

Energy carrying America

America remains on path toward energy self-sufficiency

Thanks to technological advances in the extraction of natural gas and petroleum out of shale resources, America's domestic energy production has increased dramatically in recent years. This surge in domestic energy output rapidly reduced the need to import energy from abroad. As a result, America's natural gas import bill has dropped sharply. True, America is spending more on foreign oil today than it was ten years ago due to a large structural increase in oil prices. But that may not be for long, as net oil import volumes are falling rapidly across the board.

US is benefitting from a \$900mn per day "energy carry"

Last year, America was the largest contributor to non-OPEC oil and global natural gas supply growth by a factor of two. Meanwhile, other energy-importing nations are struggling to cope with high global energy prices. In this note, we introduce the concept of "energy carry", defined as the daily dollar amount that measures the improvement in energy balances. We capture the natural gas advantage of the US economy relative to Europe or East Asia, the growing revenues from increased exports of fuels, and the reduced crude oil import bill. On those metrics, we estimate America's "energy carry" has increased from \$70mn to \$900mn per day since January 2010, a number equivalent to a stunning 2.2% of US GDP.

America's domestic energy prices will likely stay depressed

With America's domestic thermal fuel output surging, the gap in domestic US energy prices relative to prices elsewhere around the world is unlikely to close, in our view. The incipient decline in US natural gas production, mostly due to the low price environment, will likely push NYMEX nat gas prices toward investment breakeven price levels of \$4 to \$4.50/MMBtu. But full convergence to world gas price levels is highly unlikely. In addition, we see discounts on domestic land-locked crude oil grades continuing for years, likely leading to a rapid increase in refined petroleum product exports. Meanwhile, domestic seaborne grades, such as Light Louisiana Sweet, will likely trade structurally below Brent going forward.

Table 1: EIA Weekly Storage Update

	Latest	Previous	Last Year	WoW Change
Crude Stocks	382.9	387.2	358.6	(4.3)
Mogas Stocks	205.0	204.8	212.5	0.2
Mid Dist Stocks	117.8	118.9	142.1	(1.1)
Fuel Oil Stocks	35.0	34.9	37.8	0.1
Crude Imports	8,774	9,118	9,854	(344)
Mogas Imports	823	773	700	50
Mid Dist Imports	81	90	123	(9)
Refinery Runs	15,631	15,645	15,315	(14)
Refinery Ut (%)	92.0	92.6	88.4	(0.6)
Nat gas stocks	3,102	3,063	2,527	39

Source: US Department of Energy

Note: Stocks in million bbl, Flows in 1000 b/d.

Commodities | Global
06 July 2012

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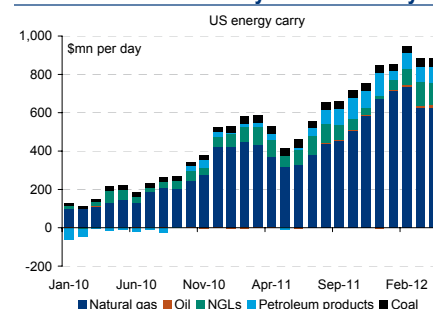
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Chart 1: America's "energy carry", or her relative improvement in total energy balances, has increased dramatically in the last two years



Source: Bloomberg, IEA, EIA, McCloskey, BofA Merrill Lynch Global Commodities Research

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Refer to important disclosures on page 19 to 20. Link to Definitions on page 18.

Table 2: BofA Merrill Lynch Commodity Research Themes and Outlook

	View	Recent report links
Macro outlook	- The eurozone sovereign and bank debt crisis has impacted oil demand, as banking woes have spread to economic growth expectations. - We argued that Brent oil prices could fall to \$60/bbl in the case of a disorderly Greek eurozone exit. Markets are now focused on the debt crisis in Spain, but the risk of a eurozone debt deflation collapse and currency break-up and thus \$60/bbl Brent will likely stay for years. - Base case, we expect global 2012 GDP growth of 3.4%, with Europe undergoing a mild recession and rest of the world mostly shrugging it off. - We believe the global economy cannot afford oil prices above \$135/bbl, the point at which energy as a share of global GDP reaches 9% and the world economy experiences a severe crisis. Higher oil prices in EUR could deepen Europe's recession and hit oil demand. - Global current account (CA) imbalances are at the heart of ongoing economic woes. In an oil supply-constrained world, oil demand in CA deficit countries has to adjust lower to make room for fast growing surplus nations. - Negative USD real rates discourage oil sector output and investment, and high liquidity supports oil prices. On our estimates, a 100bps decrease in USD real rates pushes up Brent prices by 6% the following year.	"Oil and banking crises", 28 June 12 "Oil and currency crises", 17 May 2012 "Interest rates and decline rates", 4 Mar "Oil is liquid money", 01 Feb 2012 "Oil against the EUR", 17 Jan 2012
WTI and Brent crude oil	- Given weakening oil demand in Europe, softer growth in EMs and the US, plus stronger-than-expected supply growth, we forecast 2H12 average Brent and WTI crude oil prices of \$106 and \$97/bbl respectively. For 2013, we see prices averaging \$110 and \$100/bbl. - For 2H12, we assume a more aggressive EM monetary and fiscal stance, another round of QE in September, and reduced supplies from the Iranian oil embargo in July. But without some degree of banking integration and ECB easing, downside risks to oil will keep growing. - Weaker balances mean inventories should build, which could soften Brent's term structure. Still we see structural backwardation persist. - We estimate that the US benefits from an "energy carry" on improved energy balances, likely keeping domestic energy prices depressed. - In the absence of a geopolitical event, we believe energy as a share of GDP is a natural cap on price gains. As such, we estimate the global economy can sustain a maximum average Brent crude oil price of \$135/bbl in 2012, before relapsing into recession. - We believe the supply of light sweet crudes at the Gulf Coast will rise, driving convergence between WTI-LLS and light heavy spreads plus a stronger WTI term structure in 2H12. With Cushing balances receding in 2013, LLS and Brent will likely remain disconnected. - In our view, the Brent market could spend the next few years in structural backwardation due to high spare capacity in European storage.	"Energy carrying America", 6 July 12 "Oil contagion", 6 June 2012 "WTI revival", 31 May 2012 "Sticky backwardation", 2 May 2012 "Dancing until the music stops", 19 Mar
Atlantic Basin petroleum products	- Despite the closing of 3.4 million b/d of CDU capacity since 2009, we believe market consolidation will have to continue amid falling demand, the return of some previously closed capacity, and the arrival of new, sophisticated refineries. - EM demand growth for transportation fuels remains strong, but we continue to believe that global demand for petroleum products will continue to be overwhelmed by CDU capacity additions, limiting upward pressure on crack spreads. - The outlook for global gasoline utilization rates is challenged, but distillates may fare relatively better as EMs continue to support demand.	"Swimming in Atlantic Basin refining capacity", 13 June 2012
US natural gas	- We forecast average 2012 US Henry Hub nat gas prices of \$2.40/MMBtu given bearish weather, ongoing production growth, and high stock levels. Low gas prices are displacing coal in power generation; we believe they will have to stay there in order to balance the market this summer. - Barring further declines in coal prices, we believe gas could be getting close to a floor as producers cut production and dry gas rigs continue to fall. - Normal winter weather, lower output growth and continued demand growth should lead to more normal storage levels in Oct 2013 and moderate price upside in 4Q13. But, the backlog of completed wells and associated gas remain a key headwind. We forecast avg 2013 prices \$3.50/MMBtu. - The glut of natural gas liquids may be positive for long-dated US nat gas prices, as lower NGL prices may eventually lead to a slowdown in drilling.	"Liquids converging to nat gas", 25 May "Nat gas vol set for a rally", 24 Apr "Ready for \$1/MMBtu? 4 Jan 12
LNG	- Near term, LNG prices will likely experience a lull with summer buying complete and supplies on the rise from new liquefaction projects. - Still, we believe global LNG markets will remain tight as Japan continues to face nuclear plant outages, China and India rapidly build out regas capacity, and Thailand, Indonesia and Malaysia emerge as new players. - With no major supply additions expected until 2015, we see LNG import growth substantially outpacing supply capacity growth.	"Summer lull in LNG", 19 Jun 2012 "Liquid gas to stay elevated", 24 Jan 12
UK natural gas	- Despite the weak outlook for gas consumption, we believe European gas prices will remain supported this year, as indigenous production continues to decline rapidly, LNG into Europe will be squeezed by Asian demand, and higher oil supports oil-indexed prices. - We see upside for Winter 12/13 gas to rise to 90 p/th. Risks: lower oil prices, faster restart of Japanese nuclear power, lower EM growth.	"Will the UK receive LNG next winter? 7 Mar 2012
Thermal coal	- We see further downside risk to seaborne thermal coal prices on weak demand conditions and strong supply from large producers like Colombia, US, Russia, and So. Africa, mostly on the lack of weather related issues. We forecast 2H12 Newcastle coal prices of \$107/mt. - Beyond 2012, we remain more positive, as coal production costs rise sharply in US and China, and India faces domestic shortages.	"Thermal coal still suffers from oversupply", 3 Apr 12

Table 3: BofA Merrill Lynch Commodity Price Forecasts (period averages)

	units	3Q12F	4Q12F	2012F	2013F
WTI Crude Oil	(\$/bbl)	95.00	98.00	97.00	100.00
Brent Crude Oil	(\$/bbl)	104.00	108.00	109.00	110.00
USGC No. 2 HO crack spread	(\$/bbl)	17.00	23.00	19.00	
USGC RBOB Gasoline crack spread	(\$/bbl)	13.00	4.00	9.50	
USGC 1% Residual crack spread	(\$/bbl)	(2.00)	(3.50)	(2.00)	
NWE 0.2% Gasoil crack spread	(\$/bbl)	13.55	17.55	14.80	
NWE Prem. Gasoline crack spread	(\$/bbl)	2.80	1.50	2.20	
NWE 1% Residual crack spread	(\$/bbl)	(9.52)	(9.02)	(9.90)	
US Natural Gas	(\$/MMBtu)	1.90	3.20	2.40	3.50
Thermal coal, Newcastle FOB	(\$/t)	105	109	107	110
Aluminium	(\$/t)	2,400	2,450	2,324	2,425
Copper	(\$/t)	8,750	7,900	8,275	7,625
Nickel	(\$/t)	19,250	18,750	18,938	18,250
Zinc	(\$/t)	2,150	2,300	2,133	2,425
Lead	(\$/t)	2,350	2,200	2,163	2,350
Gold	(\$/oz)	1,775	1,875	1,750	1,750
Silver	(\$/oz)	35.00	38.00	34.45	37.00
Platinum	(\$/oz)	1,650	1,750	1,668	1,700
Palladium	(\$/oz)	700	750	685	725

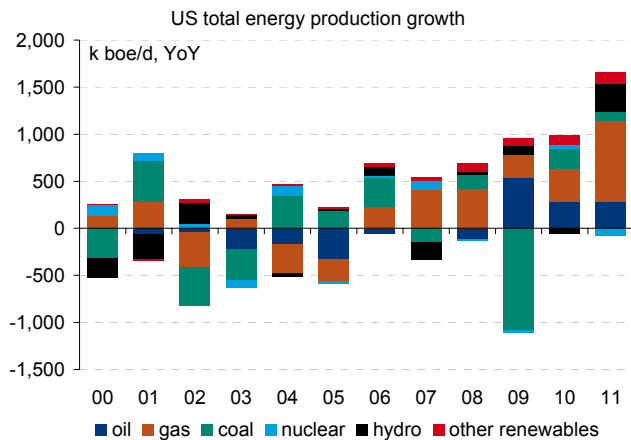
Source: BofA Merrill Lynch Global Commodities Research

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America remains on path toward energy self-sufficiency...

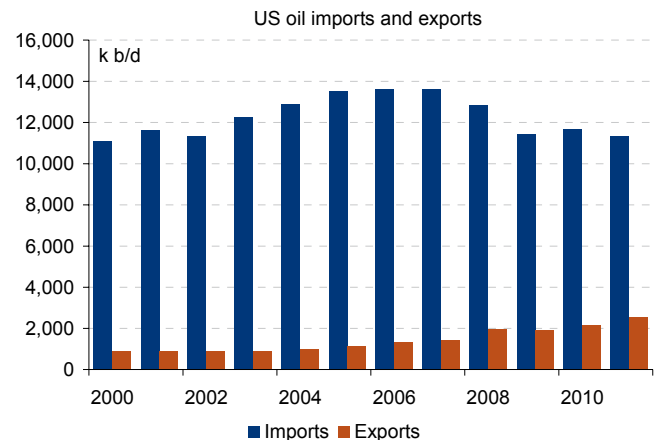
Thanks to technological advances in the extraction of natural gas and petroleum out of shale rock, America's domestic energy production has increased dramatically in recent years (Chart 2). In turn, this surge in domestic energy output has rapidly reduced the need to import energy from abroad (Chart 3). As a result, America's natural gas import bill has dropped sharply. Given that the market expected the US to become a very large LNG importer by 2012, this is a very significant shift. True, America is still spending more on foreign oil today than it did five years ago due to the large increase in oil prices. But it may not be for long, as oil import volumes are falling rapidly across the board.

Chart 2: America's domestic energy production has increased dramatically in recent years...



Source: BP, BofA Merrill Lynch Global Commodities Research

Chart 3: ...rapidly reducing the need to import expensive energy from abroad



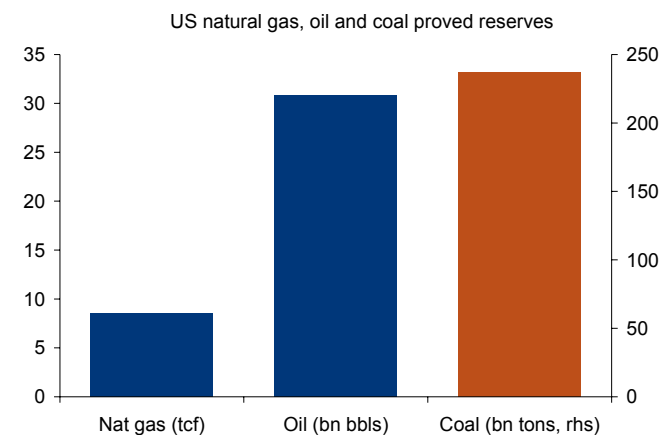
Source: BP, BofA Merrill Lynch Global Commodities Research

...and resources in the ground can support ongoing growth

The US always had vast oil, natural gas, and thermal coal resources in the ground (Chart 4), but for the past 60 years, such reserves were not large enough to support self-sufficiency in the world's largest economy. The US became a net importer of crude oil and products in 1944 and 1949, respectively, and oil net imports rose rapidly in the decades that followed on the proliferation of the car fleet and, with it, oil consumption. More recently, the true structural shift has come from the supply side, with the addition of non-conventional oil and gas resources to a large conventional fossil fuel resource base. In fact, on the shale gas front, America compares very well to other countries around the world (Chart 5), even without adjusting for the fact that bordering countries Mexico and Canada also hold vast amounts of conventional and non-conventional fossil fuel resources.

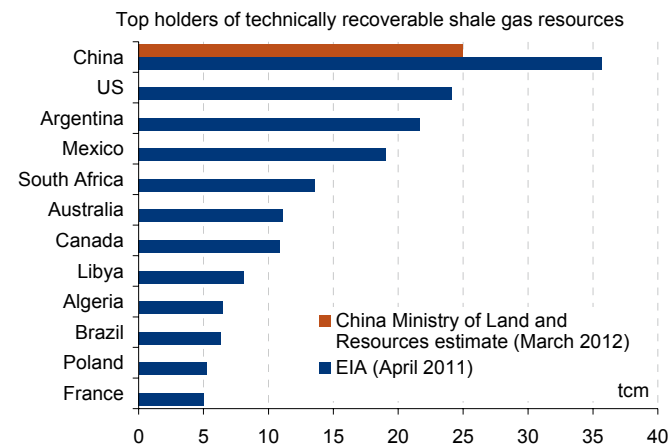
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Chart 4: The US has vast oil, natural gas, and thermal coal resources in the ground



Source: BP, BofA Merrill Lynch Global Commodities Research

Chart 5: America compares well to other countries around the world in fossil fuel reserves, particularly natural gas

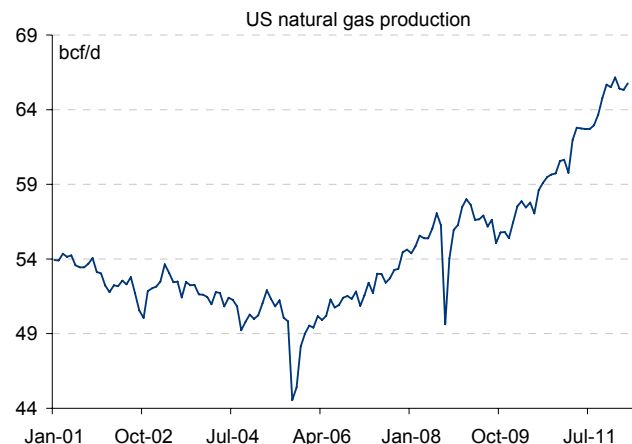


Source: EIA, China Ministry of Land and Resources, BofA Merrill Lynch Global Commodities Research

US nat gas output growth has saturated the market...

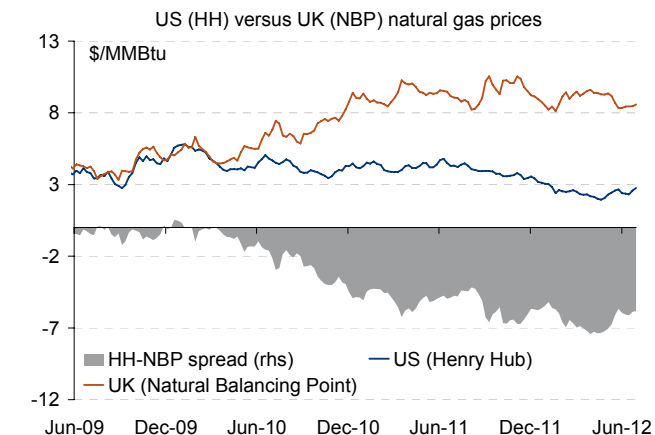
Domestic natural gas production in the United States has now reached 65.8 bcf/d, as of April 2012 (Chart 6), surpassing all but the most optimistic forecasts. The rapid surge in domestic output, coupled with a warm winter, has sent US natural gas inventories this year to record seasonal levels across the country. Despite the recent run-up in NYMEX Henry Hub natural gas prices from the April lows of \$1.90/MMBtu to the current levels of \$2.90/MMBtu, US natural gas prices are very depressed relative to other markets around the world such as the UK (Chart 7).

Chart 6: Domestic natural gas production in the United States has now reached 65.8 bcf/d...



Source: EIA, BofA Merrill Lynch Global Commodities Research

Chart 7: ...keeping US natural gas prices very depressed relative to other markets such as the UK



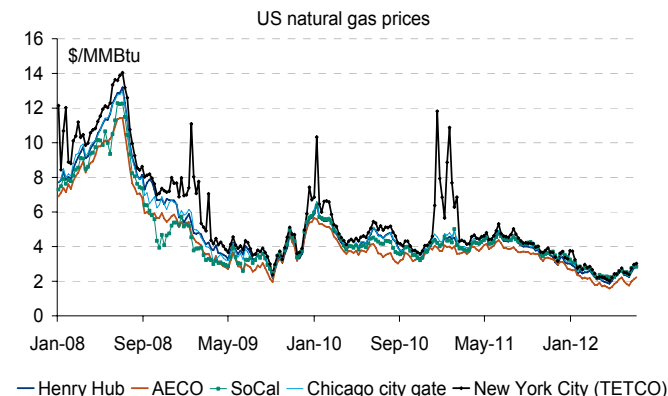
Source: Bloomberg, BofA Merrill Lynch Global Commodities Research

...forcing a structural decline in Canadian gas production

In fact, it is worth noting that prices of natural gas at different points in North America have collapsed (Chart 8), with Canadian prices in AECO suffering more than most, due to a lack of proximity to consuming markets. Of course, Canadian prices that reached as low as \$1.52/MMBtu in April sit in stark contrast to prices of liquid natural gas of \$19/MMBtu paid by Taiwan this winter. With Canadian producers facing a compression in margins and a lack of access to large pools of demand, we have observed a continued reduction in Canadian domestic natural gas production (Chart 9).

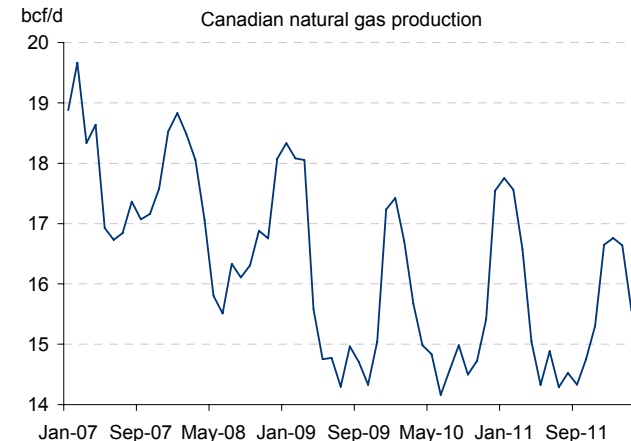
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Chart 8: Prices of natural gas in different points in North America have collapsed...



Source: Bloomberg, BofA Merrill Lynch Global Commodities Research

Chart 9: ...forcing a continued reduction in Canadian domestic natural gas production

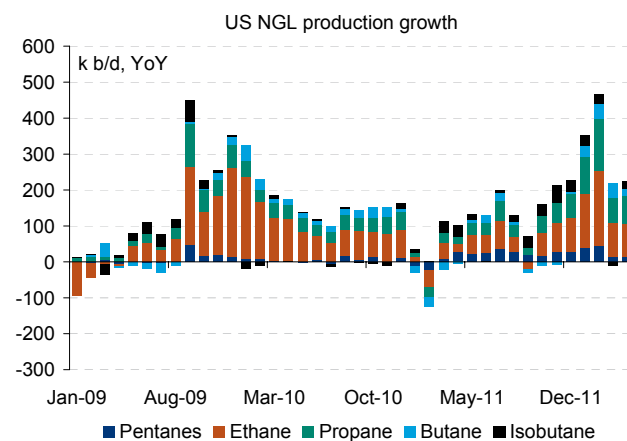


Source: IEA, BofA Merrill Lynch Global Commodities Research

Liquids output has also surged across the board

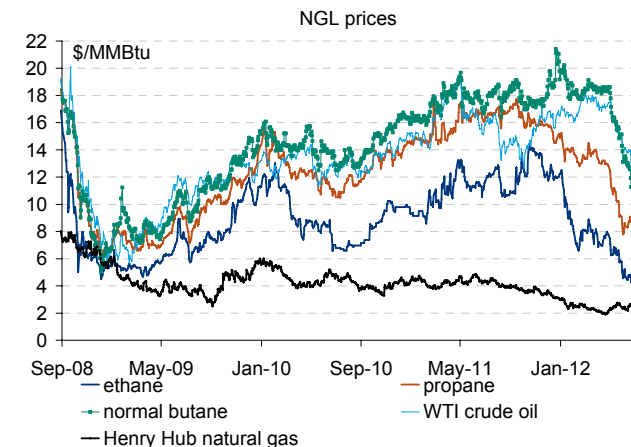
Natural gas in America offers perhaps the most visible success of the shale industry. But output of natural gas liquids, a key input into the petrochemical and refining sectors, has also increased at a stunning rate in recent months (Chart 10), quickly displacing natural gas in some petrochemical processes. In fact, the sharp increase in liquids output in the US has resulted in a collapse in the price of ethane and, more recently, propane and butane (Chart 11). This sharp reduction in US liquids and natural gas prices is driving a revival of the North American petrochemical industry, with various large investments announced in recent months.

Chart 10: The output of natural gas liquids has increased at a stunning rate in recent months...



Source: EIA, BofA Merrill Lynch Global Commodities Research

Chart 11: ...resulting in a collapse in the prices of both ethane and, shortly thereafter, propane and butane



Source: Bloomberg, BofA Merrill Lynch Global Commodities Research

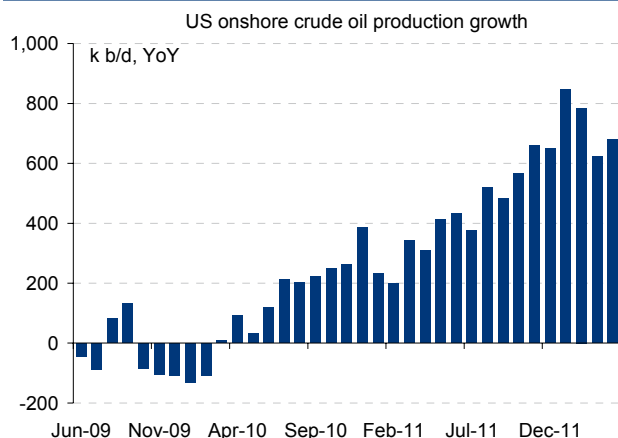
Most importantly, US crude oil output is up 18% YoY...

While natural gas is yesterday's story and NGLs is today's story, the most profound change in America comes from the incipient shale oil industry. Domestic onshore crude oil output in the US is up 18%, or 733 thousand b/d, YoY during the first four months of the year (Chart 12). This growth is, of course, only making a small dent in a country that still imports 9 million b/d. But, in due course, a continued reduction in foreign crude oil imports will improve America's

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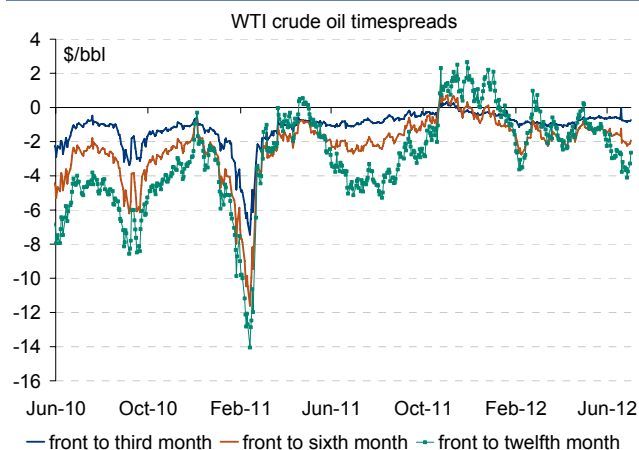
competitive position in the world economy for years to come. The change is visible in flat prices, with WTI trading at a \$10-15/bbl discount to Brent, and is also noticeable in spreads, with WTI timespreads trading in a persistent contango structure for months despite global light sweet crude oil tightness (Chart 13).

Chart 12: Domestic onshore crude oil output in the US is up 18% or 733 thousand b/d YoY during the first four months of the year ...



Source: EIA, BofA Merrill Lynch Global Commodities Research

Chart 13: ...pushing inventories up and forcing WTI timespreads into a persistent contango structure

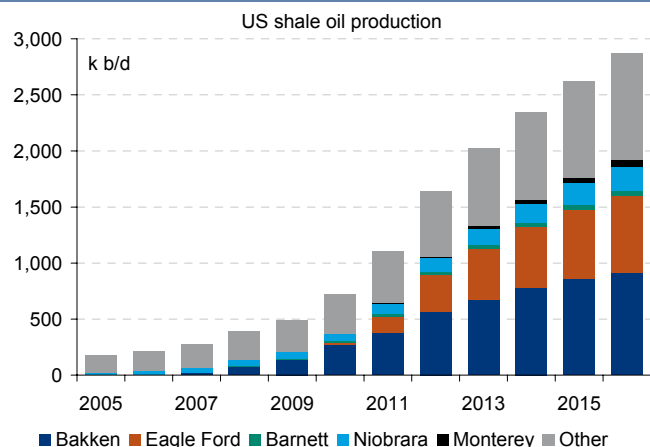


Source: Bloomberg, BofA Merrill Lynch Global Commodities Research

...thanks to a dramatic surge in shale oil production

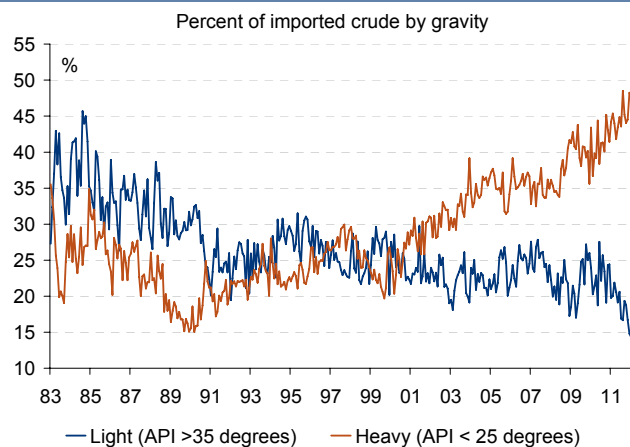
In fact, growth in the Bakken, Eagle Ford and the Permian shale oil plays has been nothing short of extraordinary (Chart 14) in recent years, resulting in a substantial decline in prices of light sweet grades such as Bakken or WTI at Midland relative to Brent or even other WTI benchmarks. We estimate that annual shale oil production growth has averaged 40% every year in the last three years, and is poised to exceed 2 million b/d next year. In turn, this fast increase in output has rapidly reduced the need to import expensive light sweet crude oil grades into the country (Chart 15).

Chart 14: Growth in the Bakken, Eagle Ford and the Permian shale oil plays has been extraordinary...



Source: WoodMac, IEA, EIA, Reuters, company reports, BofA Merrill Lynch Global Commodities Research

Chart 15: ...rapidly reducing the need to import light sweet crude oil grades into the country



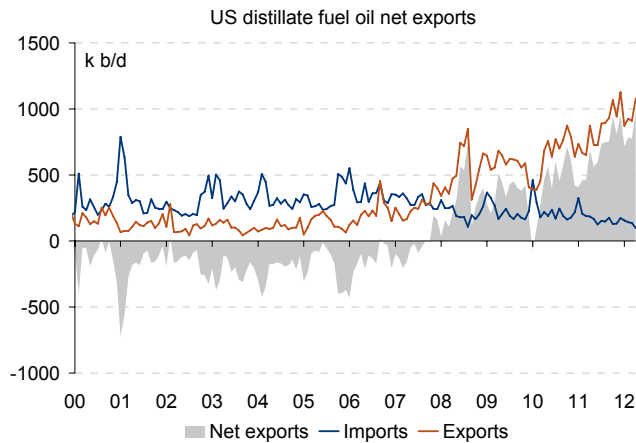
Source: EIA, BofA Merrill Lynch Global Commodities Research

Moreover, US petroleum product exports continue to rise...
America is not only reducing its foreign fuel dependency in the upstream sector.

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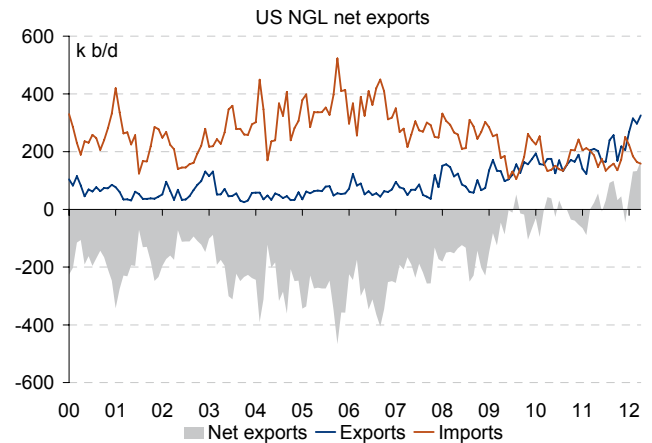
Home to the world's largest and most sophisticated refining system, the United States has also become a large net exporter of petroleum products in recent years (Chart 16). Total petroleum product exports amounted to over 2.6 million b/d in 2011, and have continued to positively impact the US trade balance this year. In addition, the US is now poised to expand exports of natural gas liquids, such as propane or ethane (Chart 17), over the next three years.

Chart 16: The United States has become a large net exporter of distillate products in recent years...



Source: EIA, BofA Merrill Lynch Global Commodities Research

Chart 17: ...and is now poised to expand exports of natural gas liquids such as propane or ethane



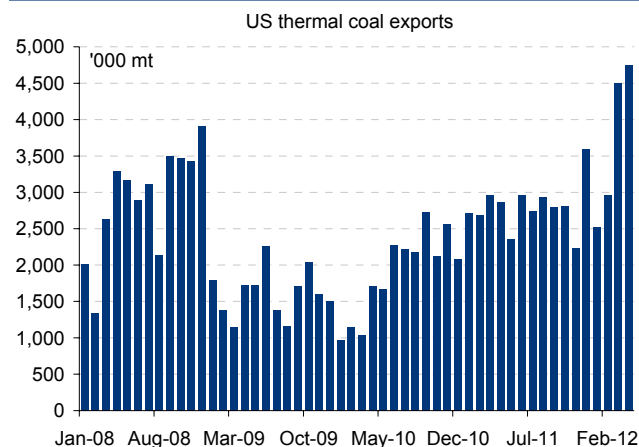
Source: EIA, BofA Merrill Lynch Global Commodities Research

...while America is again a top global thermal coal exporter

Mostly as a result of the surge in domestic natural gas production, utilities in America have moved to burn less thermal coal. With more coal available around the country, America is quickly displacing South Africa as a key exporter of thermal coal to Europe (Chart 18), a development that few could have foreseen only five years ago. In fact, exports of thermal coal from America have increased to 4.7 million tonnes in April (Chart 19), making America one of the world's largest exporters, nearly rivalling Australia and Indonesia.

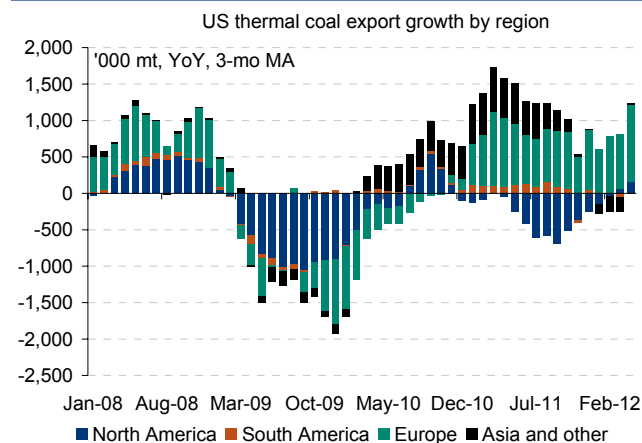
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Chart 18: Exports of thermal coal from America have increased to 4.7 million tonnes in April...



Source: McCloskey, BofA Merrill Lynch Global Commodities Research

Chart 19: ...making America one of the world's largest exporters nearly rivalling Australia and Indonesia

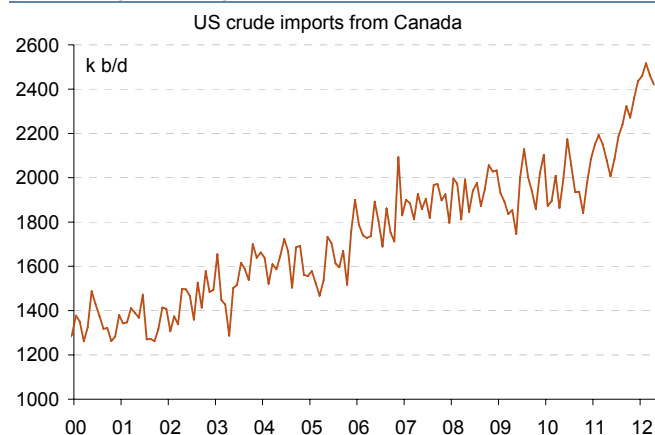


Source: McCloskey, BofA Merrill Lynch Global Commodities Research

Depressed Canadian crude import prices benefit the US

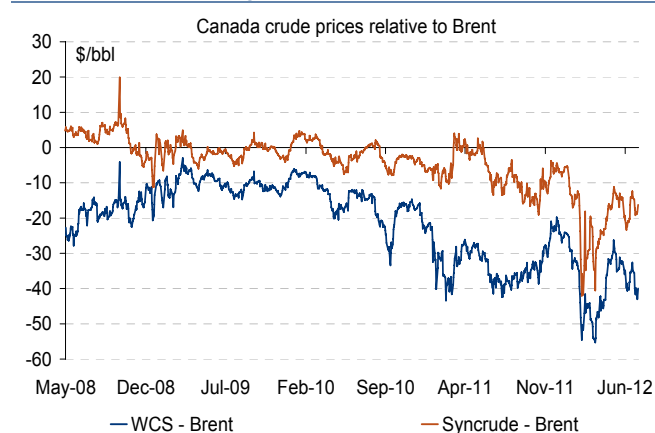
But America is not only seeing an improvement in its energy balances through increased thermal fuel exports and reduced imports. America is also benefitting by importing increasing volumes of cheaper fuels relative to prices paid by the rest of the world. In part, this is because Canadian crude oil exports to the United States have grown substantially in recent years, to 2.4 million b/d (Chart 20). However, the price discount on Canadian grades relative to those in the rest of the world has grown dramatically in recent years (Chart 21). So America's total crude oil import costs are falling rapidly relative to those faced by the rest of the world's energy importers.

Chart 20: Canadian crude oil exports to the United States have grown substantially in recent years...



Source: EIA, BofA Merrill Lynch Global Commodities Research

Chart 21: ...but the discount on Canadian grades relative to those in the rest of the world has grown



Source: Bloomberg, BofA Merrill Lynch Global Commodities Research

America benefits from a \$900mn per day energy carry...

In that sense, it is interesting to note that Nigerian crude, once a favorite of US refiners, is now mostly heading into Europe (Chart 22). The need for West African grades is shrinking by the day. So how can we quantify this improvement in America's energy balances? In this note, we introduce the concept of an "energy carry", which is the daily dollar amount that reflects the improvement in America's

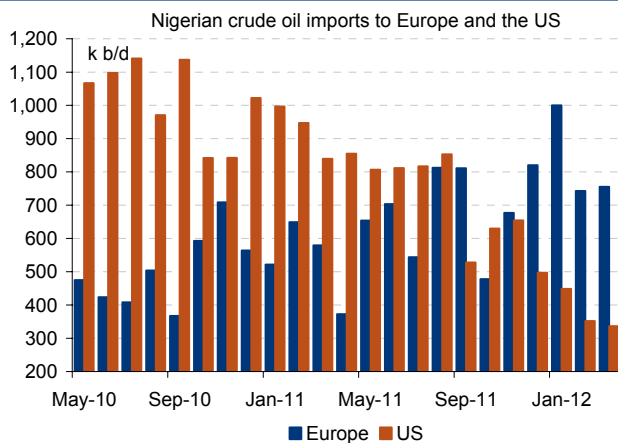
energy balances. It basically captures the natural gas advantage of the US economy relative to Europe or East Asia, the growing revenues from increased exports of fuels, and the reduced crude oil import bill. On those metrics, we estimate America's energy carry has increased from \$70mn per day in January 2010 to \$900mn as of April 2012 (Chart 23).

Table 4: America's energy carry relative to the rest of the world has averaged about \$700mn per day in the last 12 months

Natural gas	\$566.0
Henry Hub (\$/MMBtu)	3.10
Global average gas price (\$/MMBtu)	11.64
US gas consumption (bcf/d)	66.3
Oil	\$56.2
US average imported price (\$/bbl)	105.57
Global average oil price (\$/bbl)	111.89
Crude oil imports (k b/d)	8,886
NGLs	\$4.8
Net exports (k b/d)	65
Blended price (\$/bbl)	73.65
Petroleum products	\$67.9
Gasoline - net exports (k b/d)	-251
Gasoline - price (\$/bbl)	120.86
Distillates - net exports (k b/d)	780
Distillates - price (\$/bbl)	125.96
Coal	\$32.3
Net exports (k short tonnes)	95,970
Blended price (\$/st)	122.84
Total energy carry (\$mn per day)	\$727.2

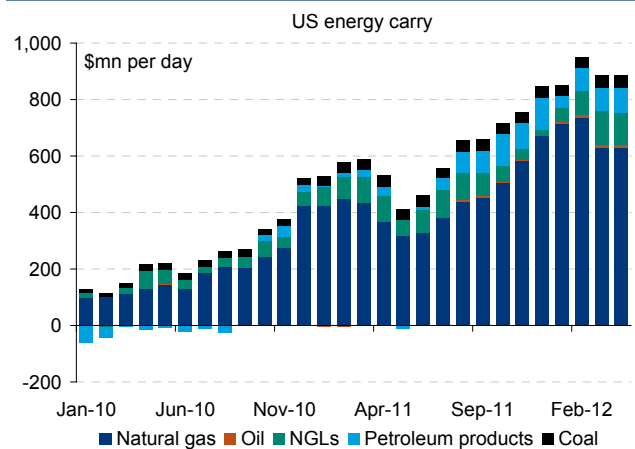
Source: Bloomberg, IEA, EIA, McCloskey, BofA Merrill Lynch Global Commodities Research

Chart 22: Nigerian crude, once a favorite of US refiners, is now mostly heading into Europe



Source: EIA, BofA Merrill Lynch Global Commodities Research

Chart 23: We estimate America's energy carry has increased from \$70mn per day in January 2010 to \$900mn as of April 2012



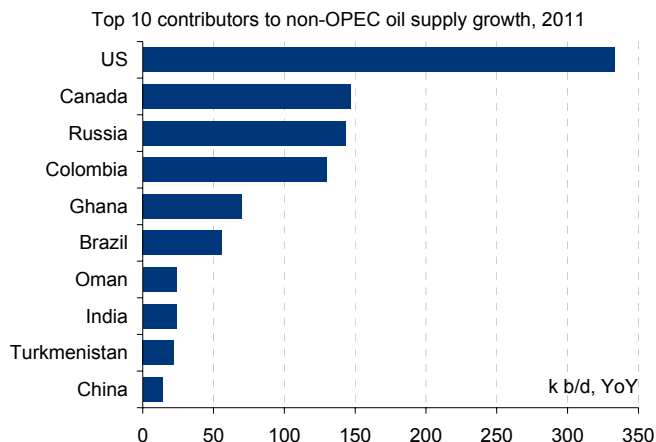
Source: Bloomberg, IEA, EIA, McCloskey, BofA Merrill Lynch Global Commodities Research

...and is "reabsorbing" growth from Europe and EMs alike

These numbers need to be put in a global context, given the fact that the US has been historically a large importer of energy. Last year alone, America was the largest contributor to non-OPEC oil supply growth by a factor of two (Chart 24). Canada came in second, ahead of Russia, Colombia, Ghana and Brazil. A similar picture emerges when looking at growth in global natural gas supplies (Chart 25), with the US easily outpacing Qatar, the world's largest exporter of LNG. In a

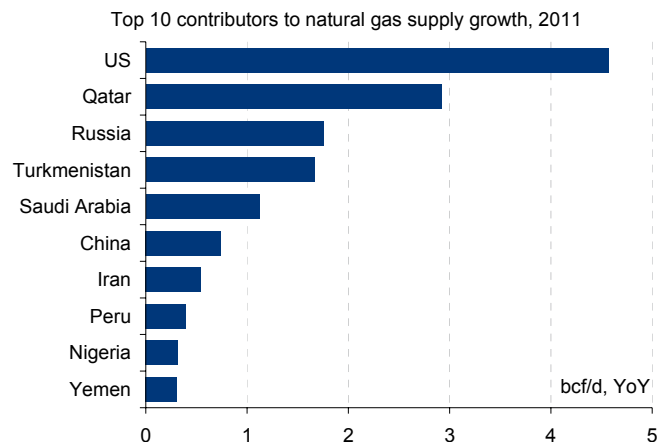
world of high energy prices, this rapid turnaround in domestic energy production is helping America pick up growth from Europe and Asia, as these other regions have worsening energy balances.

Chart 24: America was the largest contributor to non-OPEC oil supply growth in 2011, by a factor of two



Source: IEA, BofA Merrill Lynch Global Commodities Research

Chart 25: A similar picture emerges when looking at growth in global natural gas supplies

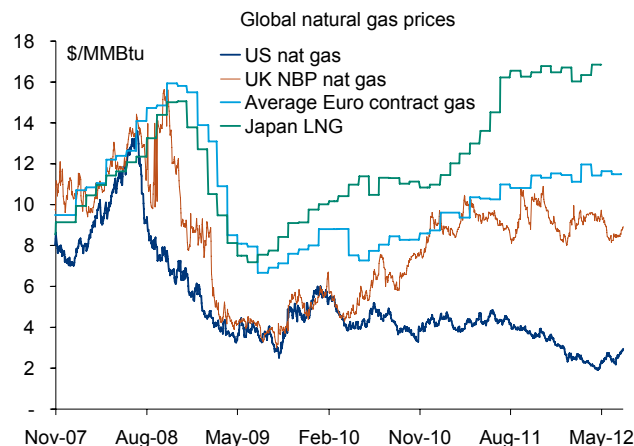


Source: IEA, BofA Merrill Lynch Global Commodities Research

Low funding costs will keep domestic energy prices low

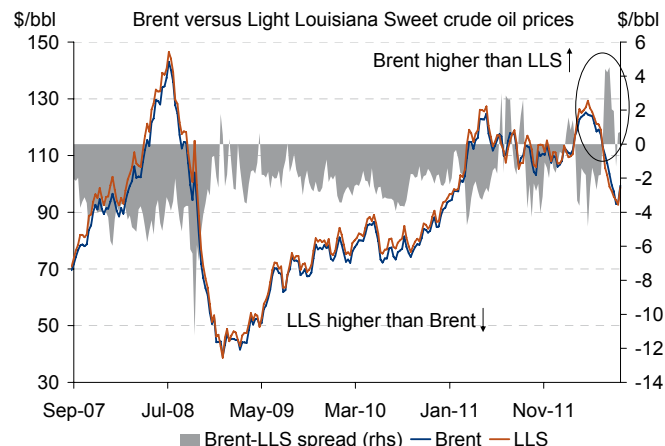
With America's domestic thermal fuel production increasing at a phenomenal rate, the gap in domestic US natural gas prices relative to prices elsewhere around the world is unlikely to close in any significant manner (Chart 26), in our view. True, the incipient decline in US natural gas production, mostly due to the low price environment, will likely continue to push natural gas prices higher toward investment breakeven levels of \$4 to \$4.50/MMBtu. But the global liquid gas market remains tight and full price convergence is highly unlikely. In addition, we see discounts on domestic landlocked crude oil grades continuing for years, leading to a continued rapid increase in refined petroleum product exports. Meanwhile, domestic seaborne grades, such as Light Louisiana Sweet, will likely trade structurally below Brent going forward (Chart 27).

Chart 26: The gap in domestic US natural gas prices relative to prices elsewhere is unlikely to close



Source: Bloomberg, World Gas Intelligence, Reuters, BofA Merrill Lynch Global Commodities Research

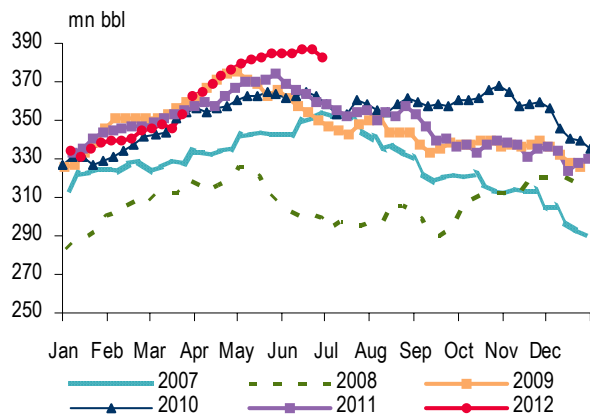
Chart 27: We even see domestic seaborne grades such as Light Louisiana Sweet trading structurally below Brent going forward



Source: Bloomberg, BofA Merrill Lynch Global Commodities Research

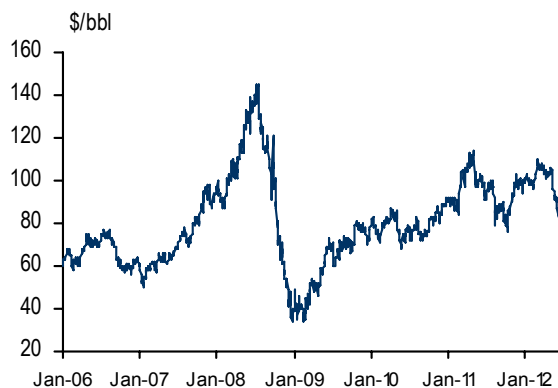
Petroleum - US

Chart 28: US crude oil stocks



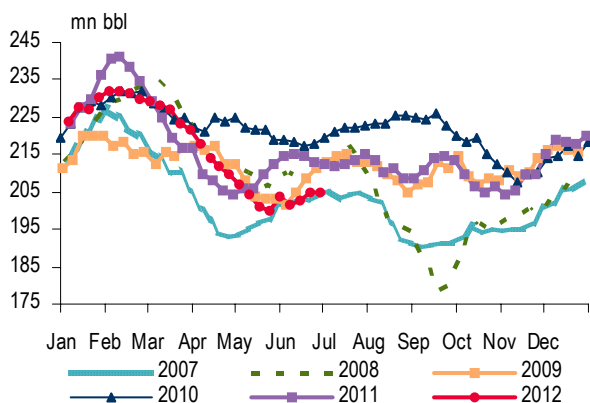
Source: US Department of Energy

Chart 29: WTI crude oil price



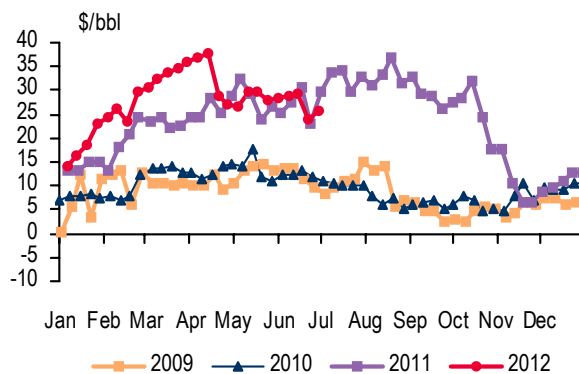
Source: NYMEX, Bloomberg

Chart 30: US gasoline stocks



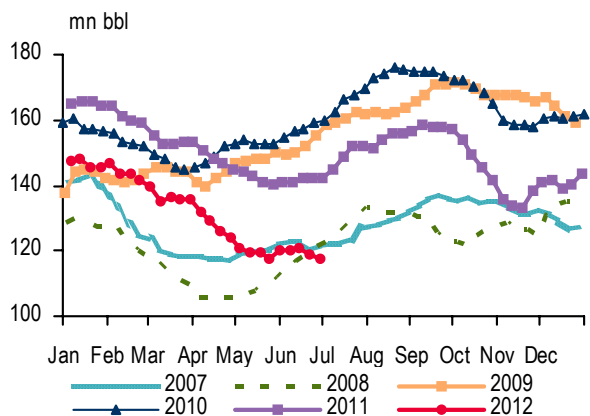
Source: US Department of Energy

Chart 31: US RBOB cracks



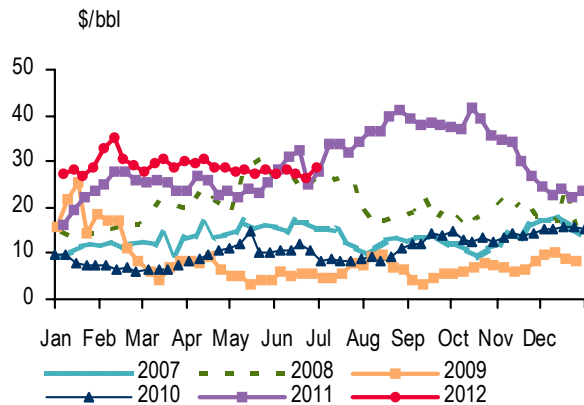
Source: NYMEX, Reuters

Chart 32: US distillate oil stocks



Source: US Department of Energy

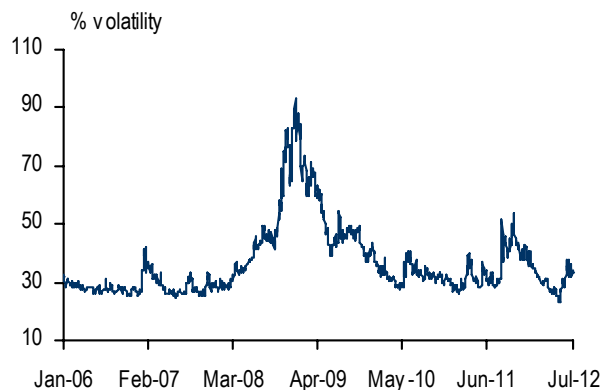
Chart 33: US distillate oil cracks



Source: NYMEX, Reuters

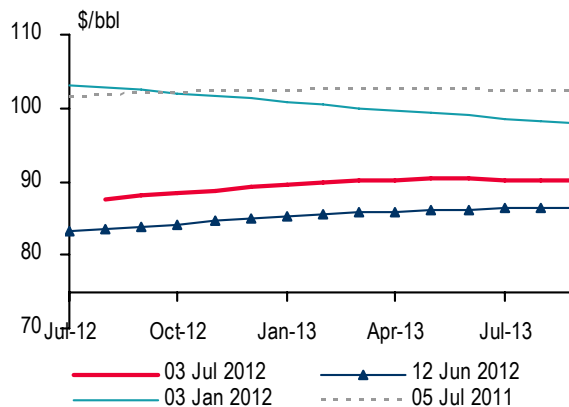
Petroleum - US & Europe

Chart 34: WTI implied volatility



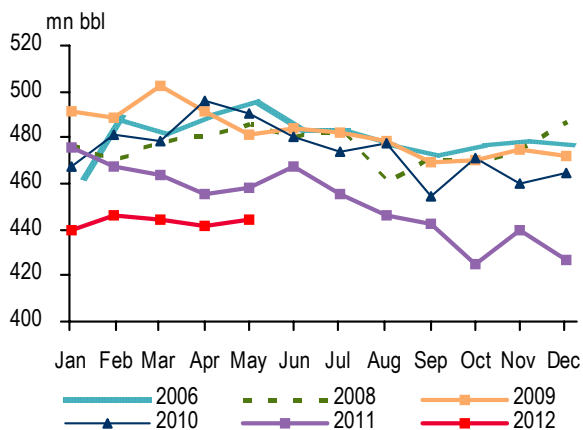
Source: NYMEX, Bloomberg

Chart 35: WTI Term Structure



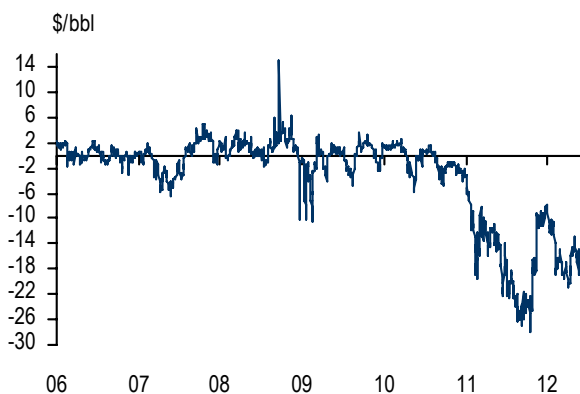
Source: NYMEX, Reuters

Chart 36: European crude oil stocks



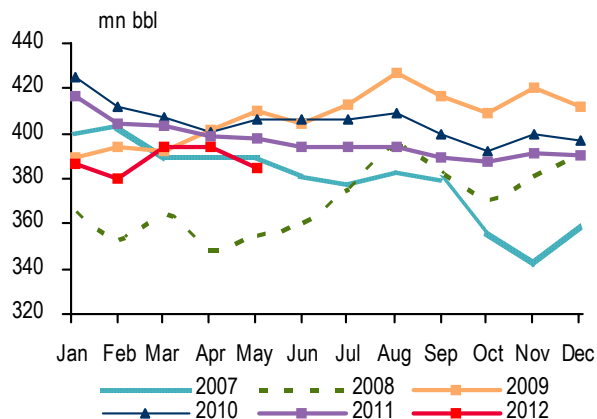
Source: Euroil

Chart 37: Brent - WTI crude spread



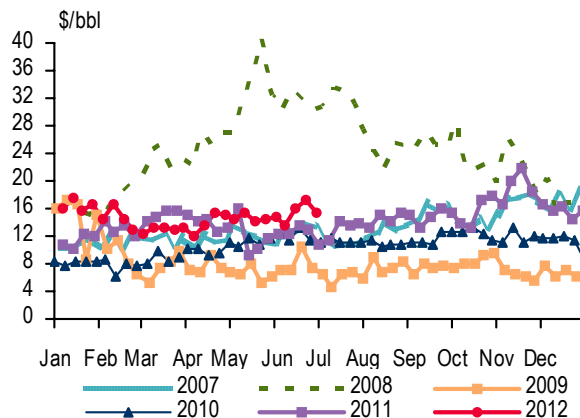
Source: IPE, Bloomberg

Chart 38: European distillate stocks



Source: Euroil

Chart 39: ICE gasoil cracks

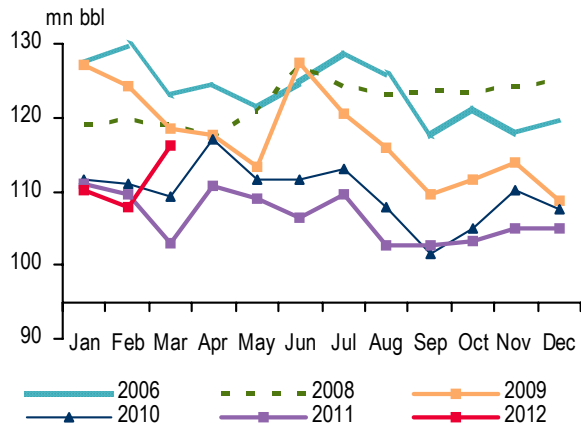


Source: Reuters

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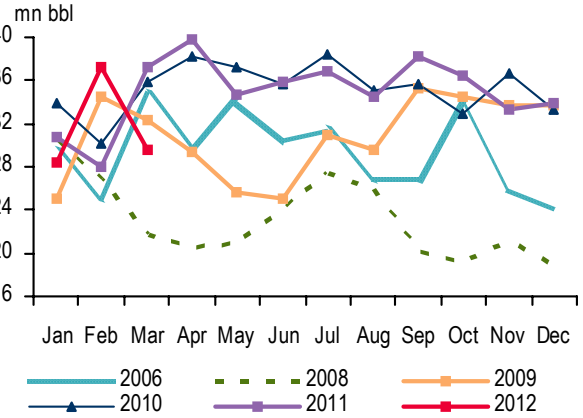
Petroleum - Asia

Chart 40: Japanese crude oil stocks



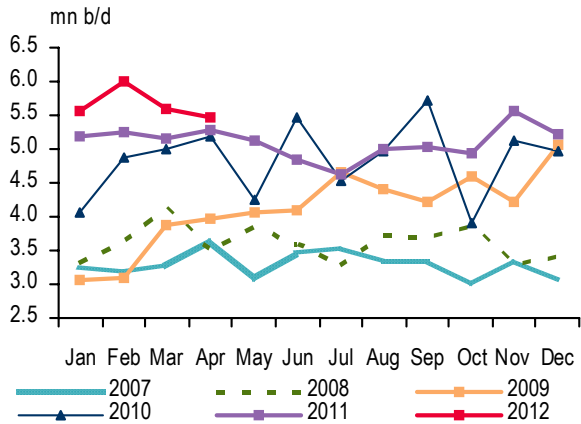
Source: International Energy Agency

Chart 41: South Korean crude oil stocks



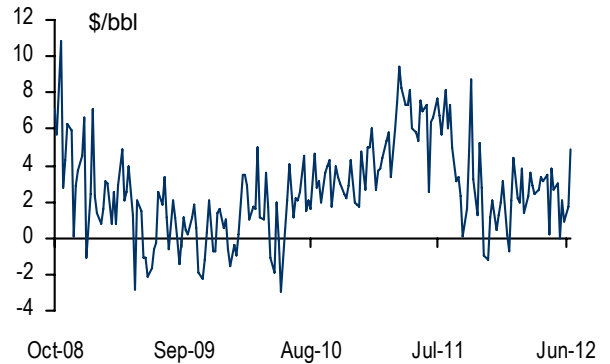
Source: International Energy Agency

Chart 42: China crude oil imports



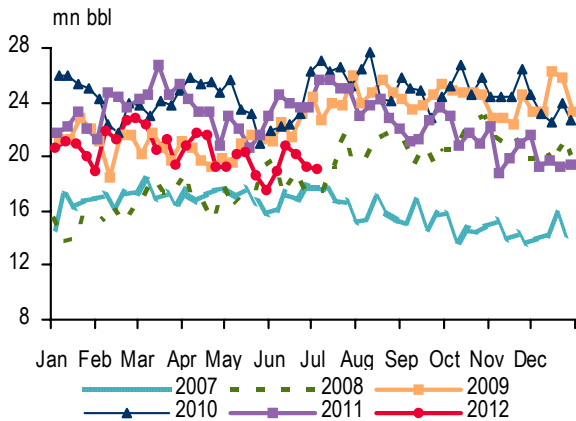
Source: Reuters

Chart 43: Brent - Dubai crude oil spread (1-month contract)



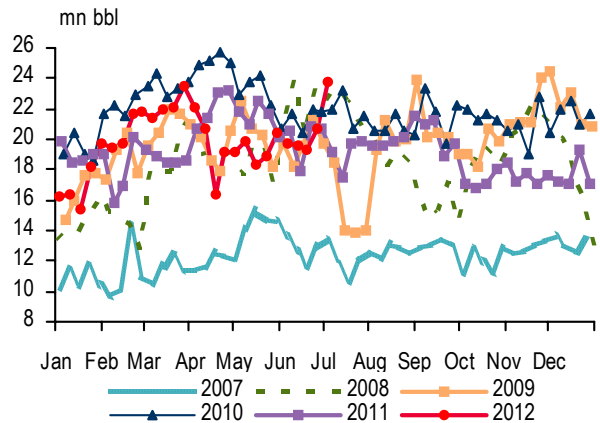
Source: Reuters

Chart 44: Singapore light & mid distillate stocks



Source: Reuters

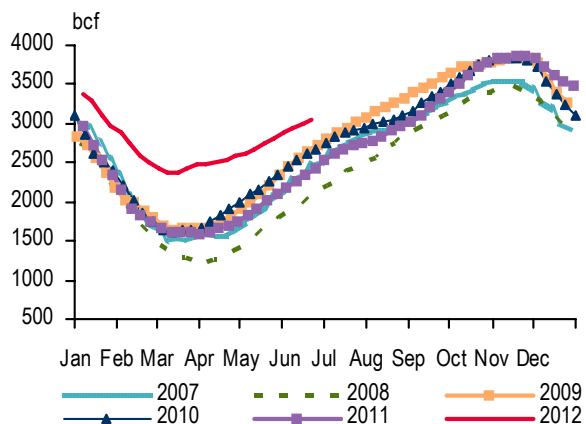
Chart 45: Singapore residual stocks



Source: Reuters

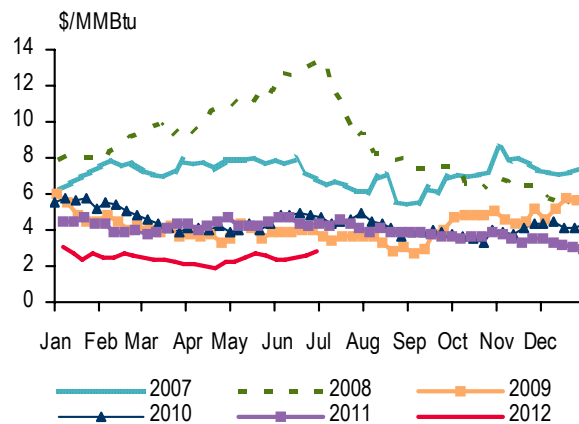
Gas & Power - US

Chart 46: US natural gas stocks



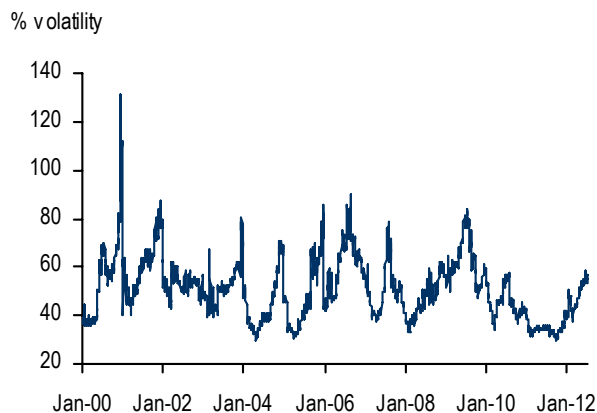
Source: US Department of Energy

Chart 47: US natural gas price



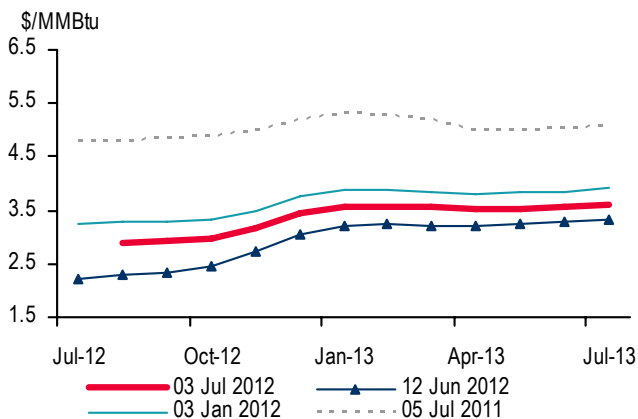
Source: NYMEX, Reuters

Chart 48: US natural gas implied volatility



Source: NYMEX, Bloomberg

Chart 49: US natural gas term structure



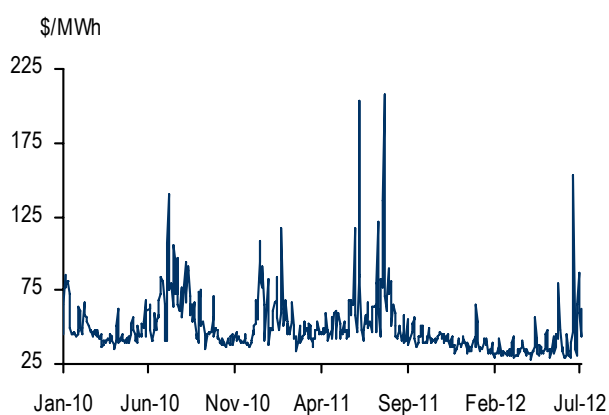
Source: NYMEX, Reuters

Chart 50: US NYMEX forward coal prices



Source: NYMEX, Reuters

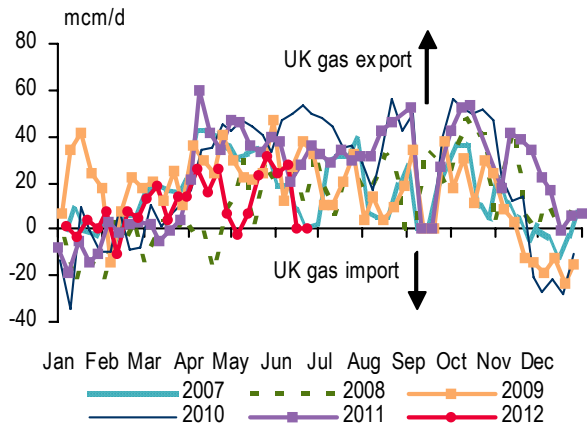
Chart 51: US spot PJM power prices



Source: NYMEX, Reuters

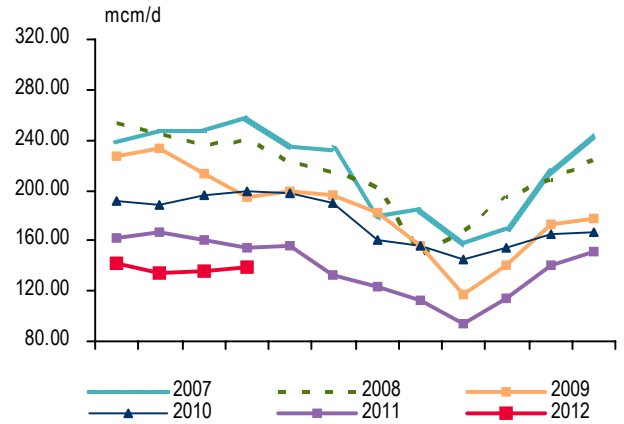
Gas & Power - Europe

Chart 52: UK Interconnector gas flows



Source: UK Interconnector Flows

Chart 53: UK gross gas production



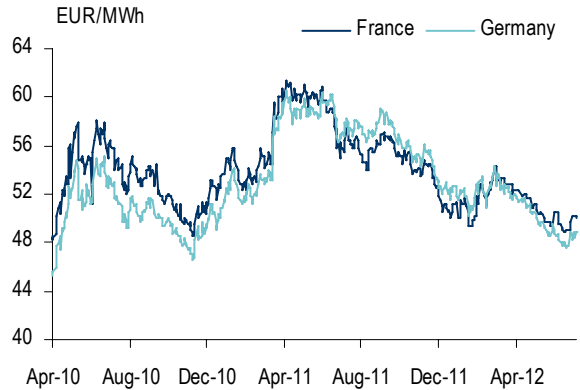
Source: UK Department of Trade and Industry

Chart 54: UK National Balancing Point (NBP) day ahead



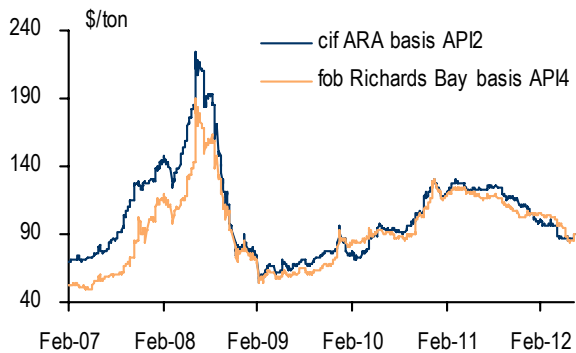
Source: Bloomberg

Chart 55: Germany and France Baseload



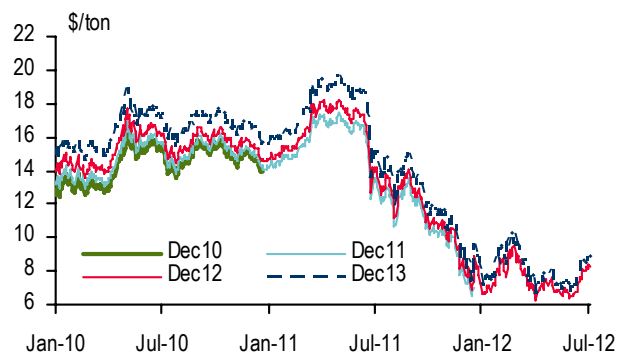
Source: Bloomberg

Chart 56: Forward thermal coal assessments, front-month



Source: Reuters

Chart 57: European CO₂ Emissions Price



Source: Reuters

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Table 5: Global Commodity Research Publications - Past Topics*

Date	Publication	Title
02-Jul-12	Commodity Portfolio Monthly	Commodity diversification post 2008
28-Jun-12	Global Energy Weekly	Oil and banking crises
28-Jun-12	Global Metals Weekly	No natural limit to aluminium premia
22-Jun-12	Global Metals Weekly	Gold over palladium for now
21-Jun-12	Commodity derivatives Insights	Selling vol but not tail risk
19-Jun-12	Global Energy Weekly	Summer lull in LNG
13-Jun-12	Global Energy Weekly	Swimming in Atlantic Basin refining capacity
06-Jun-12	Global Metals Weekly	Europe sets metals on the brink
06-Jun-12	Global Energy Weekly	Oil contagion
04-Jun-12	Commodity Portfolio Monthly	Measuring Liquidity in curve placement alpha strategies
31-May-12	Global Energy Weekly	WTI revival
28-May-12	Global Metals Weekly	Silver's investor fix
25-May-12	Global Energy Weekly	Liquids converging to nat gas
17-May-12	Global Energy Weekly	Oil and currency crises
14-May-12	Global Metals Weekly	Platinum the most underpriced metal
11-May-12	Global Energy Weekly	Gasoil cracks set to weaken
06-May-12	Global Metals Weekly	The big copper squeeze
02-May-12	Global Energy Weekly	Sticky backwardation
01-May-12	Commodity Portfolio Monthly	Curve placement alpha drawdowns
26-Apr-12	Global Metals Weekly	China's copper stocking has changed global market
24-Apr-12	Global Energy Weekly	Nat gas vol set for a rally
19-Apr-12	Global Energy Weekly	Gasoline prices ain't cool
17-Apr-12	Commodity Derivatives Insights	Gold and the fiscal cliff
13-Apr-12	Global Metals Weekly	Metal's OPEC?
12-Apr-12	Global Energy Weekly	Mind China's energy gap
03-Apr-12	Global Energy Weekly	Thermal coal still oversupplied
02-Apr-12	Commodity Portfolio Monthly	Weaving an alpha basket
02-Apr-12	Metals Strategist	Zinc is the new copper
27-Mar-12	Global Energy Weekly	Watch US nat gas as coal drops
23-Mar-12	Global Metals Weekly	Lead prices building a base
21-Mar-12	Commodity Derivatives Insights	What's an oil shock?
18-Mar-12	Global Energy Weekly	Dancing until the music stops
14-Mar-12	Global Energy Weekly	Interest rates and decline rates
13-Mar-12	Global Metals Weekly	China's jewellery demand critical for platinum
07-Mar-12	Global Energy Weekly	Will the UK receive LNG next winter?
05-Mar-12	Global Metals Weekly	Do LME stocks still matter?
04-Mar-12	Commodity Portfolio Monthly	Curve momentum: from beta to alpha
28-Feb-12	Global Energy Weekly	Ethanol squeezed
27-Feb-12	Commodity Derivatives Insights	Hedging another oil shock
24-Feb-12	Global Metals Weekly	Zinc forwards close to arbitrage-free boundary
20-Feb-12	Global Energy Paper	Rationing oil demand in the medium term
12-Feb-12	Global Metals Weekly	Nickel supported by tentative stainless restocking
09-Feb-12	Global Energy Weekly	No driving season this year

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Table 5: Global Commodity Research Publications - Past Topics*

Date	Publication	Title
03-Feb-12	Global Metals Weekly	Metals cycle moving towards recovery
01-Feb-12	Global Energy Weekly	Oil is liquid money
24-Jan-12	Global Energy Weekly	Liquid gas to stay elevated
24-Jan-12	Global Metals Weekly	Relative value between base metals
18-Jan-12	Commodity Derivatives Insights	Upside to US nat gas vol
17-Jan-12	Global Energy Weekly	Oil against the EUR
16-Jan-12	Global Metals Weekly	Cuts to aluminium output globally
09-Jan-12	Global Energy Weekly	Ready for \$1/MMBtu?
09-Jan-12	Global Metals Weekly	Central banks hold on to their gold
03-Jan-12	Commodity Portfolio Monthly	Looking back, looking forward
03-Jan-12	Global Energy Weekly	Oversupply and tighter credit speed up refinery shutdowns
22-Dec-11	Global Energy Weekly	Sovereign debt crisis hits CO2
19-Dec-11	Commodity Derivatives Insights	Commodity hedging in 2012
16-Dec-11	Global Metals Weekly	Nominal platinum supply increases not to materialize
16-Dec-11	Global Energy Weekly	OPEC's Woodstock
12-Dec-11	Global Metals Weekly	Not all QE made equal for gold
08-Dec-11	Global Energy Weekly	Can the Brent-WTI differential close in 2012?
02-Dec-11	Commodity Strategist	2012 Commodity Outlook
01-Dec-11	Energy Strategist	2012 Energy Outlook
01-Dec-11	Metals Strategist	Outlook 2012
01-Dec-11	Commodity Portfolio Monthly	2012 commodity index rebalancing
22-Nov-11	Global Energy Weekly	Oil at heart
15-Nov-11	Global Energy Weekly	Heat on fire
08-Nov-11	Global Metals Weekly	Metals demand holds despite confidence drop
08-Nov-11	Global Energy Weekly	Coal faces a double-Whammy
01-Nov-11	Commodity Portfolio Monthly	Index investors focus on oil
01-Nov-11	Global Energy Weekly	Lowering 2012 US natural gas forecasts
28-Oct-11	Global Metals Weekly	Lead backwardation unlikely to return
25-Oct-11	MLCX Managed Indices Update	MLCX Managed Indices Update
25-Oct-11	Global Energy Weekly	WTI backwardation signals \$105 oil
24-Oct-11	Commodity Derivatives Insights	Crude oil puts overpriced
21-Oct-11	Global Metals Weekly	Platinum at the pain threshold
18-Oct-11	Global Energy Weekly	North Dakota takes on North Sea
14-Oct-11	Global Metals Weekly	China: opportunistic or marginal copper buyer?
11-Oct-11	Global Energy Weekly	Oil demand scenarios for 2012
05-Oct-11	Global Energy Weekly	Closing time for global refiners
05-Oct-11	Global Metals Weekly	Cyclical slowdown unfolding; price stabilisation in 2012
03-Oct-11	Commodity Portfolio Monthly	Commodity index Greeks
27-Sep-11	Global Asset Allocation	Shotgun wedding

Source: BofA Merrill Lynch Global Commodity Research

*Please contact us if you would like to receive copies of any of the above

Link to Definitions

Macro

Click [here](#) for definitions of commonly used terms.

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