

Commodity Spotlight Energy

08 October 2013

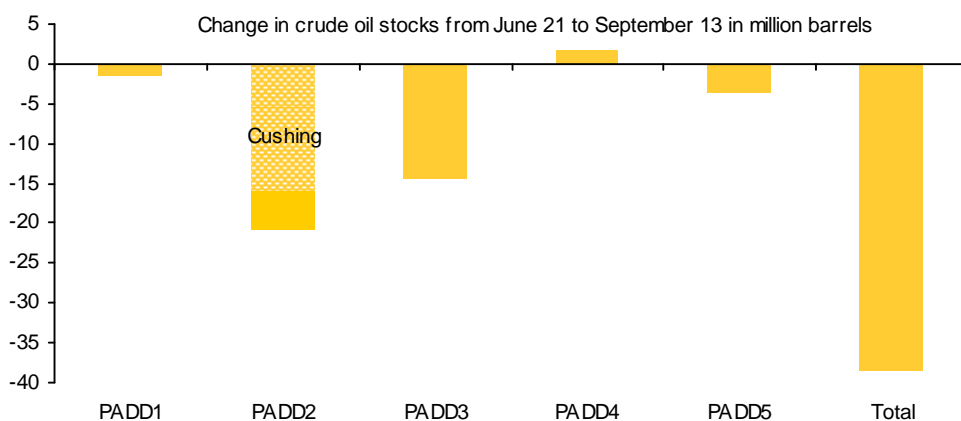
What is behind the recent fall in US crude oil stocks?

US crude oil stocks have fallen significantly during the summer months. This was mainly attributable to an increase in crude oil processing. In this way US refineries reacted to robust demand for middle distillates, which is reflected in low US distillate stocks and record US distillate exports. As crude oil processing declines, US crude oil stocks will likely rise again in the fourth quarter. Robust US distillate exports are exerting pressure on refinery margins in Europe, which will probably increase Europe's dependency on imports of oil products.

US crude oil stocks have fallen significantly during the summer months. Since the end of June they have declined by 38m barrels and in mid-September reached their lowest level for 18 months. Destocking has been concentrated on two regions: in the Midwest (PADD 2) stocks have fallen by more than 20m barrels, and on the US Gulf Coast (PADD 3) by more than 14m barrels (chart 1). The lion's share of the destocking in the Midwest related to the storage hub in Cushing, where stocks have fallen by a total of 16.5m barrels for 13 weeks in succession. What is the reason for this surprising trend and will the destocking continue?

The trend in stock levels can be divided into three sub-components: on the supply side are US oil production and US oil imports, and on the demand side, crude oil processing by refineries. US oil production has increased until recently. In mid-September it reached its highest level since May 1989 of more than 7.4m barrels per day. This component cannot therefore explain the destocking of recent weeks. On the other hand, imports of crude oil have fallen sharply. In the summer months they were, on average, 1m barrels per day lower than in the previous year. However, this will not be sufficient to balance out the simultaneous increase in US oil production. Between the end of June and mid-September this was, on average, 1.4m barrels per day above the previous year's level. The trend on the supply side would therefore have been an indication of stockbuilding. The main reason for the significant destocking this summer is therefore to be found on the demand side, i.e. from the higher volumes of crude oil processed at refineries.

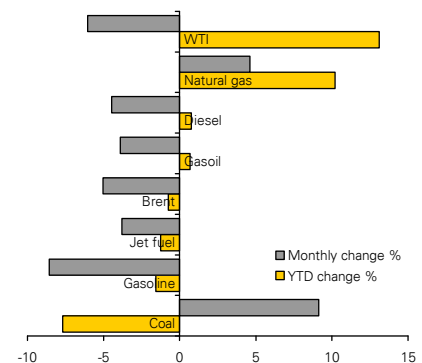
CHART 1: Destocking occurred mainly in the US Midwest and on the US Gulf Coast



Source: EIA, Bloomberg, Commerzbank Corporates & Markets

Commerzbank Forecasts

	Q4 13	Q1 14	Q2 14
Brent Blend	110	115	115
WTI	105	110	112
Diesel	1000	1050	1030
Gasoline (95)	1000	1020	1040
Jet fuel	1030	1080	1070
Natural gas	3.8	4.0	3.5
Coal (API #2)	85	90	92
EUA (€ per t)	5.0	7.0	7.0



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Bloomberg: CBIR

Crude oil processing in the USA was higher than usual this summer

US refineries stepped up crude oil processing much more significantly than usual this summer. Between the end of June and mid-September, an average of 16m barrels of crude oil was processed daily. This was 600,000 barrels per day more than in the corresponding period last year, and 900,000 barrels per day more than the long-term average level (chart 2). At the beginning of July, more crude oil was processed than at any time in the last eight years. It was also striking that refineries maintained processing rates at their high levels of July and August up to mid-September. Normally, refineries scale back their utilisation from the end of August as the summer driving season approaches an end. Refineries usually use the time in early autumn to carry out maintenance and to switch operations to the winter season. Hence, significantly more crude oil has been processed this summer than would otherwise be normal at this time of the year. This has only been possible by consistently dipping into crude oil stocks, although more crude oil has also been available as a result of the increased level of domestic oil production.

This cannot be explained with trends in the US gasoline market...

The fact that US refineries have increased their crude oil processing so strongly over an extended period this summer cannot be explained by trends in the US gasoline market, which is normally the most important driver of refinery activity in the summer months. Demand for gasoline in the US during the summer driving season showed virtually no increase compared to last year. US gasoline stocks have remained consistently 5 to 6 per cent above their long-term average for weeks with a few exceptions. US gasoline production was just slightly higher this summer than in the previous years. Moreover, the US exported less gasoline between March and July than one year ago, according to the EIA.

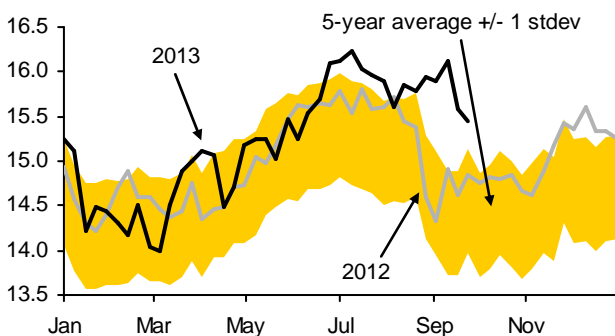
...but is attributable to distillate production in particular

The reason for the unusually high level of refinery activity over a prolonged period is above all attributable to middle distillates. US refineries have significantly increased the production of middle distillates in particular. This increased to an average of 5m barrels per day in the summer months, which was 13% higher than average for the last five years. More than half of the increase in crude oil processing this summer is therefore attributable to the middle distillates segment. The varying trend in processing margins is likely to have played a part here. While margins for gasoline production have fallen to the lowest level since end of 2011, they are still relatively high for middle distillates (chart 3). The fact that margins for middle distillates have held up much better is attributable to low US distillate stocks, which have remained well below their long-term average levels despite robust production of middle distillates.

Strong demand for distillates in and outside the USA

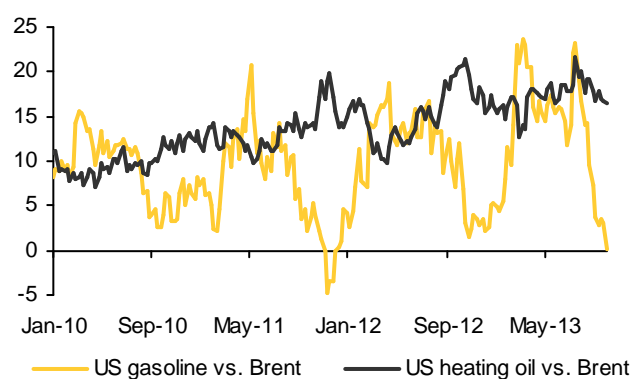
This is mainly the result of higher domestic demand and robust demand for distillates from abroad. Distillate demand from US consumers was 10% higher than last year during the summer months and 6% above the average of the last five years. Moreover, the USA exported 1.276m barrels of middle distillates per day on balance in July after having reached a level nearly as high in June (chart 4, page 3). Daily net distillate exports were almost twice as high in June and July as in the first four months of the year and also 26% above the same period last year. Weekly estimates from the US Energy Information Administration also indicate that distillate exports remained at a similarly high level in August and September.

CHART 2: US crude oil processing unusually high this summer In million barrels per day



Source: EIA, Bloomberg, Commerzbank Corporates & Markets

CHART 3: Distillate production much more profitable of late Price difference in USD per barrel



Sources: Bloomberg, Commerzbank Corporates & Markets

Refinery activity is unlikely to sustain these exceptionally high levels

US refineries have benefited from cheaper crude oil from the country's interior until recently, which, thanks to new pipeline capacity, can be transported to the US Gulf Coast, where roughly half of US refinery capacity is situated. This also enables US refineries to avoid the continuing restrictions on crude oil exports from the USA, since these restrictions do not apply to the export of oil products. Despite everything, US refineries are unlikely to maintain their distinctly high levels of crude oil processing of recent months, given lower margins. The EIA expects average crude oil processing of 15.3m barrels per day in the fourth quarter. This would still be more than 500,000 barrels per day above the average of the last five years, but some 600,000 barrels per day less than in the third quarter. The lower demand for crude oil from refineries indicates higher stock levels, if US oil imports are not being reduced markedly, as US oil production is likely to increase further as a result of the surge in shale oil production in North Dakota and Texas. In fact, the decline in US crude oil stocks seems to have come to an end. In the second half of September stocks were already increasing by roughly 8m barrels, due to lower volume of crude oil processing and higher oil imports.

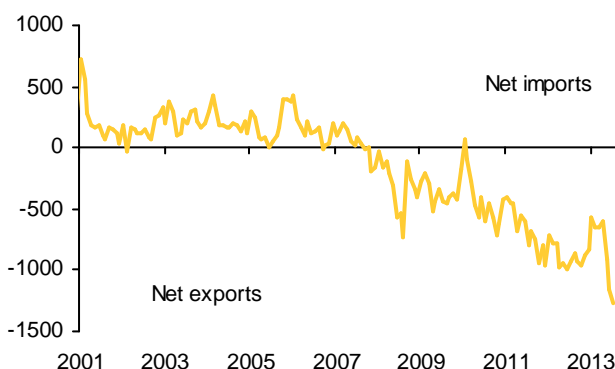
Decline in crude oil stocks has recently also slowed at Cushing

The 13-week long decline in crude oil stocks at Cushing has also weakened visibly in recent weeks (chart 5). Whereas, between the beginning of July and the end of August, on balance an average of 1.36m barrels of crude oil per week were drained off Cushing, in September the figure had fallen to an average of less than 500,000 barrels per week. At the end of September, the decline in stocks at Cushing had almost come to an end. Should stocks be built up also at Cushing in the weeks ahead, this would not be attributable to a lack of transport or processing capacities. These are now sufficient – as the steady fall in Cushing stocks over the summer months despite rising shale oil production in the Midwest demonstrated. In fact, once the Southern leg of the Keystone XL pipeline is completed, additional transport capacities of 700,000 barrels per day will be available by year-end. A stock build-up would instead be attributable to lower crude oil processing at refineries. This should exert pressure on the WTI price in particular.

Record US distillate exports creating problems for refineries in Europe

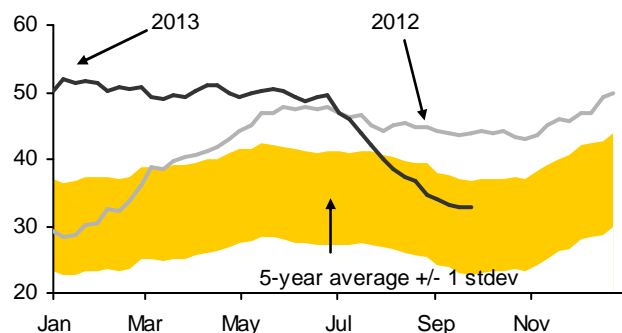
What are the implications of these trends for Europe? According to data from the EIA, the USA was already exporting record volumes of middle distillates to Europe in May and June. Based on shipping data, this trend has continued in September. The high levels of US distillate exports will exert pressure on refinery margins in Europe. Despite low gasoil stocks, the price differential between gasoil and Brent oil has been moving in a narrow range around USD 15 per barrel for some months, which is hardly sufficient to offset the very low margins in gasoline production. The situation has been compounded by the fact that the USA itself has now become a net gasoline exporter. As a result the US market - formerly the most important sales market for European refineries - has been lost. At the same time, the USA is also competing in gasoline on other sales markets such as South America, for instance. Further refinery closures in Europe are thus on the cards, which would further increase Europe's dependency on imports of oil products.

CHART 4: US distillate exports have reached record levels
In thousands of barrels per day



Source: EIA, Commerzbank Corporates & Markets

CHART 5: Destocking at Cushing is slowing
Crude oil stocks at Cushing in millions of barrels



Sources: EIA, Bloomberg, Commerzbank Corporates & Markets

At a glance

TABLE 1: Our Forecasts

	07-Oct	Forecasts								Yearly Average		
		1Q13	2Q13	3Q13	4Q13	1Q14	2Q14	3Q14	4Q14	2012	2013	2014
Brent Blend (\$/bbl)	109.7	113	103	110	110	115	115	115	115	112	109	115
WTI (\$/bbl)	103.0	94	94	106	105	110	112	112	112	94	100	112
Diesel (\$/t)	949	970	890	950	1000	1050	1030	1020	1060	979	950	1040
Gasoline (95 ARA) (\$/t)	946	1030	960	1010	1000	1020	1040	1060	1030	1033	1000	1040
Jet Fuel (\$/t)	989	1040	930	990	1030	1080	1070	1060	1090	1027	1000	1080
Natural Gas HH (\$/mmBtu)	3.63	3.5	4.0	3.6	3.8	4.0	3.5	4.0	4.5	2.8	3.8	4.0
Coal (API #2) (\$/t)	82.9	86	80	77	85	90	92	95	95	93	82	93
EUA (€ /ton)	5.0	5.0	4.0	4.0	5.0	7.0	7.0	7.0	7.0	7.4	4.5	7.0

Source: Commerzbank Corporates & Markets, Bloomberg

TABLE 2: Inventories and imports

	27-Sep	Net change			% change		Comment
		1 month	1 year	vs. 5-year-Ø	year	vs. 5-year-Ø	
US inventories (mm barrels)							
Crude oil	363.7	1.7	-1.0	23.3	-0.3	6.9	US crude oil inventories has risen of late, decline in Cushing stocks has slowed, US natural gas inventories are slightly above the 5-year average again
of which: Cushing	32.8	-3.8	-11.1	3.1	-25.3	10.4	
Gasoline	219.7	1.9	23.8	13.6	12.1	6.6	
Distillates	129.2	0.1	5.1	-20.4	4.1	-13.6	
Natural gas (bn cubic feet)	3487	357	-166	4	-4.5	0.9	
ARA inventories ('000 tons)							
Gas oil	2012	-75	-250	-387	-11.1	-16.1	Gasoil stocks in Western Europe well below the seasonal usual level
Gasoline	770	55	212	134	38.0	21.0	
US oil supply (mm bpd)							
Imports	8.4	0.0	0.3	-0.7	3.2	-7.4	US reduced oil imports oil production at 24-year high
Production	7.8	0.2	1.3	2.3	19.4	40.9	
US refinery activity (mm bpd)							
Utilisation (%)	89.0	-2.2	0.8	4.0			Utilisation rate has declined markedly Crude oil processing still high
Processing	15.4	-0.3	0.6	0.9	4.0	6.2	

Source: Commerzbank Corporates & Markets, Bloomberg, US Energy Information Administration

TABLE 3: Historic prices of energy commodities

Energy	Latest	% change				1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12
		1 Week	1 Month	ytd	year ago								
Brent Blend (\$/bbl)	109.7	2.2	-5.0	-0.7	-1.4	106	117	112	109	118	109	109	110
WTI (\$/bbl)	103.0	1.8	-6.0	13.1	16.3	95	102	90	94	103	93	92	88
Diesel (\$/t)	949	1.1	-4.5	0.8	-7.6	911	982	967	975	1011	943	978	984
Gasoline (95 ARA) (\$/t)	946	-1.0	-8.6	-1.6	-15.7	913	1059	1016	931	1055	1033	1059	983
Jet Fuel (\$/t)	989	1.5	-3.8	-1.2	-6.9	973	1057	1021	1011	1062	996	1026	1025
Natural Gas HH (\$/mmBtu)	3.63	2.3	4.6	10.2	8.5	4.2	4.4	4.1	3.5	2.5	2.4	2.9	3.5
Coal (API #2) (\$/t)	82.9	0.5	9.1	-7.7	-7.3	122	125	124	114	101	91	91	89
EUA (€t)	5.0	-2.1	-5.4	-24.4	-39.0	15.1	16.1	12.1	9.0	7.7	6.9	7.6	7.3

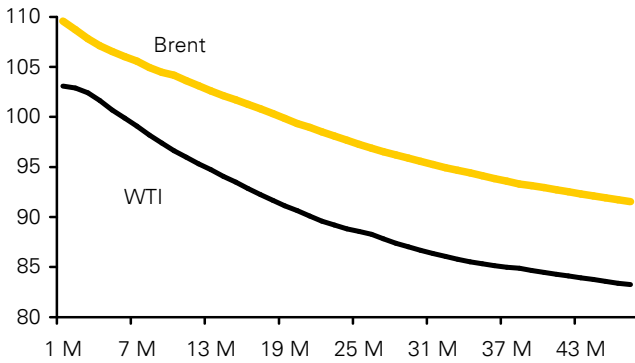
Source: Commerzbank Corporates & Markets, Bloomberg

TABLE 4: Upcoming events

9 / 17 / 23 Oct	USA	US EIA oil inventory data
10 / 17 / 24 Oct	USA	US EIA gas inventory data
8 Oct / 13 Nov	USA	EIA Short term energy outlook
10 Oct / 12 Nov	INT	OPEC oil market report
11 Oct / 14 Nov	INT	IEA oil market report
4 December	INT	OPEC meeting in Vienna, Austria

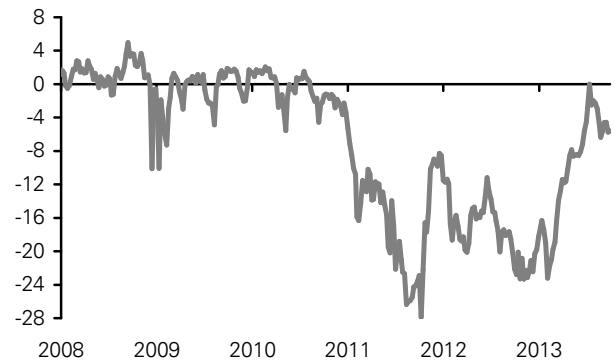
Source: EIA, IEA, OPEC, Bloomberg, Commerzbank Corporates & Markets, Bloomberg

CHART 6: Crude Oil - Forward Curves in US\$ per barrel



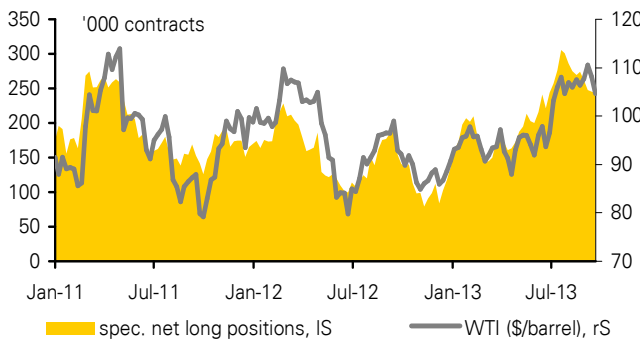
Source: Bloomberg, Commerzbank Corporates & Markets

CHART 7: Price spread WTI and Brent Blend in US\$/bbl



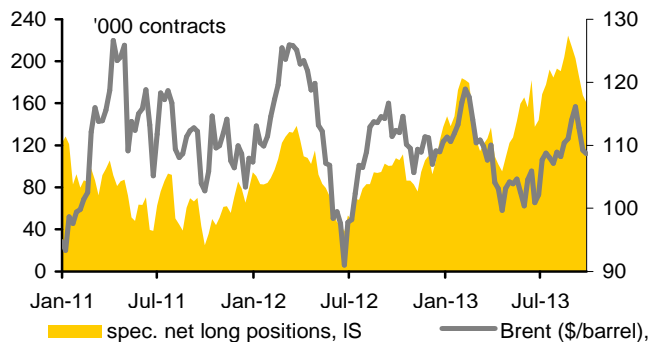
Source: Commerzbank Corporates & Markets

CHART 8: WTI: managed money net-long positions



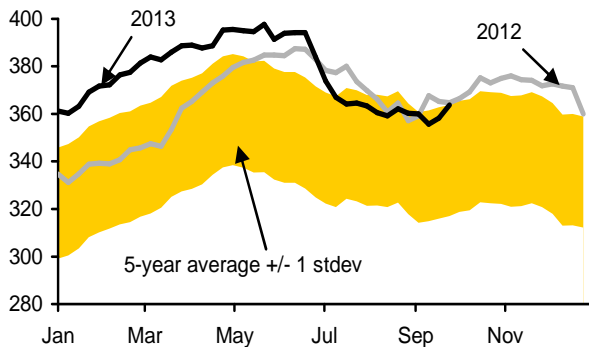
Source: CFTC, Bloomberg, Commerzbank Corporates & Markets

CHART 9: Brent: managed money net-long positions



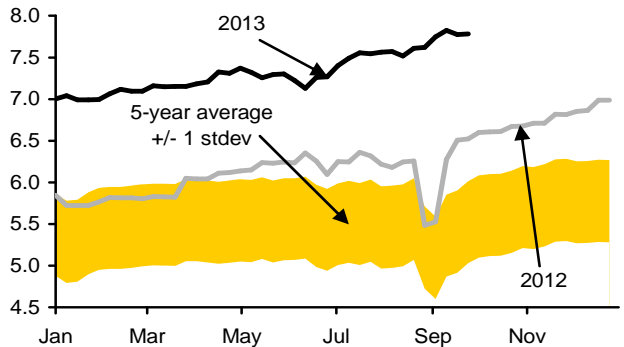
Source: ICE, Bloomberg, Commerzbank Corporates & Markets

CHART 10: Crude oil: US inventories in mm barrel



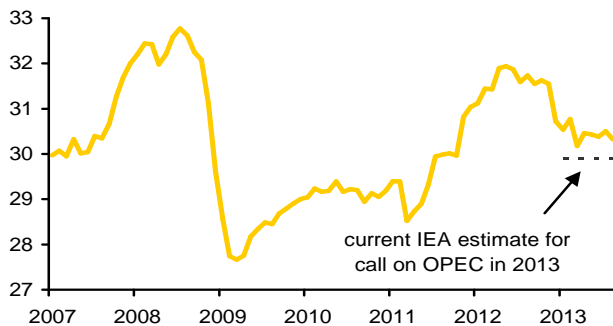
Source: EIA, Bloomberg, Commerzbank Corporates & Markets

CHART 11: US oil production in mm bpd



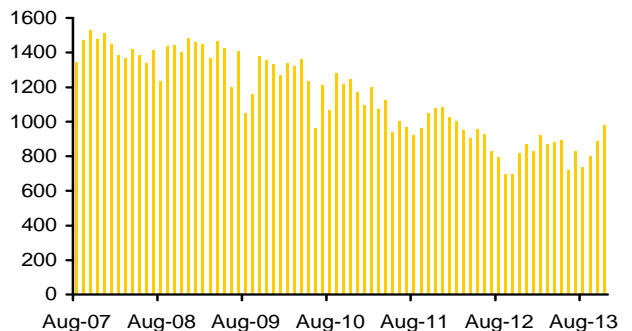
Source: EIA, Bloomberg, Commerzbank Corporates & Markets

CHART 12: OPEC oil production in mm bpd



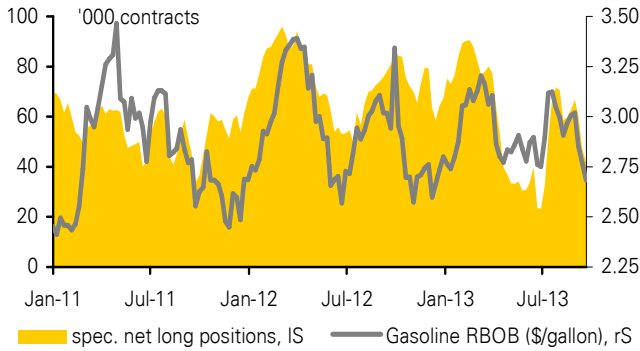
Source: Reuters, Bloomberg, IEA, Commerzbank Corporates & Markets

CHART 13: Monthly loadings of North Sea crude oil (Brent, Forties, Oseberg and Ekofisk) in '000 bpd



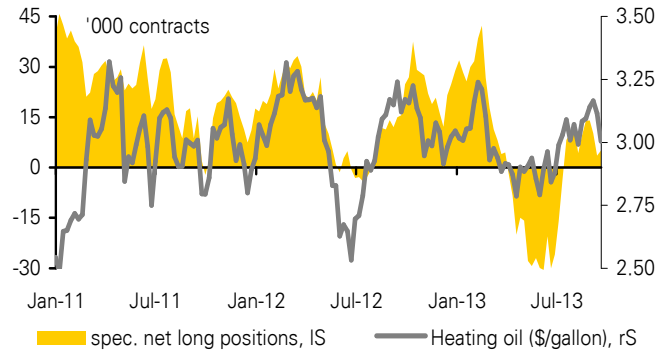
Source: Bloomberg, Commerzbank Corporates & Markets

CHART 14: Gasoline: managed money net-long positions



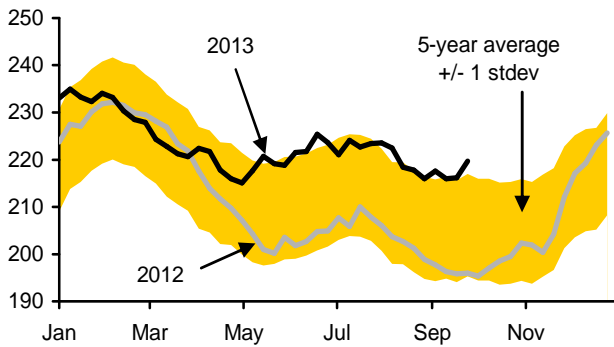
Source: CFTC, Bloomberg, Commerzbank Corporates & Markets

CHART 15: Heating oil: non-commercials' net-long positions



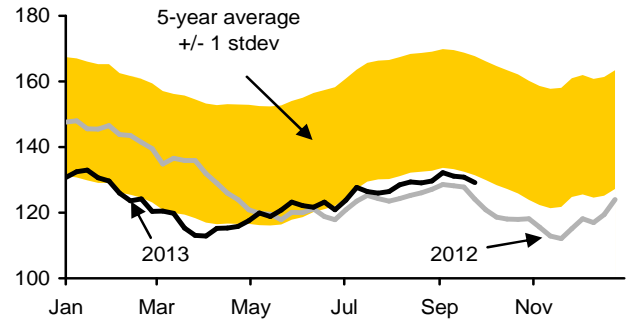
Source: CFTC, Bloomberg, Commerzbank Corporates & Markets

CHART 16: Gasoline: US inventories in mm barrel



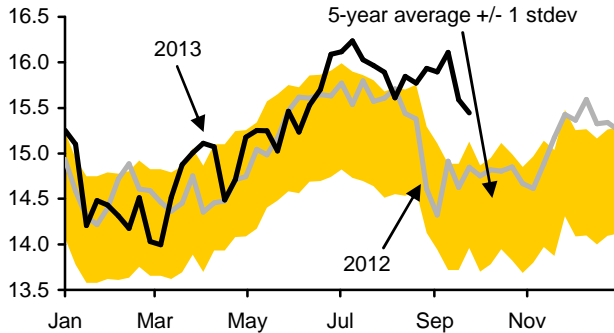
Source: EIA, Bloomberg, Commerzbank Corporates & Markets

CHART 17: Distillates: US inventories in mm barrel



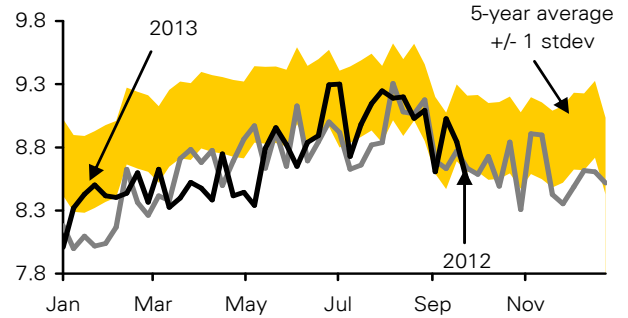
Source: EIA, Bloomberg, Commerzbank Corporates & Markets

CHART 18: US crude oil processing in mm bpd



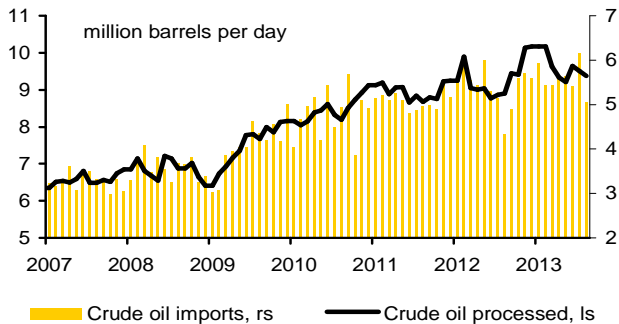
Source: EIA, Bloomberg, Commerzbank Corporates & Markets

CHART 19: US gasoline demand in mm bpd



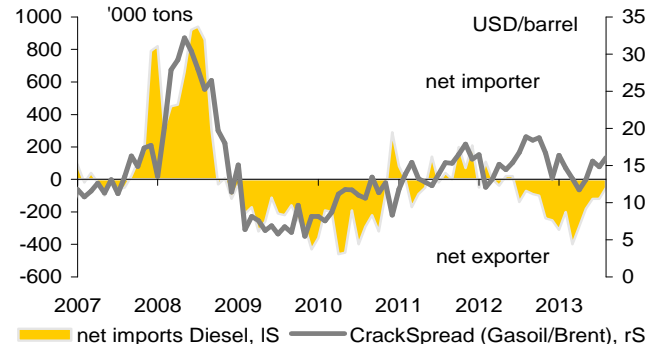
Source: EIA, Bloomberg, Commerzbank Corporates & Markets

CHART 20: China: crude oil processed and imports



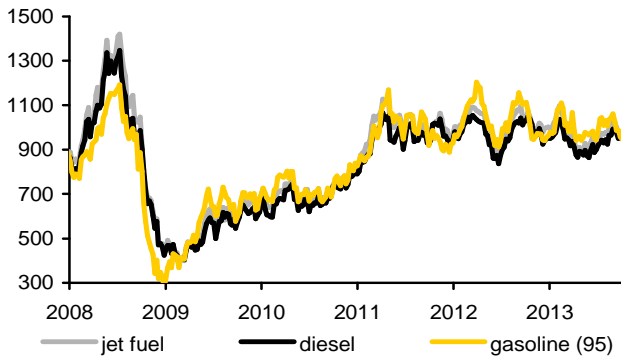
Source: China NBS, Chinese Customs, Commerzbank Corporates & Markets

CHART 21: China: Diesel imports and gasoil crackspread



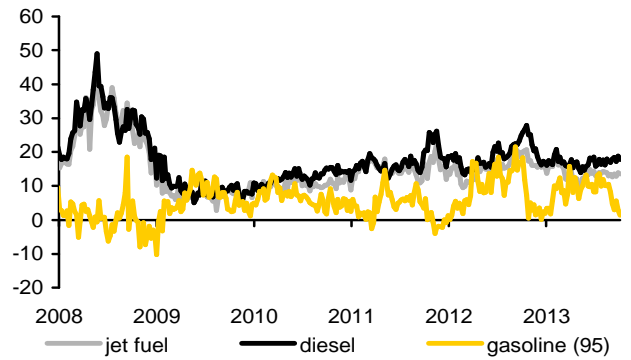
Source: Chinese Customs, Commerzbank Corporates & Markets

CHART 22: Prices of oil products in US\$ per ton



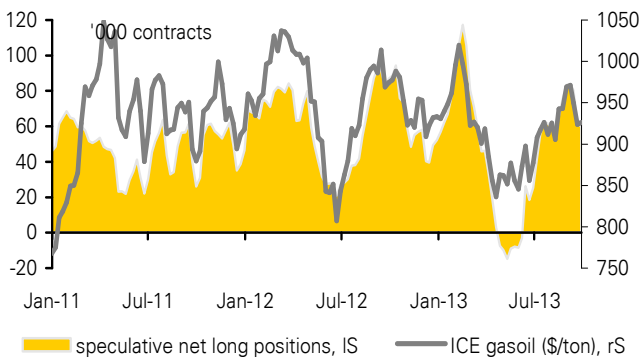
Source: Commerzbank Corporates & Markets

CHART 23: Price spread products to Brent in \$ per barrel



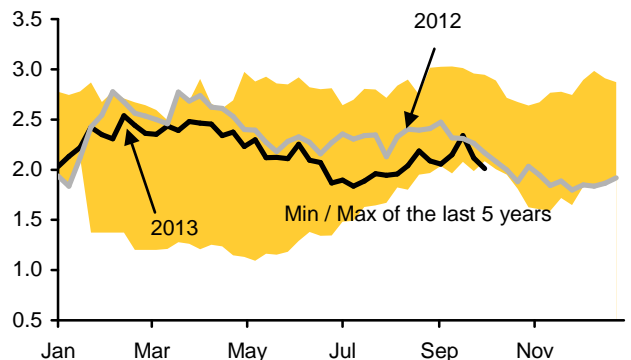
Source: Bloomberg, Commerzbank Corporates & Markets

CHART 24: Gasoil: managed money net-long positions



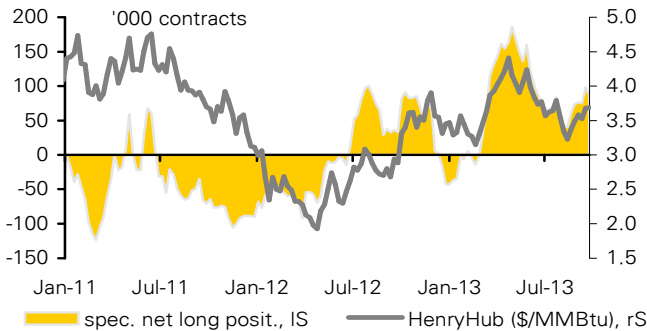
Source: ICE, Bloomberg, Commerzbank Corporates & Markets

CHART 25: ARA Gasoil inventories in million tons



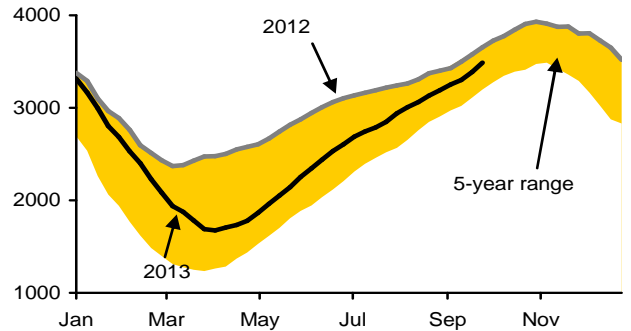
Source: PJK International, Bloomberg, Commerzbank Corporates & Markets

CHART 26: Nat. gas: non-commercials net-long positions (Futures and swaps)



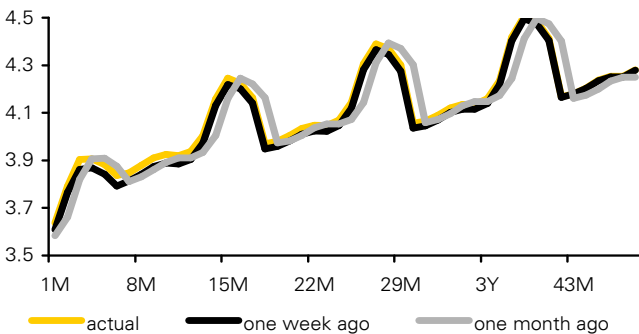
Source: CFTC, Bloomberg, Commerzbank Corporates & Markets

CHART 27: Natural gas: US storage in bn cubic feet



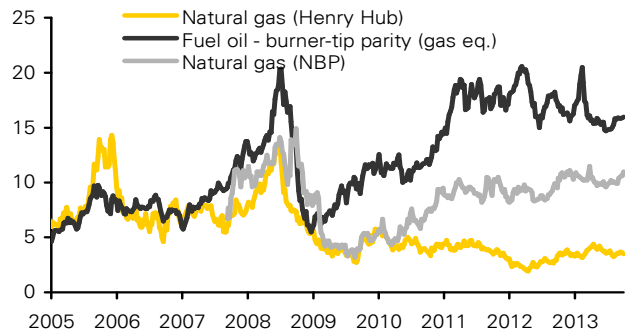
Source: EIA, Bloomberg, Commerzbank Corporates & Markets

CHART 28: Natural gas – forward curve (Henry Hub) in USD per mmBtu



Source: Bloomberg, Commerzbank Corporates & Markets

CHART 29: Burner-tip parity (natgas vs. fuel oil no.6) in USD per mmBtu



Source: Bloomberg, Commerzbank Corporates & Markets

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