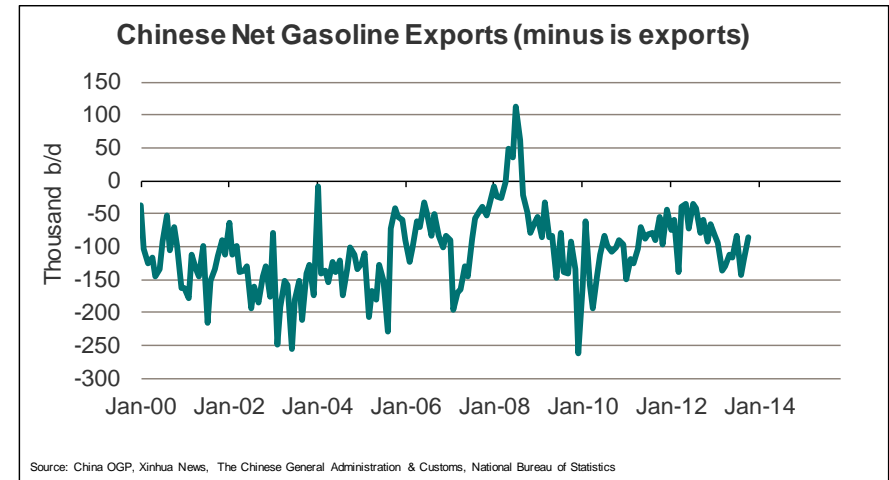
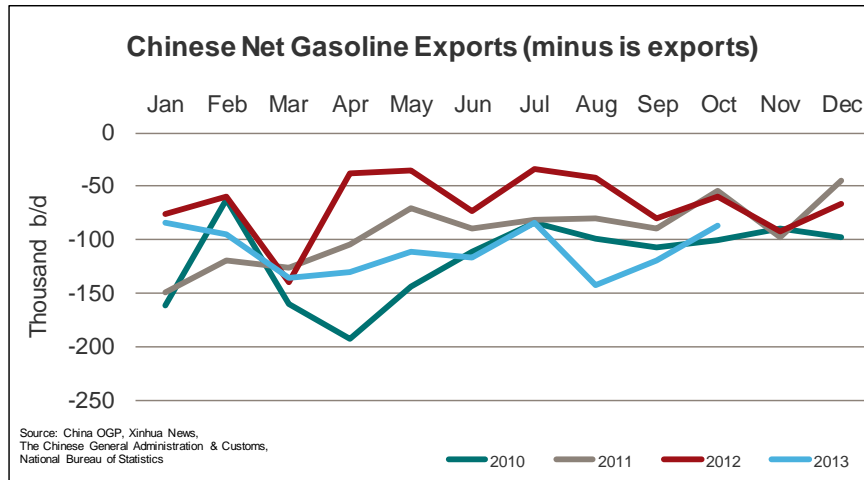
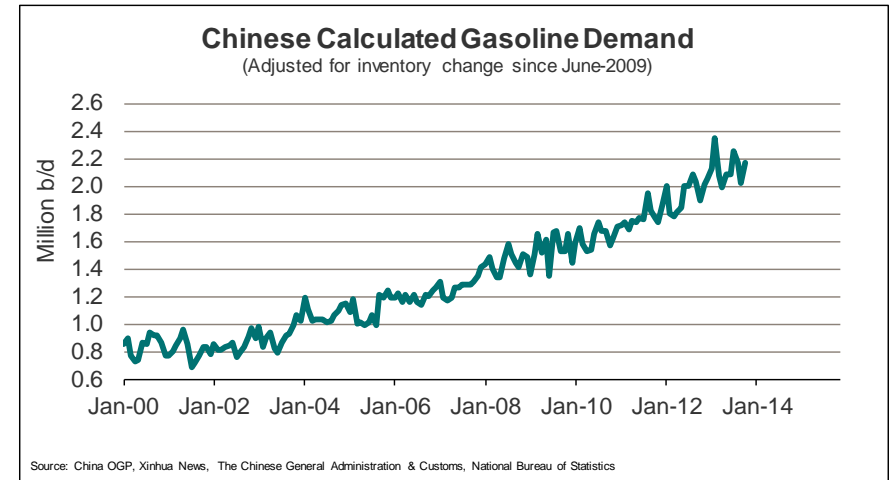
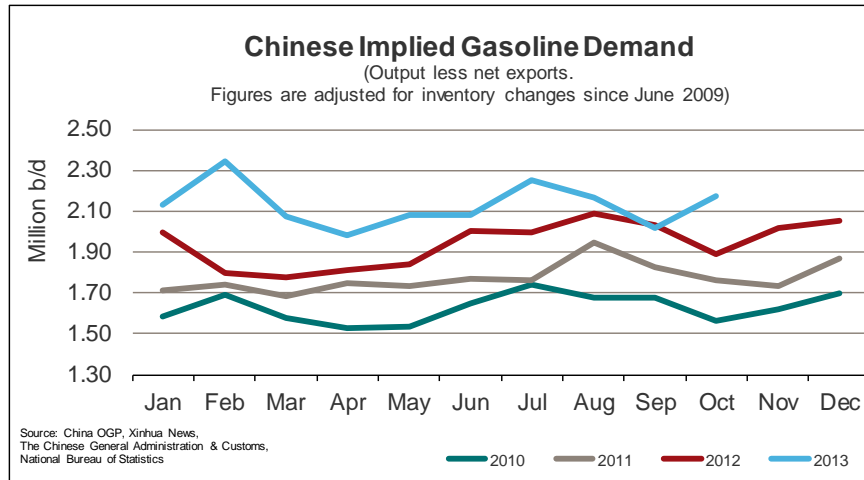
- Adjusted for inventory changes



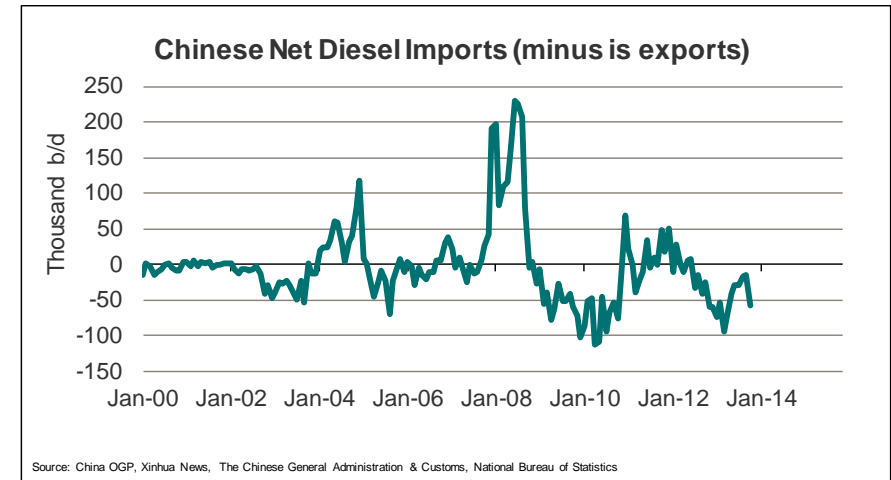
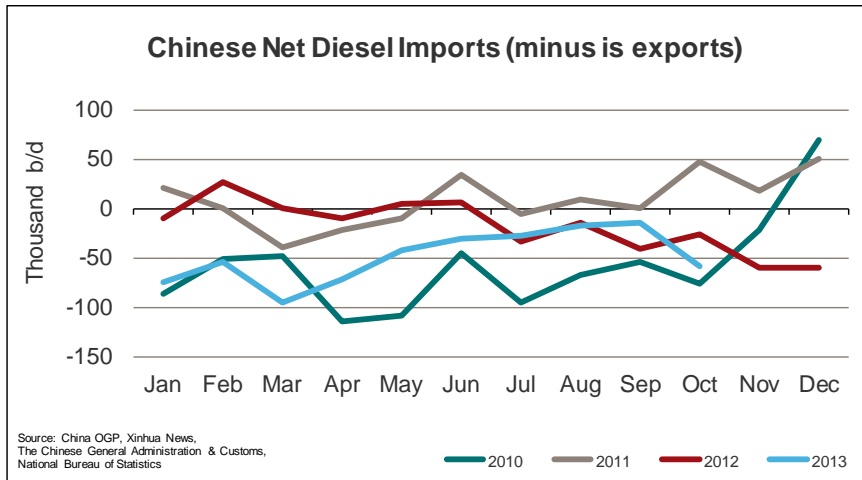
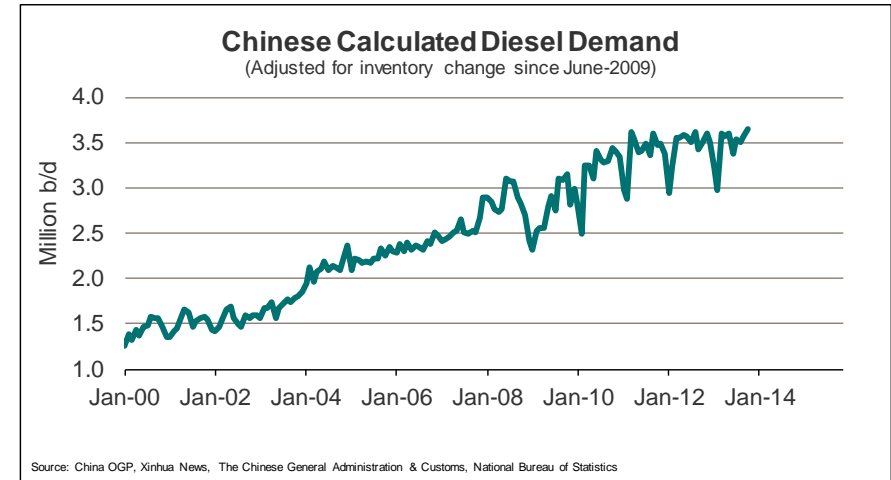
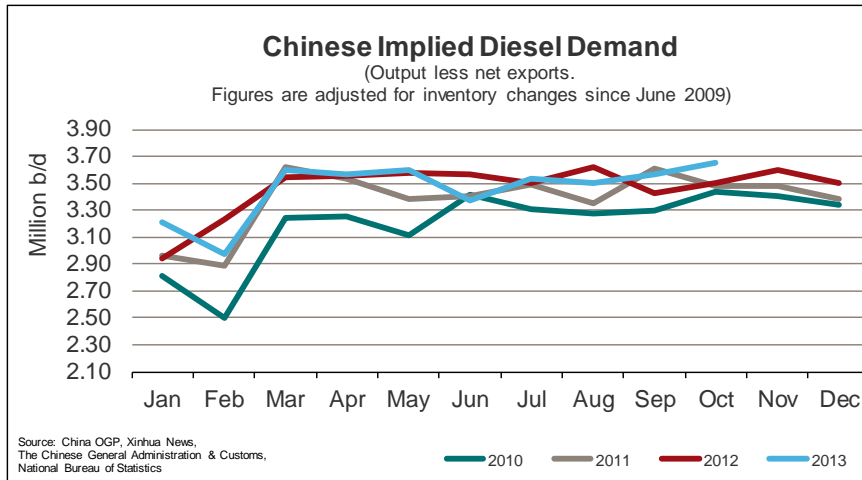
Chinese Crude Oil & Oil Products Imports



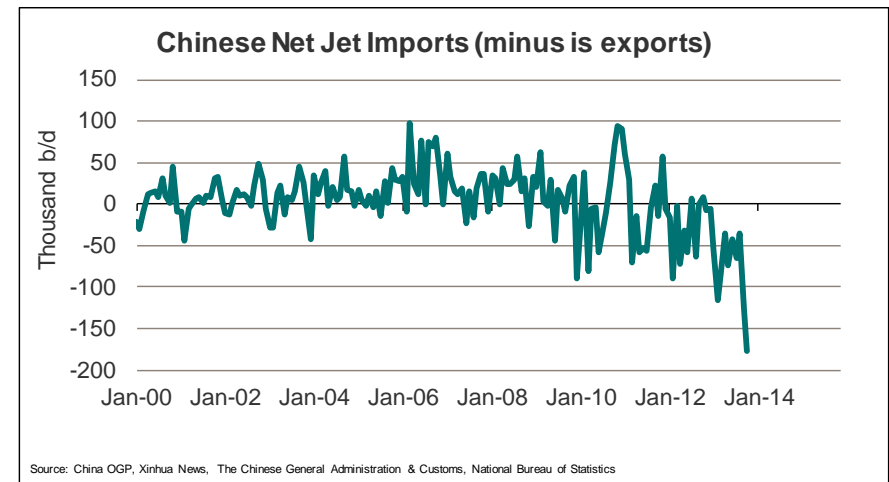
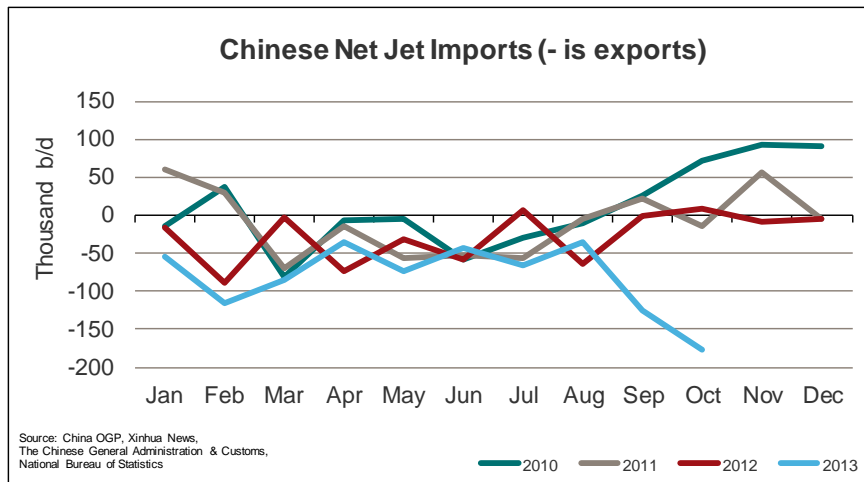
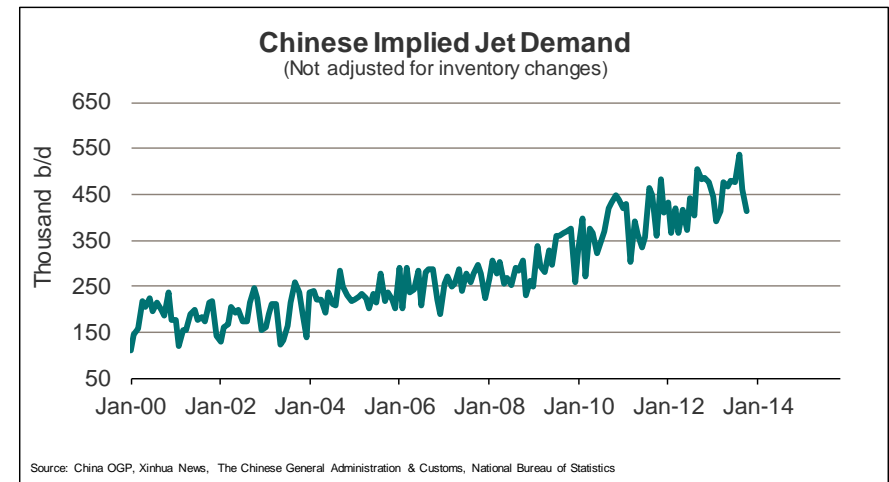
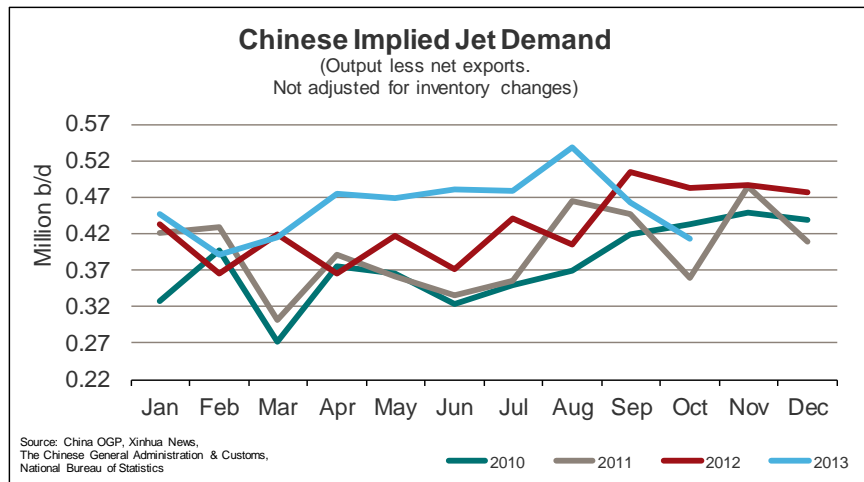
Chinese Gasoline Demand & Net Gasoline Exports



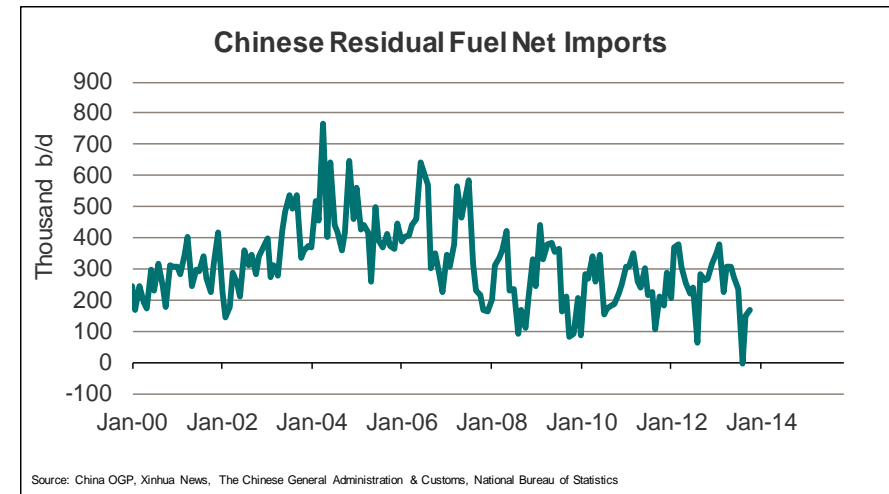
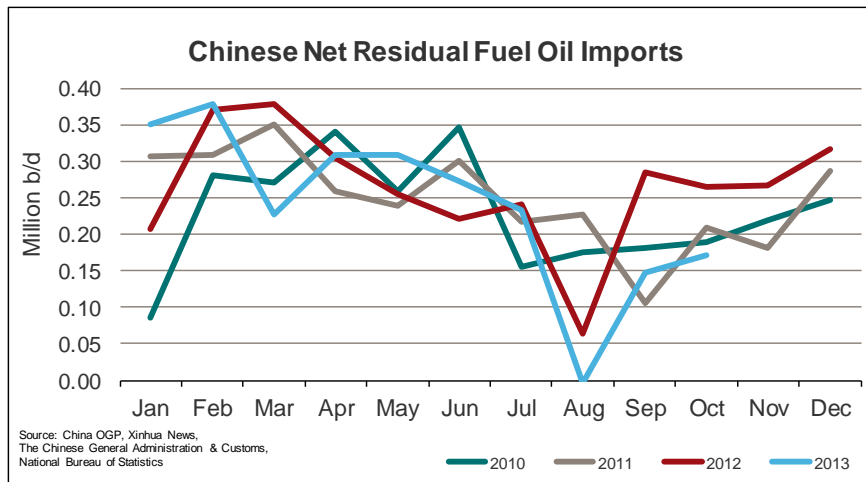
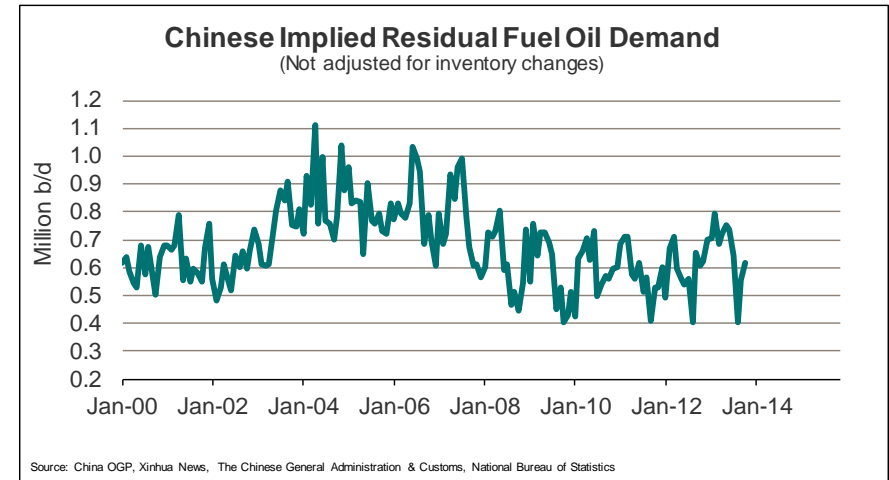
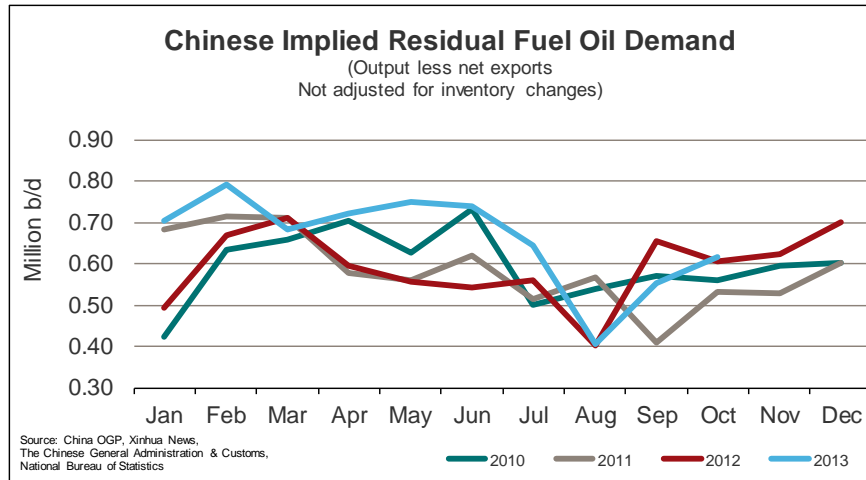
Chinese Diesel Demand & Net Diesel Imports



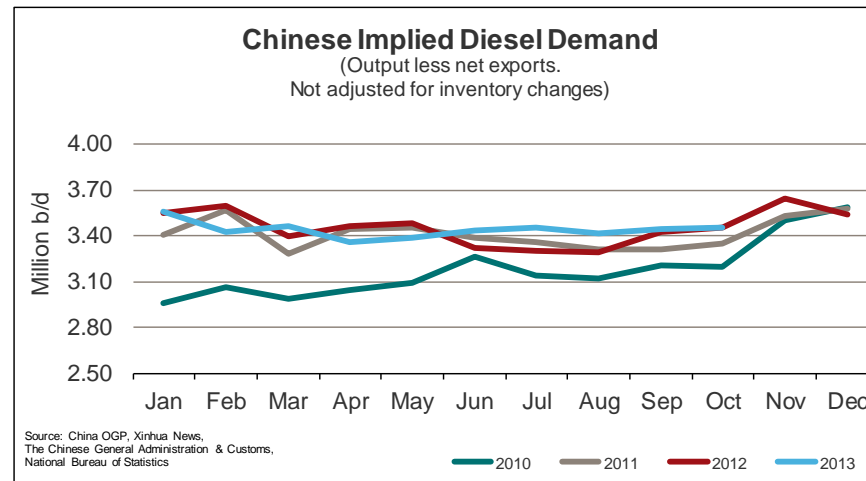
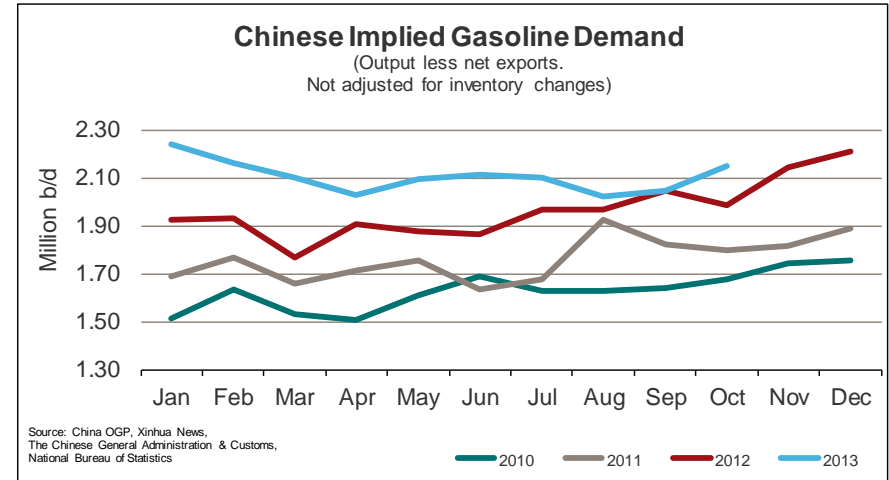
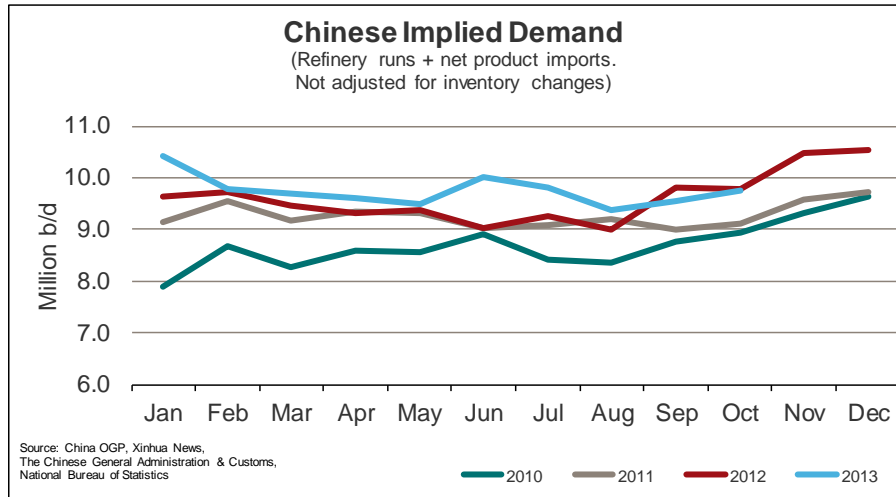
Chinese Jet Demand & Net Jet Imports



Chinese Residual Fuel Demand & Net Residual Fuel Imports



Chinese Oil Demand Without Inventory Adjustment

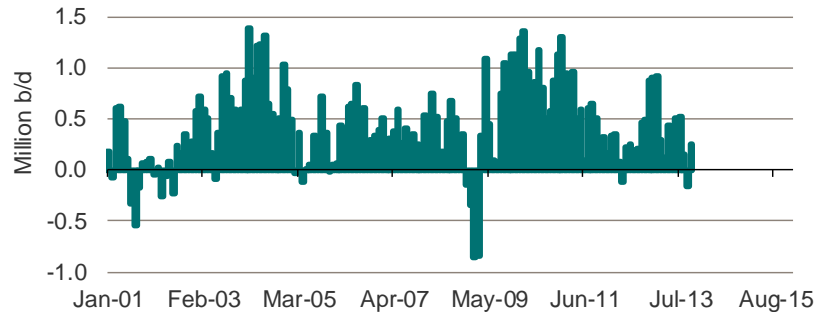


Chinese Year on Year Changes In Oil Demand & Oil Imports

Year on Year Calculated Chinese Demand

(Demand is refinery runs plus net product imports.)

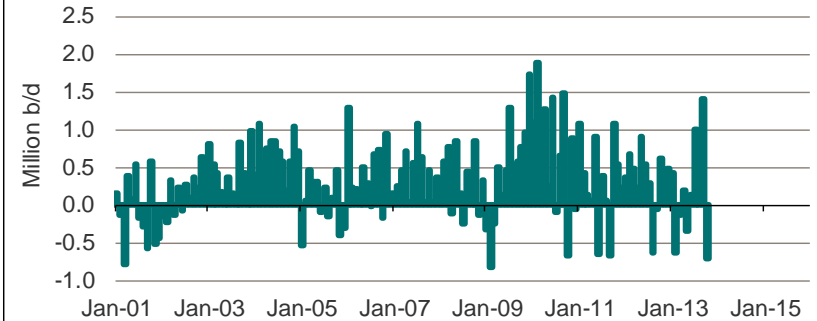
Figures are adjusted for inventory changes since Feb 2009



Source: China OGP, Xinhua News, The Chinese General Administration & Customs, National Bureau of Statistics

Year on Year Chinese Net Crude Imports

(Based on Chinese customs data)

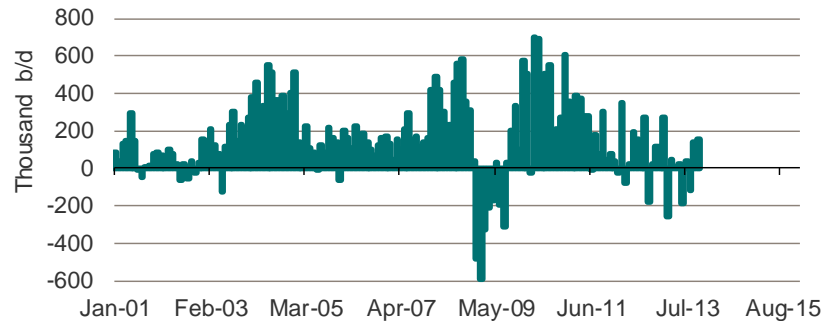


Source: China OGP, Xinhua News, The Chinese General Administration & Customs, National Bureau of Statistics

YoY Calculated Chinese Diesel Demand

(Demand is refinery diesel output plus net diesel imports.)

Figures are adjusted for inventory changes since June 2009

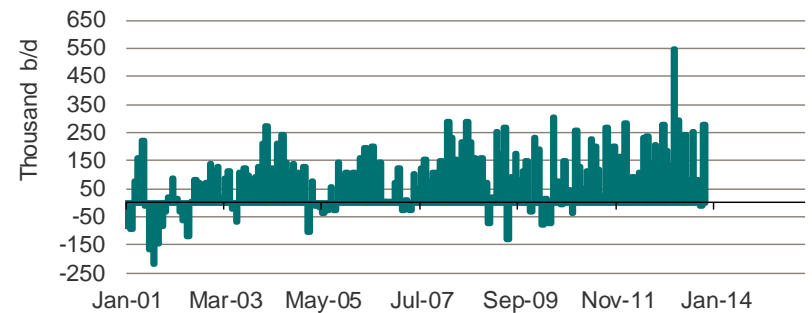


Source: China OGP, Xinhua News, The Chinese General Administration & Customs, National Bureau of Statistics

YoY Calculated Chinese Gasoline Demand

(Demand is refinery gasoline output plus net gasoline imports.)

Figures are adjusted for inventory changes since June 2009



Source: China OGP, Xinhua News, The Chinese General Administration & Customs, National Bureau of Statistics

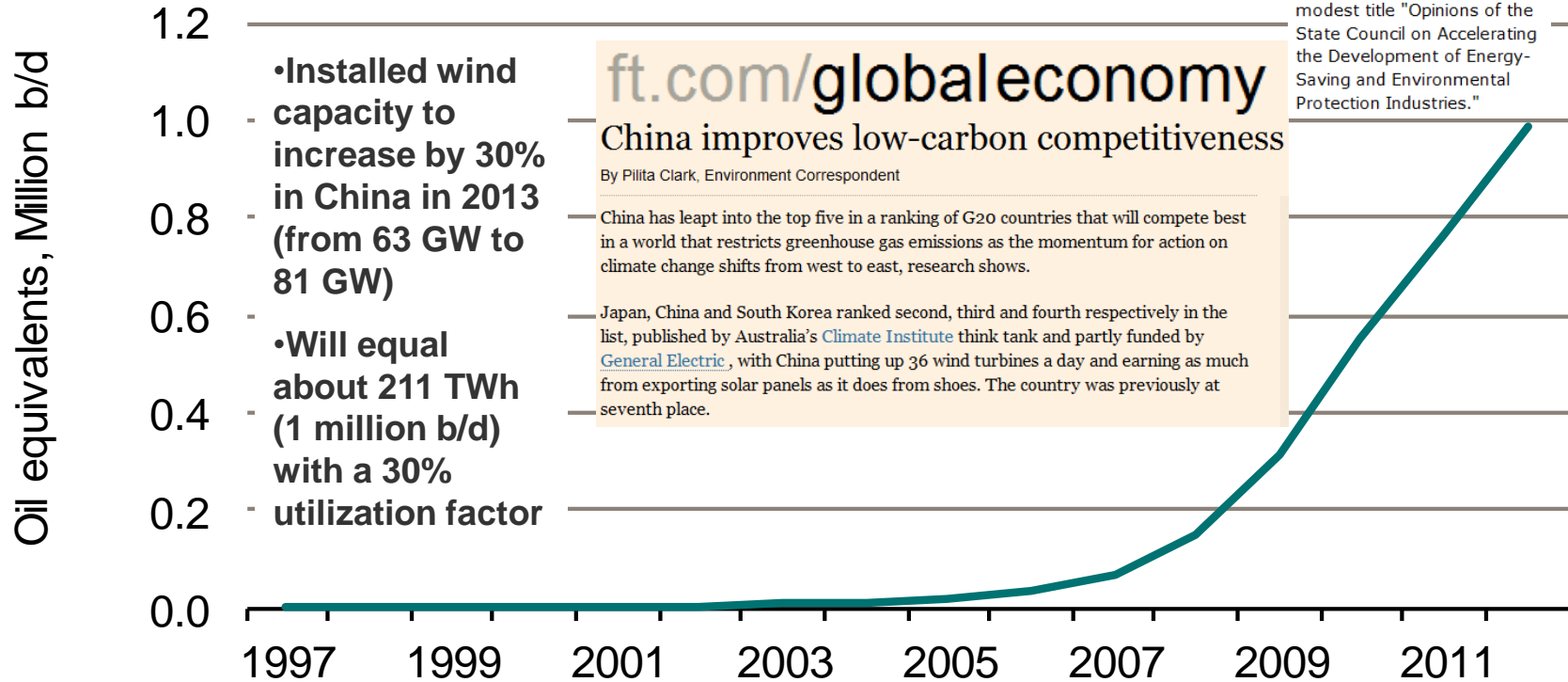
Look What The Chinese Have Done With Wind Power

- Increase from zero to 1 million b/d (211 TWh) in 5 years. Total German electricity consumption is about 600 TWh...

SPiegel ONLINE INTERNATIONAL

'Liconomics': China's Green Revolution Arrives

Chinese Wind Power Output (assuming 30% utilization rate)



• Installed wind capacity to increase by 30% in China in 2013 (from 63 GW to 81 GW)

• Will equal about 211 TWh (1 million b/d) with a 30% utilization factor

ft.com/globaleconomy

China improves low-carbon competitiveness

By Pilita Clark, Environment Correspondent

China has leapt into the top five in a ranking of G20 countries that will compete best in a world that restricts greenhouse gas emissions as the momentum for action on climate change shifts from west to east, research shows.

Japan, China and South Korea ranked second, third and fourth respectively in the list, published by Australia's [Climate Institute](#) think tank and partly funded by [General Electric](#), with China putting up 36 wind turbines a day and earning as much from exporting solar panels as it does from shoes. The country was previously at seventh place.

But that's where, on Sunday, August 11, the government released a guideline with the modest title "Opinions of the State Council on Accelerating the Development of Energy-Saving and Environmental Protection Industries."

China makes fresh promises on air pollution, pledges support for solar

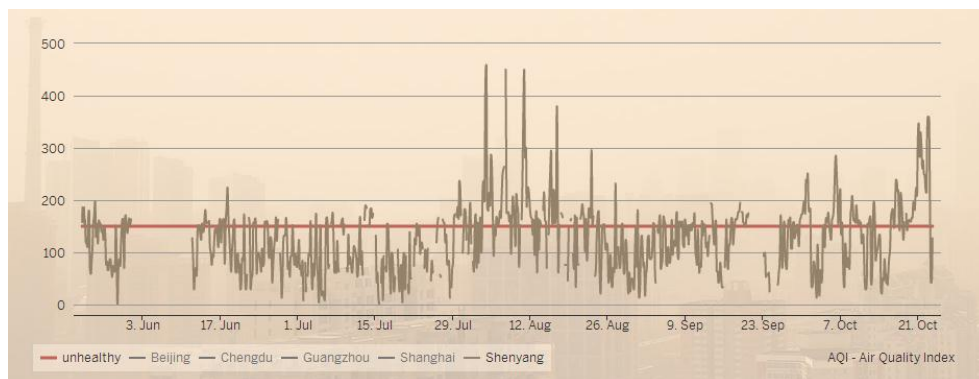
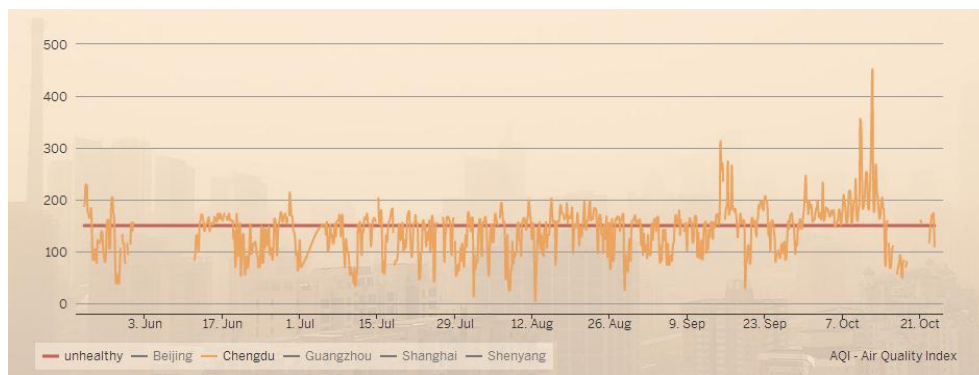
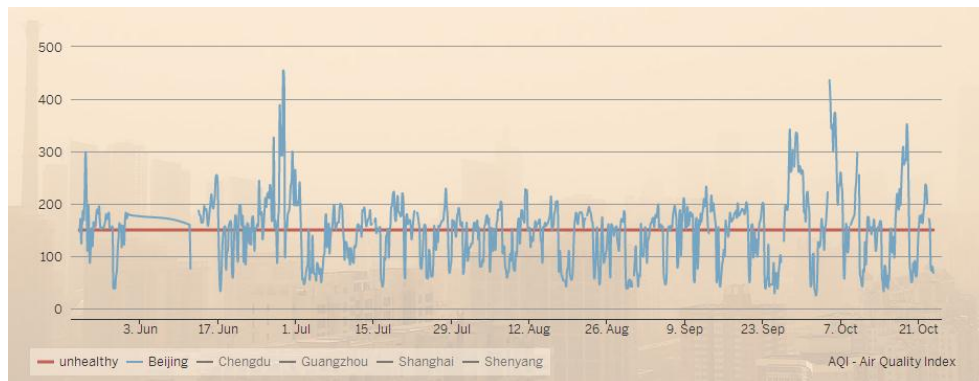
SHANGHAI, June 15 (Reuters) - China's cabinet approved new measures to combat air pollution on Friday, in the latest step by China's new leadership to address the country's enormous environmental problems, with pollution a key source of rising social discontent in China.

Source: BP stats, Global Wind Energy Council

MARKETS

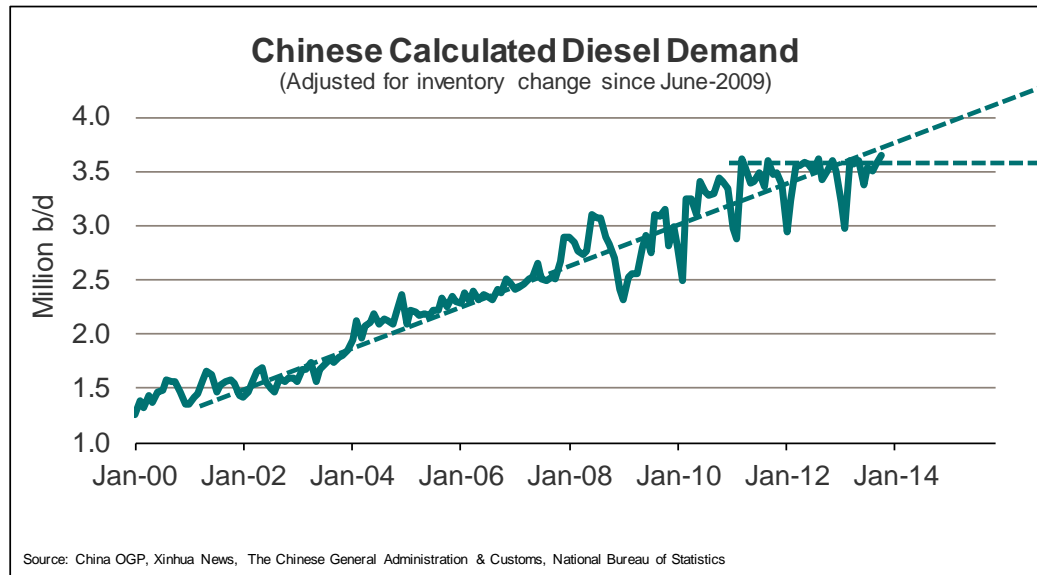
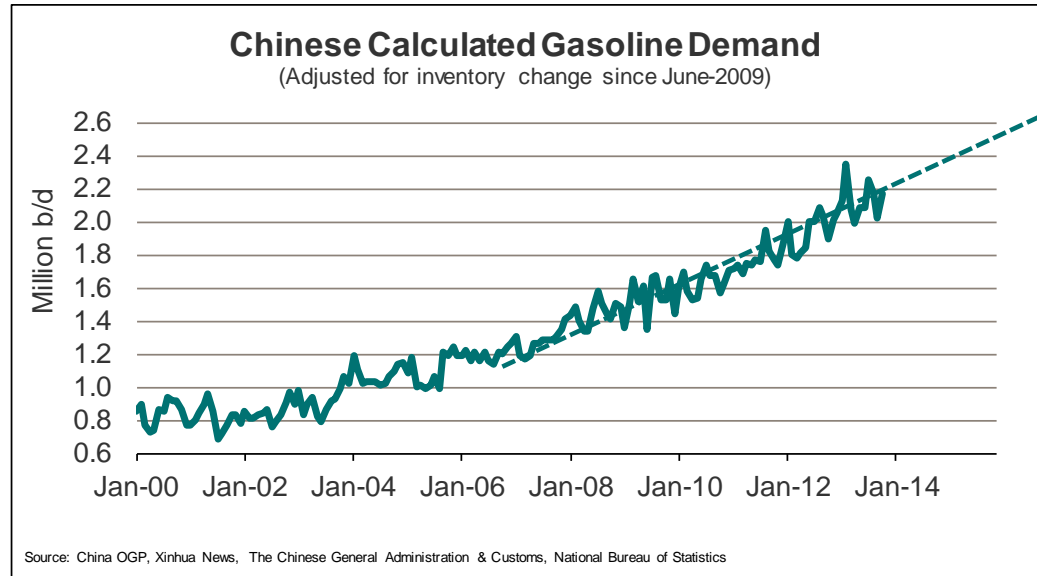
Chinese Air Pollution Getting Out Of Control

- An index above 150 is “unhealthy”, above 200 is “very unhealthy”, above 300 is “hazardous”

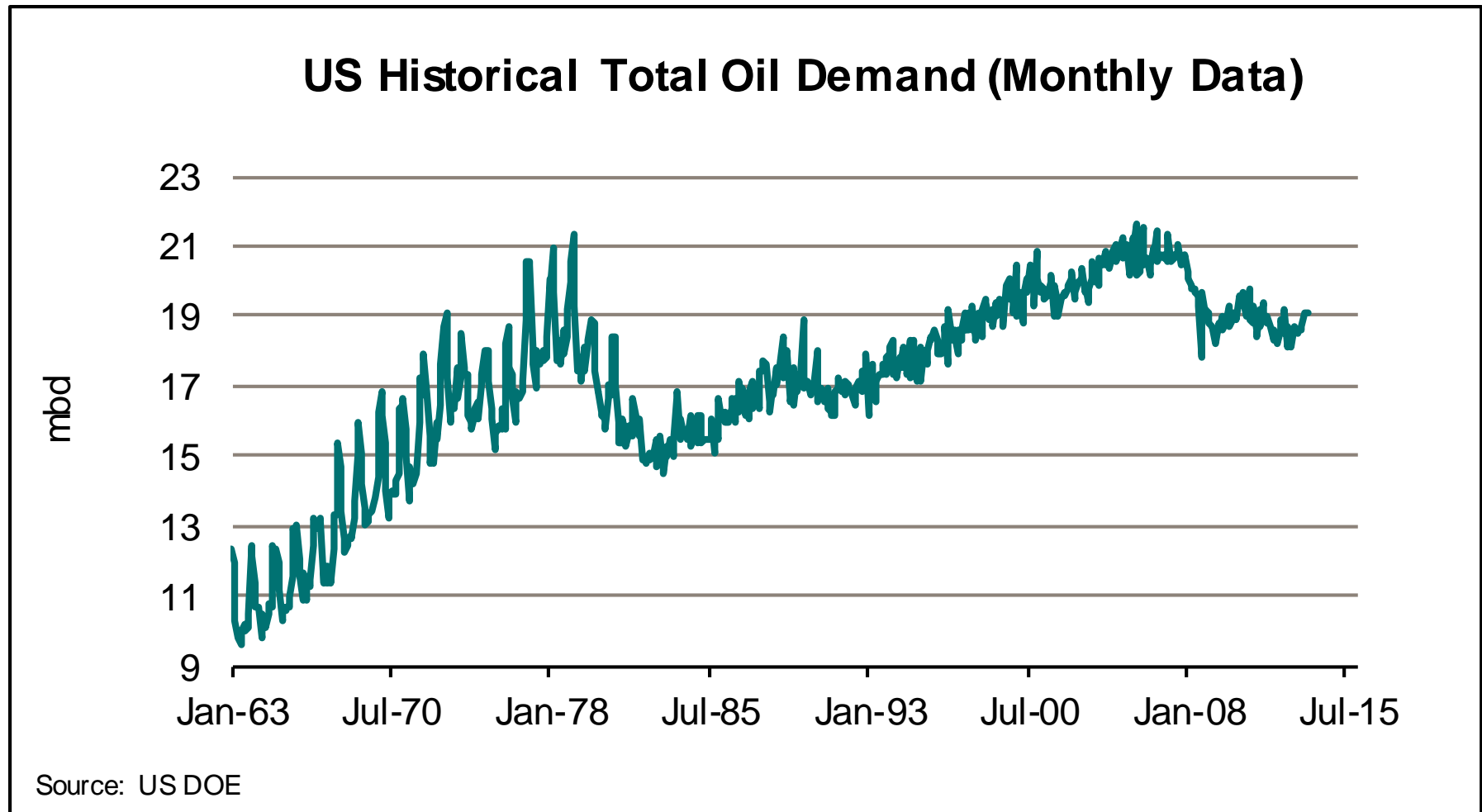


Chinese Oil Demand Growth To Favor Personal Consumption

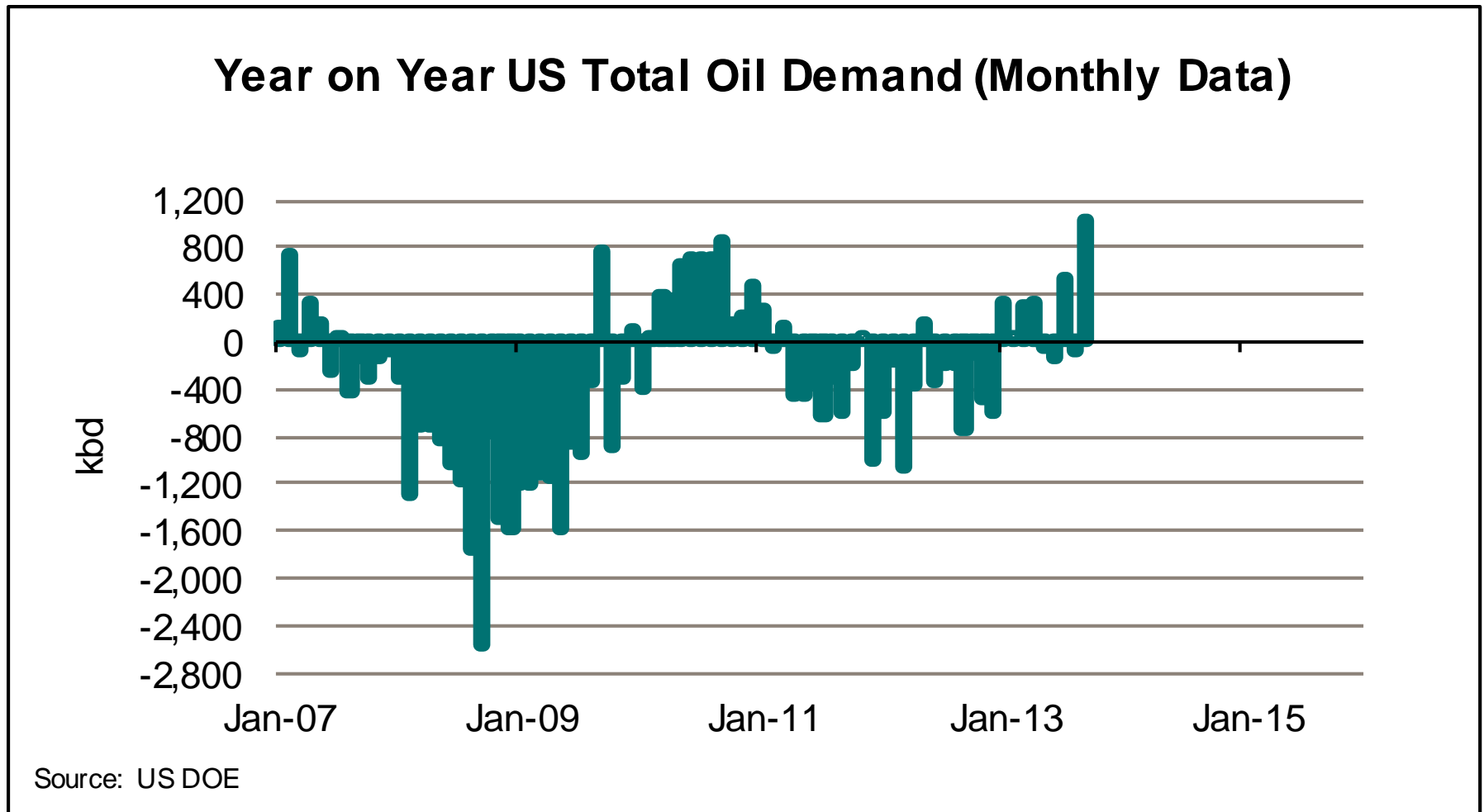
- Oil products more tilted towards industrial production and the investment cycle may grow much slower in coming years



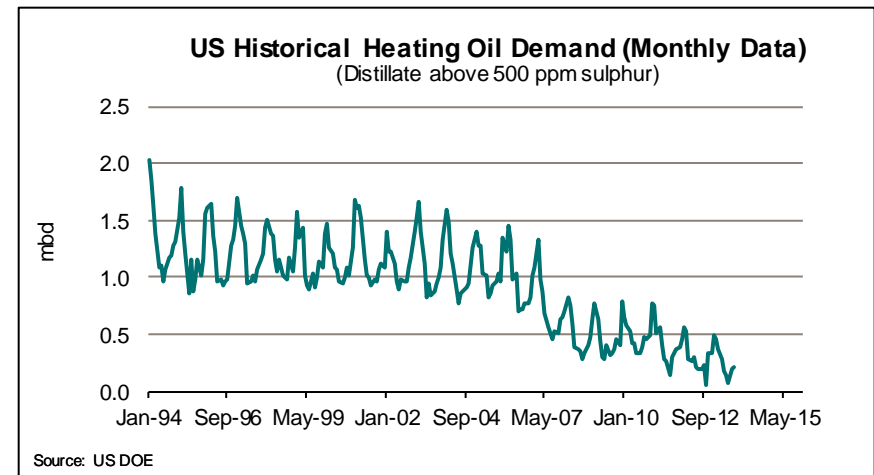
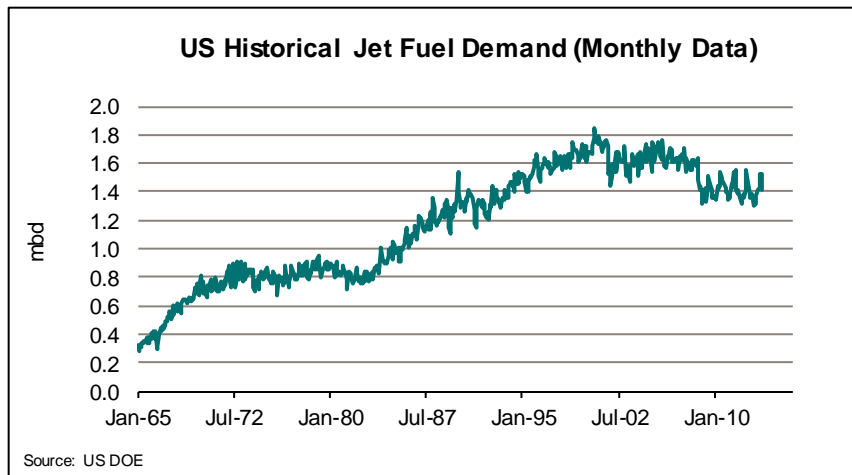
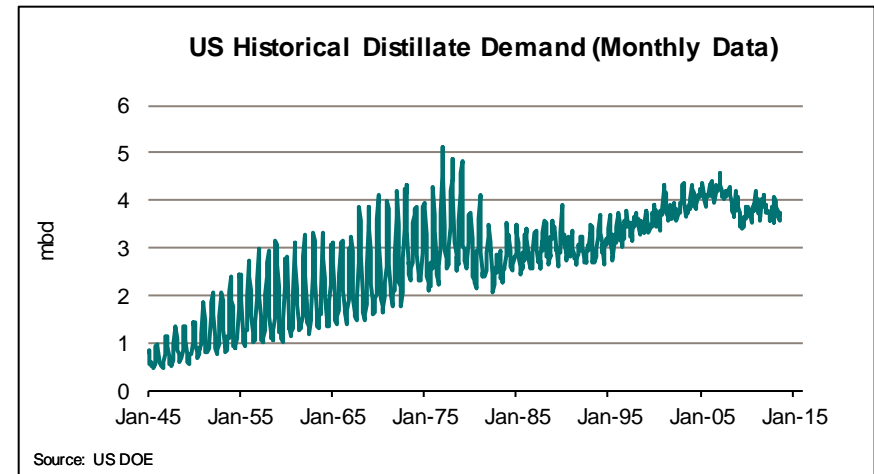
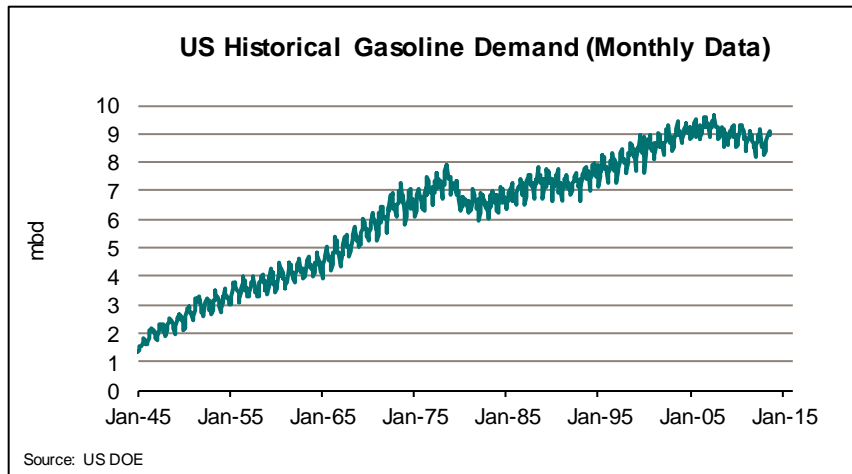
US Total Oil Demand – Monthly DOE Data



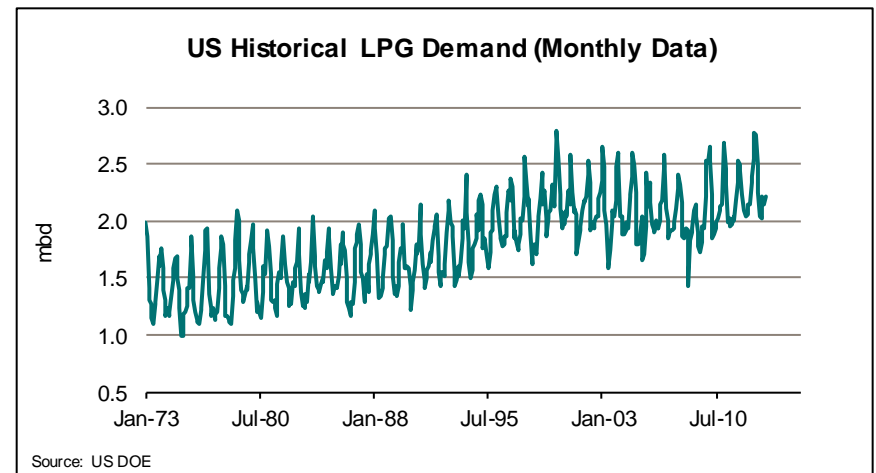
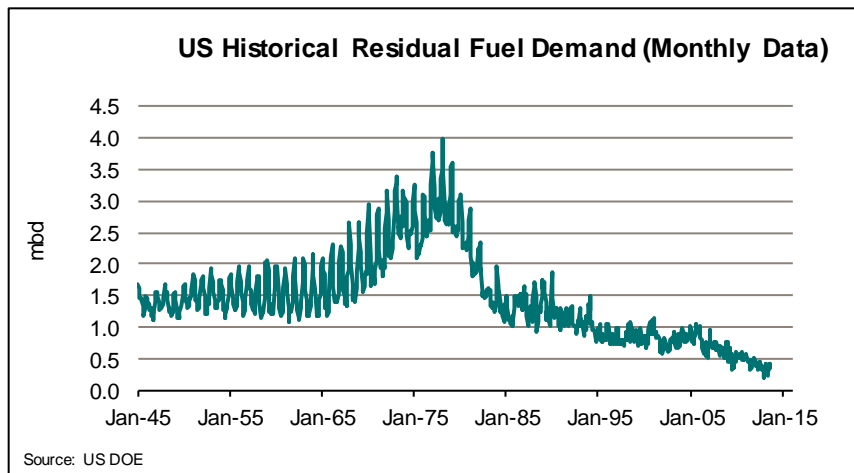
Year-on-Year US Total Oil Demand – Monthly DOE Data



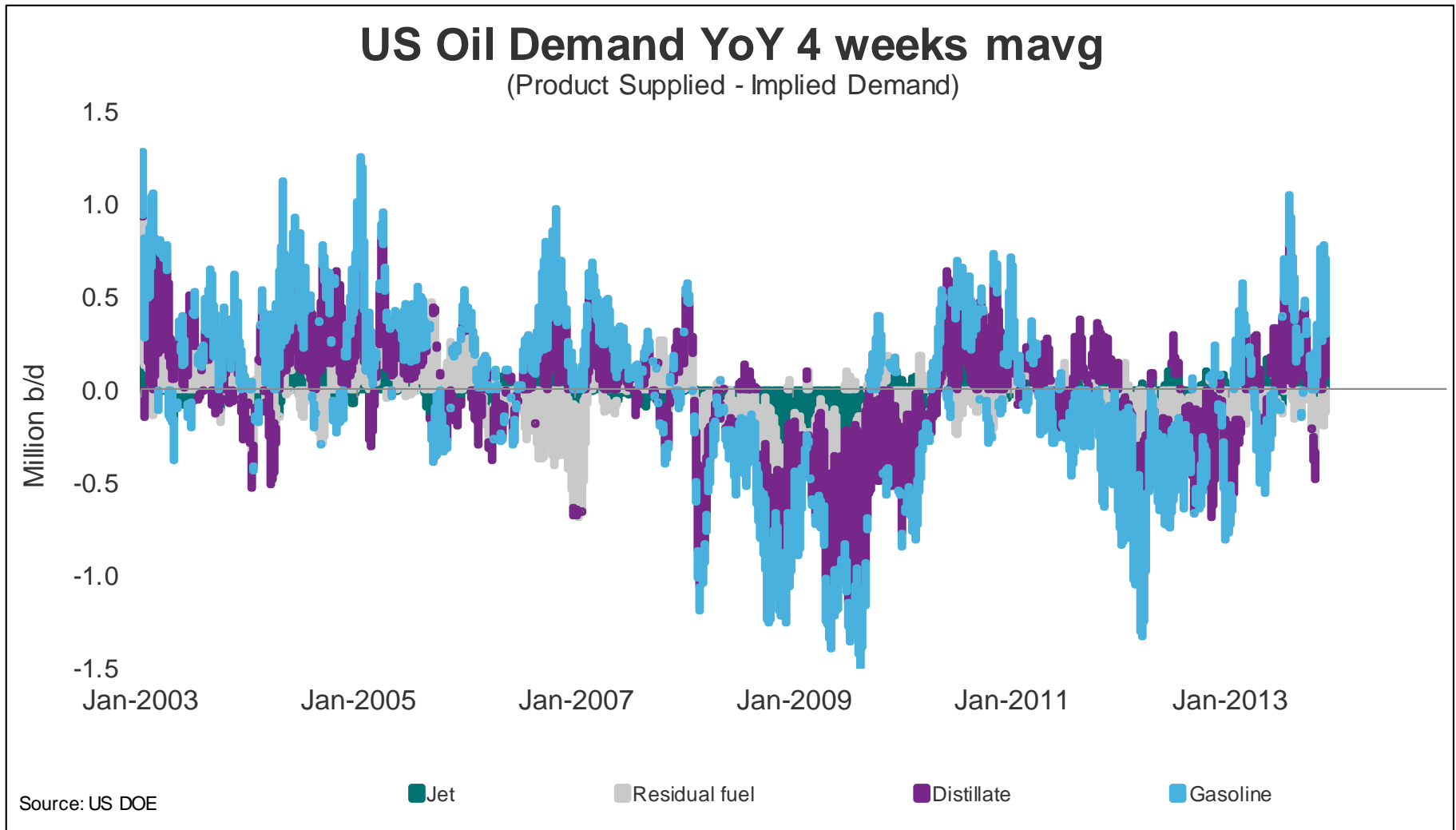
US Demand For Key Oil Products – Monthly DOE Data



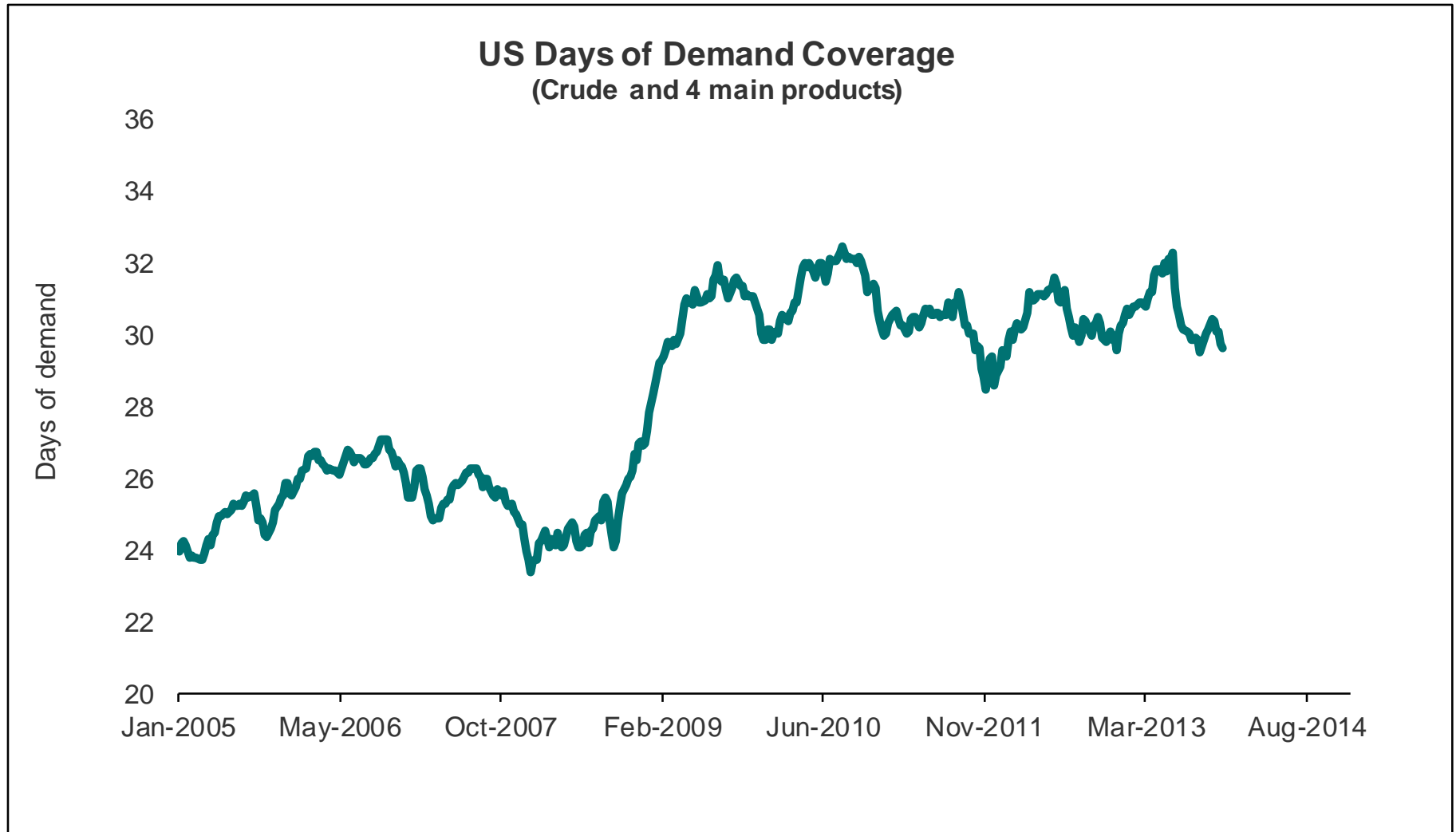
US Demand For Residual Fuel & LPG – Monthly DOE Data



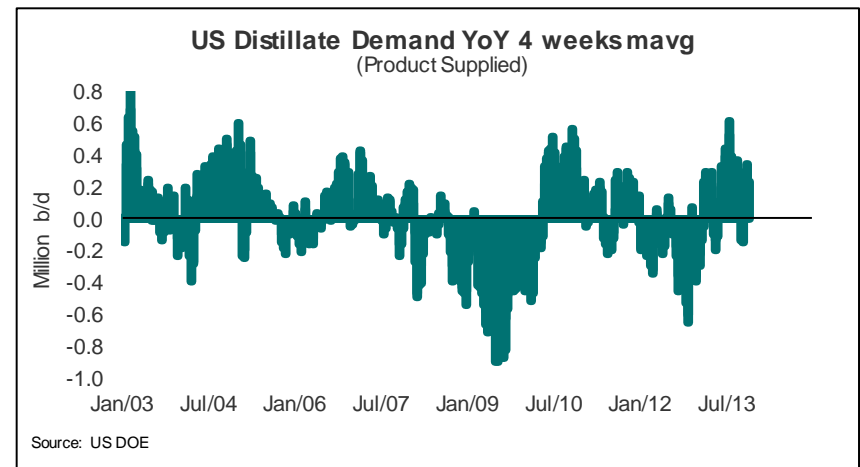
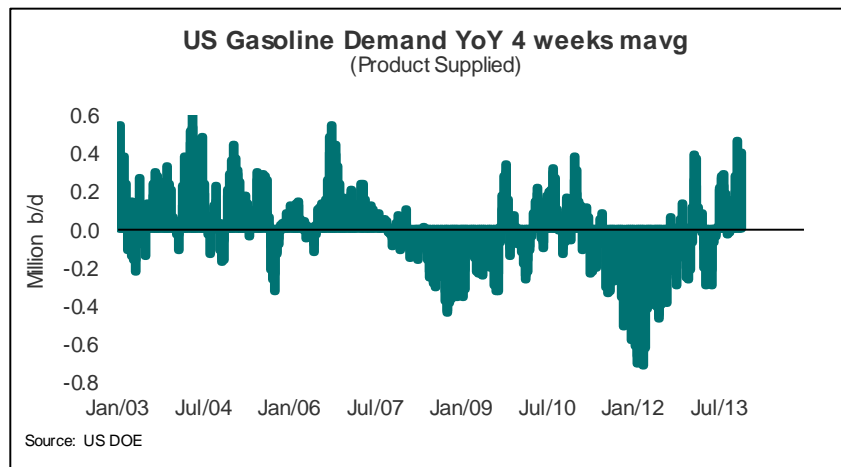
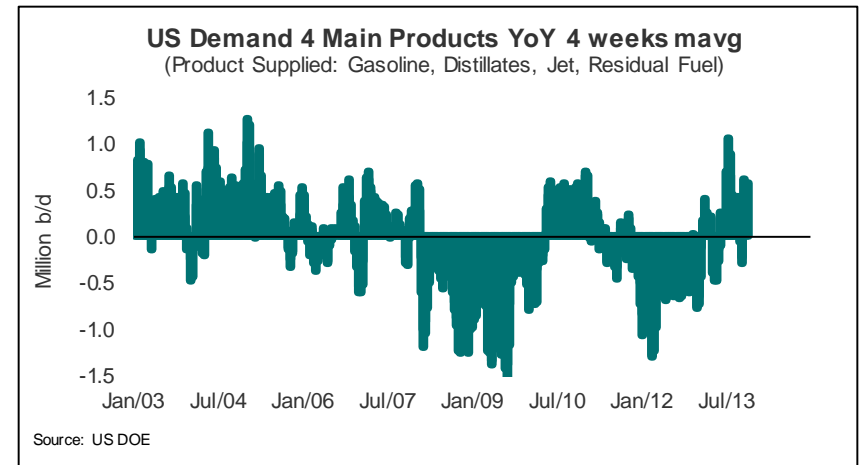
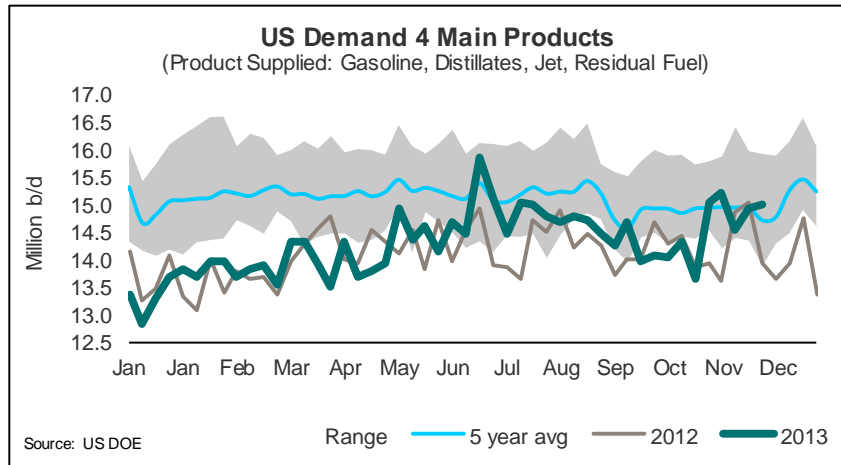
US Oil Demand – Weekly DOE Data



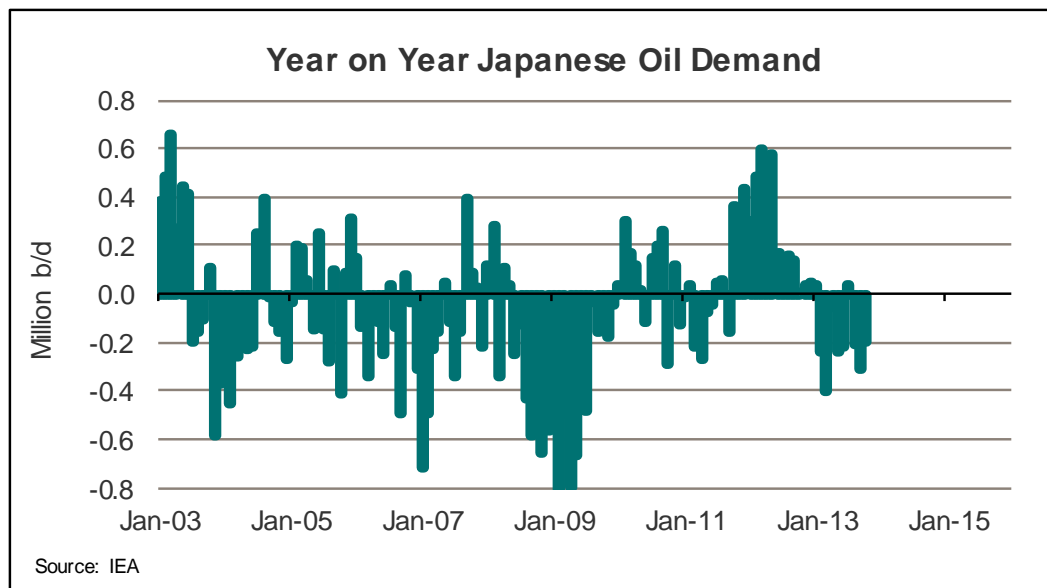
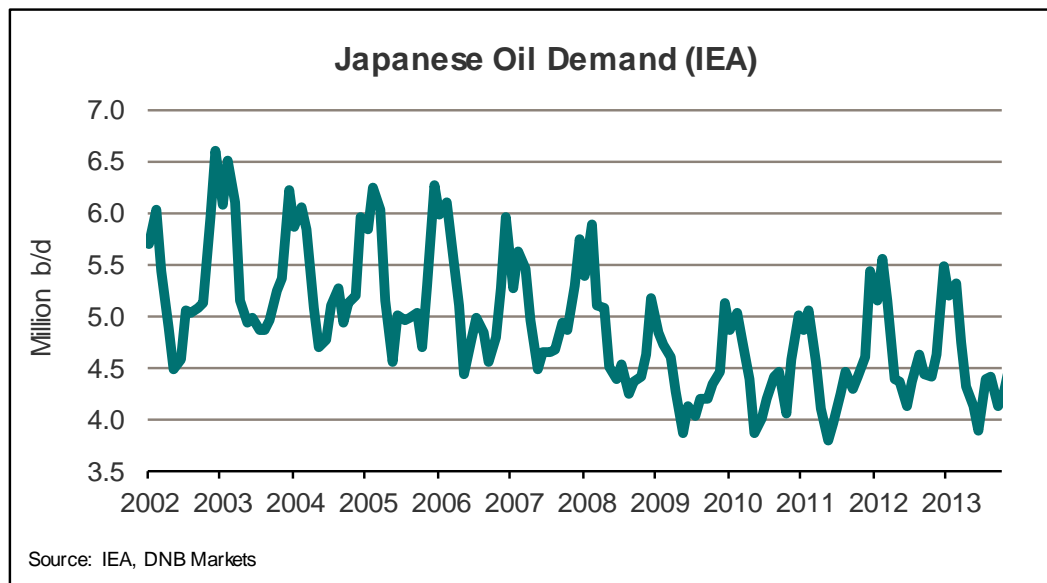
US Days Of Demand Stock Coverage – Weekly DOE Data



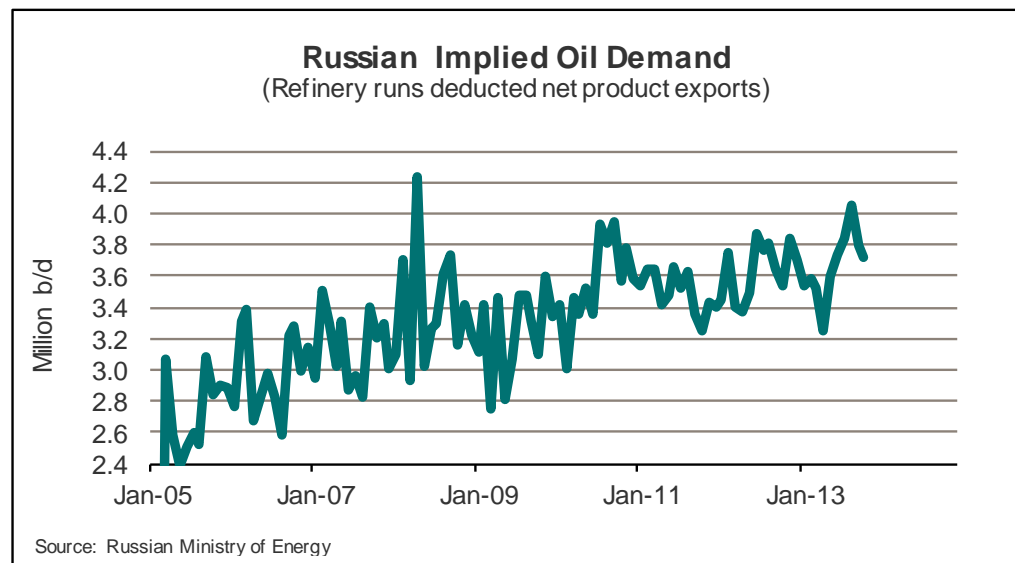
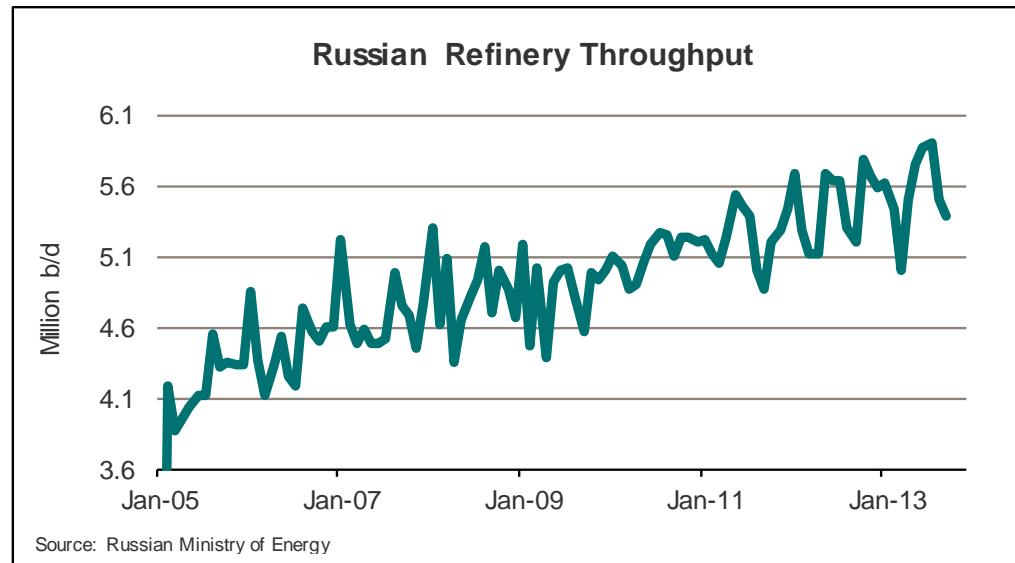
US Oil Demand Trends – Weekly DOE Data



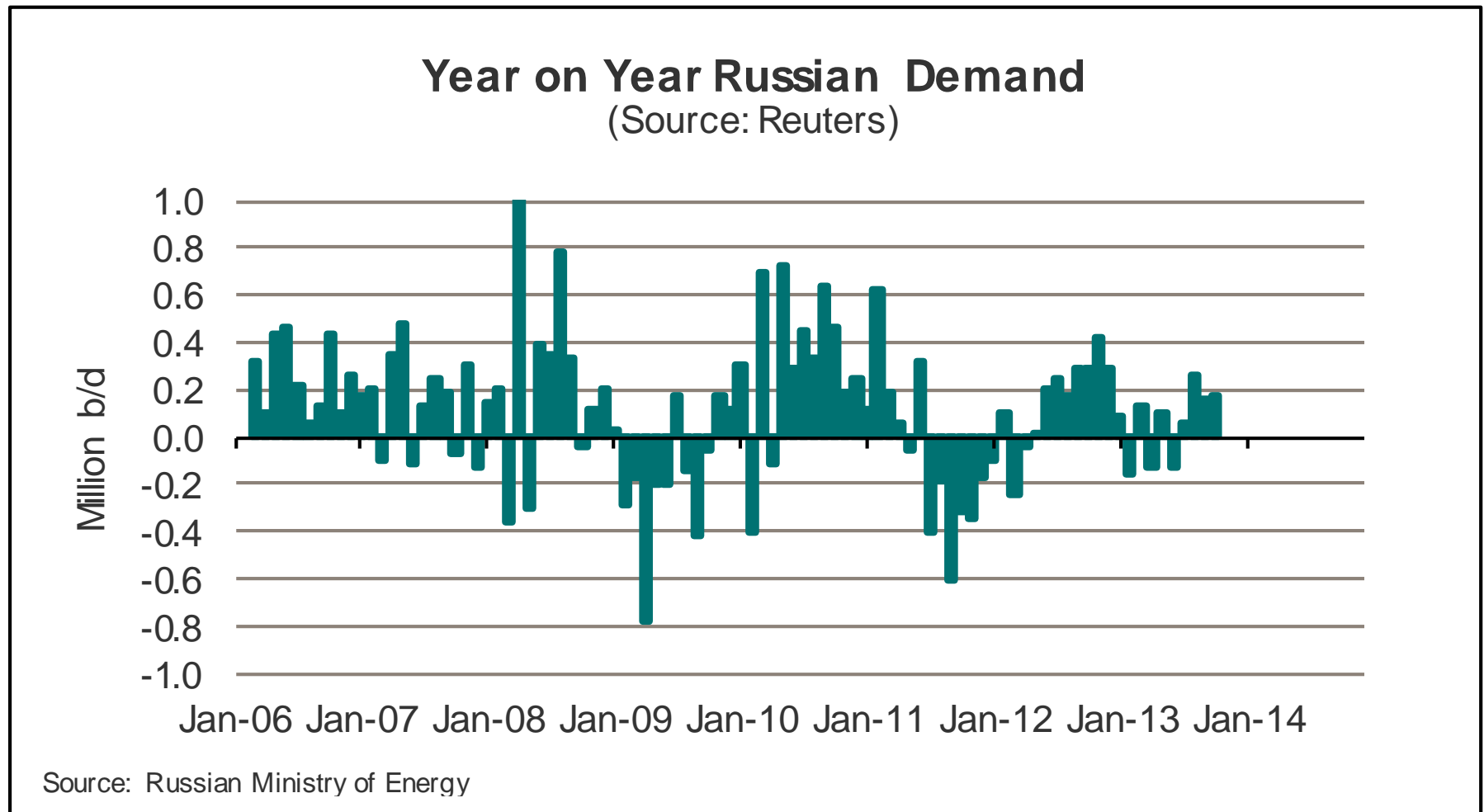
Japan – Oil Demand



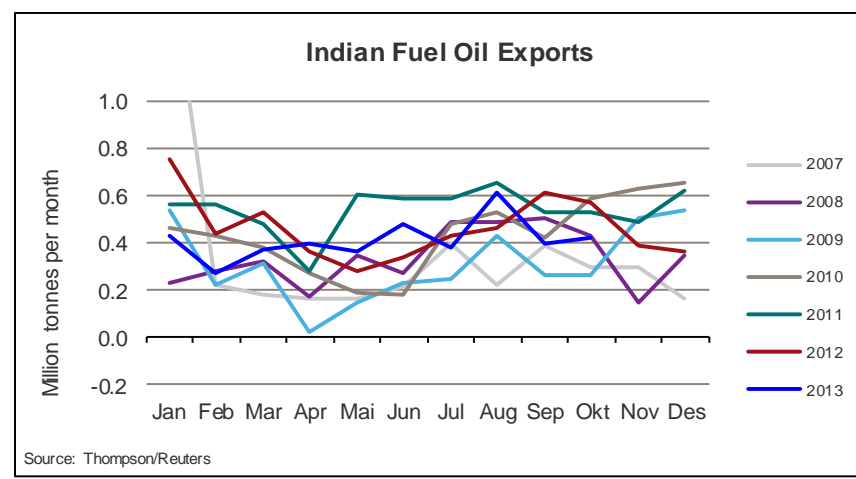
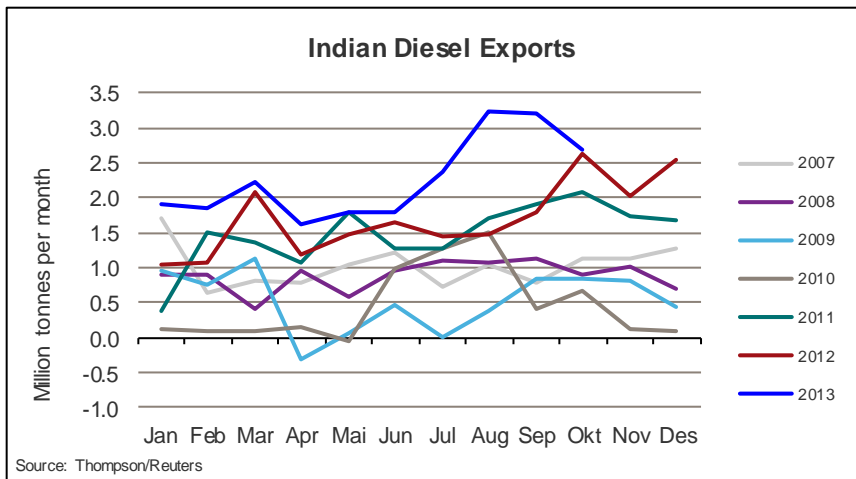
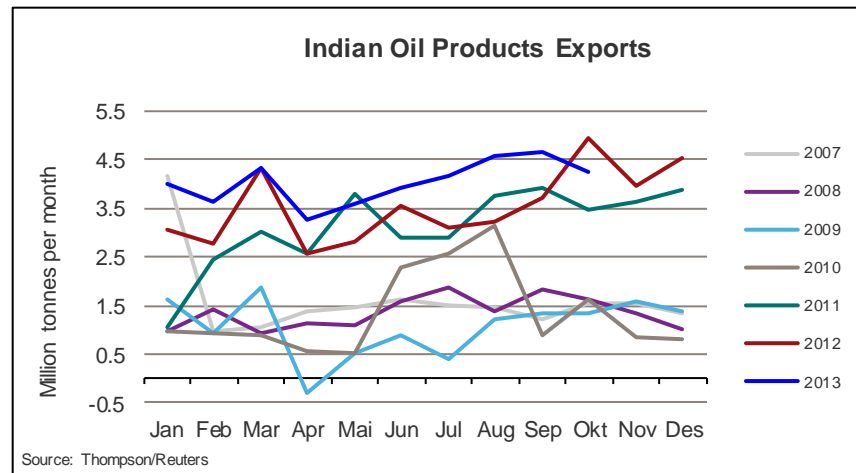
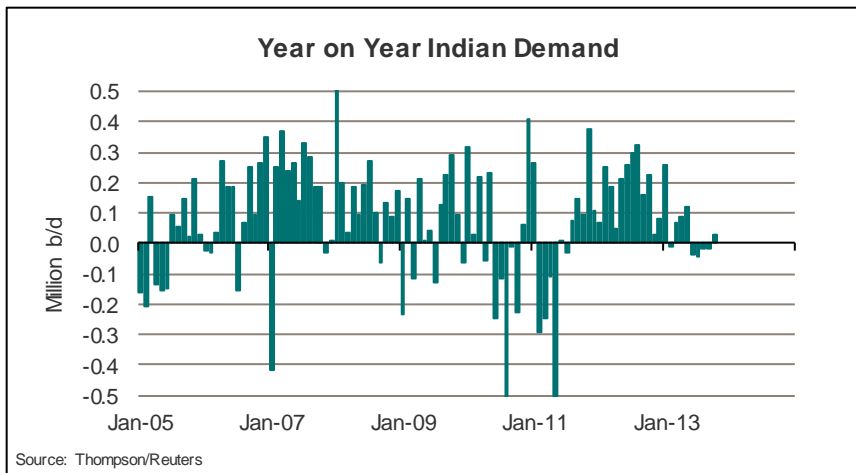
Russia – Oil Demand



Russia – Year-on-Year Oil Demand

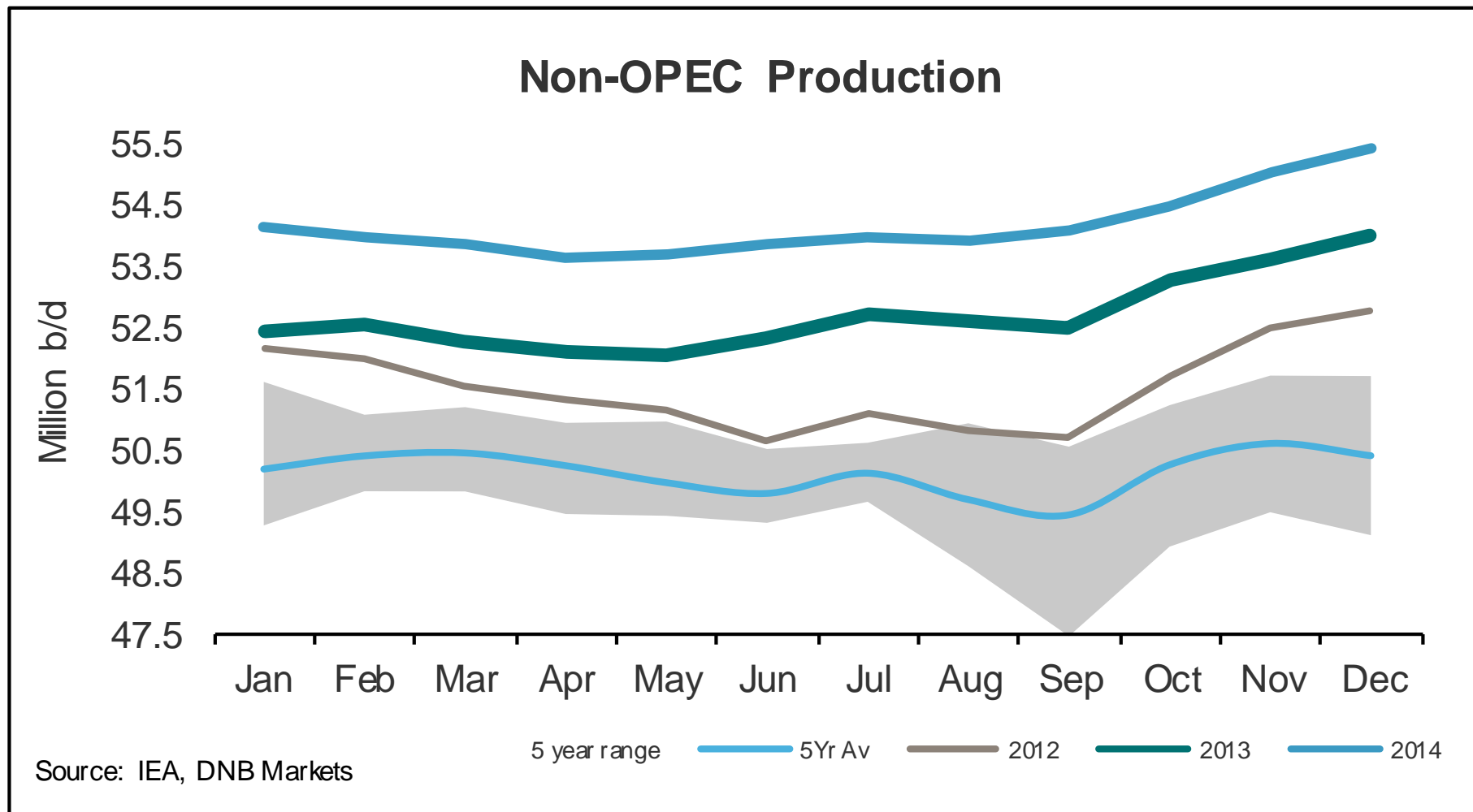


India – Year-on-Year Oil Demand & Exports By Key Product



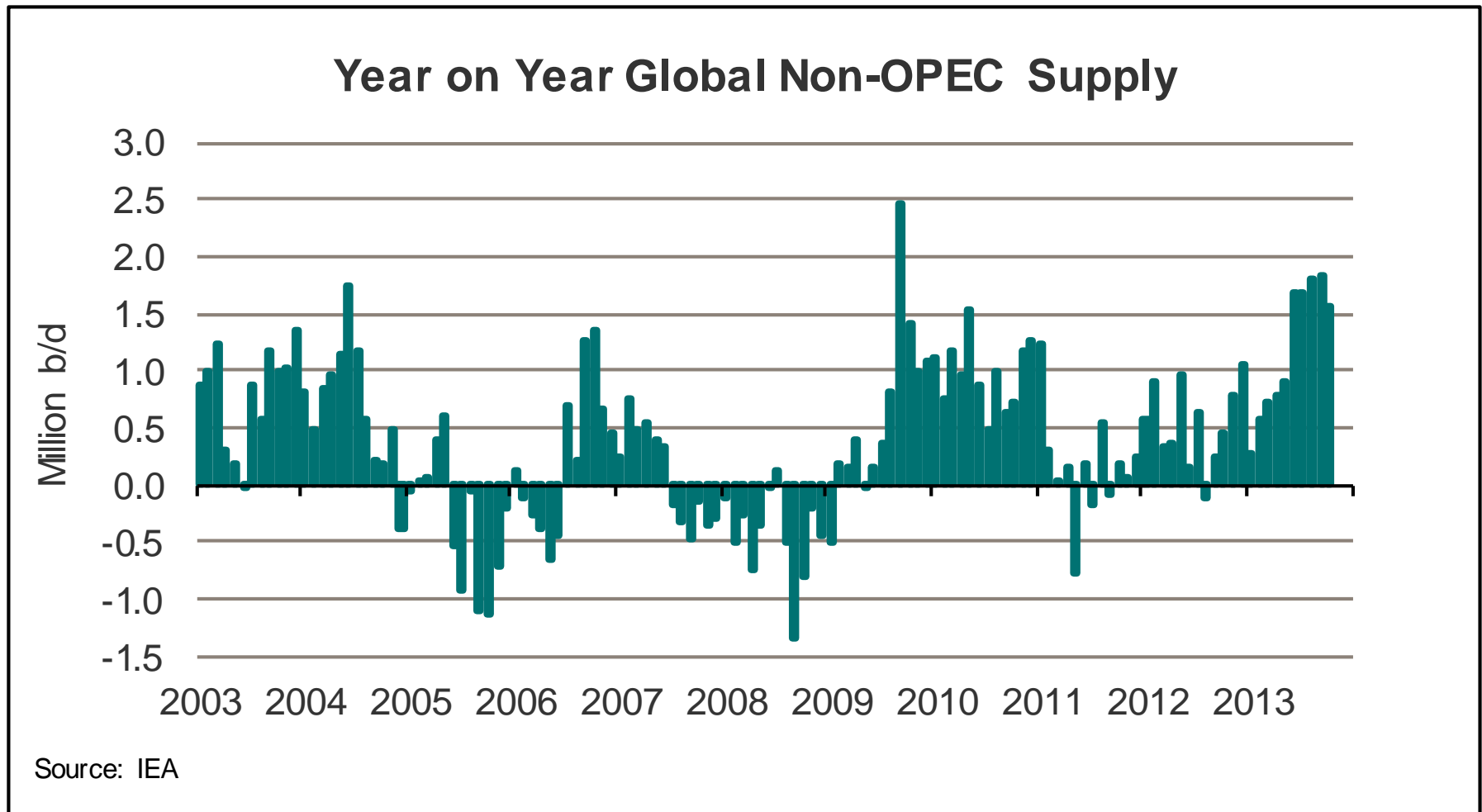
Supply

Non-OPEC Supply

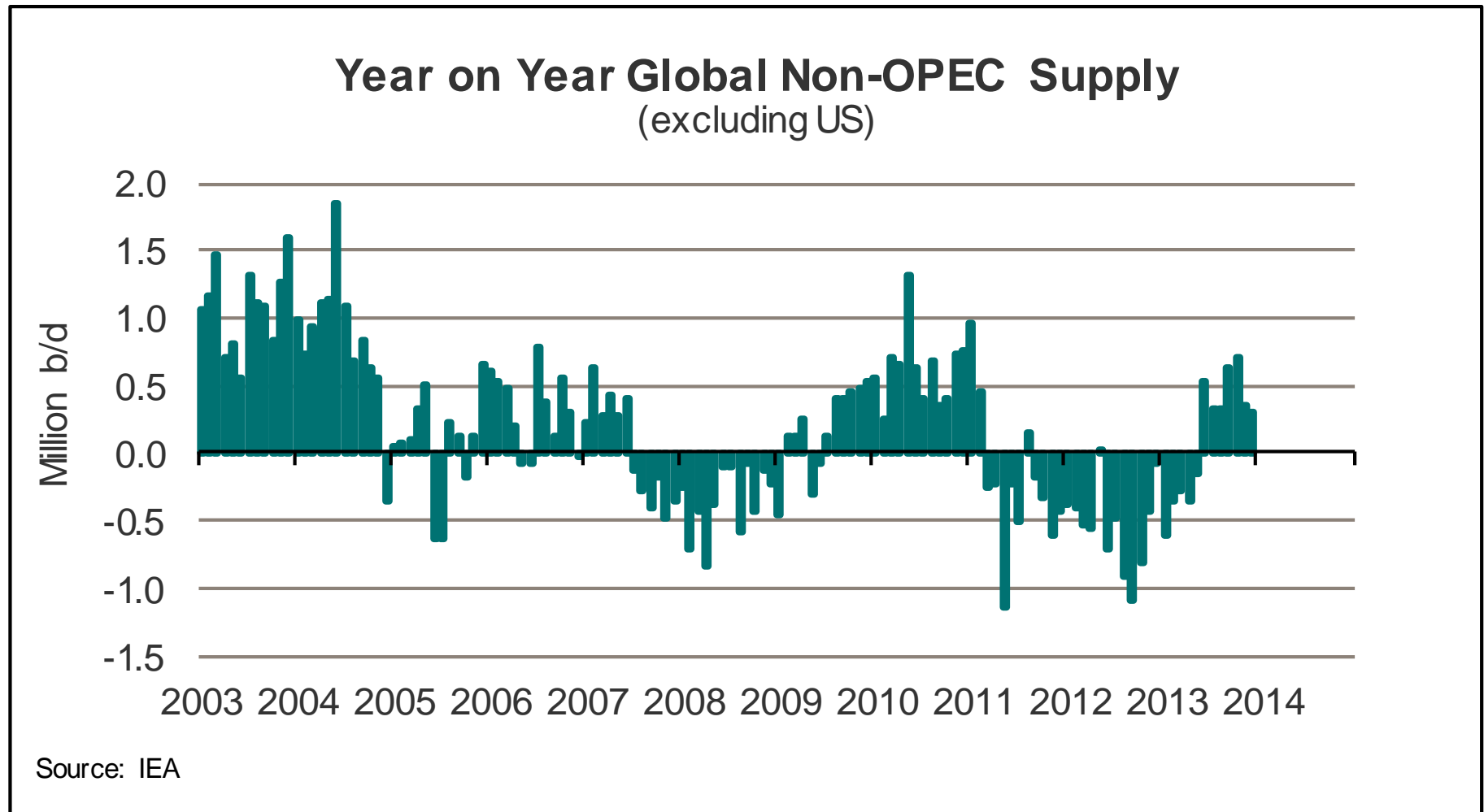


Very Strong Growth In Supply Outside Of OPEC

- Growth now solidly above 1 million b/d and OPEC NGLs and Biofuels are not included

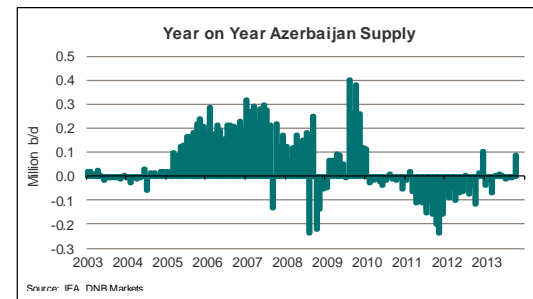
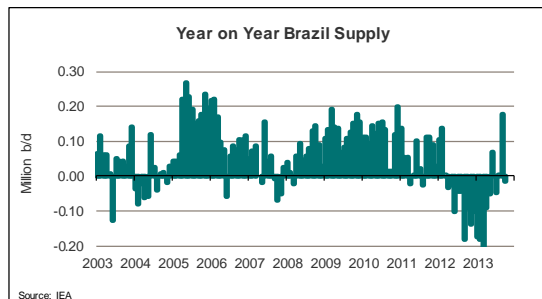
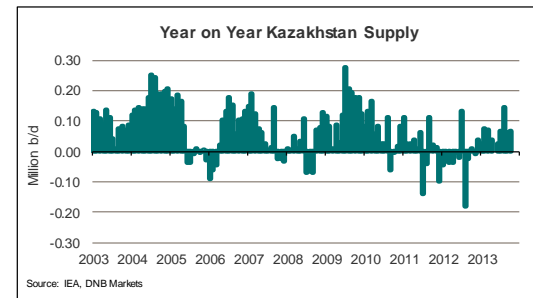
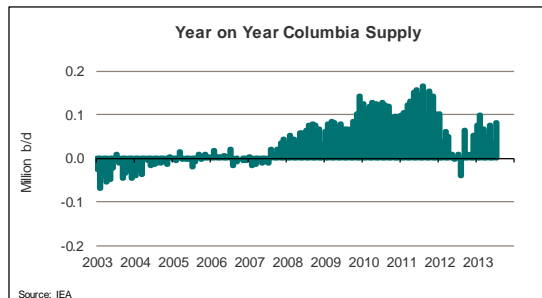
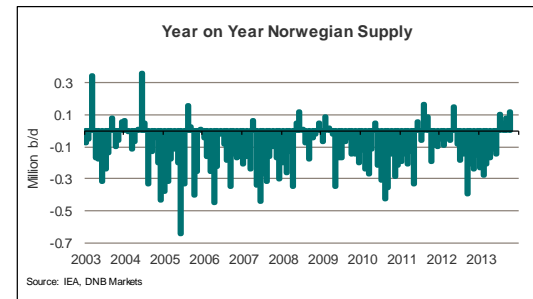
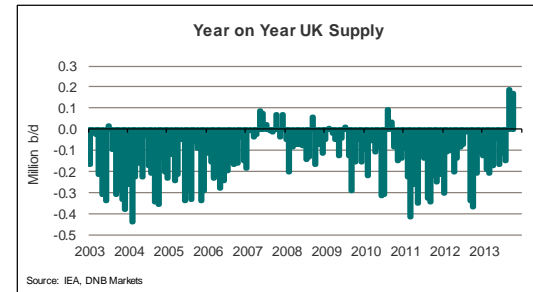
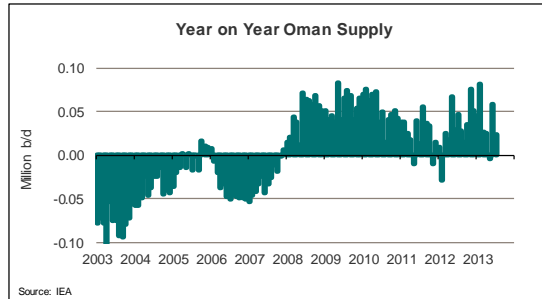


Growth In Supply Now Also Outside The USA



Not Only Growth In North America Now

- We also see better numbers from Oman, Russia, Columbia, Brazil, Norway, UK, Kazakhstan, Azerbaijan, China

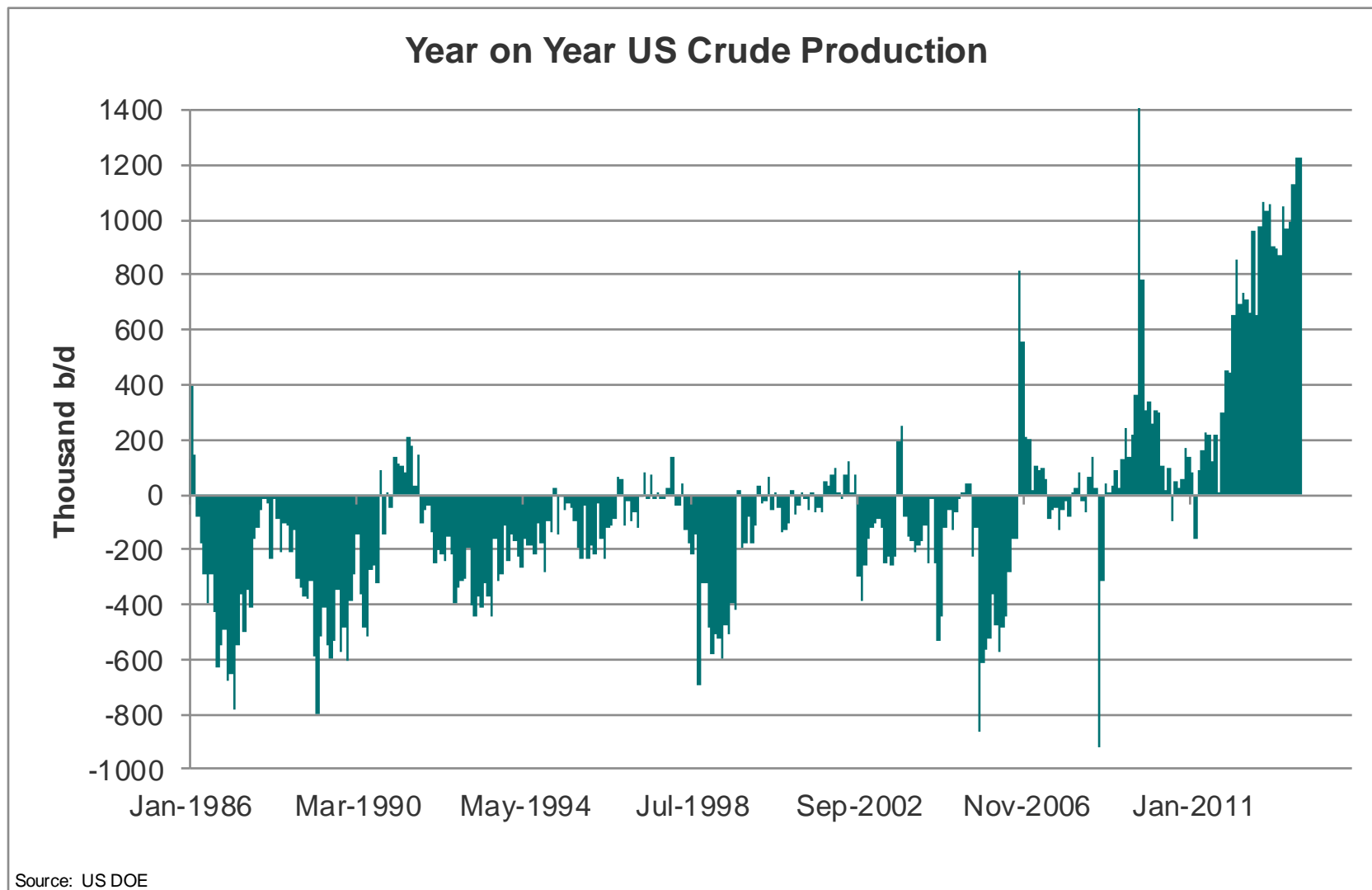


Selected Non-OPEC Supply Historicals & Assumptions

DNB Year on Year Non-OPEC Output	Q1-2010	Q2-2010	Q3-2010	Q4-2010	Q1-2011	Q2-2011	Q3-2011	Q4-2011	Q1-2012	Q2-2012	Q3-2012	Q4-2012	Q1-2013	Q2-2013	Q3-2013	Q4-2013	Q1-2014	Q2-2014	Q3-2014	Q4-2014
Canada	-44	+195	+119	+241	+260	-12	+276	+249	+279	+357	+60	+204	+256	+110	+372	+317	+311	+342	+320	+330
Mexico	-50	-4	+5	-30	-23	-5	-34	-7	-51	-31	+11	-21	-6	-57	-46	-4	-23	-23	-14	-21
Norway	-210	-96	-366	-218	-181	-138	+65	-128	-64	+1	-244	-199	-242	-143	+76	+15	-26	-15	-27	-76
United Kingdom	-124	-171	-61	-125	-244	-240	-269	-228	-170	-143	-144	-230	-174	-128	-26	+24	-17	-19	-7	-28
United States	+515	+256	+222	+422	+144	+384	+264	+612	+1,038	+899	+1,088	+1,199	+927	+1,113	+1,334	+876	+1,051	+1,000	+809	+780
Azerbaijan	+23	-25	-8	-24	-22	-109	-140	-200	-65	-78	-37	+1	-41	+6	-9	+33	+4	+8	+5	+17
Kazakhstan	+126	+55	+25	+32	+53	+35	-24	-23	-38	-21	-25	+11	+55	+21	+89	+99	+109	+127	+121	+116
Russia	+343	+275	+186	+184	+142	+138	+147	+138	+167	+108	+112	+138	+107	+165	+148	+121	+109	+99	+126	+101
Ghana	+0	+0	+0	+3	+50	+78	+82	+70	+20	-7	-7	+11	+34	+36	-4	+23	+21	+22	+29	+11
South Sudan	+0	+0	+0	+0	+0	+0	+347	+337	+124	+0	-347	-337	-124	+52	+152	+207	+267	+269	+175	+120
Sudan	+23	-23	-19	-22	-10	-4	-362	-354	-359	-397	-35	-13	+13	+54	+49	+17	+13	+14	+14	+14
Malaysia	+16	+12	-13	-5	-50	-112	-56	-35	+9	+31	-2	+35	-12	+12	+4	-8	-3	+2	+2	-0
China	+221	+224	+276	+371	+235	+124	-72	-191	-21	-72	+123	+265	+24	+149	-122	-30	+49	+20	+68	+34
Brazil	+104	+140	+100	+110	+81	+28	+35	+78	+82	-54	-91	-111	-192	-25	+44	+27	+76	+41	+67	+76
Colombia	+119	+125	+123	+95	+108	+146	+135	+132	+66	+18	+11	+23	+80	+53	+79	+53	+66	+76	+63	+76
Oman	+69	+60	+35	+46	+33	+16	+35	+13	+2	+38	+30	+54	+51	+26	+22	+14	+17	+19	+21	+19
Syria	-16	-16	-16	-16	+0	-2	-30	-98	-187	-218	-190	-132	-123	-102	-112	-45	+8	-1	-0	-2
Yemen	-18	-16	-14	-13	+4	-99	-48	-105	-159	-11	-35	+5	+34	-66	-71	-20	-12	+10	+2	-4
Global Biofuels	+247	+334	+361	+40	+97	-41	+32	+30	+47	-67	-44	+41	-68	+161	+216	+188	+204	+184	+201	+184
Non-OPEC (including processing gains)	+1,258	+1,460	+1,058	+1,090	+629	-195	+114	+191	+643	+420	+215	+800	+441	+1,279	+1,976	+1,664	+2,027	+1,996	+1,804	+1,611

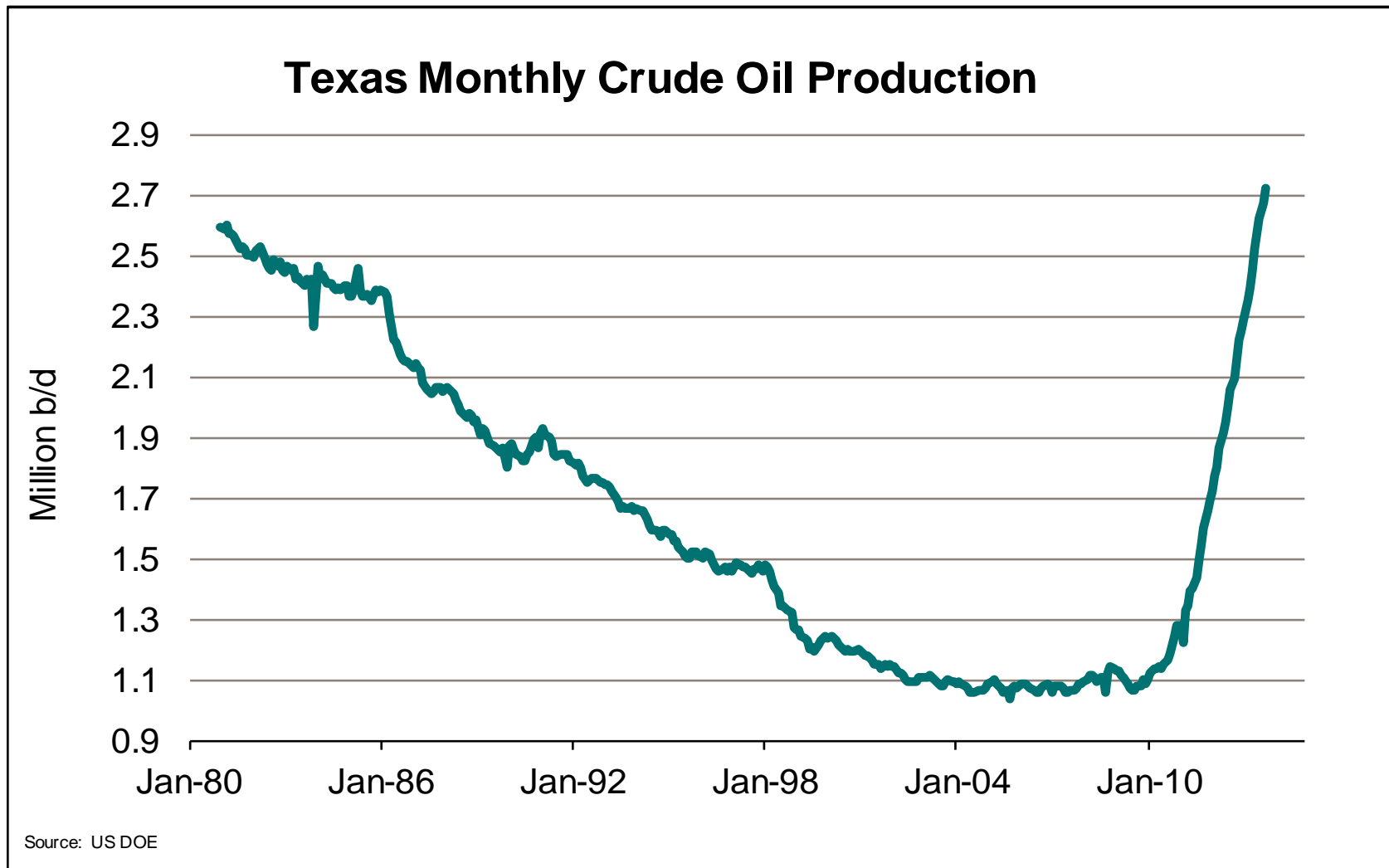
Liquids Supply	Change 2007	Change 2008	Change 2009	Change 2010	Change 2011	Change 2012	2013 YTD Change	Change 2013	Change 2014
Canada	101	-73	-31	128	193	225	259	264	326
Mexico	-210	-315	-186	-20	-17	-23	-30	-29	-20
Norway	-221	-86	-107	-222	-96	-126	-81	-73	-36
United Kingdom	0	-96	-88	-120	-246	-172	-81	-76	-18
United States	40	-83	455	354	351	1,056	1,100	1,063	910
Azerbaijan	212	44	144	-9	-118	-45	-5	-3	8
Kazakhstan	58	24	133	60	11	-18	56	66	118
Russia	236	-73	196	247	141	131	143	135	109
Ghana	0	0	0	1	70	4	23	22	21
South Sudan	0	0	0	0	171	-140	43	72	208
Sudan	132	-15	14	-10	-183	-201	37	33	14
Malaysia	4	-3	-39	3	-63	18	0	-1	0
China	33	72	-7	273	24	74	0	5	43
Brazil	29	63	131	113	56	-44	-54	-36	65
Colombia	5	57	82	116	130	29	65	66	70
Oman	-27	47	55	53	24	31	31	28	19
Syria	-17	2	-5	-16	-32	-182	-112	-95	1
Yemen	-46	-26	-9	-15	-62	-50	-38	-31	-1
Sum:	328	-462	739	934	354	569	1,411	1,410	1,836

Year on Year US Crude Production



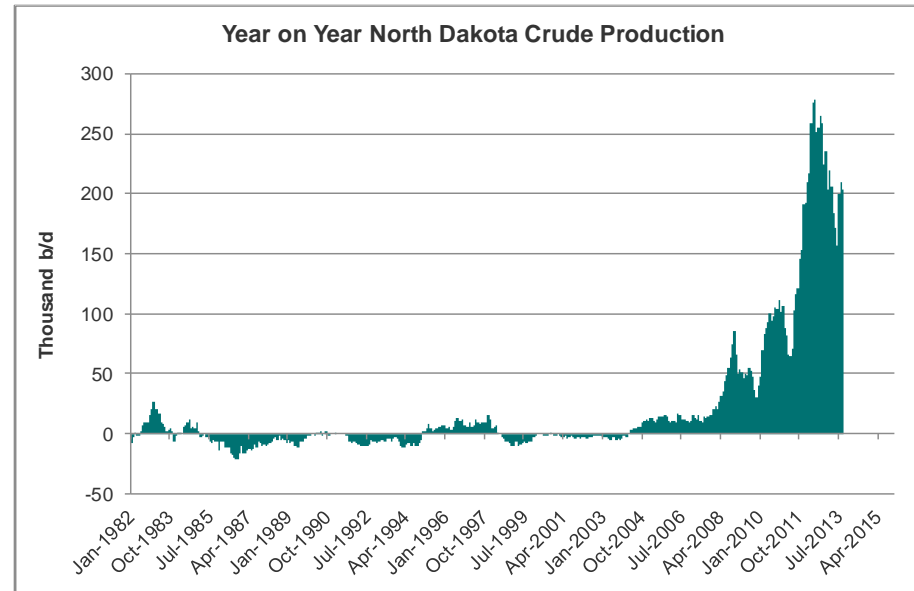
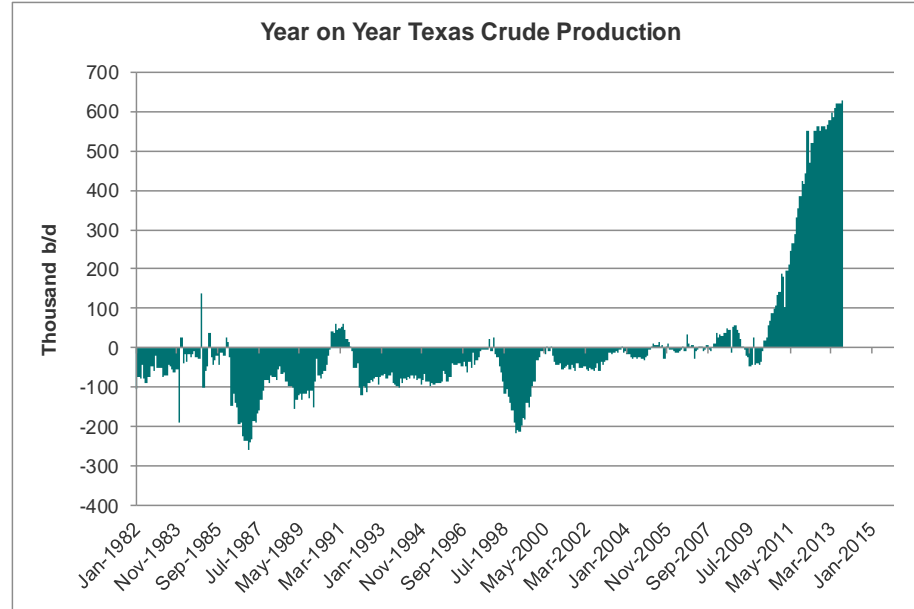
The Best Picture Of The US Shale Revolution

- After having declined for about 40 years Texas oil production is now “exploding” to the upside



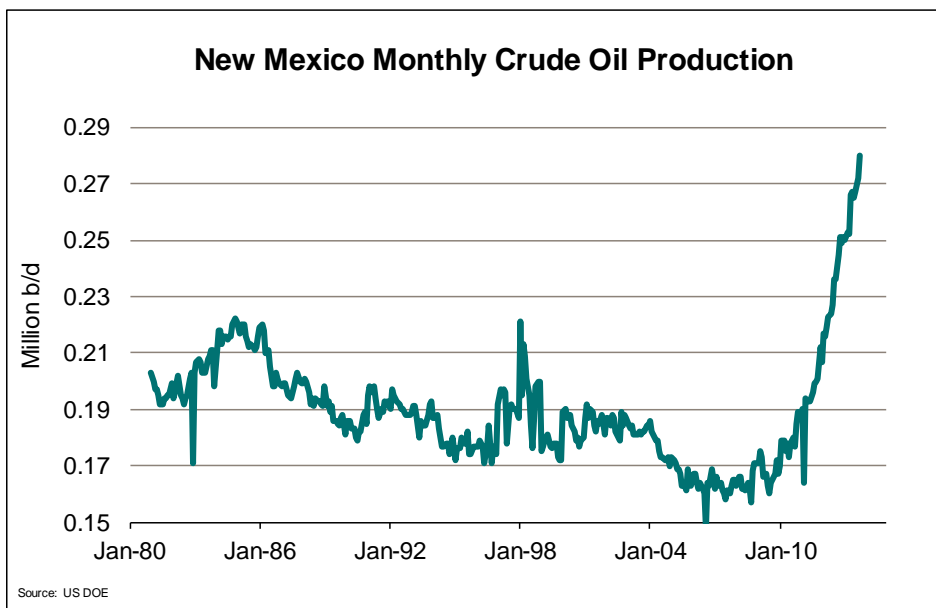
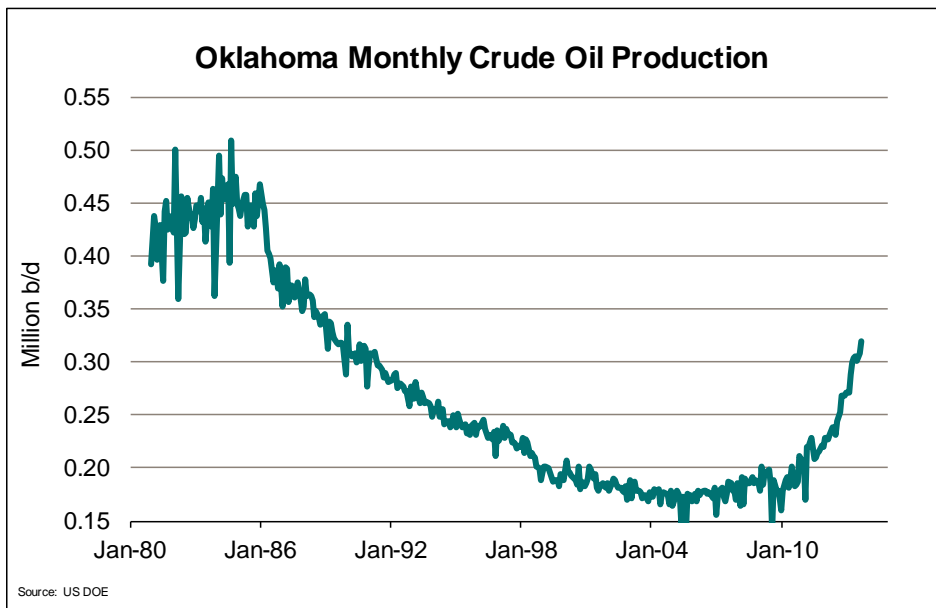
Texas & North Dakota Is Where It Has Mainly Happened So Far

- Growth in North Dakota started in 2008 while Texas was two years later in the cycle



Crude Production Now On The Rise In Other States As Well

- Growth is starting to become visible also in Oklahoma and New Mexico



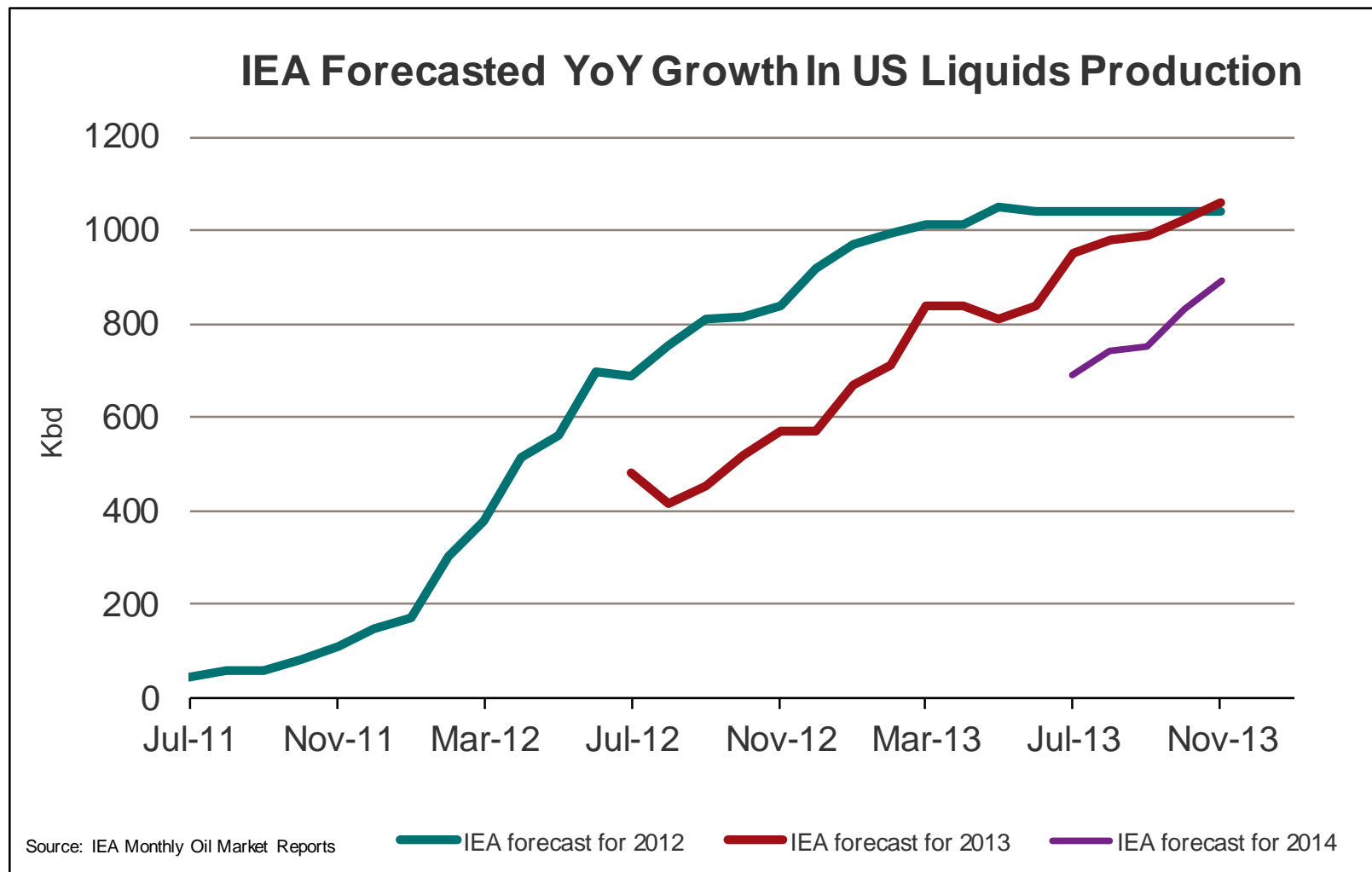
IEA's Assessment Of Shale From WEO 2008

- Shale oil/oil shale not expected to make a significant contribution to world supply before 2030

- What did the IEA say about shale oil and oil shales in WEO 2008 under the discussion of unconventional resources?
- Page 217: *Oil shales are rocks that contain a large portion of solid organic compounds (kerogen) and are found at shallow depths, from surface outcrops to 1000 metres below ground. The United States has the largest resources (note the IEA is here talking about kerogen), followed by Brazil, Jordan, Morocco and Russia. **Oil shales are not projected to make a significant contribution to world oil supply before 2030...** Production costs currently range from 50-120 \$/b. (The above is all about Kerogen and not shale oil/light tight oil)*
- Then a little bit about shale oil/light tight oil: *Deeper resources require the use of techniques to enhance the productivity of the formation (such as hydraulic fracturing). **The main US resource is the Green River Formation (Wyoming, Colorado and Utah)** with four basins. Early experiments in the 1980's were halted due to the unfavorable economics and poor operational performance.*
- Note: Texas and North Dakota was not discussed at all under the chapter "Non-conventional oil resources" starting at page 215. The key focus was on Extra-heavy oil and oil sands. Since 2008 we have now seen US crude output increase (mainly from shale crude) by 2.2 million b/d (one would think that should classify as significant...)

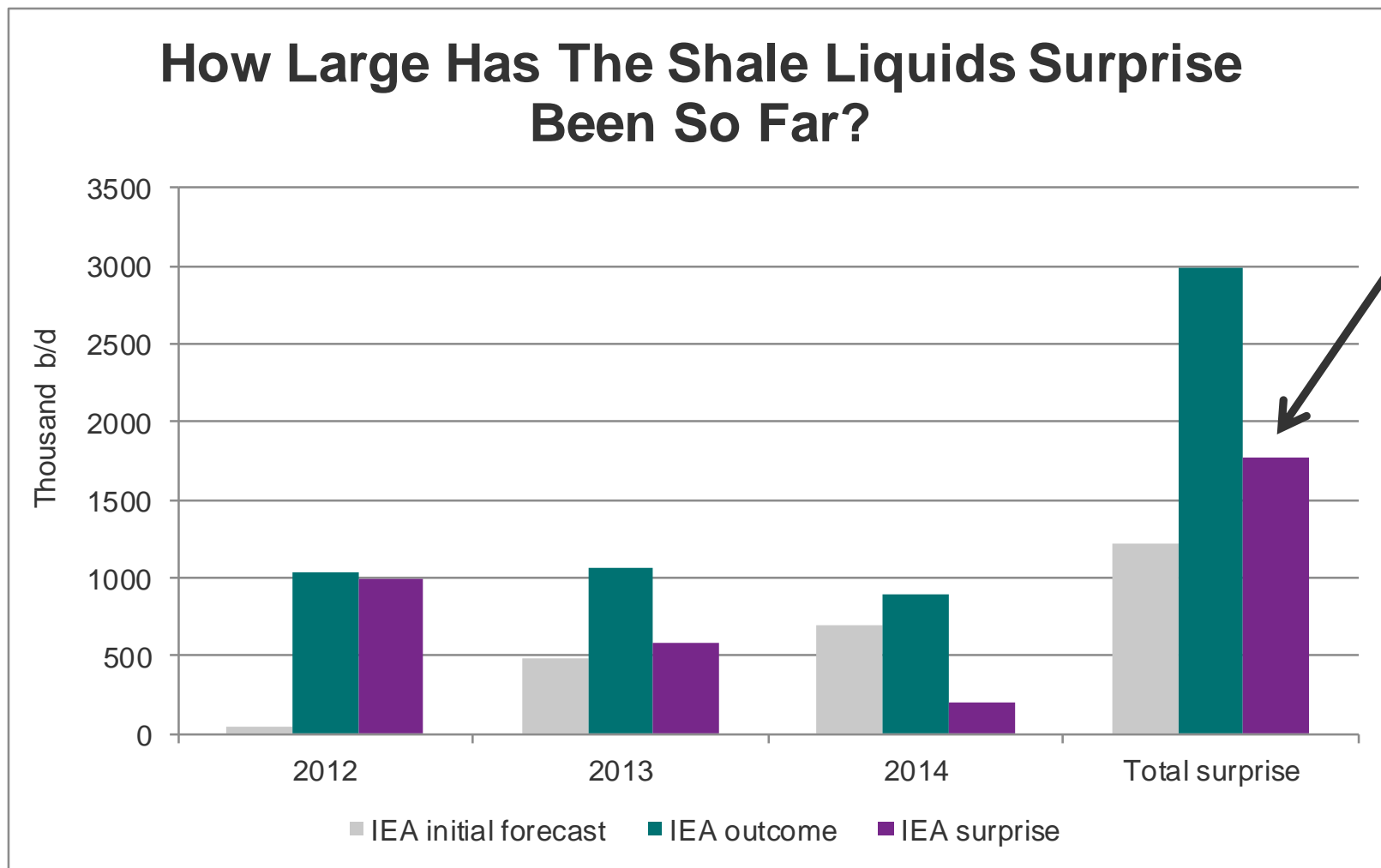
IEA's Forecasts For US Production Growth Were Far Too Low

- IEA's first take on 2012 US production growth was at 45 kbd - now 2012 growth is estimated to have been 1.04 million b/d



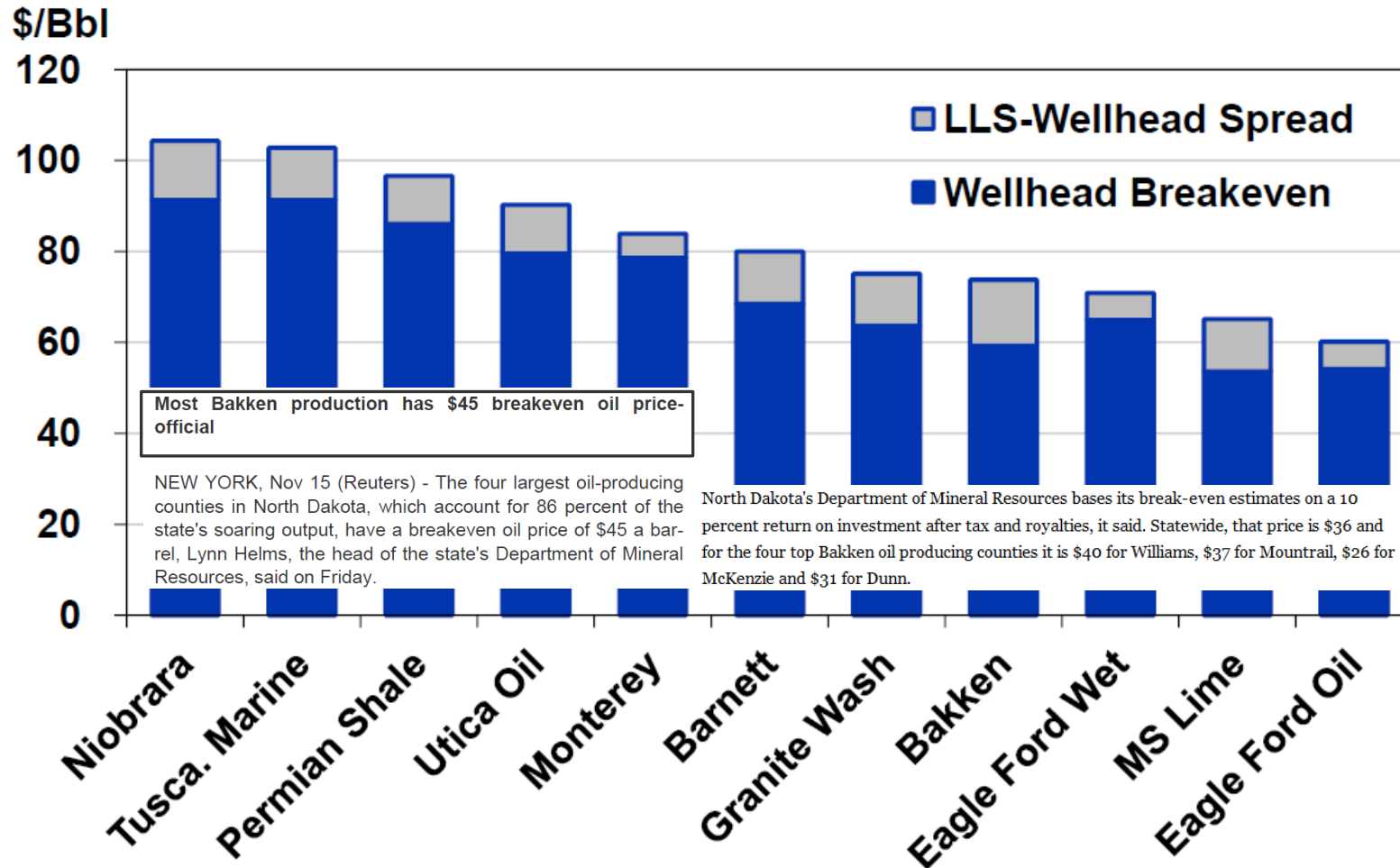
Upside Surprise Of 1.8 Million b/d So Far Last Two Years

- Since the summer of 2011 the IEA has “received 1.8 million b/d” into their balances that was not on the table in 2011
- In other words; a new Norway has entered the market since 2011 and it came from “out of the blue”



The New Shale Resources Are Not Particularly Cheap

- Oil prices needs to stay in the 75-90 \$/b range or higher to make the broad shale industry economical according to PIRA Energy



Analysis: Bakken drillers undaunted by local oil prices under \$80

BY SABINA ZAWADZKI
 NEW YORK | Thu Nov 21, 2013 12:09am EST
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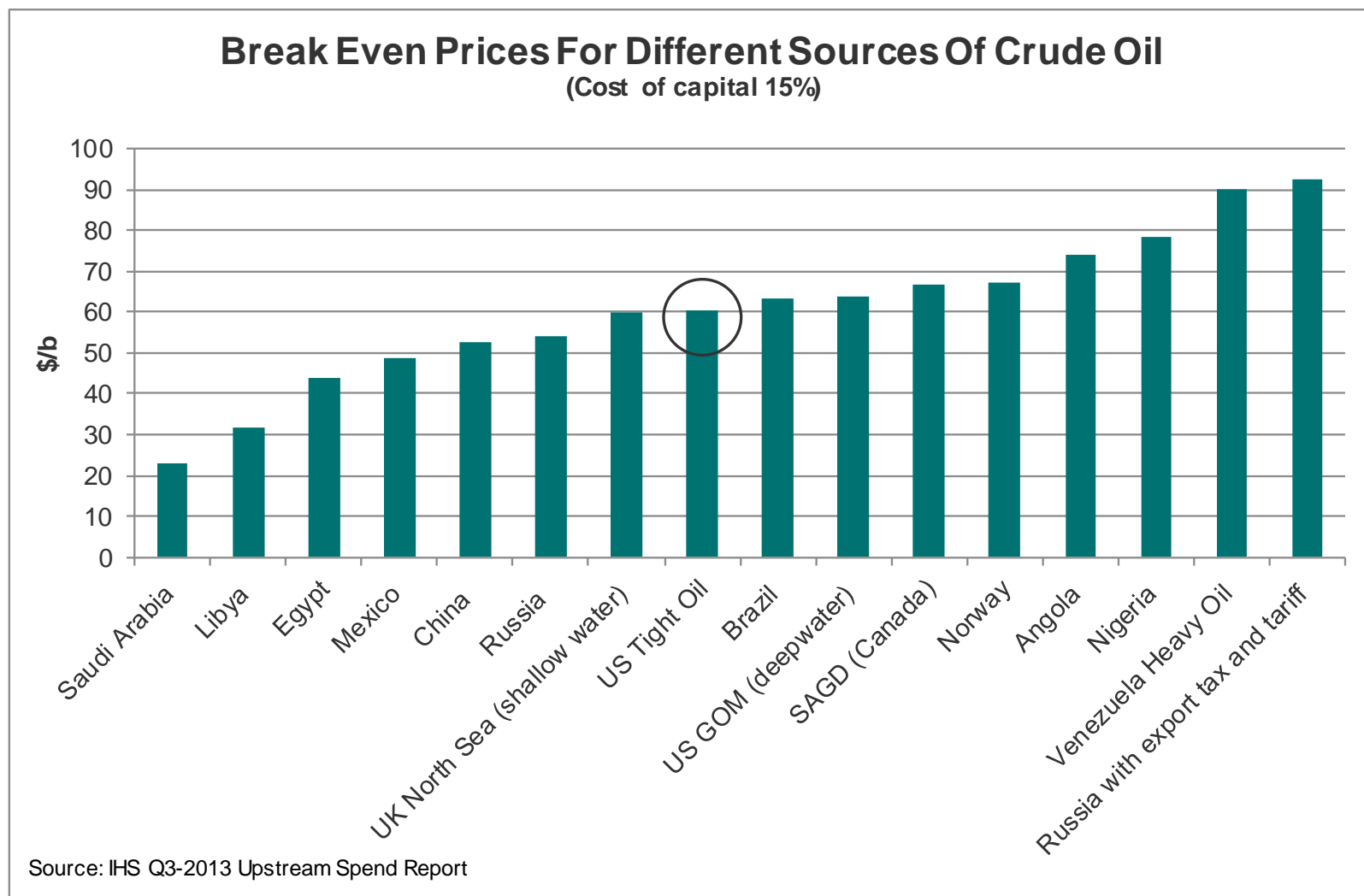
(Reuters) - North Dakota crude oil prices tumbled this month to below the \$80-a-barrel "sweet spot" that helps drillers attract capital from other shale areas, yet the Bakken boom shows no signs of slowing.

Wood Mackenzie has an overall Bakken break-even price of \$62 a barrel at current well costs, Garrett said. But for high-quality parts of the formation such as the Parshall and Sanish fields, that number goes down to the \$38-\$40 range.

MARKETS

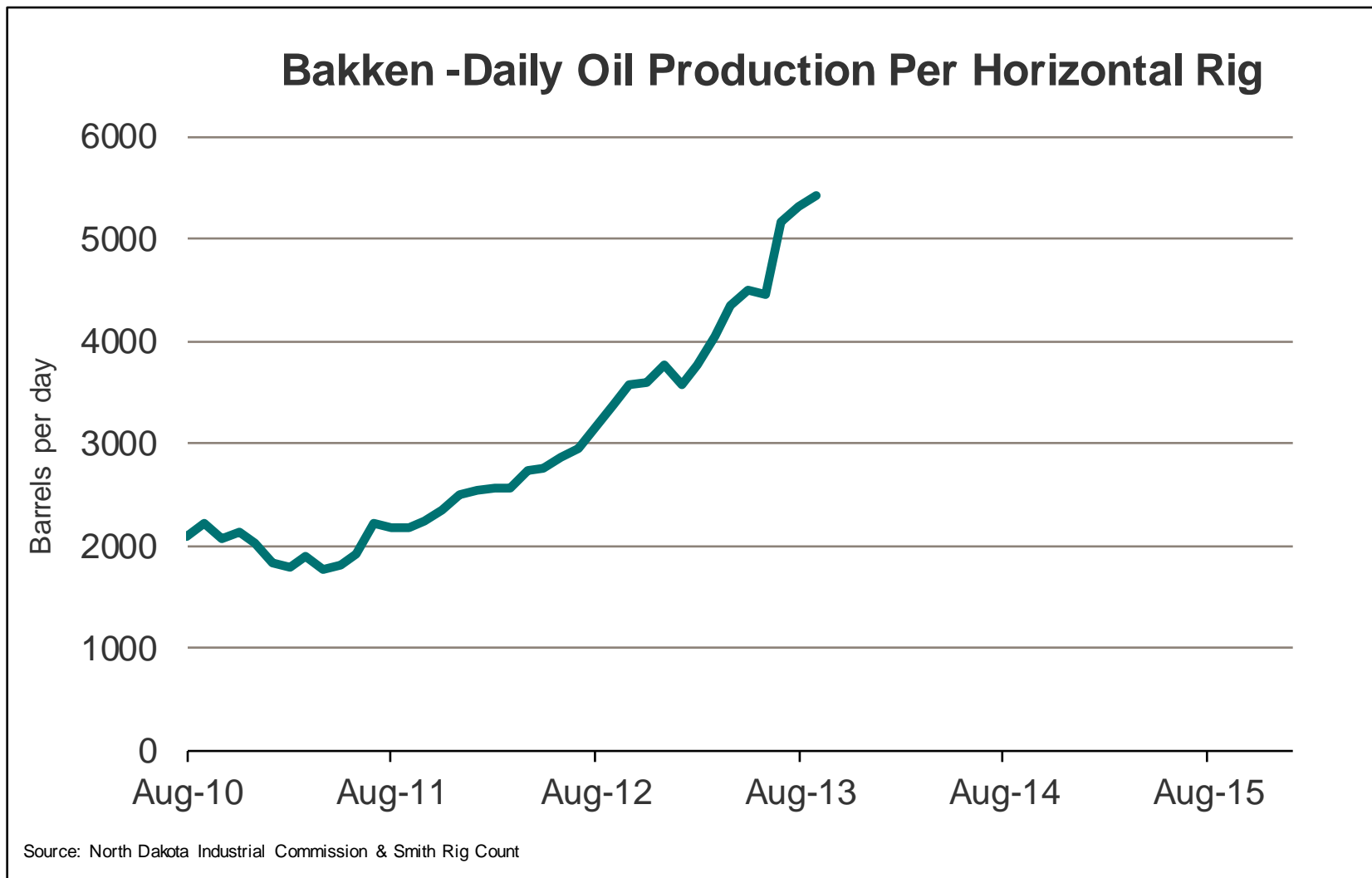
General World Break Even Prices By Source

- If the table below is correct then US tight oil is lower than earlier estimates we have seen



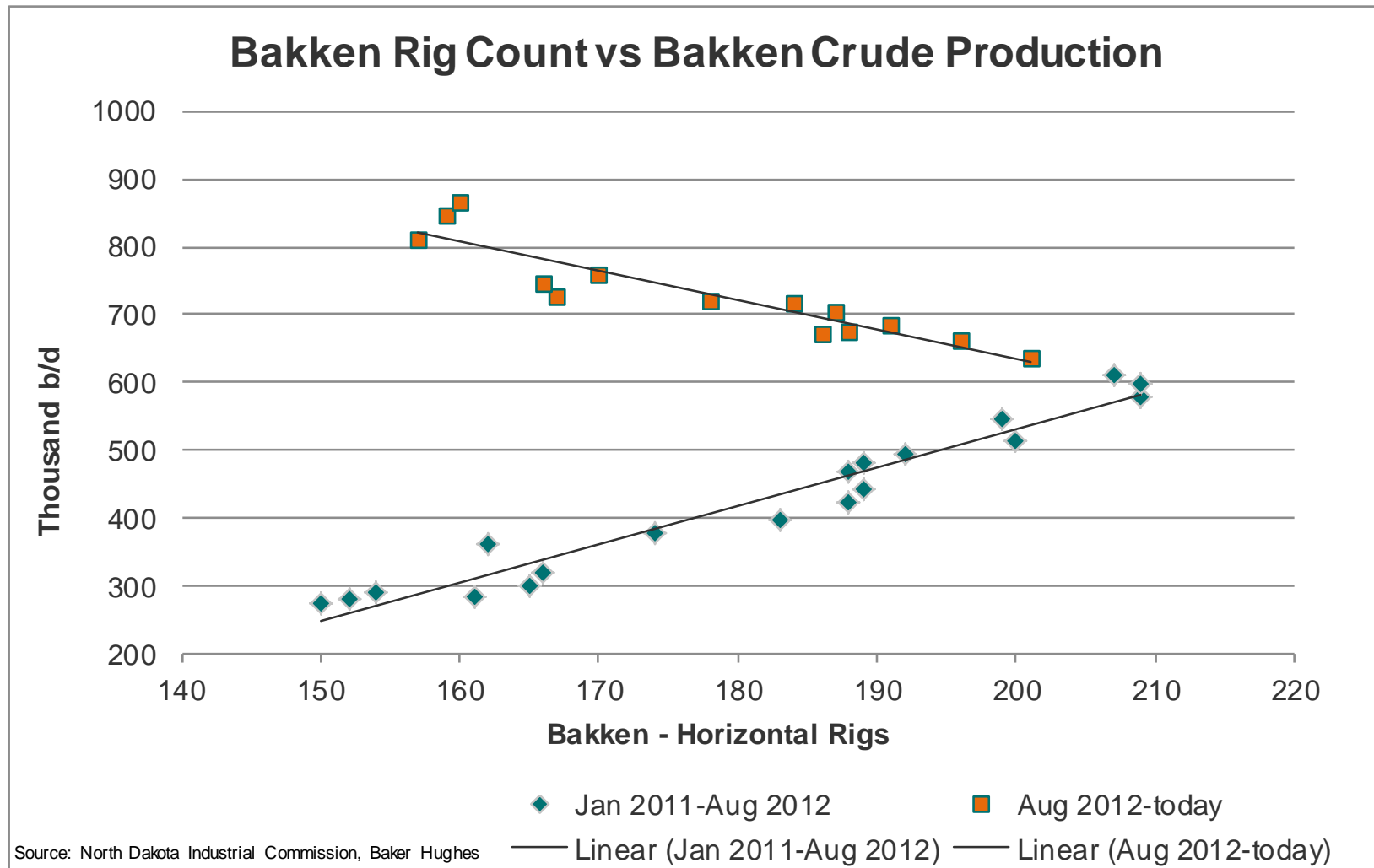
Learning Curve Still Ongoing In The Shale Plays

- Production **per rig** is exploding to the upside

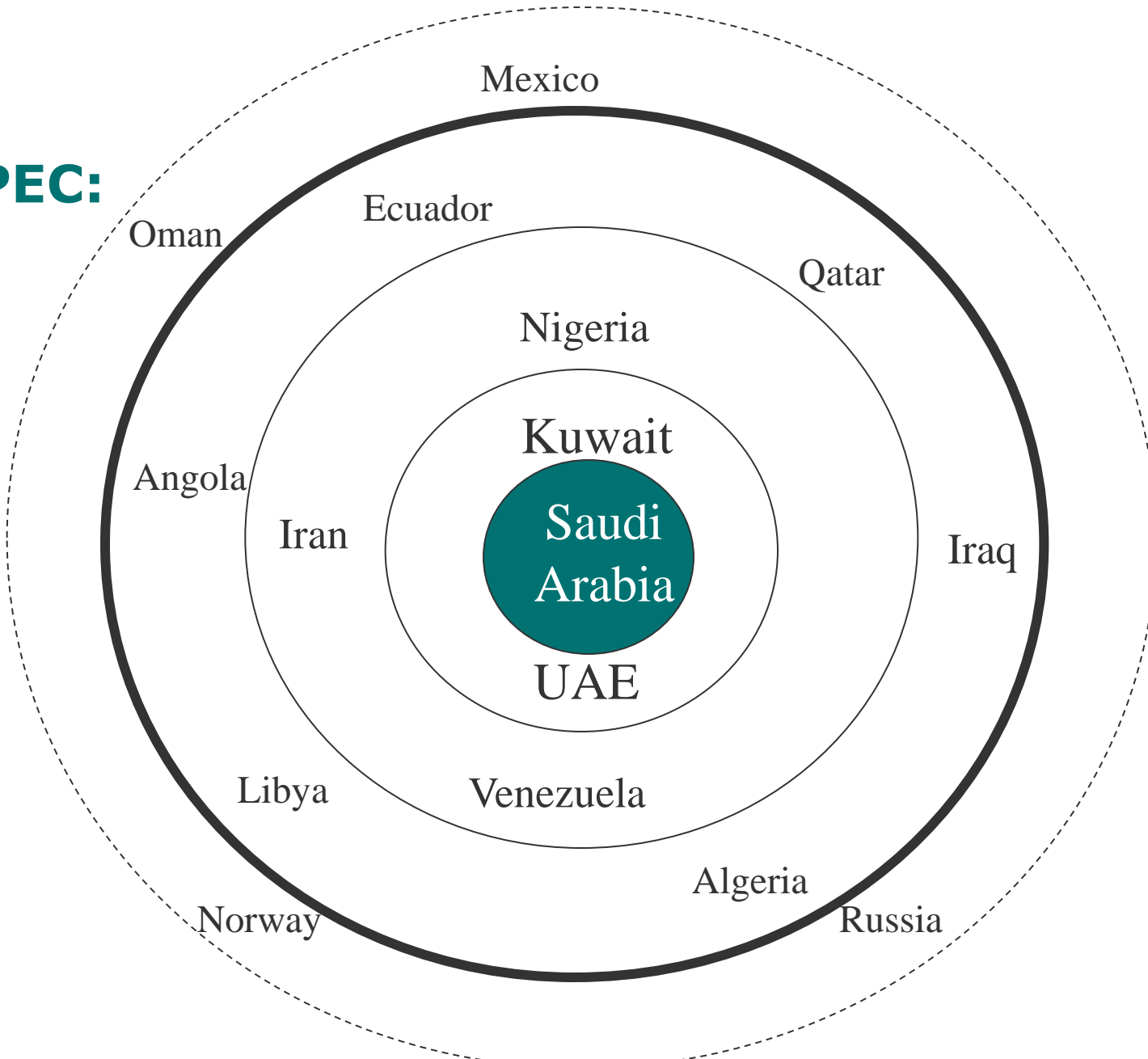


No Predictability For Oil Production In Counting Rigs Anymore

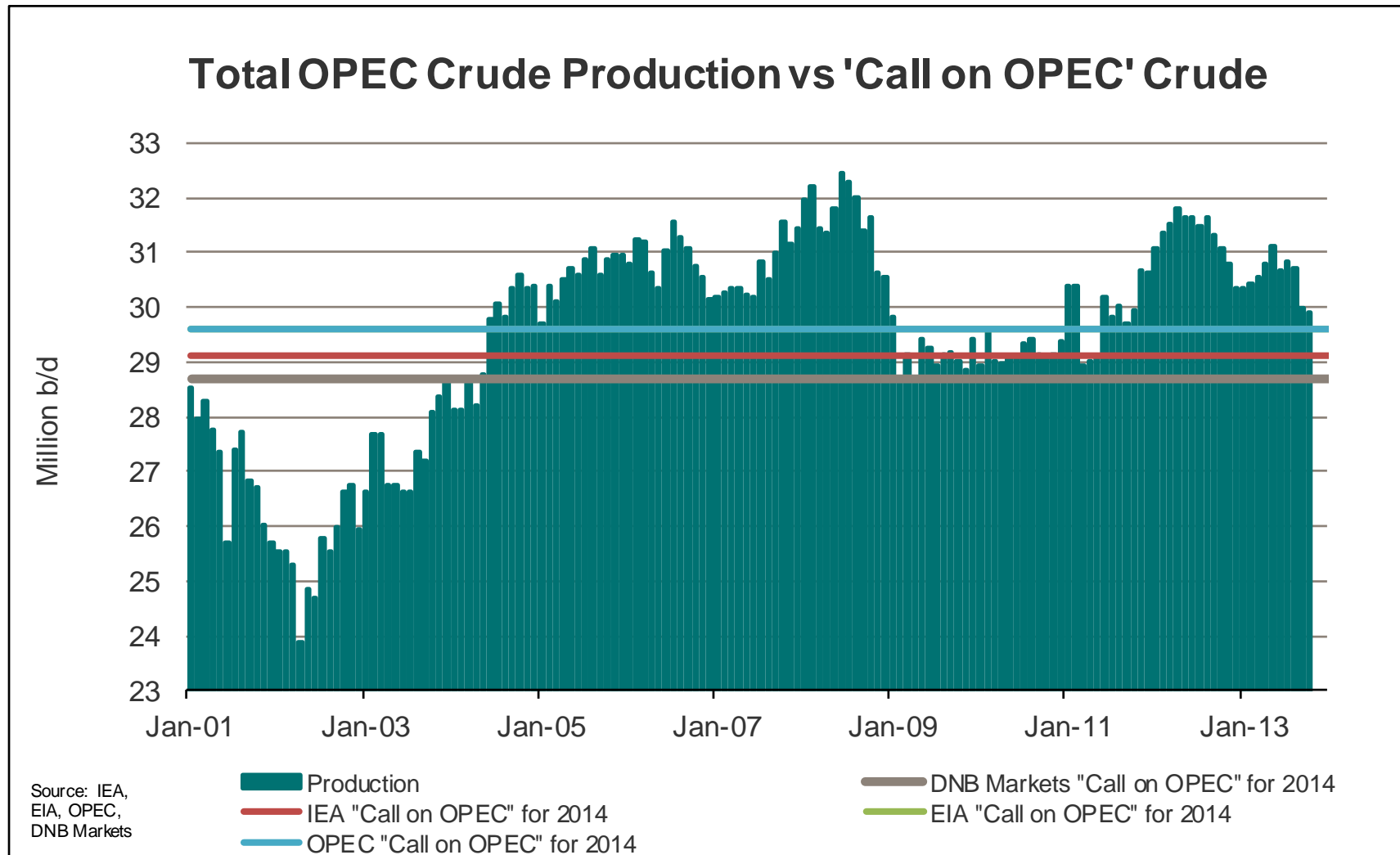
- The lower the rig count; the higher production is what we are currently seeing...



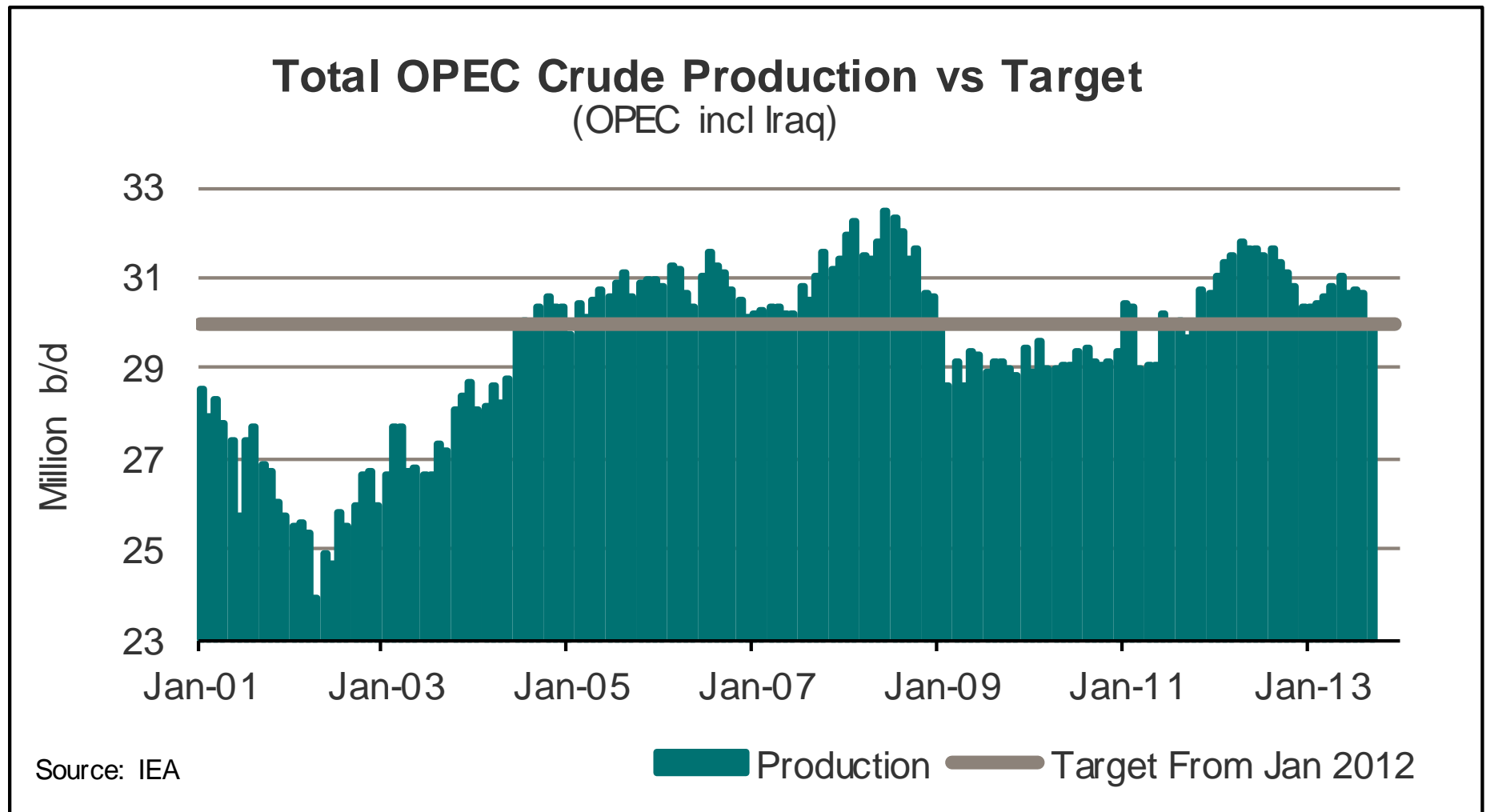
OPEC:



OPEC - Production vs "Call on OPEC" Crude



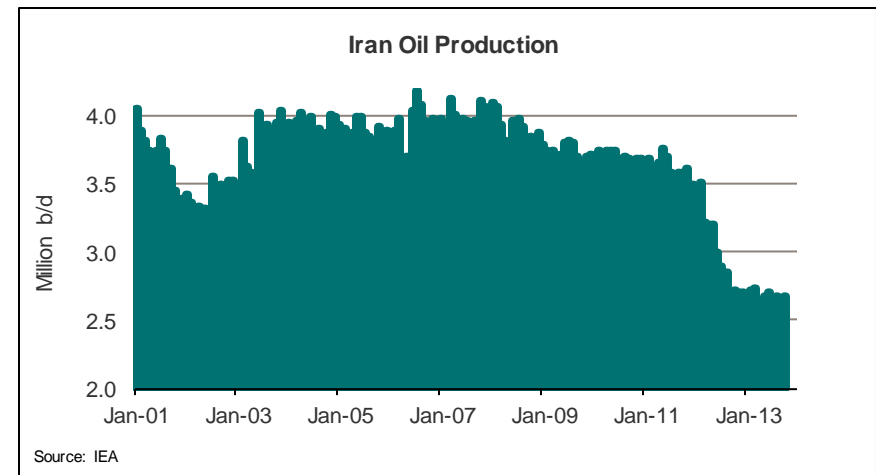
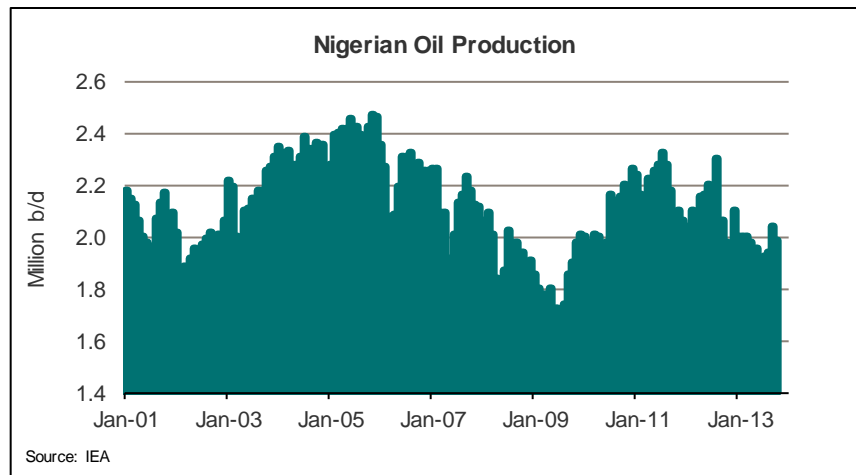
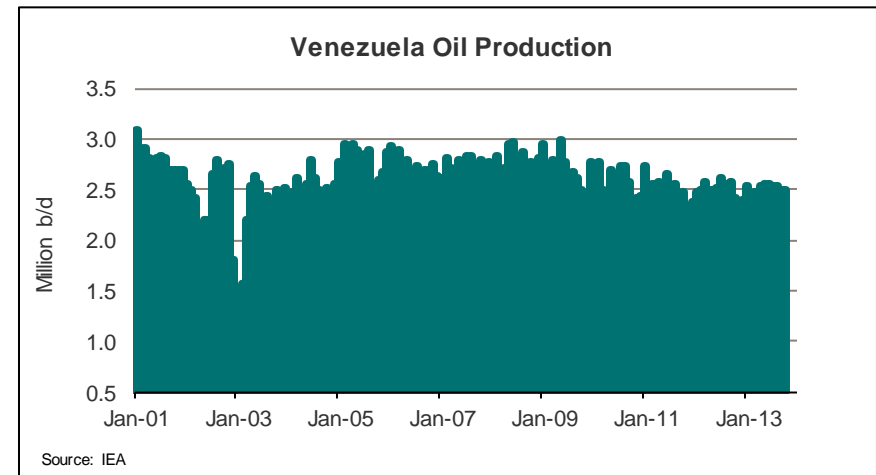
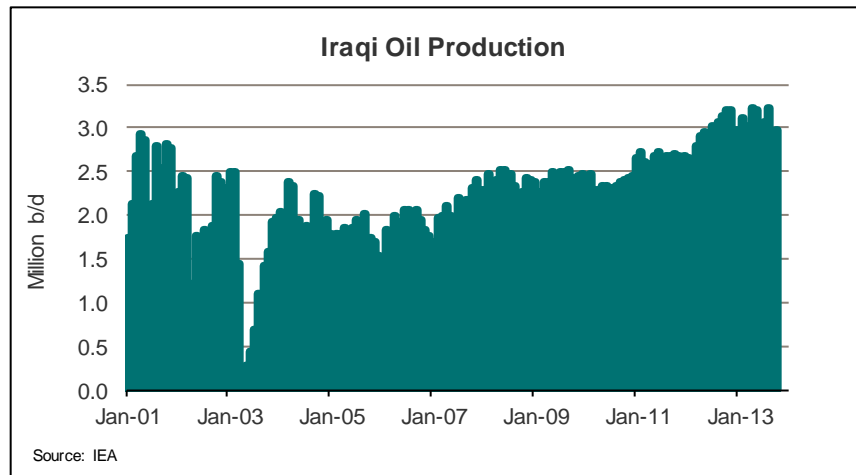
OPEC - Production & Target



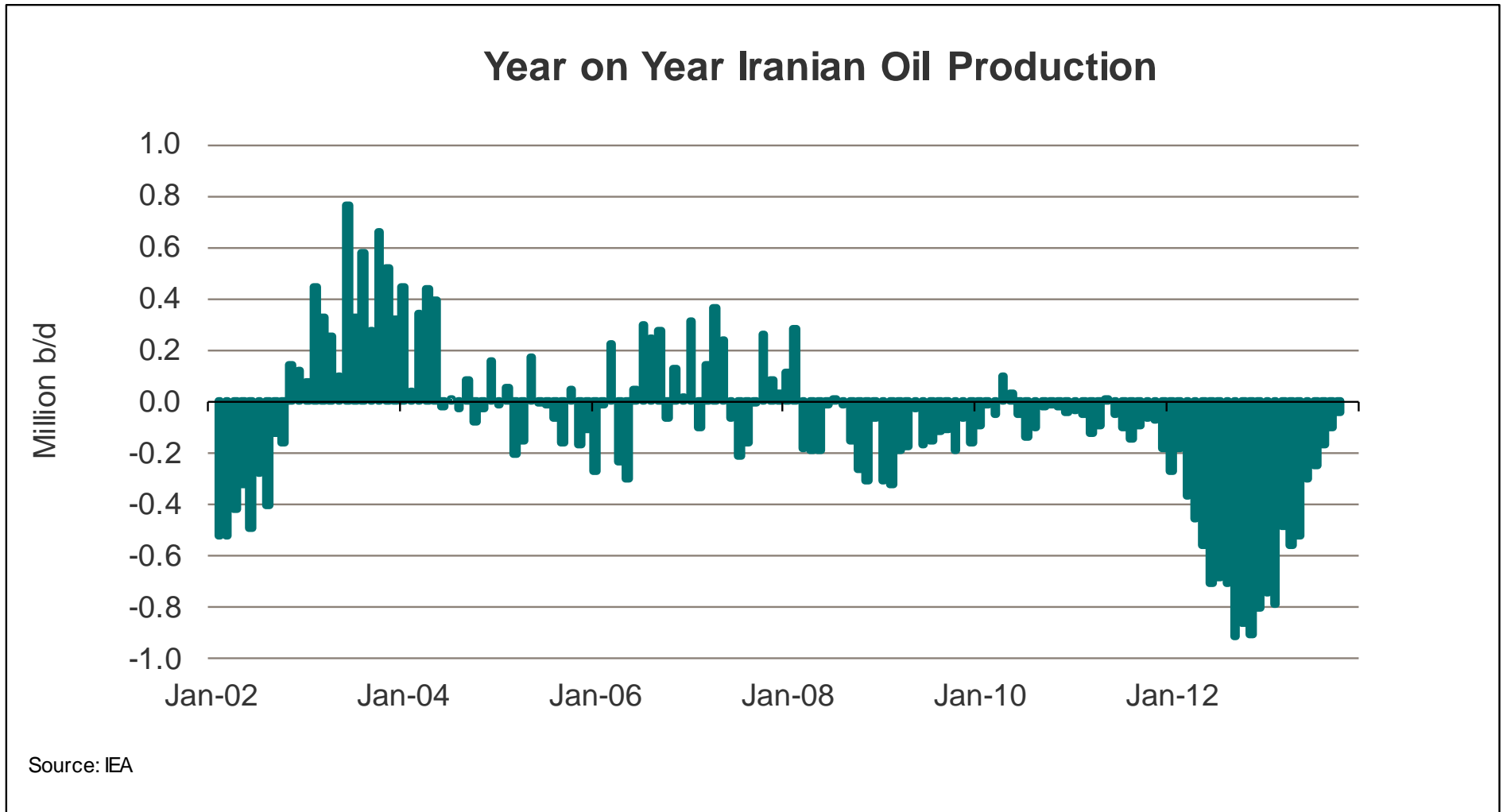
OPEC Compliance vs Production Targets

	Est. Jan	Increase	Current	Latest	Compliance
	2009	from Jan	Jan-2012	production	vs Jan 2012
OPEC Production Targets	Target	2009 Target	Target	according to IEA	prod. target
SAUDI ARABIA	8.01	0.81	8.82	9.75	0.93
KUWAIT	2.22	0.22	2.44	2.74	0.30
NEUTRAL ZONE					
IRAN	3.33	0.34	3.67	2.68	-0.99
IRAQ	2.40	0.24	2.64	2.97	0.33
QATAR	0.73	0.07	0.80	0.73	-0.08
U.A.E.	2.23	0.22	2.45	2.76	0.31
ALGERIA	1.20	0.12	1.32	1.12	-0.20
LIBYA	1.47	0.15	1.62	0.45	-1.17
ANGOLA	1.51	0.15	1.66	1.70	0.04
NIGERIA	1.70	0.17	1.88	1.99	0.11
VENEZUELA	2.01	0.20	2.21	2.49	0.28
INDONESIA					
ECUADOR	0.43	0.04	0.47	0.52	0.05
TOTAL	27.25	2.75	30.00	29.89	-0.11
		10.1 %			

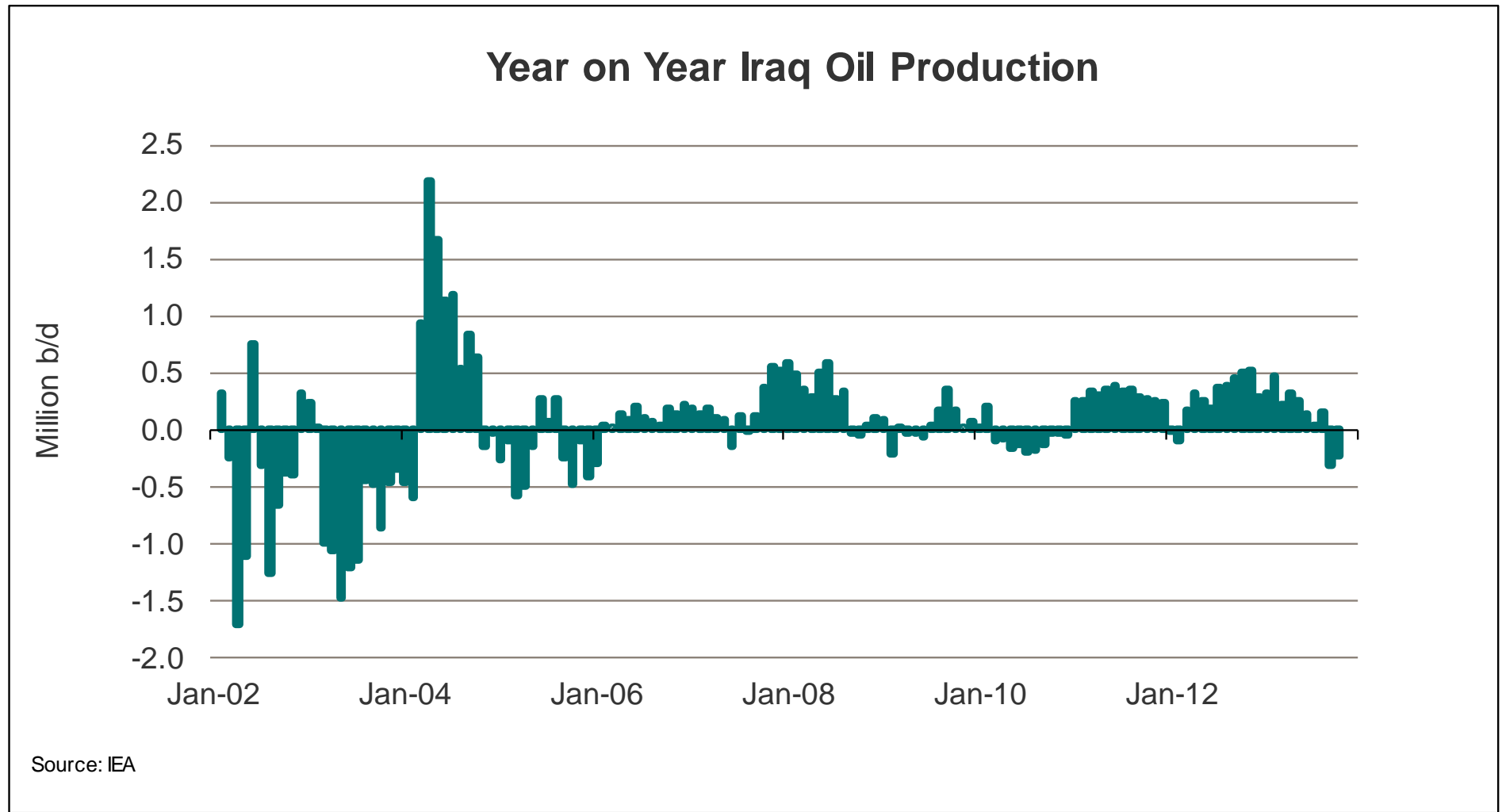
Production In Selected OPEC Members



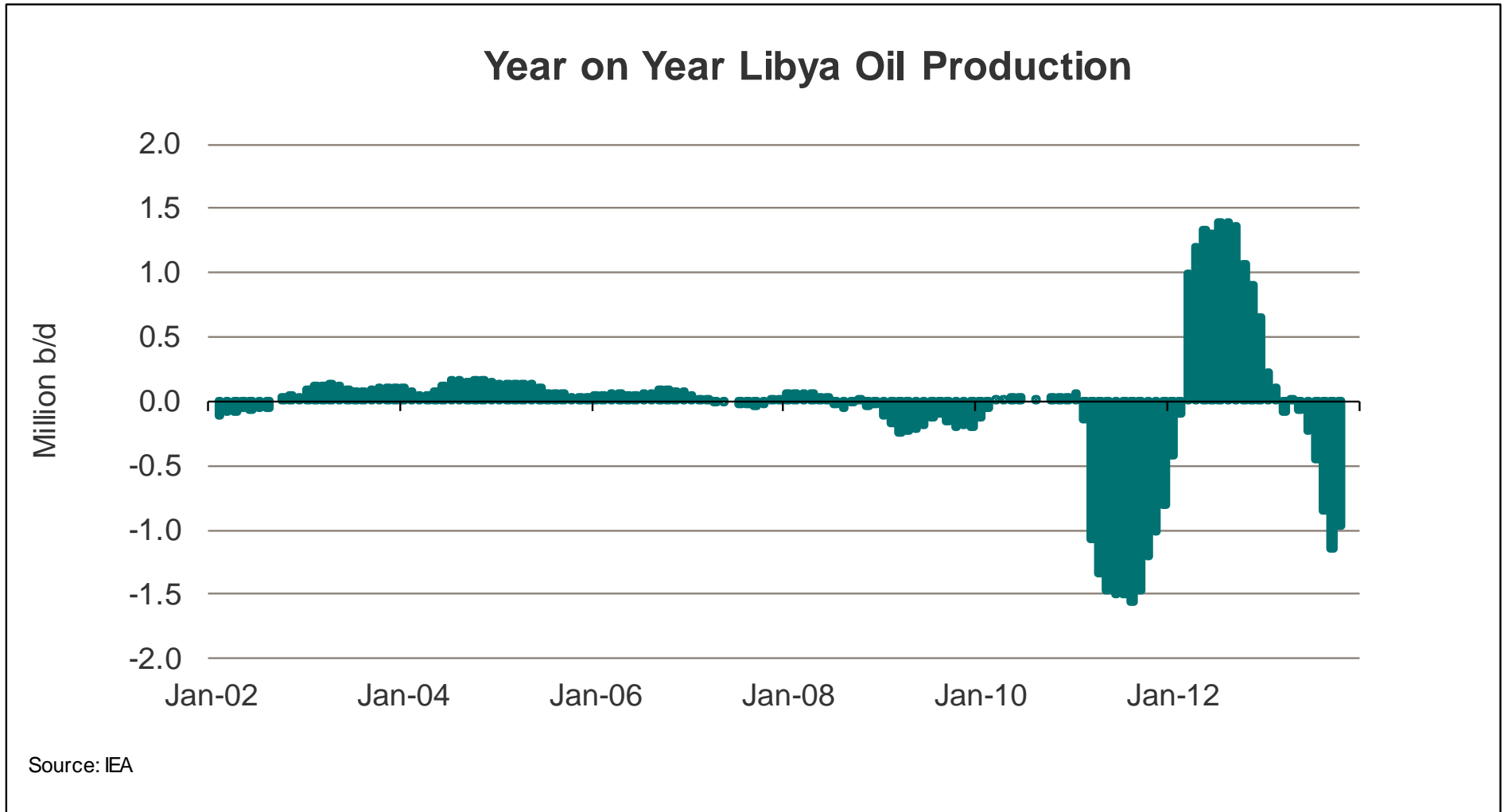
Year on Year Oil Production In Iran



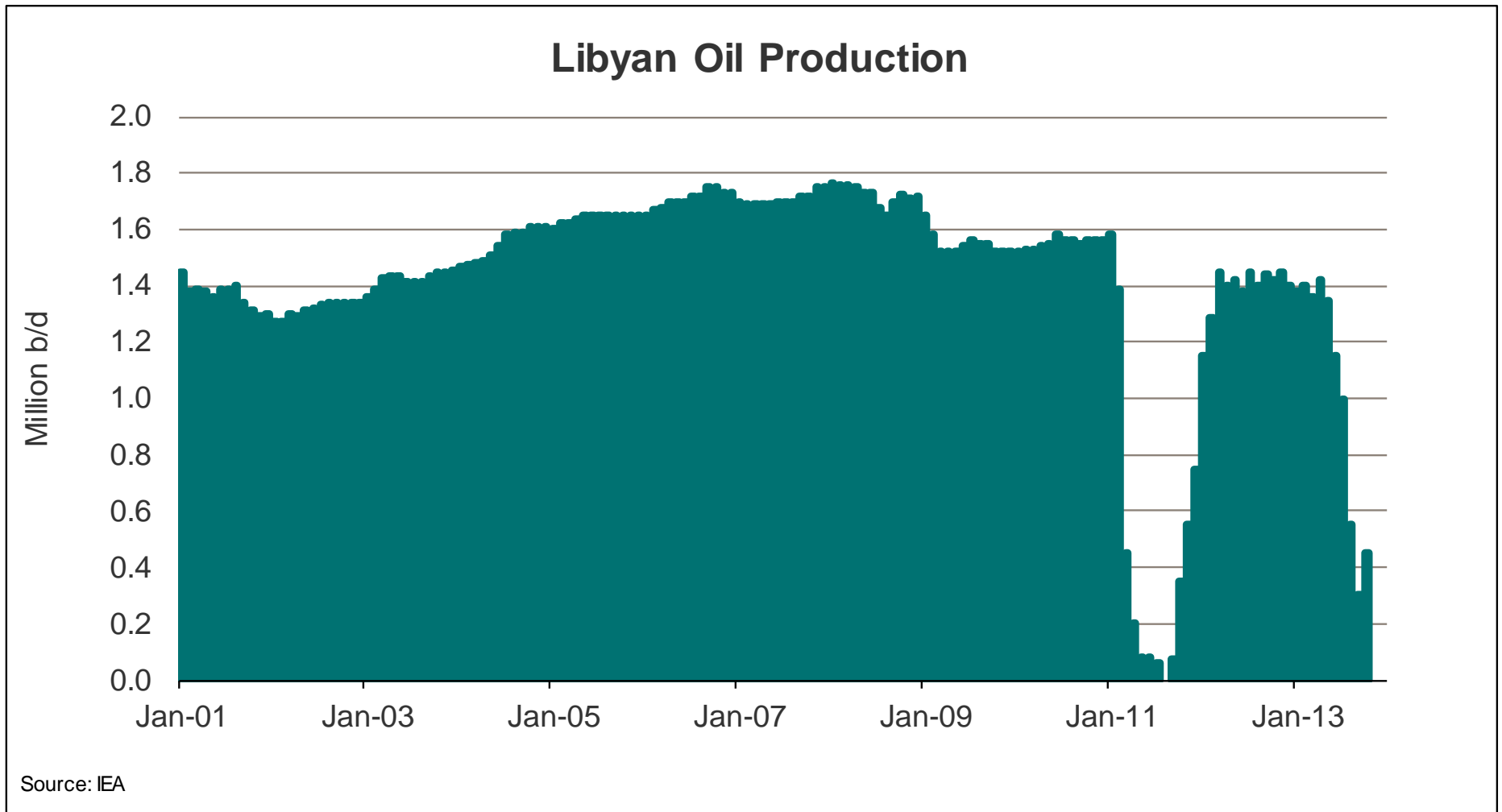
Year on Year Oil Production In Iraq



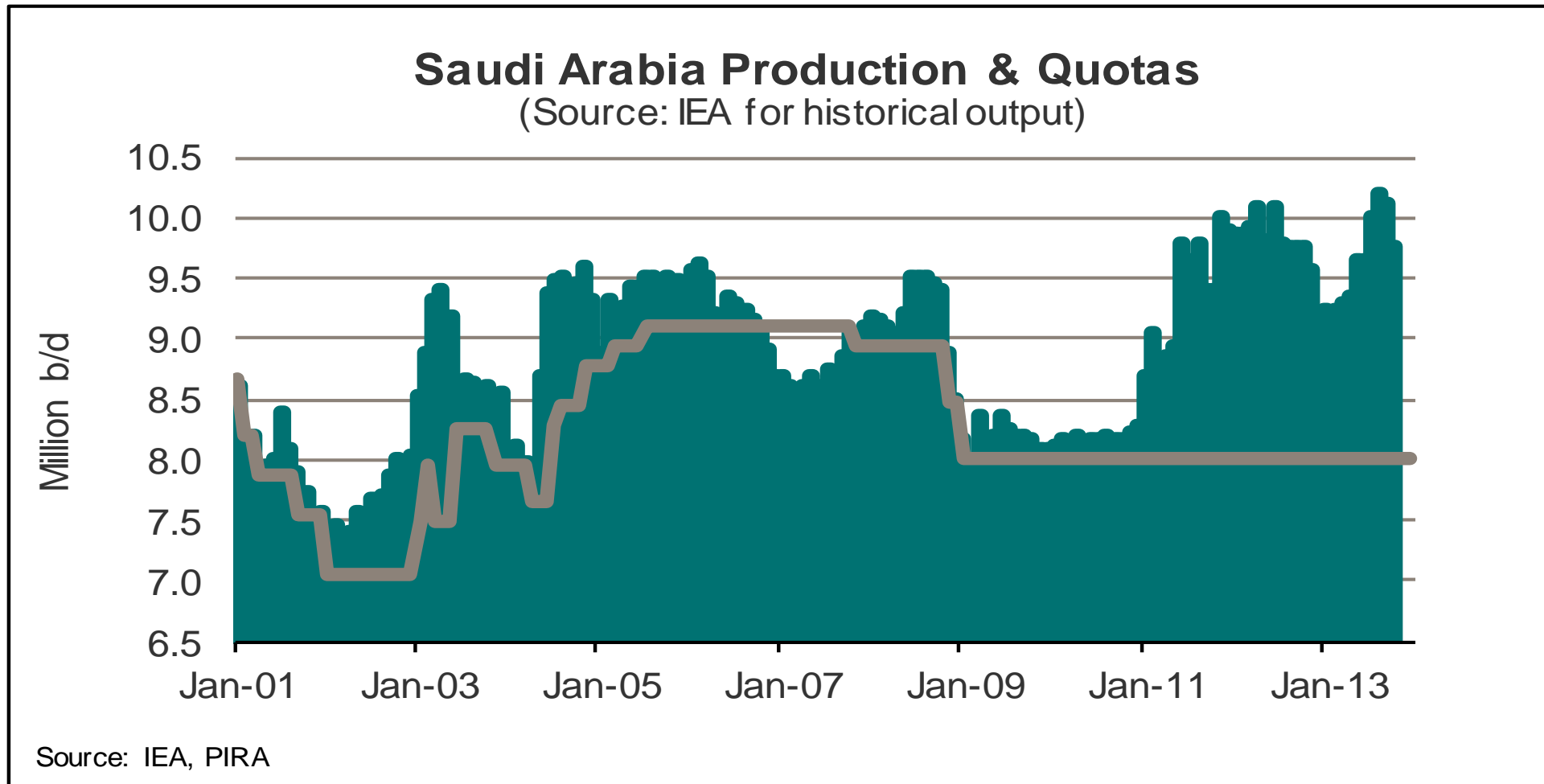
Year on Year Oil Production In Libya



Oil Production In Libya

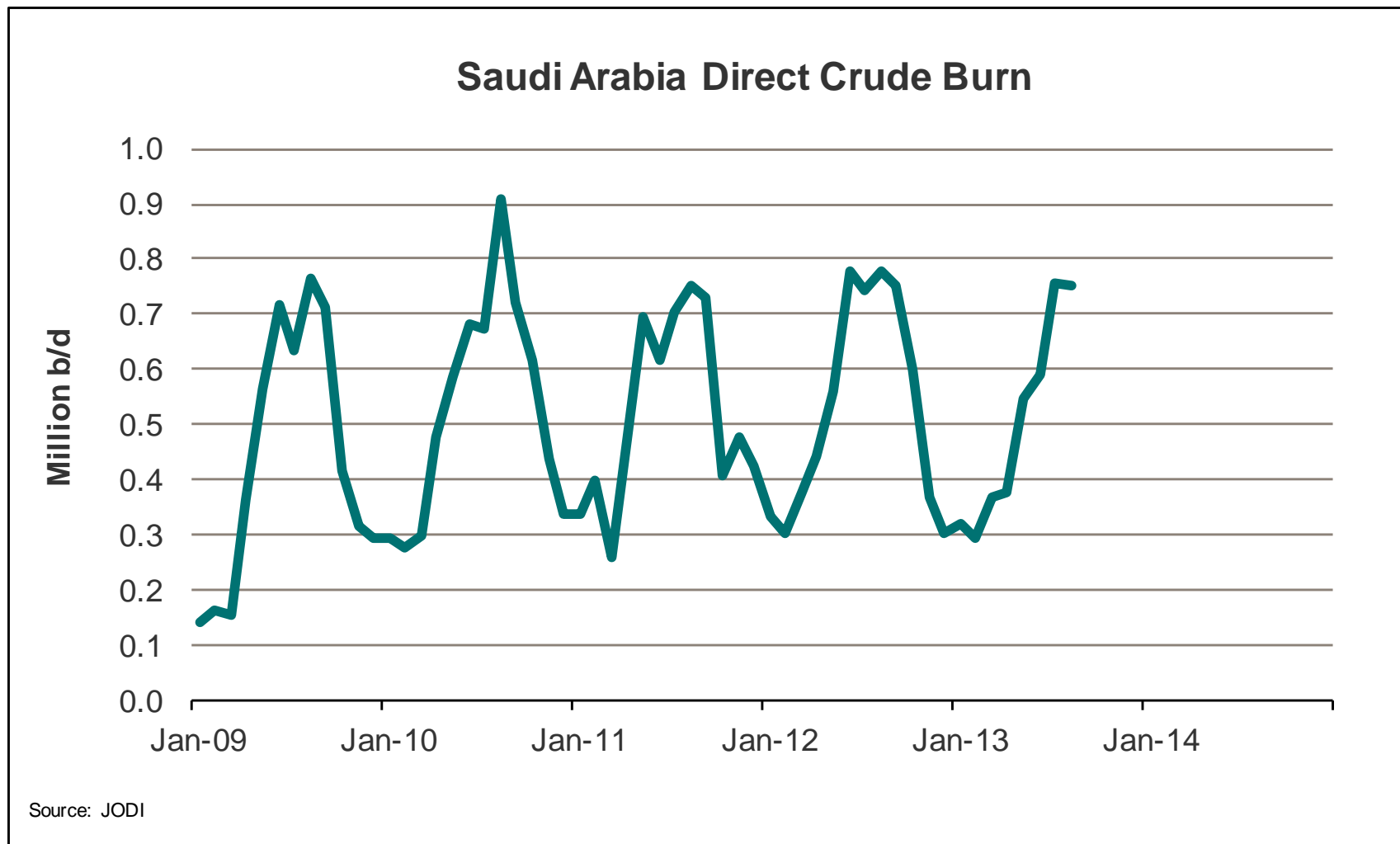


Saudi Arabia - Production & Quotas

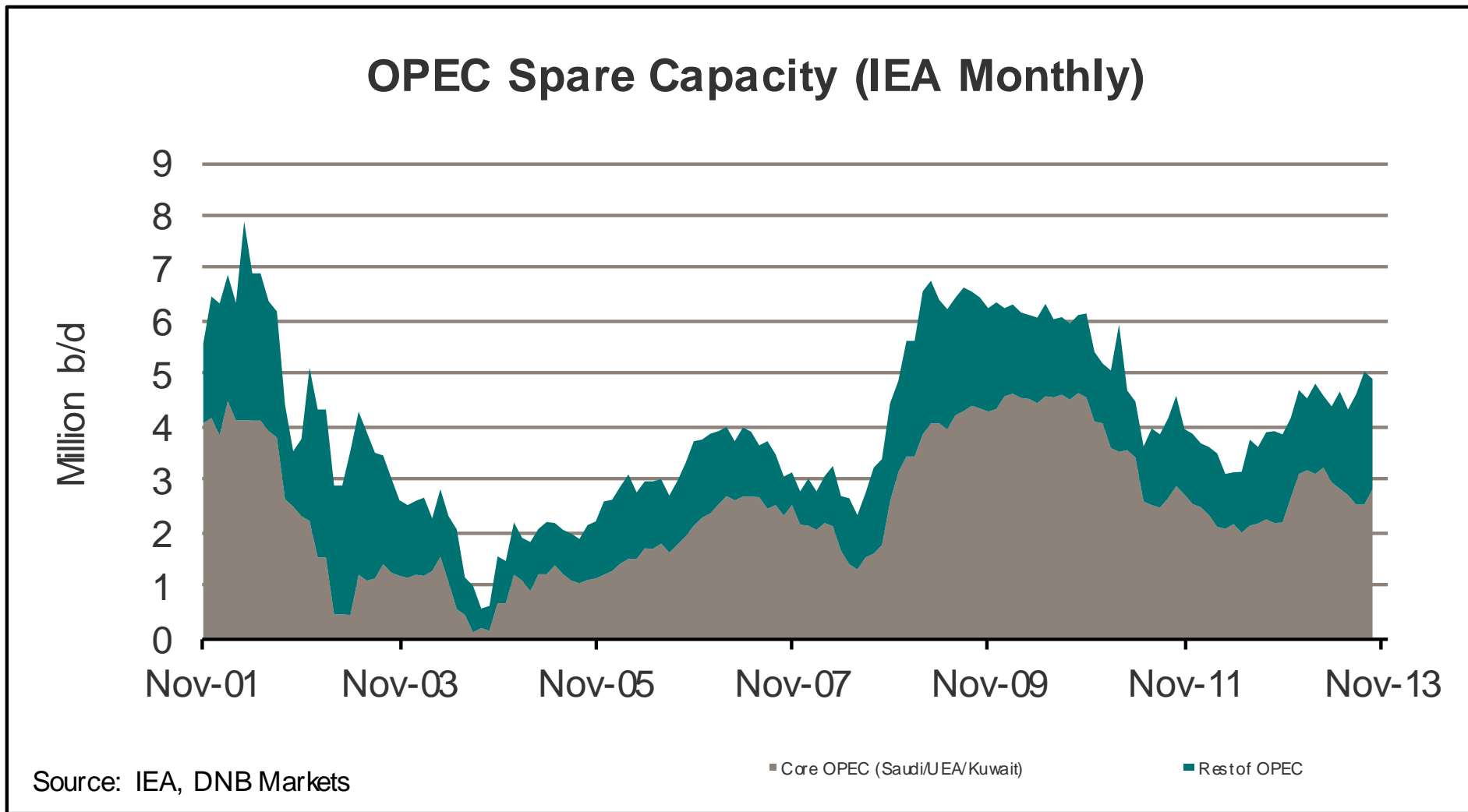


Saudi Arabia – Direct Crude Burn

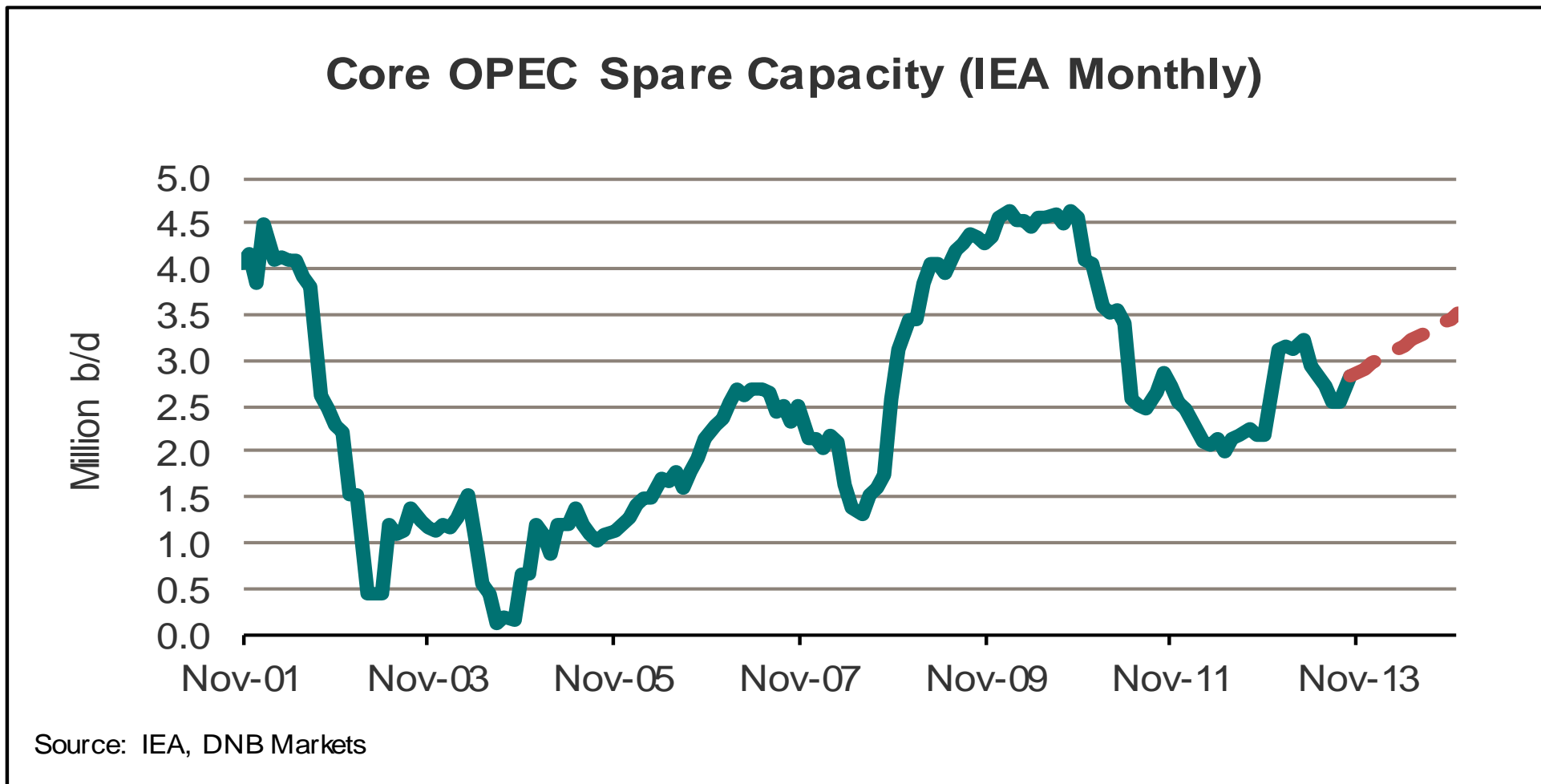
-Crude oil used for generating power



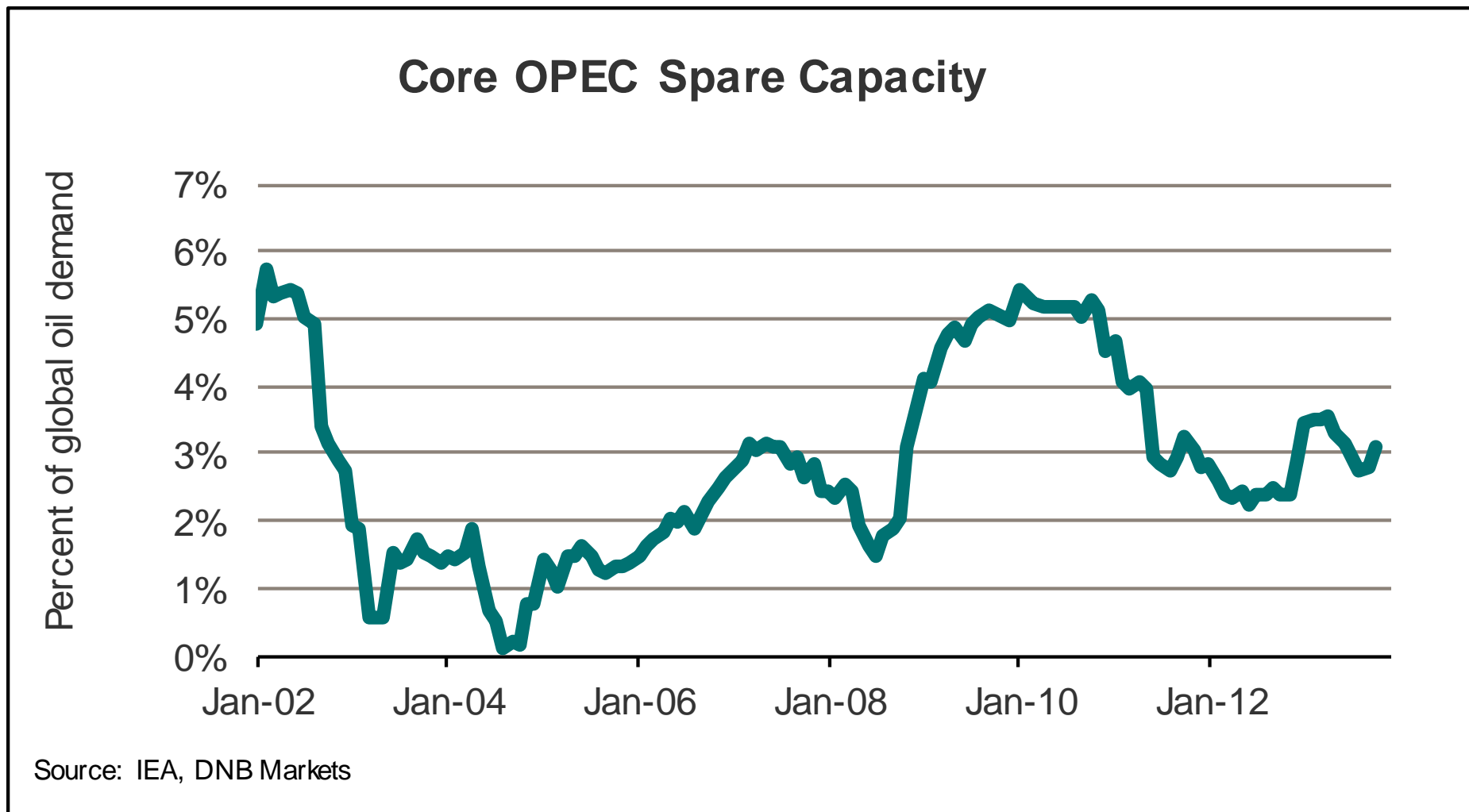
Core OPEC Spare Capacity



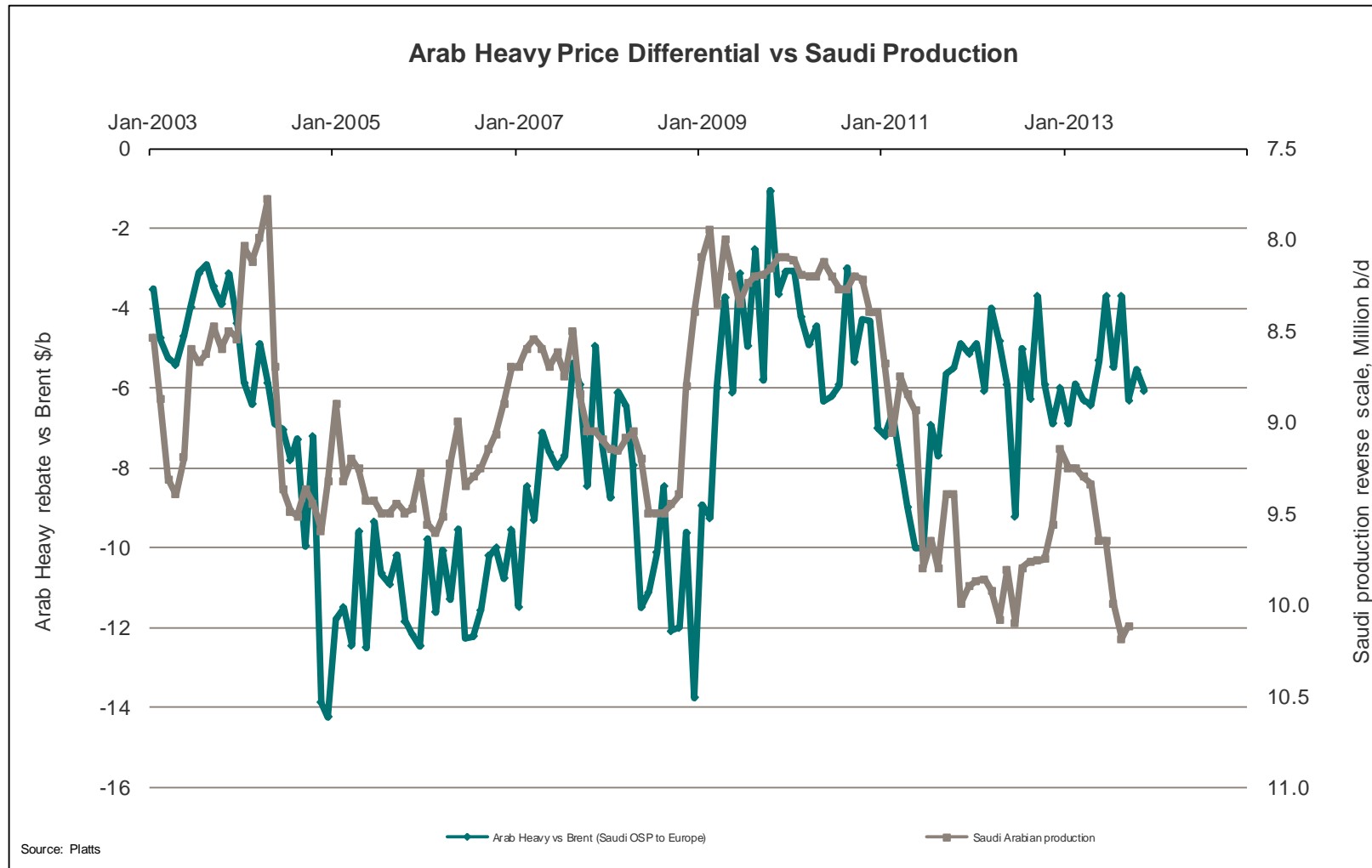
Core OPEC Spare Capacity Forecast



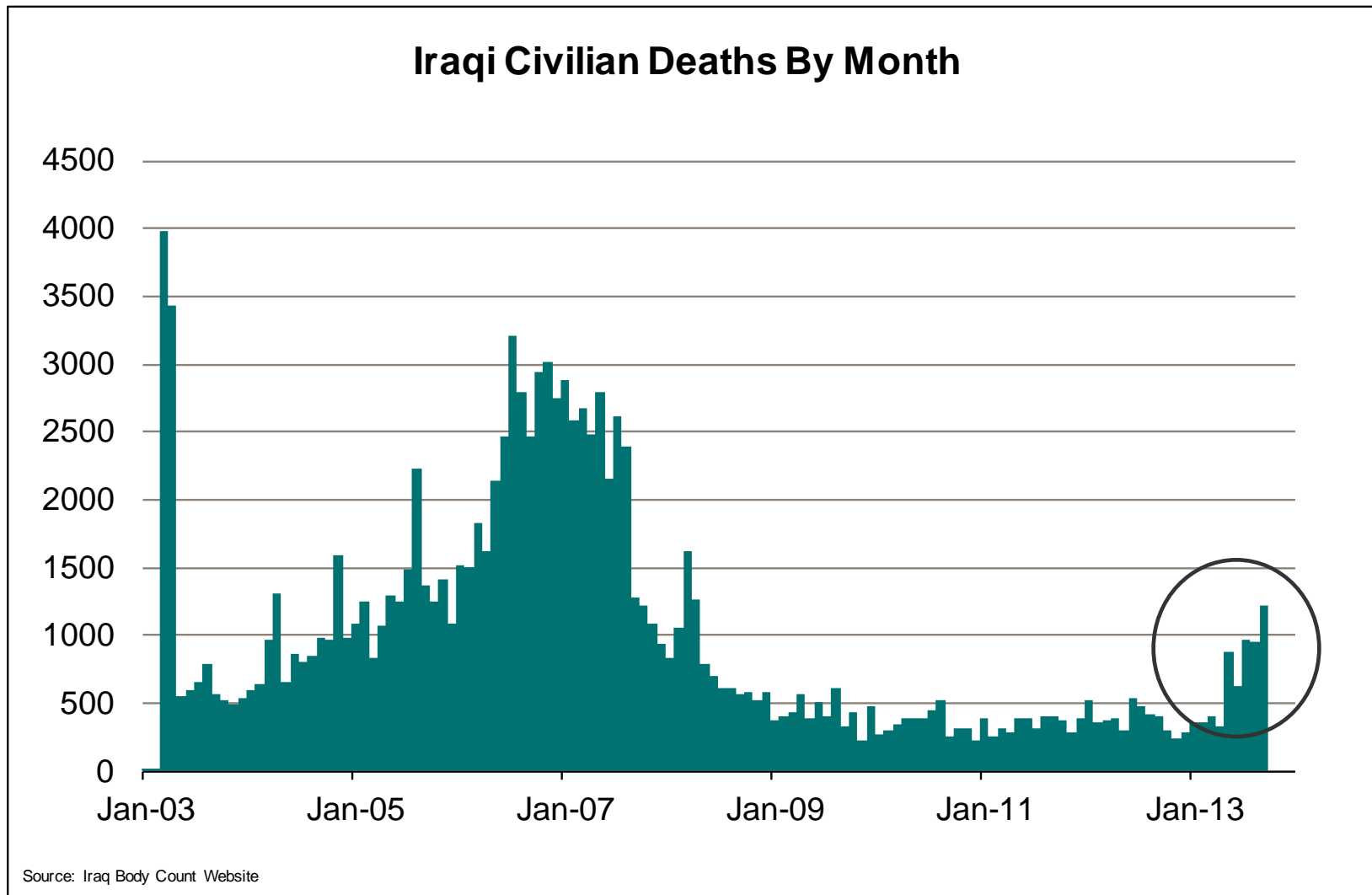
Core OPEC Spare Capacity In Percent Of Global Oil Demand



Saudi OSP To Europe (Arab Heavy) vs Saudi Oil Production

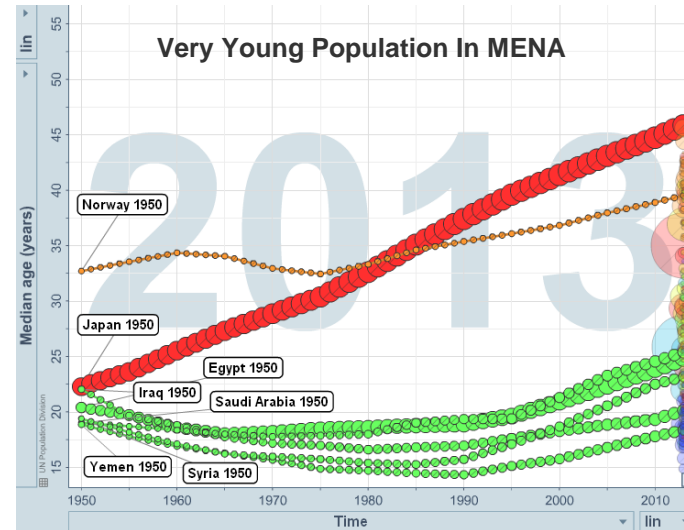
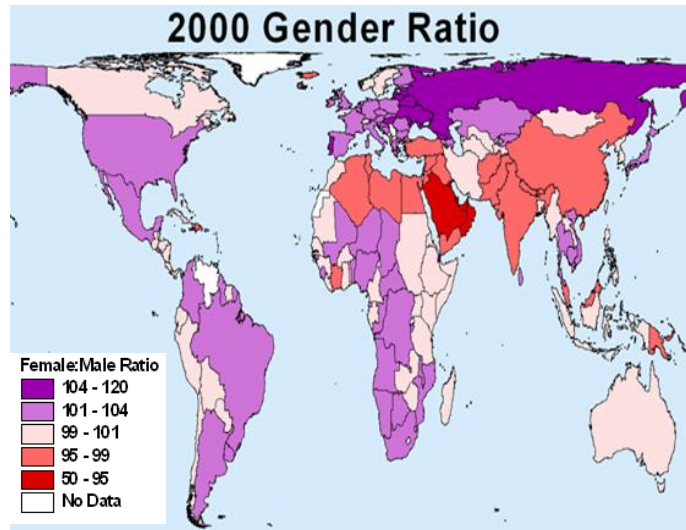
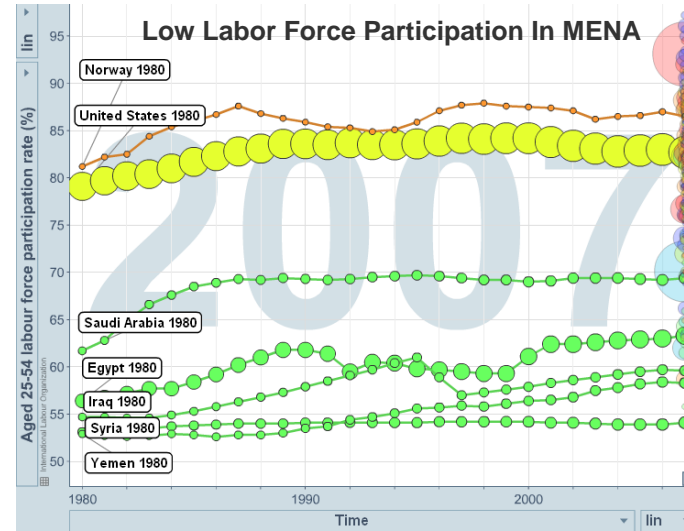
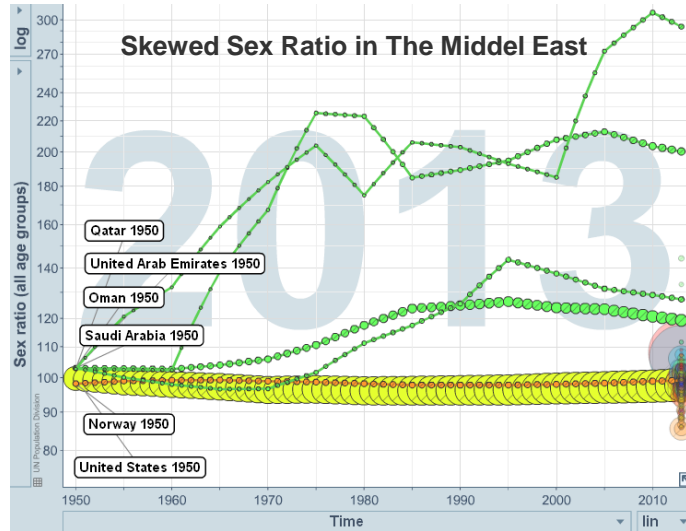


Rising Violence In Iraq - Iraq Body Count Web Site



MENA: Sex Ratio – Unemployment - Young Population

- A recipe for social unrest



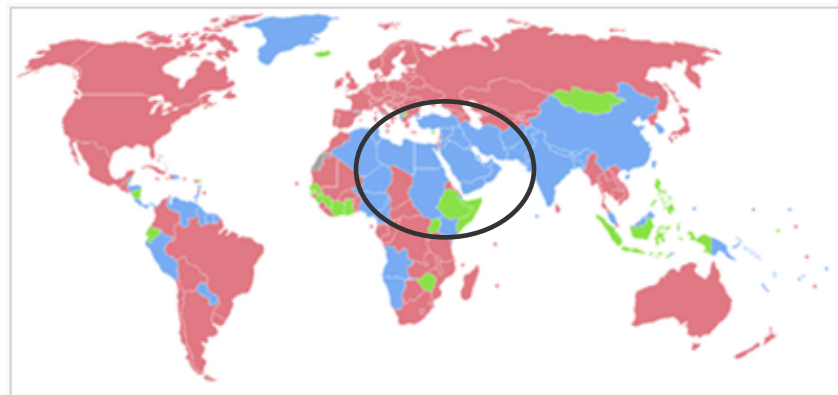
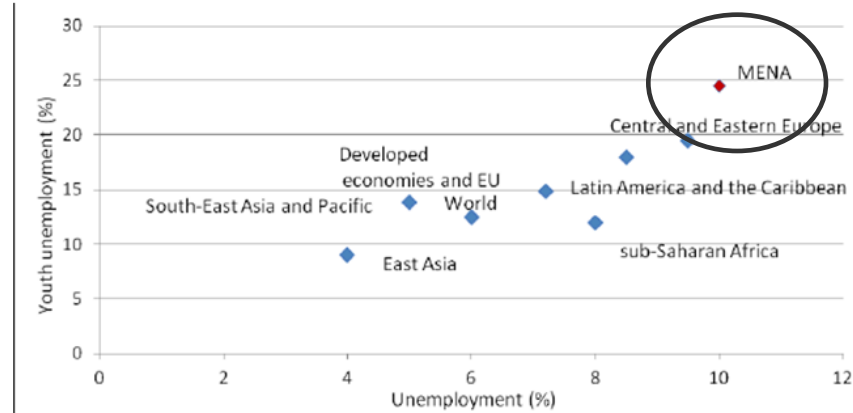
Source: International Labor Organization, UN Population Division, Gapminder

MENA Demographics: Young - Unemployed - Males

- A recipe for social unrest

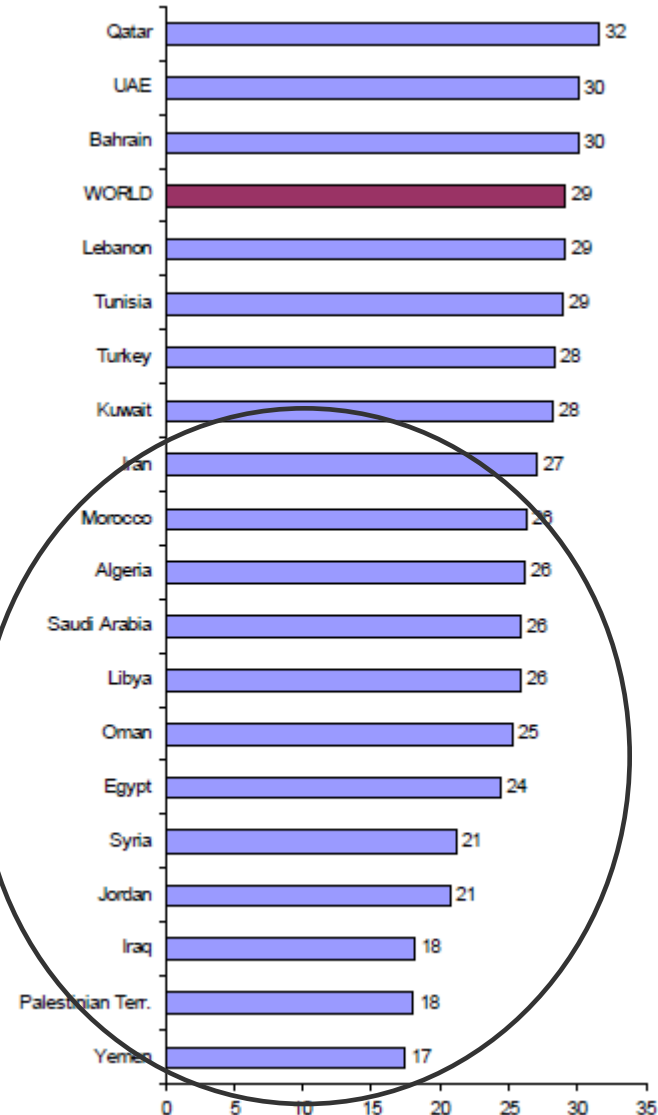
Figure 1: Total and Youth Unemployment by Regions (2010)

Source: ILO and IMF data.



Map indicating the human sex ratio by country.^[1]

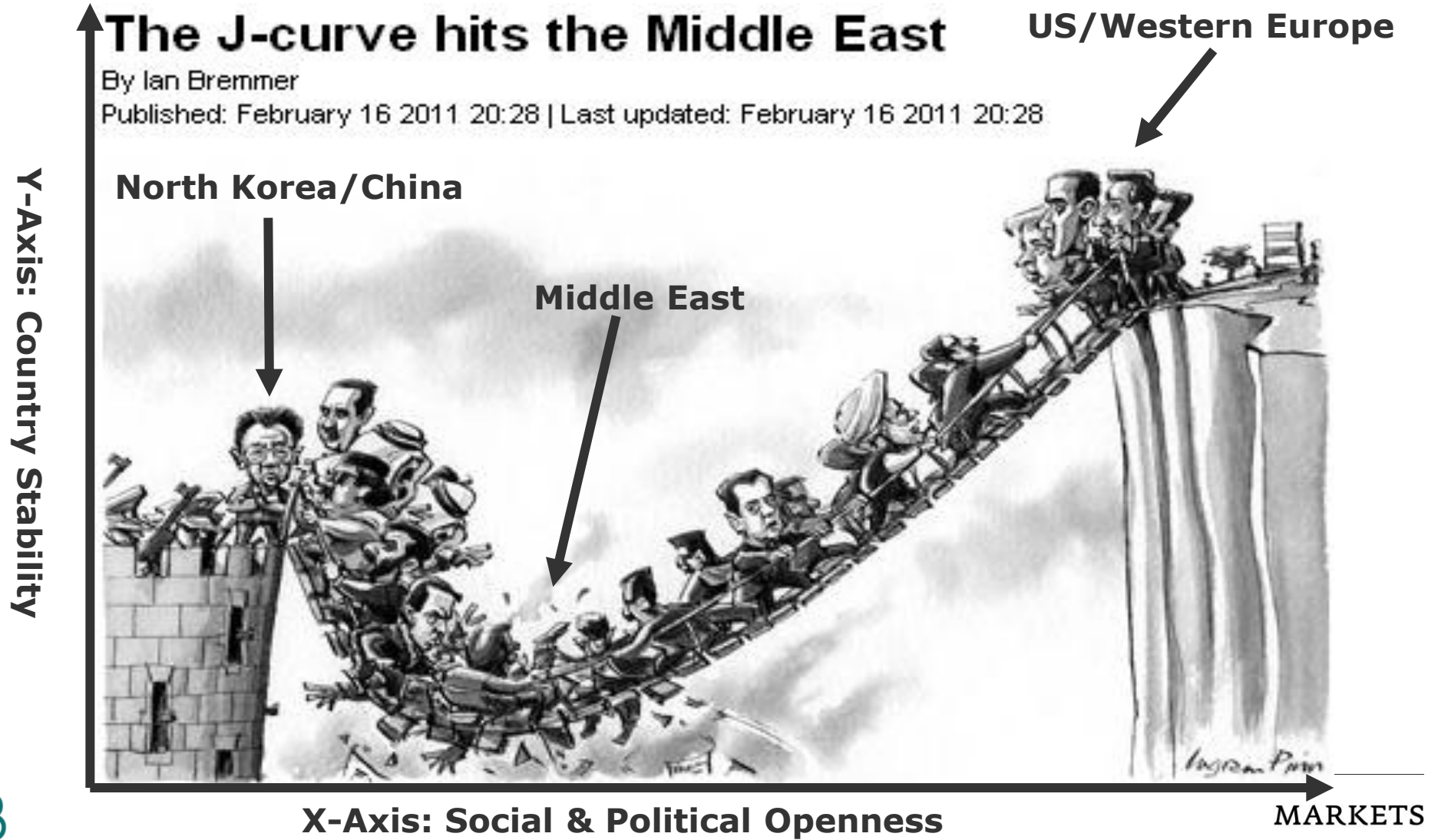
- Countries with more **females** than males.
- Countries with the **same** number of males and females (accounting that the ratio has 3 **significant figures**, i.e., 1.00 males to 1.00 females).
- Countries with more **males** than females.



Sources: IMF, UN Population Division, CIA World Factbook

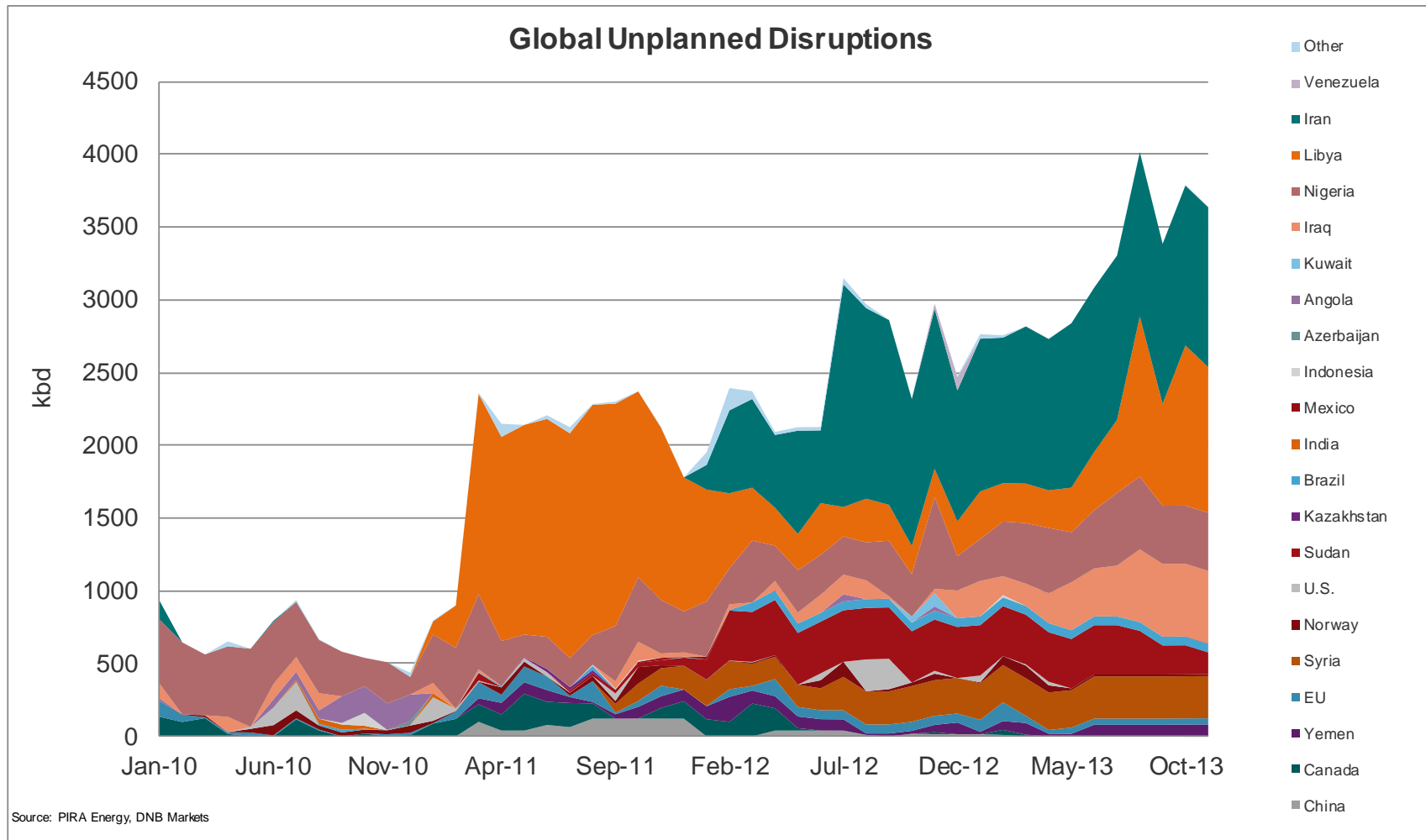
Geopolitical Risk Increase As A Society Opens Up

- Internet - Satellite-TV - Cell-phones



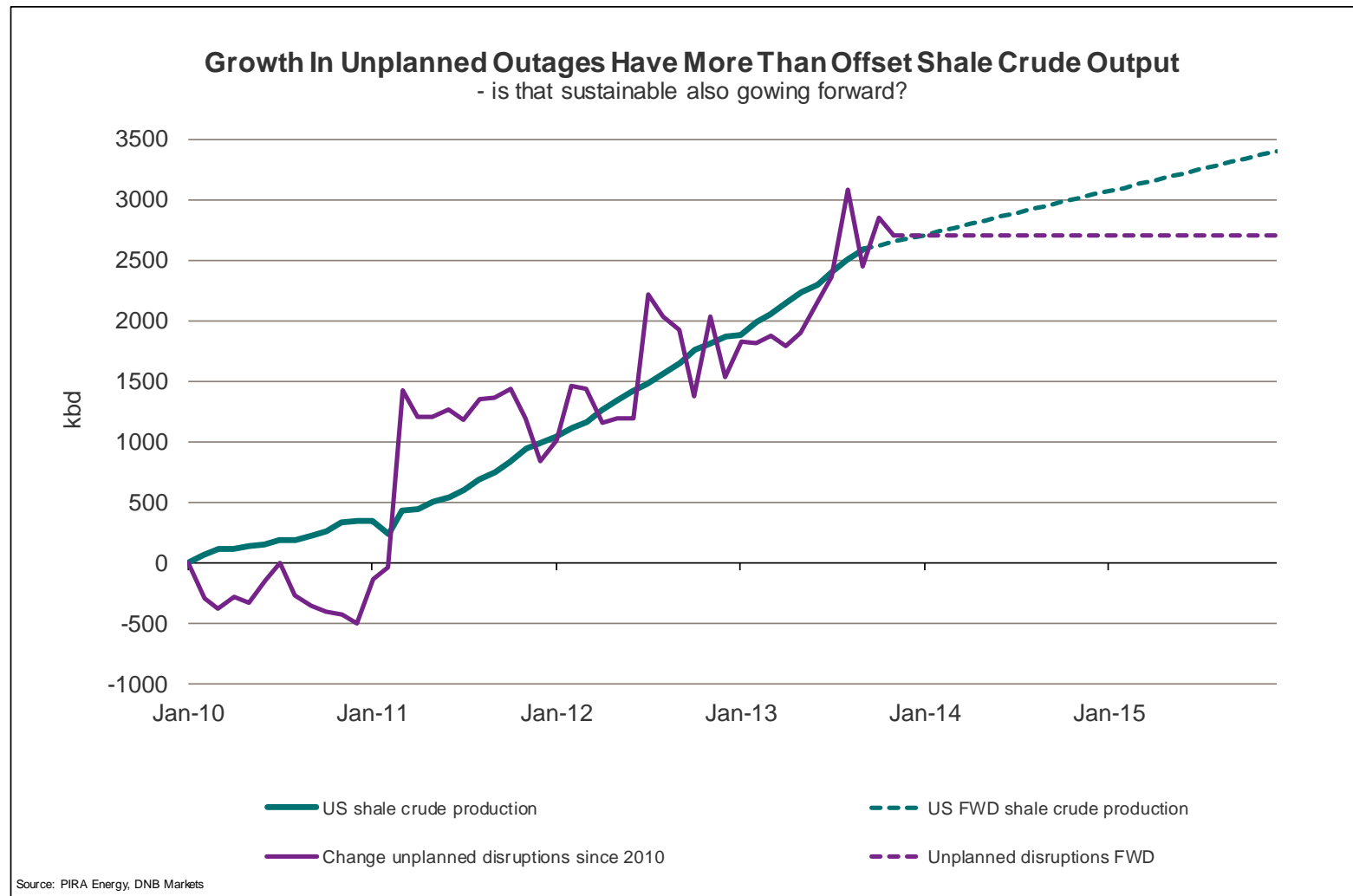
Global Supply Disruptions Have Been Growing

- Will unplanned outages continue at the current high level for the coming 5-years?? What happens if these barrels return?



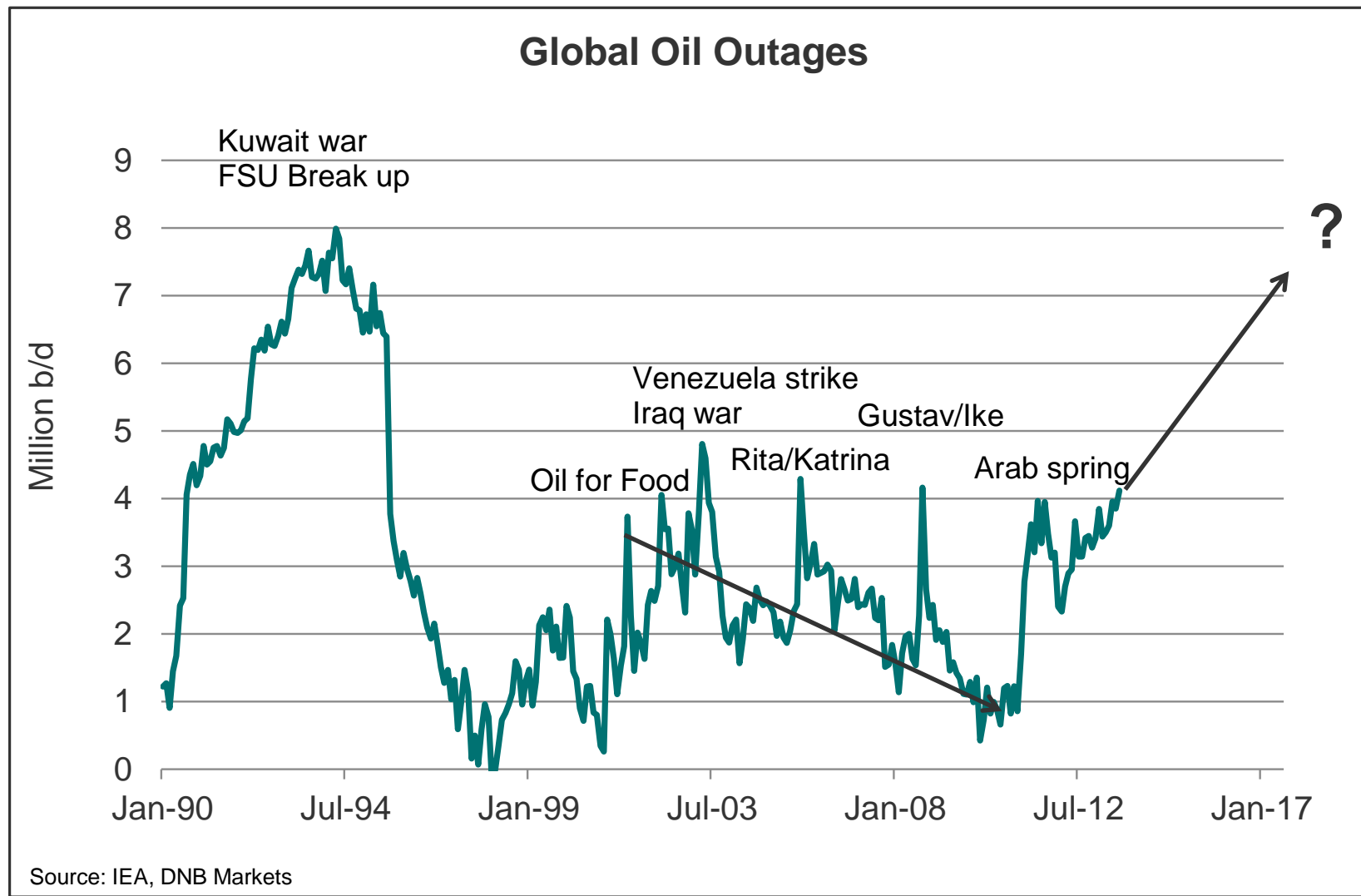
Shale Crude Output Growth Has Been Offset By Outages

- Shale crude production growth is starting to catch up – What happens next three years with unplanned outages??

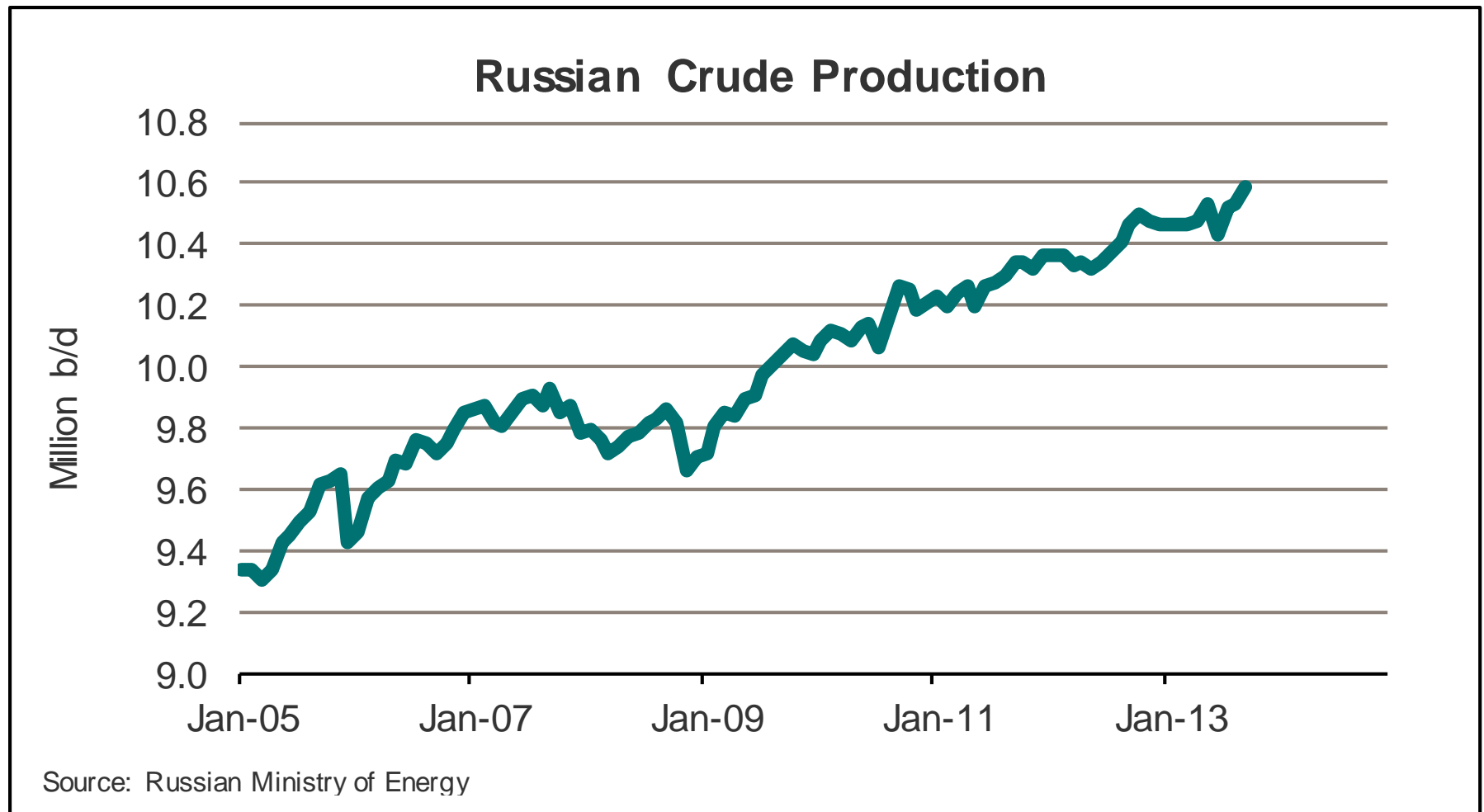


Global Unplanned Outages Are At A Historically High Level

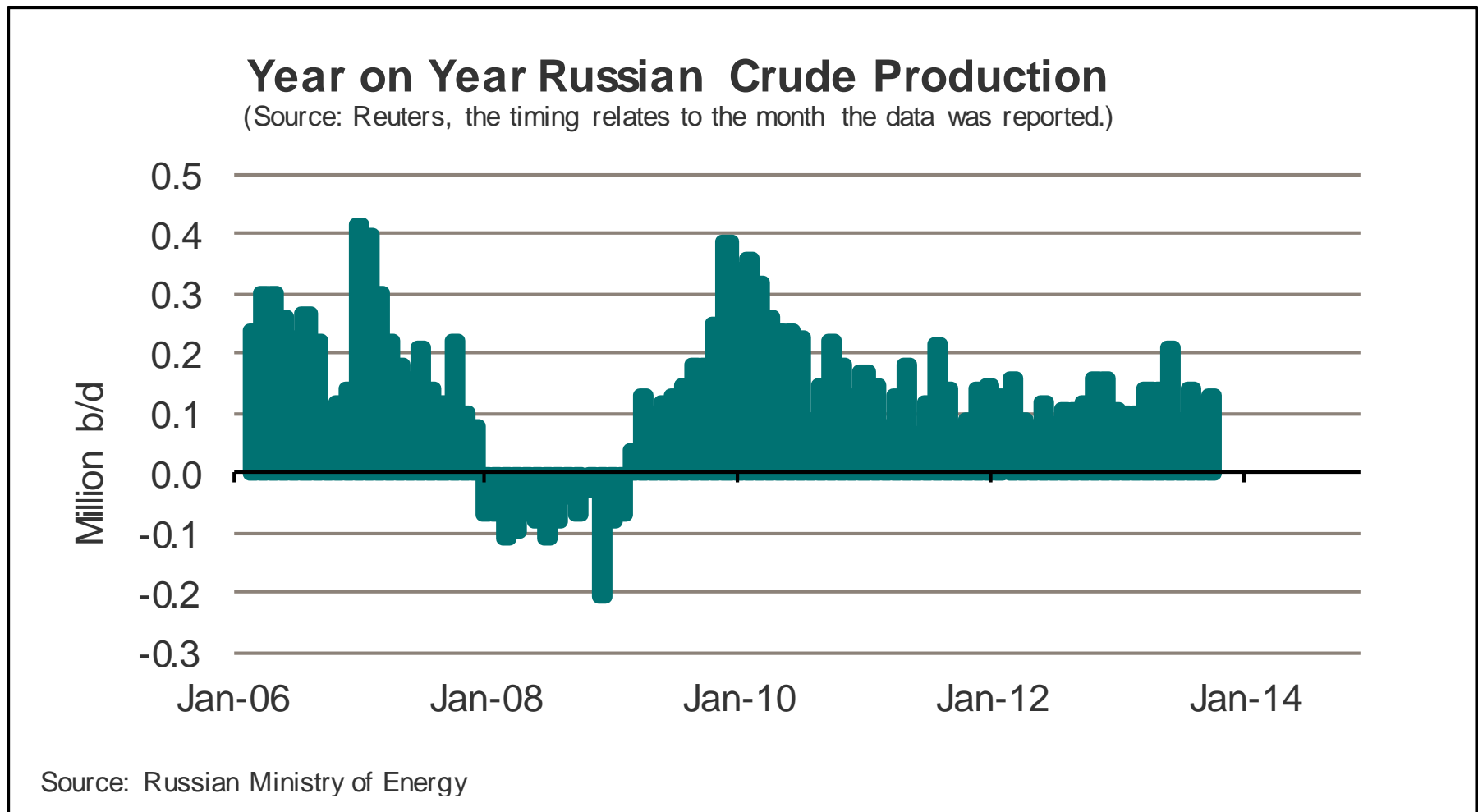
- If you are bullish for the next three years the premise must be further increased outages in our opinion. Will that happen?



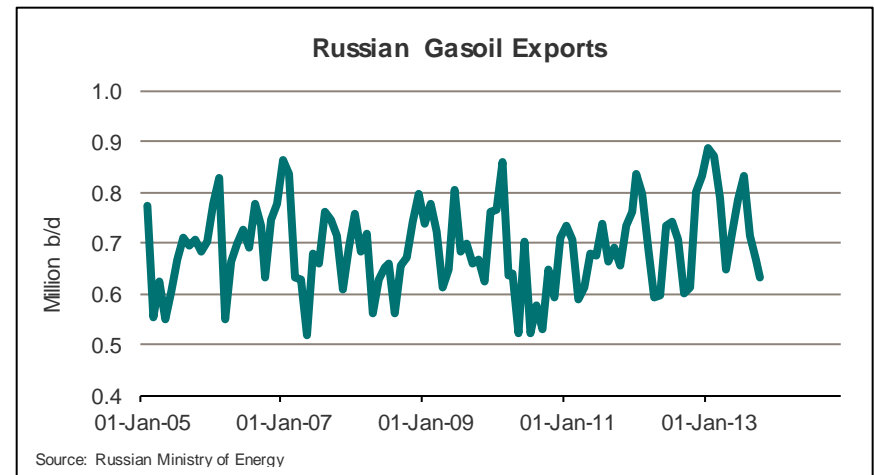
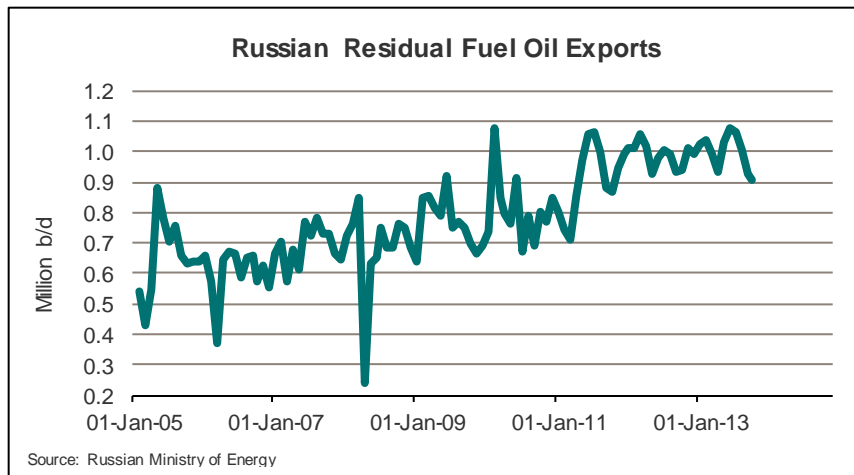
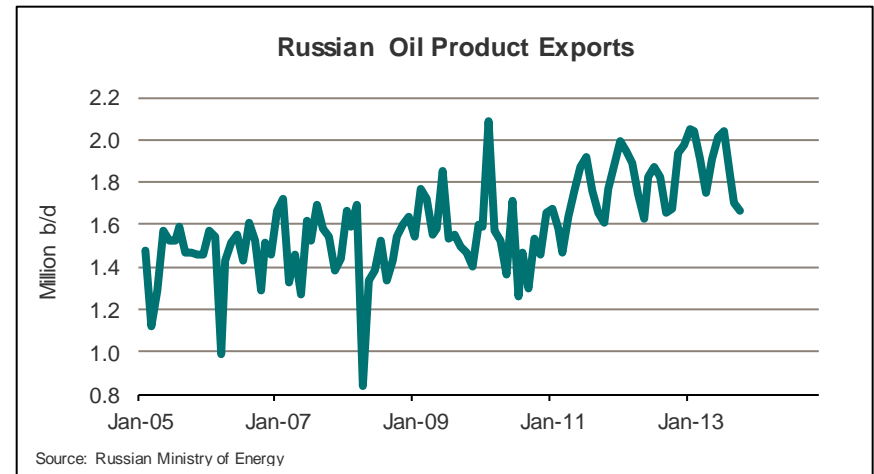
Russian Crude Oil Production



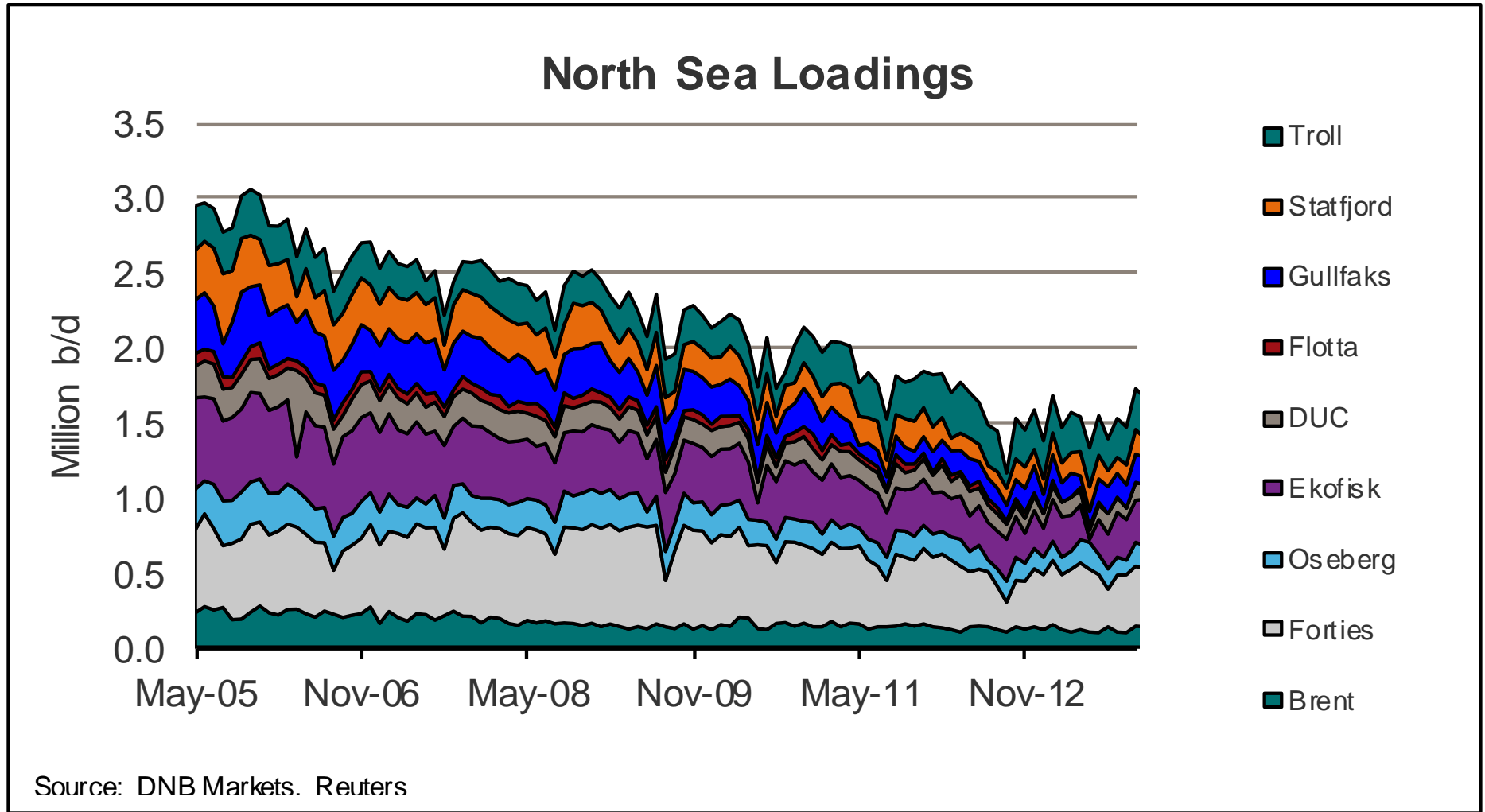
Year on Year Russian Crude Oil Production



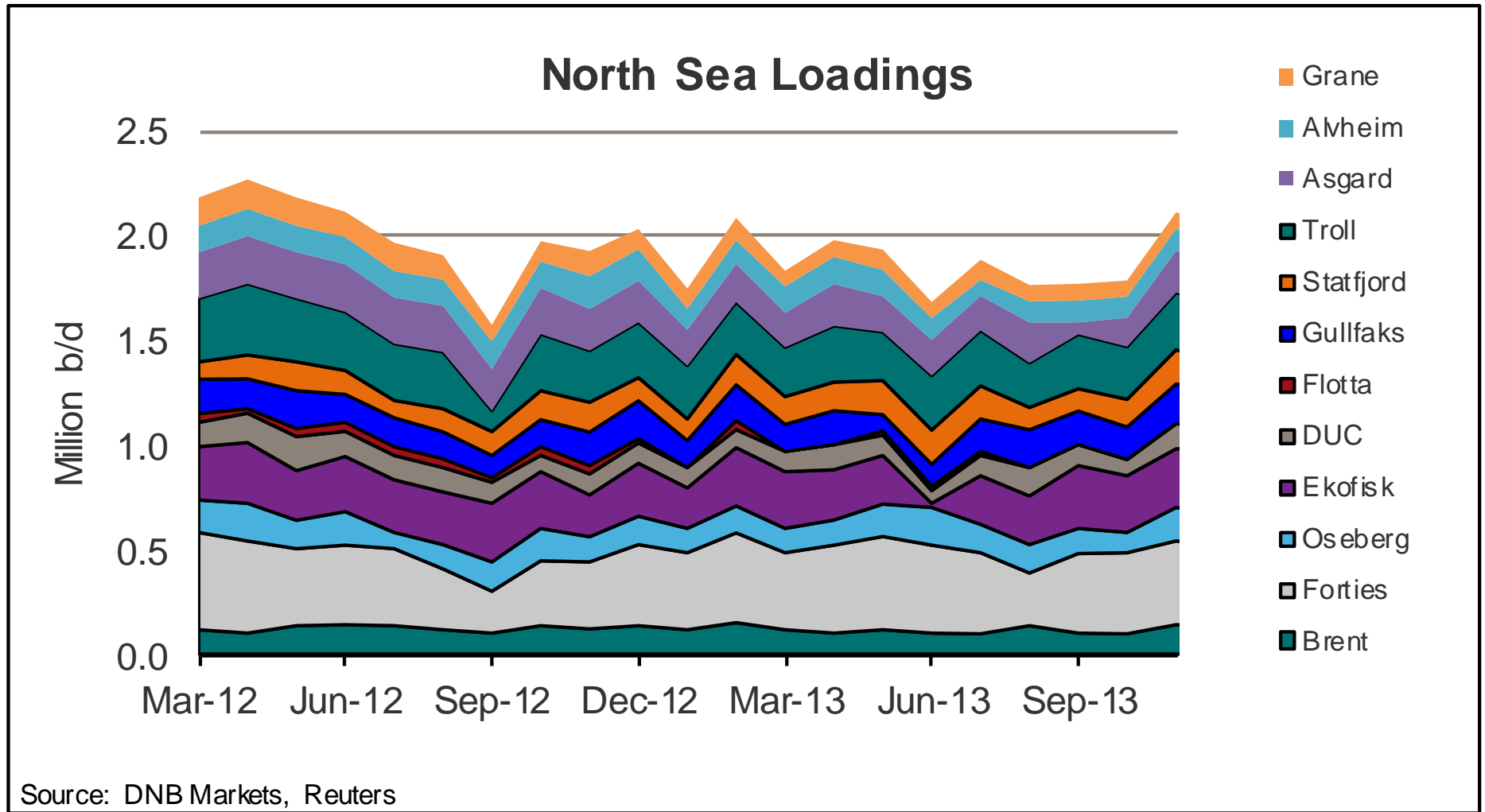
Russian Oil Exports



North Sea Loading Program

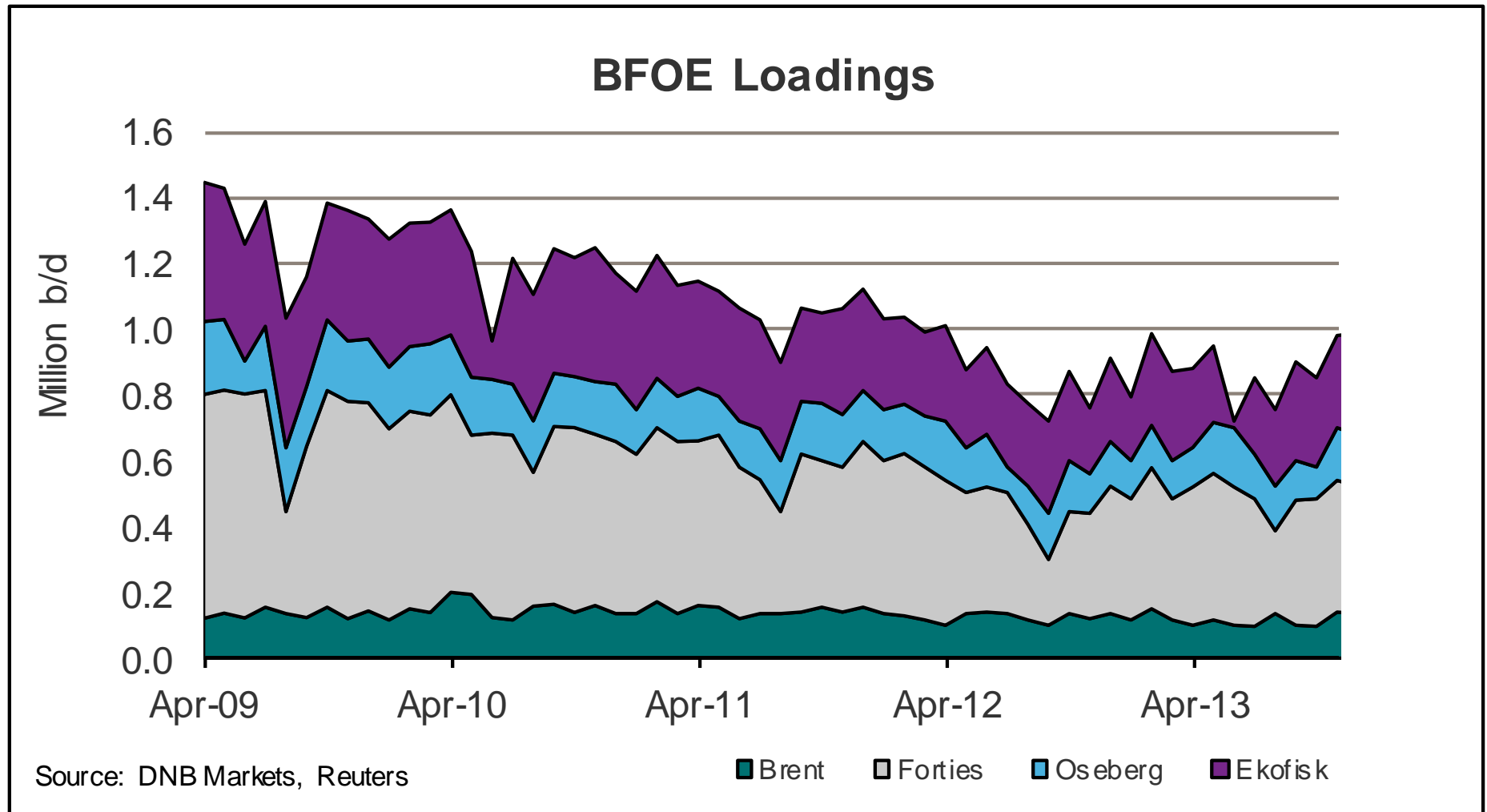


North Sea Loading Program

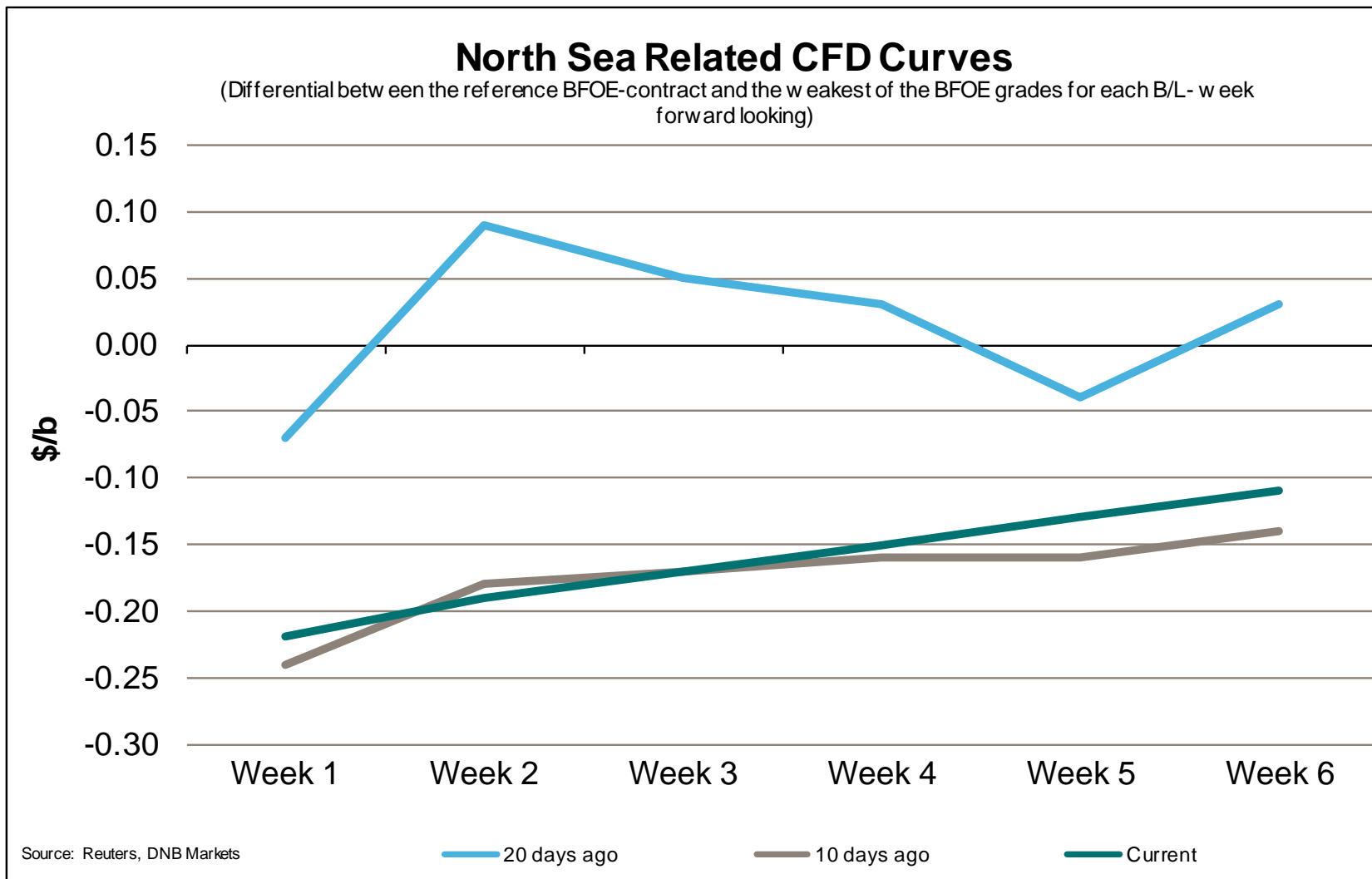


Brent, Forties, Oseberg Ekofisk (BFOE) Loading Programs

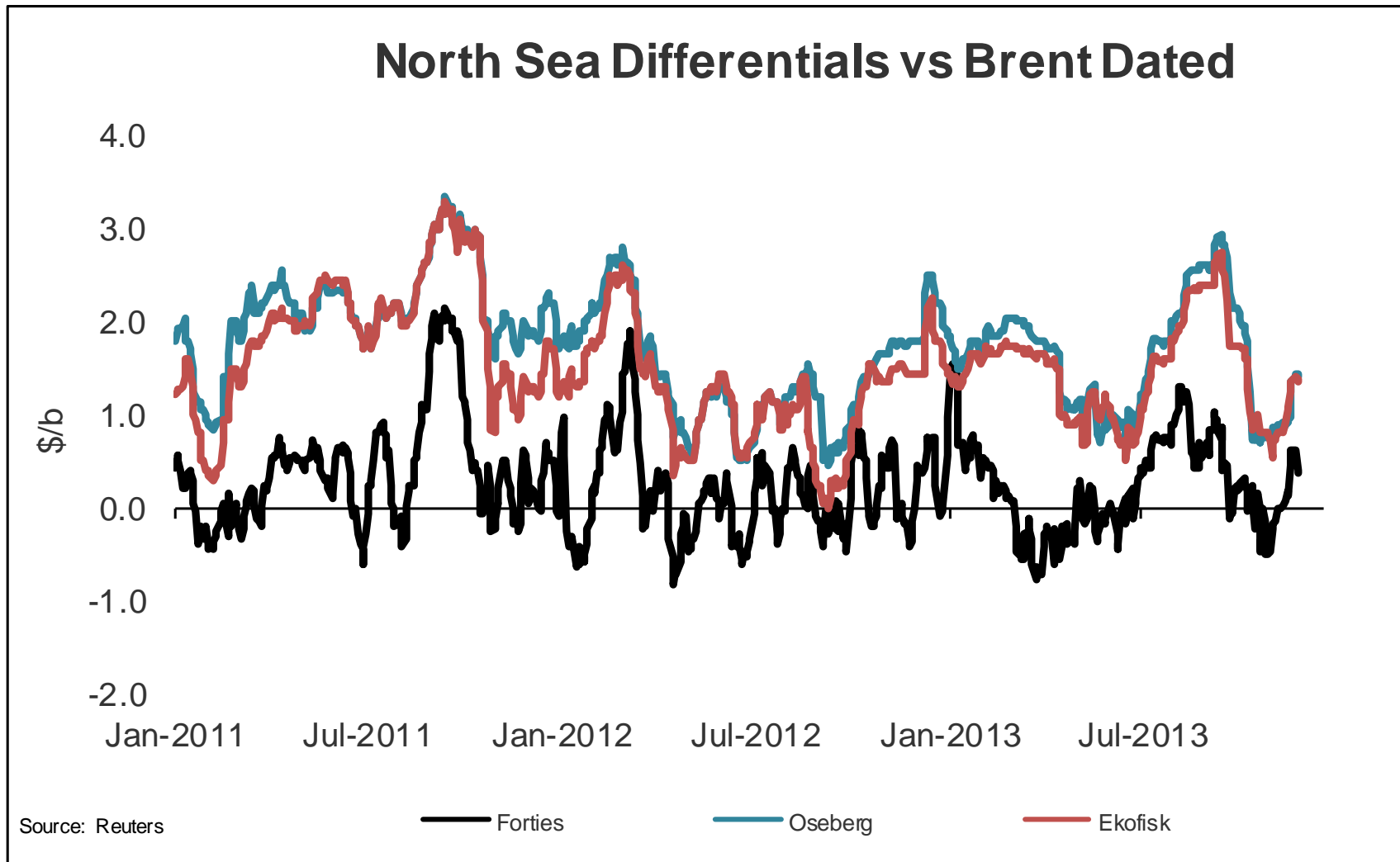
- These are the crude streams that are included in the Brent quote



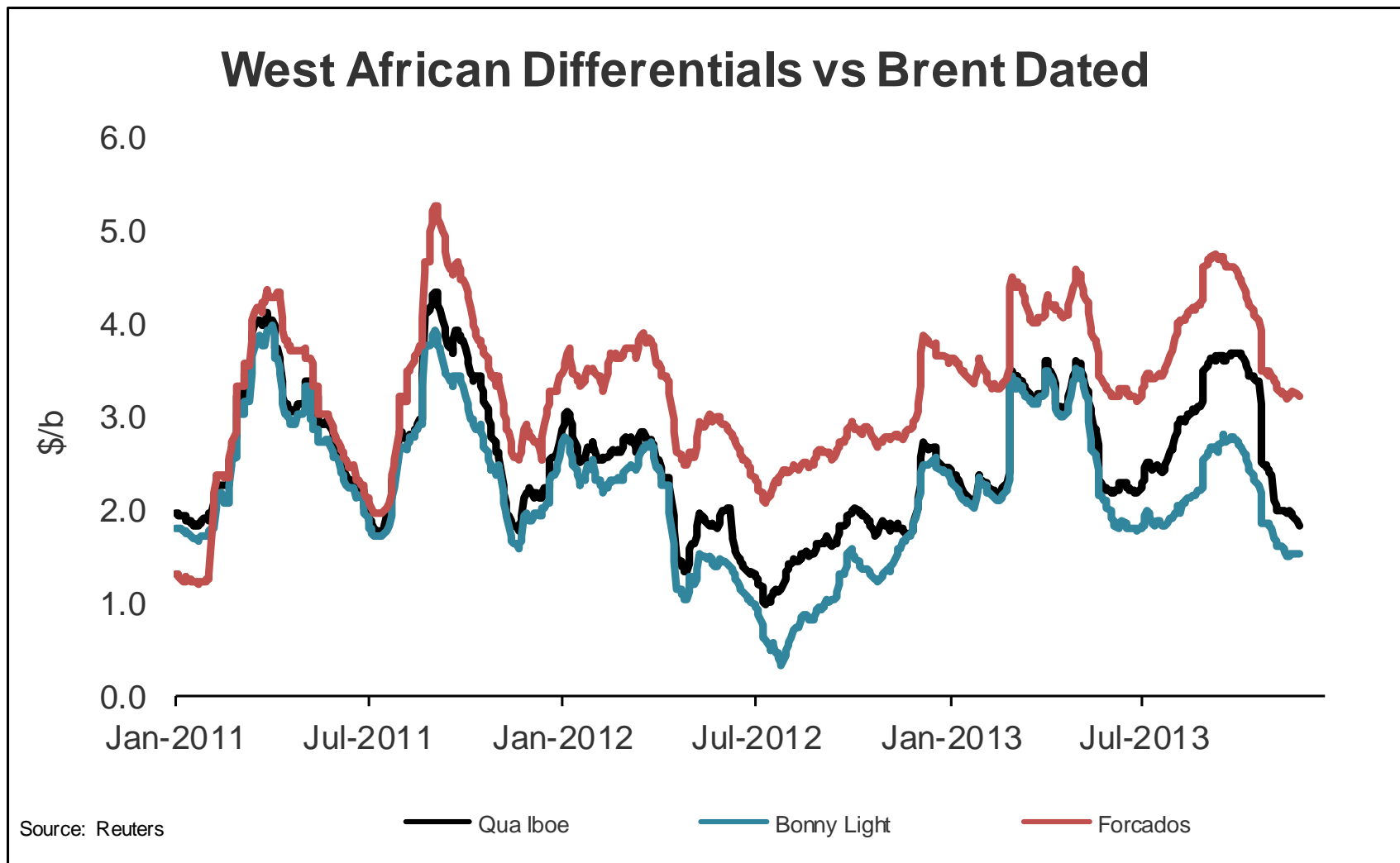
North Sea CFD Curve



North Sea Key Crude Price Differentials vs Brent Dated



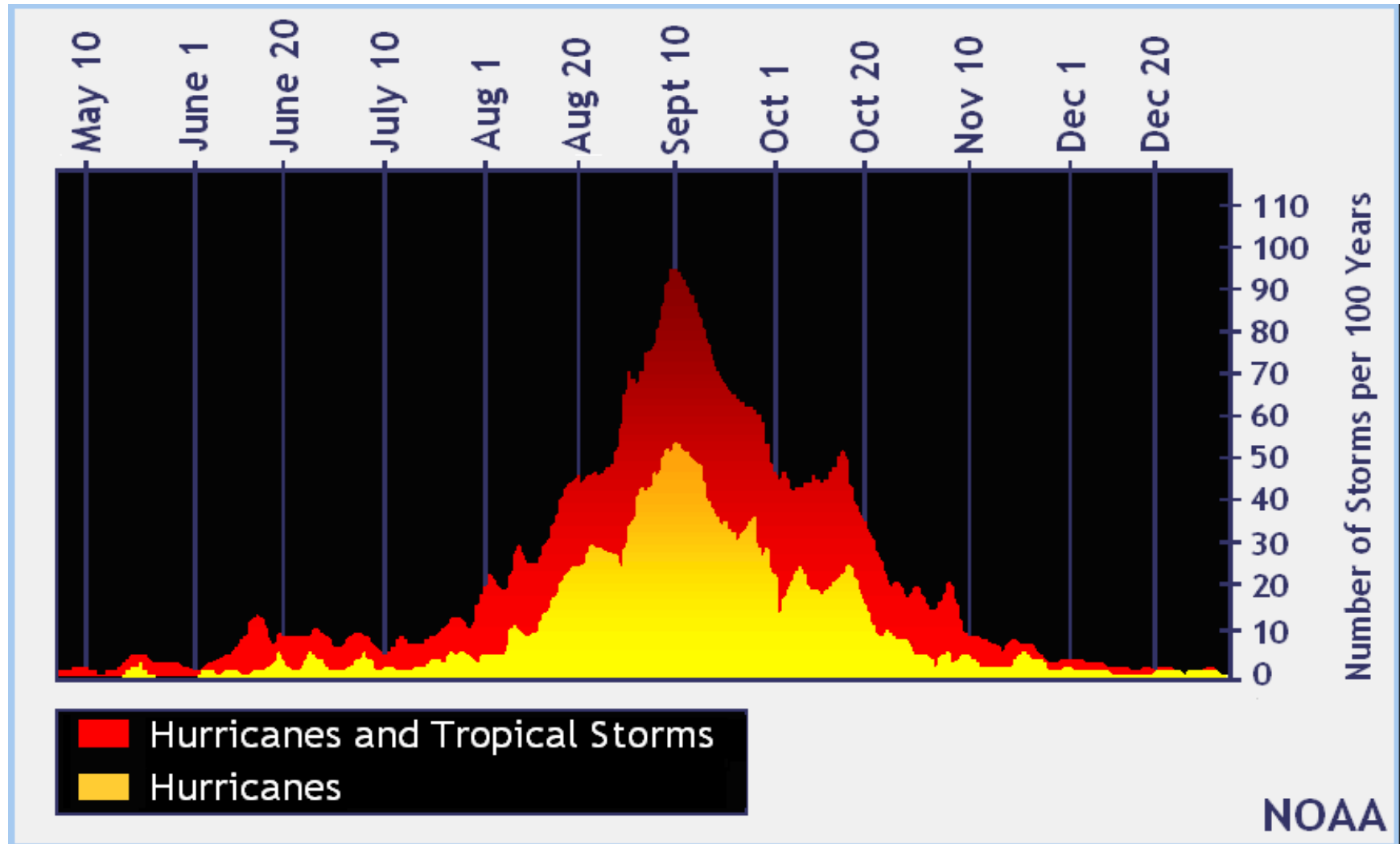
West African Key Crude Price Differentials vs Brent Dated



Weather

Hurricane Season - Atlantic Basin

(Atlantic Ocean, Caribbean and GOM)

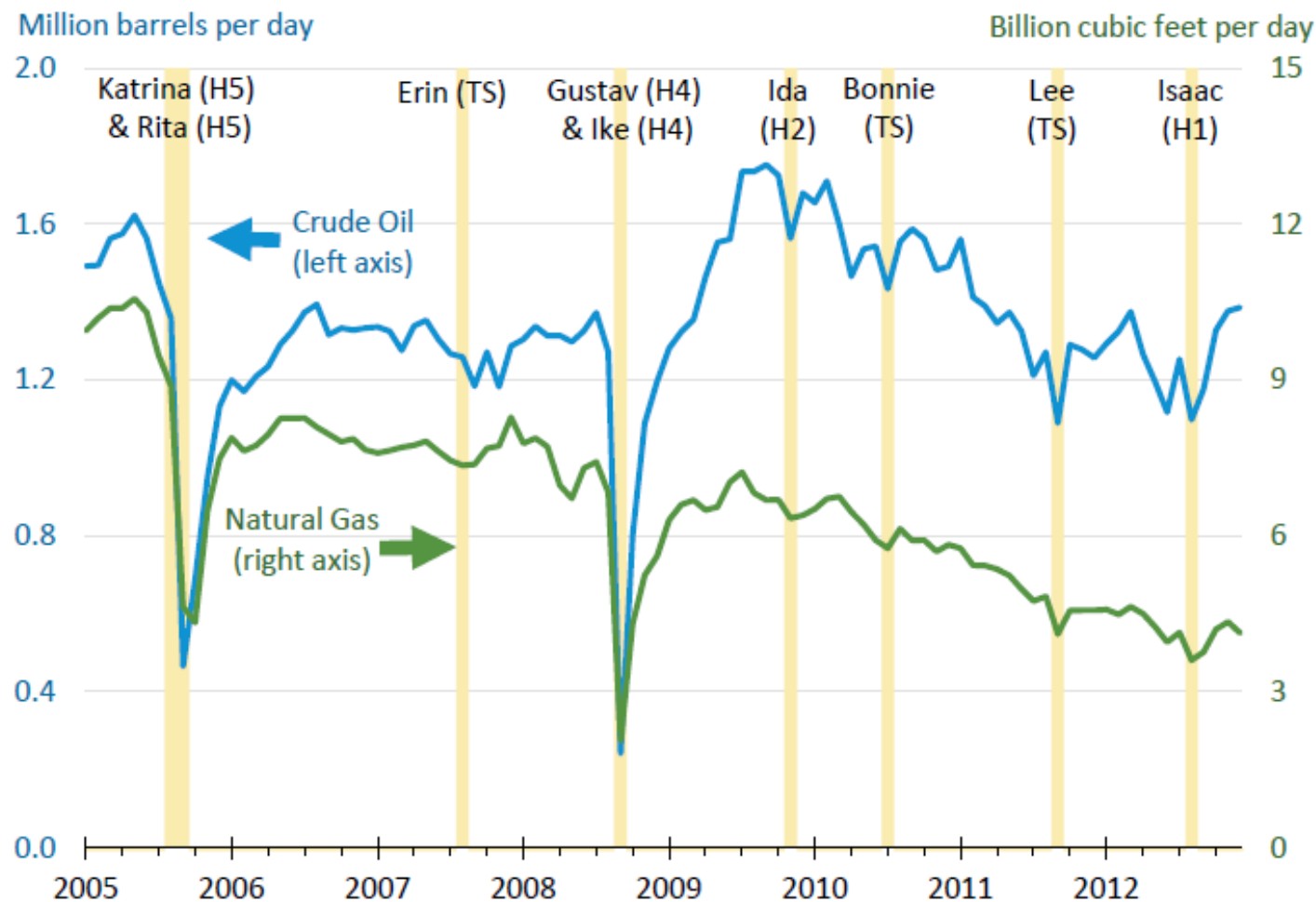


Source: National Hurricane Center

MARKETS

Hurricane Effects On US Oil & Gas Production Since 2005

- Particularly visible in 2005 and 2008



Note: TS = Tropical Storm. Hn = Category n hurricane.

Source: U.S. Energy Information Administration and National Oceanic and Atmospheric Administration (NOAA).

Source: EIA

Hurricanes In the Gulf of Mexico, Historical Paths

1979-1994

(16 years)

CAT 3-4-5
TRACKS

25 Major
Hurricanes



1995-2010

(16 years)

CAT 3-4-5
TRACKS

61 Major
Hurricanes

Needs to hit inside the circle
in order to get max market effect



Key Historical Hurricane Paths

- Katrina, Rita (2005), Gustav, Ike (2008), Isaac (2012)

Katrina (2005)



Rita (2005)



Isaac (2012)



Gustav (2008)

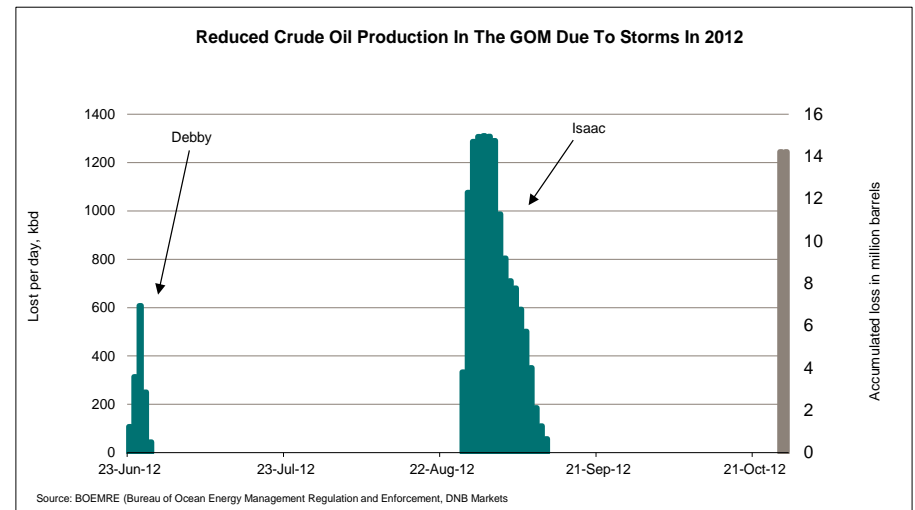
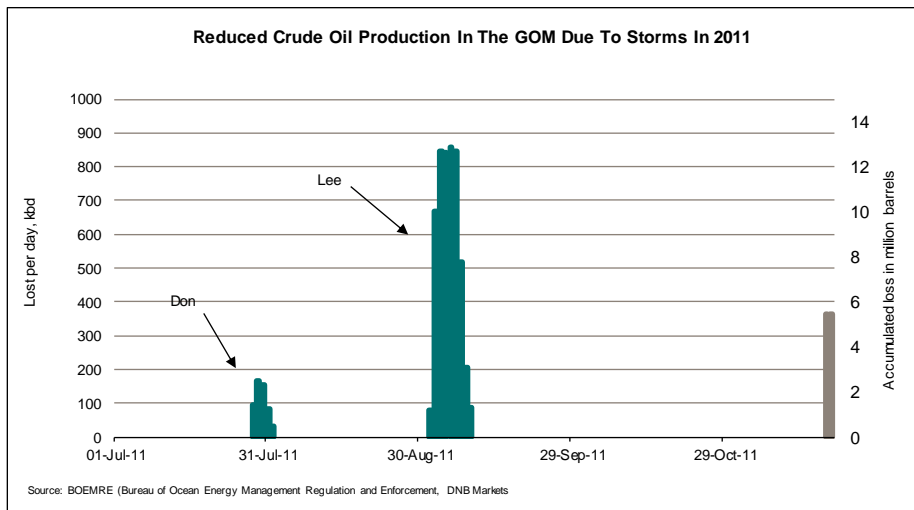
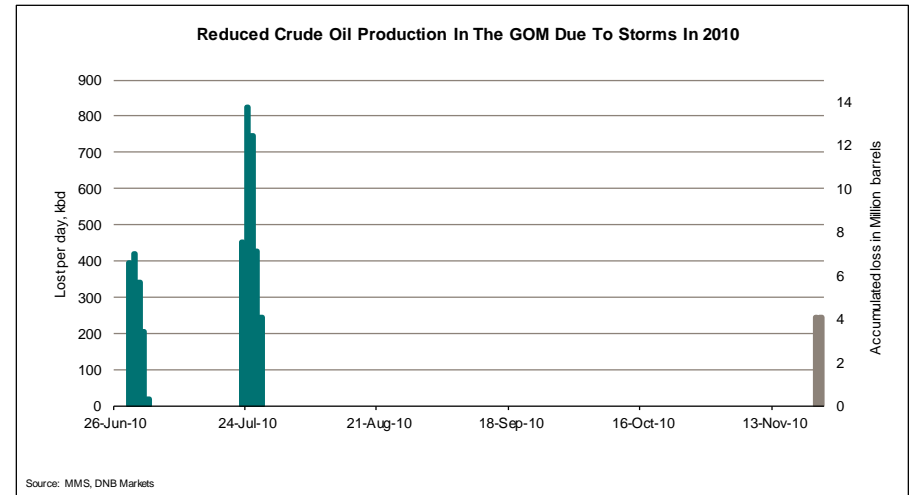
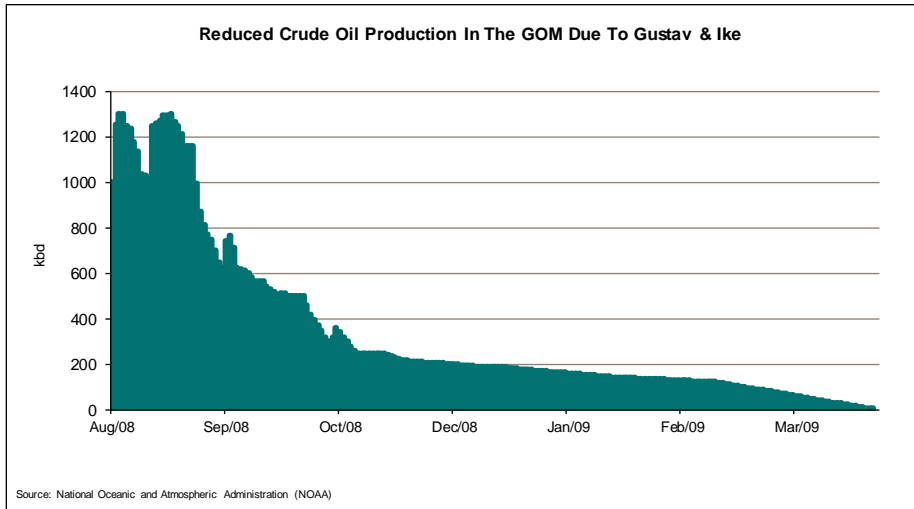


Ike (2008)



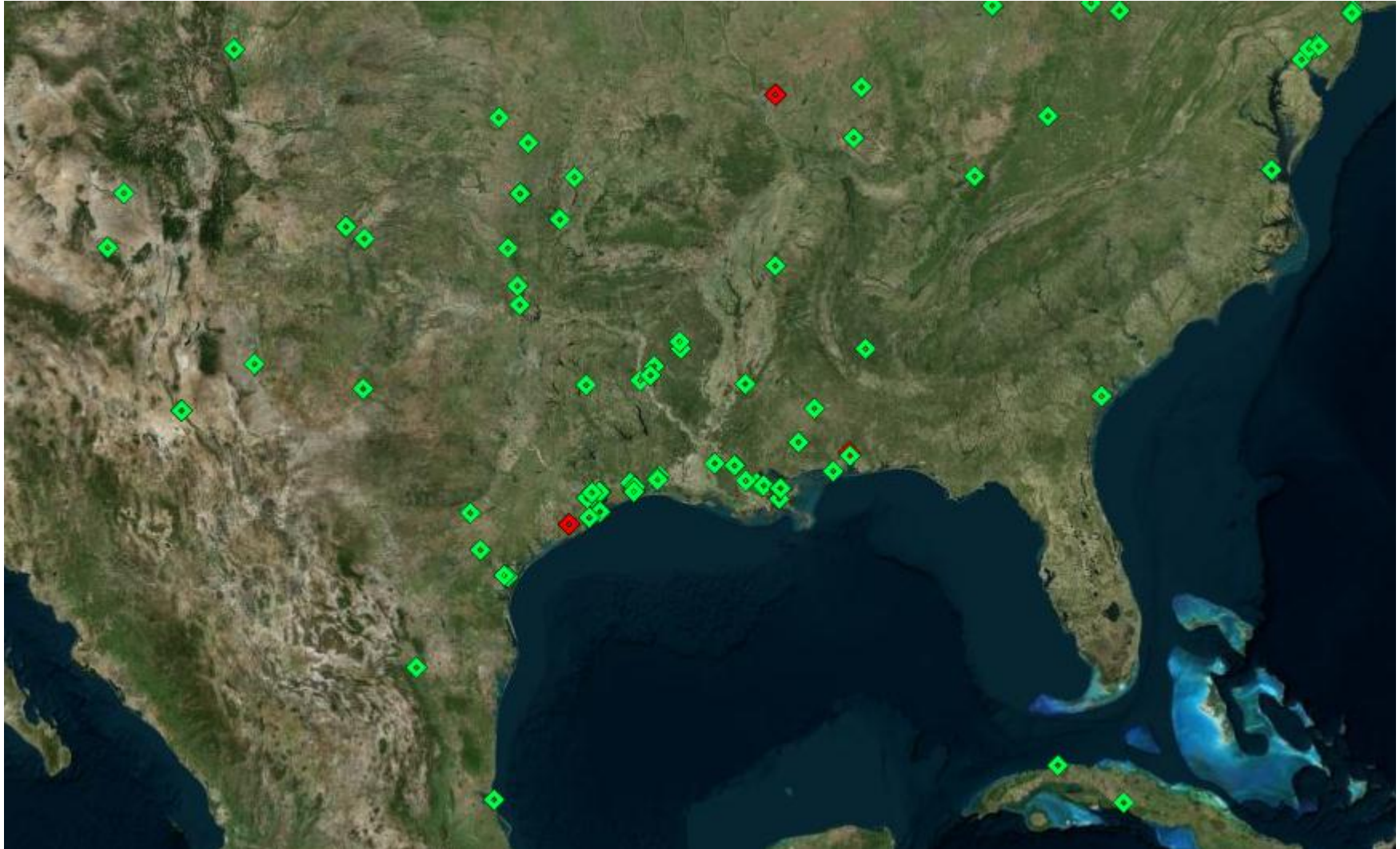
US Production Outages In The GOM By Tropical Storms

- Data from Bureau of Ocean Energy Management Regulation and Enforcement (BOEMRE)



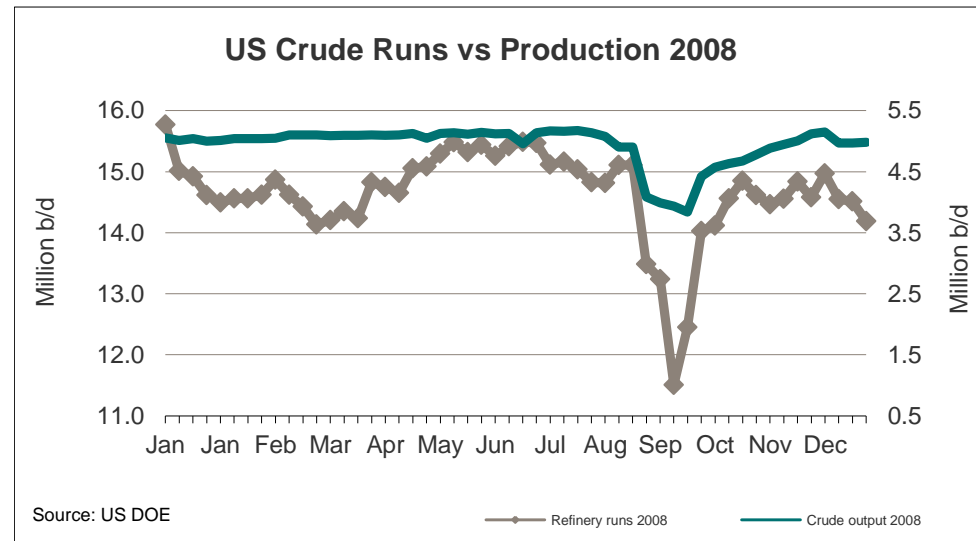
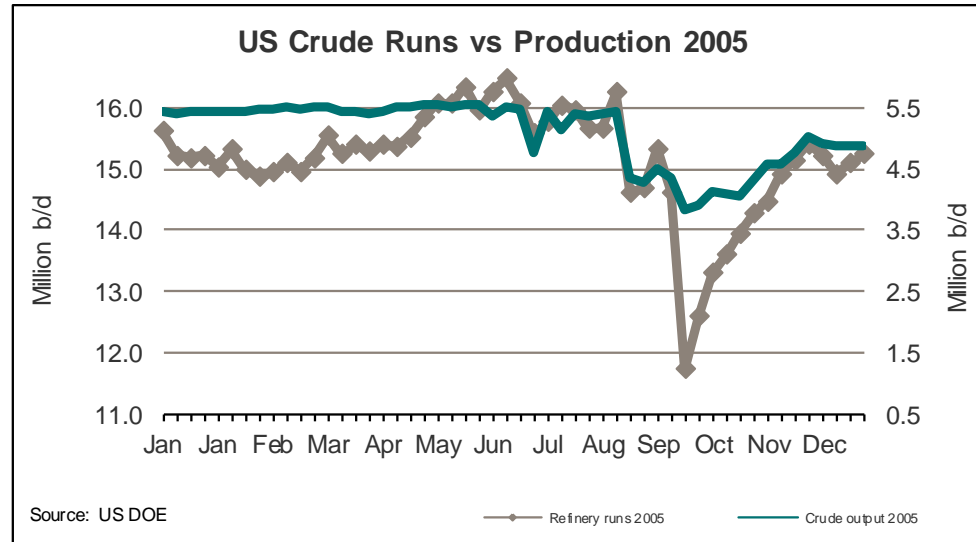
US Oil Refineries Clustered At The Gulf Coast (44% of Capacity)

- Hence refining margins are very much exposed to Atlantic Hurricanes making landfall in Texas/Louisiana



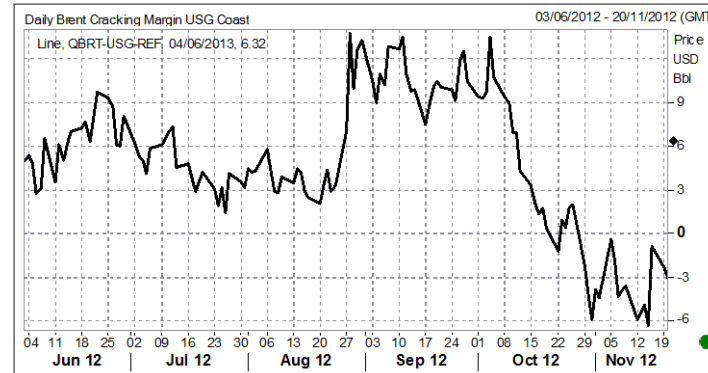
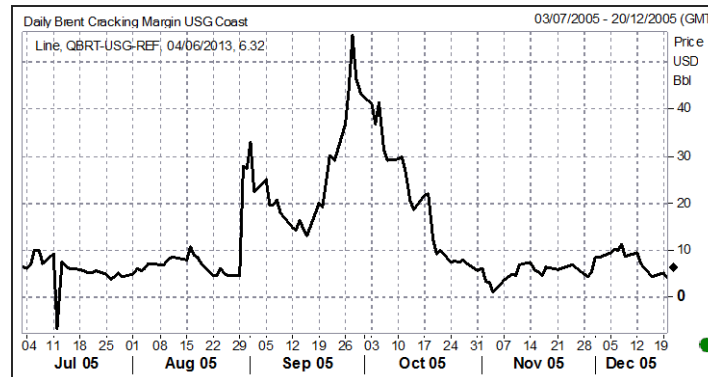
If Hurricane Landfall – More Products Than Crude Is Lost

- The below graphs shows why margins are more supported than flat price if the Hurricane make landfall at the US refinery cluster



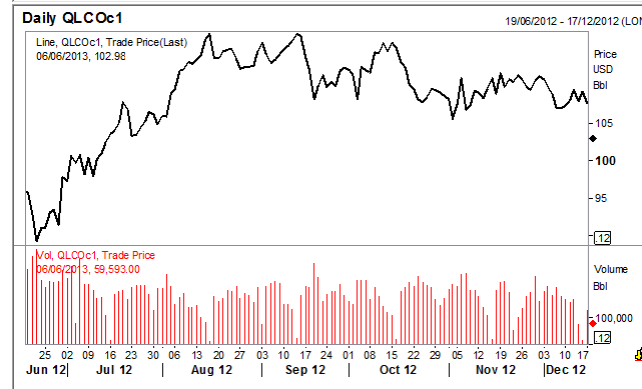
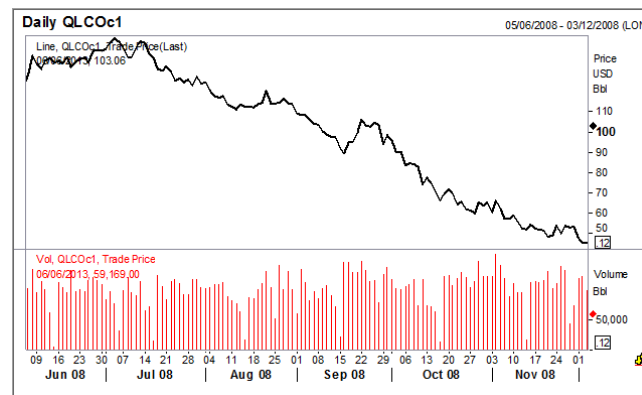
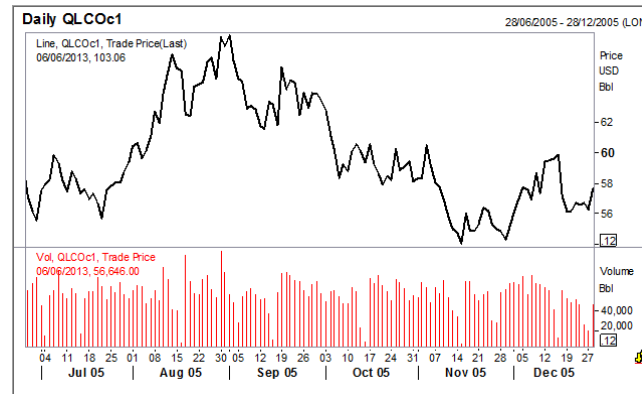
If Hurricane Landfall – Refinery Margins Could Spike

- Both in 2005 and in 2008 refinery margins exploded to the upside, but also last year saw a decent spike due to the storm Isaac



But Flat Price Suffers If The Hurricane Make Landfall

- Because we loose more crude demand than crude supply if the storm hits refineries in Texas/Louisiana

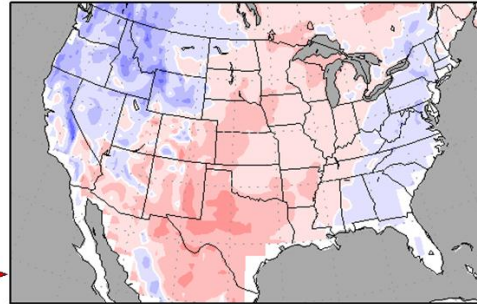
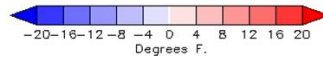


Latest Temperature Forecast Anomaly For The Coming Week

(US, Japan/Korea, Europe)

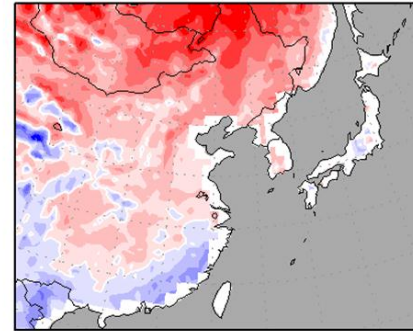
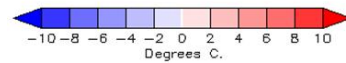
Temperature Anomaly during the 7.5-day period:

Fri, 29 NOV 2013 at 00Z
 -to-
 Fri, 06 DEC 2013 at 12Z



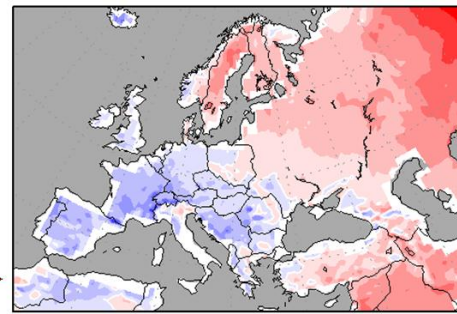
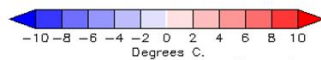
Temperature Anomaly during the 7.5-day period:

Fri, 29 NOV 2013 at 00Z
 -to-
 Fri, 06 DEC 2013 at 12Z



Temperature Anomaly during the 7.5-day period:

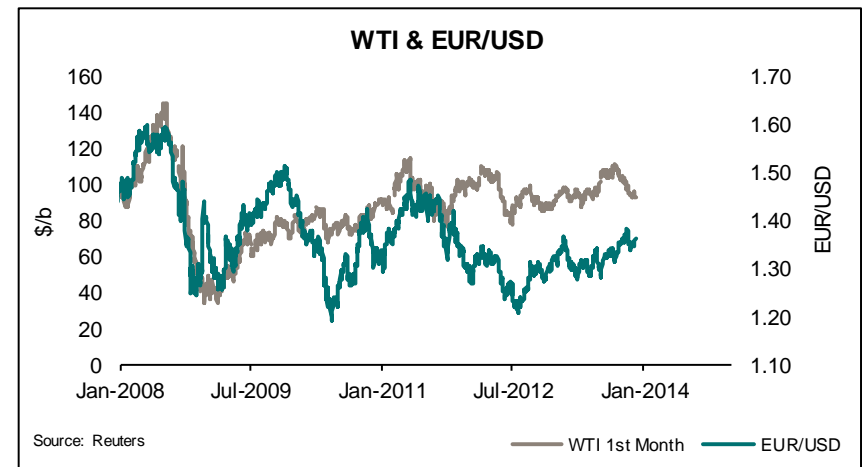
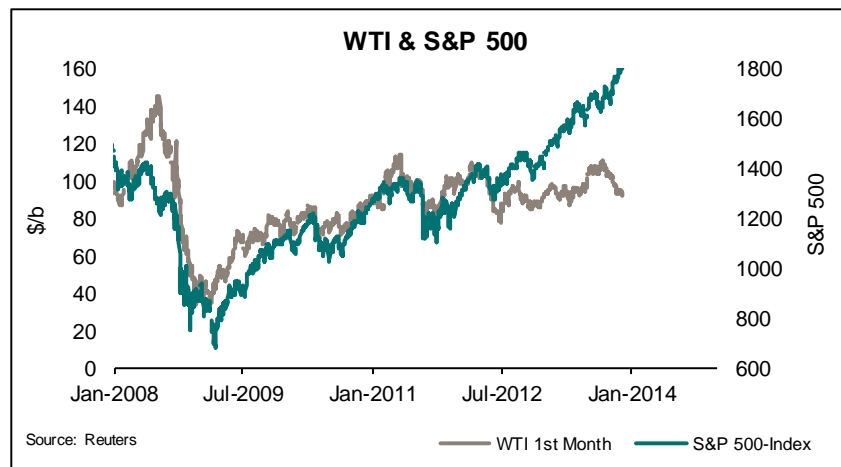
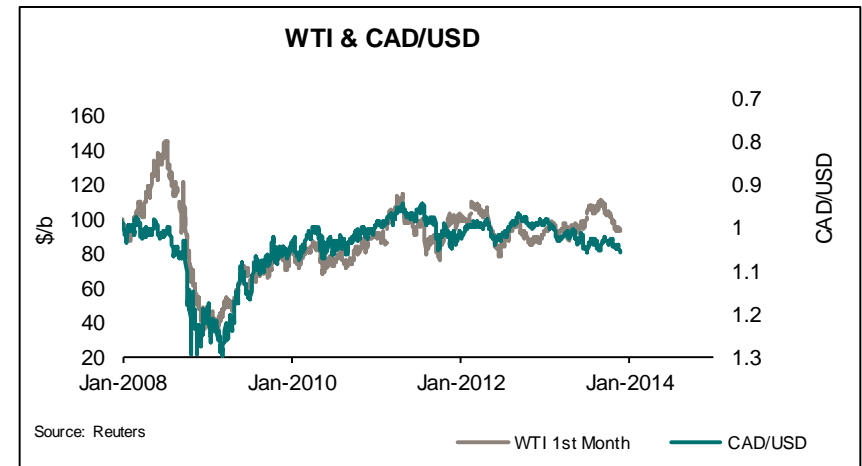
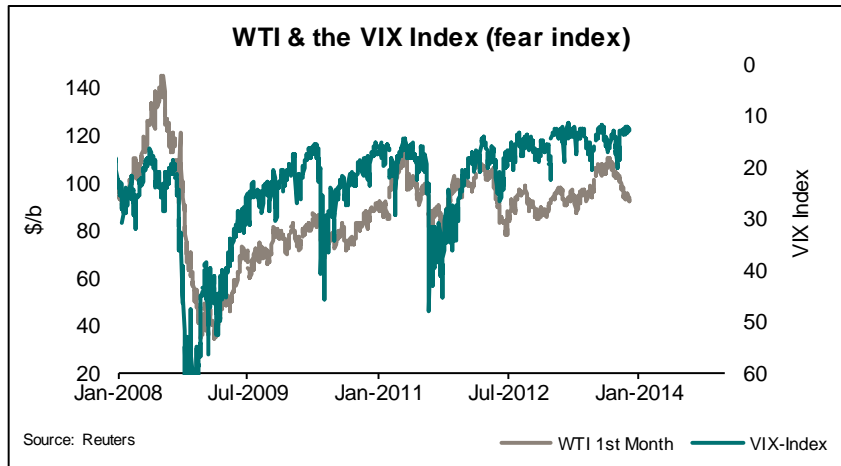
Fri, 29 NOV 2013 at 00Z
 -to-
 Fri, 06 DEC 2013 at 12Z



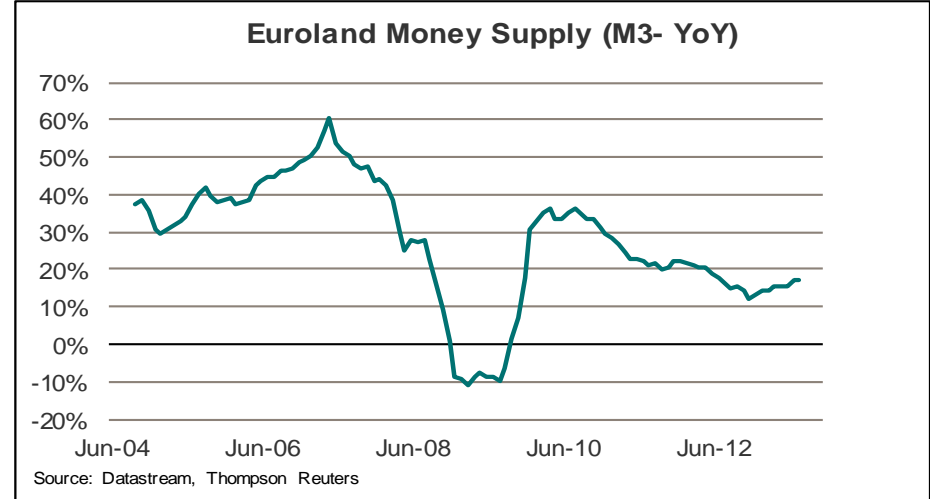
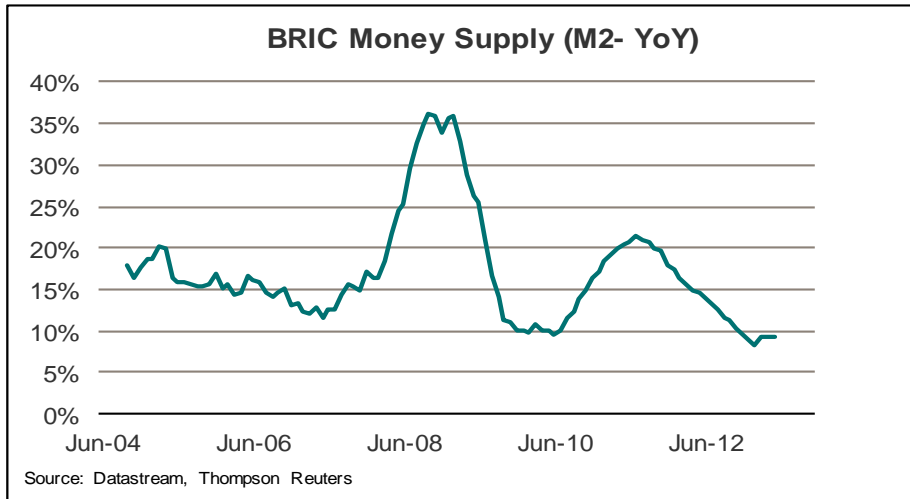
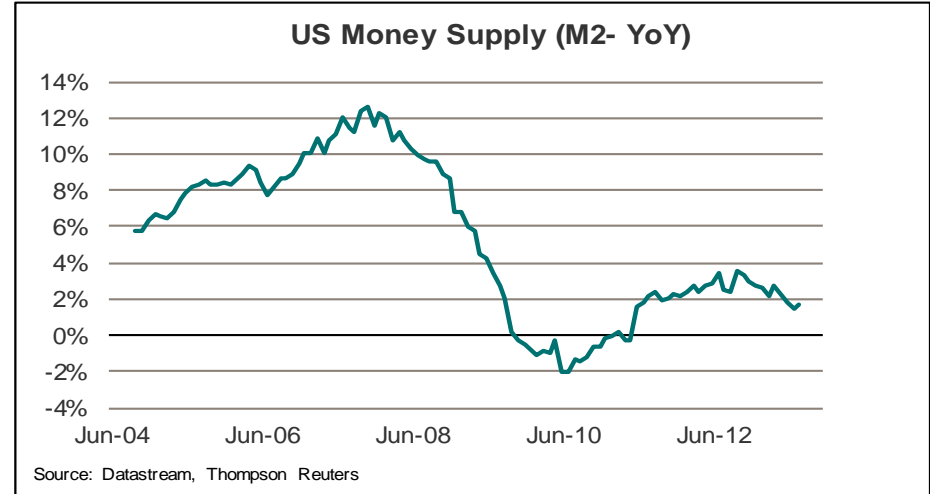
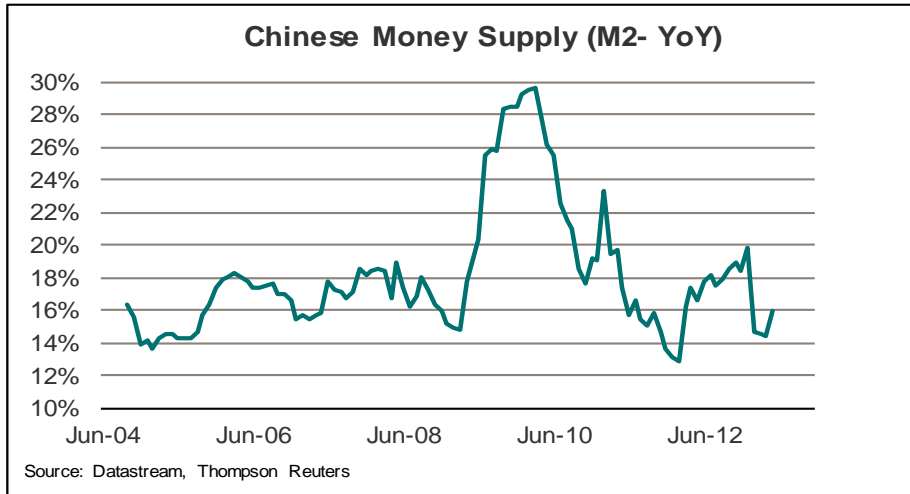
Temperature forecasts from the National Centers for Environmental Prediction.
 Normal Temperature derived from CRU monthly climatology for 1901-2000
 Forecast Initialization Time: 00Z29NOV2013

Sentiment Indicators & Macro Indicators

Sentiment Indicators



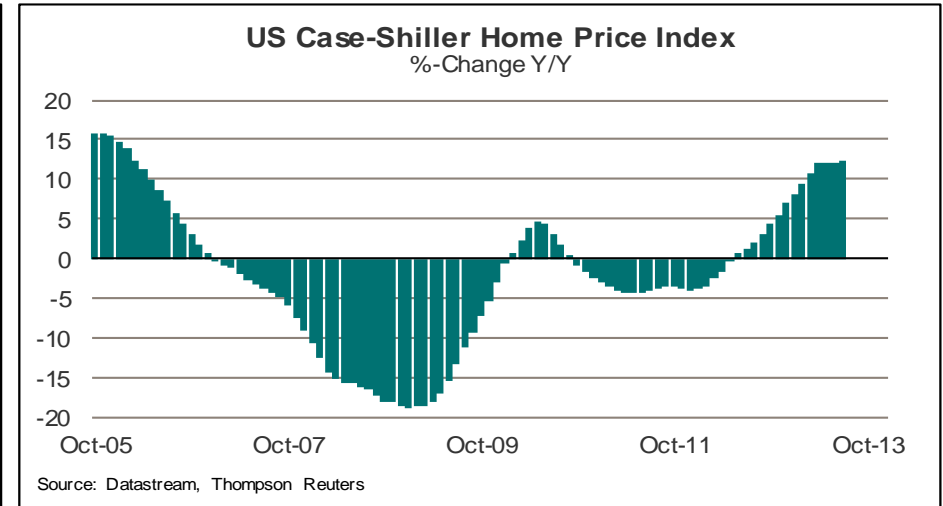
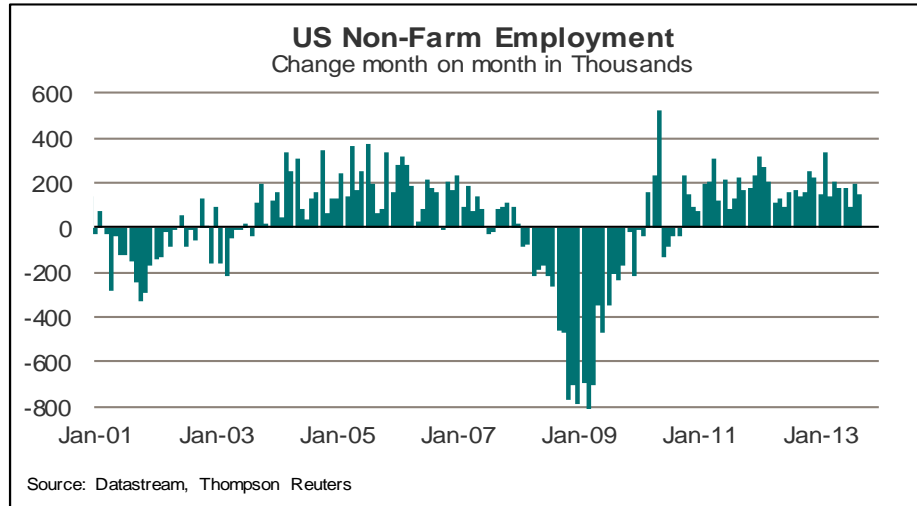
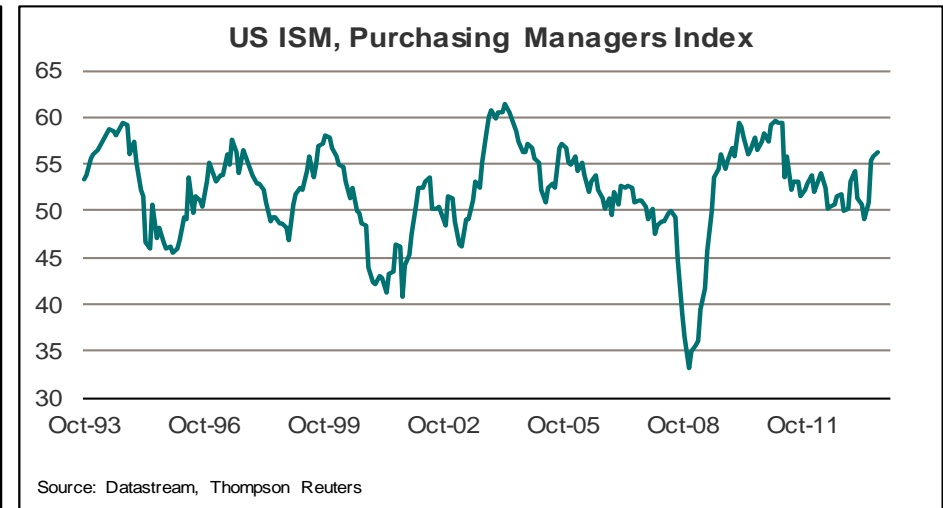
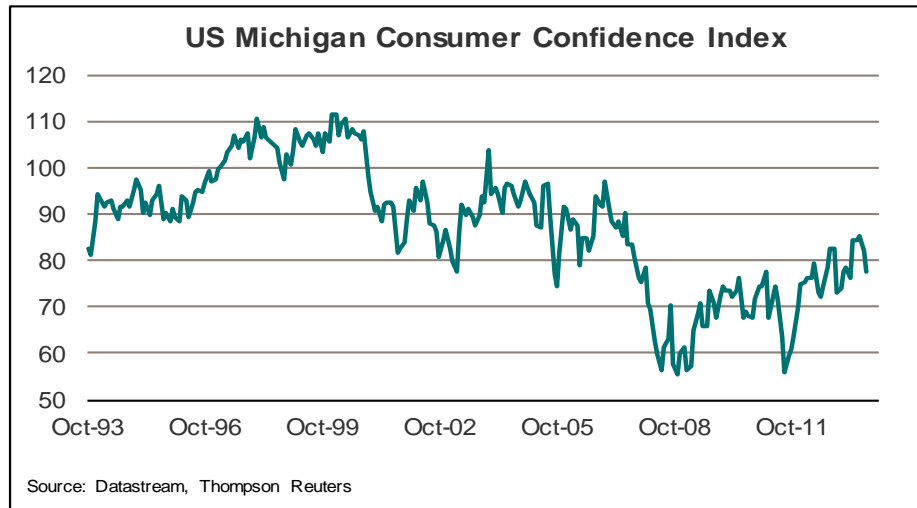
Money Supply - Key Countries



Source: Thompson-Reuters - Datastream

MARKETS

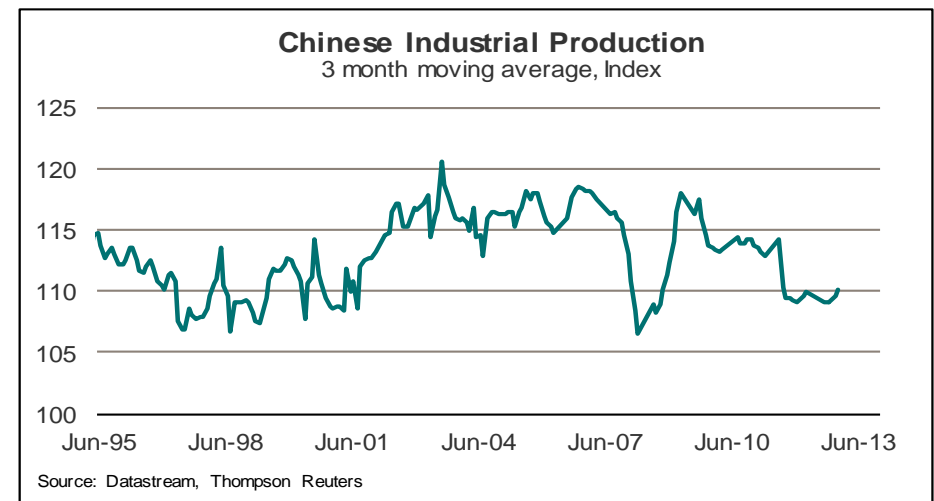
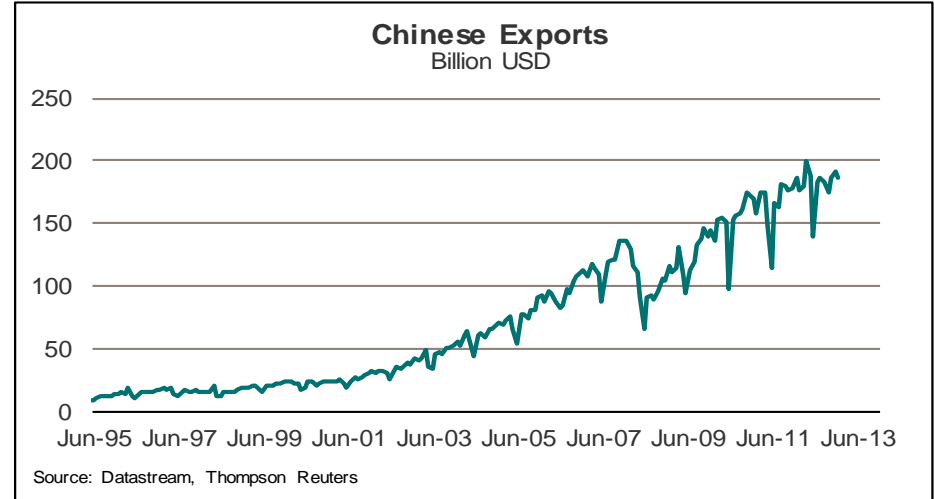
Macro Economic Indicators - USA



Source: Thompson-Reuters - Datastream

MARKETS

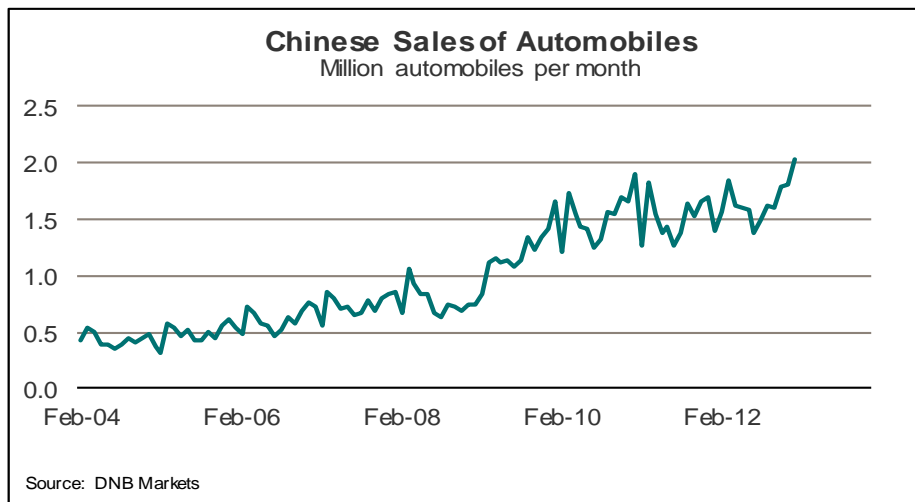
Macro Economic Indicators - China



Source: Thompson-Reuters - Datastream

MARKETS

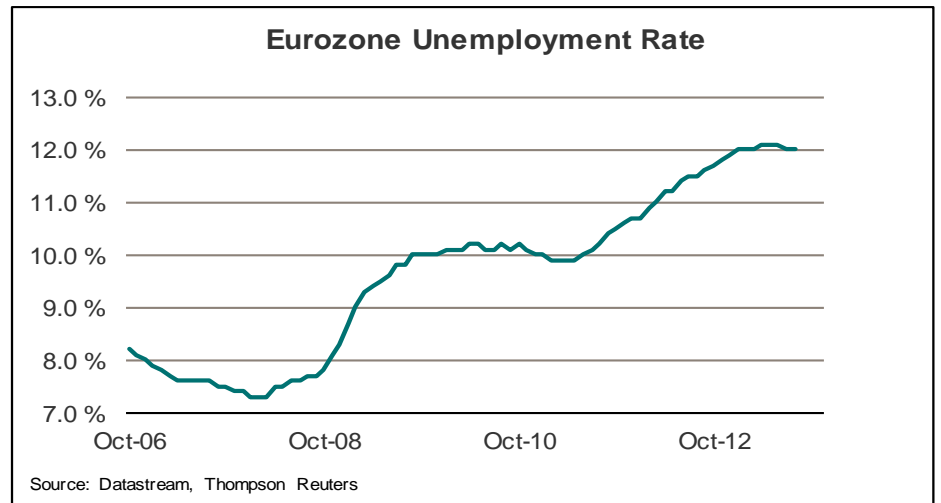
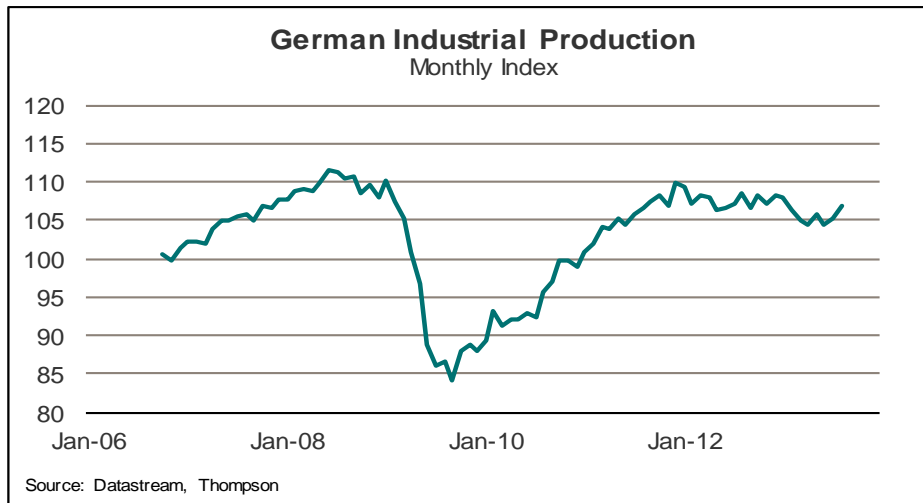
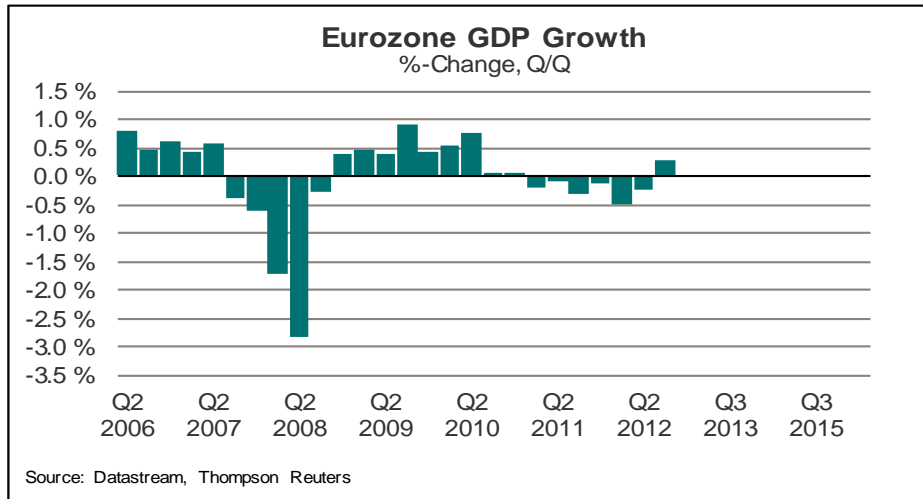
Macro Economic Indicators - China



Source: Thompson-Reuters - Datastream

MARKETS

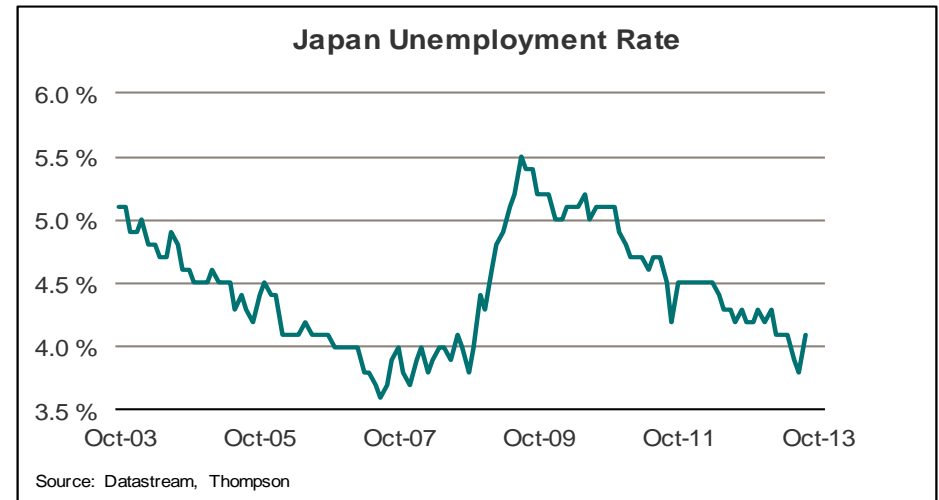
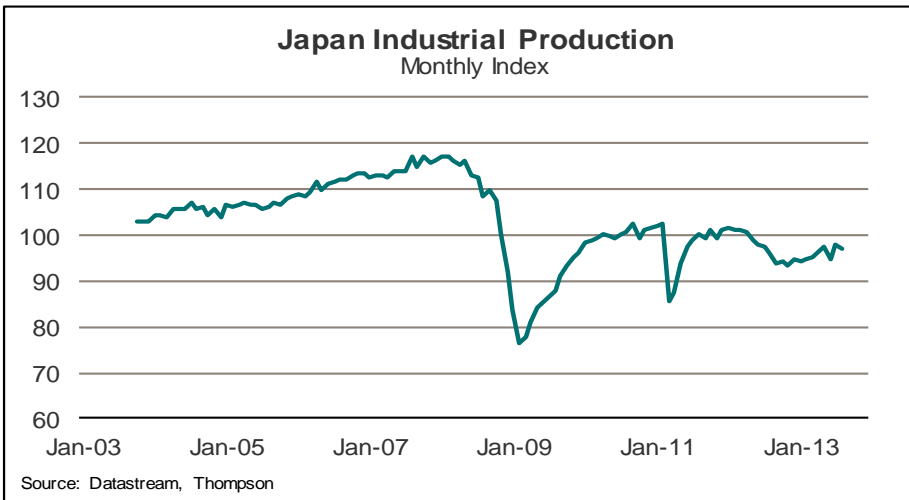
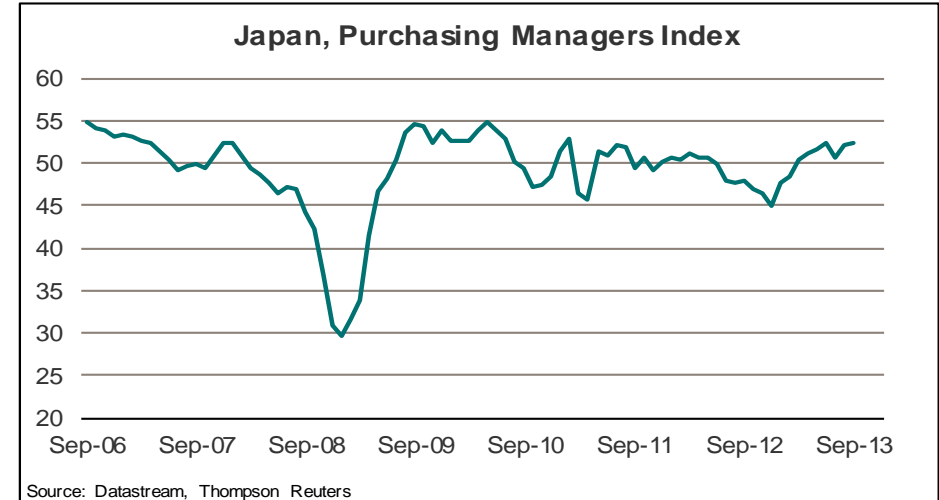
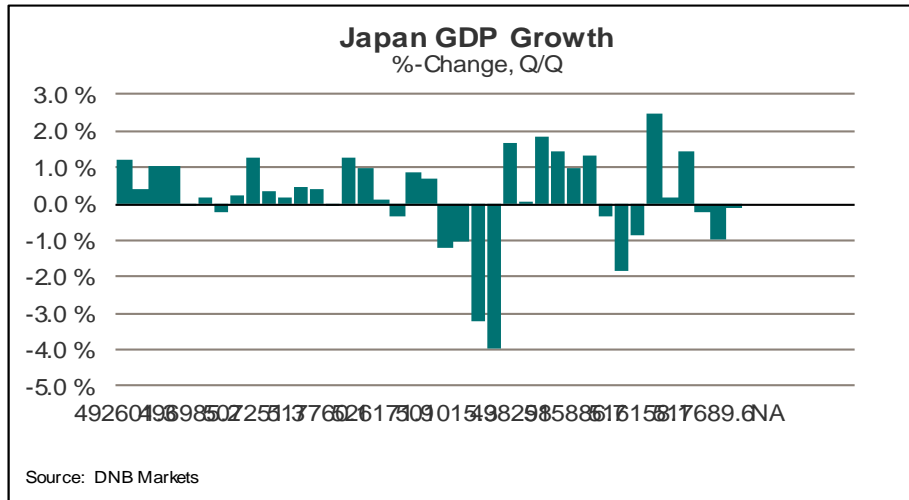
Macro Economic Indicators - Eurozone



Source: Thompson-Reuters - Datastream

MARKETS

Macro Economic Indicators - Japan

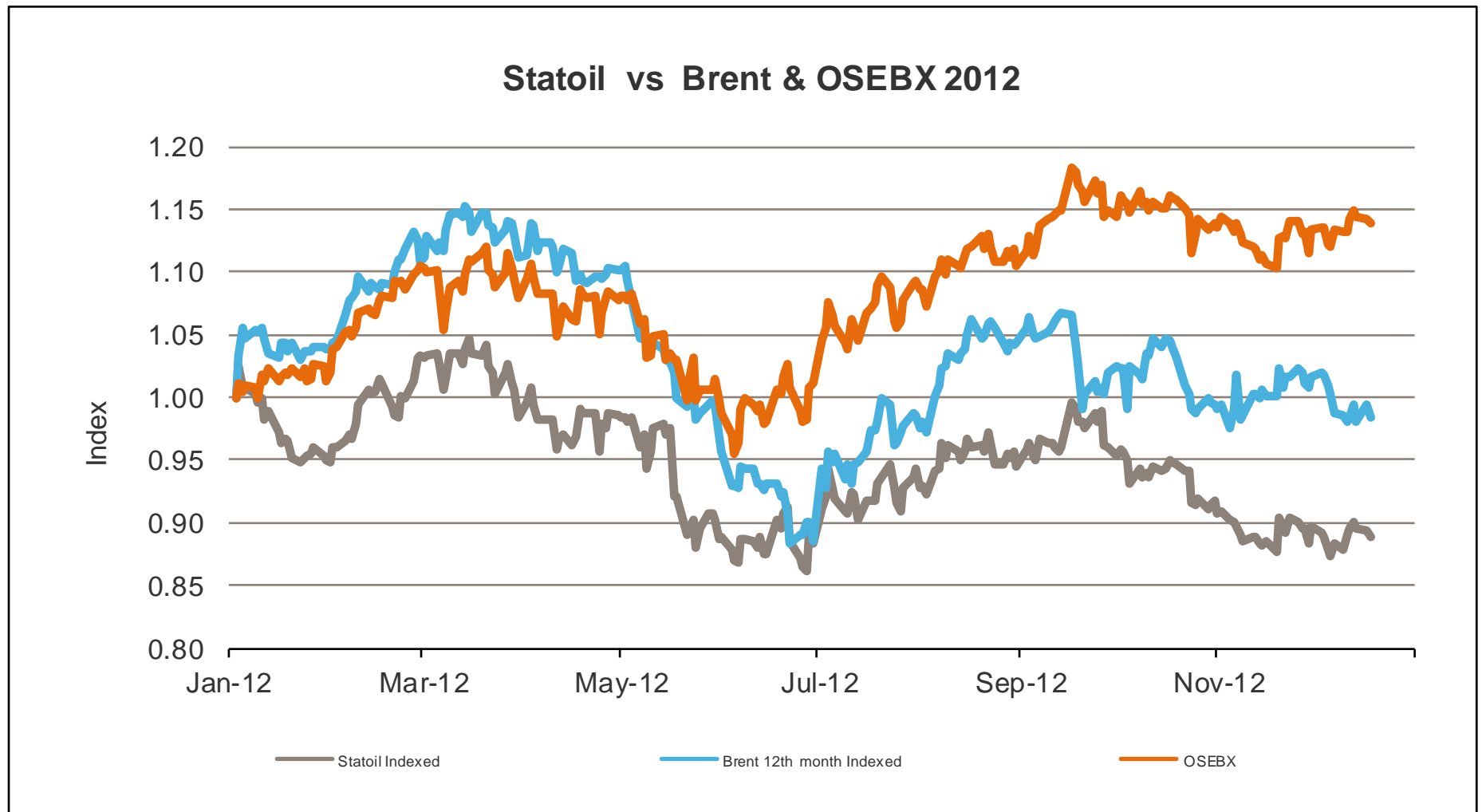


Source: Thompson-Reuters - Datastream

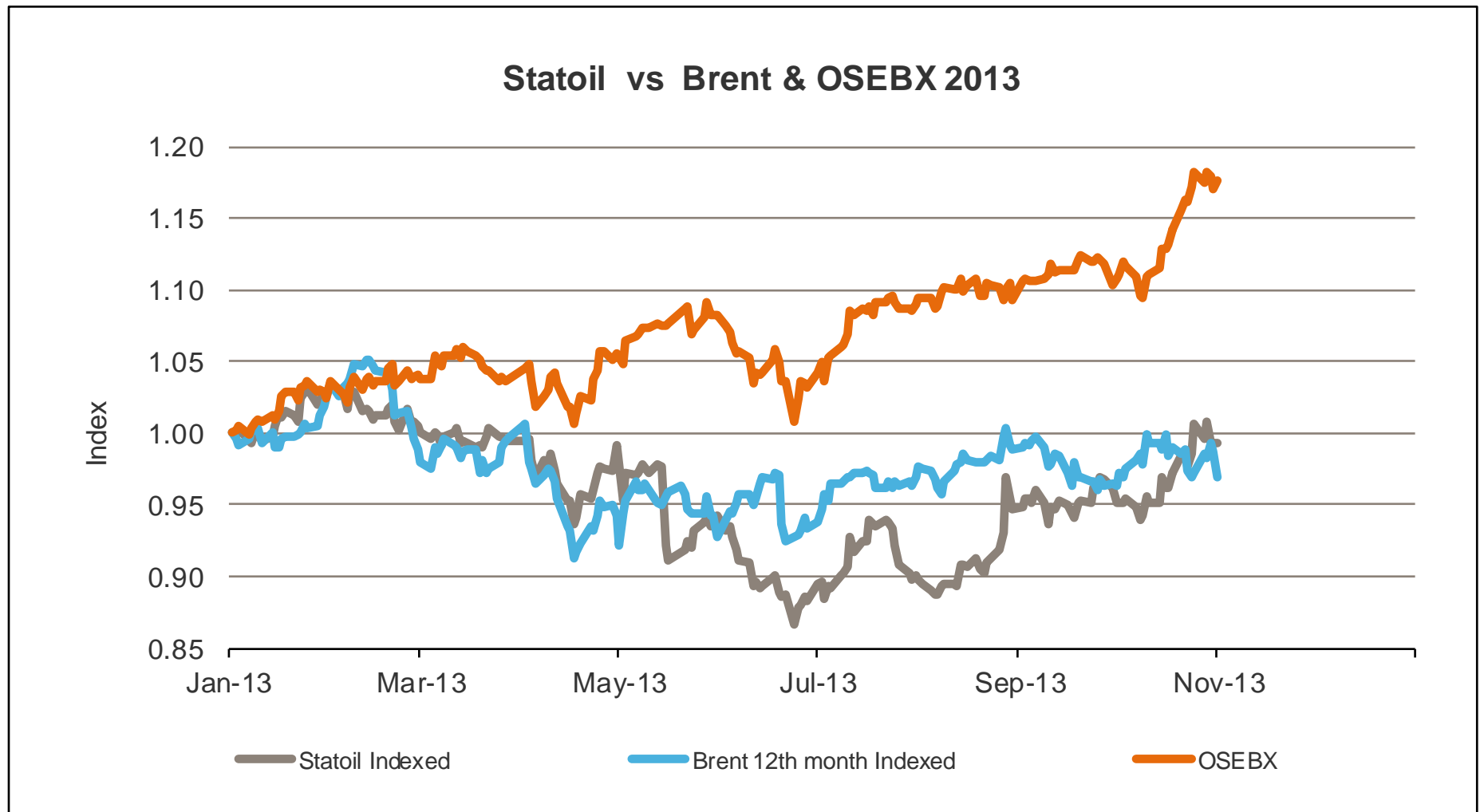
MARKETS

Equities, Currencies & Speculative Positions

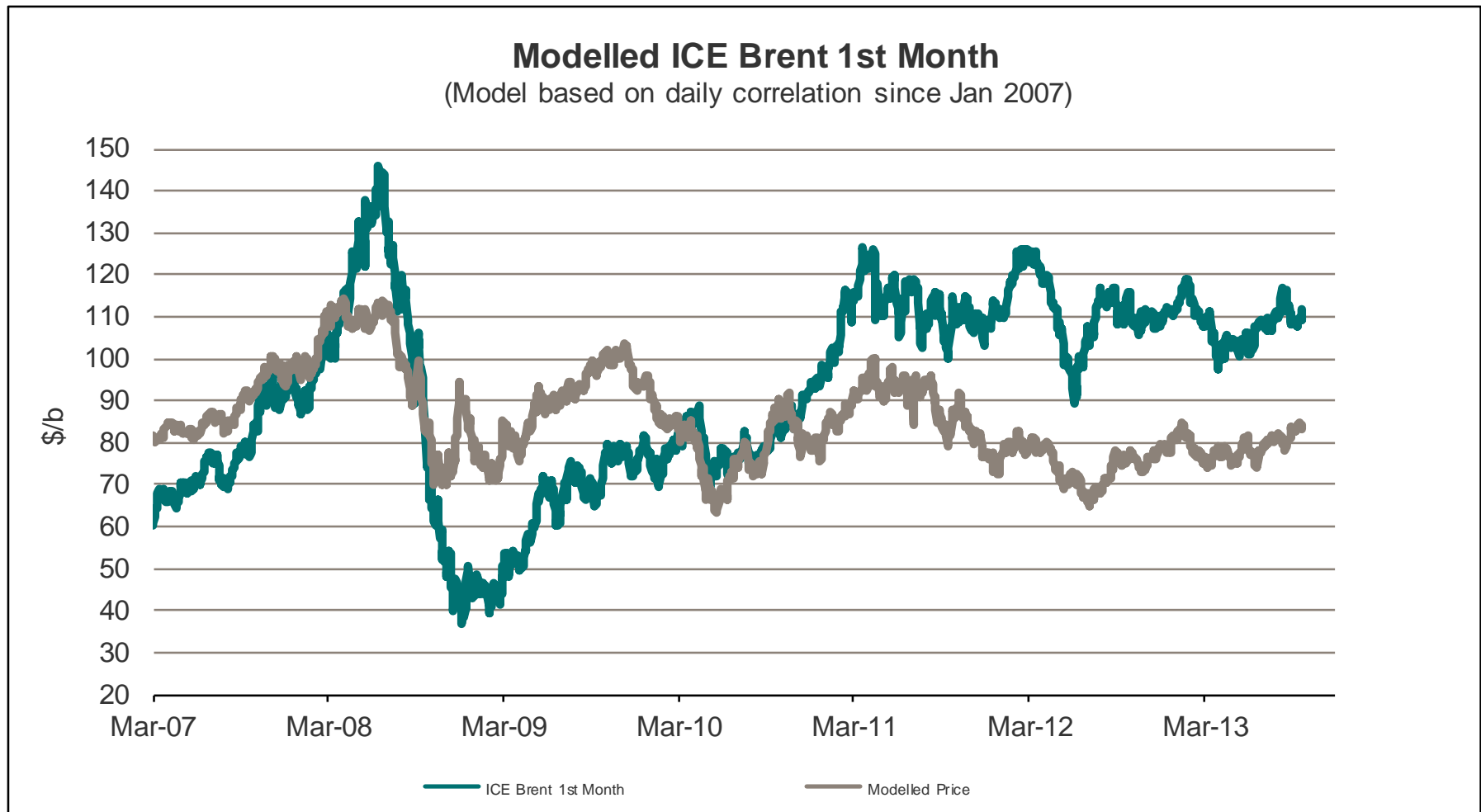
Statoil vs OSEBX & vs Oil Price



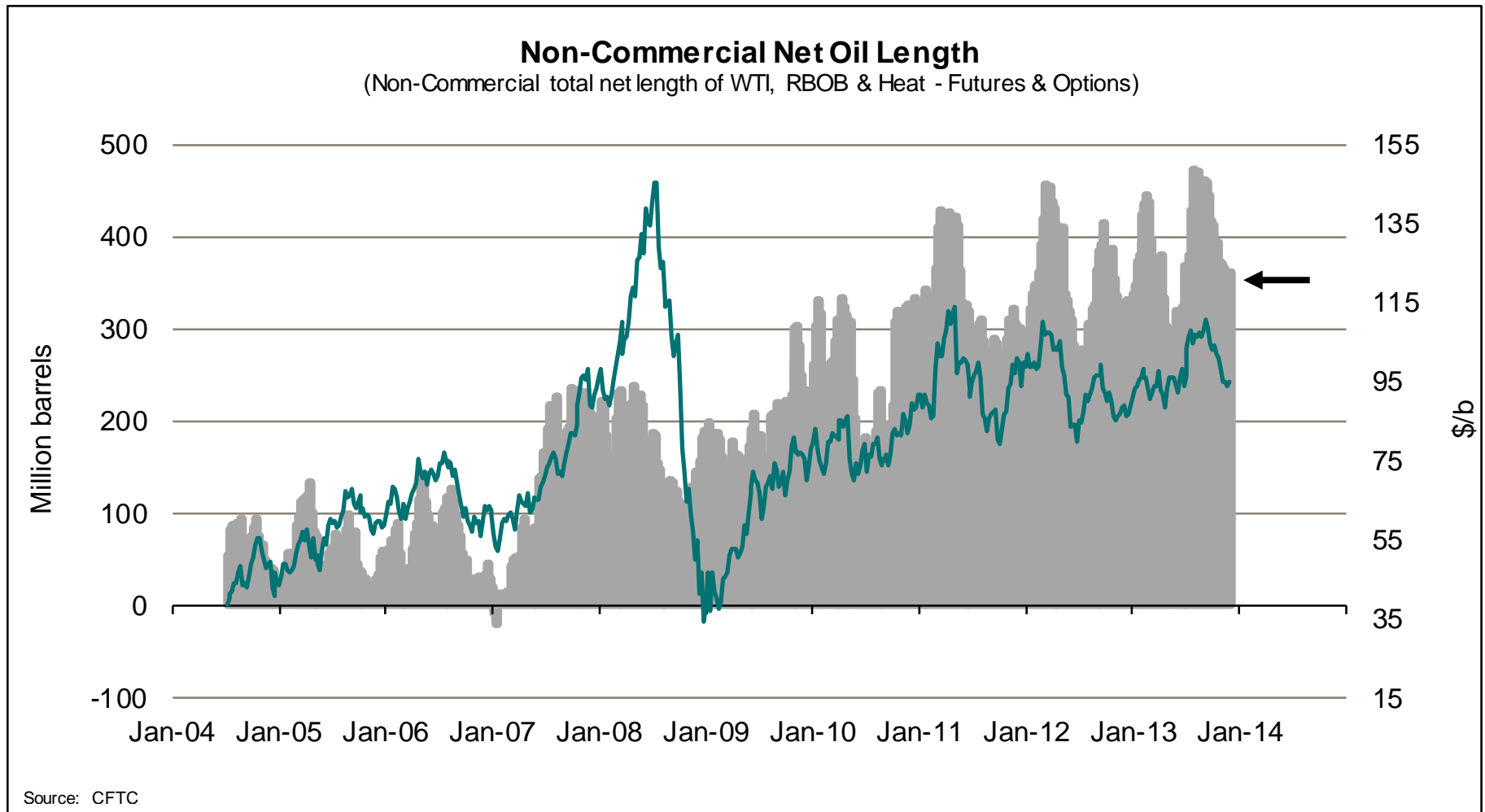
Statoil vs OSEBX & vs Oil Price



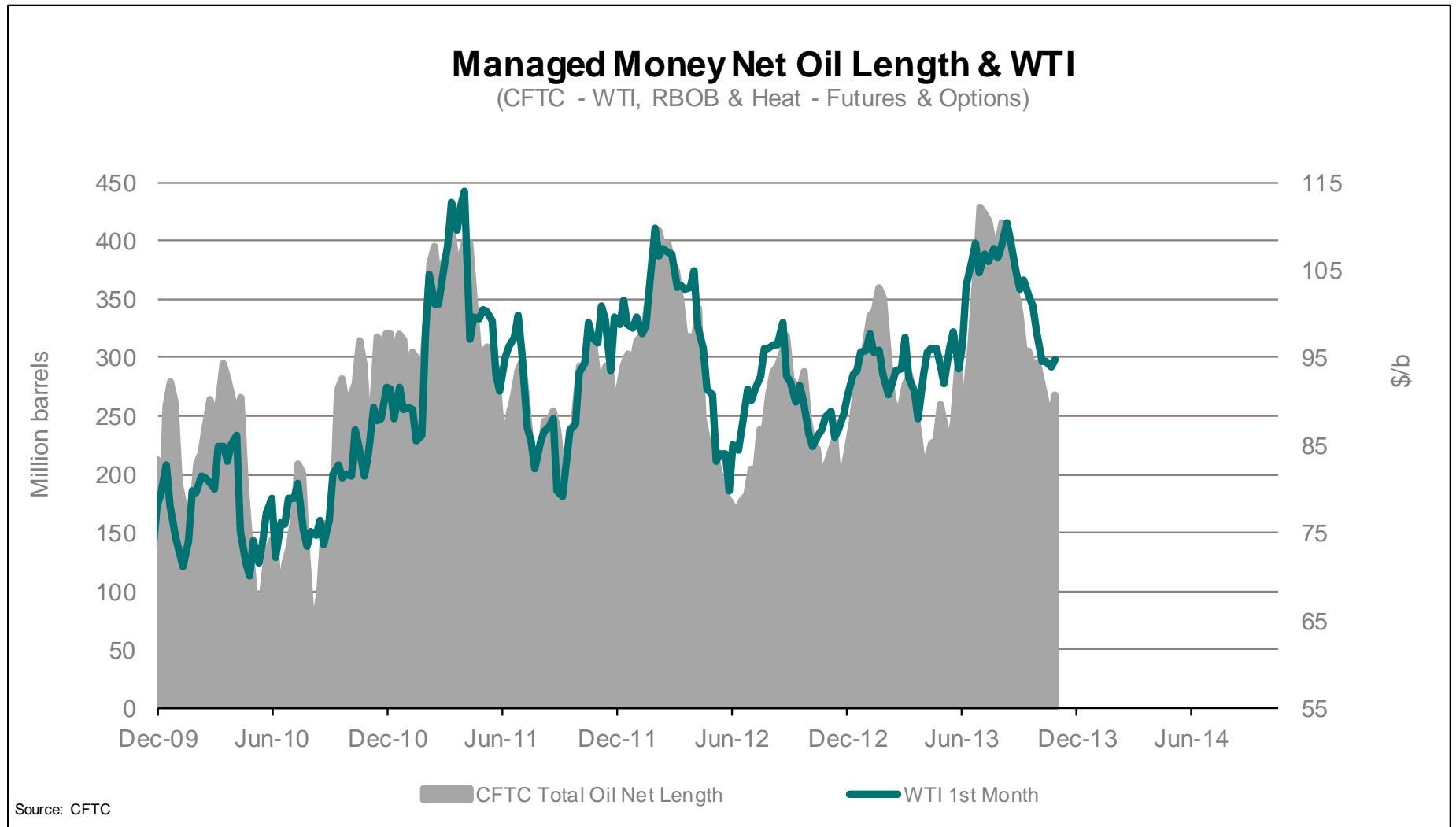
USD/EUR vs Oil Price



Financial Oil Positions NYMEX (WTI, RBOB, Heating Oil)



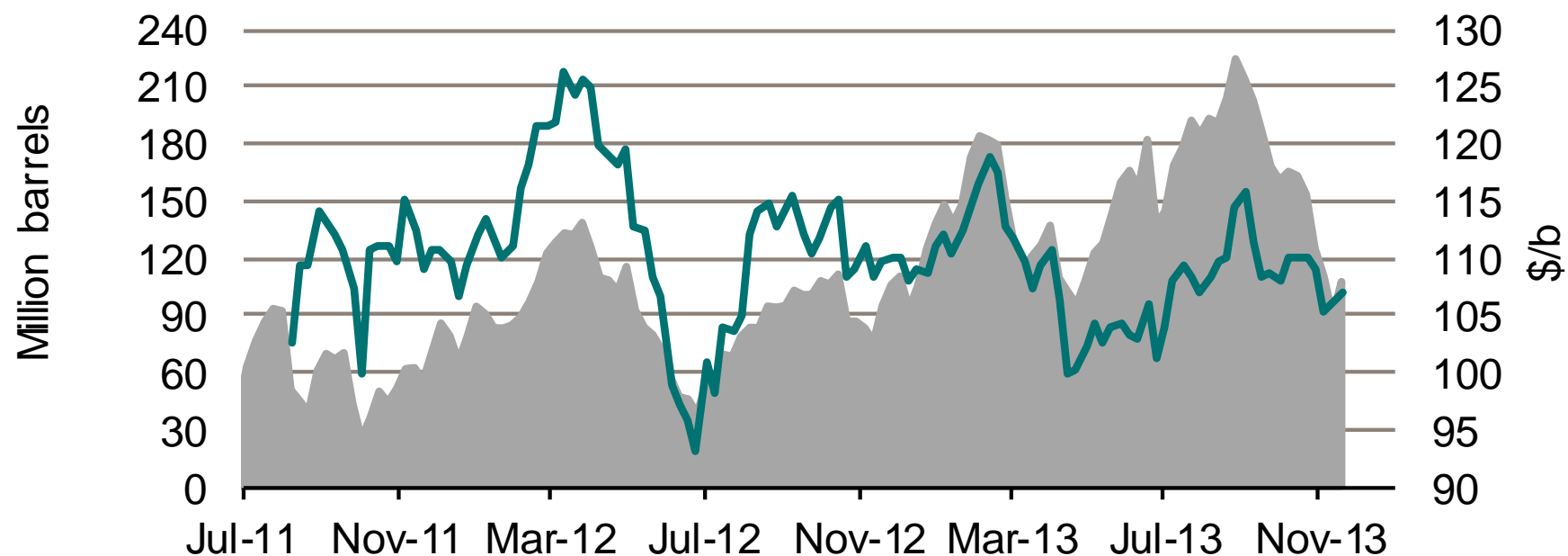
Financial Oil Positions NYMEX (WTI, RBOB, Heating Oil)



Net 'Money Managers' Exposure on ICE Brent

ICE London Managed Money Net Brent Oil Length & Brent Price

(Net length of Brent Futures)

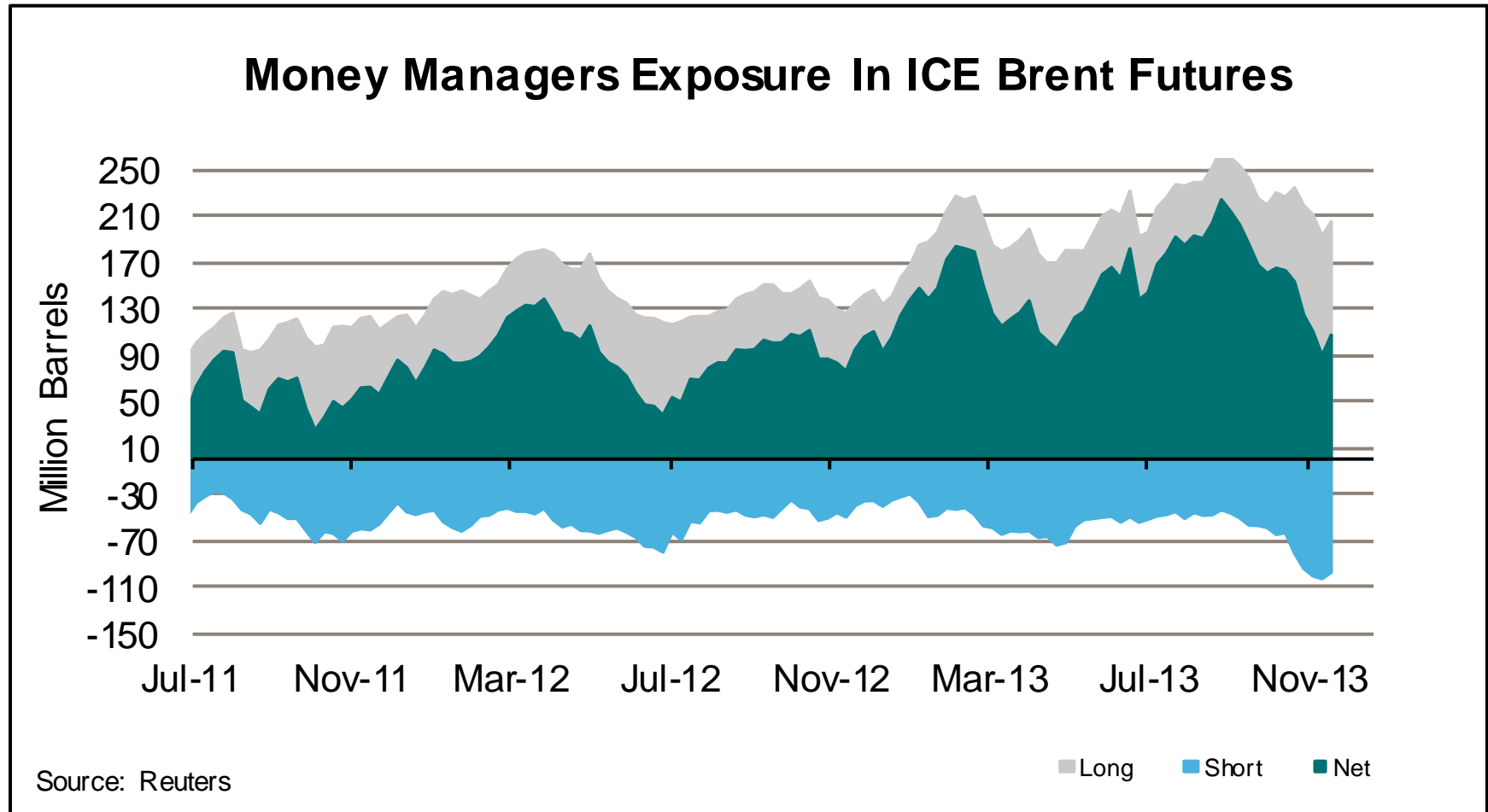


Source: Reuters

ICE Brent Futures Net Length

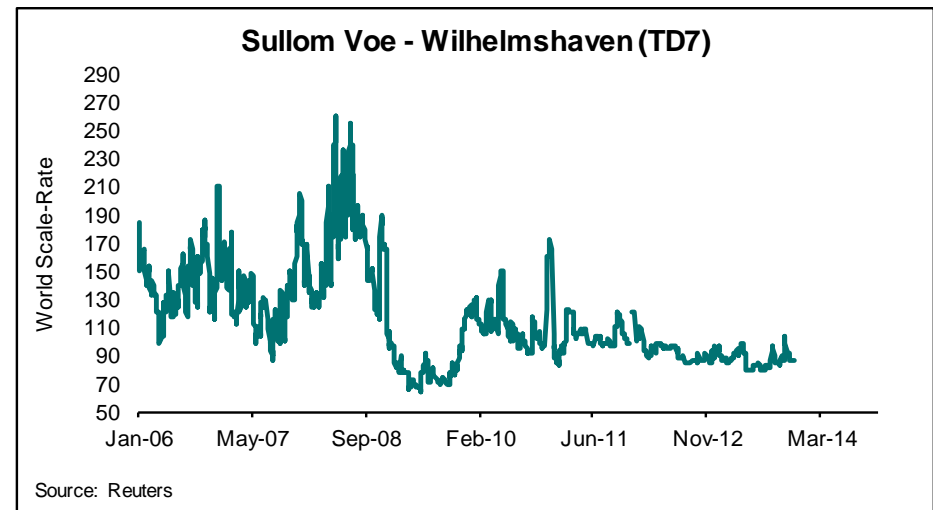
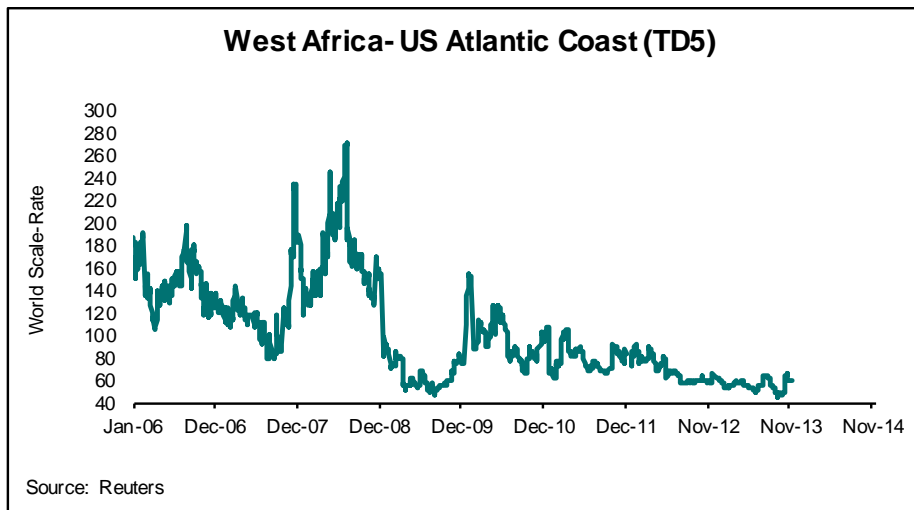
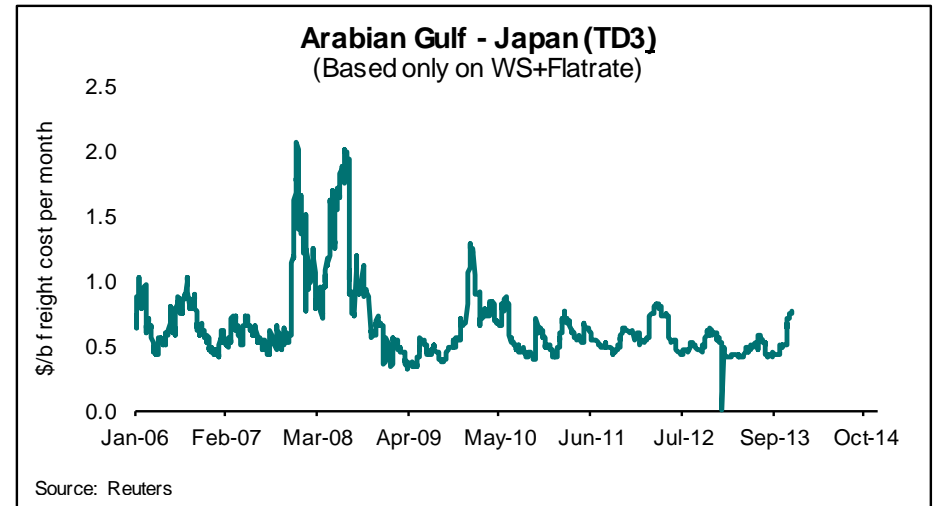
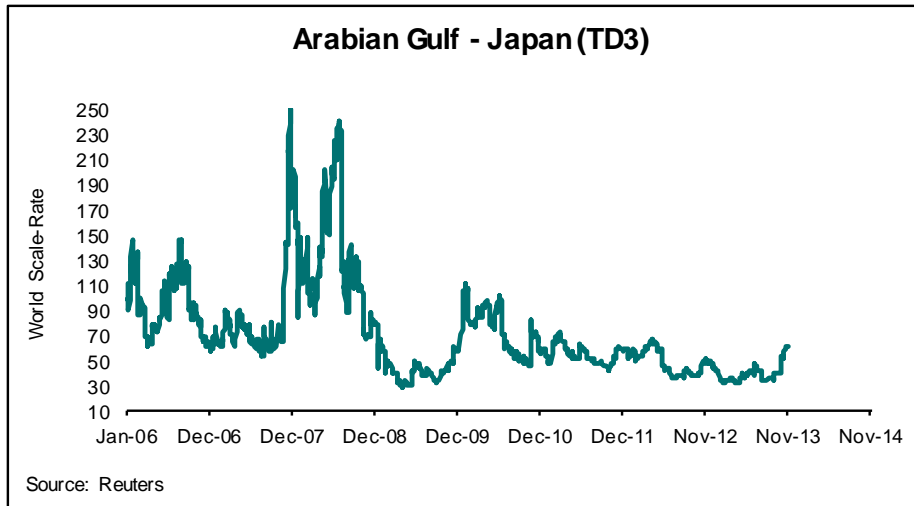
Brent 1st Month

Gross 'Money Managers' Exposure on ICE Brent

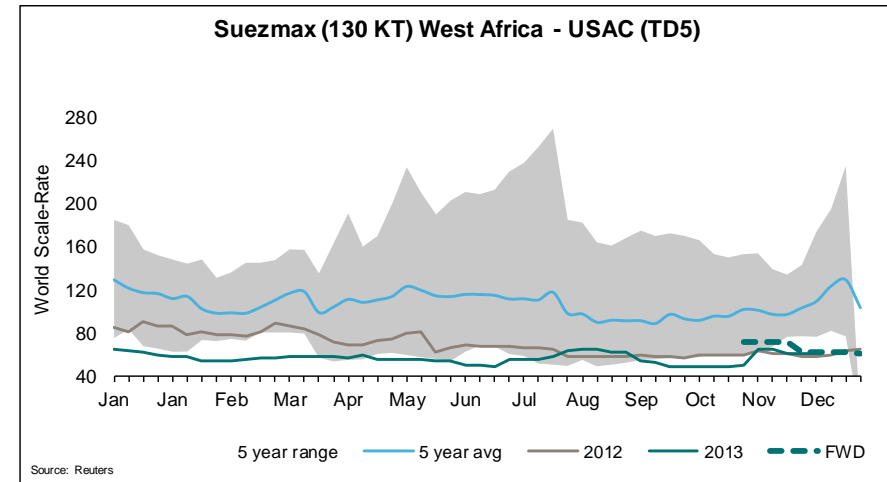
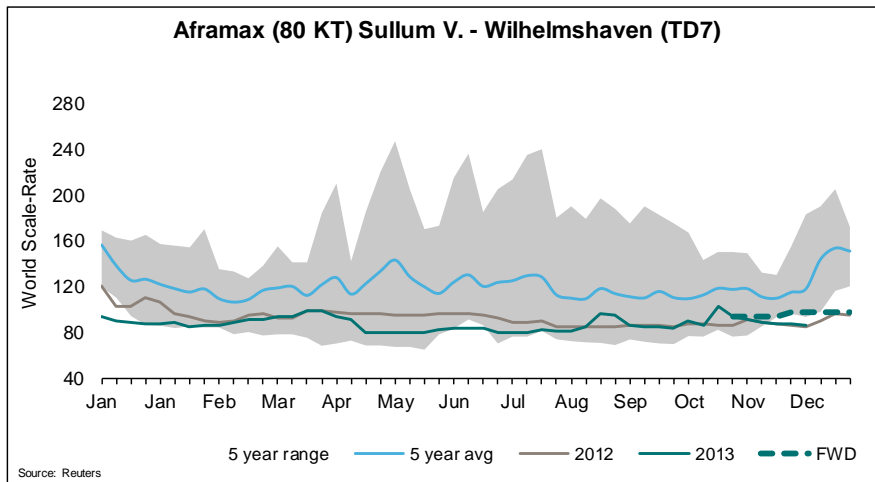
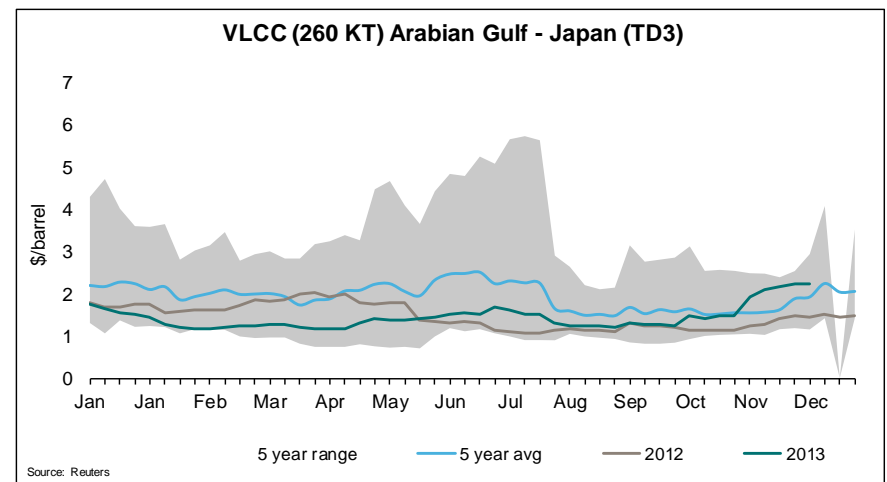
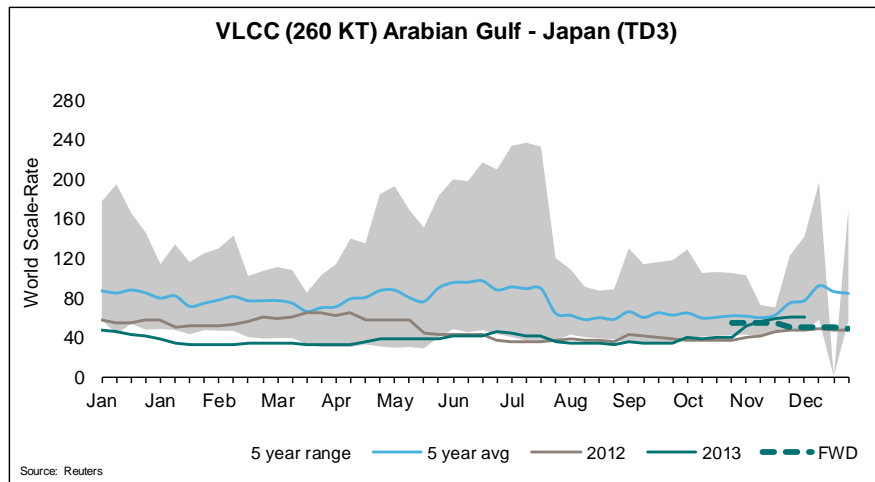


Freight Rates

Daily Dirty Oil Tanker Freight Rates

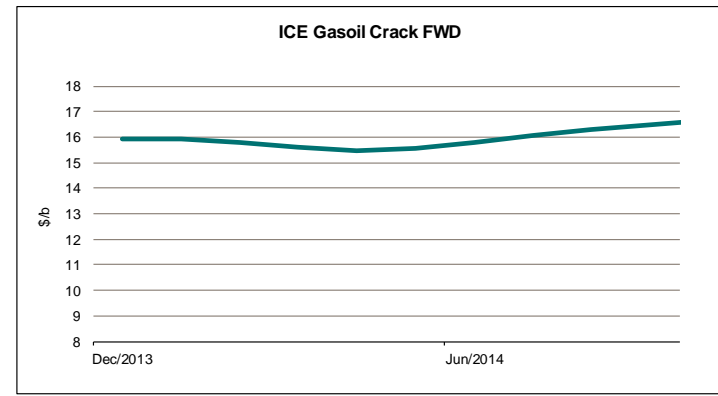
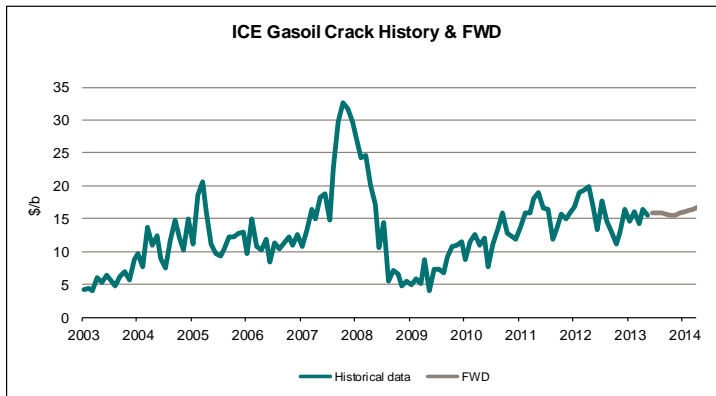
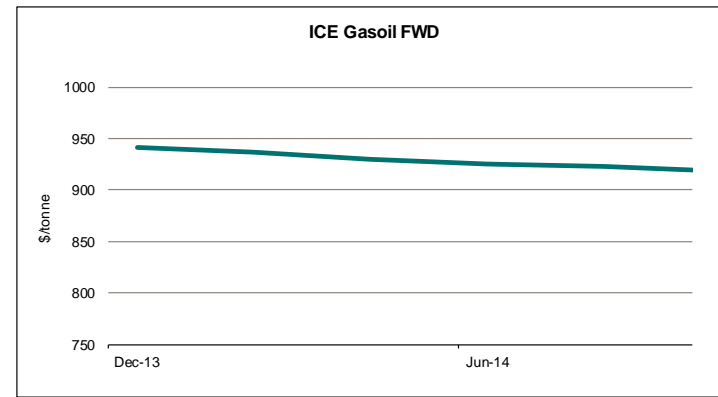
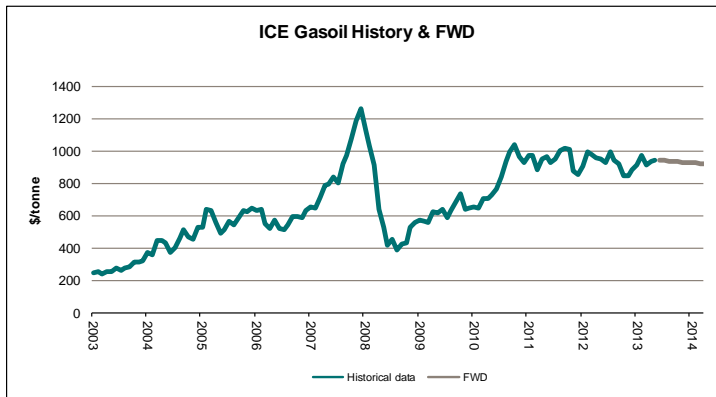
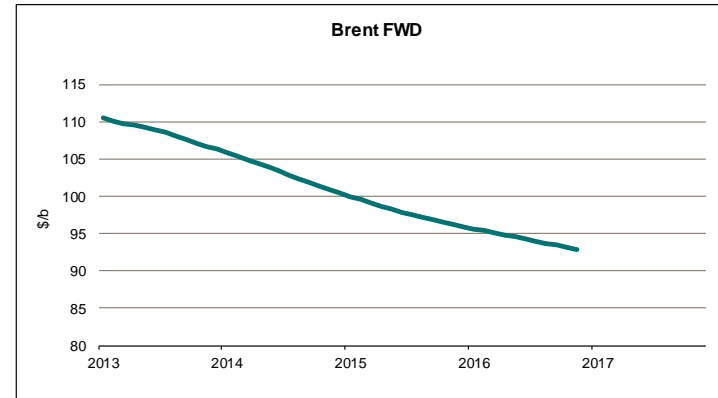
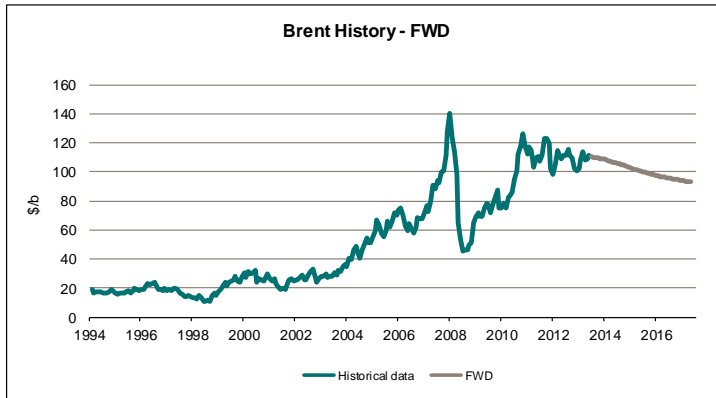


Weekly Dirty Oil Tanker Freight Rates By Size

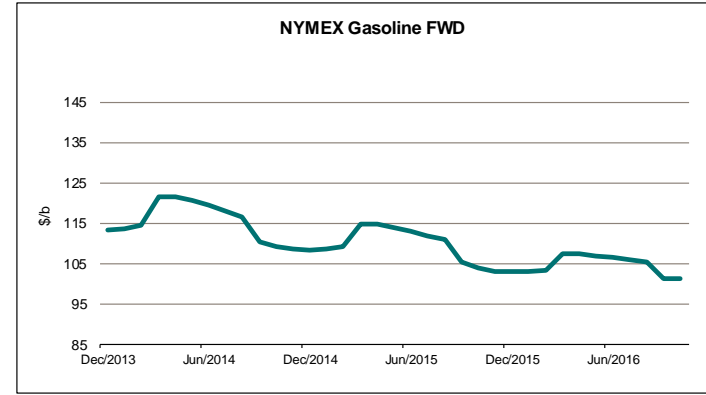
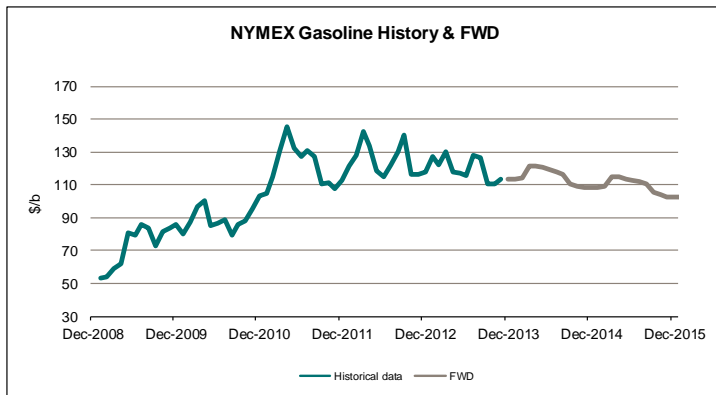
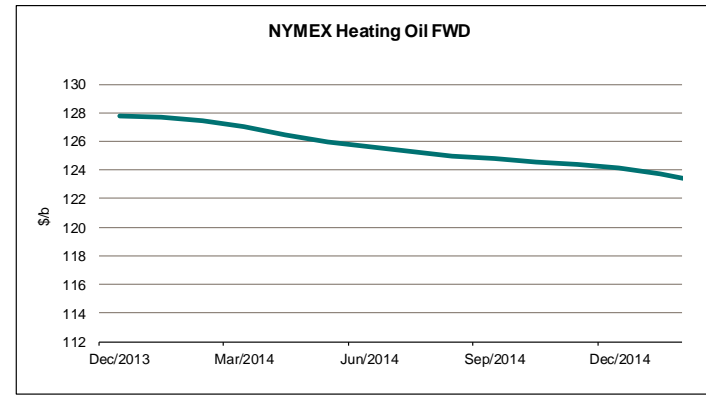
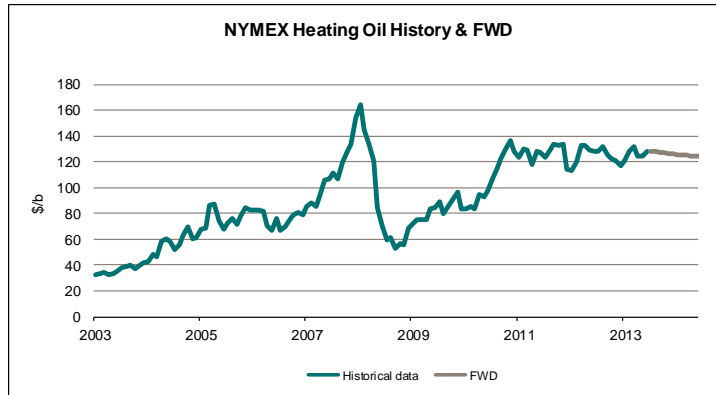
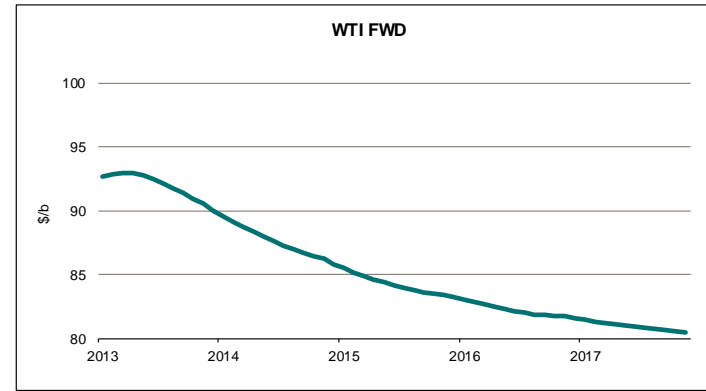
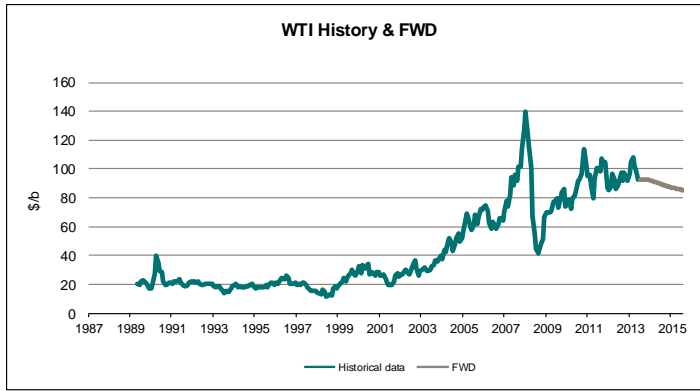


Forward curves,
Modeled oil price based on time spreads,
Futures volume,
Historical prices,
Regional crude spreads,
Crude quality diffs,
Oil product arbitrage,
Time spreads,
Historical forward curves,
Technical Brent & WTI charts,
Natural Gas price relations,
US Natural Gas stock levels,
Our current oil price forecast

Oil FWD Curves – London



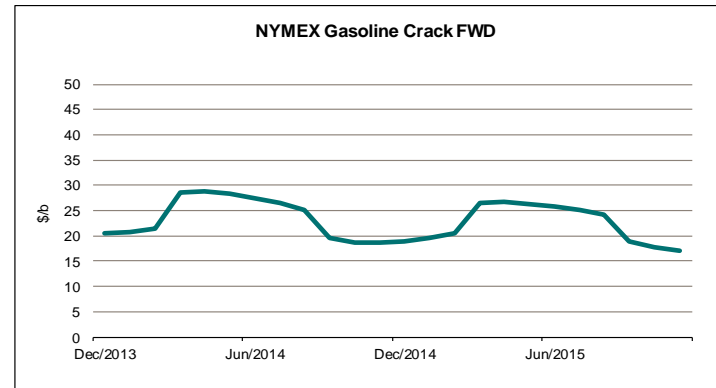
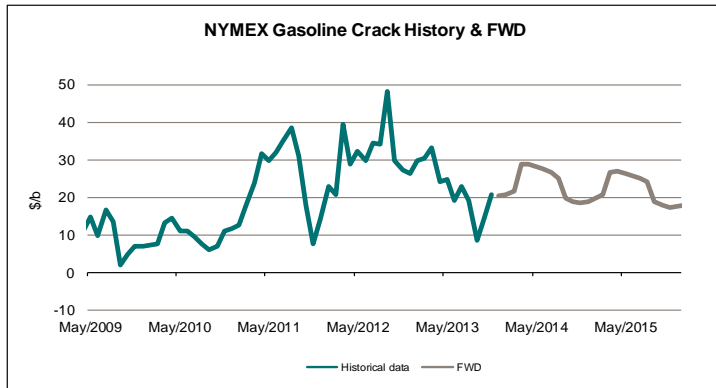
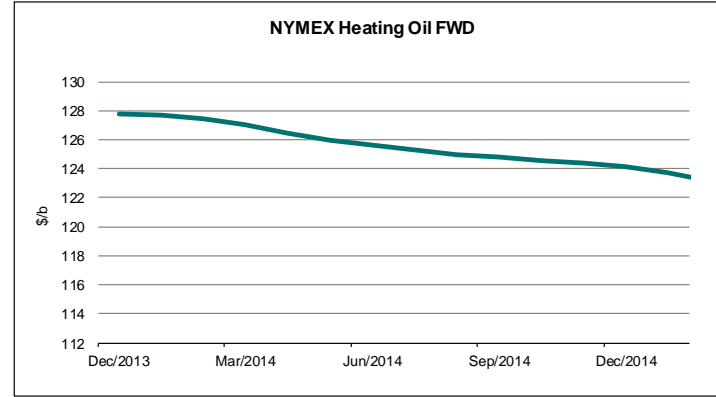
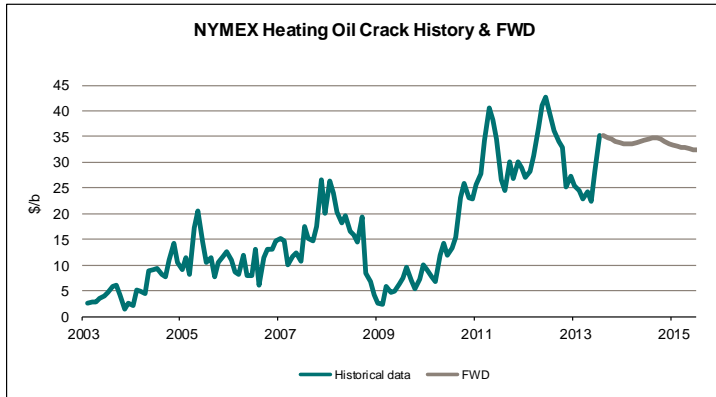
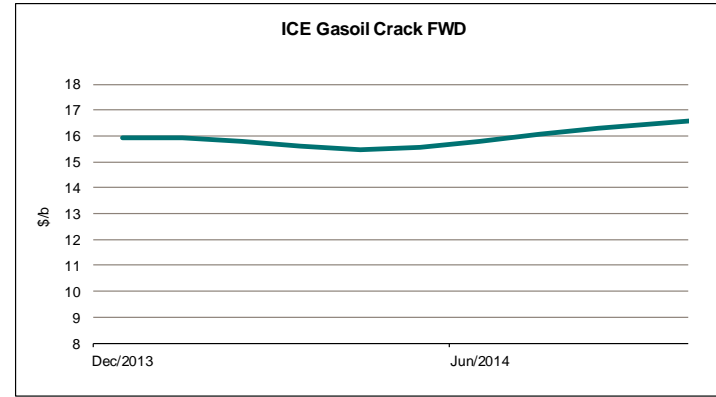
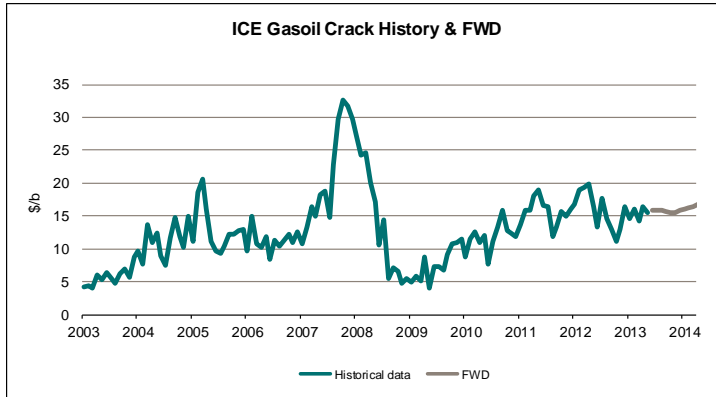
Oil FWD Curves – New York



MARKETS

Oil FWD Curves – ICE & NYMEX

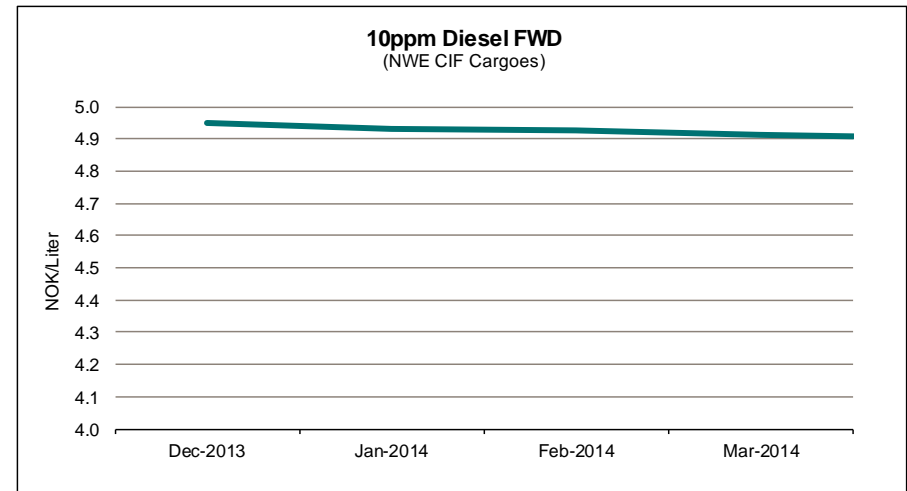
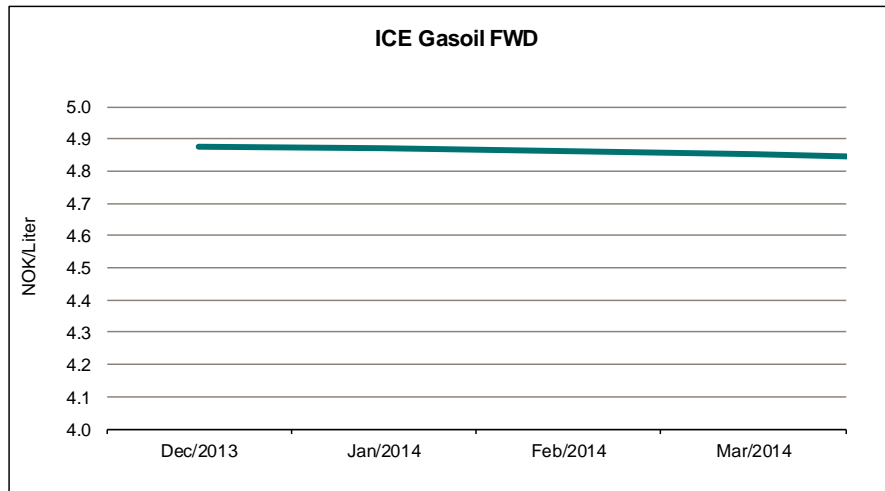
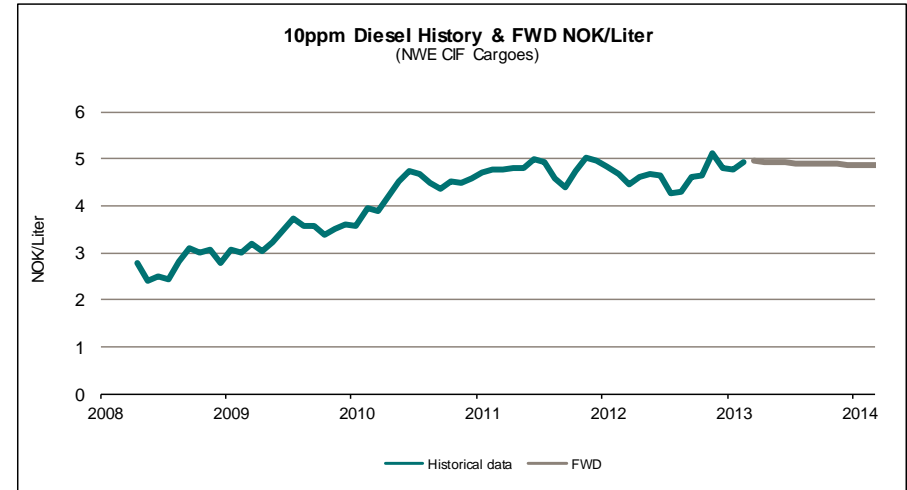
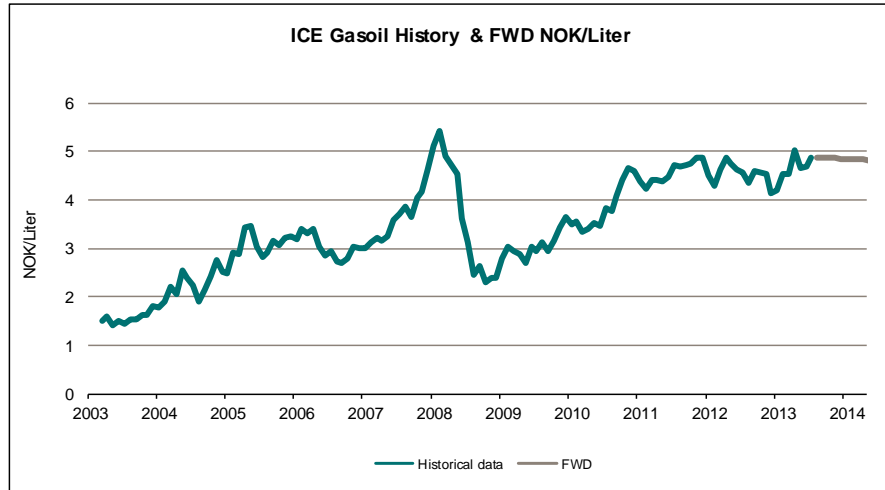
Crack Spreads



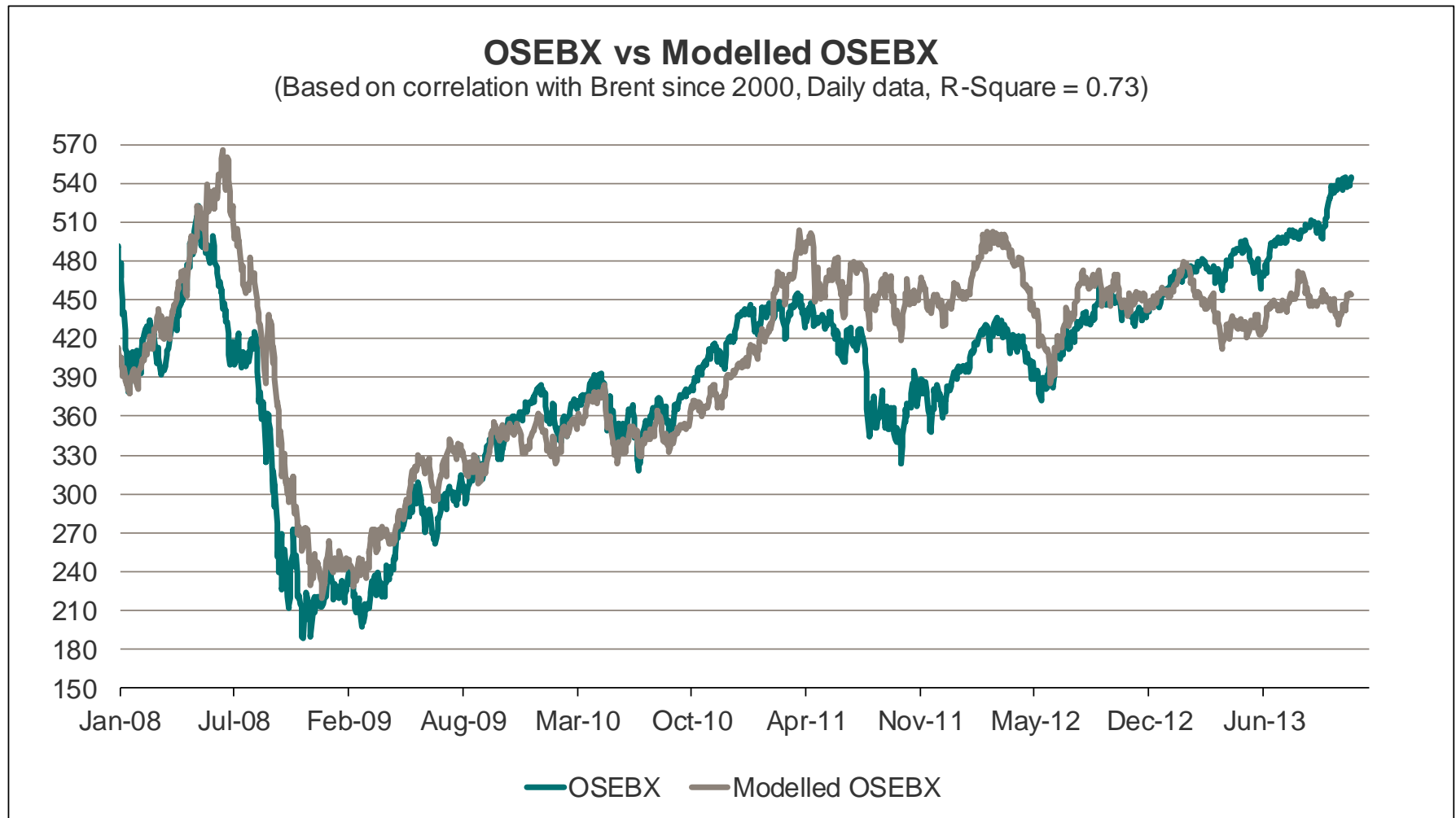
MARKETS

Oil FWD Curves – Gasoil & Diesel

NOK/Liter

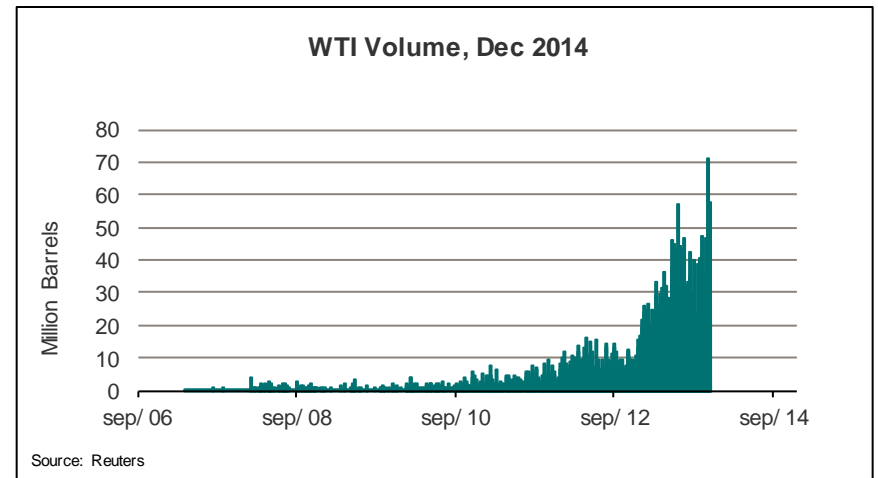
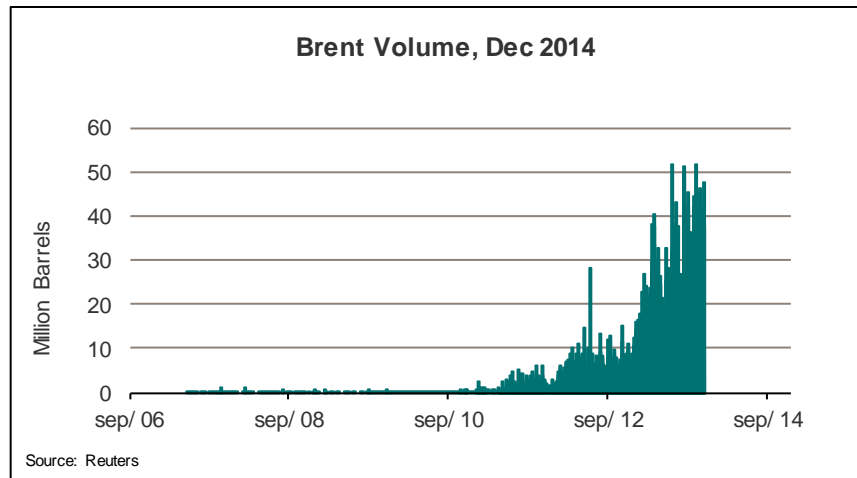
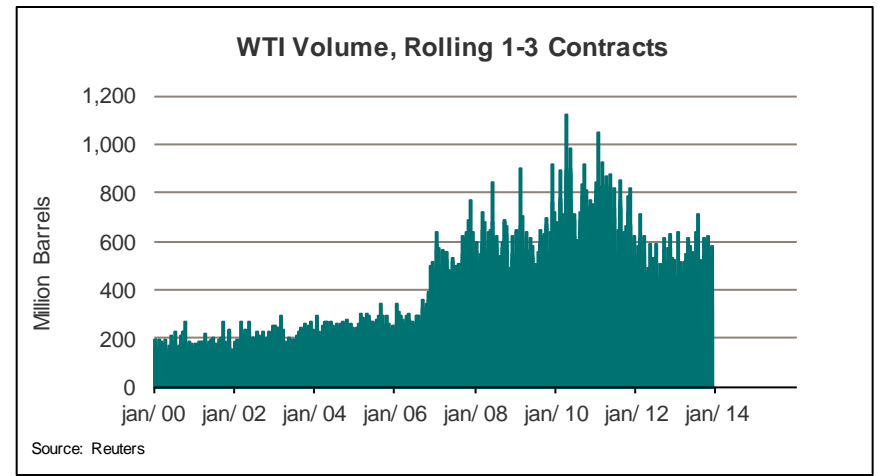
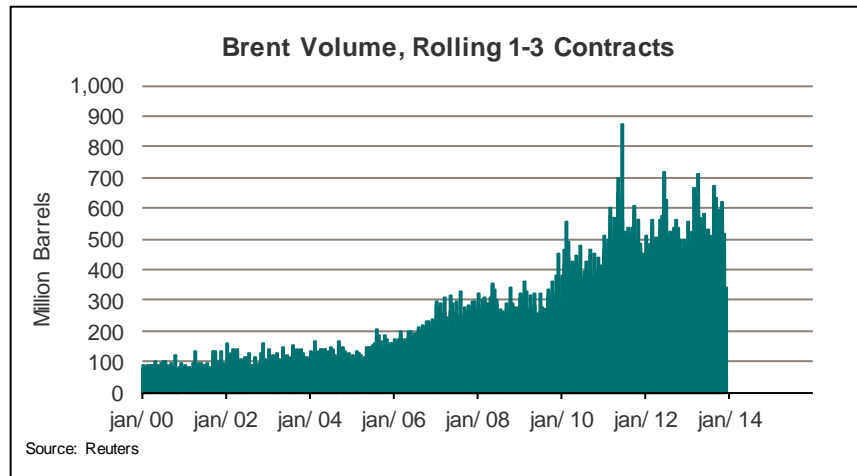


Modeled Oslo Stock Exchange Based On Oil Price

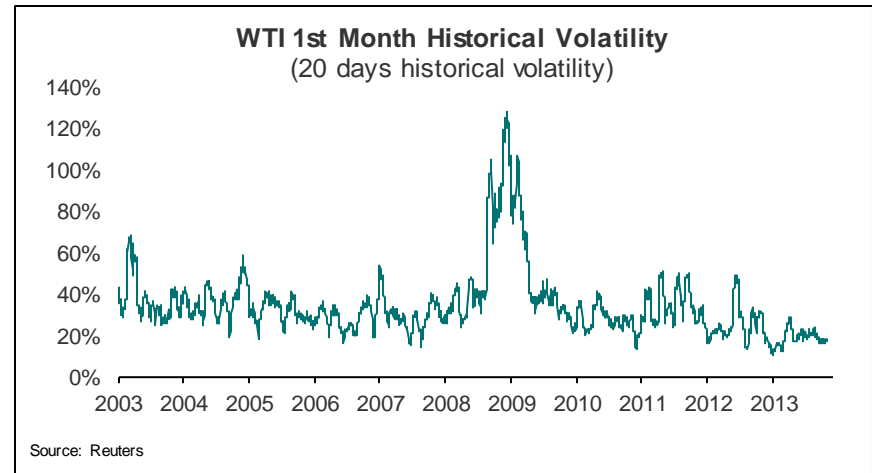
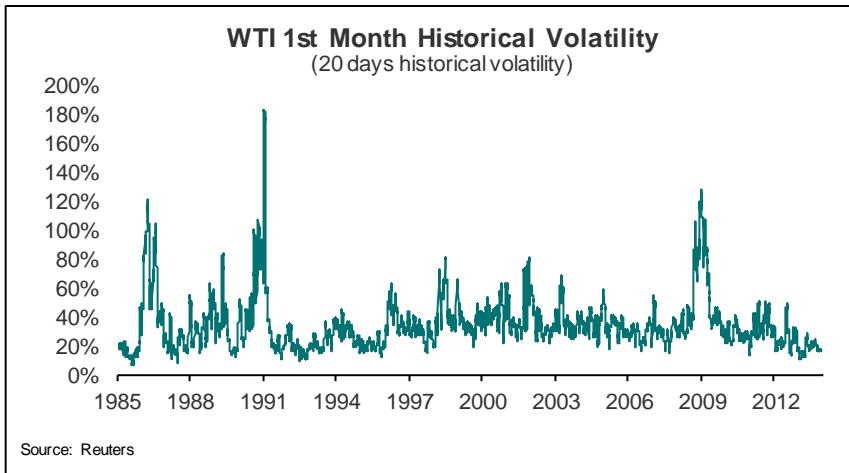
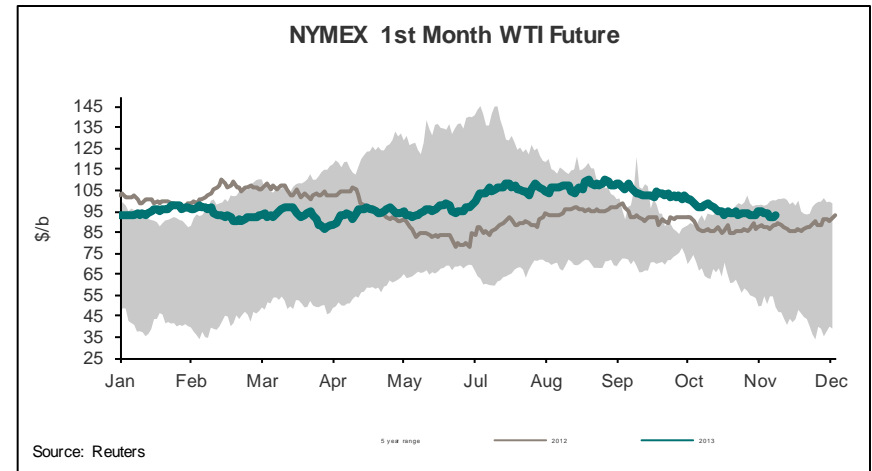
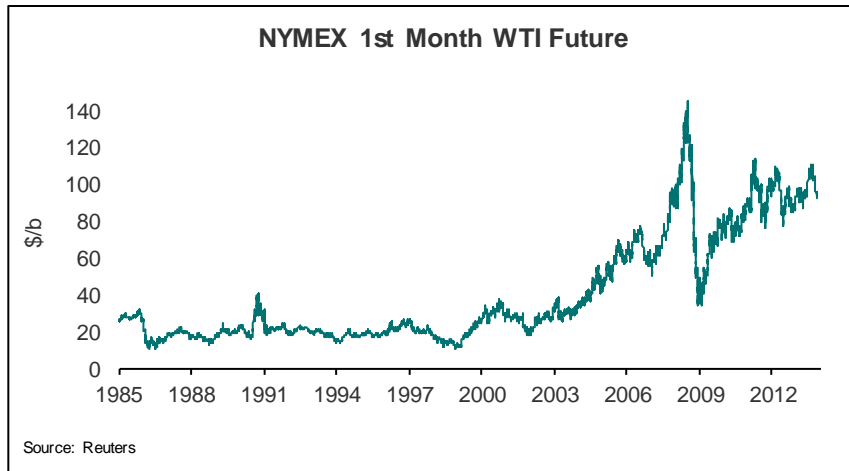


Volume Traded Brent/WTI Futures

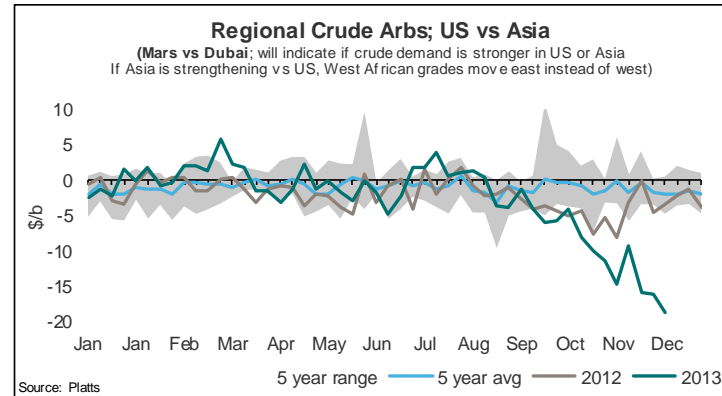
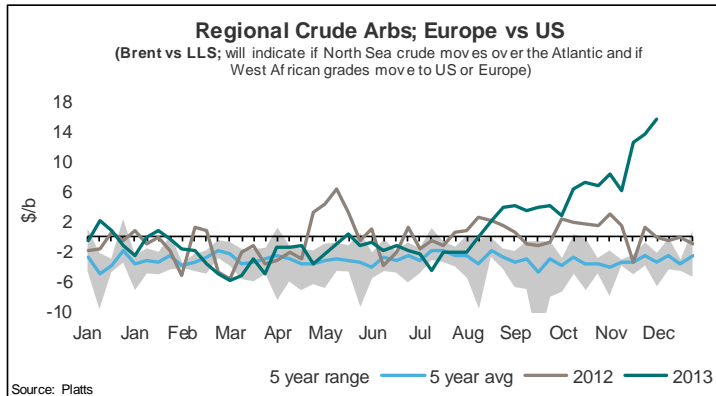
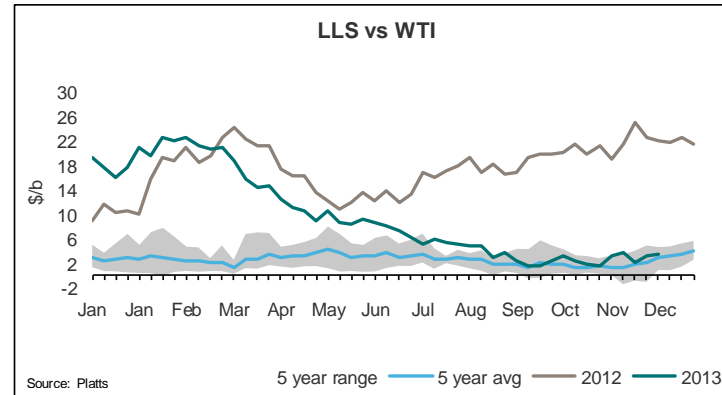
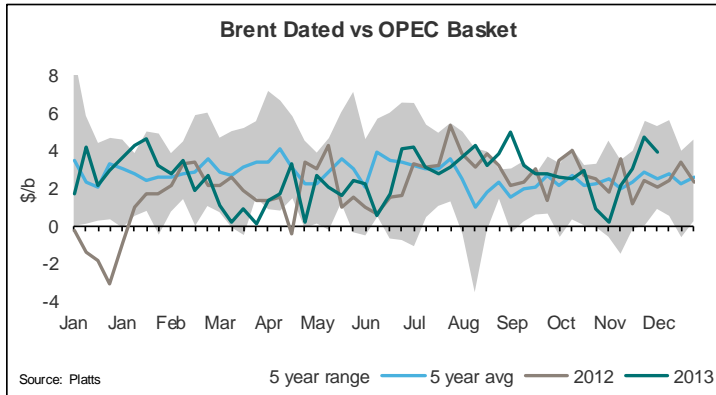
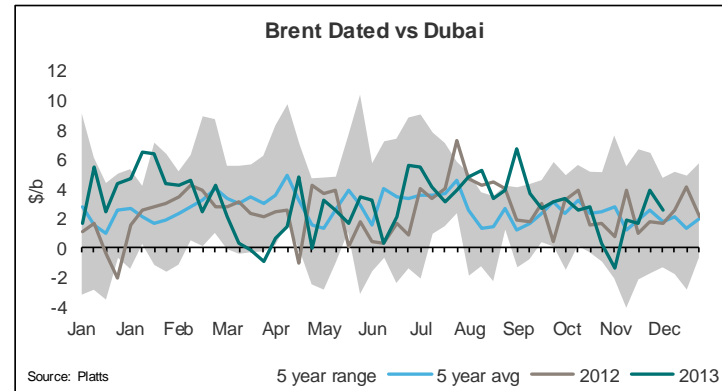
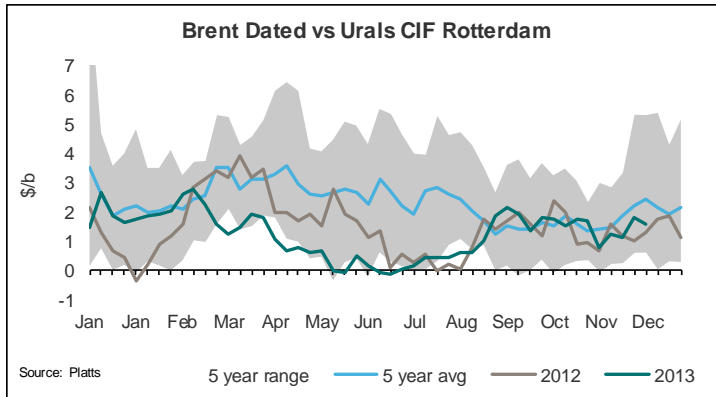
- Volume shown for the rolling first 3 months and for Dec 2013 contracts



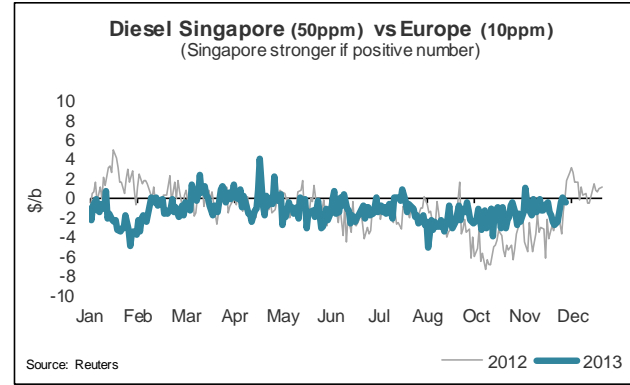
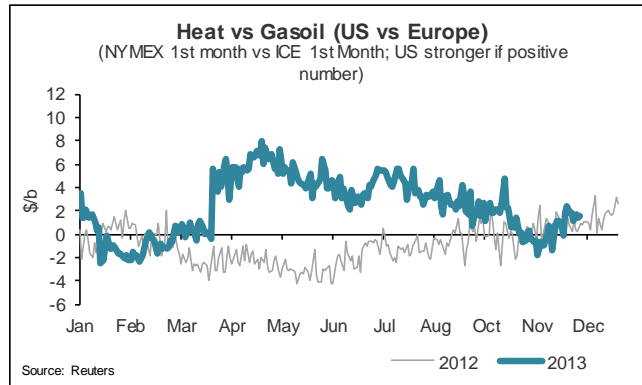
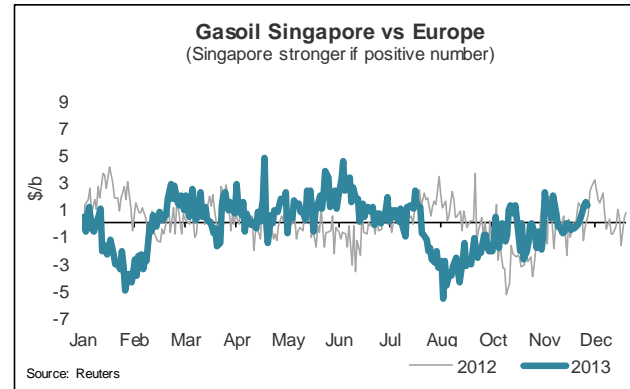
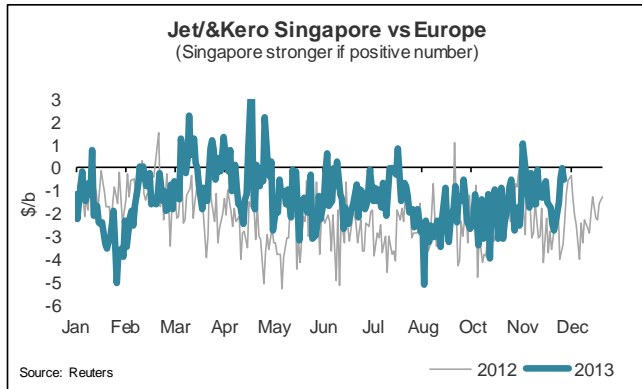
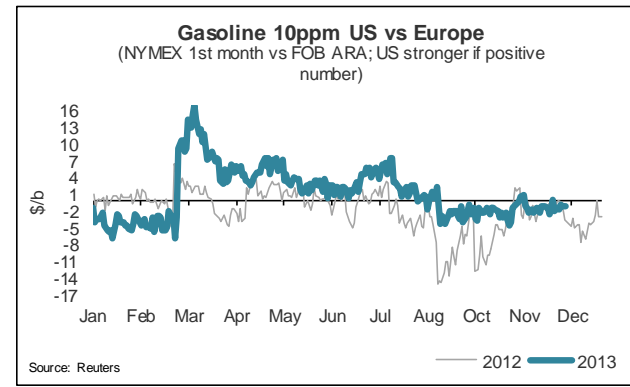
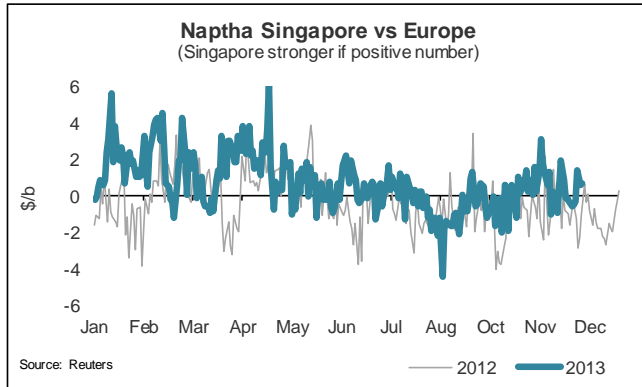
Historical WTI Prices & Volatility



Crude Oil Differentials

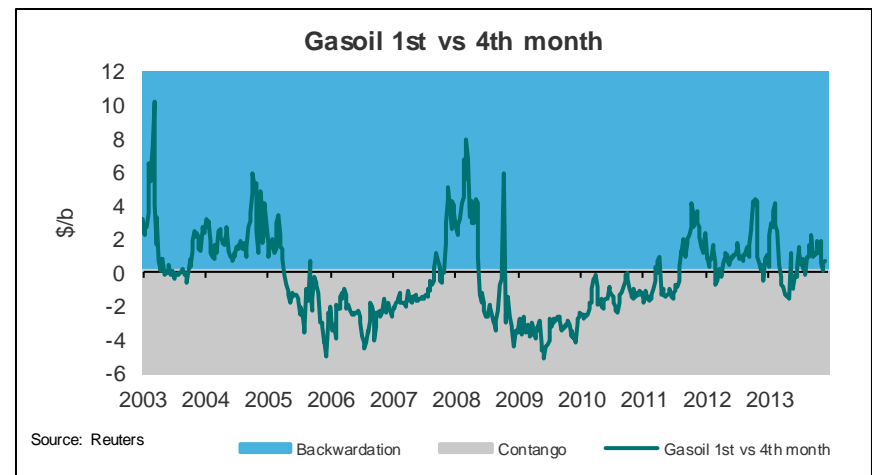
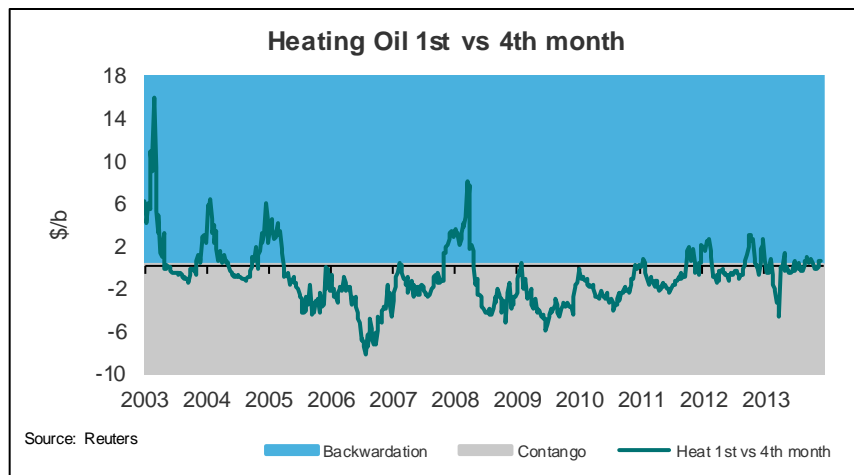
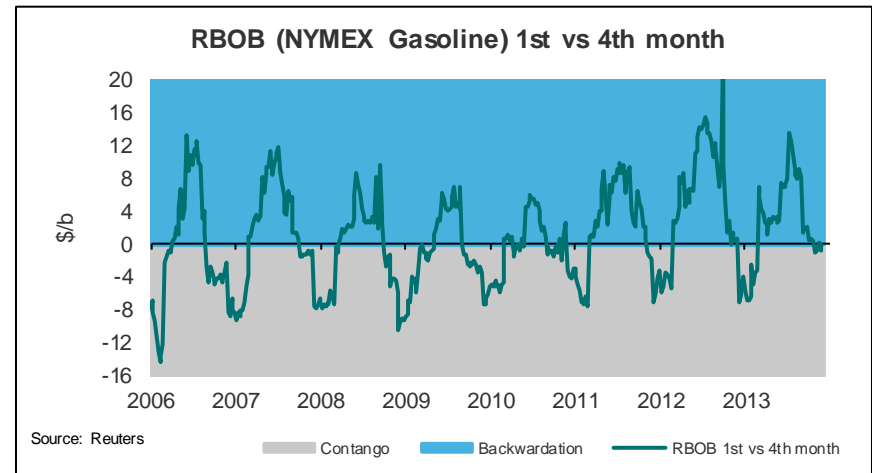
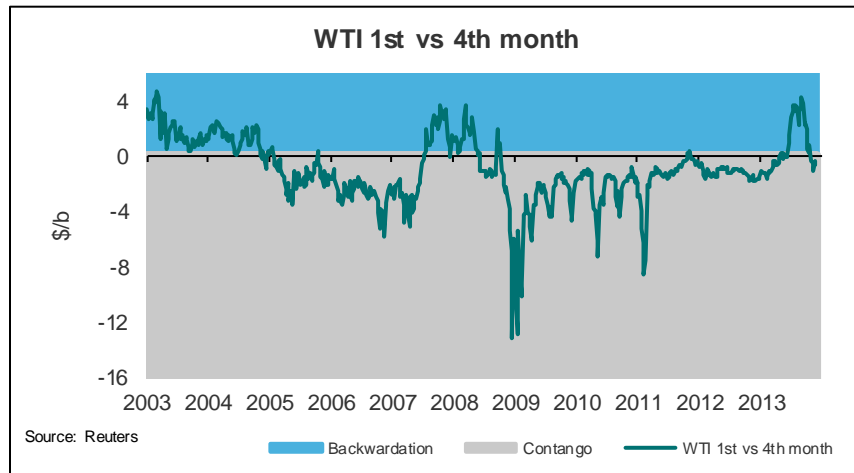


Key Oil Product Arbs



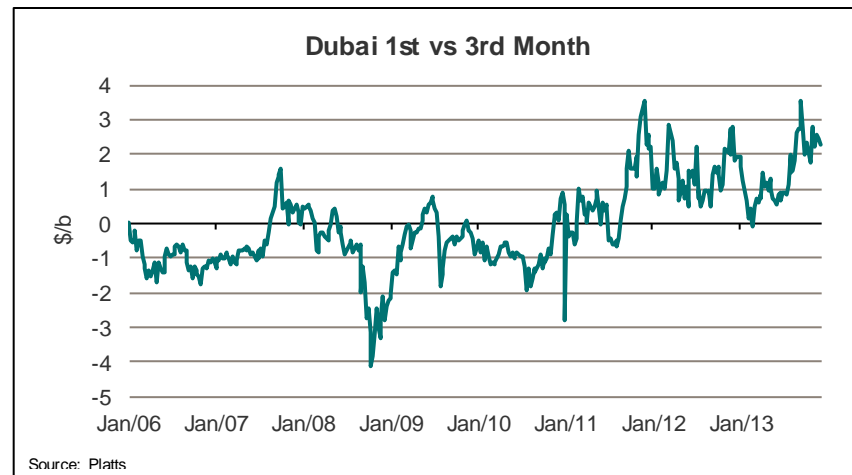
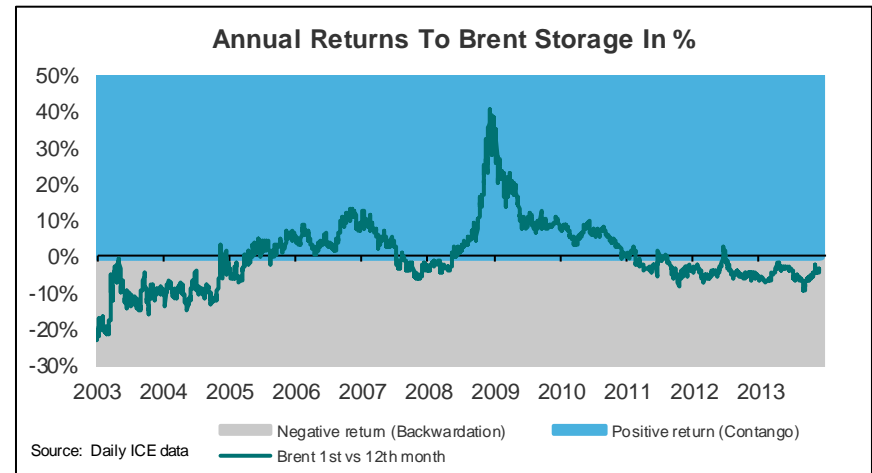
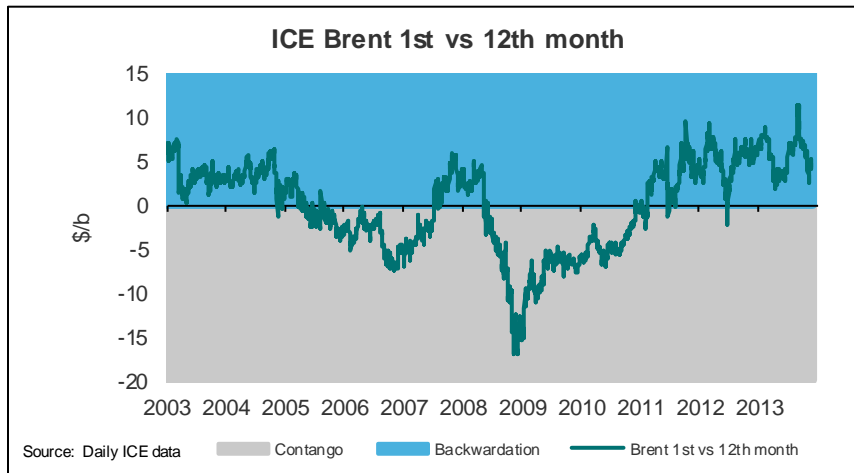
Market Structure Key Oil Prices (Structure of the FWD Curve)

- 1st vs 4th month contract



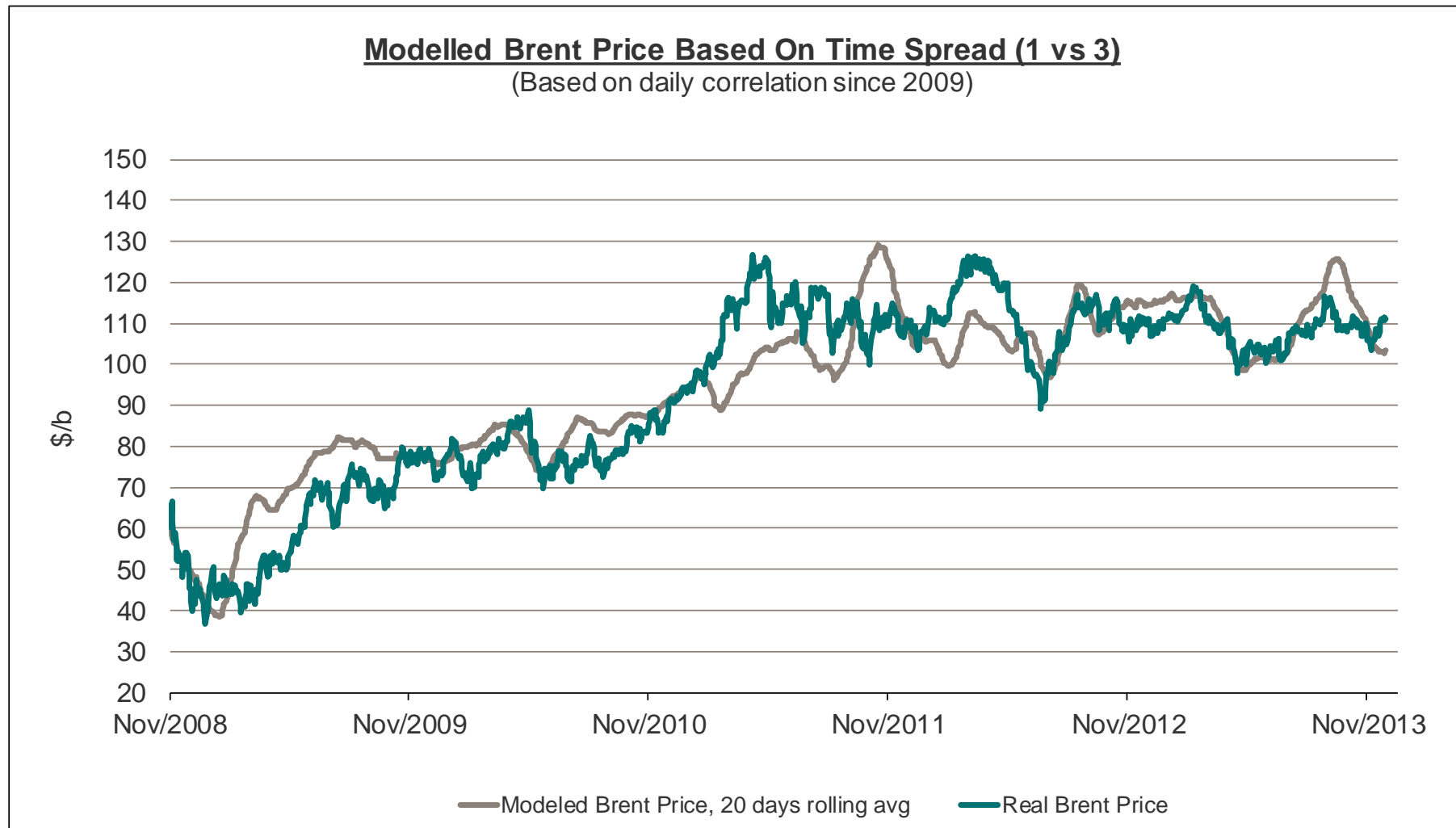
Market Structure ICE Brent & Platts Dubai

- 1st vs 12th month Brent contract & 1st vs 3rd Dubai contract

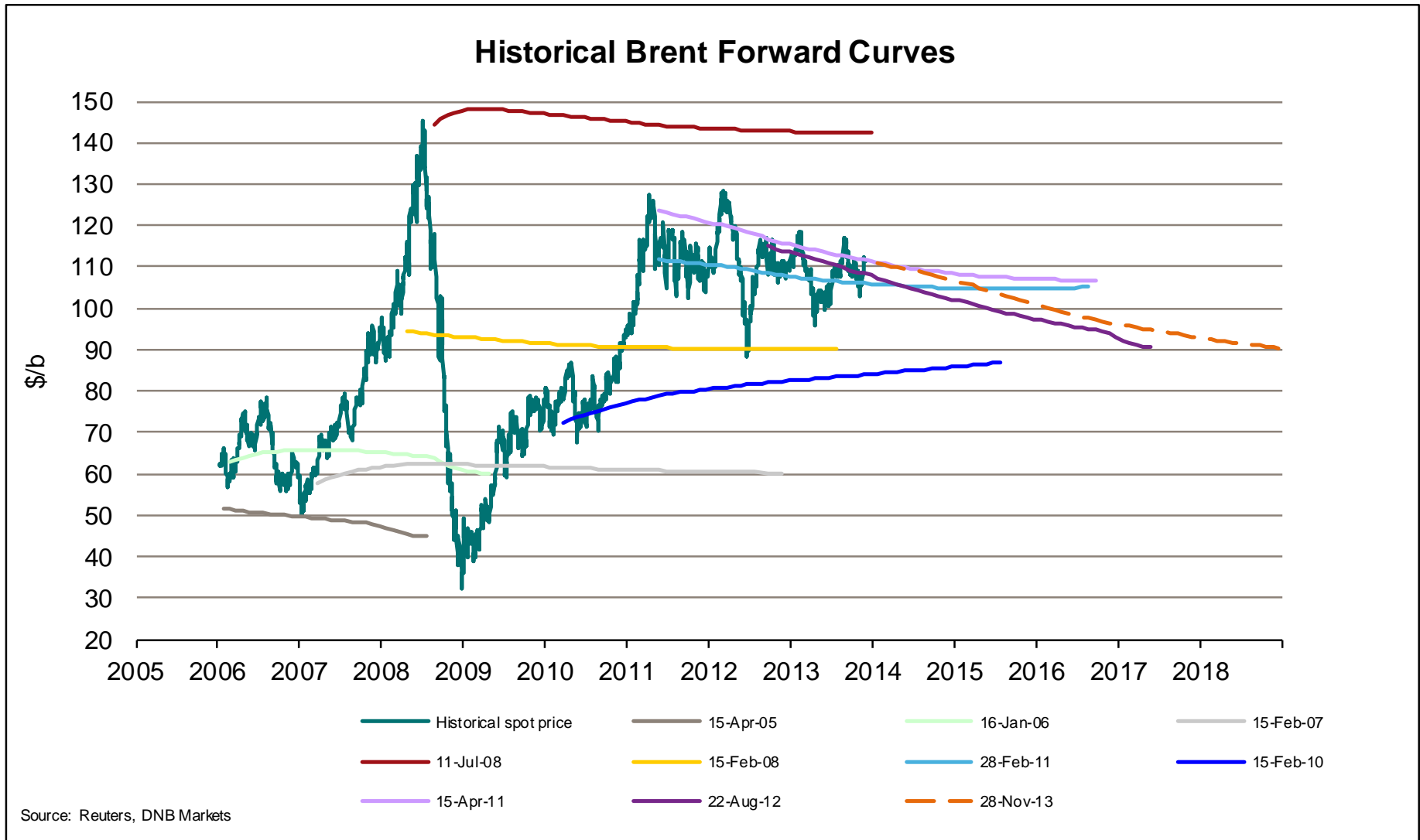


Modeled Brent Price Based On Time Spread

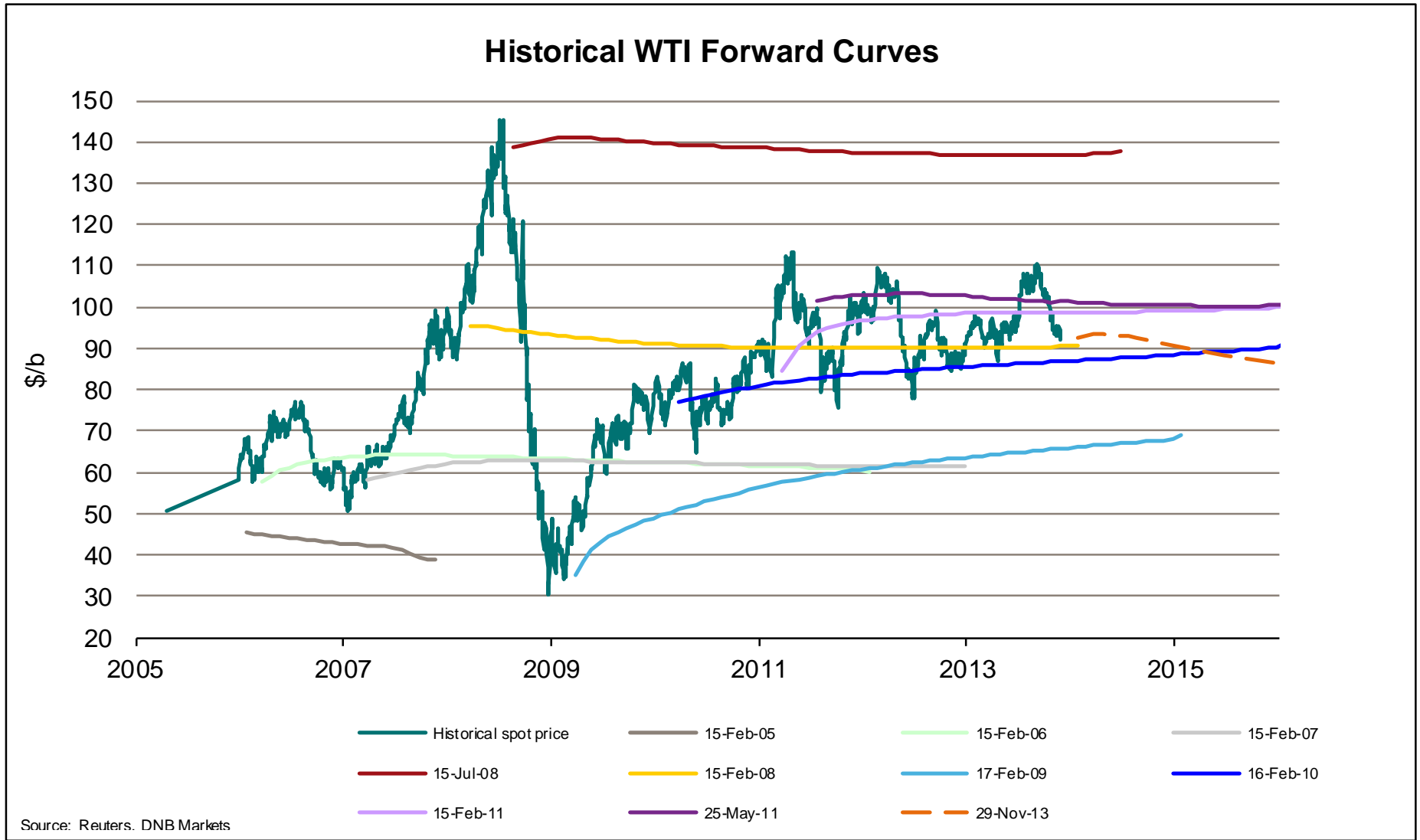
- Has provided early market signals several times last couple of years



Historical ICE Brent Forward Curves



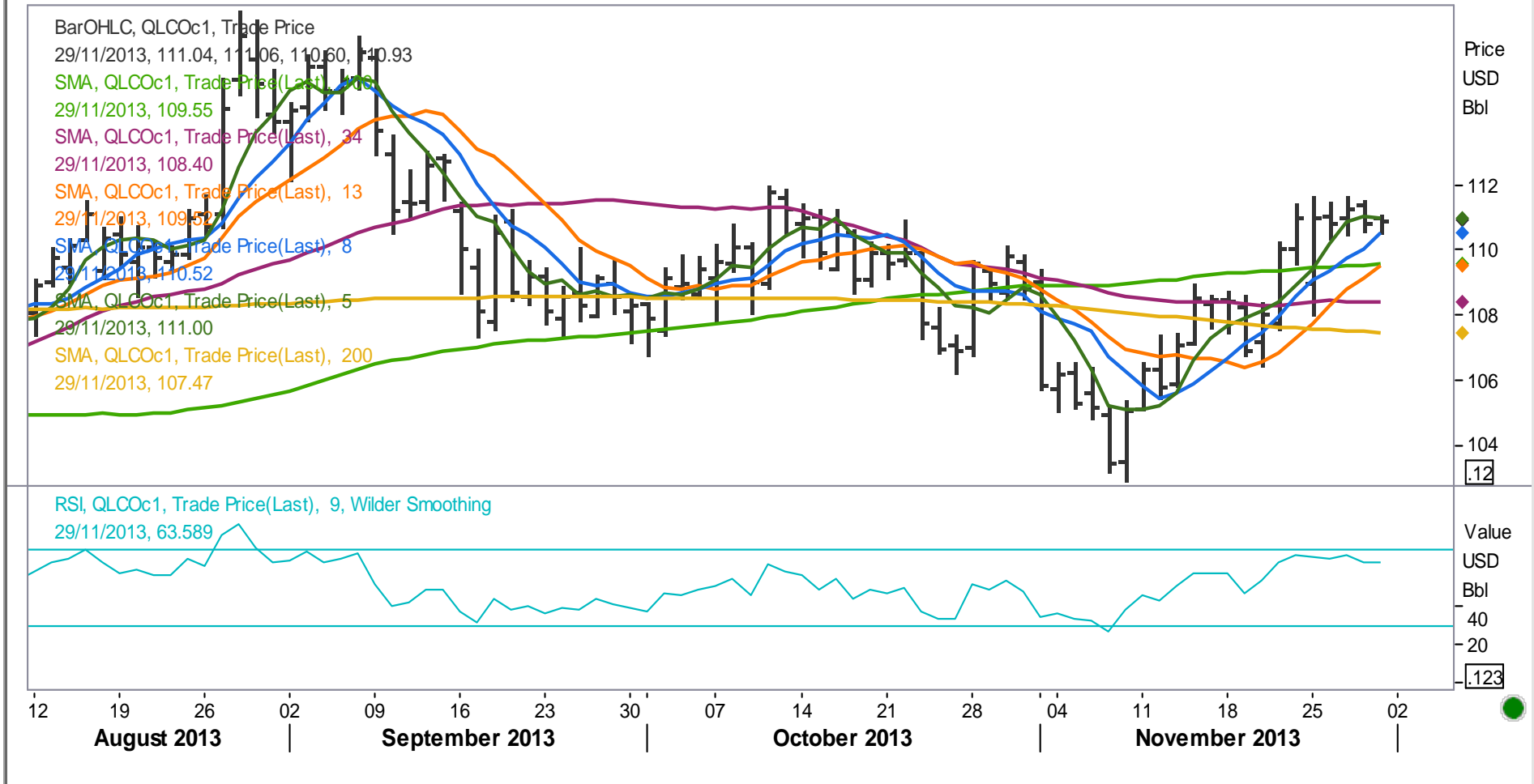
Historical NYMEX WTI Forward Curves



Technical Brent Chart

Daily Brent 1st Month

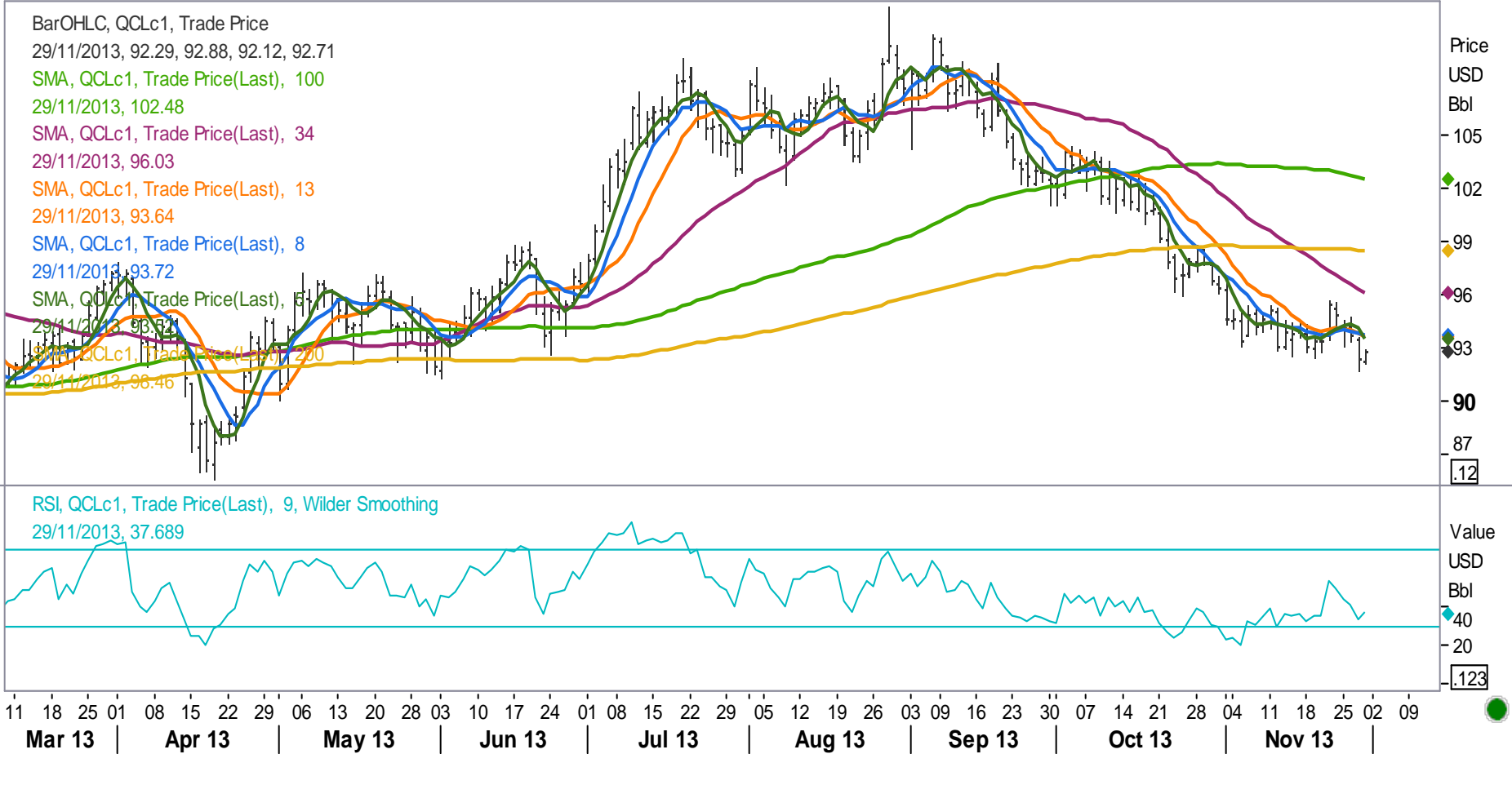
12/08/2013 - 05/12/2013 (LON)



Technical WTI Chart

Daily WTI 1st Month

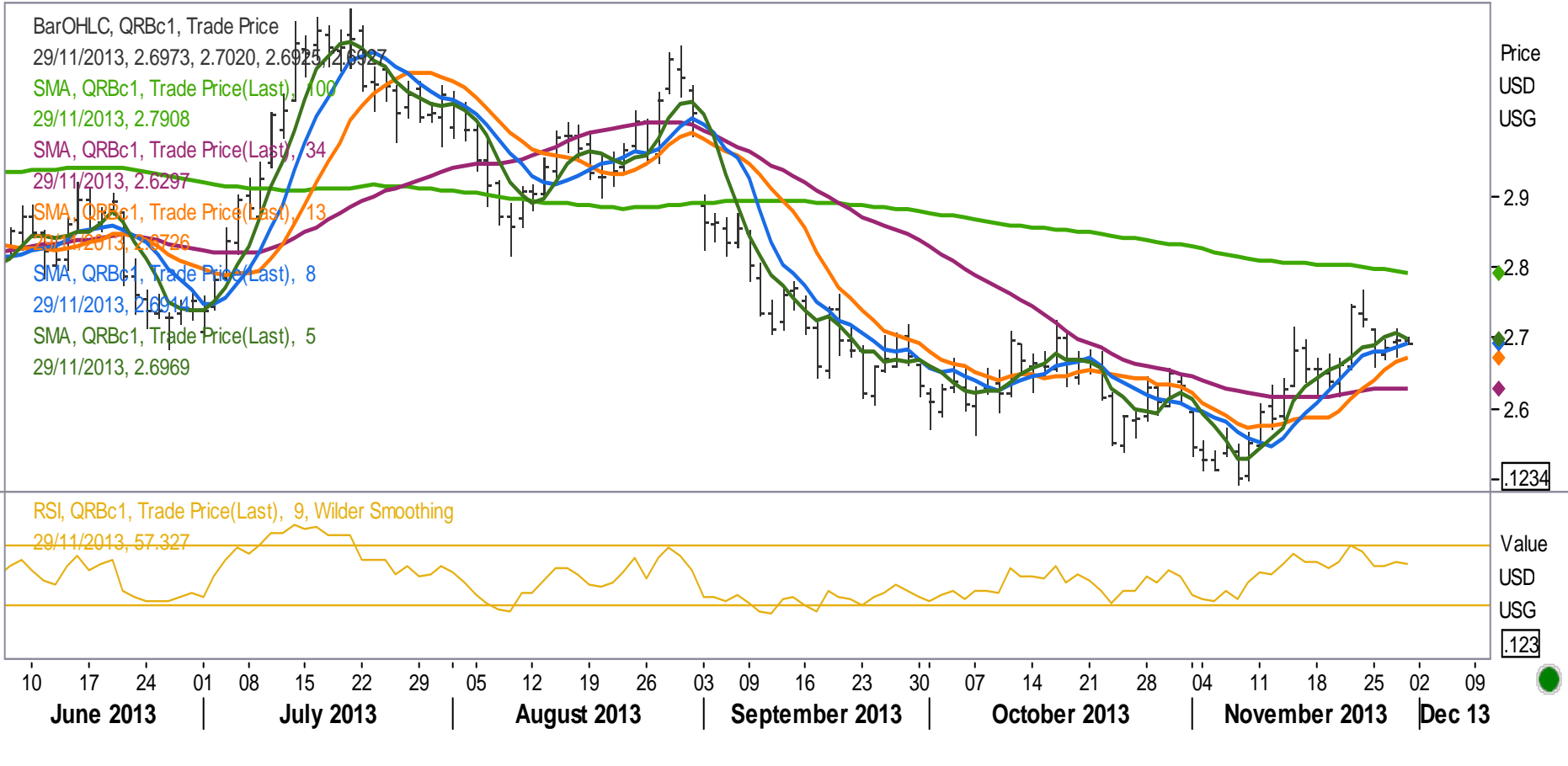
08/03/2013 - 13/12/2013 (NYC)



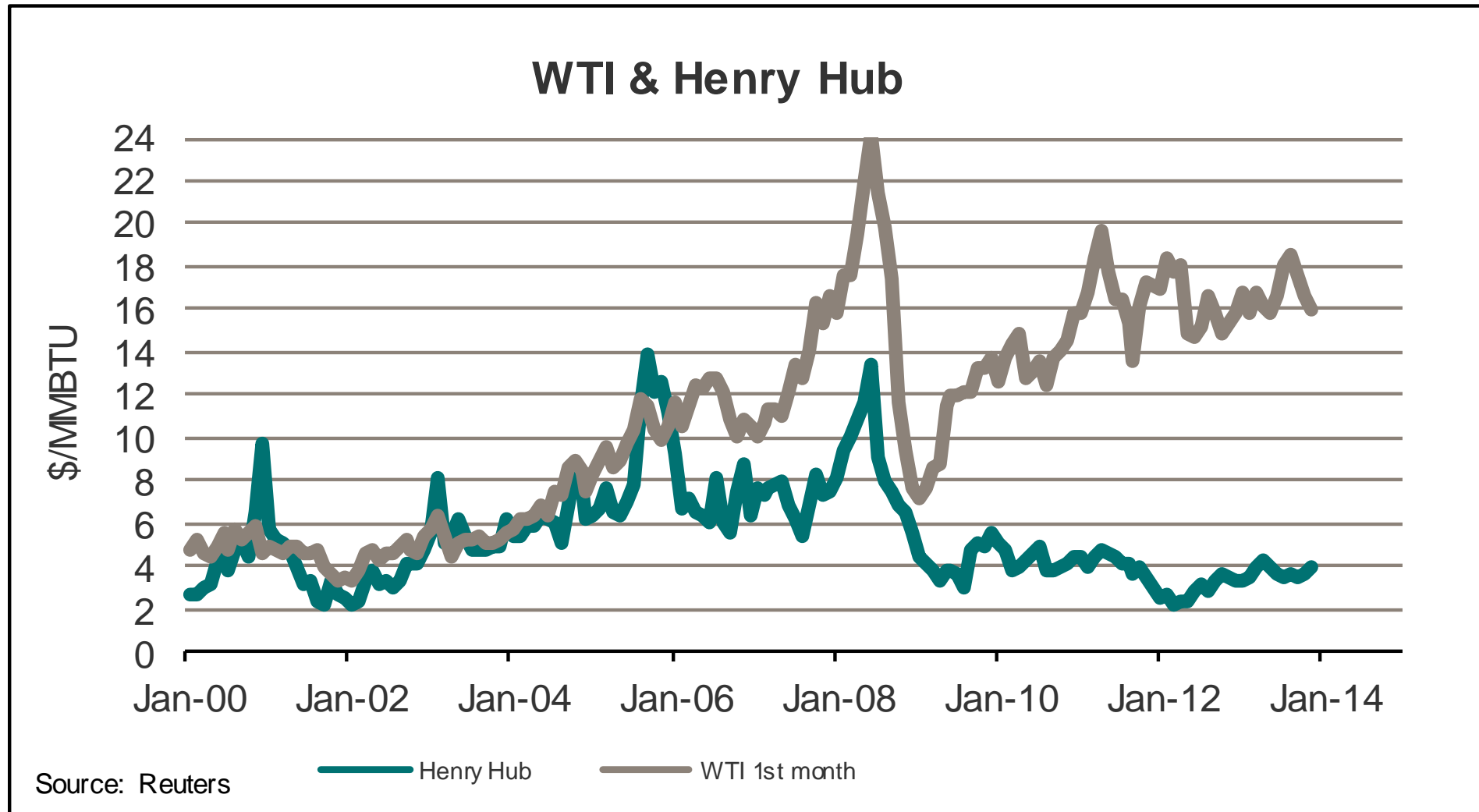
Technical RBOB (NYMEX Gasoline) Chart

Daily QRBC1

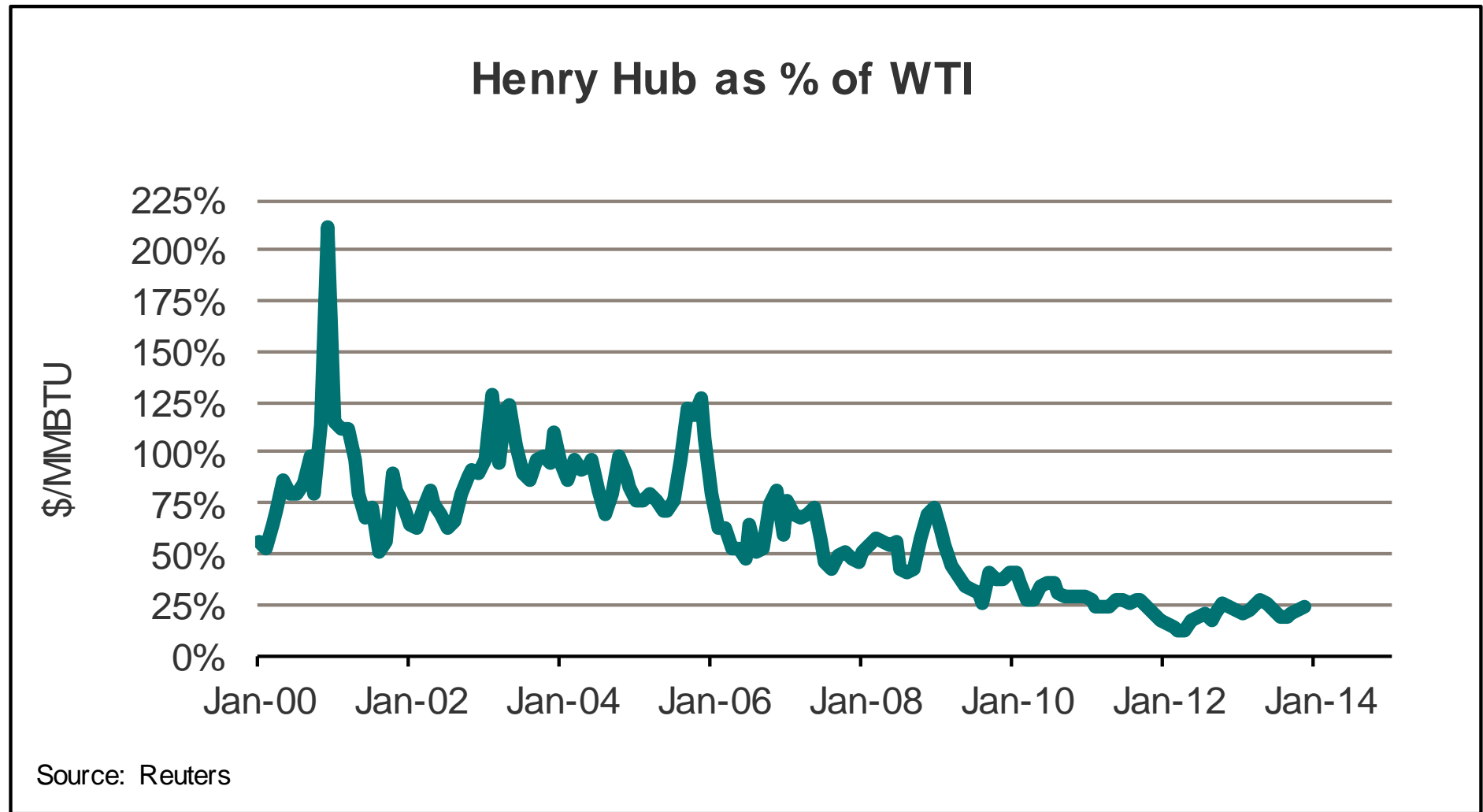
06/06/2013 - 10/12/2013 (NYC)



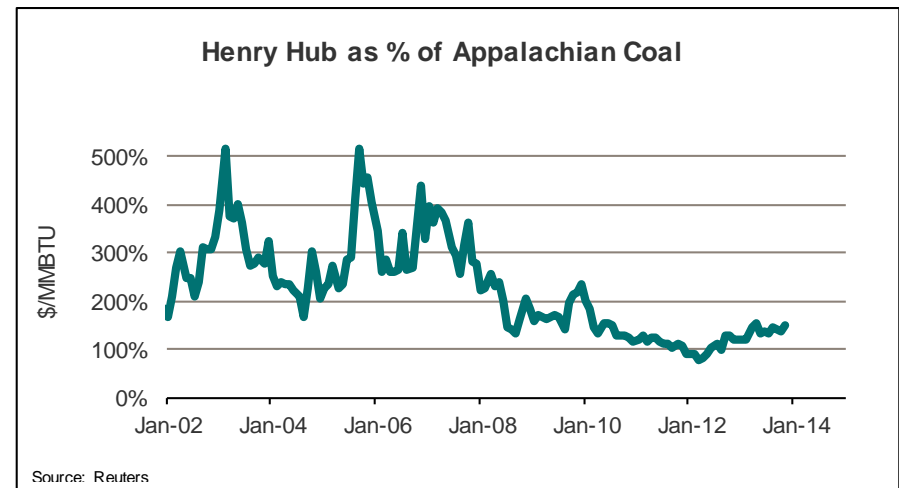
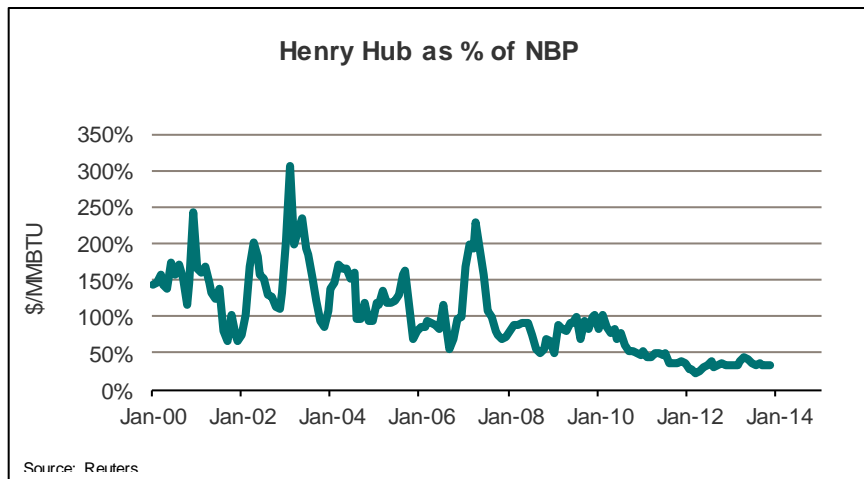
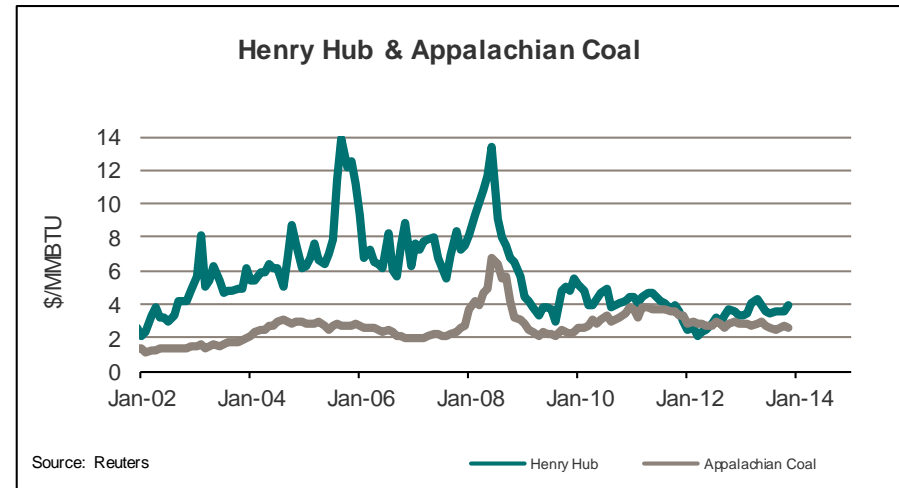
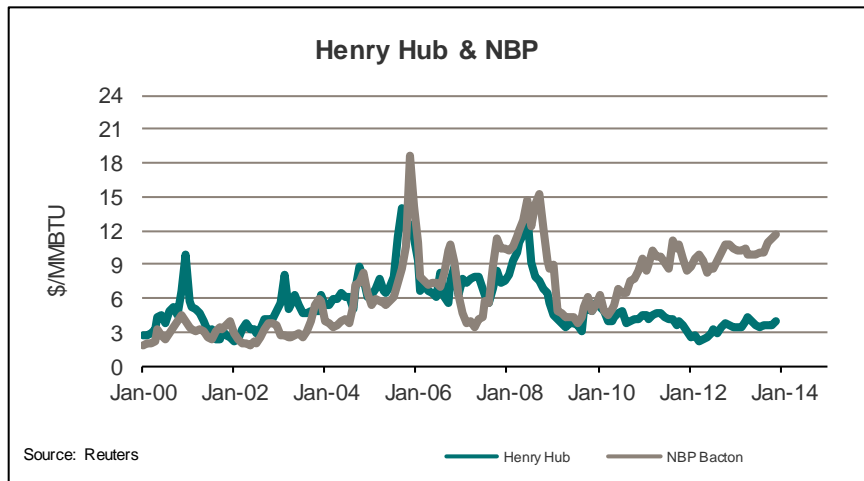
Natural Gas Price Relations



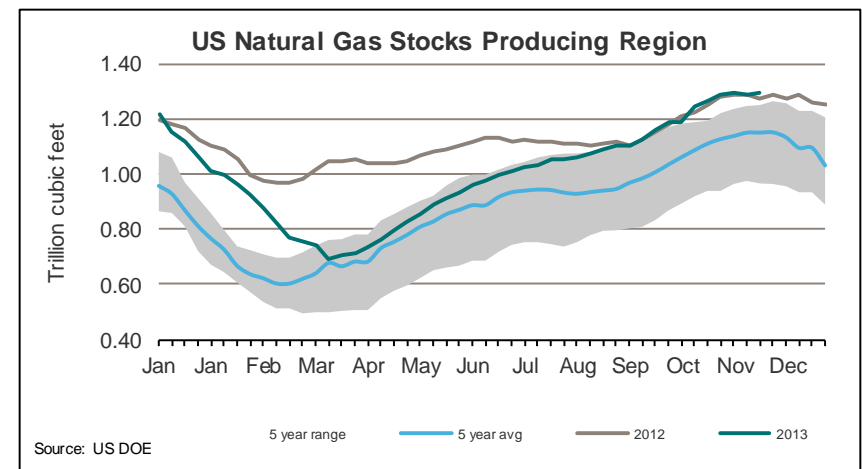
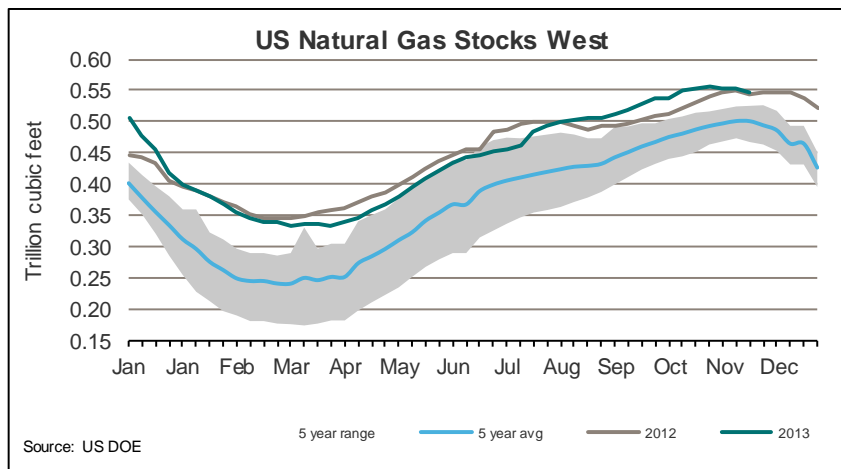
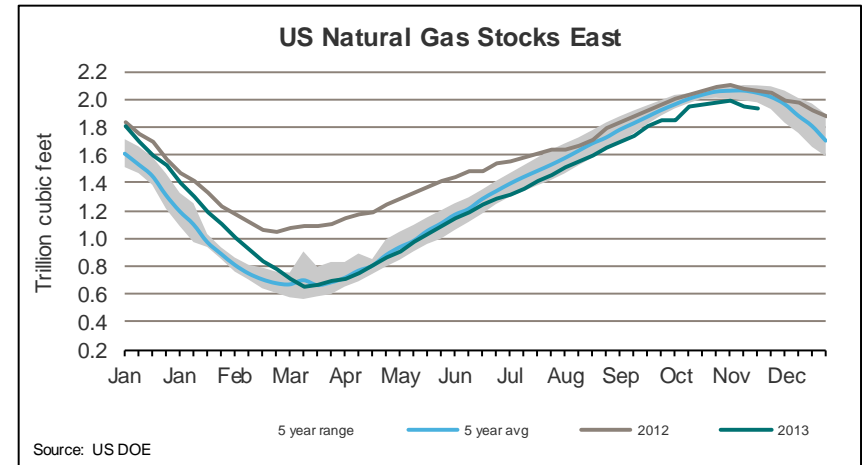
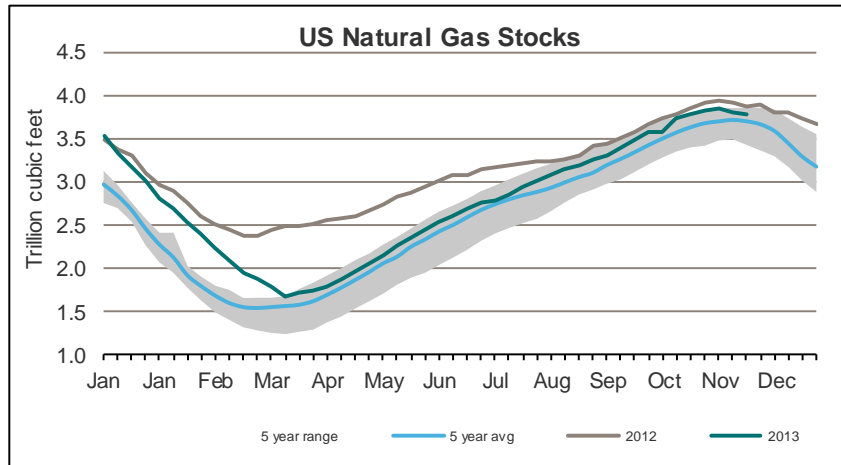
Natural Gas Price Relations



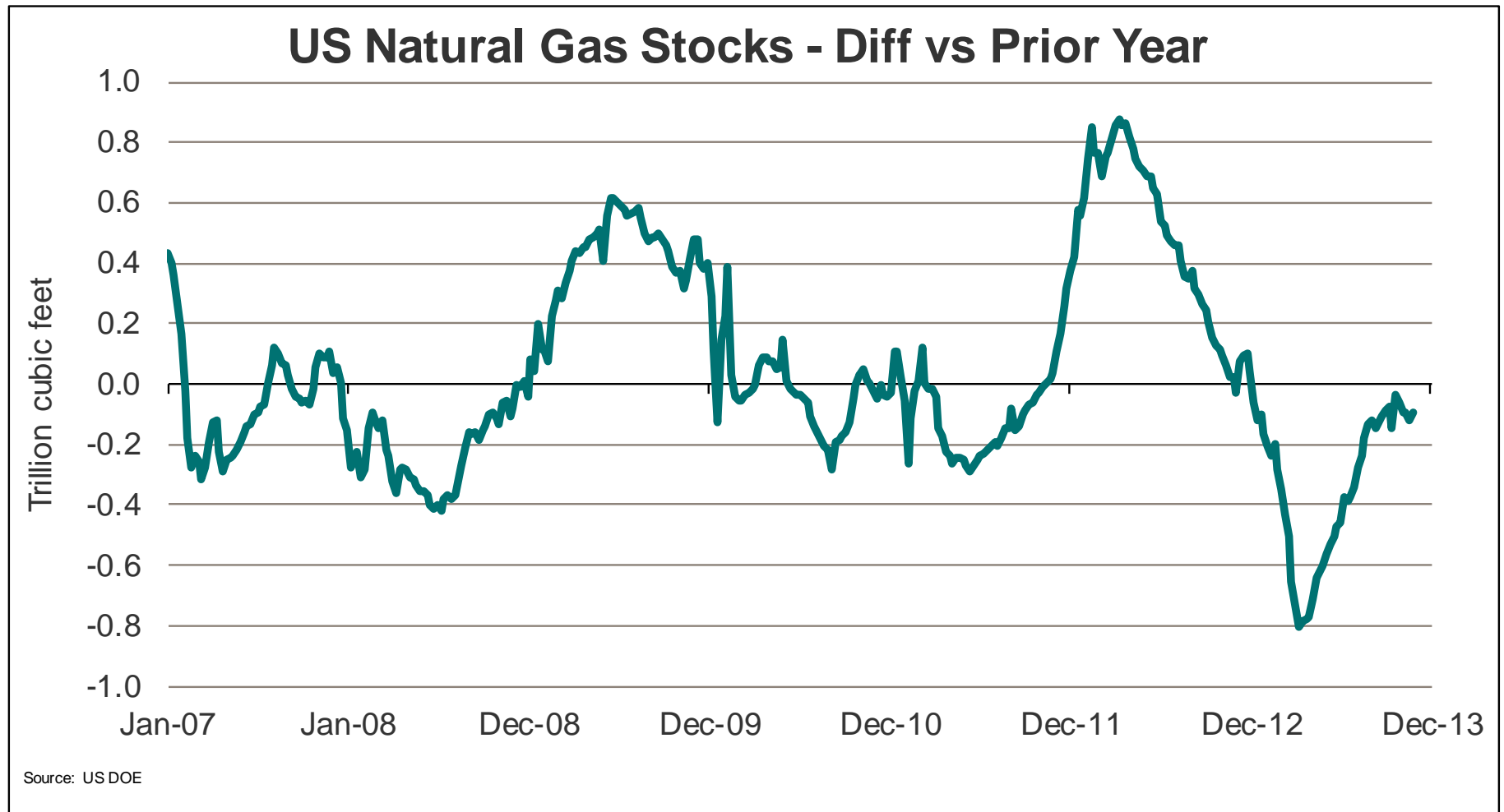
Natural Gas Price Relations



US Natural Gas Stocks – Weekly Reporting



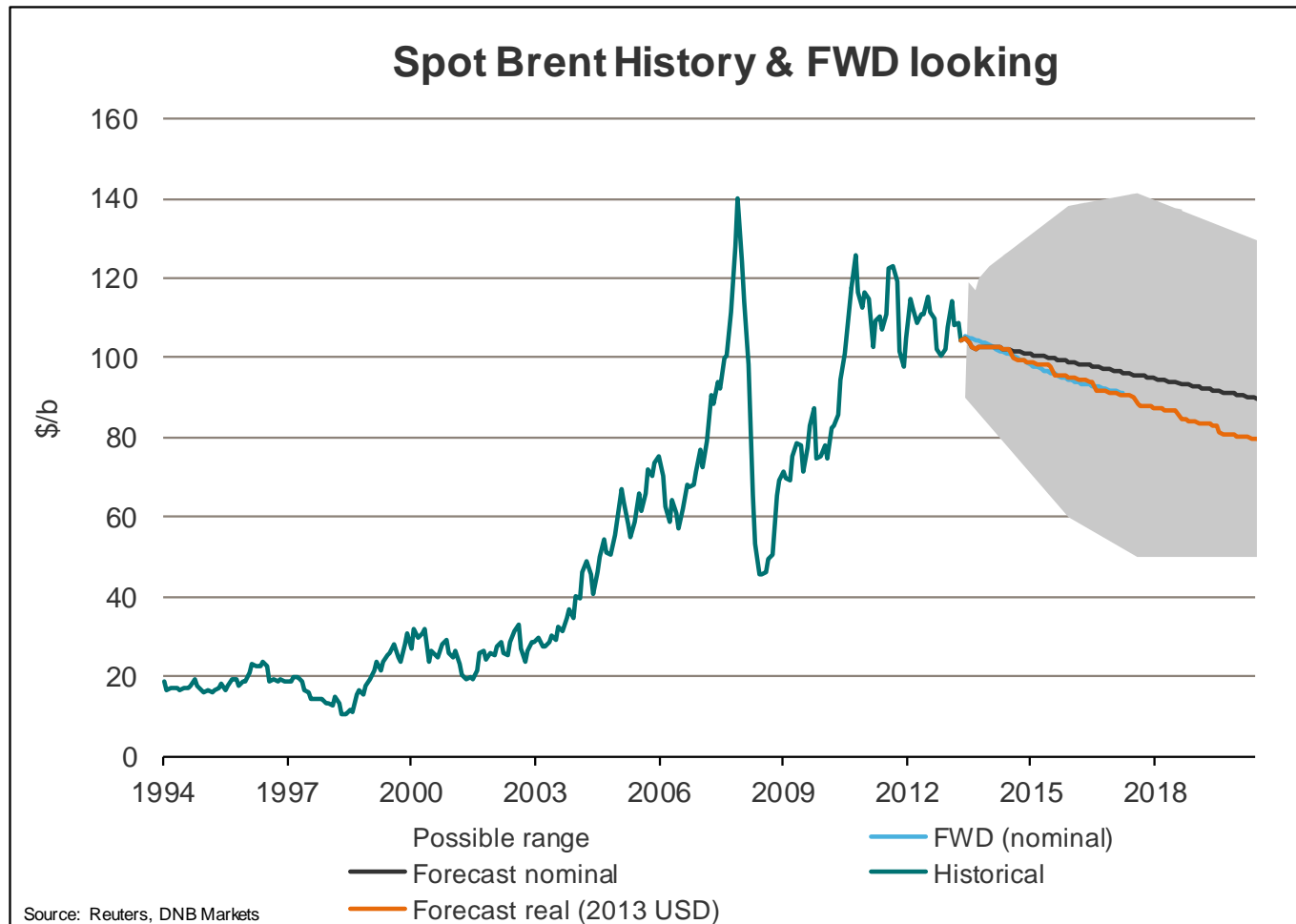
US Natural Gas Stocks – Weekly Reporting



Long Term Oil Price Forecast

(The forecast is for the average of the rolling 1st month ICE Brent future contract)

	Historical Nominal \$/b	Historical Real (2011) \$/b
2001	24.9	31.1
2002	25.1	31.3
2003	28.5	35.3
2004	38.1	46.6
2005	55.0	62.8
2006	66.2	72.7
2007	72.7	78.5
2008	98.7	101.6
2009	62.6	64.7
2010	80.4	82.0
2011	110.8	110.8
2012	111.7	111.7
	Forecast Nominal \$/b	Forecast Real (2012) \$/b
Q1-13	112.6	112.6
Q2-13	103.4	103.4
Q3-13	109.7	109.7
Q4-13	103.0	103.0
2013	107	107
2014	102	102
2015	100	98
2016	98	94
2017	96	90
2018	94	87
2019	92	83
2020	90	80



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