

Supply fears exaggerated

Benchmark light crude prices excluding WTI have trended higher of late driven by the revolutionary atmosphere in North Africa and the Middle East. While the risk of a major supply interruption has clearly increased in recent weeks, we believe such an event would be short-lived. Near-term, Brent could easily exceed \$120/barrel but a softening trend or even a 'death spiral' is looking increasingly likely once the revolutionary fervour in the Middle East is satiated.

Oil supply/demand balance: OPEC to fill the void

Abstracting from a calamitous interruption to OPEC supply we believe that the market for crude oil and other liquid fuels might not be too far away from underlying balance in 2011. Consensus demand forecasts reflect an increase of about 1.5mmb/d but this should largely be made good by a gain in non-OPEC supply of perhaps 1mb/d, and an increase in Iraqi output of perhaps 0.3mmb/d. OPEC is capable of filling the void and offsetting a temporary cessation of Libyan production. Note that inventories also remain at historically high levels, particularly in the US, and that sustained high oil prices are likely to constrain economic growth and therefore demand.

Crude oil prices: WTI-Brent discount

A key development in oil markets during early 2011 has been the divergence in the price of WTI and Brent. The result was an unprecedentedly wide WTI-Brent discount of \$17/barrel. The discount reflected a combination of the greater sensitivity of Brent to bullish international developments and a heavy build-up of inventory at the Cushing Oklahoma WTI basing point. The latter has reflected a number of oilfield and infrastructural projects in Canada and the US in recent years that have boosted supply in the Mid-Continent. We suspect that for the foreseeable future WTI will trade at a discount to Brent, although probably not as wide as has recently been the case.

US natural gas prices: Failing to gain traction

US natural gas prices have failed to gain traction over the past two months despite extreme weather conditions, facility outages and a significant draw on inventories. The declining rig count, however, is possibly pointing to a tighter market place down the trail.

Investment performance: US indices outperform

The FTSE 350 Oil & Gas Index has made a solid start to 2011 with a gain of 4.5% since end 2010. This, however, constitutes an under performance compared with the gains in the S&P 500 and 400 Oil & Gas Indices of 12% and 15% respectively. The AIM Oil & Gas Index hit a 30-month high in early February but has subsequently slipped 8%.

25 February 2011

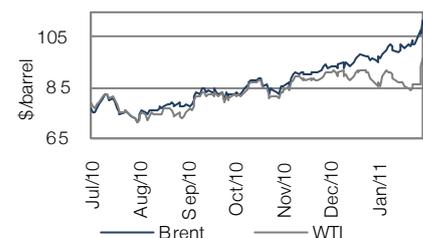
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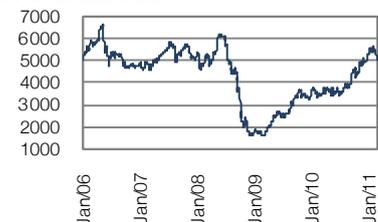
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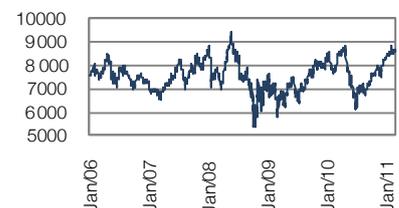
WTI vs Brent



AIM Oil & Gas Index



FTSE 350 Oil & Gas Index



Price trends

	WTI \$/barrel	Brent \$/barrel	Henry Hub \$/mmbtu
2007	72.2	72.7	6.96
2008	99.8	97.7	8.89
2009	62.0	62.0	3.94
2010	79.5	79.7	4.37
2011e	89.0	98.5	4.40
2012e	85.0	90.0	4.90

Note: Prices are yearly averages

Crude oil market dynamics

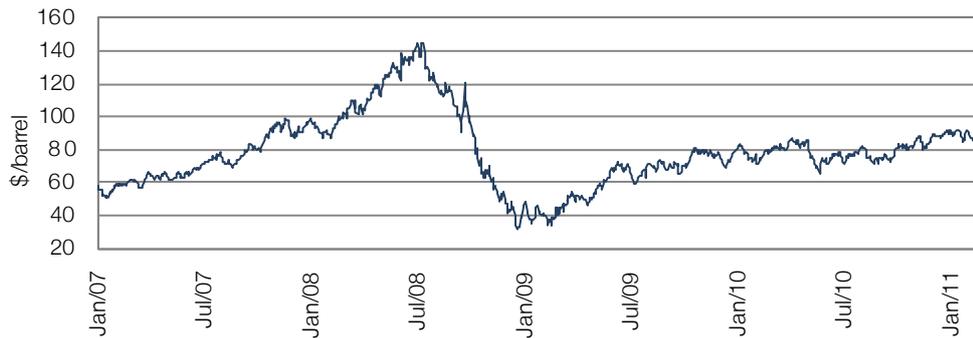
Price overview: WTI and Brent divergence, Middle East related spike

The key developments in oil markets over the past month or so have been the divergence in the price of WTI and Brent and the recent spike in the latter due to the revolutionary fervour in North Africa and the Middle East. Between the end of 2010 and 14 February 2011 the former fell by 6.4% to \$85.5/barrel, while the latter was up 8.3% to \$102.2/barrel. The extreme divergence in performance between the two grades over such a sustained period was the most pronounced on record as indeed has been the recent Brent premium of approaching \$17/barrel. The backdrop surrounding oil market supply-demand fundamentals remained relatively stable in the early weeks of 2011 until the production cutbacks in Libya in the week beginning 21 February. As is usually the case there have been a number of minor outages due to technical mishaps with the most significant being a leak in the Trans-Alaska pipeline and a fire at Canadian Natural Resources Horizon facility in the Athabasca tar sands and various incidents in the North Sea. In the first half of February the Brent price was buoyed by civil unrest in Egypt and more recently by revolutionary fervour in Libya, the ninth largest OPEC producer.

The US light crude benchmark WTI ended December 2010 at \$91.4/barrel, around a 27 month high. For the year as a whole WTI averaged \$79.6/barrel the second highest yearly average in nominal terms on record after 2008 and up 28% on a year previously. The trend remained firm through the first three weeks of January 2011 supported by the Trans Alaska pipeline and Horizon outages and generally bullish oil market sentiment. During the fourth week however WTI softened noticeably hitting an eight-week low on 23 January of \$85.1/barrel. After spiking to \$92.2/barrel on 31 January WTI resumed a softening trend through the first half of February with the price trading close to a 10-week low of \$84.8/barrel on 14 February. The recent period of weakness left the trend in WTI broadly flat since the end of the third quarter of 2009. However, early in the fourth week of February WTI firmed to about \$93/barrel due to the escalating crisis in Libya. This left WTI up 16% from a year earlier.

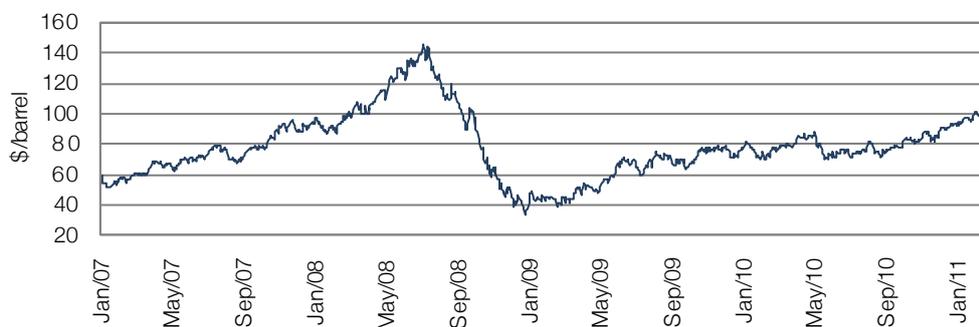
Brent ended 2010 at \$99.8/barrel and for the year averaged \$80.3/barrel which was very close to the yearly average for WTI. The average performance in 2010 however masks the clear divergence in the strength of Brent *vis-a-vis* WTI since the third quarter of 2010. So far in 2011 the trend in Brent has been solidly upward with no major inter-day fluctuations. The Brent closing price on 23 February of \$111 was 46% above a year earlier and around a 30 month high. Unlike WTI, the Brent trend since the end of the third quarter of 2009 has clearly been upward.

Exhibit 1: WTI crude oil price trend



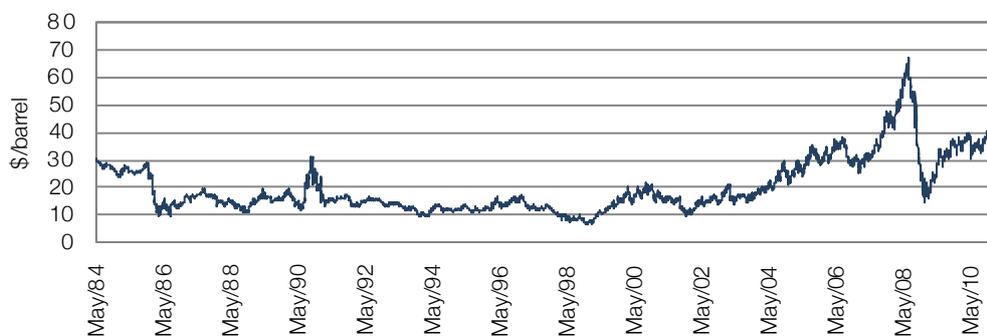
Source: Bloomberg

Exhibit 2: Brent crude oil price trend



Source: Bloomberg

Exhibit 3: WTI inflation adjusted



Source: Bloomberg

Light crude spreads: Record WTI-Brent discount

The Brent-WTI backdrop: Arguably in all the excitement of late it might be excusable to forget that WTI for many years consistently traded at a premium of a couple of dollars a barrel or so to the North Sea marker crude Brent. This reflected the strength of demand for high-grade refinery feedstock in the US and the cost of transportation to the US from other regions. The relationship began to breakdown in recent years and in 2009 and 2010 WTI and Brent traded at approximate parity on average. Over the last five months of 2010 Brent traded more or less consistently at a premium to WTI. The average Brent-WTI premium over this period was \$2.1/barrel, while for December the average was \$3.1/barrel.

The Brent-WTI premium has widened dramatically in the opening weeks of 2011 and in mid February was running at unprecedented levels. The average premium for January was \$7.8/barrel and on 15 February it hit a record \$17/barrel. Based purely on specification the differential is, of course, completely anomalous given that WTI is a slightly higher grade than Brent in terms of API and sulphur content. Interestingly, the WTI discount to the similarly specified Louisiana Light Sweet (LLS) grade popular among Gulf refiners has been in line with that of Brent. The key questions that arise now revolve around the reasons for the dramatic widening of the Brent premium and the sustainability of such a wide premium for similar light sweet crude grades. Regarding the first point the key drivers appear to have been as follows:

- Most significant has been the build up of inventory to record levels at Cushing, Oklahoma, the world's largest tank farm and the basing point for the NYMEX WTI quote. The build up stems from increasing supplies from the Athabasca tar sands in Alberta Canada and also from the Bakken fields of North Dakota and Montana. Key points to note here are that North Dakota/Montana is now one of the largest oil producing areas of the US with production over 0.3mmb/d and the improvement in logistical connections between Alberta and the Bakken fields in recent years. The latter does not just relate to pipelines but also the rail links from the Bakken fields to Cushing. Since end 2009 EOG Resources, the largest Bakken producer, has sent at least one train per day carrying 60,000 barrels from its terminal at Stanley North Dakota to Stroud Oklahoma, the rail terminal for Cushing. Importantly, phase 2 of TransCanada's Keystone pipeline from Hardisty, Alberta to Cushing was opened on 8 February 2011. This enables oil to be shipped more easily than hitherto from the Athabasca Tar Sands to Cushing.
- The Cushing tank farm, at best only has a tenuous pipeline link to the Gulf Coast and in practice is landlocked from a purely pipeline perspective. To a large extent an influx of supply at Cushing can therefore only be processed at Midwest and Mid-Continent refineries.
- The recent civil strife and convulsions in the Middle East have understandably been considered of far greater potential significance for Europe and the Far East than the US. Reflecting this, Brent as by far the most important international marker crude has inevitably been the more sensitive quote to concerns about non US supplies. During the height of the disturbances in Egypt fears were expressed concerning both the functioning of the Suez Canal and the Sumed Pipeline running from the Gulf of Suez to west of the city of Alexandria. As it happened both arteries functioned normally during the recent disturbances. Brent has also been buoyed by the possibility of a broadening of the turmoil in the Middle East to include major oil exporters. A major interruption to supplies is arguably unlikely but the uncertainty factor in this regard has clearly increased since the end of last year.
- North Sea supplies have recently been depressed by a number of operational problems.

Historically, very high Brent-WTI differentials seem likely to persist in the near term unless the turmoil in the Middle East rapidly unwinds. The underlying issue is that supplies will probably continue to build at Cushing while Brent is buoyed by Middle East concerns and in all likelihood bullish economic trends in China and the Pacific Rim. Capacity is being expanded at Cushing to

cater for the increasing supplies. During the second half of 2011 we believe the market backdrop could turn considerably less positive for Brent on the assumption of a slowdown in the economies of China and elsewhere in Asia and a possible lessening of civil strife and revolutionary activity in the Middle East. The former reflects the implementation or intensification of anti-inflation measures and the latter either weariness among the populations of a prolonged period of civil strife or a rapid fall of the 'dictators' as in Egypt. By the fourth quarter of 2011 it would probably be surprising if there was a Brent premium consistently greater than \$5/barrel. The wild card in the coming months is probably how the revolutionary movement in the Middle East is going to develop.

Railroad and truck shipments: At recent discounts to both Brent and LLS of \$15/barrel or more WTI could theoretically be profitably shipped the 600 miles or so from Cushing to the Gulf Coast refineries of Texas and Louisiana. The cost would be around \$5/barrel by train and probably twice that by truck. If, indeed, double digit WTI discounts persist for many months we would expect to see such shipments take place. However, it is unlikely that they would be sufficiently large to have much impact. A key problem is that it would probably take two days or so to make the trip one way by which time a significant change could have occurred in the spread.

The US Keystone pipeline and other infrastructural developments: The Keystone Pipeline has probably been the most important US petroleum industry infrastructural project of recent years. Effectively it integrates new sources of supply on a continental basis with major markets in the Midwest and potentially Texas. Following the completion of the first and second phases of the pipeline in 2010 and early 2011, the third and fourth stages involving a shorter route from Alberta to Cushing and from Cushing to the refineries of Houston and Port Arthur are at an advanced stage of development pending Congressional approval. It is possible that the remaining links will be completed in 2013. Assuming, as seems likely, that construction takes place the final phase of Keystone will enable continental sources of crude oil to replace seaborne imports from the Middle East and Venezuela.

In addition to Keystone, there are several rail terminals under development in North Dakota and Montana that will enable oil from the Bakken fields to be shipped to Cushing, Chicago and other parts of the Midwest, Louisiana and possibly California. In fact, shipments of Bakken crude have already been made to the rail terminal at St James Louisiana, just north of New Orleans.

When fully complete, Keystone in conjunction with various rail projects should enable WTI, for good or ill, to be more reflective of international price trends given the prospective link between Cushing and the Gulf Coast. We suspect, however, that WTI may well in the future be much more of a US Mid-Continent than an international crude benchmark like Brent. A discount of a few dollars to Brent may become the norm. Much will depend on how quickly the Athabasca tar sands and indeed new shale oil deposits are developed in Texas and the Mid-Continent respectively. Interestingly, EOG is talking of shale oil developments boosting US oil production by 1mmb/d by 2015. There is no doubt in our view that the development of the tar sands and shale oil are of fundamental importance for the US petroleum supply/demand balance. The implications for prices may be analogous in direction, although probably not in magnitude, to those of shale gas development.

Other key international light benchmarks: The other key international light crude benchmark grades have all performed strongly since December 2010. Dubai Fateh, a light but relatively sour reference crude for shipments to the Far East from the Middle East is up around 11% since December to \$99/barrel. As of mid February it was trading at a \$2.2/barrel discount to Brent which is within the normal range. Nigerian sourced Bonny Light, which is prized by refineries in the Atlantic basin and further afield for its low sulphur characteristics, has shown a similar gain to Dubai Fateh and Brent so far in 2011 and as of mid February was trading at \$103.5/barrel. The premium to Brent of \$2.3/barrel was slightly towards the high end of the historical range. Bonny has been buoyed of late by constrained supply reflecting maintenance programmes. Tapis, the ultra high-grade Malaysian benchmark, has performed particularly strongly in 2011 and as of mid February was trading at \$107.5/barrel. The premium to Brent of \$6.3/barrel was relatively high by historical standards.

Exhibit 4: Recent benchmark light crude prices

Note: All prices are period averages other than where indicated.

\$/barrel	2010					2011	
	Aug	Sep	Oct	Nov	Dec	Jan	Feb 15
WTI	76.6	75.3	81.9	84.2	89.2	89.4	84.3
Brent	76.7	77.8	82.9	85.7	91.8	96.3	101.2
Dubai	74.2	75.3	80.3	83.7	89.1	92.4	99.0
Bonny	78.7	79.3	84.5	87.5	93.4	98.5	103.5
Tapis	81.3	82.3	89.9	91.6	95.2	101.2	107.5
Differentials							
WTI-Brent	-0.1	-2.5	-1.0	-1.5	-2.6	-6.9	-16.9
Brent-Dubai	+2.5	+2.5	+2.6	+2.0	+2.7	+3.9	+2.2
Brent-Bonny	-2.0	-1.5	-1.6	-1.8	-1.6	-2.2	-2.3

Source: Bloomberg

Exhibit 5: WTI 2007-11 quarterly price scenario

Note: Quarterly data are averages.

\$/barrel	Q1	Q2	Q3	Q4	Average
2007	58.1	65.0	75.2	90.5	72.2
2008	97.9	123.8	118.2	59.1	99.9
2009	43.2	59.7	68.1	76.0	62.0
2010	78.8	77.9	76.1	85.2	79.5
2011e	88.5	85.5	85.0	85.0	86.0

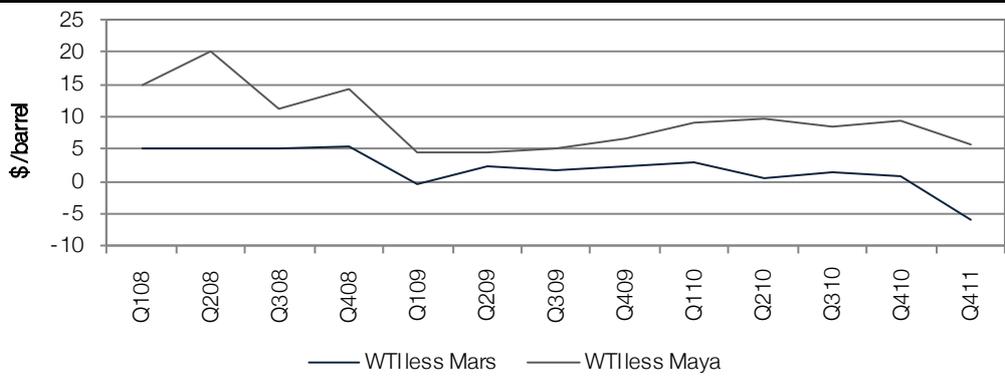
Source: Bloomberg

US heavy crude discounts: Anomalies aplenty

The weakness in WTI in recent weeks has resulted in some extremely anomalous relationships vis-a-vis heavy crude grades sourced for the Gulf of Mexico. Taking Mars, a medium sour grade, the differential against WTI has moved from a discount of \$1.49/barrel as recently as November 2010 to a premium of \$7/barrel in mid February. The Mars premium, of course, makes no sense given that WTI is a high quality crude grade. Historically, Mars has sold at a discount of at least \$2/barrel to WTI and was considerably higher between 2004 and 2008 at \$5.5 to \$7.0/barrel. In the case of Maya, a Mexican sourced heavy sour crude, widely used in Gulf coast refineries the discount to WTI has narrowed sharply in recent months from around \$9/barrel to \$5/barrel. The radical shifts in discounts for heavy crude grades sourced from the Gulf reflect the same factors as for the movements in light crude differentials of late. Effectively, the Gulf crudes, whether heavy or light, are being driven upward by bullish international influences.

Contrasting with the Gulf heavy grades, WTS (West Texas Sour) a medium sour grade similar in specification to Mars with a delivery point of Midland Texas, has fallen sharply in price in recent weeks. After trading at almost \$89/barrel at end December 2010, WTS was down a hefty 12.5% to \$77.6/barrel by mid February. This resulted in the WTS-WTI discount widening from \$2.7/barrel at end December to \$6.7/barrel by 15 February. Over the same time frame the WTS-Mars discount widened from \$3.4/barrel to \$20.4/barrel. Historically, WTS has traded at a discount of about \$3.2/barrel against WTI and at a premium of about \$2/barrel to Mars. Clearly along with the other inland US grades WTS's competitiveness has improved considerably against the Gulf benchmarks in recent weeks. By implication US inland refineries also have a substantial feedstock cost advantage over their Gulf coast counterparts.

Exhibit 6: US medium and heavy sour crude discounts

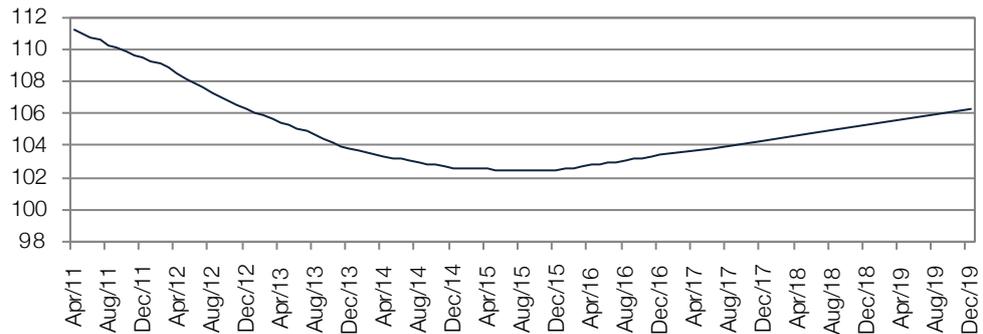


Source: Bloomberg

Forward curves: Brent backwardation

Brent moved into pronounced backwardation in the fourth week of February reflecting the perceived near term tightness of supplies and the news of falling Libyan production and exports. At the time of writing, Brent is trading at \$111/barrel for April deliveries. The curve then trends down to about \$102/barrel over the following three or four years before moving back into contango over the balance of the decade. Brent for delivery in 2019 is shown at \$106/barrel.

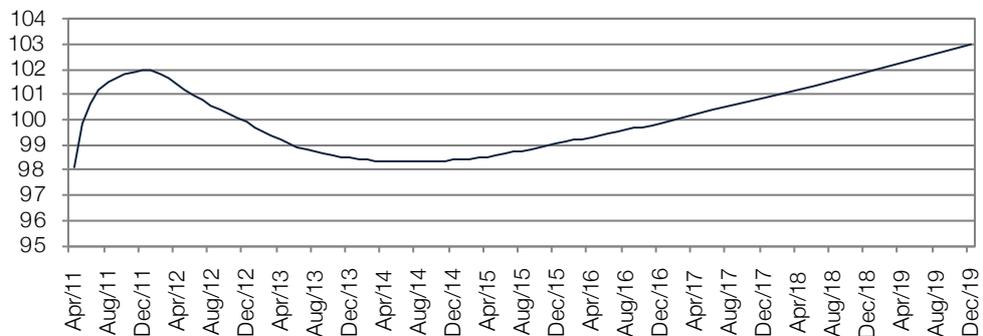
Exhibit 7: Brent forward curve



Source: Bloomberg

WTI remains in contango over the next six months or so with a gain from spot levels of about \$98/barrel to just short of \$102/barrel. The curve then goes into backwardation over the following three years bottoming out at about \$98/barrel in mid 2014. Between then and the end of the decade the WTI forward curve reverts to a moderate contango reaching \$101/barrel in 2019.

Exhibit 8: WTI forward curve



Source: Bloomberg

Real prices: Entering the danger zone

The dip in US nominal crude oil prices between end 2010 and mid February 2011 reversed some of the strong upward pressure on real prices experienced in 2010. In inflation adjusted terms WTI has fallen by 7% since the end of 2010 but is still up 9% from a year earlier. Real crude oil prices even in the US, of course, remain at elevated levels by historical standards. The only periods when they were significantly higher were in the early 1980s and 2008. Looked at in terms of Brent, real prices are even more elevated historically, reflecting the more robust nominal trend than for WTI in the second half of 2010 and early 2011. As of mid February Brent was up a hefty 36% in real terms from a year earlier. The subsequent surge has lifted the year-on-year gain to 44% and real prices to within 25% of the 2008 high.

The potential for historically high crude oil prices to stifle economic activity or even trigger another recession remains. According to the IEA global oil expenditure at around \$80/barrel in 2010 was equivalent to 4.1% of world GDP. Based on the current Brent price of a little over \$100/barrel the ratio would breach 5%, a level which has begun to act as a severe constraint on economic activity in the past. From this perspective the earlier decline in US crude prices was unquestionably positive news for the domestic economy remembering that rising energy prices act like a tax on discretionary purchasing power. In the event of WTI being sustained at \$85/barrel we believe there would be scope to at least hold the line on the all important gasoline price of around \$3.14/gallon nationally at present and quite possibly reduce it to nearer \$3/gallon. We suspect the US economy could live with gasoline at this level. Contra-wise, WTI at say \$110/barrel and gasoline near \$4/gallon would be a very different story in our view.

Supply/demand balance; Saudi production boost likely

2010 in retrospect

The key feature of the market for crude oil and other liquid fuels in 2010 was perhaps the strong recovery in demand that took place from the second quarter. For the year as a whole global demand is estimated to have increased by 2.4mmb/d by the EIA and 2.7mmb/d by the IEA. The gains were equivalent to over 3% and were the second highest in 30 years. Growth in 2010 more than recouped the declines of 2008 and 2009 and resulted in a record level of demand of about 87mmb/d. Surprisingly perhaps, demand grew by 0.7mmb/d in the OECD world, although this was pretty well entirely attributable to North America. Despite the gain, OECD demand in 2010 lagged 2008 by about 1.5mmb/d. Outside the OECD in 2010, there were sizeable gains in the FSU, China, south and east Asia, Latin America and the Middle East. Overall, buoyant demand in 2010 reflected a combination of economic recovery in the OECD world and Russia and robust underlying economic growth in much of the developing world.

The supply of crude oil and other liquid fuels developed quite strongly in 2010 but fell a little short of demand growth resulting in a modest draw on inventories. Non-OPEC supplies increased by about 1.7mmb/d of which 0.5mmb/d was attributable to natural gas liquids (NGLs) stemming from OPEC project developments (not subject to OPEC quotas) in Qatar and the UAE. Excluding OPEC natural gas liquids, the key areas of strength in non-OPEC supplies were US, Canada, Brazil, Colombia, China and the FSU. OPEC production subject to quota is estimated by the IEA to have increased between 2009 and 2010 by about 0.5mmb/d driven largely by Nigeria and Saudi Arabia. The former managed to boost output from the very depressed level of the previous year following an accord with various rebel groups in the Niger delta. By contrast, the increase in Saudi output appears to have reflected a policy response to the tightening marketplace in the second half of 2010.

2011 outlook

Based on the forecasts made by the EIA, IEA and OPEC, 2011 looks like being another buoyant year for global petroleum demand, albeit with lower growth than in 2010. The EIA and IEA are both looking for gains of 1.5mmb/d while OPEC is running with a slightly lower 1.2mmb/d. The absolute gains translate into growth of about 1.5%. Driving demand geographically are expected to be China (5.4%), other Asia (2.9%), Latin America (3.2%) and the Middle East (5.3%). The OECD is

expected to show a slight dip led by Europe and Japan. Demand growth in all three cases reflects a world economy growing by about 4% which is in line with IMF forecasts.

We believe the demand forecasts are plausible assuming that world economic growth of 4% is accepted as a given. This may in our view prove unduly optimistic. Possible reasons for expecting a weaker outcome include the lingering sovereign debt issues in Europe, the public and private debt overhang in the US and the distinct possibility that monetary policy in both the OECD and developing worlds will be tightened in the coming months in response to growing inflationary pressures. Longer term, the ability of the world to grow at anything like 4% pa without severe inflationary pressures has to be questioned. Specifically in terms of Middle Eastern petroleum demand in 2011 growth could be somewhat weaker than anticipated by the forecasting bodies due to growing civil unrest and also the recent action by the Iranian authorities to remove fuel subsidies.

Non-OPEC crude oil and liquid fuels supply in 2011 should continue to move ahead solidly but may fall a little short of the current demand forecasts made by the EIA, IEA and OPEC. Currently these three are looking for supply, including bio-fuels and OPEC NGLs, to grow by about 1mmb/d in 2011. This increase is expected to be split roughly 50% OPEC NGLs, 20% world bio-fuels and 30% non-OPEC crude. Regionally the key drivers are expected to be China, Brazil (Tupi/Lula field production gathering momentum), FSU (modest increases from Russia, Azerbaijan and Kazakhstan), Colombia, Ghana (Jubilee field commenced operations in late 2010), India and Oman. Bio-fuels output is expected to be driven more or less equally by Brazil and the US.

Arguably the IEA's forecast of roughly unchanged North American output is on the conservative side given the strong upward trend in shale oil production in both the US and Canada and the growing contribution from the Athabasca tar sands. The contribution from the latter is expected to grow strongly post 2011 as substantial new capacity comes on-stream. US output in 2011 and 2012 has undoubtedly been significantly impacted by the Macondo well disaster and the subsequent moratorium on drilling activity in the deepwater Gulf of Mexico. The IEA has referred to a potential loss of production due to this cause of 0.1mmb/d in 2011. The moratorium for the moment remains but may be lifted towards year end.

The forecasts made by the three major forecasting agencies imply that 0.5mmb/d or maybe a little less will have to be made good by higher OPEC production, if inventories are not to fall. With about 5mmb/d of surplus capacity OPEC, in theory, has the capability to offset the shortfall. Based on the latest IEA report one major source of incremental within OPEC in 2011 should be Iraq which importantly is not subject to quotas. Significantly, OPEC production rose by 0.28mmb/d between December and January driven by Iraq. The key factors here are that field refurbishment and upgrading work by international oil companies such as BP and ENI are now bearing fruit. A possible resumption of exports from Kurdistan in the coming months could conceivably add another 0.15mmb/d.

We therefore believe that the crude oil and liquids fuel market might not be too far away from balance without making a heroic assumption about a change to the OPEC quota regime. In practice we also suspect that based on public comments Saudi Arabia will continue to boost output to prevent crude prices entering the stratosphere and providing a home run for the renewable advocates.

Libya

Following the dramatic escalation of the civil conflict in the fourth week of February, Libyan production has been scaled back it appears by at least 25% and probably nearer 50%. Clearly, there is a danger that exports will cease in the coming days given the closure of terminals and/or the inability to arrange tanker shipments. Note a de facto cessation of exports will automatically result in production being shut down due to a lack of storage capacity.

In 2010 Libya's production was running at 1.59mmb/d, according to the IEA, making it the ninth largest OPEC producer of crude oil. Not surprisingly, the most vulnerable markets to a cessation of Libyan exports are those in southern Europe with Italy very much to the fore. We believe Italy normally accounts for 30% to 40% of Libyan exports while ENI is the largest producer in the country with production of about 0.25mmb/d. Interestingly, Switzerland is also vulnerable given that one of its two refineries is owned or part owned by the Libyan state owned company Tamoil. The refinery at Monthey in Canton Valais is supplied with Libyan crude by pipeline from Genoa.

The threatened cessation of Libyan exports has caused deep concern or even panic in oil markets. The fears are however probably grossly exaggerated. Firstly, the cessation is unlikely to be sustained over a long period, secondly the shortfall in the short term can be made good relatively easily by Saudi Arabia and other OPEC members. OPEC's surplus capacity, excluding Iraq, is currently about 5mmb/d. In the past Saudi production has been boosted in similar circumstances. A key example was the invasion of Kuwait and subsequent Gulf War of 1990/91. Importantly, Saudi Arabia, UAE, Angola and Nigeria have all expressed a willingness to increase output subject to the caveat that firm orders are placed.

The question has been raised as to whether OPEC could fill the breach if exports ceased from both Libya and Algeria. Theoretically there is sufficient capacity to cater for such an event. Clearly however the margin of spare capacity would be sharply reduced given that Algeria exports about 1mmb/d. The impact on market sentiment would probably be dire taking prices to well over \$150/barrel. We regard such an eventuality as something of a doomsday scenario and unlikely. By all accounts the population in Algeria is weary after the 20 year confrontation with Islamic extremism and apparently does not wish to rock the boat too much.

US inventories: Historically high

Crude oil

There certainly is no shortage of crude oil in the US. Commercial inventories for the week ended 11 February were 345.9mm barrels, up 0.8mm from the previous week and 14.9mm from a year previously. According to EIA data, inventories were 29mm barrels above the upper limit of the average range for the time of year. In terms of days' supply, inventories for the latest week were equivalent to 24.4 days which was marginally down from the year earlier 24.6 days, although above the average for the period since 2000 of 22 to 23 days.

Cushing

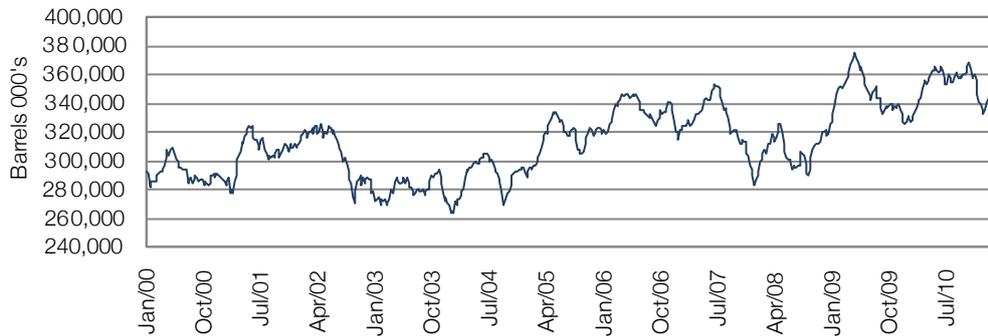
Inventories at the key Cushing tank farm have been running at record levels in the early weeks of 2011 for the reasons mentioned earlier. As of 11 February Cushing's inventories stood at 37.7mm barrels, up 0.25mm barrels on the prior week and 7mm barrels on a year earlier. The recent high for Cushing's inventories was for the week ended January 28 when they hit 38.3mm barrels. This

was equivalent to 83% of the current working capacity of 45.9mm barrels. The shell capacity of 55mm barrels is in the throes of being expanded by 10mm barrels.

Gasoline

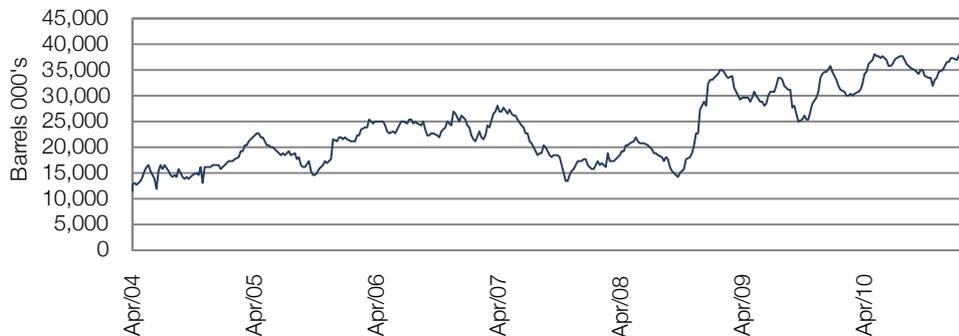
US gasoline inventories normally rise at this time of year in advance of the driving season but this year’s increase has been seasonally very strong. For the week ended 11 February gasoline inventories stood at 241.1mm barrels, well above the 232.1mm barrels of a year earlier and about 12mm barrels higher than the upper end of the average range for the time of year. In absolute terms, gasoline inventories are around a 20 year high while on the basis of days’ supply at 27.9 days they are at the highest level since the late 1990s.

Exhibit 9: US crude oil inventories



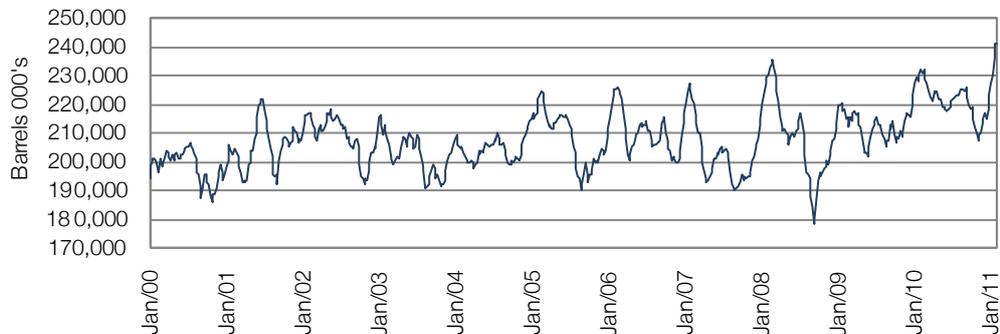
Source: Bloomberg

Exhibit 10: US Cushing oil inventories



Source: Bloomberg

Exhibit 11: US gasoline inventories

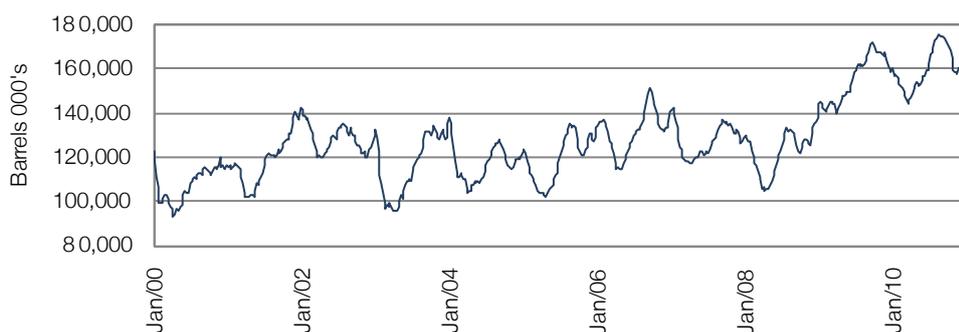


Source: Bloomberg

Distillates

US distillate inventories are also seasonally very high. At 11 February distillate inventories were 161.3mm barrels, 8mm barrels higher than a year previously and around 13mm barrels higher than the upper end of the average range for the time of year. The number of days' supply on 11 February was 42.3 against 41.2 a year ago. Based on the experience of the past 20 years the distillates days' supply is running at a very high level. This is despite the incidence of sustained periods of severe weather which would normally have been expected to boost heating oil demand strongly.

Exhibit 12: US distillate inventories



Source: Bloomberg

Refinery crack spreads: Dramatic widening

US refinery crack spreads based on inland feedstock were firming noticeably towards the end of 2010 and in the early weeks of 2011 have surged. Based on Bloomberg data, the Gulf Coast/WTI 321 crack spread (the margin before refining costs on converting three barrels of WTI into two barrels of gasoline and one of diesel), for example, rose from around \$10/barrel at the end of December 2010 to \$23/barrel on 16 February. For comparison, the crack spread on the same basis was about \$7/barrel a year previously while the longer-term average is in the region of \$10/barrel. The crack spread in mid February was the highest since mid 2007. By contrast, crack spreads in Europe have trended flat to down in early 2011 and are far lower than those in the US. In mid February the NWE/Brent 321 spread of about \$5/barrel was much the same as in end 2010 while the North West Europe/Urals 321 spread was \$6.9/barrel, down from \$8.9/barrel at end December 2010.

The dramatic rise in US crack spreads over recent weeks reflects a combination of the dip in WTI and the continuing upward trend in refined product prices. Gulf Coast wholesale prices, for example, increased between end December 2010 by about 3.8% in the case of regular gasoline, 10.4% for diesel and 7.3% for heating oil. Current USGC/WTI crack spreads imply extremely profitable inland refinery operations. They are, in our view, likely to encourage stepped up refinery runs which with a lag will tend to put pressure on refined product prices initially in the Midwest and Mid-Continent and possibly in due course on the Gulf and Mid Atlantic coasts. Historically it has been difficult to maintain the USGC/WTI 321 crack spread at over \$15/barrel for any length of time. Having said this, US inland refineries look like having a very profitable year from a historical perspective.

Exhibit 13: Refinery crack spread trends

Note: All data are yearly averages other than where indicated. YTD 21 February, 2011 averages USGC/WTI 321 \$15.57/barrel, NWE/Brent 321 \$6.29/barrel.

\$/barrel	2005	2006	2007	2008	2009	2010	02/21/11
USGC/WTI 321	10.63	10.31	12.89	8.41	6.66	7.43	21.06
NWE/Brent 321	10.13	10.37	11.67	10.27	8.83	8.62	4.33

Source: Bloomberg

US refined product demand: Recovering moderately

US refined product demand recovered modestly in 2010 after four years of declines. Based on EIA data there was a gain overall of 2.1% from 2009 to 19.2mmb/d. However, this still lagged the 2005 all-time high of 20.8mmb/d by 8%. Gasoline, easily the largest product line, showed only marginal growth of 0.7% to 9.06mmb/d but was considerably less impacted than other products by recessionary conditions in 2008/09. Not surprisingly given the status of the business cycle, the more industrially orientated products showed considerably larger gains in 2010 as follows: distillates 3.6%, fuel oil 4.5%, LPG 1.4%, jet fuel 2.6% and a miscellaneous category heavily orientated to petrochemical feedstock 11.8%.

The data for the early weeks of 2011 continues to reflect modest year-on-year growth in US refined product demand. For the four weeks to 11 February demand was 19.3mmb/d, up 1.5% on the corresponding period of 2010. Demand was unchanged for gasoline at 8.63mmb/d but up 2.7% and 2.9% for distillates and all other products respectively. The EIA continues to look for modest US demand growth of 0.8% in 2011 and 0.9% in 2012 driven by gasoline and distillates. Given the gathering pace of economic activity the EIA’s growth forecasts for 2011, at least, could be on the conservative side.

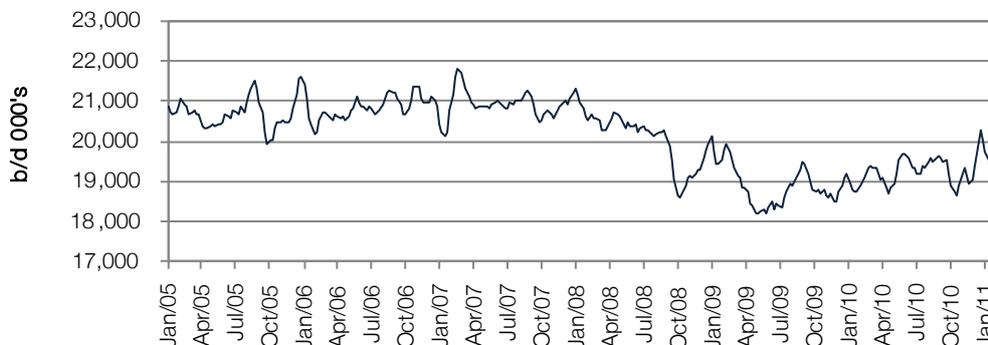
Exhibit 14: US refined product domestic supply trends

Note: Data relate to yearly averages.

Mmb/d	2004	2005	2006	2007	2008	2009	2010	2011e	2012e
Gasoline	9.11	9.16	9.25	9.29	8.99	9.00	9.06	9.13	9.20
Other	11.62	11.64	11.44	11.39	10.51	9.77	10.11	10.19	10.29
Total	20.73	20.80	20.69	20.68	19.50	18.77	19.17	19.32	19.49

Source: EIA

Exhibit 15: US petroleum products supplied



Source: Bloomberg

Crude oil price outlook: Weakening trend in H211

The decline in the WTI price in the early weeks of 2011 has been considered almost illegitimate by many observers. It is, however, just another example of American exceptionalism and merely reflects the reality in the Mid-Continent marketplace following some highly significant oilfield and logistical infrastructure projects that have boosted supply. For at least the next two or three years until the Keystone pipeline is completed to the Gulf Coast WTI is likely to be at least in part insulated from international influences in oil markets. Even post the completion of Keystone prospectively in 2013 a degree of insulation may well persist given the prospect of large incremental supplies from the Athabasca tar sands and quite possibly shale oil projects.

Over the balance of 2011 we look for WTI to remain at a sizeable discount to Brent particularly if civil unrest continues to simmer in the Middle East. Given the current hefty inventory position in the US in general and Cushing in particular we see no reason why WTI should trade at much more than mid February prices in the months ahead. Indeed, a case can be made for softening prices. The caveat is, of course, that turmoil in the Middle East does not ultimately lead to a sustained cessation in exports from a major OPEC producer or producers. Clearly the risk of this occurring has increased in recent weeks although the odds are still low in our view. In the event of a coup d'état any new regime is going to want the continuing flow of cash from oil exports.

As a result of supply considerations we are downgrading our WTI price forecast slightly for 2011 from \$90.5/barrel to \$89.0/barrel. Our quarterly scenario is as follows: Q1 \$93.0, Q2 \$91.0, Q3 \$87.0, and Q4 \$85.0. Contrasting with WTI we are raising our 2011 forecast for Brent from \$90.5/barrel to \$98.5.0/barrel. This reflects the strength of the price trend in the early weeks of the year and Brent's sensitivity to the turmoil in the Middle East. Our quarterly scenario for Brent is as follows: Q1 \$105.0, Q2 \$103.0, Q3 \$95.0, and Q4 \$91.0. The scenarios for both WTI and Brent reflect a number of assumptions. These are that by the second half of 2011 turmoil in the Middle East/North Africa will ebb significantly, Saudi Arabia will fill the void resulting from lost production in Libya and that world economic growth will lose momentum under the weight of inflationary pressures along with the policy response and deleveraging. Ebbing Middle Eastern turmoil reflects the assumption that coup d'états are concluded rapidly as in Egypt and Tunisia or that a combination of mild political reform and repression dampen revolutionary fervour. For the moment the latter is looking more likely.

We see scope for an unwinding of some of the bullish sentiment in oil markets in 2012 assuming indeed that the semblance of political stability returns to the Middle East and that the world economy slows. Against this background, we believe that Brent in particular will come under pressure thereby narrowing the WTI-Brent spread. For 2012 we are forecasting Brent to average \$90/barrel which is unchanged from previously. WTI, we believe, might average about \$85/barrel in 2012, which is down \$5/barrel from our earlier forecast.

The alternative scenario in 2012 is probably for a calamitous situation in the Middle East severely constraining OPEC production and exports and sending light crude oil prices to \$150/barrel or more. The inevitable result would be a recession in the OECD world and a dramatic economic slowdown in the large developing countries followed with a lag by a death spiral. The situation might be analogous to 2008/09 when light marker crudes dropped from almost \$150/barrel to \$35/barrel in a matter of months.

Exhibit 16: WTI and Brent price trends

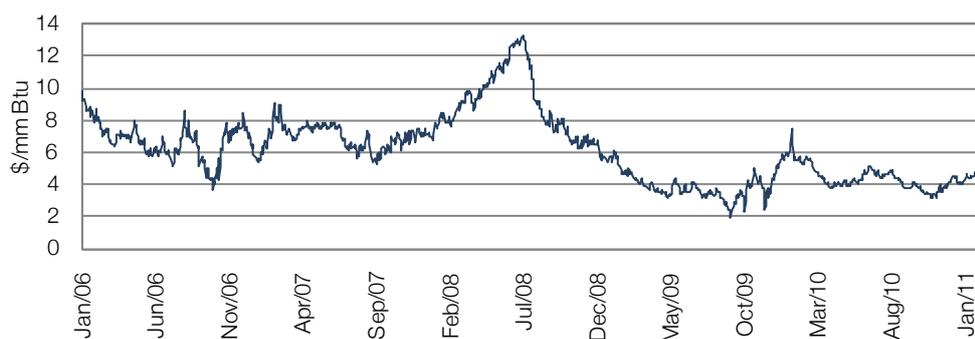
Note: YTD 25 February 2011 averages WTI \$89.2/barrel, Brent \$99.7/barrel. Time series data refer to yearly averages.

\$/b	2003	2004	2005	2006	2007	2008	2009	2010	2011e	2012e
WTI	31.1	41.5	56.6	66.1	72.2	99.8	62.0	79.5	89.0	85.0
Brent	28.9	38.3	54.5	65.4	72.7	97.7	62.0	79.7	98.0	90.0

Source: Bloomberg and Edison Investment Research

US natural gas prices**Market balance**

US natural gas consumption made a robust recovery in 2010 with a gain, according to the EIA, of 5.4% to 24.1tcf. This comfortably eclipsed the 2% decline of 2009. Higher consumption in 2010 was driven by the industrial and power generation sectors reflecting a hot summer and therefore heavy air conditioner usage and a broadly based industrial recovery. Importantly, the production of natural gas in 2010 maintained the strong upward trend that has been apparent since the mid 2000s driven by shale gas project development. For the year production grew by 4.4% to 22.6tcf which equalled the 1973 all-time high. Net imports in 2010 fell marginally to 2.67tcf.

Exhibit 17: Henry Hub price trend

Source: Bloomberg

In the early weeks of 2011 gas consumption has been boosted by severe weather across much of the US. Temperatures for most of January and early February were significantly lower than both a year ago and the five year average which has boosted demand for space heating and electrical power. Milder conditions emerged towards mid February but are expected to give way to cooler temperatures going into early March. The EIA's natural gas demand forecasts for 2011 and 2012 continue to reflect modest growth of 0.3% and 1% respectively due to the assumed non recurrence of last summer's demand surge. Given the fairly solid economic recovery underway, the EIA's demand forecasts could prove conservative.

US natural gas production was hit in the early weeks of 2011 due to equipment outages resulting from ultra low temperatures in many producing regions. The EIA is currently looking for modest gains in production of 0.8% in 2011 and 1.1% in 2012 with growth onshore being partly offset by falling output in the Gulf of Mexico. Imports of gas both supplied by pipeline from Canada and Mexico and in the form of LNG are expected to slip in 2011/12 due to plentiful supplies in the US and internationally depressed prices.

Significantly, the rebound in US natural gas drilling activity that occurred between mid-2009 and the second quarter of 2010 is now showing signs of reversing. The Baker Hughes rig count has

fallen from the recent peak of 1,092 in August 2010 to 906 as of 11 February 2011. During the most recent week the rig count declined by five, but remains 15 above a year earlier. From a longer-term perspective, the US natural gas rig count is currently well below the peak of about 1,600 recorded in the third quarter of 2008. Given apparently unattractive economics at sub \$4/mmbtu prices, the natural gas dedicated rig count is expected to slip further in the coming months. A number of the early leaders in developing shale gas such as Chesapeake, Devon and EOG are now refocusing their efforts on shale oil, given potentially considerably more favourable economics. A declining rig count will in due course inevitably take its toll of production.

Inventories: Seasonally strong decline

Going into the winter withdrawal season in October/November 2011 US natural gas inventories at their peak of 3.84tcf were close to record levels for the time of year. After a normal seasonal decline in the closing weeks of 2010 inventories have fallen sharply. On 11 February inventories were down to 1.91tcf which was 141bcf lower than a year earlier and 128bcf below the five-year average for the time of year. This is the first time in several years that natural gas inventories have shown a significant shortfall compared with the five-year average during the winter months. The proximate cause for the dip in inventories has been a combination of heavy gas usage and the previously mentioned equipment outages. Both factors have reflected prolonged cold conditions.

Prices: Weakness persists despite the draw on inventories

The seasonal upturn in US natural gas prices in late 2010 and early 2011 has arguably been muted considering the temperature backdrop and the seasonally strong draw on inventories. Taking the benchmark Henry Hub quote at Erath, Louisiana (NYMEX delivery point), the price climbed from \$4.22/mmbtu at the end of 2010 to a high so far in 2011 of \$4.72/mmbtu on 21 January. Since then, the trend has weakened taking the Henry Hub quote down to a recent low of \$3.84/mmbtu on 18 February. This was a hefty 29% lower than a year previously. For reference, the 18 February Henry Hub quote was 45% of the UK price for natural gas based on the virtual NBP hub of \$8.53/mmbtu using an exchange rate of \$1.62/£.

In effect, the Henry Hub price trend has been broadly flat since the fourth quarter of 2008 at about \$4.2/mmbtu. This provides some headroom for the low cost producers, which have fully accounted costs in the region of \$3.5/mmbtu. Cash operating costs including pipeline tie-in are, of course, very much lower at perhaps around \$1.5/mmbtu, so prices of \$4/mmbtu or so might well be sustainable for a longer period than generally anticipated. It needs also to be remembered that many producers have hedged their output at higher levels than current spot prices.

The market appears to be taking a sanguine view of the recent draw on natural gas inventories. This is probably valid bearing in mind that we are now at a mature stage in the winter withdrawal season and that there is plenty of production capacity available. We therefore believe that it is unlikely that the Henry Hub quote in the first quarter of 2011 will be greatly different than the average for YTD 18 February of \$4.36/mmbtu. Given the weak start to the year, we are lowering our forecast average for the Henry Hub in 2011 from \$4.70/mmbtu to \$4.40/mmbtu. This is in line with 2010. The forecast implicitly assumes similar weather in the two years. We are also reducing our 2012 Henry Hub forecast from \$5.20/mmbtu to \$4.90/mmbtu to reflect a looser supply/demand balance than previously anticipated. A modest tightening in the market is still

expected during 2012 reflecting the lagged impact on supply of lower drilling activity plus anticipated robust demand stimulated in part by depressed prices.

Exhibit 18: Henry Hub quarterly price scenario

Note: 1 January to 18 February 2011 YTD average \$4.36/mmbtu.

\$/mmbtu	Q1	Q2	Q3	Q4	Average
2007	7.19	7.53	6.18	6.97	6.96
2008	8.64	11.36	9.06	6.42	8.89
2009	4.55	3.71	3.17	4.37	3.94
2010	5.09	4.33	4.28	3.80	4.37
2011e	4.36	4.35	4.30	4.60	4.40

Source: Bloomberg and Edison Investment Research

Exhibit 19: Henry Hub natural gas price trend

	2003	2004	2005	2006	2007	2008	2009	2010	2011e	2012e
\$/mmbtu	5.63	5.85	8.79	6.72	6.96	8.89	3.94	4.37	4.40	4.90

Source: Bloomberg and Edison Investment Research

Share price performance

UK indices: Juniors recently come under pressure

The AIM Oil & Gas juniors in the aggregate performed strongly in 2010. This was driven by intense speculative interest in exploration and development stories against generally positive backdrops for the oil price and company specific news flow. Some of the more noteworthy developments in 2010 involved Rockhopper with its Sea Lion discovery in the South Atlantic, Xcite with its successful Bentley well test in the North Sea, Gulf Keystone's confirmation of a giant oilfield on its Shaiken block along with its participation in MOL's Bijell discovery in Kurdistan and Cove Energy's participation in three gas discoveries offshore Mozambique (a fourth discovery was reported on 7 February). During the course of 2010 the benchmark AIM Oil & Gas Index rose by 50% which considerably outperformed the 2.5% increase in the mid and large capitalisation FTSE 350 Oil & Gas Index. The performance of the latter was severely handicapped by BP which was hit hard following the Macondo well disaster at the end of April. After collapsing by 55% between the 15 April high and 25 June the stock recovered over the balance of the year, but this was insufficient to fully compensate for lost ground.

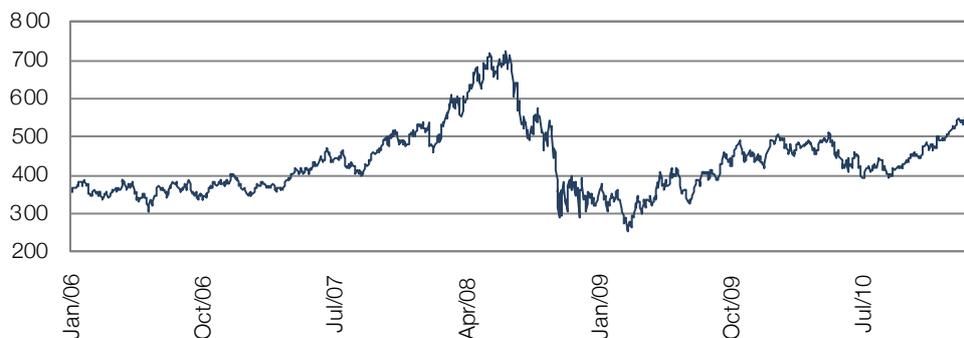
Between end 2010 and early February 2011 the performance of the AIM juniors remained strong. By 7 February the AIM Oil & Gas Index was up by another 7% taking it to around a 30-month high and 15% under the 11 May 2006 record. The gain from the 5 December 2008 low was a massive 3.6x. Since 7 February, the AIM Oil & Gas Index has fallen and as of 21 February was down 8% for one of the more significant dips since the beginning of 2010. Nevertheless, the Index was still up 47% from a year previously. Two noteworthy negative news items so far in 2011 for the AIM junior index have been Desire Petroleum's second dry or inconclusive well in the South Atlantic in quick succession and the anticlimax of Heritage's announcement of a large natural gas discovery at its Miran project in Kurdistan. Although Heritage's share price has dropped around 40% since the mid January high, the Miran announcement was, of course, far from being a disaster. With contingent and prospective resources of 4.46tcf net the discovery is substantial indeed. In principle, a development at Miran can be easily linked to the planned Nabucco pipeline connecting via Turkey the Caspian gasfields with Austria and beyond.

The FTSE 350 Oil & Gas Index has made a solid start to 2011 and so far outperformed the AIM juniors. Since the end of 2010 it has climbed by 4.5% and stands 8% above a year earlier. It is now close to the April 2010 high and only 8% below the 21 May 2008 decade high. Clearly, the FTSE 350 Index has had a positive macro backdrop and has benefited from the partial rehabilitation of BP.

Interestingly, BP has announced two large strategic exploration and development deals plus divestments of refineries in the US (Texas City and Carson City Los Angeles) and mature upstream assets in the UK (Wytch Farm and some natural gas assets in the southern North Sea) as the company seeks to focus on new growth opportunities post Macondo. The exploration deals involve alliances with the Russian major and quasi national oil company Rosneft and the Indian petrochemicals and oil and gas giant Reliance Industries. The Rosneft deal involves a long-term exploration project in the frontier zone of the Kara Sea to the east of Novaya Zemlya. As part of the deal BP will take a 9.5% stake in Rosneft while Rosneft takes a 5% holding in BP. In our view production is unlikely to materialise in the Kara Sea within 10 years.

In the case of the Reliance deal BP is buying a 30% stake for \$7.2bn in 23 oil and gas blocks off the east coast of India mainly in the Bay of Bengal. This involves participation in a long-term development project with exploration upside in an emerging hydrocarbons province. The blocks being bought into by BP have production of about 1.8bcf/d, which is equivalent to 30% of India's gas consumption. Reliance will remain the operator. Based on indicated resources of 15tcf the valuation appears reasonable at \$0.48/mcf but it has to be remembered that this is before a potential \$1.8bn exploration performance payment and a likely hefty development bill of perhaps \$11bn over the next decade.

Exhibit 20: S&P 500 Oil and Gas Index



Source: Bloomberg

US indices: Outperforming UK counterparts

US oil and gas stocks have performed strongly so far in 2011 and indeed in the aggregate have outperformed their UK peers. The S&P 500 Oil & Gas Index of mid and large capitalisation US energy stocks rose by 12% between end 2010 and 21 February, while the S&P 400 Oil & Gas Index of mid tier US E&P stocks on the same basis gained 15%. Compared with a year earlier, the former and latter indices were up by 31% and 50% respectively.

The key question now surrounding oil and gas stocks in general is what a sharp upturn in oil prices relating to actual or potential supply interruptions in the Middle East would portend. In the very short term it might well be positive but after the excitement has subsided it could be highly

negative. The problem is that a price surge from current levels to perhaps \$150/barrel plus would in all probability trigger a recession of significant proportions. The way would then be paved for a death spiral much as in late 2008/early 2009 and a corresponding plunge in investor confidence. All booms ultimately come to an end and more often than not in a spectacular way.

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