

# Another bad year for king coal

## We see downside risks to European coal in 2Q14

Spot global coal prices found support at the end of last year on Colombia supply disruptions. The back end of the curve, however, continued to trade lower, with Cal15 prices falling from \$88/mt in mid-December to \$82/mt at present. As global output is now set to expand, we believe the supply overhang will persist, and revise our forecast for Newcastle coal lower to \$74/mt as an average for 2014, down from \$82/mt previously. We also expect front prices in Europe to hit \$70/mt at some point during 2Q.

## South Africa, Colombia, and Australia output set to grow

Near term we see downside risks to prices both in Europe and Australia stemming from a return of Drummond exports from Colombia and weakening demand from China. Moreover, with miners at the low end of the cost curve, South African exports should continue to grow at a strong pace going forward. On top of this, we see no sign of a production slowdown in Australia, as transport costs are sunk through take-or-pay contracts with rail and port operators. Yet, coal stocks are seasonally high at Chinese ports, and the arb from Newcastle to China is firmly closed.

## Chinese, European demand will likely remain weak

Crucially, a combination of widespread loan defaults, a weaker RMB, and clean air initiatives in China could spell even more trouble for seaborne coal in the months ahead. Lastly, the risk of higher EU nat gas prices due to the Ukraine crisis will likely provide limited support to the market, as European margins already incentivize maximum coal burn. Is there a silver lining for "King coal"? Yes, we believe the seaborne market looks a bit more balanced in 2015, as exports slow due to mine ramp-ups tailing off, and imports improve with global economic activity.

Table 1: EIA Weekly Storage Update

| 07-Mar-14        | Latest | Previous | Last Year | WoW Change |
|------------------|--------|----------|-----------|------------|
| Crude Stocks     | 370.0  | 363.8    | 384.0     | 6.2        |
| Mogas Stocks     | 223.8  | 229.0    | 224.3     | (5.2)      |
| Mid Dist Stocks  | 113.9  | 114.5    | 120.4     | (0.5)      |
| Fuel Oil Stocks  | 37.4   | 36.9     | 35.6      | 0.5        |
| Crude Imports    | 7,311  | 7,112    | 7,535     | 199        |
| Mogas Imports    | 395    | 330      | 727       | 65         |
| Mid Dist Imports | 271    | 404      | 254       | (133)      |
| Refinery Runs    | 14,987 | 15,212   | 13,994    | (225)      |
| Refinery Ut (%)  | 86.0   | 87.4     | 81.0      | (1.4)      |
| Nat gas stocks   | 1,001  | 1,196    | 1,938     | (195)      |

Source: US Department of Energy

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



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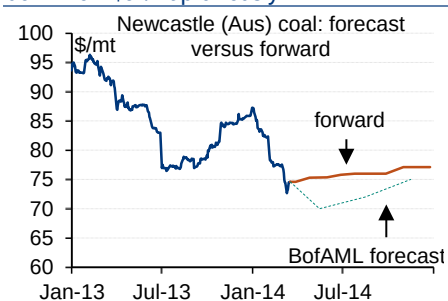
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Chart 1: We revise our forecast for Newcastle coal lower to \$74/mt as an average for 2014, down from \$82/mt previously



Source: Bloomberg, BofA Merrill Lynch Commodities Research

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Refer to important disclosures on page 17 to 18. Link to Definitions on page 16.

Table 2: BofA Merrill Lynch Commodity Research Themes and Outlook

|                                          | View                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Recent report links                                                                                                                                                                                                                                                                                                |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Macro outlook</b>                     | <ul style="list-style-type: none"> <li>In 2014, we see sluggish nominal global GDP growth and a stronger USD as major constraining factors on USD-denominated oil prices.</li> <li>Just as QE boosted commodities in 2009-2011, we expect the exact opposite as the Fed tapers in 2014.</li> <li>Tighter financial conditions could create a challenging growth environment for EMs. Renewed pressure on EM currencies and yields could keep energy prices in local currencies in major EMs exceedingly high, putting downward pressure on oil demand.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• <a href="#">"2014 Energy Outlook", Energy Strategist, 26 Nov13</a></li> <li>• <a href="#">"Tapering oil", 20 November 2013</a></li> </ul>                                                                                                                                 |
| <b>WTI and Brent crude oil</b>           | <ul style="list-style-type: none"> <li>We hold a moderately negative stance on global oil for 2014 as the market moves from being relatively balanced to slightly oversupplied.</li> <li>Further price strength in Brent crude oil may be limited given a big rebound in non-OPEC output, improved prospects for OPEC supplies and no acceleration in global oil demand growth. We see Brent prices averaging \$105/bbl in 2014, dipping to \$90/bbl at some point.</li> <li>US crude oil markets will likely remain oversupplied next year. Strong shale oil production growth spells regional pipeline, refining and storage bottlenecks. We forecast average WTI crude oil prices of \$92/bbl in 2014 and still see a risk of \$50 WTI in the next 12-24 months.</li> <li>The Middle East creates both upside and downside risks to prices. We see limited impact of the Iranian deal on global oil prices for now, and a partial removal of Saudi barrels could limit any blow to prices to \$5-8/bbl once Iranian barrels return to the market.</li> <li>Beyond 2014, we see less of a structural oil market deficit on softer EM activity and a rise in non-conventional oil supply. We see a growing risk that Brent moves down structurally to a \$90-100/bbl band.</li> </ul> | <ul style="list-style-type: none"> <li>• <a href="#">"North American oil reigns supreme", 3 Feb 2014</a></li> <li>• <a href="#">"WTI set to test \$100", 22 Jan '14</a></li> <li>• <a href="#">"All eyes on Saudi", 15 Jan 14</a></li> <li>• <a href="#">"Brent set for a shale aftershock", 6Nov13</a></li> </ul> |
| <b>Atlantic Basin petroleum products</b> | <ul style="list-style-type: none"> <li>We see upside risk to Atlantic Basin distillate cracks in coming months, even as winter weather demand abates, given low stocks, max distillate yields and weak hydro levels in Brazil.</li> <li>US gasoline faces a growing supply/demand gap. Stocks are ample, output is rising and demand will see structural decline for years.</li> <li>Massive refinery capacity expansions in Asia and the Middle East may dampen prospects for margin improvements in coming years.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• <a href="#">"Heat up the World Cup", 26 Feb 2014</a></li> <li>• <a href="#">"The end of US gasoline", 12 Feb 14</a></li> </ul>                                                                                                                                            |
| <b>US natural gas</b>                    | <ul style="list-style-type: none"> <li>Unprecedented cold weather is leaving a big mark on the US nat gas market. In the very short run the only way to balance a tightening natural gas market is to force demand rationing through higher prices.</li> <li>While nat gas stocks across the country are not yet critically low, oil parity levels would translate into NYMEX Henry Hub prices of \$15+/MMBtu.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• <a href="#">"US nat gas at crucial juncture", 27 Jan 14</a></li> </ul>                                                                                                                                                                                                    |
| <b>UK natural gas</b>                    | <ul style="list-style-type: none"> <li>With indigenous supply falling much faster than demand, Europe is becoming more dependent on oil-linked imports from Russia. This should keep 2014 NBP prices elevated.</li> <li>Europe imports 30% of its natural gas from Russia, half of which flows through Ukraine. If these supplies are temporarily disrupted, NBP winter 2014/15 prices could spike above 80p/Therm.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• <a href="#">"From Russia with little love", 2 Oct 13</a></li> <li>• <a href="#">"The Ukraine energy face off", 4 Mar 2014</a></li> </ul>                                                                                                                                  |
| <b>LNG</b>                               | <ul style="list-style-type: none"> <li>Strong global demand growth and little new supply should keep LNG prices elevated though the summer around \$14 to \$16/MMBtu</li> <li>The risk to prices this summer will remain to the upside, as Japan will stay reliant on LNG imports to meet power demand</li> <li>The LNG market looks very tight over the next 6 to 12 months and, by 2H15, the market should start to loosen up</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• <a href="#">"One last year of LNG tightness", 14 Mar 14</a></li> </ul>                                                                                                                                                                                                    |
| <b>Thermal coal</b>                      | <ul style="list-style-type: none"> <li>We expect the oversupply to persist this year, and revise our forecast for Newcastle coal lower to \$74 as an average for 2014, down from \$82 previously.</li> <li>We expect front prices in Europe (API2) to touch below \$70 at some point during Q2 as Drummond resumes exports to Europe from late March.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                    |

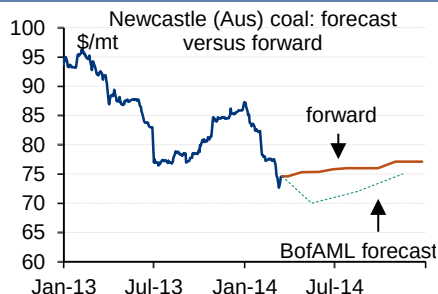
Table 3: BofA Merrill Lynch Commodity Price Forecasts (period averages)

|                                                  | units      | 1Q14F   | 2Q14F   | 3Q14F   | 4Q14F   | 2014F   |
|--------------------------------------------------|------------|---------|---------|---------|---------|---------|
| WTI Crude Oil                                    | (\$/bbl)   | 90.00   | 90.00   | 94.00   | 94.00   | 92.00   |
| Brent Crude Oil                                  | (\$/bbl)   | 101.00  | 103.00  | 107.00  | 109.00  | 105.00  |
| US NY Harbor ULSD (HO) Cracks to Brent Crude Oil | (\$/bbl)   | 16.00   | 14.00   | 17.00   | 18.00   | 16.25   |
| US RBOB Cracks to Brent Crude Oil                | (\$/bbl)   | 5.00    | 9.00    | 8.00    | 2.00    | 6.00    |
| USGC 1% Residual Cracks to Brent Crude Oil       | (\$/bbl)   | (11.00) | (9.00)  | (8.00)  | (7.00)  | (8.75)  |
| NWE 0.2% Gasoil Cracks to Brent Crude Oil        | (\$/bbl)   | 18.00   | 13.00   | 12.00   | 14.00   | 14.25   |
| NWE Eurobob Cracks to Brent Crude Oil            | (\$/bbl)   | 3.00    | 5.00    | 7.00    | 1.00    | 4.00    |
| NWE 1% Residual Cracks to Brent Crude Oil        | (\$/bbl)   | (14.00) | (12.00) | (12.00) | (10.00) | (12.00) |
| US Natural Gas                                   | (\$/MMBtu) | 3.90    | 3.70    | 3.80    | 4.20    | 3.90    |
| Thermal coal, Newcastle FOB                      | (\$/t)     | 79      | 70      | 72      | 75      | 74      |
| Aluminium                                        | \$/t       | 1,650   | 1,750   | 1,800   | 1,900   | 1,775   |
| Copper                                           | \$/t       | 7,050   | 6,750   | 7,000   | 7,250   | 7,013   |
| Lead                                             | \$/t       | 2,205   | 2,300   | 2,249   | 2,480   | 2,308   |
| Nickel                                           | \$/t       | 14,329  | 14,500  | 16,500  | 17,000  | 15,582  |
| Zinc                                             | \$/t       | 1,929   | 2,205   | 2,000   | 2,500   | 2,158   |
| Gold                                             | \$/oz      | 1,200   | 1,100   | 1,050   | 1,250   | 1,150   |
| Silver                                           | \$/oz      | 19.00   | 18.50   | 17.00   | 19.00   | 18.38   |
| Platinum                                         | \$/oz      | 1,475   | 1,650   | 1,850   | 1,850   | 1,706   |
| Palladium                                        | \$/oz      | 800     | 850     | 800     | 800     | 813     |

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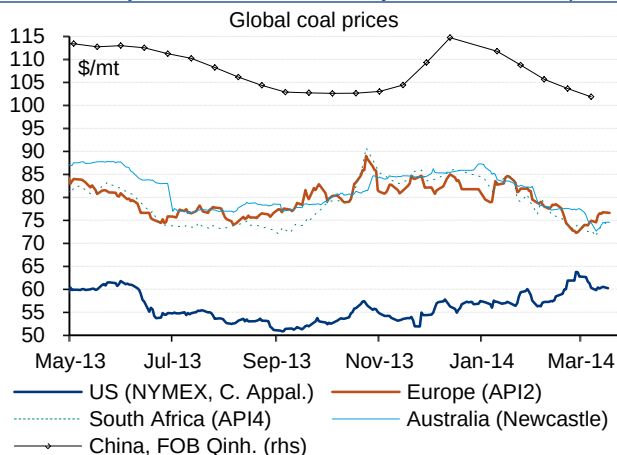
### We see downside risks to European coal in 2Q14

Chart 2: We expect the oversupply to persist this year, and revise our forecast lower to \$74



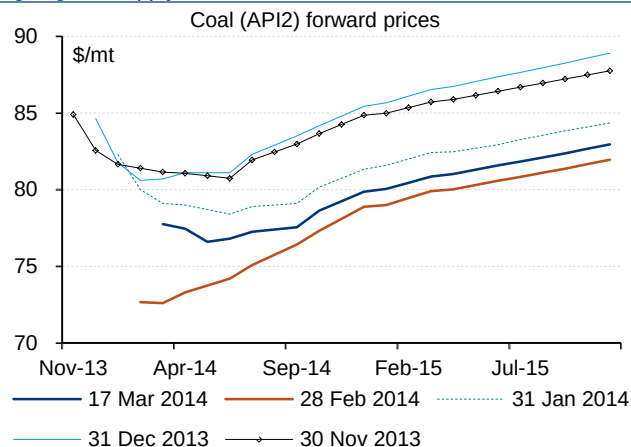
Source: Bloomberg, BofA Merrill Lynch Commodities Research

Chart 3: Coal prices found support in the front of the curve towards the end of last year due to the risk of a major Colombian disruption



Source: Bloomberg, BofA Merrill Lynch Commodities Research

Chart 4: The back end of the curve continued to trade lower on the ongoing oversupply in the seaborne thermal coal market

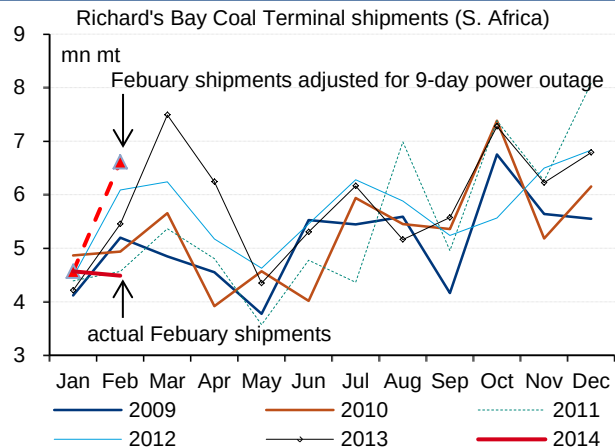


Source: BofA Merrill Lynch Commodities Research

### South African output is poised to growth further...

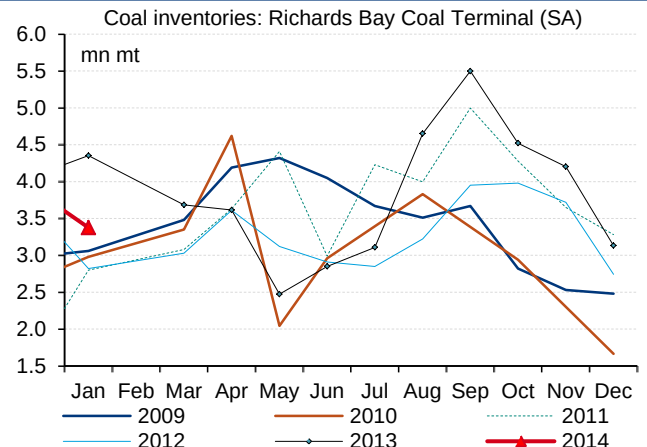
Drummond halted all exports from Colombia in the first week of Jan when the government shut its port after failing to meet the start of year deadline whereby all ports were mandated to use direct loadings. The export loss from Colombia is about 2 million mt per month. As Drummond stopped exporting from Colombia, South African exports to Europe rose strongly to replace the lost tonnage (Chart 5). The Richard's Bay Coal Terminal had some loading problems, however, due to a nine-day power outage, which affected exports in early Feb. These problems are now resolved and the stock level in Richard's Bay is still ample enough to support continued strong exports going forward (Chart 6).

**Chart 5: As Drummond stopped exporting from Colombia, South African exports to Europe rose strongly to replace the lost tonnage**



Source: McCloskey, BofA Merrill Lynch Commodities Research

**Chart 6: Stock level in Richard's Bay is still ample to support continued strong exports going forward**

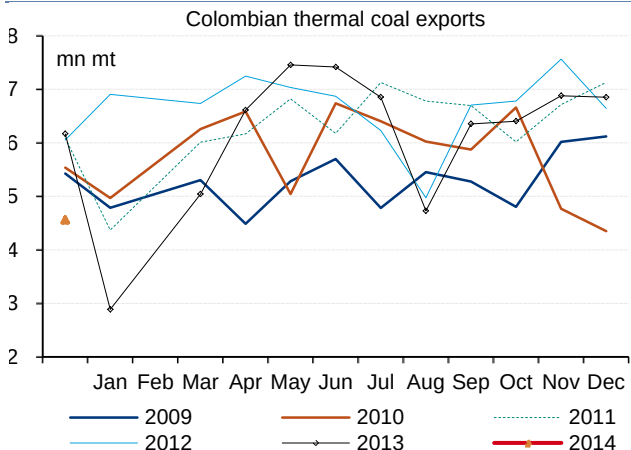


Source: McCloskey, BofA Merrill Lynch Commodities Research

### ...as Colombian exports return with a vengeance

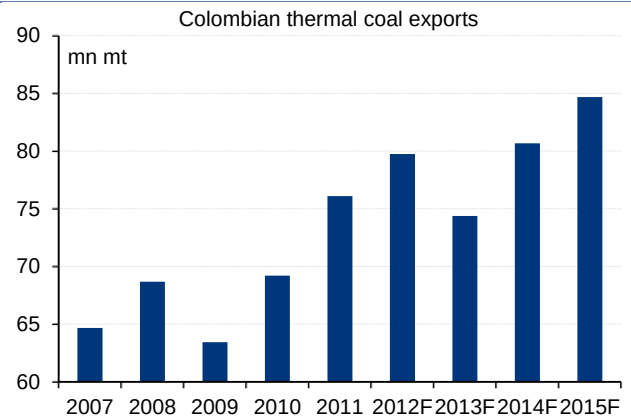
Drummond announced in early March that it may begin loadings from its new direct loading port by end of March, sooner than previously expected. During the export outage it has maintained production at a reduced pace, and hence coal stocks at the port have built to about 7 million mt. When shipments resume, first for panamax then for capsize, the inventory backlog means that exports can ramp up quickly, adding downside pressure on European prices (API2) in 2Q14 (Chart 7). Colombia was plagued by a string of strike disruptions last year amounting to a loss of over 8 million mt, mainly related to worker strikes, all of which have been resolved. Hence we expect Colombian exports for the full year to rise to a new high this year as disruptions ease and the Cerrejon mines continue ramping up their expansions, barring further disruptions of course (Chart 8).

**Chart 7: When shipping resumes the inventory backlog means that exports can ramp up quickly, adding downside pressure on API2**



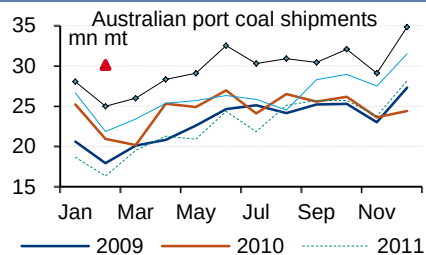
Source: McCloskey, BofA Merrill Lynch Commodities Research

**Chart 8: We expect Colombian exports for the full year to rise to a new high this year, barring further disruptions**



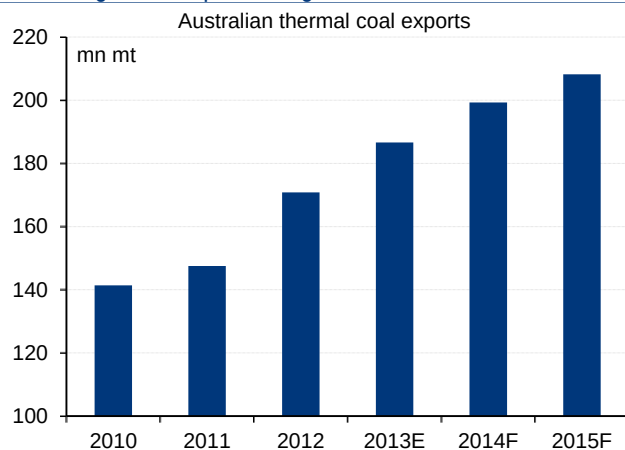
Source: McCloskey, BofA Merrill Lynch Commodities Research

**Chart 9: Aussie coal exports were up strongly in February rising 5.1 million mt YoY to 30.1**



Source: McCloskey, BofA Merrill Lynch Commodities Research

**Chart 10: Australian producers are still ramping up mine expansions, not slowing down despite making record losses due to sunk costs**

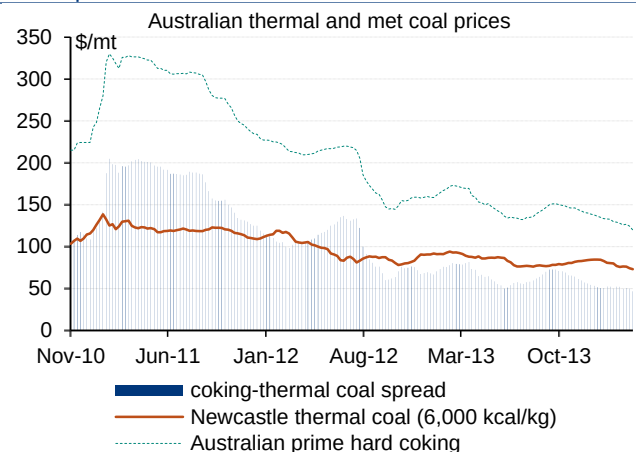


Source: McCloskey, BofA Merrill Lynch Commodities Research

## Plus no sign of production slowdown in Australia

Australian producers are still ramping up mine expansions despite many producers making losses due to low coal prices, as transport costs are sunk through take-or-pay contracts with rail and port operators (Chart 9). Furthermore, thermal coal production and exports are exacerbated by the low price of met coal, which means some low grade met coal is being sold as thermal coal (Chart 10). In Australia many mines produce a mixture of met and thermal coal, and as met coal prices fall closer to thermal prices, the return from extracting met coal from the thermal shrinks, and more met coal is left in the thermal bucket. Aussie coal exports were up strongly in February, rising 5.1 million mt YoY to 30.1 million mt (Chart 11).

**Chart 11: Thermal coal production and exports are exacerbated by the low price of met coal, as more met coal is sold as thermal coal**



Source: Bloomberg, BofA Merrill Lynch Commodities Research

## Chinese production still growing, despite defaults

Chinese coal production grew very slightly last year to 3.7 bn mt, as miners felt the pinch from lower prices. Larger miners continued to increase production to win market share, while smaller miners, which lack the support of local governments, generally cut output. Overall Chinese production is still set to rise this year, as rail expansions help reduce delivered costs to the consuming regions. In the Shanxi region, however, production could fall for the first time in five years, as a number of small producers are close to bankruptcy. Our China Equity Strategist David Cui has identified at least nine coal trusts in Shanxi which could potentially default this year (see ["The Coming Trust Defaults"](#), 19 Feb 2014).

## ...just as Chinese demand growth is set to weaken...

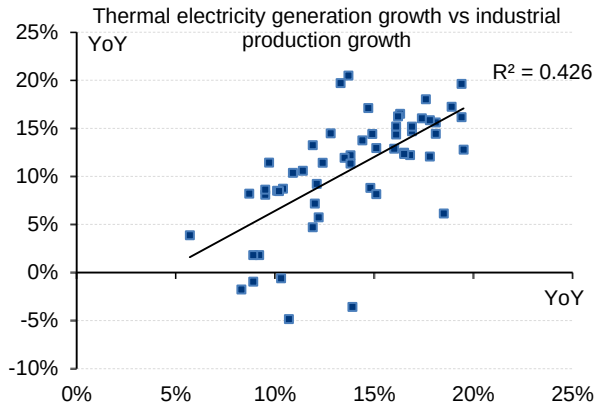
This January China announced a new plan to cut coal's share of energy use to 65.0% in 2014<sup>1</sup>, down from 65.7% in 2013, in a bid to improve air quality in major cities. With total energy consumption growth targeted at 3.2%, coal consumption would rise by just 1.6%<sup>2</sup> this year. But if GDP growth holds up above 7% (which is our assumption), coal demand growth of about 3% is more likely (Chart 12 and

<sup>1</sup> 65% was previously the target for 2017.

<sup>2</sup> According to NEA, part of the National Development and Reform Commission.

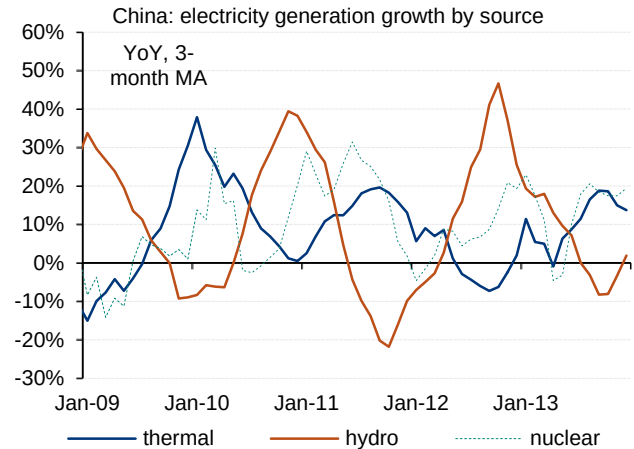
Chart 13). Thus, the real downside risk to Chinese coal demand growth is a slowdown in economic activity, as hinted by recent macro weakness. Our China Equity Strategist David Cui writes that the recent first corporate bond default in China may start a chain reaction eventually leading to a liquidity crunch (see [this note](#) for details).

Chart 12: Thermal coal demand for power generation generally moves in lockstep with industrial production growth



Source: CEIC, BofA Merrill Lynch Commodities Research

Chart 13: If GDP growth holds up above 7%, demand growth of about 3% is more likely, unless we get a phenomenal hydro year

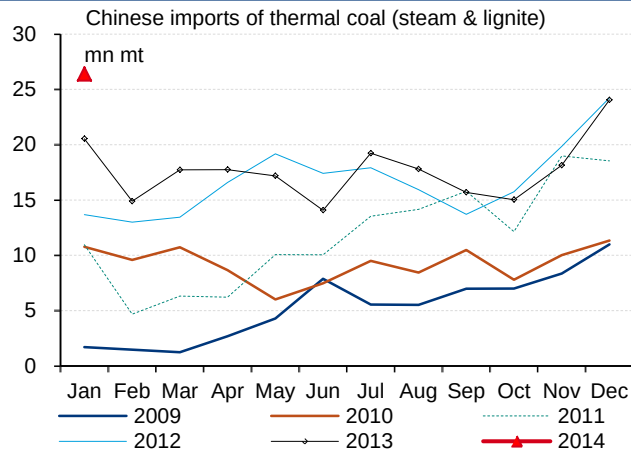


Source: CEIC, BofA Merrill Lynch Commodities Research

### ...spells downside risk to Chinese imports

Chinese thermal coal imports rose modestly by 11 (including lignite) to 212 million mt in 2013. Imports had a strong start to the year in January, albeit this was mainly a Chinese New Year effect, and imports should fall sequentially from here (Chart 12). China will still need to import a lot of thermal coal this year, though we expect import growth to slow significantly from last year. Recent weakness in the RMB also puts domestic producers at a relative advantage to imported coal, adding further downward pressure on imports (Chart 15). The arb from Newcastle (Australia) to China is firmly closed, stocks in Chinese ports are high, and Australian production strong, all of which spell further downside risks for Newcastle prices in the quarters ahead.

**Chart 14: Imports had a strong start to the year in Jan, albeit mainly a new year effect, and imports should fall sequentially from here**



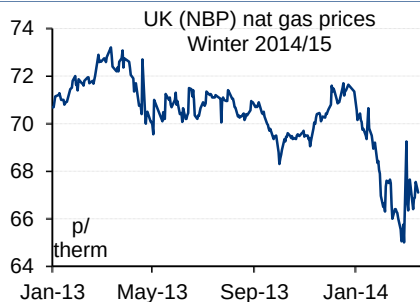
Source: McCloskey, BofA Merrill Lynch Commodities Research

**Chart 15: Recent weakness in the RMB also puts domestic producers at a relative advantage to imported coal**



Source: Bloomberg, BofA Merrill Lynch Commodities Research

**Chart 16: European gas prices did rise in the last few weeks on the risk to Russian exports**



Source: Bloomberg, BofA Merrill Lynch Commodities Research

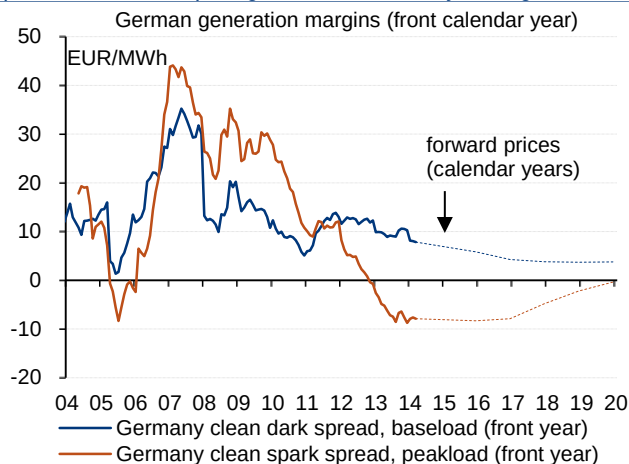
### Limited upside to coal prices on the Ukraine situation...

Tensions in Europe are unlikely to help coal either. The Ukraine only produces about 60 million mt of thermal coal, none of which is exported. Hence any impact on coal prices is mainly through gas prices. European gas did rise in the last few weeks on the risk of Russian export losses through the Ukraine (Chart 16). Albeit not our base case, UK Winter prices 2014/15 could spike to 80p/therm if Russian gas flows through the Ukraine were disrupted for a sustained period of time (see [“The Ukraine energy face off”](#)). Even if gas prices spike, however, the impact on coal demand and therefore coal prices is quite limited, as European generators are already maxing out coal burn capacity due to a huge margin difference favoring coal over gas (Chart 17).

### ...with significant downside risk to European coal prices

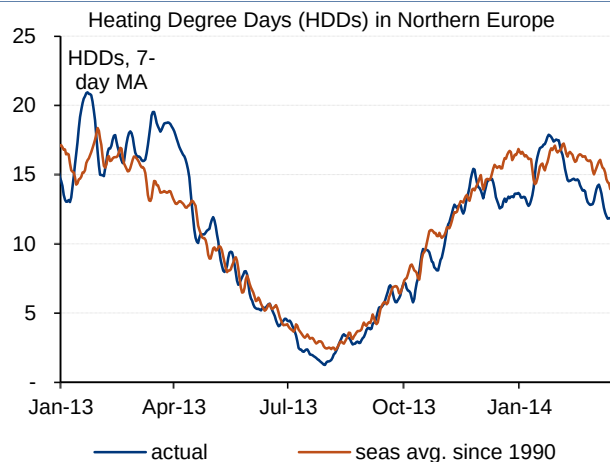
Therefore, the risk to coal prices on the Ukrainian situation is to the downside, in our view, as lower gas prices could lead to less coal burn at the margin if the Ukraine situation stabilizes. European utilities are well stocked for this time of the year after a significantly warmer than usual winter (Chart 18). As Drummond exports to Europe resume in late March, we think European front month prices could drop below \$70/mt during 2Q to encourage a faster storage cycle.

**Chart 17: The impact on coal demand and therefore coal prices is quite limited, as European generators are already maxing out coal**



Source: Bloomberg, BofA Merrill Lynch Commodities Research

**Chart 18: EU utilities are well stocked after a significantly warmer than usual winter, which has left coal stocks above seasonal norms**

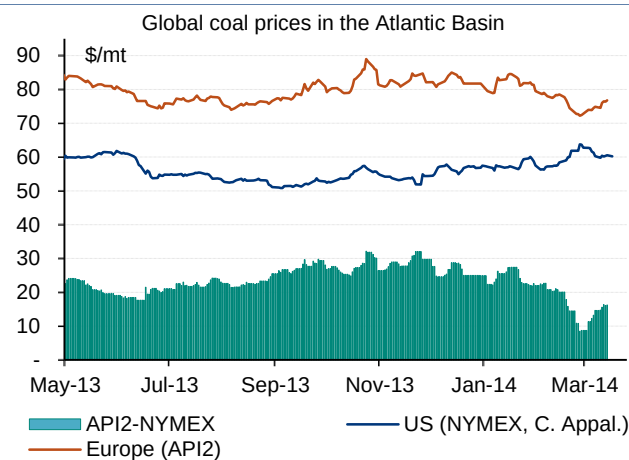


Source: Bloomberg, BofA Merrill Lynch Commodities Research

### US exports slowing on higher nat gas prices

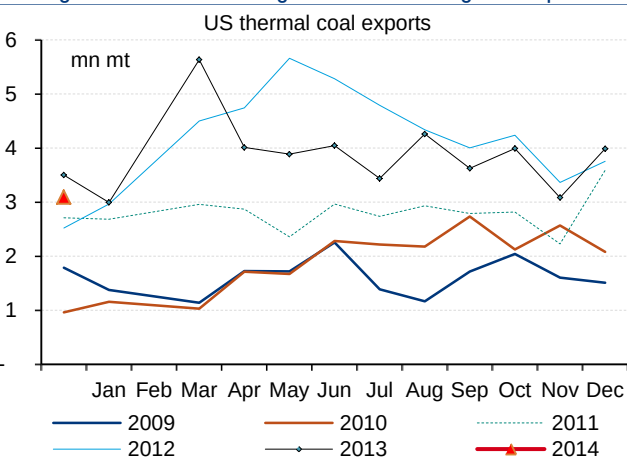
Meanwhile, US thermal coal exports kept hitting the European market. US coal prices bucked the downward trend in the Atlantic and Pacific basin this winter, and rose from \$56/mt in early Feb to \$60/mt currently (Chart 19). The rise in domestic coal prices was driven by a spike in US natural gas prices. With European prices falling and US prices rising since early Jan, the arb to Europe is now firmly closed. Still, pre-booked US exports will keep coming. Many exporters have also signed take or pay contracts for rail capacity to the ports, making the transport cost fixed. Thus, these exports are less affected by the closed spot arb. Going forward, however, we expect US exports to slow sequentially during this year (Chart 20) as the arb is closed.

**Chart 19: US coal prices bucked the downward trend in the Atlantic and Pacific basin this winter**



Source: Bloomberg, BofA Merrill Lynch Commodities Research

**Chart 20: We expect US exports to slow sequentially during this year yet a significant amount of cargoes are still coming to Europe**



Source: McCloskey, BofA Merrill Lynch Commodities Research

### Coal is oversupplied this year, more balanced next

On balance the global coal market still looks oversupplied in 2014, creating scope for further price weakness. In 2015 the seaborne market starts to look more balanced, as export growth slows due to mine ramp-ups tailing off, and import growth improves with global economic activity. The upside to prices, however, will likely still be limited as seaborne exporters, particularly in the US, have sufficient capacity to meet incremental demand.

## Petroleum US

Chart 21: US crude oil stocks

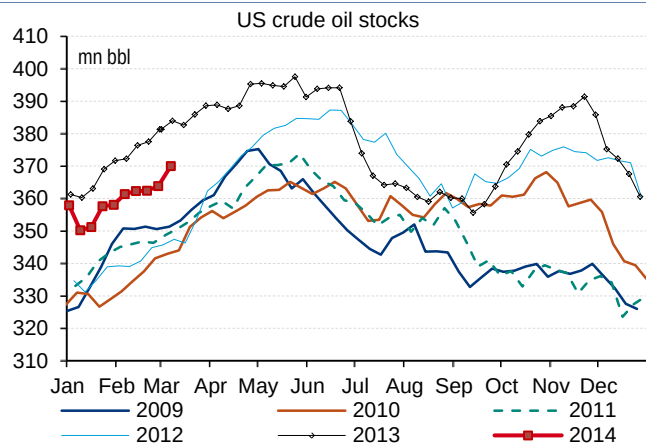


Chart 22: WTI crude oil price

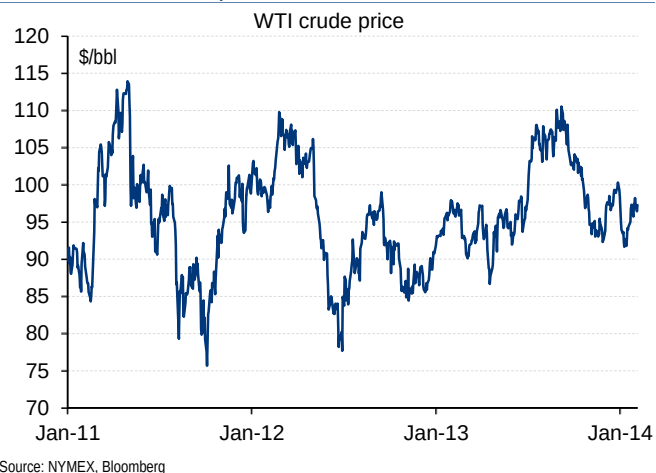


Chart 23: US gasoline stocks

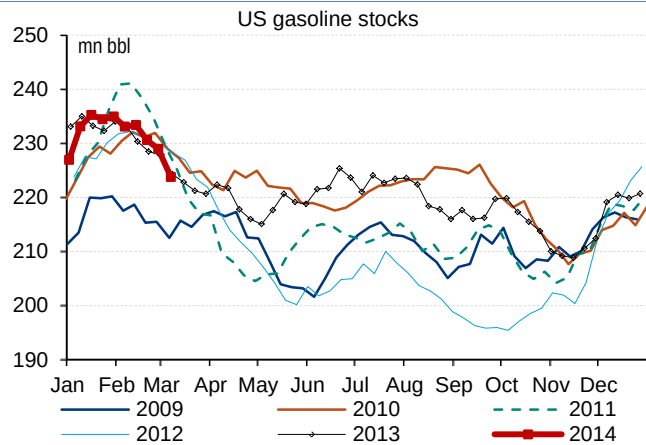


Chart 24: US RBOB cracks

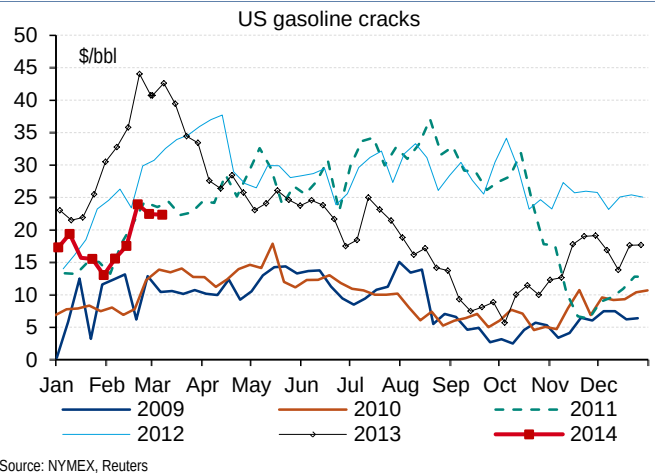


Chart 25: US distillate oil stocks

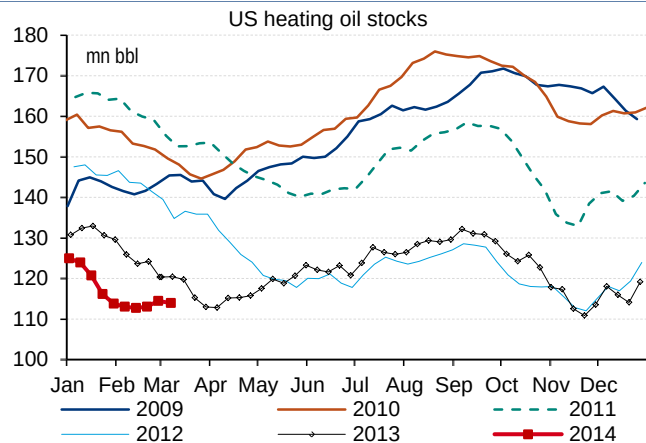
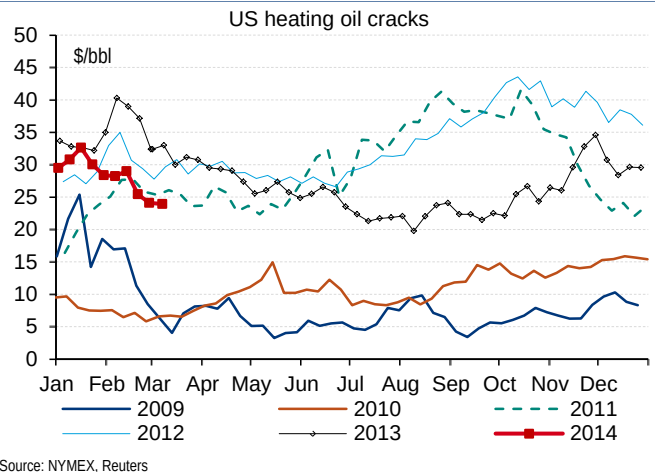
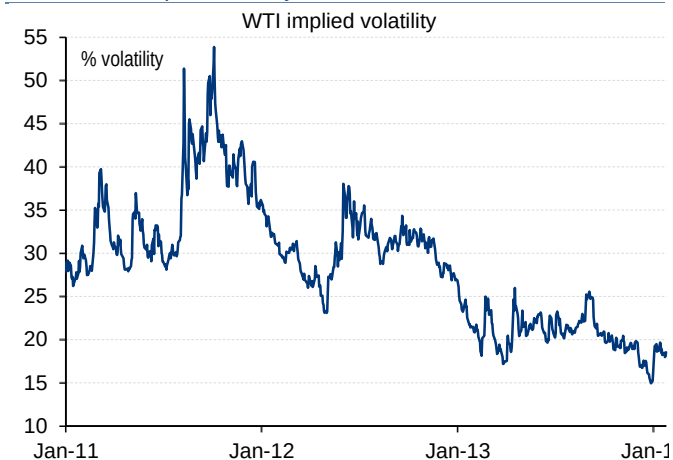


Chart 26: US distillate oil cracks



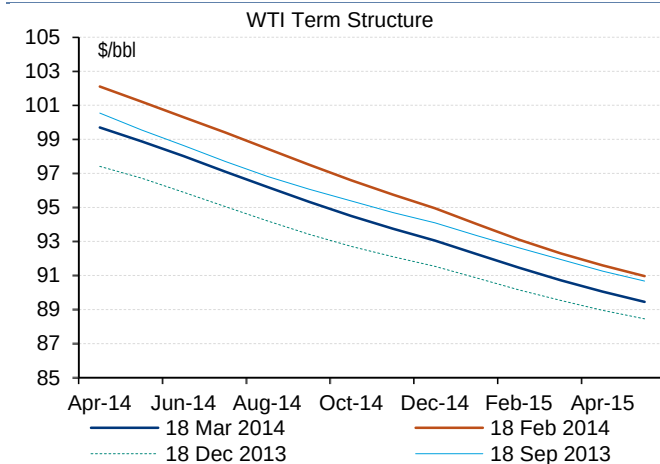
## Petroleum US & Europe

Chart 27: WTI implied volatility



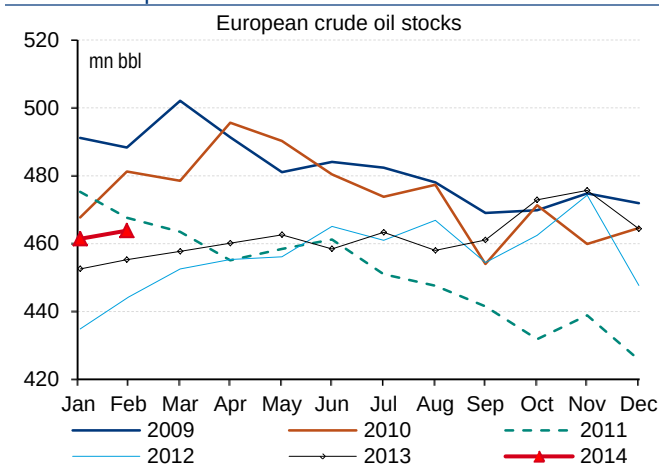
Source: NYMEX, Bloomberg

Chart 28: WTI Term Structure



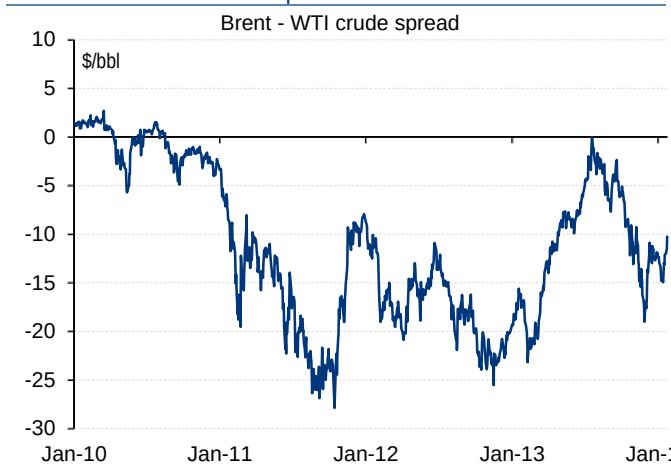
Source: NYMEX, Reuters

Chart 29: European crude oil stocks



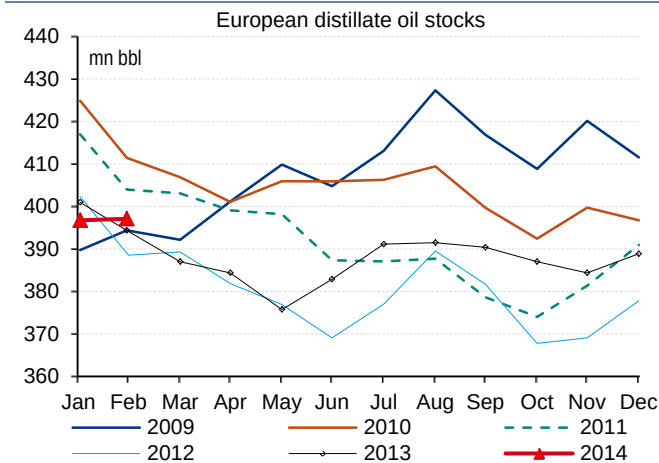
Source: Euroil

Chart 30: Brent – WTI crude spread



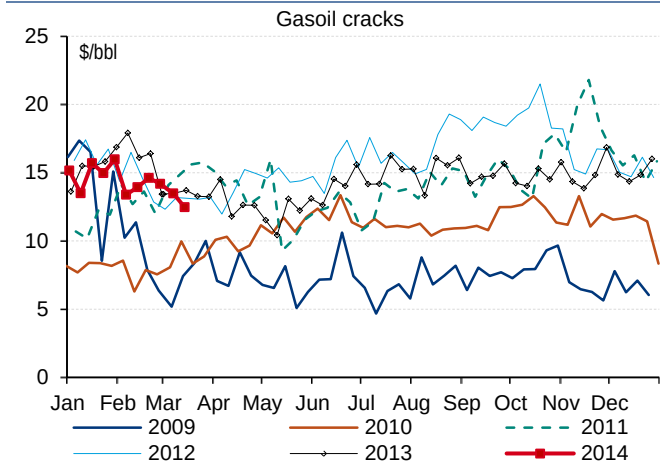
Source: IPE, Bloomberg

Chart 31: European distillate stocks



Source: Euroil

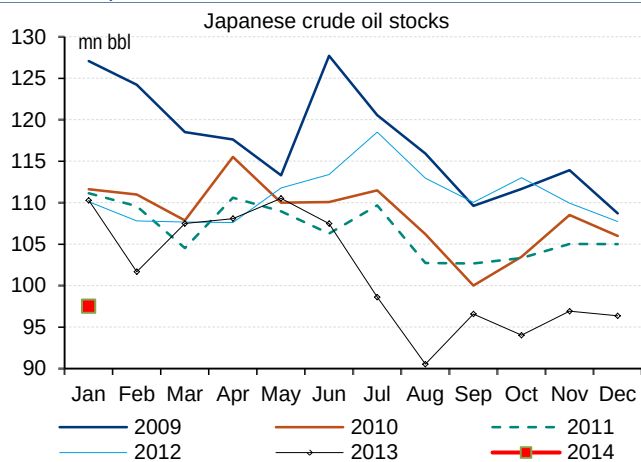
Chart 32: European gasoil cracks



Source: Reuters

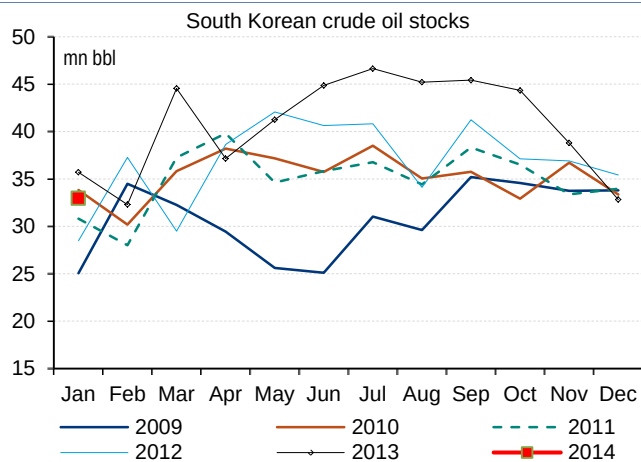
## Petroleum Asia

Chart 33: Japanese crude oil stocks



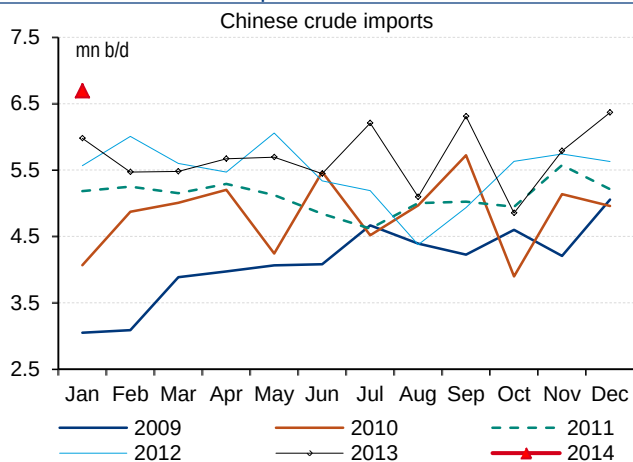
Source: International Energy Agency

Chart 34: South Korean crude oil stocks



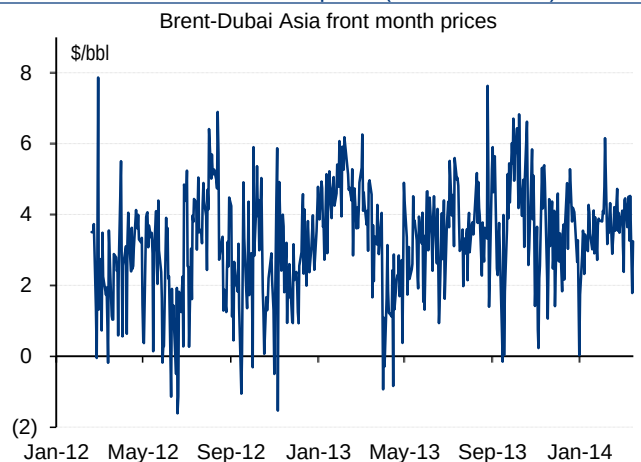
Source: International Energy Agency

Chart 35: Chinese Crude oil Imports



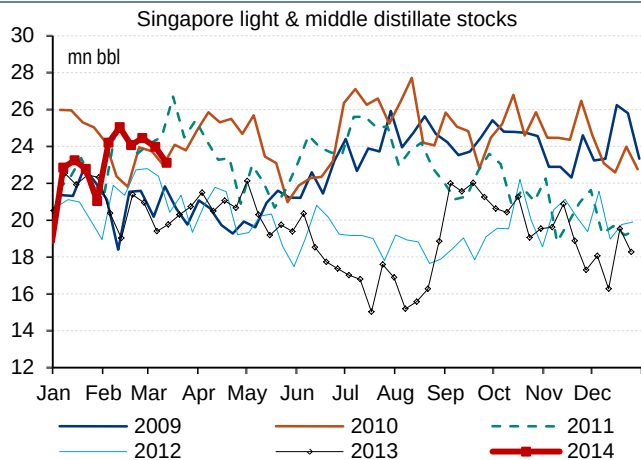
Source: Reuters

Chart 36: Brent – Dubai crude oil spread, (1 month contract)



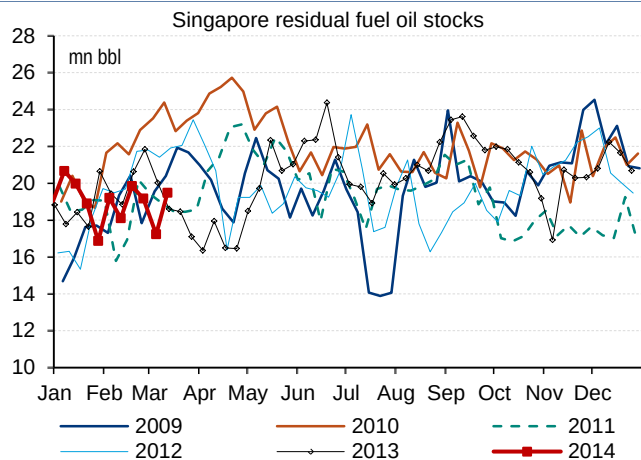
Source: Reuters

Chart 37: Singapore light & middle distillate Stocks



Source: Reuters

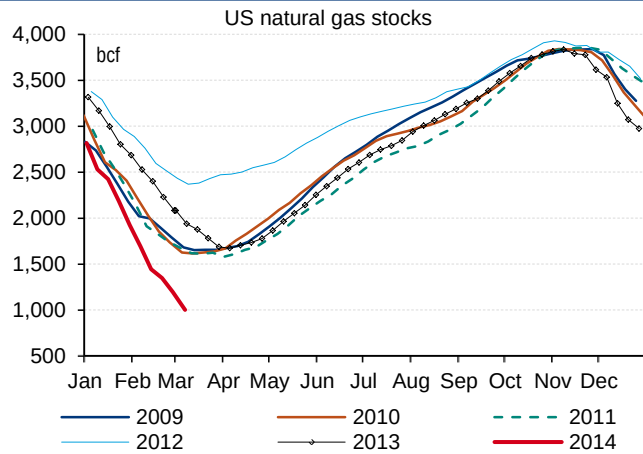
Chart 38: Singapore residual fuel oil stocks



Source: Reuters

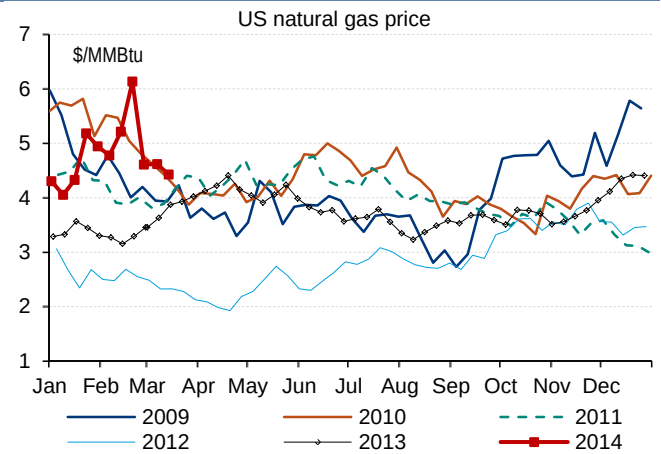
## Gas & Power US

Chart 39: US natural gas stocks



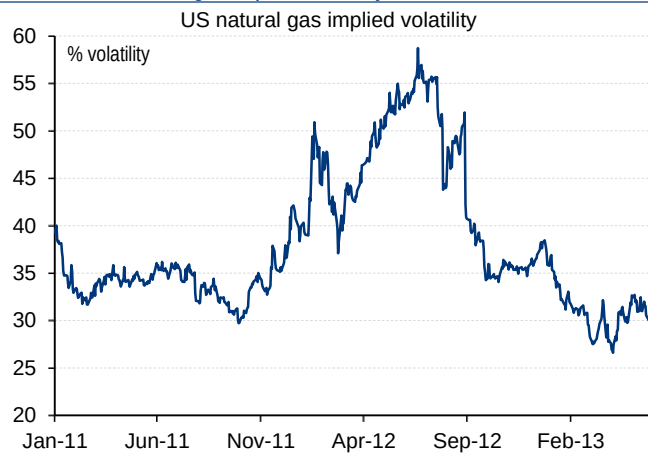
Source: US Department of Energy

Chart 40: US natural gas price



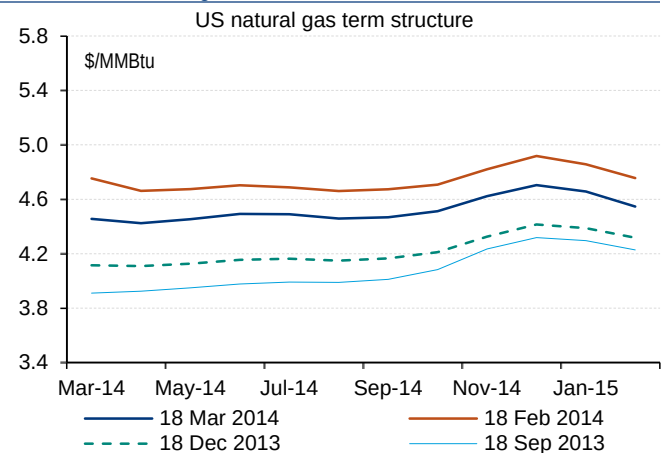
Source: NYMEX, Reuters

Chart 41: US natural gas implied volatility



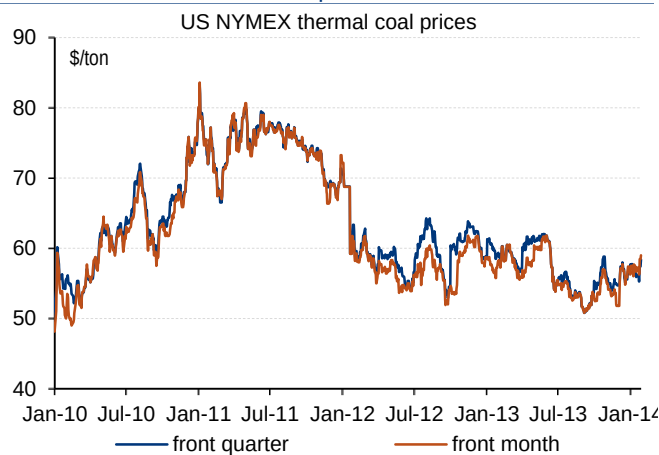
Source: NYMEX, Bloomberg

Chart 42: US natural gas term structure



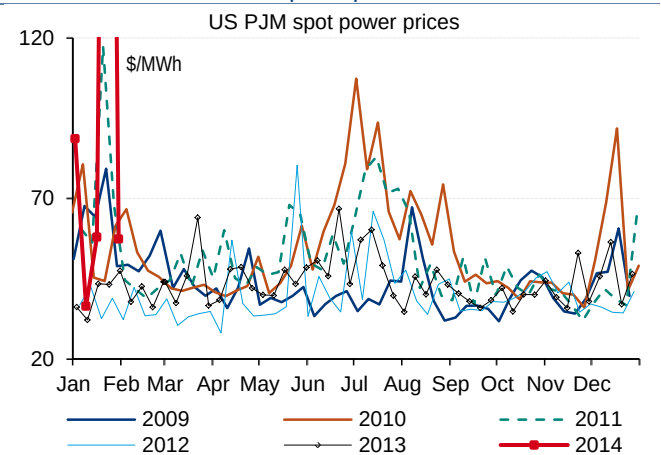
Source: NYMEX, Reuters

Chart 43: US NYMEX thermal coal prices



Source: NYMEX, Reuters

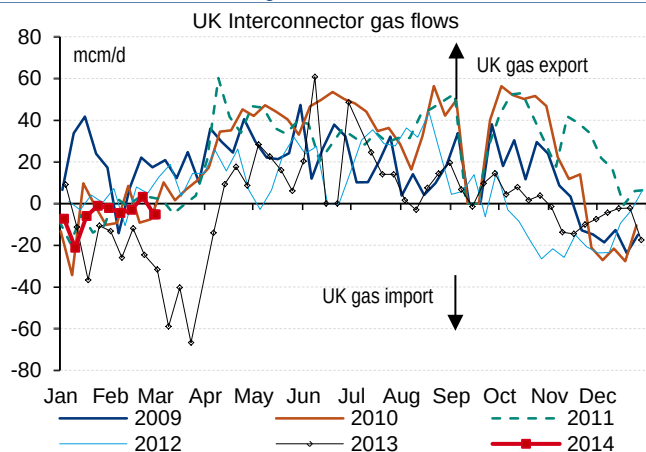
Chart 44: US PJM front month power prices



Source: NYMEX, Reuters

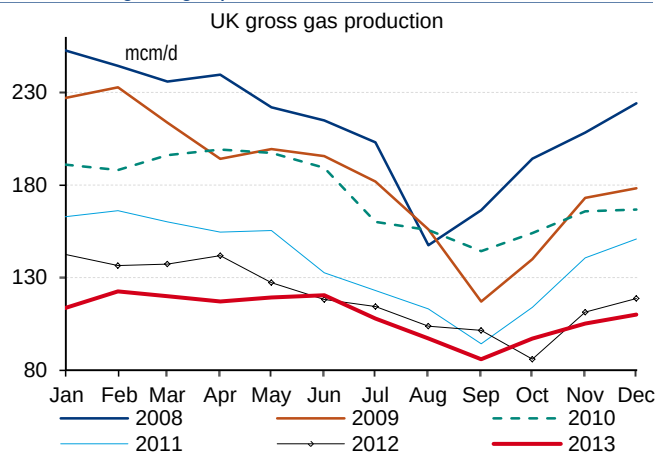
## Gas & Power Europe

Chart 45: UK interconnector gas flows



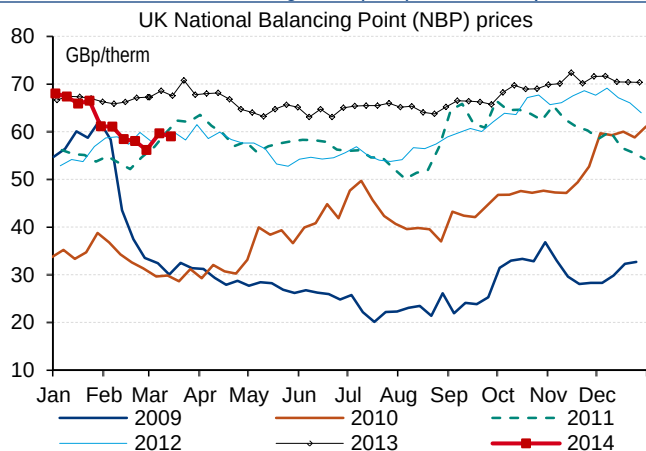
Source: UK Interconnector Flows

Chart 46: UK gross gas production



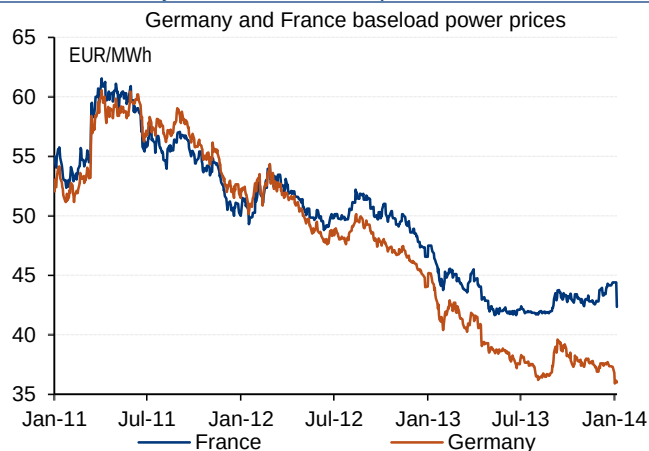
Source: UK Department of Trade and Industry

Chart 47: UK National Balancing Point (NBP) front month price



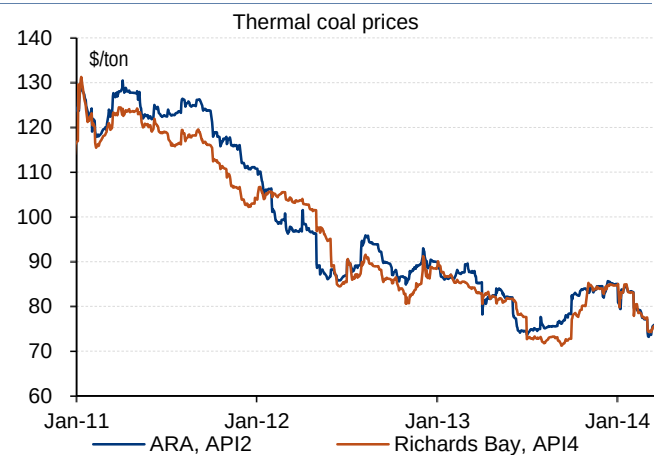
Source: Bloomberg

Chart 48: Germany and France baseload power



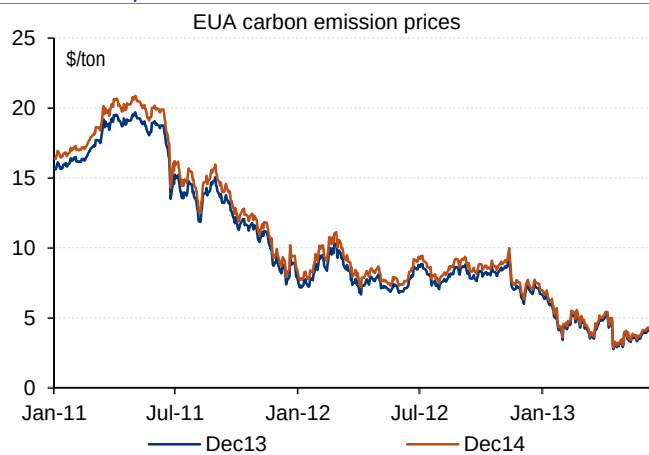
Source: Bloomberg

Chart 49: Forward thermal coal assessments, front-month



Source: Reuters

Chart 50: European CO<sub>2</sub> Emissions Price



Source: Reuters

Table 4: Global Commodity Research Publications - Past Topics\*

| Date      | Publication                    | Title                                                                   |
|-----------|--------------------------------|-------------------------------------------------------------------------|
| 14-Mar-14 | Global Metals Weekly           | <a href="#">Mining: going back to the roots</a>                         |
| 14-Mar-14 | Global Energy Weekly           | <a href="#">One last year of LNG tightness</a>                          |
| 04-Mar-14 | Global Metals Weekly           | <a href="#">Hedging China trust default with copper</a>                 |
| 04-Mar-14 | Global Energy Weekly           | <a href="#">The Ukraine energy face off</a>                             |
| 03-Mar-14 | Commodity Portfolio Monthly    | <a href="#">Curve Alpha Carry</a>                                       |
| 26-Feb-14 | Global Energy Weekly           | <a href="#">Heat up the World Cup</a>                                   |
| 21-Feb-14 | Global Metals Weekly           | <a href="#">Gold rises as the world stumbles</a>                        |
| 17-Feb-14 | Global Energy Paper            | <a href="#">Medium term oil outlook</a>                                 |
| 12-Feb-14 | Global Energy Weekly           | <a href="#">The end of US gasoline</a>                                  |
| 11-Feb-14 | Global Metals Weekly           | <a href="#">Lead rebalancing, but time spreads have moved too early</a> |
| 05-Feb-14 | Global Energy Weekly           | North American oil reigns supreme                                       |
| 03-Feb-14 | Commodity Portfolio Monthly    | Hedging inflation under a strong USD                                    |
| 03-Feb-14 | Global Metals Weekly           | Aluminium at critical crossroads                                        |
| 29-Jan-14 | Commodity Derivatives Insights | Natural Conveyance                                                      |
| 27-Jan-14 | Global Energy Weekly           | US nat gas at crucial juncture                                          |
| 23-Jan-14 | Global Metals Weekly           | Indonesia's export ban: impact on copper...                             |
| 22-Jan-14 | Global Energy Weekly           | WTI set to test \$100                                                   |
| 17-Jan-14 | Global Metals Weekly           | China New Year: bullish copper                                          |
| 15-Jan-14 | Global Energy Weekly           | All eyes on Saudi                                                       |
| 09-Jan-14 | Global Metals Weekly           | Gold and silver: headwinds persist for now                              |
| 08-Jan-14 | Global Energy Weekly           | Polar pig leaves US nat gas cold                                        |
| 02-Jan-14 | Commodity Portfolio Monthly    | Commodities lag equities by most in 15 years                            |
| 20-Dec-13 | Commodity Derivatives Insights | Delta-hedged strangle selling                                           |
| 20-Dec-13 | Global Metals Weekly           | No silver lining as Fed tapers                                          |
| 18-Dec-13 | Global Energy Weekly           | A ray of hope in German power                                           |
| 11-Dec-13 | Global Energy Weekly           | Gasoline is a dog                                                       |
| 04-Dec-13 | Global Metals Weekly           | Switching iron ore into copper                                          |
| 04-Dec-13 | Global Energy Weekly           | De-bottlenecking the Marcellus                                          |
| 02-Dec-13 | Commodity Portfolio Monthly    | 2014 Commodity Index rebalancing                                        |
| 26-Nov-13 | Commodity Strategist           | 2014 Commodity Outlook                                                  |
| 26-Nov-13 | Energy strategist              | 2014 Energy Outlook                                                     |
| 26-Nov-13 | Metals Strategist              | Metals & Bunks Outlook                                                  |
| 20-Nov-13 | Global Energy Weekly           | Tapering oil                                                            |
| 19-Nov-13 | Commodity Derivatives Insights | Complacent commodities                                                  |
| 13-Nov-13 | Global Energy Weekly           | Another tight year ahead for LNG                                        |
| 07-Nov-13 | Global Metals Weekly           | Zinc on a slow burner                                                   |
| 06-Nov-13 | Global Energy Weekly           | Brent set for shale aftershock                                          |
| 05-Nov-13 | Commodity Portfolio Monthly    | Adding vol signals to momentum                                          |
| 30-Oct-13 | Global Energy Weekly           | Jet fuel flying low                                                     |
| 28-Oct-13 | Commodity Derivatives Insights | Commodity vol in futures vs. ETF options                                |
| 28-Oct-13 | Global Metals Weekly           | Turning point in vols?                                                  |
| 23-Oct-13 | Global Energy Weekly           | Light oil independence                                                  |
| 16-Oct-13 | Global Energy Weekly           | Another range-bound year ahead for US nat gas                           |
| 13-Oct-13 | Global Metals Weekly           | LME Week: stars are aligning for nickel                                 |
| 09-Oct-13 | Global Energy Weekly           | WTI heading below \$100                                                 |
| 07-Oct-13 | Global Metals Weekly           | Platinum inventories: rally inhibitor?                                  |
| 02-Oct-13 | Global Energy Weekly           | From Russia with little love                                            |
| 01-Oct-13 | Commodity Portfolio Monthly    | Price Momentum Reloaded                                                 |
| 27-Sep-13 | Global Metals Weekly           | Updating price forecasts: turning gold into zinc                        |
| 25-Sep-13 | Global Energy Weekly           | Iran unlikely to upset oil prices                                       |
| 23-Sep-13 | Commodity Derivatives Insights | Hedging inflation via options                                           |
| 19-Sep-13 | Global Metals Weekly           | Nickel waiting for Indonesia                                            |
| 18-Sep-13 | Global Energy Weekly           | A dismal outlook for refining                                           |
| 11-Sep-13 | Global Energy Weekly           | Combating coal overcapacity                                             |
| 09-Sep-13 | Global Metals Weekly           | How the Fed and Syria affect gold                                       |
| 04-Sep-13 | Commodity Portfolio Monthly    | Signal-based call overwriting                                           |
| 02-Sep-13 | Global Metals Weekly           | What drives iron ore prices?                                            |
| 30-Aug-13 | Commodity Derivatives Insights | Systematic strangle selling                                             |
| 28-Aug-13 | Global Energy Weekly           | Syria sets oil on fire                                                  |
| 28-Aug-13 | Global Energy Weekly           | Dry bulk freight turning the corner                                     |
| 21-Aug-13 | Global Energy Weekly           | Still choking in natural gas                                            |
| 15-Aug-13 | Global Metals Weekly           | Aluminium: shelter lost                                                 |

Table 4: Global Commodity Research Publications - Past Topics\*

| Date      | Publication                    | Title                                                 |
|-----------|--------------------------------|-------------------------------------------------------|
| 13-Aug-13 | Global Energy Weekly           | Oil interruptus                                       |
| 07-Aug-13 | Global Energy Weekly           | Gasoil over gasoline                                  |
| 02-Aug-13 | Global Metals Weekly           | Buy Europe, Sell Australia                            |
| 01-Aug-13 | Commodity Portfolio Monthly    | Commodity returns under rising rates                  |
| 30-Jul-13 | Global Energy Weekly           | Limited upside to WTI                                 |
| 29-Jul-13 | Commodity Derivatives Insights | Commodity vols show no fear                           |
| 26-Jul-13 | Global Metals Weekly           | Nickel is not a trade on China only                   |
| 24-Jul-13 | Global Energy Weekly           | No relief this winter for European nat gas consumers  |
| 18-Jul-13 | Global Metals Weekly           | From Feeding the dragon to feeble dragon?             |
| 17-Jul-13 | Global Energy Weekly           | US propane over ethane, again                         |
| 11-Jul-13 | Global Energy Weekly           | Superbackwardation and the collapse of long-dated oil |
| 09-Jul-13 | Global Metals Weekly           | It is getting colder for aluminium producers          |
| 02-Jul-13 | Global Energy Weekly           | US nat gas set to bottom out                          |
| 01-Jul-13 | Global Metals Weekly           | Gold: fear or greed                                   |
| 01-Jul-13 | Commodity Portfolio Monthly    | Sector curve momentum                                 |
| 25-Jun-13 | Global Energy Weekly           | EM slowdown set to hurt oil                           |
| 19-Jun-13 | Global Energy Weekly           | Winter gasoline to weaken despite RINs                |
| 19-Jun-13 | Metals Strategist              | From growth to return and income                      |
| 17-Jun-13 | Commodity Portfolio Monthly    | Enhancing US nat gas returns                          |
| 12-Jun-13 | Global Energy Weekly           | No support for coal                                   |
| 10-Jun-13 | Global Metals Weekly           | Survival of the fittest in lead                       |
| 05-Jun-13 | Global Energy Weekly           | A short revival for diesel                            |
| 28-May-13 | Global Energy Weekly           | Downgrading oil                                       |
| 28-May-13 | Global Metals Weekly           | Bringing gold forecast in line with target            |
| 24-May-13 | Commodity Derivatives Insights | Manic gold                                            |
| 22-May-13 | Global Energy Weekly           | Exporting the shale revolution                        |
| 20-May-13 | Global Metals Weekly           | Mining: steady state or steady growth?                |
| 15-May-13 | Global Energy Weekly           | Asia to pull on Europe's LNG supplies                 |
| 10-May-13 | Global Metals Weekly           | Buying zinc with gold                                 |
| 07-May-13 | Global Energy Weekly           | The Mexican standoff                                  |
| 01-May-13 | Commodity Portfolio monthly    | Dynamic inflation hedging                             |
| 01-May-13 | Global Energy Weekly           | Europe's growing gasoline surplus                     |
| 30-Apr-13 | Global Metals Weekly           | Sustained disinflation or temporary metal weakness?   |
| 29-Apr-13 | Commodity Derivatives Insights | Transparent call overwriting                          |
| 24-Apr-13 | Global Energy Weekly           | Fade the rally in US natural gas                      |
| 17-Apr-13 | Global Energy Weekly           | Is oil re-pricing growth expectations?                |
| 16-Apr-13 | Global Metals Weekly           | Gold capitulation                                     |
| 09-Apr-13 | Global Energy Weekly           | Europe: Back to the dark ages                         |
| 08-Apr-13 | Global Metals Weekly           | Investors: more involved or less?                     |
| 01-Apr-13 | Commodity Portfolio Monthly    | Commodities for the long run                          |
| 26-Mar-13 | Global Energy Weekly           | Unbroken back                                         |
| 26-Mar-13 | Global Metals Weekly           | Not a super-cycle, but still a cycle                  |
| 22-Mar-13 | Commodity Derivatives Insights | Currency wars and commodity volatility                |
| 19-Mar-13 | Global Energy Weekly           | Coal under pressure                                   |
| 15-Mar-13 | Global Metals Weekly           | The big bang: CEO changes and capex reductions        |
| 11-Mar-13 | Global Energy Weekly           | UK nat gas on the edge                                |
| 05-Mar-13 | Global Metals Weekly           | Headwinds to gold, delaying target                    |
| 04-Mar-13 | Global Energy Weekly           | Baltic Dry Index on a sustained recovery path         |
| 04-Mar-13 | Global Metals Weekly           | Copper is still a cyclical asset                      |
| 01-Mar-13 | Commodity portfolio monthly    | Seasonal risks to curve alpha                         |
| 26-Feb-13 | Commodity Derivatives Insights | A history of vol violence                             |
| 25-Feb-13 | Global Energy Weekly           | Gasoline on fire                                      |
| 20-Feb-13 | Global Metals Weekly           | Shorting lead                                         |
| 18-Feb-13 | Global Energy Paper            | Medium term oil outlook                               |
| 17-Feb-13 | Global Energy Weekly           | Can Iraq save the oil market?                         |
| 10-Feb-13 | Global Energy Weekly           | The great oil rotation                                |
| 08-Feb-13 | Global Metals Weekly           | Inventory finance: clean versus convoluted metals     |
| 03-Feb-13 | Global Energy Weekly           | Oil against a wall                                    |
| 01-Feb-13 | Commodity portfolio monthly    | Revisiting Commodity Beta                             |

Source: BofA Merrill Lynch Global Commodity Research

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

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### **Macro**

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

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