

VM Group research for Fortis Bank Nederland

Energy Monthly

May 2010

Fortis Bank Nederland

VM GROUP

The Energy Monthly is produced as part of a joint venture between Fortis Bank Nederland and VM Group

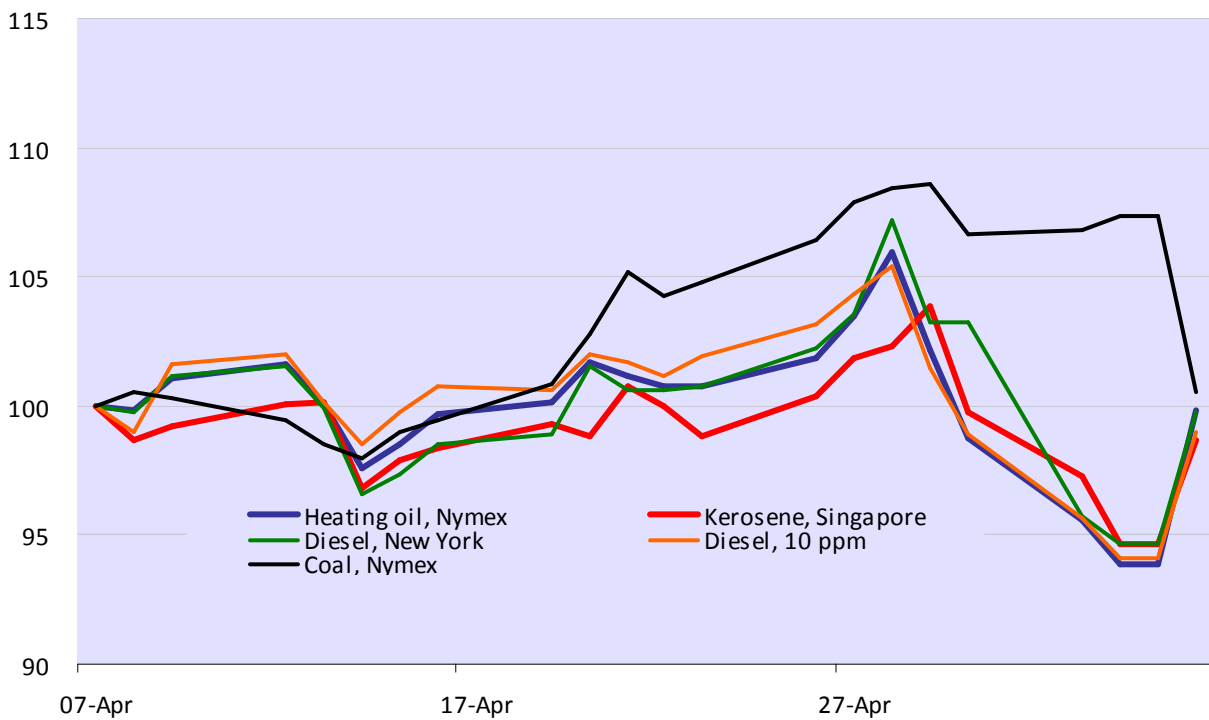
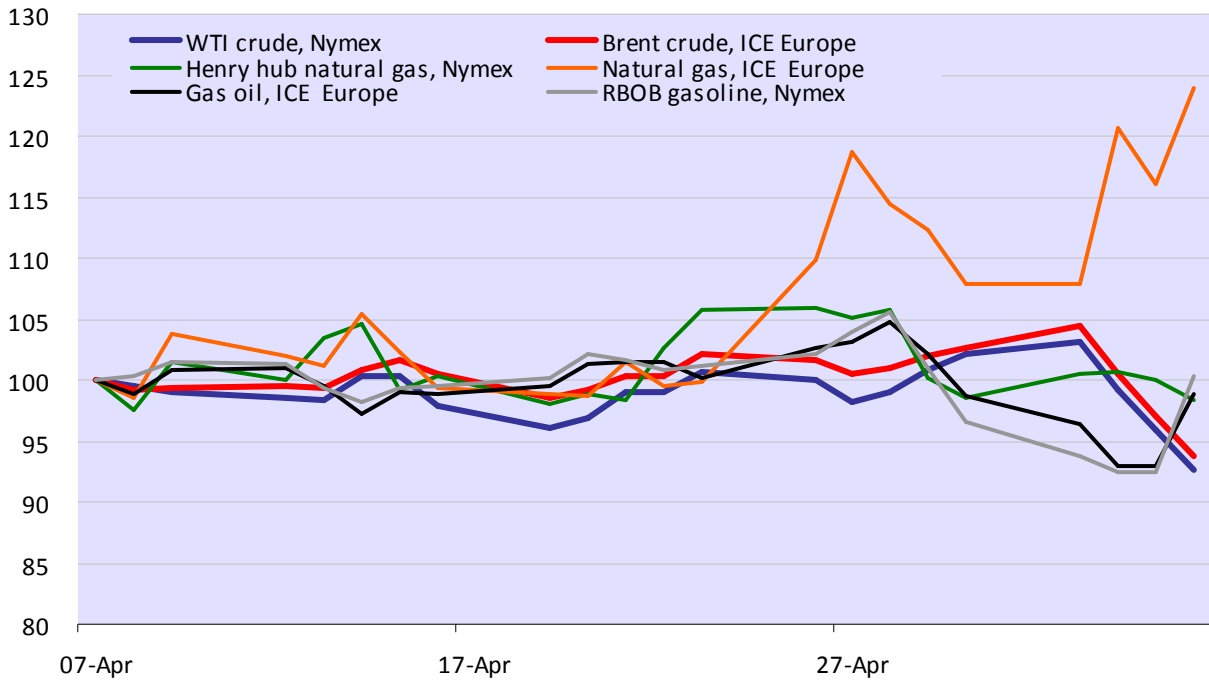
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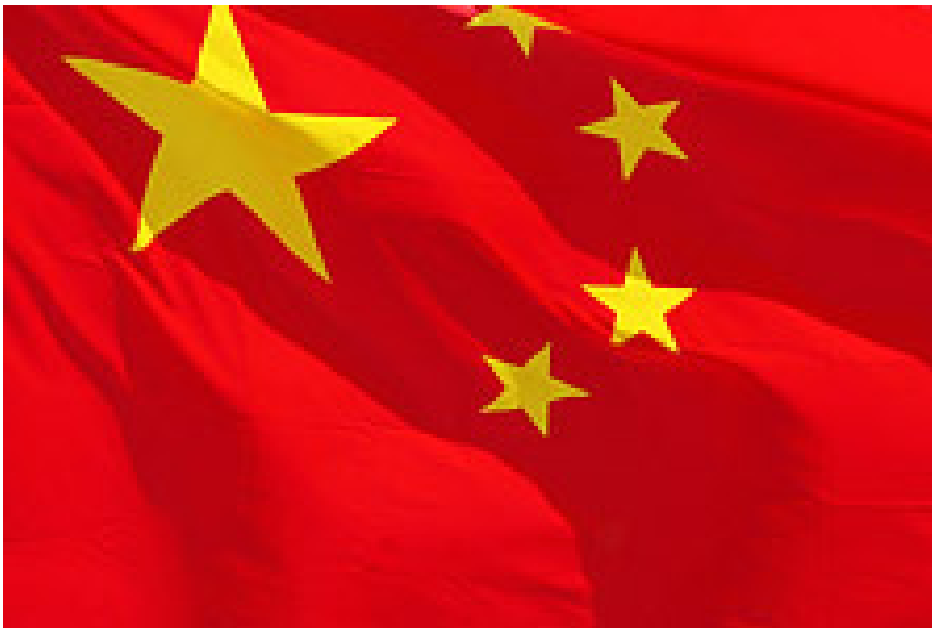
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Selected energy prices, over past month: re-based to 100



Source: VM Group

Feature



China goes power shopping

Michael Cassell

China has huge foreign reserves, surplus cash and an insatiable appetite for energy. The global recession has given it a chance to take advantage of falling prices, as it tries to secure overseas the energy resources it needs to help fuel rapid economic expansion at home. A stronger currency, together with a change of attitude towards investing jointly with foreign companies, will see China step up its overseas energy acquisitions this year.

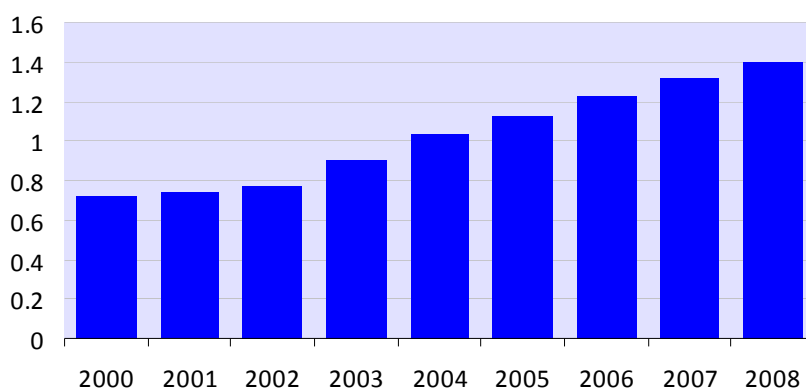
When in 2005 China National Offshore Oil Corporation (CNOOC) bid \$18.5bn for US oil group Unocal it ran into a storm of political controversy. Amid claims that the move endangered America's energy security; the Chinese dropped the bid and went back to Beijing to lick their wounds. The snub was a setback – but it was short-lived and now, after a strategic rethink, there is a fresh drive underway by some of China's largest, state-owned companies to acquire foreign assets. This trend will reshape the geopolitics of energy over the next decade.

At the beginning of April, the latest chapter in China's energy asset-grab was unveiled in the shape of a successful \$4.65bn bid from China Petroleum and Chemical Corporation (Sinopec) for a 9% stake in Syncrude, the Canadian oil sands project owned by ConocoPhillips. Syncrude is one of the world's biggest oil sands and synthetic crude processing sites. This deal further consolidates Sinopec's interests in Canada's oil sands – Sinopec is already an equal partner with France's Total in the \$10bn Northern Lights oil sands project in Alberta. China's decision to take strategic steps in oil sands was signalled in 2009, when Petrochina agreed to pay almost \$2bn for a majority stake in two undeveloped oil sands properties in northern Alberta owned by Calgary-based Athabasca Oil Sands. The recent Syncrude deal brings total Chinese investment in Canada's oil sands region to about \$10bn, and underlines its determination to increase its oil

and gas reserves, however challenging and potentially expensive that may be. If the Sinopec acquisition wins approval from the federal government, emboldened Chinese companies can be expected to step up efforts to acquire stakes in Canadian energy assets and elsewhere.

Behind the drive are the five principal state-owned enterprises; besides Sinopec and CNOOC there is China National Petroleum (CNPC) and Petrochina (a subsidiary of CNPC) as well as China's sovereign wealth fund, China Investment Corporation (CIC). All of them now regard overseas investment as a key part of their investment strategy, a policy that is set to get a major boost if Beijing raises their buying power by permitting the yuan to appreciate. China had allowed the currency to rise in a narrow band against the US dollar until the global financial crisis in 2008, when it informally pegged it to the US currency at around 6.8 yuan to the dollar. The result has been an undervaluation that has significantly assisted exports, although the expectation now is that a warming in diplomatic relations between the US and China will see the currency being permitted to rise gradually this year by as much as 5%.

China, energy consumption (total oil equivalent, tonnes per capita*)



Source: VM Group from BP World Energy Statistics and World Bank

* Oil, gas and coal combined

In 2009 overseas investments by China in non-financial sectors, including energy, reached \$43.3bn, up from \$40.65bn in 2008. Of that total, around \$30bn was accounted for by energy-related acquisitions. The acquisition of oil sands interests, along with China's entry into the coal-seam gas industry, confirms the breadth of the Chinese investment criteria, with bidders no longer simply interested in acquiring companies with proven profit records but increasingly prepared to involve themselves in huge, green-field investment opportunities that are comparatively high-risk ventures. They are also ready to consider part-ownership – acknowledging that 100% control may prove politically difficult and lead to nationalistic backlashes against their arrival – and to consider involvement in higher-risk regions of the globe, such as Africa. In April, CNOOC denied that it was in talks with the Nigerian government to win stakes in oil exploration licences held by western companies, but there seems little doubt that it is anxious to obtain stakes in some of the country's prime oil blocks, potentially worth up to \$30bn. In Uganda, CNOOC is also reportedly talking to the government on a potential \$5bn deal to share extensive oil rights with Tullow Oil, a London-listed independent oil company that has made large discoveries in eastern Uganda.

Some of the other mega-deals struck by China over the last 18 months include:

- February 2009: China agreed to lend \$25bn to Russian state-owned companies Rosneft and Transneft in return for long-term oil supplies.
- Apr 2009: CNPC paid \$3.3bn for a 50% stake in Kazakh oil company MangistauMunaiGaz.
- May 2009: Petrobras of Brazil finalised an agreement with Sinopec to secure a \$10bn loan in return for the long-term supply of oil.
- June 2009: Sinopec agreed to pay C\$8bn for Addax Petroleum, with oil assets in Africa and the Middle East.
- August 2009: CNPC signed a \$2.5bn deal with National Iranian Oil Company to take a 70% stake in the South Azadegan oilfield.
- October 2009: CIC pays nearly \$1bn for stake in KazMunaiGas, a subsidiary of Kazakhstan's oil and gas company.
- October 2009: The Iraq government ratified a deal in which BP and CNPC will develop the giant Rumaila oil field.
- March 2010: Petrochina and Shell agreed to buy Arrow Energy of Australia for \$3.2bn.
- March 2010: CNOOC agreed to pay \$3.1bn for a 50% stake in Bridas Corporation of Argentina.
- Apr 2010: CNPC signed a joint-venture deal with Venezuela to provide \$20bn in loans for the development of an oil block and the long-term supply of oil.

For China, perhaps the most obvious difference compared to other major international energy players is the sheer scale and rate of expansion within its own domestic energy markets. While other competitors have been forced to reassess and often relinquish some of their activities, in the face of a sharp downturn in demand, China faces the challenge of meeting huge and continuing leaps in demand for energy. On an annualised basis China's economy is currently growing by 11.9%. It does not have sufficient, domestic supplies of fossil fuels to support such astonishing growth rates – but it has plenty of available cash and is intent upon diversifying its foreign currency reserves into hard assets at a time when retrenchment elsewhere means beneficial deals can be struck.

More mega-deals are inevitable

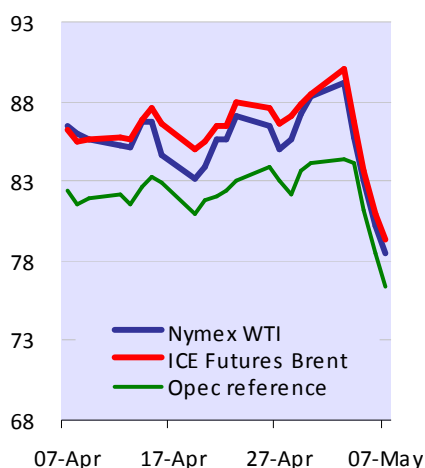
Beijing has recently announced a major expansion of its oil refining capacity and is building state reserves of refined oil products, such as gasoline and diesel and jet fuel, to protect against supply disruptions. It has also been steadily lifting a strategic reserve of crude oil, though on a smaller scale than that held by the US. Imports, mainly from volatile parts of the Middle East and Africa, account for around half of China's oil consumption, and the International Energy Agency has forecast that this proportion will rise to nearly 80% by 2030. The decision to diversify supply sources has placed a new emphasis on suppliers such as Russia, Venezuela, Kazakhstan and Brazil and, with plentiful supplies of cheap credit available, loans-for-oil deals, such as those with Russia and Venezuela, are being struck with increasing regularity. Venezuela said in April, for example, that it is now selling more than 460,000 bpd of crude to China and wants to raise sales to 1m bpd. It is also building a refinery with China's help.

This type of partnership, providing oil producers with development money without ceding direct control of their energy resources to China, is an attractive way to go right now, at a time when western banks and corporations are constrained by the credit crisis in lending on projects in risky markets. The largest international oil majors, such as ExxonMobil, Shell and BP, offer technology and expertise that most of China's state-owned oil enterprises cannot yet always match; but their projects are not backed, as with China, by comprehensive government credit offered on favourable terms. For would-be partners, having the financial and, in some regions, the political clout of major Chinese players alongside them has obvious advantages, as they fix their long-term focus on the increasingly difficult challenge of winning energy resources. The arrangement can also work in two directions: Petrochina and Shell recently

bought Arrow Energy of Australia and Shell has subsequently agreed on a 30-year partnership with Petrochina's parent, CNCP, on developing tight gas reserves in China's own Sichuan basin – giving Shell access to China's domestic energy market, which is heavily regulated and notoriously hard for foreign operators to penetrate.

The reality is that China needs to boost its energy reserves and it has extremely deep pockets. It is also keen to demonstrate that, while it may be prepared to move into regions less popular with many western energy giants, it will not participate in environmentally unsound projects. In April, China's state council released new regulations governing investment in its own country by overseas companies, clarifying that it intends to maintain the same standards when it comes to its own overseas ventures. Thirty years ago the major western oil companies controlled about 75% of global oil reserves and 80% of output. Today, they control only about 6% of reserves and 25% of production. Nationally owned oil giants from Asia, the Middle East Africa and Russia have the rest. China is pursuing a strategy that will not only secure the energy supplies it needs but will also ensure that it will have direct or partial control over a growing proportion of them. Good companies with good assets, which would prefer to remain independent, will have to start looking over their shoulders as Beijing casts its acquisitive eye over them. Expect more mega-deals before 2010 is out.

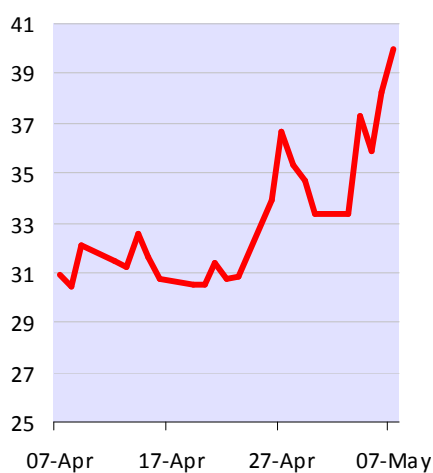
Key oil prices, \$/barrel



Source: Nymex, ICE Futures, Opec, VM Group

Henry Hub natgas: Nymex 2nd pos. \$/MMbtu

Source: Nymex, VM Group

ICE Futures natgas: 2nd pos. pence/therm

Source: ICE Futures, VM Group

Oil & Gas

News

- **May 8:** Korea Gas, the world's biggest buyer of LNG, plans to spend \$15.5bn on overseas expansion, involving pipelines and terminals.
- **May 5:** Statoil of Norway said it might slow production if rises in shale gas and LNG output kept market prices low.
- **May 3:** Abu Dhabi National Oil awarded \$5.6bn of contracts to begin developing the Shah natural gas field.
- **Apr 30:** Russia raised its crude oil export duties by \$16 to \$284/t.
- **Apr 26:** Chevron defended its decision not to pursue shale gas exploration, saying the price tag was "too high" to justify investment.
- **Apr 25:** Opec forecast that oil output in Latin American countries outside the Organisation and Mexico would average 4.66m bpd in 2010.
- **Apr 23:** Gazprom Neft of Russia said it plans to double oil output to around 100 Mt by 2020, up from 50.8 Mt produced in 2009.
- **Apr 21:** Saudi Arabia said it would raise oil exports to Indonesia to 325,000 bpd in 2010.
- **Apr 19:** Development of Russia's Shtokman gas field should start in 2011, according to Prime Minister Vladimir Putin.
- **Apr 19:** Ecuador threatened to expropriate the holdings of foreign oil companies unless they handed over more oil revenues.
- **Apr 18:** Algeria said its natgas production would rise by over 50% in the next five years, reaching 85bn cm.
- **Apr 17:** Iraq said it would launch a third bidding round for three natural gas fields, which together have reserves of 210m cm.
- **Apr 13:** The International Energy Agency said global demand for oil will hit a record high in 2010, an average 86.6m bpd, v. 84.9m bpd last year.

Short term outlook

Having briefly flirted with \$87/barrel towards the end of April, early May saw crude prices plunge by \$11/barrel in the wake of the euro-zone debt crisis and fears that European sovereign debt was spiralling out of control. The fall was the biggest since December 2008. A trillion dollar rescue package put together by the EU and the IMF rallied prices back to around \$78/barrel by 10 May, but volatility remains the order of the day. Given the new macroeconomic uncertainties crowding in, and the continuing trend of higher-than-expected US crude and distillate inventories, crude prices still remain higher than pure supply-demand logic would suggest and in the short-term the risk must remain to the downside. Talk from Opec in April about having to adjust output if crude got anywhere near \$100/barrel is now looking fanciful – Opec compliance with its quota limits is currently running at just about 50%. By early May, Kuwait was warning that crude prices "below \$65/barrel" would ring alarm bells within Opec. The world is currently schizophrenic – oil demand rising strongly in Asia (China's up by 13% in April v. the same month last year, the ninth successive month of annualised double-digit growth) but remaining sluggish in mature economies. In this context we expect prices to fluctuate within a narrow range around \$80/barrel over the next month.

Analysis

US – and other – drilling plans in deep water

Beyond the environmental impact of the recent catastrophe that overtook BP's Deepwater Horizon rig in the Gulf of Mexico lie potentially huge problems for the production, shipping and refining of oil and gas in Mississippi, Alabama and Louisiana, which between them account for around 20% of US refining capacity. By 6 May it appeared that production remained unaffected but

looking further ahead there could be wider ramifications for offshore drilling activities, not only in the US but around the world. Who for example is going to put their hand up today and vote for similar drilling in the resource-rich regions of the Arctic? The BP accident could hardly have come at a worse time politically, given President Obama's March decision to open up vast expanses of water along the Atlantic coastline, the eastern Gulf of Mexico and the north coast of Alaska to oil and natural gas drilling. Obama's proposal, a compromise that pleased oil companies and domestic drilling advocates but angered a range of environmental groups, would have ended a longstanding moratorium on oil exploration along the US east coast from Delaware to Florida, covering 167m acres of ocean. The idea was to reduce the country's dependence on oil and natural gas imports while generating revenues from offshore licences; but the plan has already threatened to undermine some of the support the President needs from Republicans for a much-trumpeted climate bill intended to cut the country's carbon emissions.

Once the current oil leak in the Gulf of Mexico has been capped, the strength of opposition in the US to ongoing offshore drilling will depend to a degree on the extent of the damage caused by the accident. There is no question that Washington will now come under renewed pressure over its proposals. While a US House sub-committee will investigate the details of the accident, a US Senate committee is preparing to consider the broader policy implications. Energy Secretary Steven Chu was quick to say plans to expand offshore drilling were not a mistake, but conceded the accident had "huge ramifications about what happens to energy development in the ocean all around the world." The operations of US offshore rigs can now be expected to come in for much closer scrutiny from the US Minerals Management Service, but Chu is right in saying that the reality is that the US needs new oil and gas supplies, and that oil companies have offshore petroleum reserves which must be exploited.

Arctic deal paves way for more exploration

Well, some are ready to vote for Arctic drilling – as the Gulf of Mexico oil spill happened, Mexico, Russia and Norway were signing a deal to resolve a 40-year-old dispute over dividing the Barents Sea and part of the Arctic Ocean into clear economic zones extending to the edge of Europe's continental shelf. The agreement was a rare moment of co-operation in the frenzied race to stake a claim to potentially vast reserves of oil and gas lying deep under the ocean. Some estimates suggest the Arctic seabed contains a quarter of the world's undiscovered fossil fuels. News of the deal brought immediate criticism from environmental groups, which pointed out that the technical challenges of drilling in the Arctic were immense and the potential impact on the environment was enormous, given that there was no technology to clean up oil spills in ice-clogged waters. As Russian President Dmitri Medvedev claimed that the deal opened the way for important energy projects, the US announced that federal scientists had until October this year to assess what more research would be needed to determine the effects of offshore oil and gas drilling in the Arctic. Royal Dutch Shell is due to drill three wells in the Chukchi Sea, off the northwest coast of Alaska, mid-2010. President Obama said in March that most lease sales planned in the Beaufort and Chukchi seas over the next two years would be cancelled and that no extra leases will be offered until additional scientific information on their likely impact has been collected.

Gas producers shy away from quotas

Algeria got a knock-back from fellow members of the Gas Exporting Countries Forum (GECF) in April, when it tried to get the world's largest gas producers to fix quotas and reduce the global supply glut in an effort to reverse the near-halving of spot market gas prices over the last two years; this trend is now undermining long-term contract prices. Russia and Qatar said any such move would prove ineffective and hinted that some producers, like those within Opec,

would merely breach any quota agreements to benefit themselves. There was agreement, however, that they should try to cooperate in indexing natural gas prices more closely to those of oil, which implies an increasingly co-ordinated approach to managing global gas markets. More immediately, GECF members have to contend with the challenge from the rapid expansion in shale gas usage, particularly in the US. Despite repeated efforts to minimise the impact of shale gas on global gas markets, Gazprom admitted in April that the rapid growth of shale gas poses “a problem”, even while asserting it would not have a significant impact on the European market, which is its biggest customer. Shale gas production in Europe may prove technically more difficult in Europe than within the US, but April brought the disclosure that ConocoPhillips is planning to start drilling for shale gas near Gdansk in Poland. A report from consultants Wood Mackenzie suggested that up to 1.36 trillion cm of shale gas could be lying under central and northern Poland, which, if confirmed, would add to EU shale gas reserves by almost half – a clear threat to Gazprom.

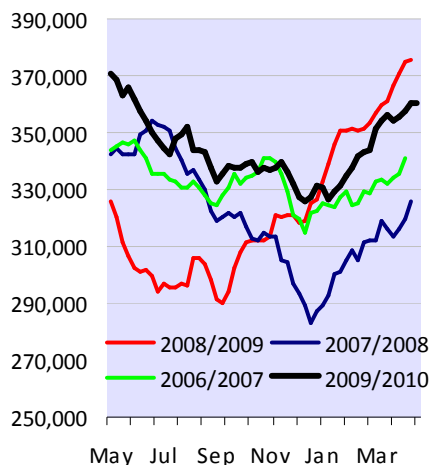
“Shale gale” sows doubts over pipeline project

The emergence of shale gas as a big player in the energy market – what some are calling the “shale gale” – is leading to a rethink of one of the most controversial pipeline plans in North America. The Alaska Gas Pipeline is geared to transporting natural gas from Alaska’s North Slope across Canada to US markets. In April ConocoPhillips and BP, competing with TransCanada and ExxonMobil for the go-ahead to build the 1,700 mile link, filed details with regulators estimating it would cost \$35bn. TransCanada has said its scheme would cost \$32bn-\$41bn but has, alternatively, suggested that it could construct at a cost of between \$20-\$26bn an 800-mile pipeline to Valdez in Alaska and then deliver LNG by ship to North American and international markets. But the economics of tapping the North Slope are now being questioned, given the emergence of US shale gas. The option of transporting more of the gas to Asian markets may now make more sense, but there are also initiatives to explore shale gas potential in that region, too.

Curbs on crude speculation creep nearer

The end of April saw the close of the public comment period on the proposals from the US Commodity Futures Trading Commission (CFTC) to impose position limits in energy futures markets, following concerns that speculators were behind the oil price spike to record levels in 2008. Some responses suggest that speculation lifted prices by between \$10-\$30/barrel, meaning producers pocketed at least an extra \$6bn a week. Regulators beyond the US, while voicing concerns about speculators, have so far shown caution about introducing position limits; the Futures Industry Association has called the CFTC plans “premature” and likely to push energy trading away from regulated exchanges and into OTC and overseas markets. Opec continues to insist that speculators are driving oil prices higher and in April produced figures purporting to show the price of oil tracking closely the level of open interest in Nymex oil contracts. A particular target is passive investors, who put money into buy-and-hold oil futures funds; these funds create demand for futures but the impact on oil spot prices is more subtle. This argument suggests that passive investors raise the price of futures relative to the spot price, thus creating an incentive for sellers of futures to buy physical oil, store it and sell it forward. The result is bigger inventories of oil, acting as a buffer against shortages arising from unexpected swings in supply or demand. Opec would love to see such passive money forced out of the futures market, thereby reducing the premium to spot prices and, hence, the incentive to store oil. The unwinding of these trades might cause oil prices to drop significantly as barrels flooded back onto the market, but longer-term, lower inventories could hand back more market power to those producers controlling spare production capacity. Observers might manage a wry smile at the thought of the Opec oil cartel criticising such alleged market distortions.

US crude oil stocks, million barrels (excluding strategic reserve)



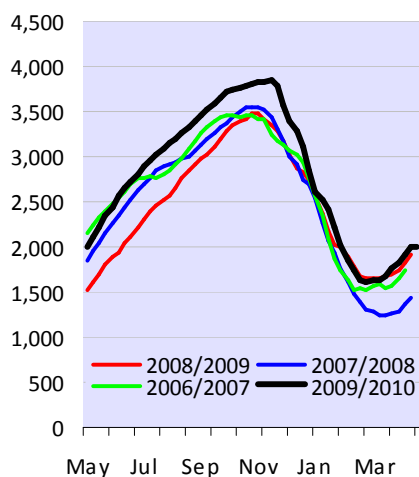
Source: EIA, VM Group

Putin plays energy politics with Kiev

Russia and Ukraine’s fragile relationship is forever being held up as an example of how Moscow can flex its energy muscles when it wants to teach customers a lesson, something which has not been lost on the European Union as it struggles to improve its own energy security. April saw Russia agree to cut Ukraine’s gas bills by around 30% (to around \$200/1,000cm from the present \$300/1,000cm), ending the deadlock over prices between the two countries. But in exchange Ukraine has accepted a list of demands, including the extension of Russia’s naval base at Sevastapol beyond its current term to 2017, something which will put severe pressure on Ukraine’s pro-western instincts and which led to uproar in its parliament as the deal was ratified.

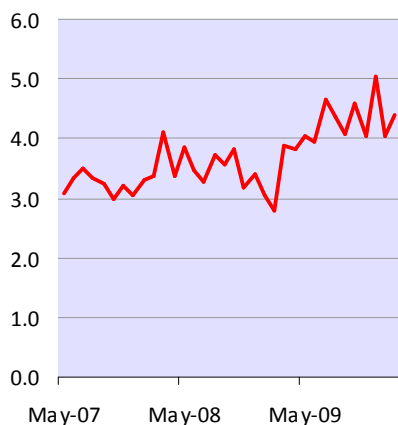
As though that was not enough, the end of April saw Russian Prime Minister Vladimir Putin stir things up again, by suggesting Gazprom should merge with Ukraine state gas enterprise Naftogaz. The likelihood is that he has one eye on a joint-venture to upgrade Ukraine’s sprawling and badly-maintained pipeline network, which is a key transit route for Russia’s gas exports, carrying around 20% of the gas consumed in the EU. Increasing Ukraine’s network capacity would also facilitate the pumping of gas from central Asia to Ukraine, which could harm prospects for the EU-backed Nabucco pipeline. Ukraine’s economy has been hit badly by recession, but Putin’s plan, seen as a fairly transparent piece of political gamesmanship intended to further Moscow’s influence within the country, faces an uphill struggle. Even so, Ukrainian president Viktor Yanukovich said on 6 May that the idea would be considered.

US natgas in underground storage, lower 48 states, billion cubic feet



Source: EIA, VM Group

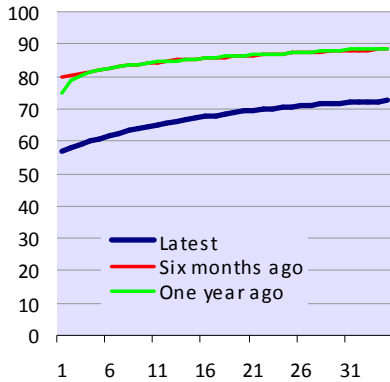
China, oil imports, million bpd



Source: China Statistical Office, VM Group

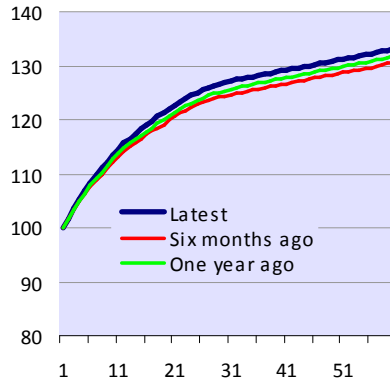
Oil and gas data

WTI crude forward curve, Nymex, month 1-36, \$/b



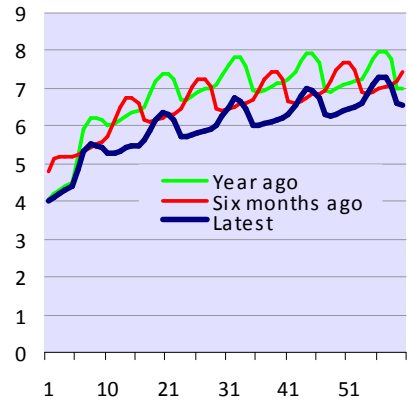
Source: VM Group

Brent crude forward curve, ICE Futures, month 1-61, 1st=100



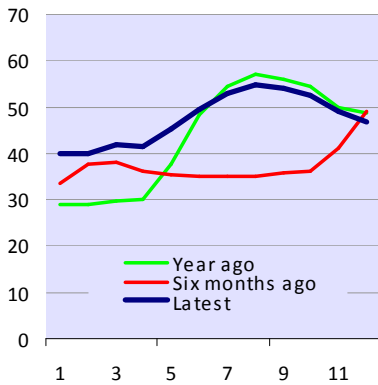
Source: VM Group

Henry Hub natgas forward curve, Nymex, month 1-61, \$/MMBtu



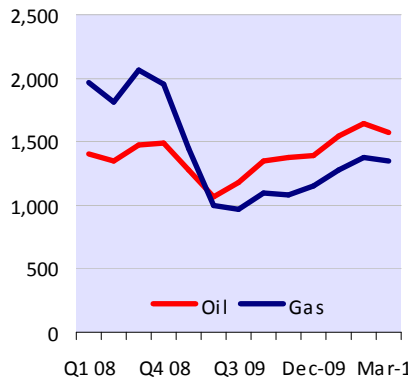
Source: VM Group

Natgas forward curve, ICE Futures, months 1-13, pence/therm



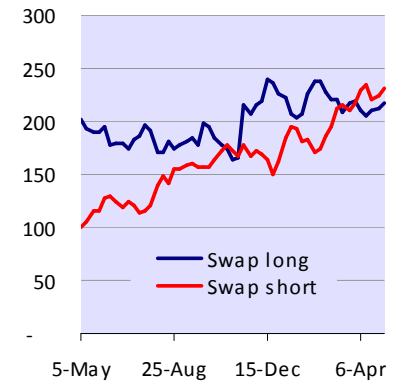
Source: VM Group

Global rig count, oil and gas



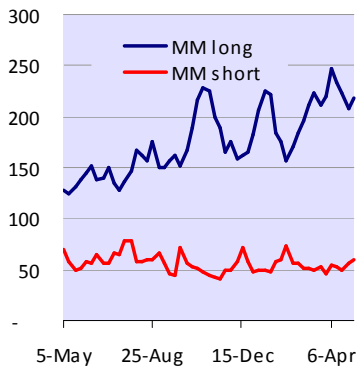
Source: VM Group, Baker Hughes

Nymex crude oil swap dealer positions (000 lots)



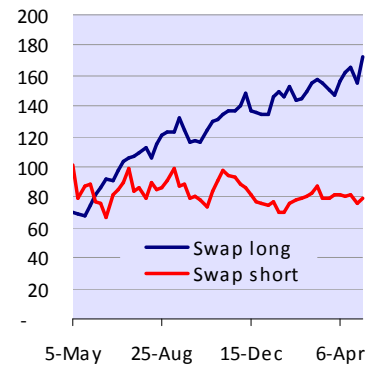
Source: VM Group, CFTC

Nymex crude oil managed money positions (000 lots)



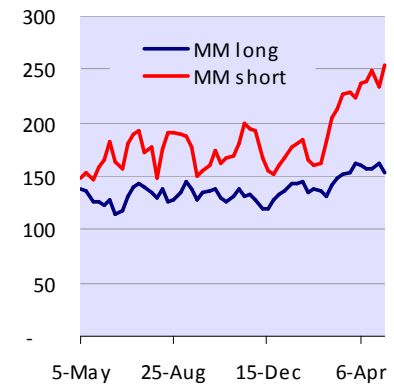
Source: VM Group, CFTC

Nymex natural gas swap dealer positions (000 lots)



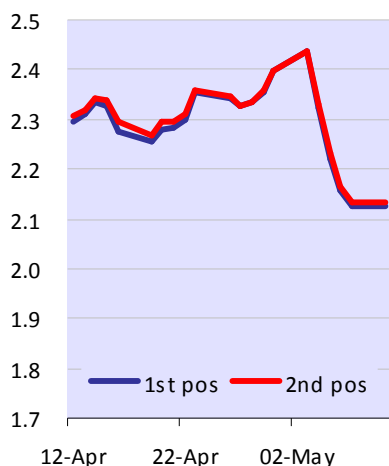
Source: VM Group, CFTC

Nymex natural gas managed money positions (000 lots)



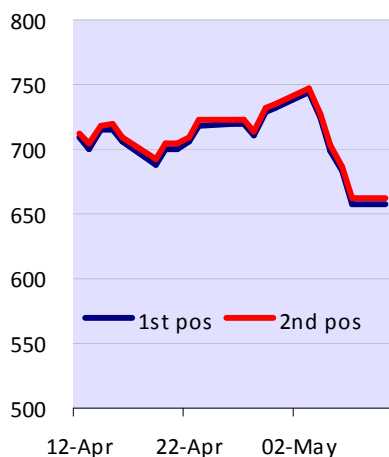
Source: VM Group, CFTC

RBOB unleaded gasoline, Nymex, \$/gallon



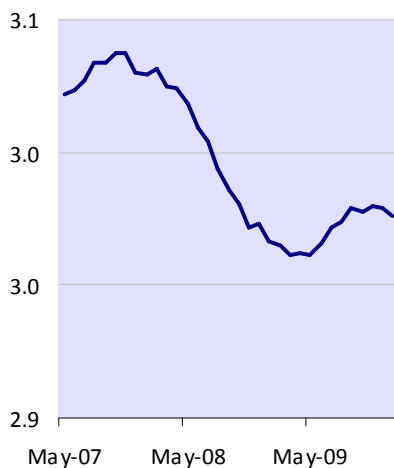
Source: Nymex, VM Group

Gasoil, ICE Futures, \$/tonne



Source: ICE, VM Group

Monthly US vehicle miles, annualised rate, trillion



Source: US Department of Transportation, VM Group

Refining

News

- **May 9:** Libya's National Oil Corporation wants to invest \$13bn in two oil refineries in Indonesia. It would supply the oil.
- **May 8:** China's largest refineries are running at about 81% of capacity because of demand uncertainty in global markets.
- **May 2:** Brazil is boosting the amount of ethanol mixed into gasoline to 25% from 20%.
- **Apr 29:** Petrol prices in the UK reached a record high of £1.21/litre in the wake of tax hikes and the falling value of sterling.
- **Apr 28:** China raised gasoline and diesel prices by 4%-5%, the first increases since November 2009.
- **Apr 27:** Kuwait said it may decide by the end of 2010 whether or not to build a new, fourth refinery, to be located at Al Zour.
- **Apr 27:** Eni, Italy's largest oil and gas company, said it expected 2010 refining margins to remain unprofitable.
- **Apr 21:** China's gasoline exports rose to almost 600,000t in March, almost five times the same month of 2009.
- **Apr 20:** Indian state-owned Hindustan Petroleum aborted plans to build a 300,000 bpd refinery in co-operation with Total and Mittal Investments.
- **Apr 18:** The United Arab Emirates said it was raising gasoline prices by 11% from the current \$0.37cents/litre.
- **Apr 17:** China National Petroleum was reported to be raising gasoline exports to Iran, despite US pressure not to supply fuel to the country.
- **Apr 10:** Iran said it planned to privatise all its refineries and petrochemical units to encourage private investment in its economy.

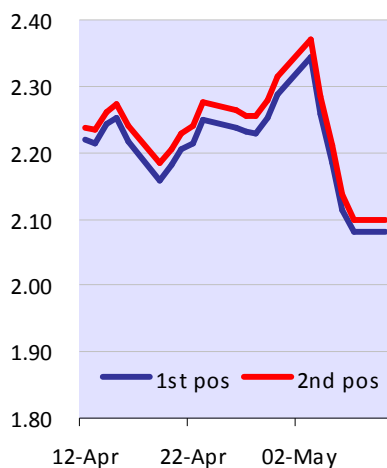
Short term outlook

US refineries produced more gasoline in March – 9.3m bpd – than in any previous month on record, with deliveries at 9.2m bpd, higher than in any previous March and compared to the all-time monthly peak of 9.6m bpd in July 2007. The figures make it abundantly clear that still-rising crude prices, rather than any supply problems, are the main factor behind higher US pump prices. By the end of April the national US average for regular unleaded fuel was around \$2.85/gallon, up \$0.80 cents/gallon from a year earlier. Expectations of any significant rise in demand from motorists as summer arrives could be dashed by these higher prices; summer gasoline consumption might only, as a result, edge up by about 0.5%, against the 0.8% rise recorded during the same season last year.

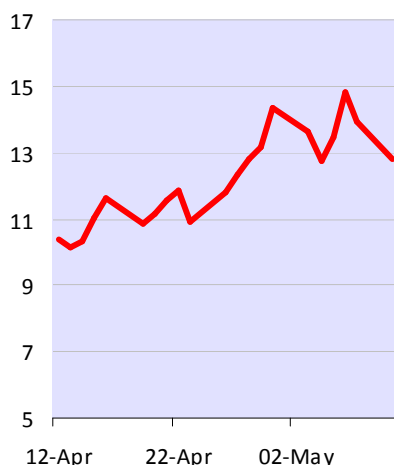
Analysis

Refiners see some improvement in margins

It's far too early to suggest the global refining sector is back on its feet, but at least there are more optimistic noises emerging from some of the biggest players as they report on earnings and conditions in the early part of 2010. Among them Tesoro, the US's third-largest refiner by capacity, said conditions were slowly improving even though the supply glut and high unemployment levels were still making life tough. Excess capacity has kept the pressure on margins, so refiners continue to drive down costs and improve efficiency in an effort to cut the cost of producing a barrel of fuel. The recession in the US has taken a bigger bite out of demand for distillates, mostly diesel fuel for trucks, than it has out of gasoline demand, and the slow economic recovery is unlikely to see distillate demand recover quickly; even if there was a sudden jump in demand, high inventories exist in most regions and additional gasoline imports should be readily available. The US Energy Department said in April that

Heating oil, no.2, Nymex, \$/gallon

Source: Nymex, VM Group

3:2:1 crack spread, past month, Nymex, \$/barrel

Source: Reuters, VM Group

3:2:1 crack spread, past 12 months, \$/barrel

Source: Reuters, VM Group

refining capacity should be adequate to meet any demand through until at least June; the closure of east coast refineries during the recession has been balanced by the commissioning of more refining capacity on the Gulf coast.

In Europe, refining capacity remains bloated, with refineries appearing to have little chance of making significant profits. While BP, Shell and Total revealed rebounds in Q1 refining margins, these were largely due to maintenance shutdowns; here too, any recovery is likely to be slow. Throughout Europe, refiners are trying hard to rid themselves of smaller, less profitable units, but such sales are proving difficult; for more than eight months, India's Essar has been in talks with Shell over the sale of its Stanlow refinery in Cheshire and the lengthy talks underline the problems facing the UK refining sector. At the end of April, Shell said the plant could still face closure. European refiners are also competing with Asian and Middle Eastern refineries, which have also reported improved margins in the early stages of 2010. But refining capacity within China, which this year could account for one-third of global oil demand growth, is surging and may renew pressure on margins elsewhere in the region. Sinopec, Asia's biggest refiner, said it refined 20% more crude in Q1 2010 when compared with a year earlier in order to meet higher fuel demand from vehicle owners and factories. Its Q1 profits rose by 40% and it is still ramping up capacity and production.

Jet fuel hits turbulence

Out of a clear blue sky the jet fuel market was hit in April, thanks to the unexpected explosion of a volcano in Iceland. The ban on airlines across most of west Europe saw jet fuel consumption crash by around two-thirds, pushing down prices and hitting deliveries. Fuel depots quickly filled up and around 80,000t of jet fuel demand evaporated in the London area alone. If the crisis had continued, refiners would have been forced to store excess fuel, blend more of it into other products such as naphtha and gasoil or try to export it elsewhere. By the time the ban on air travel in specific parts of the UK and Europe was lifted, the total European demand loss appeared to have accounted for less than 1% of global oil consumption. Jet fuel's premium to gasoil at one stage dipped by as much as \$6/t but bounced back once the disruption was over. The anxiety at this stage is that the eruption of Eyjafjallajökull has in the past usually been followed by a much bigger eruption from the neighbouring volcano, Katla. Were that pattern to be repeated the disruption could be much more severe.

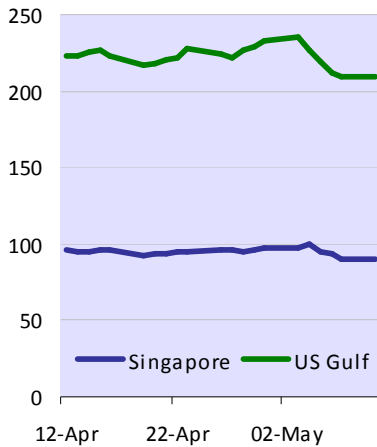
Asian diesel stocks set to climb

Watch out for a glut in Asian diesel supplies later this year, maybe during Q3, as high refining runs and the addition of new refining capacity comes face to face with fewer opportunities to shift any surplus into European markets. For most of 2009, traders were able to ship excessive stocks from Asia to Europe but the trading margins on such arbitrage evaporated at the end of last year. Future east-west shipments now look even more remote after spring maintenance is over and new capacity comes online in Japan, Korea and China. An improvement in demand from Europe could help but Russia has the logistical edge in supplying European customers. Sentiment for Asian gasoil, however, seems set to remain quite strong given demand from India, Australia and New Zealand. India in particular has been purchasing large volumes of low-sulphur gasoil for May-June delivery as it tries to encourage the wider use of cleaner types of fuels. It is proving to be a tough challenge; at the end of April it was reported that sales of cleaner Euro-standard diesel, for example, had fallen by 60% in Delhi, as motorists increasingly opt for cheaper diesel alternatives.

European gasoil market stirs

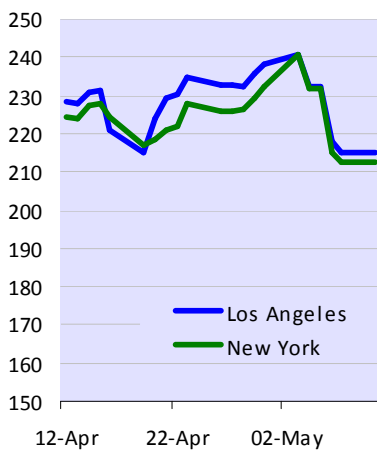
March saw an improvement in European gasoil crack spreads as refiners carried out maintenance and continued to cut production, with the difference between

Kerosene, Singapore & US Gulf Coast, cents/gallon



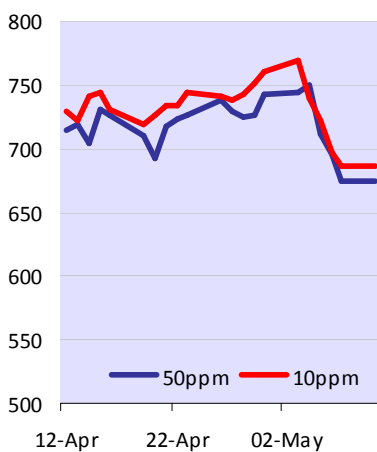
Source: VM Group

Diesel, no.2, FOB, Los Angeles/New York, cents/gallon



Source: VM Group

Diesel, Europe, low-sulphur, NWE (10ppm) & MED (50ppm), \$/tonne

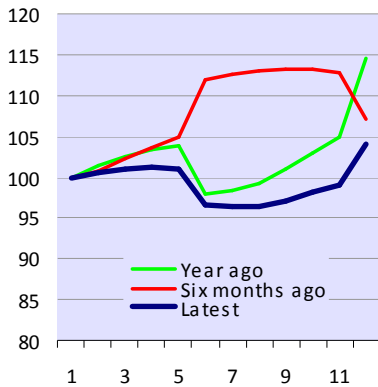


Source: VM Group

gas oil futures and Brent crude at one stage climbing to over \$11/barrel on London’s ICE Futures exchange, the widest in almost a year. In a partially seasonal shift that would normally suggest a tightening market, front-month futures contracts climbed to trade at a premium to the deferred May contract, the first time the middle distillate market has moved into backwardation since November 2008 – surprising some traders who said that the situation was not supported by market fundamentals. However, refinery strikes have resulted in some output falls and scheduled maintenance has also been eating into inventories. Even so, Total said in March that European refiners still needed to close about 1m bpd of refining capacity to balance the gasoil market. One brighter note came in the shape of a report from the International Energy Agency, which said that the volumes of middle distillates being stored offshore, a key factor in keeping prompt prices depressed since late 2008, were now starting to shrink. By the end of February, oil products in floating storage, largely made up of middle distillates, had fallen to 74m barrels from 86m a month before. There remains, however, little incentive to replenish existing stocks and it is too early to be bullish.

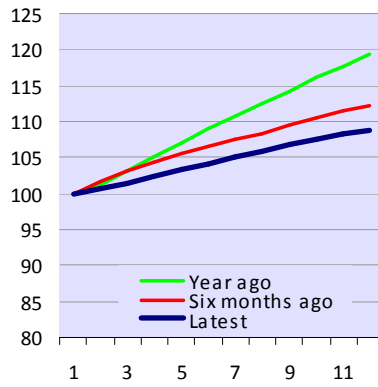
Distillates data

RBOB unleaded gasoline, Nymex, forward curve (1st month =100)



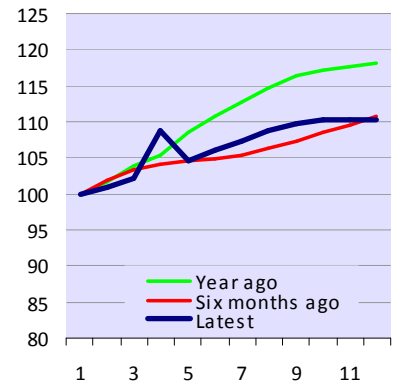
Source: Nymex, VM Group

Gasoil, ICE Futures, forward curve (1st month = 100)



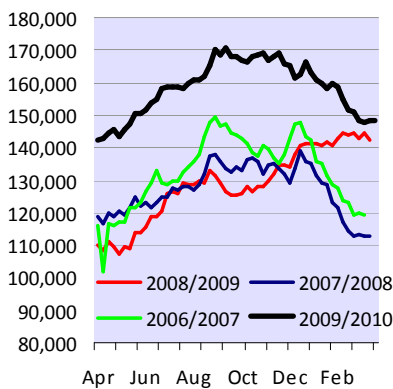
Source: ICE, VM Group

Heating oil, Nymex, forward curve (1st month = 100)



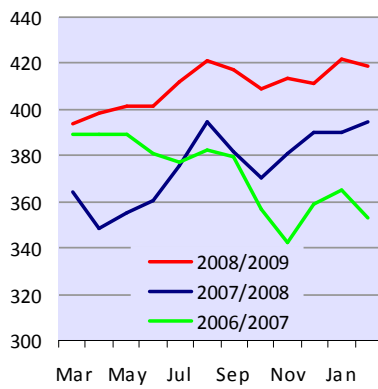
Source: Nymex, VM Group

Distillate stocks, US, 000 barrels



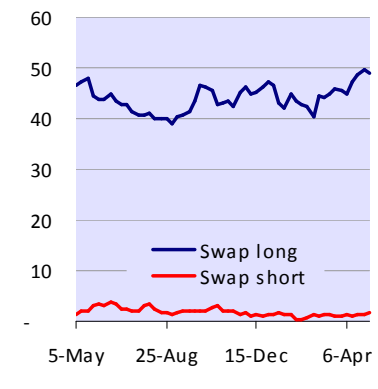
Source: API, VM Group

Distillate stocks, EU15 & Norway, million barrels



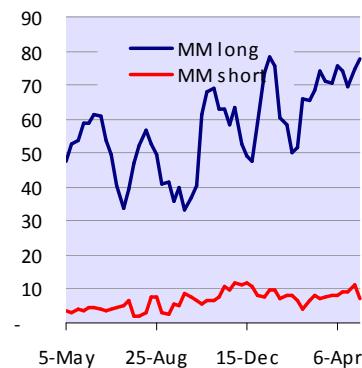
Source: VM Group

RBOB unleaded gasoline, Nymex, swap dealer positions (000 lots)



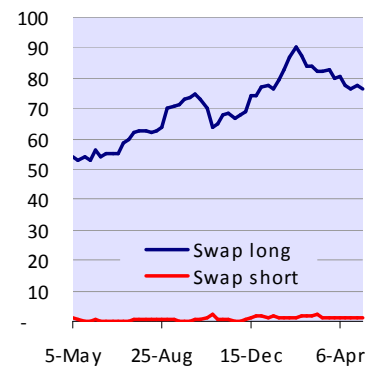
Source: CFTC, VM Group

RBOB unleaded gasoline, Nymex, managed money positions (000 lots)



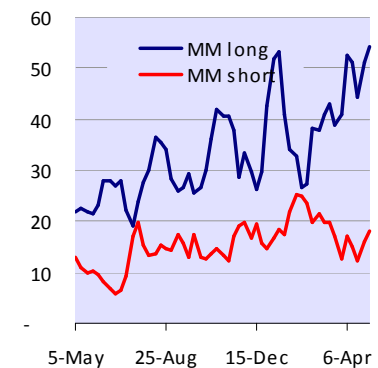
Source: CFTC, VM Group

No.2 heating oil, Nymex, swap dealer positions (000 lots)



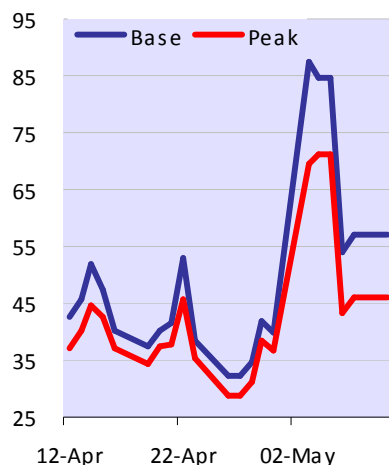
Source: CFTC, VM Group

No.2 heating oil, Nymex, managed money positions (000 lots)



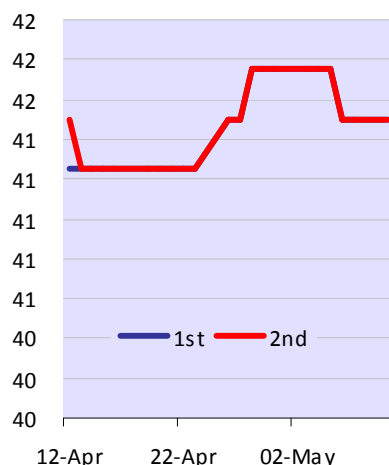
Source: CFTC, VM Group

US electricity prices, PJM, base and peak, \$/MWh



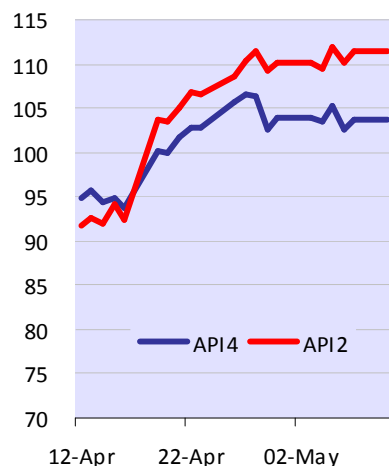
Source: PJM, VM Group

Uranium prices, Nymex, \$/pound



Source: Nymex, VM Group

Coal prices, API2 and API4, \$/tonne



Source: API, VM Group

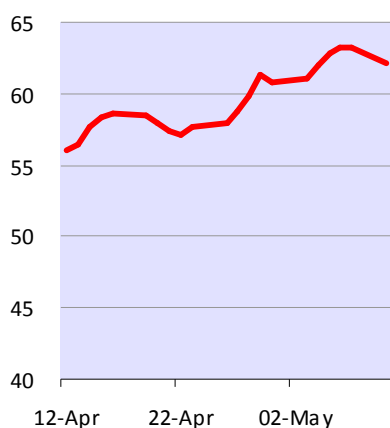
Power

News

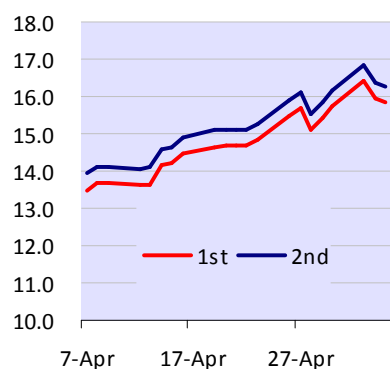
- **May 9:** India's Maharashtra State Electricity Board said it would try to import 3.35 Mt of coal this year from any source available.
- **May 8:** Australian thermal coal exports fell to their lowest level for more than two years, largely because of Hunter Valley rail disruption.
- **May 5:** Hancock Coal of Australia said it was pressing on with a \$15bn project to build two thermal coalmines in western Queensland.
- **May 2:** Australia's government unveiled a mining tax, which miners claimed would hit investment and output when introduced in 2012.
- **May 1:** Bolivia nationalised four power companies, including a subsidiary of France's GDF Suez.
- **Apr 30:** China imported 48.2 Mt of coal in Q1 2010, accounting for nearly 7% of total consumption. The total this year could hit 200 Mt.
- **Apr 30:** Huaneng Group, China's largest power producer, produced 123.3bn kWh of electricity in Q1 2010, up by 37.5% on a year earlier.
- **Apr 29:** China agreed to build two civilian nuclear reactors in Pakistan.
- **Apr 28:** Edison, Italy's second-largest power and gas company, said it might bid for state-owned power plants being privatised in Turkey.
- **Apr 27:** Qatar Electricity and Water said it will build two 450 MW power plants in Syria at a cost of more than \$1bn.
- **Apr 26:** Indonesia said it will raise electricity capacity to 15,000 MW by 2014 in order to support economic growth targets.
- **Apr 25:** The Australian power sector said that up to \$2bn of investment in new power stations would be put on hold because of the government's decision to delay a proposed emissions trading scheme.
- **Apr 24:** Rio Tinto said it had produced the first coal from its \$1bn Clermont mine in central Queensland, Australia.
- **Apr 23:** The United Arab Emirates said it will build its first four nuclear power plants in Braka, 75km from the Saudi Arabian border.
- **Apr 23:** Britain's 885MW Llangage power station, near Plymouth, started commercial operations.
- **Apr 22:** Quebec said it will spend an extra C\$32bn by 2035 to expand power output, enabling it to raise sales to the north-eastern US.

Short term outlook

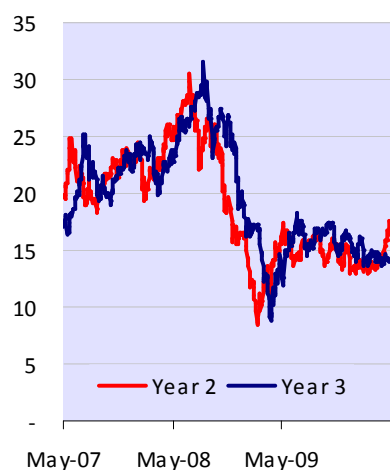
Coal markets appear to be turning distinctly more bullish as demand starts to pick up and supply shortages and disruptions put upward pressure on prices. Markets took heart from news at the end of April that deals struck between Chinese coal producers and Japanese utilities hit \$115/t compared to last year's fob price of \$78.50/t, while Australian thermal coal prices jumped to an 18-month high of around \$108/t. Prices in South Africa (\$98/t) and Europe (\$88/t) have also been moving upwards. Reports of possible strike action at Richards Bay in South Africa, key supplier to Europe and India, came just as Asian utilities are boosting coal purchases ahead of the summer period. Buyers in India, expected to boost thermal coal imports by 75% to 35 Mt in 2010, have already stepped up orders from Indonesia as most South African suppliers have sold stocks for the year ahead. But the biggest impetus still comes from China, due to be a net importer of coal again this year, where buyers are actively seeking imports and have inked in large volume purchases with Indonesian and African producers for deliveries in 2H 2010. A shortfall in Asian markets will put further pressure on prices.

Coal price, Nymex, 1st position, \$/short ton

Source: PMJ, VM Group

CO₂ prices, EEX, €/tonne

Source: Nymex, VM Group

CO₂ prices, €/tonne, Year 2 and Year 3

Source: API, VM Group

Analysis**Colombian coal finds new markets**

As demand for coal starts to pick up in Asia, Colombia appears to be emerging as an increasingly important, alternative source of supplies. Historically, the country has been largely reliant upon European and North American buyers, with the bulk of its 64 Mt in annual export sales heading for Europe. Freight rates to Asia for its high-grade, low-sulphur coal have made them largely inaccessible but a new \$150m coal exporting terminal being built by Brazilian mining company MPX near the town of Dibulla has the potential to export 20 Mt of coal annually and sales will be directed towards Asian buyers.

Colombian traders have this year already been able to sell some spot cargoes into India and China; Adani Enterprises, India's biggest coal importer, recently agreed to buy coal from Colombia for the first time. The source of the coal has not yet been identified but is probably Cerrejon, a Colombian opencast operator owned by BHP Billiton, Anglo American and Xstrata, which will produce up to 32 Mt of coal this year. China, too, is turning to Colombian coal sources, given that imports to coastal utilities can still be cheaper than domestic coal railed or shipped from mines in the north of the country.

India buys coal capacity abroad

India is set to embark on the acquisition of stakes in five overseas coalmines that could enable it to fix long-term supply agreements. State-owned Coal India is seeking access to coal from mines overseas following severe shortages in domestic supplies; almost 90 new mining projects are under consideration within India but environmental approval is still pending and in the meantime the country has to continue to depend on imports for around 10% of its coal requirements. India's thermal coal imports last year hit 60 Mt, up from 30 Mt in 2008, and they could reach 81 Mt by 2012. The five mines, which could together cost Coal India almost \$2bn, are in Australia, Indonesia and the US and are capable of providing around half the total imports needed by India. The company plans to mine around 460 Mt of Indian coal this year, compared to 431 Mt in 2009.

South Africa's World Bank power boost

A tricky decision for World Bank members was deciding whether or not to grant a \$3.75bn loan to South African electrical power utility Eskom for the construction of a coal-fired power station that will provide reliable electricity for millions of people – while at the same time dumping 25 Mt of CO₂ into the atmosphere every year. In the event, a series of abstentions paved the way for the loan to go ahead, drawing an inevitable outcry from environmental groups that said South Africa should instead invest in renewable energy sources, rather than opt for coal. South Africa retorted by attacking green groups for trying to impose their own priorities on a country lacking the secure electricity supplies taken for granted in the developed world. But, even with the go-ahead for the 4,800 MW coal-fired Medupi plant, the country still faces a power supply crunch in 2011 and 2018-24, Eskom warned. In those two time periods, it said, there are no plans for additional generating capacity to come on line, raising the prospects of another power supply crisis. Eskom has been under pressure to add more capacity after the national grid collapsed in early 2008, a task made even more challenging with the planned decommissioning of many ageing power plants. It has ambitious plans to double capacity to 80,000 MW by 2025. Government calls for energy consumption levels to be brought down to avoid the shortages look unrealistic.

Saudi Arabia goes nuclear

Even the biggest oil producing nations realise that they cannot go on relying so heavily on crude oil to supply their energy needs – and that includes Saudi Arabia, which in April took the first step towards going nuclear. It has

announced that it is creating a new city within Riyadh charged with researching and developing plans for providing the country with civilian nuclear power. Saudi may be oil rich, but a booming population and developing economy are putting growing constraints on generating capacity and on its oil reserves. In 2008, the country consumed around 2.4m bpd of crude, up 50% from the start of the decade and, with electricity generation accounting for around 75% of oil consumed, the need for another energy source is becoming acute. With a \$400bn programme underway to build an economic infrastructure capable of diversifying away from hydrocarbons, oil export revenues will be even more essential. If Saudi Arabia maintains its growth projections it will need an additional 5m bpd within the next 20 years, wiping out half its export revenues. That would leave state-owned Aramco having to boost its current daily capacity of 12.5m bpd, itself requiring another \$700bn of development costs. The United Arab Emirates already has a nuclear power programme underway.

UK power shortages still threatened

The political row over claims of looming power shortages in the UK continued in April with a warning from the country's main employers' organisation that many British power stations could be forced to close early because of changes to EU emissions laws going through the European parliament. The Confederation of British Industry (CBI) claimed that as many as 14 power plants, representing around 25% of the country's generating capacity, may need to install new equipment to curb emissions by 2016 or face closure. The CBI says that, given that the plants are old they should be allowed to run their course during a smooth transition to new, low-carbon energy sources. Leaving them open until 2021 would allow that to happen, the organisation claimed. The UK government recently acknowledged that the country faces widespread power cuts by 2017. Industry experts say the planned decommissioning of power stations will knock out 37% of UK generating capacity by 2017 but the government has consistently claimed that the change to low carbon energy sources will help bridge the gap. Prompt and very substantial new investment in power generating capacity, in whatever form, is undeniably urgent – but how likely is that, given the prevailing economic climate and the degree of political paralysis that has resulted from the recent general election? There may, at least, be a temporary reprieve in sight, with a European parliament committee recommending at the start of May that the power stations in question should be allowed to remain operative for another four years. A final decision will be taken in July.

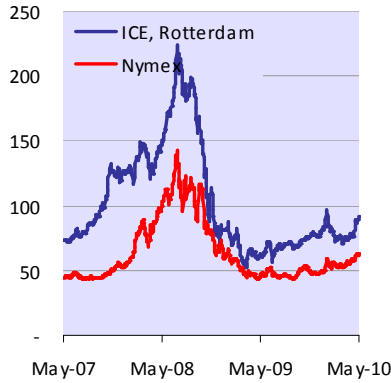
Power data

Uranium price, Nymex, \$/pound



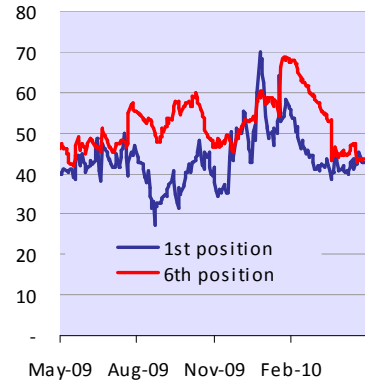
Source: VM Group, Nymex

Coal prices, \$/tonne (ICE, Rotterdam) and \$/ton (Nymex)



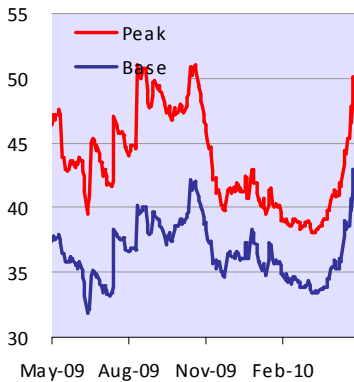
Source: VM Group, Nymex, ICE Futures

US electricity prices, PJM Interconnection, peak, 1st and 6th position, \$/MWh



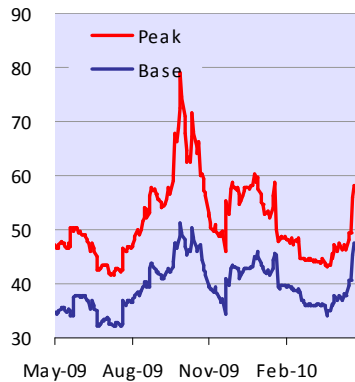
Source: Department of Transport, VM Group

UK electricity prices, peak and baseload, 1m ahead, £/MWh



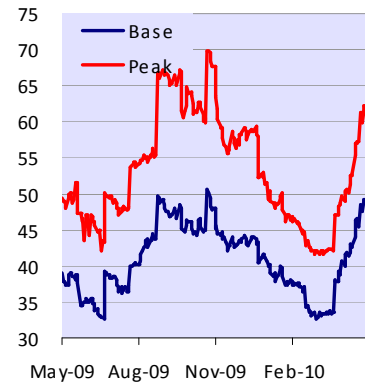
Source: VM Group

German electricity prices, peak and baseload, 1m ahead, €/MWh



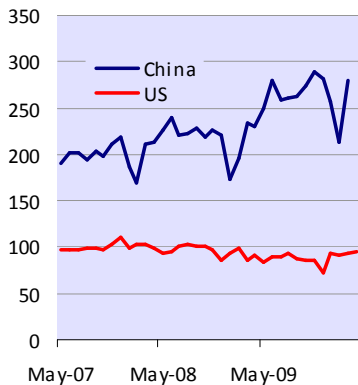
Source: VM Group

Netherlands' electricity prices, peak and baseload, 1m ahead, €/MWh



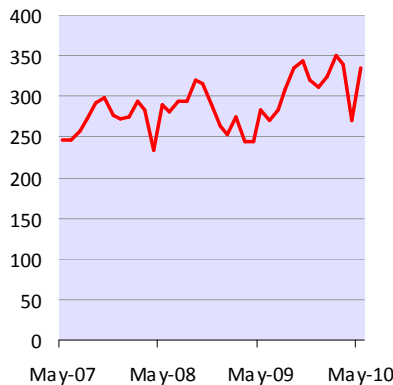
Source: VM Group

Coal production, US & China, Mt/month



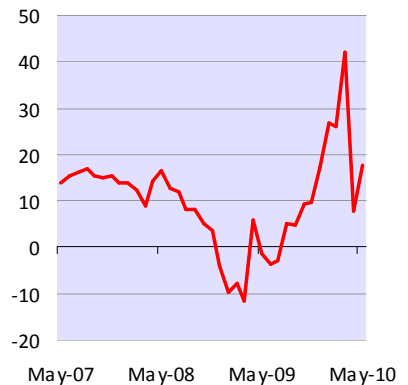
Source: US Department of Energy, China Statistics Office, VM Group

China, electricity production, monthly, tWh



Source: China Statistics Office, VM Group

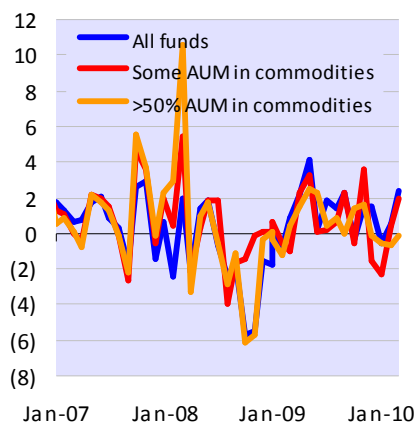
China, electricity production, monthly, y-on-y % change



Source: China Statistics Office, VM Group

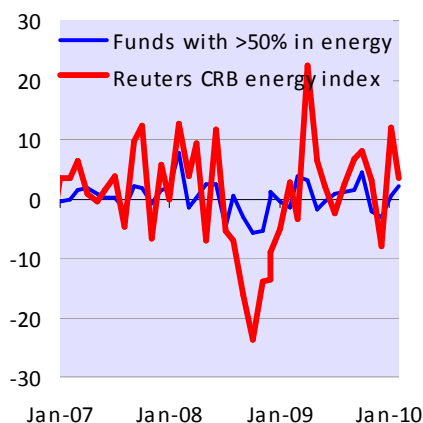
Fund activity

Hedge fund returns by commodity weighting



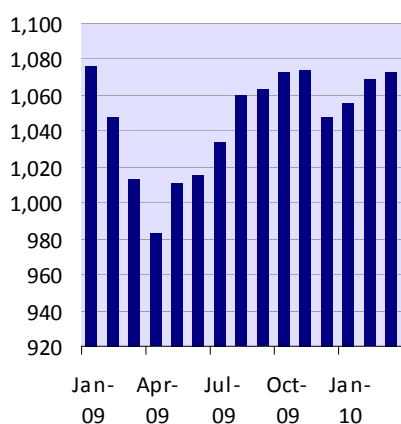
Source: VM Group, BarclayHedge

Hedge fund returns in energy % monthly



Source: VM Group, BarclayHedge

Hedge funds AUM \$bn



Source: VM Group, BarclayHedge

Key events

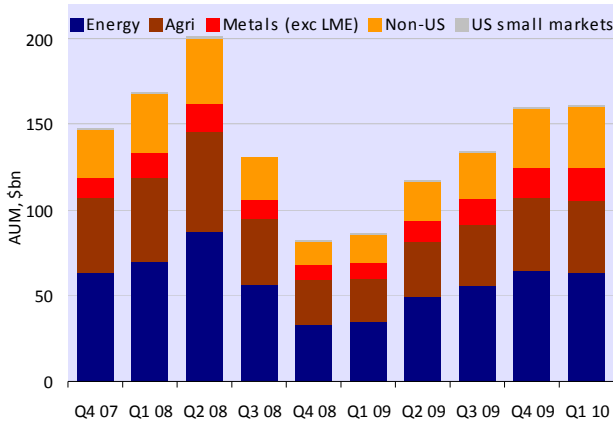
- May 10:** European lawmakers have approved new regulatory measures for hedge funds and private equity funds that are scheduled to become law in 2012. The new regulations will need to be approved by each individual EU country, meaning that continuing disagreement between Britain and France could still hamper their progression.
- May 2:** The Monetary Authority of Singapore published a consultation paper on hedge fund management, with fairly measured proposed changes to what is already widely regarded as a light touch regulatory environment. Funds with less than \$183m in assets and fewer than 30 “financially sophisticated” investors will escape continuous regulation apart from minimum compliance. There will be more stringent rules for larger funds, which will be required to obtain an institutional or retail fund license and be subject to some degree of continuous regulation. Singapore first introduced measures to make itself attractive as a domain for hedge funds in 2002 but the international regulatory climate has since shifted and authorities are wary of appearing overly laissez-faire towards the industry. The review will be concluded in June.
- May 2:** The percentage of hedge funds domiciled in the Cayman Islands has been gradually declining as more funds shift to onshore European locations. The Caymans’ share of the global hedge fund population has fallen from 40% in 2008 to 37%, while the proportion of funds domiciled in Ireland and Luxembourg has seen a 60% increase to 7.3%. The trend could be accelerated by the pending EU Alternative Investment Fund Manager Directive, which will tighten the borders for outside funds. Proposed regulations appear to make a European base more advantageous for compliance purposes.

March: a strong finish to Q1

Funds in our database finished the first quarter with the kind of strength last seen in September 2009. Average returns of 2.33% were seen all round, a robust turnaround from January levels, when average returns were a negative 0.59%. Preliminary data suggests that April will see a continuation of the uptrend amongst our sample as funds head into Q2 with more confidence. Funds with some commodity exposure were slightly behind the trend, with returns of 1.92%, but still showed a significant improvement from a lacklustre start to 2010, when returns were negative by 2.30%. Funds with particular exposure to the energy complex rebounded strongly, to return 2.23% after starting the year in the red by over 3%. Metals’ funds did particularly well in March, returning 2.54%, while softs funds followed closely with returns of 2.49%. Commodity-weighted strategies were clearly strong performers in March, even as movements in underlying prices were decidedly mixed. Asset levels continue to improve and at \$1.073 trillion are just short of January 2009 levels of \$1.076 trillion, a steady gain after dropping to \$983bn in April 2009. After a chequered 2009, Q2 2010 is expected to see a robust performance for funds.

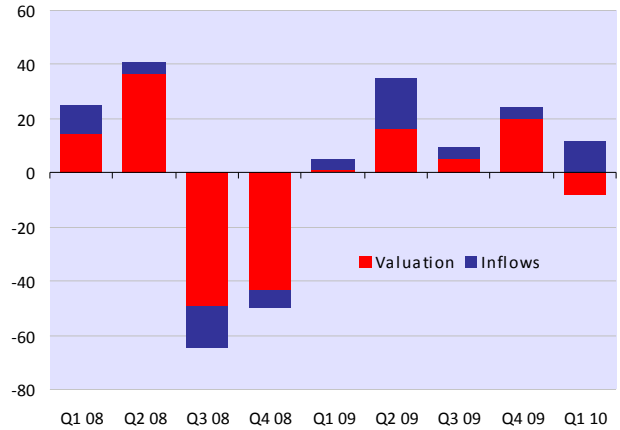
Index fund investment data

Net index fund positions by type of commodity, \$bn



Source: CFTC, VM Group

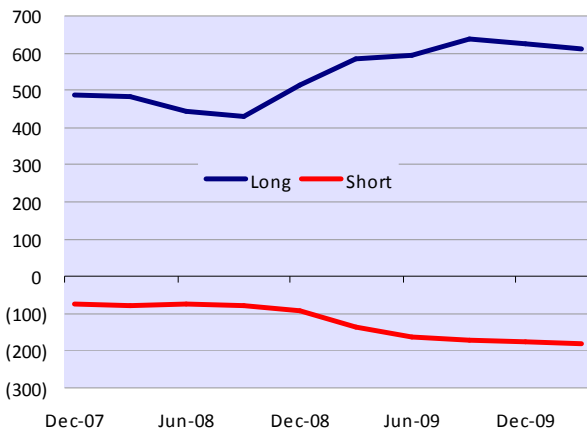
Net quarterly change, \$bn (long-contracts and US markets only)



Source: VM Group calculations from CFTC data

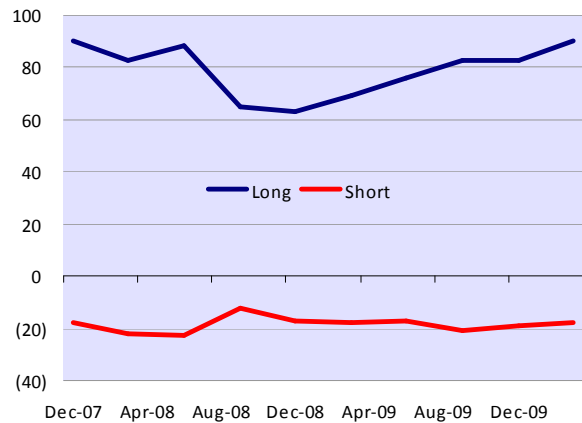
Note: The split between valuation and inflows is approximate.

Nymex WTI crude oil index positions, long & short, 000 lots



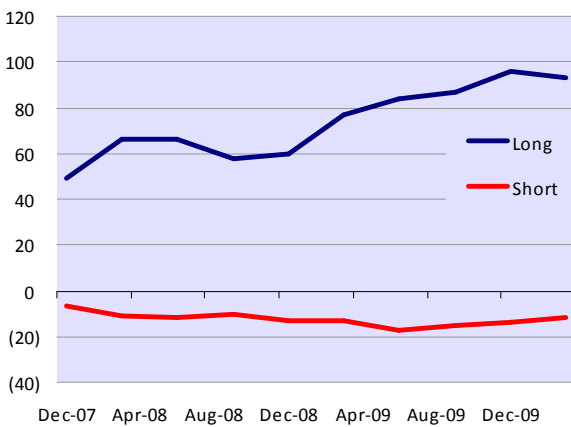
Source: ICE, VM Group

ICE heating oil index positions, long & short, 000 lots



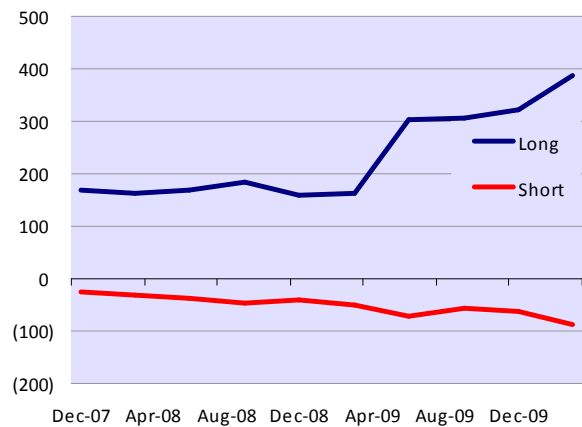
Source: VM Group calculations from CFTC data

Nymex RBOB gasoline index positions, long & short, 000 lots



Source: VM Group calculations from CFTC data

Nymex natural gas index positions, long & short, 000 lots



Source: VM Group calculations from CFTC data

The Index Fund investment data is adapted from the CFTC's Quarterly Index Investment Data release. The next release will be in early August 2010.

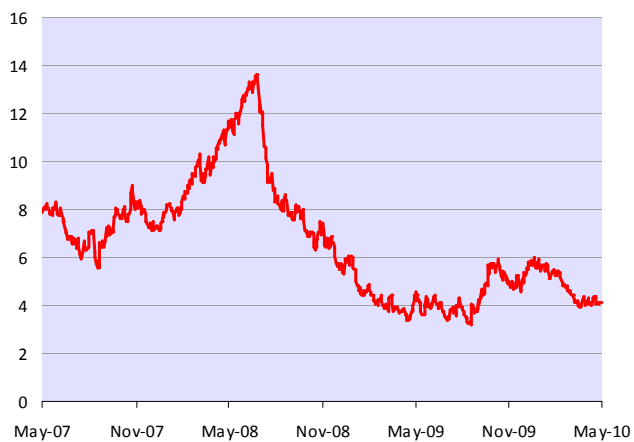
Prices over last three years

Crude oil, Nymex, \$/b



Source: Nymex, VM Group

Natural gas (Henry Hub), Nymex, \$/MMbtu



Source: Nymex, VM Group

Natural gas, ICE Futures, pence/therm



Source: ICE Futures, VM Group

RBOB gasoline, Nymex, \$/gallon



Source: Nymex, VM Group

Heating oil, Nymex, \$/gallon



Source: Nymex, VM Group

Kerosene, Singapore, \$/barrel



Source: Reuters, VM Group

Diesel, US locations, cents/gallon



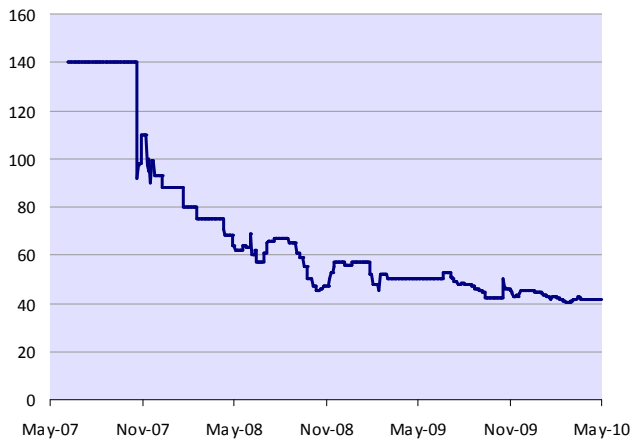
Source: Reuter, VM Group

Low-sulphur diesel, Europe, \$/tonne



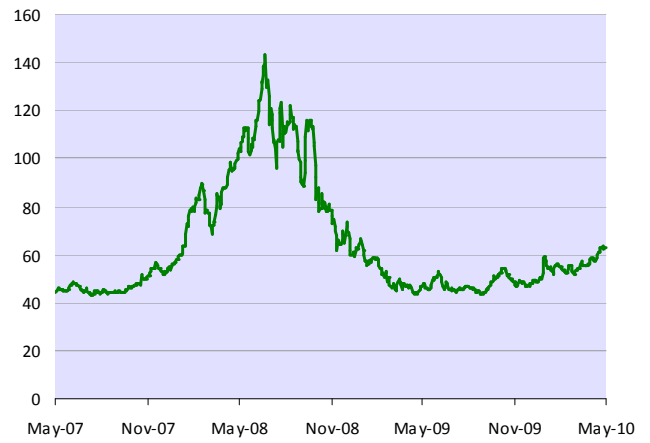
Source: Reuter, VM Group

Uranium, Nymex, \$/pound



Source: Nymex, VM Group

Coal, Nymex, \$/ton



Source: Nymex, VM Group

Oil Supply and Demand

World oil supply and demand, million barrels per day: estimates and current forecasts (2010)

	Q1 08	Q2 08	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10	Q4 10
Demand												
OPEC	86.61	85.17	84.91	84.99	84.04	83.17	84.52	85.49	84.71	83.97	85.51	86.61
EIA	86.82	86.30	85.26	84.64	83.40	83.62	84.22	84.89	85.44	84.98	85.43	86.14
IEA	87.36	86.25	85.88	85.37	84.42	84.08	85.30	85.91	86.27	85.97	87.00	87.15
Supply												
OPEC	85.16	85.43	84.76	84.71	83.81	83.75	84.45	85.14	86.02	n/a	n/a	n/a
EIA	85.76	85.62	85.26	84.88	83.44	83.46	84.40	85.30	85.73	85.80	85.42	85.70
IEA	86.97	86.61	86.09	85.80	84.48	84.07	84.86	85.86	86.53	86.46	86.03	86.73
Net (deficit) surplus												
OPEC	(1.45)	0.26	(0.15)	(0.28)	(0.23)	0.58	(0.07)	(0.35)	1.31	n/a	n/a	n/a
EIA	(1.06)	(0.68)	0.00	0.24	0.04	(0.16)	0.18	0.41	0.29	0.82	(0.01)	(0.44)
IEA	(0.38)	0.36	0.21	0.43	0.06	(0.01)	(0.43)	(0.05)	0.25	0.49	(0.98)	(0.42)

Source: Energy Information Administration, International Energy Agency and OPEC

IEA

World oil supply and demand, million barrels per day

	Q1 08	Q2 08	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10	Q4 10
Demand												
OECD DEMAND												
North America	24.8	24.4	23.6	23.9	23.5	22.9	23.2	23.5	23.5	23.1	23.6	23.4
Europe	15.3	15.1	15.5	15.4	14.9	14.2	14.5	14.4	14.1	14.3	14.6	14.6
Pacific	8.9	7.9	7.5	8.0	8.1	7.3	7.3	8.0	8.2	7.2	7.1	7.8
Total OECD	49.0	47.4	46.6	47.3	46.6	44.4	45.0	45.9	45.8	44.5	45.3	45.8
NON-OECD DEMAND												
FSU	4.2	4.1	4.3	4.1	3.9	3.8	4.0	3.9	4.2	4.0	4.2	4.1
Europe	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
China	7.9	8.0	8.1	7.6	7.7	8.6	8.8	8.9	9.1	9.3	9.1	9.0
Other Asia	9.9	9.8	9.4	9.5	9.9	10.1	9.8	10.1	10.1	10.3	10.1	10.4
Latin America	5.7	6.0	6.0	5.9	5.7	5.9	6.1	6.1	6.0	6.2	6.3	6.3
Middle East	6.7	7.1	7.6	6.9	6.7	7.3	7.8	7.1	7.2	7.6	8.1	7.4
Africa	3.2	3.2	3.1	3.2	3.2	3.2	3.2	3.1	3.2	3.3	3.3	3.3
Total Non-OECD	38.4	38.9	39.3	38.0	37.9	39.6	40.3	40.0	40.5	41.4	41.7	41.3
Total Demand	87.4	86.2	85.9	85.4	84.4	84.1	85.3	85.9	86.3	86.0	87.0	87.2
Supply												
OECD SUPPLY												
North America	14.3	14.0	13.6	13.8	14.2	14.1	14.3	14.5	14.5	14.3	13.9	14.2
Europe	4.9	4.8	4.5	4.8	4.9	4.5	4.2	4.5	4.5	4.2	4.1	4.2
Pacific	0.6	0.7	0.7	0.7	0.7	0.6	0.7	0.6	0.7	0.7	0.7	0.7
Total OECD	19.7	19.5	18.8	19.3	19.7	19.1	19.2	19.7	19.7	19.2	18.7	19.1
NON-OECD SUPPLY												
FSU	12.9	12.9	12.7	12.7	13.0	13.2	13.4	13.5	13.5	13.6	13.5	13.7
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	3.8	3.8	3.8	3.8	3.7	3.8	3.8	3.8	3.9	3.9	3.9	3.9
Other Asia	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.7	3.7	3.7
Latin America	4.1	4.1	4.2	4.2	4.3	4.3	4.3	4.4	4.5	4.6	4.7	4.7
Middle East	1.7	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Africa	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.6	2.6	2.5	2.6
Total Non-OECD	28.8	28.8	28.7	28.8	29.0	29.3	29.5	29.7	30.0	30.2	30.2	30.4
Processing gains	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2
Other biofuels	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5
Total Non-OPEC	51.1	50.9	50.2	50.8	51.3	51.1	51.4	52.1	52.3	52.0	51.6	52.3
Non-OPEC Historical												
Composition	50.1	49.9	49.2	49.8	51.3	51.1	51.4	52.1	52.3	52.0	51.6	52.3
OPEC												
Crude	31.5	31.4	31.5	30.5	28.6	28.5	28.8	29.0	29.1			
NGLs	4.3	4.4	4.4	4.5	4.6	4.5	4.7	4.8	5.1	5.2	5.6	5.8
Total OPEC	35.9	35.7	35.9	35.0	33.1	33.0	33.5	33.8	n/a	n/a	n/a	n/a
Total Supply	87.0	86.6	86.1	85.8	84.5	84.1	84.9	85.9	n/a	n/a	n/a	n/a
Balance	0.4	(0.4)	(0.2)	(0.4)	(0.1)	0.0	0.4	0.0	n/a	n/a	n/a	n/a

Source: International Energy Agency; data after Q4 2009 = forecasts

EIA

World oil supply and demand, million barrels per day

	Q1 08	Q2 08	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10	Q4 10
Demand												
OECD	48.93	47.36	46.62	47.31	46.4	44.36	44.89	45.89	46.31	44.47	44.93	45.93
US (50 States)	20.04	19.76	18.9	19.3	18.84	18.47	18.62	18.82	18.97	18.77	18.75	18.89
US Territories	0.27	0.27	0.27	0.27	0.26	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Canada	2.31	2.19	2.25	2.26	2.2	2.08	2.16	2.25	2.26	2.11	2.22	2.26
Europe	15.29	15.07	15.53	15.43	14.9	14.24	14.46	14.39	14.51	14.08	14.51	14.67
Japan	5.45	4.63	4.34	4.71	4.72	4.03	4.1	4.59	4.71	3.89	3.92	4.29
Other OECD	5.57	5.42	5.33	5.33	5.47	5.28	5.27	5.57	5.6	5.36	5.27	5.55
Non-OECD	37.89	38.95	38.64	37.33	37	39.26	39.33	39	39.13	40.52	40.5	40.21
Former Soviet Union	4.23	4.22	4.47	4.48	4.09	4.19	4.23	4.32	4.16	4.18	4.33	4.29
Europe	0.79	0.8	0.8	0.8	0.77	0.77	0.82	0.82	0.79	0.77	0.83	0.83
China	7.94	8.07	7.78	7.54	7.62	8.44	8.33	8.48	8.51	8.87	8.75	8.86
Other Asia	9.64	9.74	9.06	8.83	9.32	9.54	9.18	9.34	9.67	9.78	9.33	9.55
Other Non-OECD	15.29	16.12	16.53	15.69	15.21	16.33	16.77	16.04	15.99	16.91	17.26	16.69
Total World Consumption	86.82	86.3	85.26	84.64	83.4	83.62	84.22	84.89	85.44	84.98	85.43	86.14
Supply												
OECD	21.29	21.05	20.37	20.93	21.16	20.61	20.71	21.32	21.05	20.76	20.46	20.72
US (50 States)	8.67	8.75	8.18	8.46	8.76	8.99	9.11	9.33	9.21	9.35	9.38	9.5
Canada	3.37	3.21	3.39	3.39	3.38	3.08	3.26	3.38	3.39	3.3	3.32	3.4
Mexico	3.29	3.19	3.15	3.12	3.06	2.99	2.96	2.98	2.94	2.8	2.69	2.64
North Sea	4.44	4.32	4.06	4.38	4.4	4.02	3.81	4.07	3.95	3.76	3.51	3.67
Other OECD	1.52	1.58	1.59	1.59	1.54	1.53	1.56	1.56	1.56	1.55	1.55	1.52
Non-OECD	64.46	64.57	64.89	63.95	62.28	62.85	63.7	63.99	64.68	65.04	64.96	64.98
OPEC	35.7	35.82	36.16	35.14	33.36	33.59	34.26	34.3	34.57	34.74	34.97	34.86
Crude Oil Portion	31.31	31.42	31.68	30.67	28.88	28.86	29.34	29.34	29.45	29.44	29.52	29.21
Other Liquids	4.39	4.4	4.48	4.47	4.49	4.74	4.92	4.96	5.12	5.3	5.45	5.65
Former Soviet Union	12.6	12.61	12.43	12.47	12.6	12.88	12.99	13.12	13.16	13.25	13.1	13.1
China	3.95	4.01	3.98	3.99	3.93	3.99	4.02	4.03	4.08	4.08	4.06	4.08
Other Non-OECD	12.22	12.14	12.31	12.34	12.38	12.39	12.43	12.55	12.87	12.98	12.83	12.94
Total World Production	85.76	85.62	85.26	84.88	83.44	83.46	84.4	85.3	85.73	85.8	85.42	85.7
Non-OPEC Production	50.06	49.8	49.1	49.74	50.08	49.87	50.15	51.01	51.16	51.07	50.45	50.84
Inventory Net Withdrawals												
US (50 States)	0.1	(0.3)	(0.2)	(0.4)	(0.7)	(0.5)	(0.1)	0.7	0.1	(0.4)	(0.0)	0.4
Other OECD	(0.2)	0.0	(0.4)	(0.1)	(0.0)	0.2	(0.2)	0.4	(0.2)	(0.2)	0.0	0.0
Other Stock Draws and Balance	1.2	1.0	0.6	0.2	0.6	0.4	0.1	(1.6)	(0.2)	(0.2)	0.0	0.0
Total Stock Draw	1.1	0.7	0.0	(0.2)	(0.1)	0.2	(0.2)	(0.4)	(0.3)	(0.8)	0.0	0.5
End-of-period Inventories												
US Commercial Inventory	954	980	1002	1035	1082	1115	1119	1050	1043	1082	1087	1052
OECD Commercial Inventory	2568	2598	2654	2689	2733	2743	2766	2658	2671	2724	2726	2689

Source: Energy Information Administration; data after Q4 2009 = forecasts

OPEC

World oil supply and demand, million barrels per day

	Q1 08	Q2 08	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10	Q4 10
Demand												
North America	24.77	24.42	23.58	23.93	23.52	22.91	23.25	23.57	23.69	23.27	23.52	23.87
Western Europe	15.34	15.07	15.55	15.44	14.90	14.24	14.46	14.59	14.22	13.79	14.3	14.47
Pacific	8.91	7.86	7.54	7.97	8.14	7.3	7.27	8.02	8.18	7.2	7.1	7.9
OECD	49.02	47.35	46.67	47.34	46.56	44.45	44.98	46.18	46.09	44.26	44.92	46.24
Other Asia	9.49	9.55	9.18	9.23	9.45	9.77	9.59	9.81	9.67	9.99	9.81	10.03
Latin America	5.60	5.84	5.97	5.80	5.61	5.82	6.02	5.98	5.72	5.94	6.15	6.11
Middle East	6.77	6.87	7.09	6.86	6.96	7.08	7.27	7.04	7.19	7.31	7.53	7.27
Africa	3.22	3.18	3.11	3.21	3.26	3.23	3.16	3.28	3.31	3.29	3.22	3.32
Dev. countries	25.08	25.44	25.35	25.10	25.28	25.90	26.08	26.10	25.28	26.53	26.71	26.73
FSU	4.17	3.79	4.22	4.24	3.82	3.7	4.14	4.18	3.85	3.7	4.17	4.22
Other Europe	0.83	0.76	0.79	0.78	0.77	0.73	0.77	0.76	0.75	0.73	0.77	0.78
China	7.97	8.17	8.10	7.65	7.61	8.38	8.56	8.26	8.13	8.72	8.94	8.64
Other Regions	12.97	12.72	13.11	12.67	12.20	12.82	13.46	13.20	12.74	13.18	13.88	13.64
World Demand	87.07	85.51	85.13	85.11	84.04	83.17	84.52	85.49	84.71	83.97	85.51	86.61
Supply												
North America	14.25	14.38	13.75	14.08	14.19	14.01	14.19	14.31	14.32	12.32	14.19	14.28
Western Europe	5.21	5.04	4.77	4.97	5.06	4.66	4.45	4.73	4.66	4.43	4.28	4.46
OECD Pacific	0.58	0.63	0.64	0.71	0.64	0.61	0.65	0.64	0.63	0.64	0.67	0.68
Total OECD	20.04	20.05	19.16	19.76	19.89	19.28	19.29	19.68	19.61	17.39	19.14	19.42
Other Asia	2.76	2.67	2.70	2.84	3.71	3.69	3.70	3.76	3.79	3.74	3.74	3.72
Latin America	4.00	4.06	4.12	4.17	4.36	4.38	4.39	4.50	4.57	4.6	4.67	4.78
Middle East	1.64	1.65	1.64	1.63	1.70	1.72	1.75	1.74	1.75	1.74	1.73	1.72
Africa	2.77	2.78	2.81	2.81	2.73	2.73	2.72	2.67	2.68	2.68	2.7	2.7
Dev. countries	11.17	11.16	11.27	11.45	12.50	12.52	12.56	12.67	12.79	12.75	12.84	12.92
FSU	12.62	12.68	12.42	12.70	12.64	12.9	13.00	13.13	13.14	13.14	13.13	13.17
Other Europe	0.14	0.14	0.14	0.14	0.14	0.13	0.14	0.14	0.12	0.12	0.12	0.12
China	3.81	3.88	3.85	3.91	3.80	3.86	3.88	3.87	3.99	3.93	3.92	3.93
Other Regions	16.57	16.70	16.41	16.75	16.58	16.89	17.02	17.14	17.25	17.19	17.17	17.22
Non-OPEC Supply	47.78	47.91	46.84	47.96	48.97	48.69	48.87	49.49	49.65	49.33	49.15	49.56
Processing gains	1.95	1.95	1.95	1.95	2.01	2.01	2.01	2.01	2.09	2.09	2.09	2.09
OPEC NGLs + Non-conventional oils	4.22	4.33	4.35	4.35	4.37	4.55	4.72	4.70	5.04	5.2	5.32	5.26
Non-OPEC & OPEC NGLs Supply	53.95	54.19	53.14	54.26	55.35	55.25	55.60	56.20	56.78	56.62	56.56	56.91
OPEC Production												
Total OPEC	31.21	31.24	31.62	30.45	28.46	28.50	28.85	28.94	n/a	n/a	n/a	n/a
OPEC excl. Iraq	28.73	28.849	29.30	28.12	26.13	26.09	26.36	26.48	n/a	n/a	n/a	n/a
World Oil Demand	86.61	85.17	84.91	84.99	84.04	83.17	84.52	85.49	84.71	83.97	85.51	86.61
Supply excluding												
OPEC Crude	53.95	54.19	53.14	54.26	55.35	55.25	55.60	56.20	56.78	56.62	56.56	56.91
Difference	32.66	30.98	31.77	30.73	28.69	27.92	28.92	29.29	27.93	27.35	28.95	29.70
OPEC production	31.21	31.24	31.62	30.45	28.46	28.50	28.85	28.94	n/a	n/a	n/a	n/a
Balance	(1.45)	0.26	(0.15)	(0.28)	(0.23)	0.57	(0.07)	(0.35)	n/a	n/a	n/a	n/a

Source: OPEC Monthly Oil Market Report; data after Q4 2009 = forecasts

About VM Group

VM Group is a commodities research consultancy that covers not just conventional energy, but also renewable energy, carbon, base and precious metals, and agricommodities. The VM Group comprises a uniquely skilled team that is highly experienced in the analysis of the fundamentals of commodities and their geopolitical impact and contexts.

VM Group work excels in macro-economic analysis, the generation of supply and demand scenarios, costs analysis, derivative research and price forecasting. Confidentiality, experience and independence are key elements in this advisory capacity. We deliver excellence to those in need of external expertise, as well as those who wish to supplement their own in-house resources. Our extensive international contacts mean we are able to span the globe.

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