Edison investment research

Sentiment turns bullish

Crude oil market sentiment has clearly turned bullish in the closing weeks of 2010 with light crude prices moving above the long prevailing trading range. We believe sentiment is likely to remain bullish in the near term driven by a more buoyant US economy and optimism concerning the latest fiscal stimulus package. However, light crude prices much above $95/barrel are unsustainable for long and would probably sow the seeds of their own destruction.

Oil supply/demand balance: Moderate tightening

Petroleum inventory movements in the fourth quarter point to a moderately tightening market. However, actual levels, both absolute and in terms of forward cover, remain elevated by historical standards. Looking at the key non-OPEC supply/global demand relationship the crude oil market is probably not far away from equilibrium in 2010 and may not be in 2011 in the absence of an implausibly buoyant world economy and/or supply shocks. Note in the second half of 2010 demand was boosted by what are arguably non-recurring factors.

Crude oil prices: Trading range break-out

Benchmark crude oil prices in early December exceeded $90/barrel, breaking through the upper end of the $70-85/barrel trading range that had prevailed for about 18 months. We are sharply upgrading our WTI price forecast for 2011 from $79.3/barrel to $90.5/barrel reflecting carryover strength from 2010, distinct signs of a strengthening US economy and the latest fiscal stimulus. During Q1 and Q2 of 2011 we believe WTI could exceed $100/barrel, but during the second half a distinct softening is expected. Note real oil prices have rarely been higher and are close to levels that historically have triggered recessions.

US natural gas prices: Inventory constrained

US natural gas prices have shown a seasonal firming since the lows of October but this has been lacklustre. Price development has continued to be constrained by historically high inventories stemming from buoyant production and benign weather. In Q410 the Henry Hub quote looks like being a little weaker than expected. We are maintaining our Henry Hub forecast of $4.70/mmbtu for 2011 while for 2012 we are looking for $5.20 reflecting a modestly tighter market.

Investment performance: Strong year for the juniors

The FTSE 350 Oil & Gas Index has recovered much of the ground lost in the aftermath of BP's Macondo well disaster, but remains down 4% from the beginning of 2010. By contrast, the AIM Oil & Gas Index has climbed 40% on the same basis and is around a 28 month high.

20 December 2010

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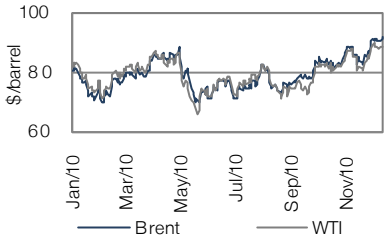
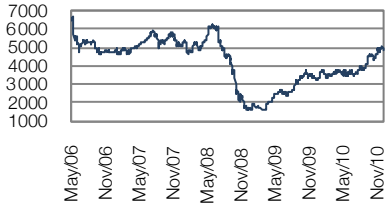
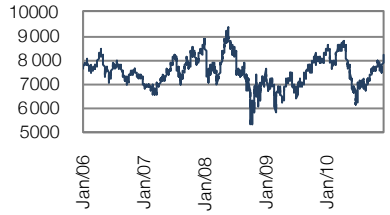
WTI vs Brent



AIM Oil & Gas Index



FTSE 350 Oil & Gas Index



Price trends

	WTI $/barrel	Brent $/barrel	Henry Hub $/mmbtu
2008	99.8	97.3	8.89
2009	61.8	61.7	3.94
2010e	79.4	79.6	4.40
2011e	90.5	90.5	4.70
2012e	90.0	90.0	5.20

Note: Prices are yearly averages

Crude oil market dynamics

Price overview: Upward trend in Q410

Light crude oil markets have remained largely uneventful in recent weeks. However, underlying sentiment has strengthened, which has maintained the upward trend in benchmark light crude grades that first became apparent late in the third quarter of 2010. By early December WTI and Brent had exceeded the top end of the trading range of $70-85/barrel that had persisted since the third quarter of 2009. Mid December prices for WTI and Brent of $88-90/barrel were around 25 month highs. The flat to slightly upward trend in prices over the past 18 months or so is indicative of a very well balanced market. Significantly, over the past 18 months or so there have been neither major supply shocks nor geopolitical crises impacting oil producing regions.

The US light crude benchmark WTI ended the third quarter of 2010 at $80/barrel. After firming modestly in the first few days of October to $83.2/barrel WTI subsequently traded at roughly $80-83/barrel over the balance of the month. At month end WTI was trading at $81.4/barrel. Reflecting the carryover strength from late September, WTI in October averaged $81.9/barrel, up 8.8% on the previous month. During the first half of November WTI firmed noticeably. The price climbed to a high of $87.8/barrel on 11 November which comfortably exceeded the April 6 high water mark in the first half of 2010 of $86.8/barrel. However, the rally early in November lacked staying power. By November 17 WTI had retreated to $80.4/barrel and at the end of November was trading at $84.1/barrel. The average WTI price for November was $84.2/barrel.

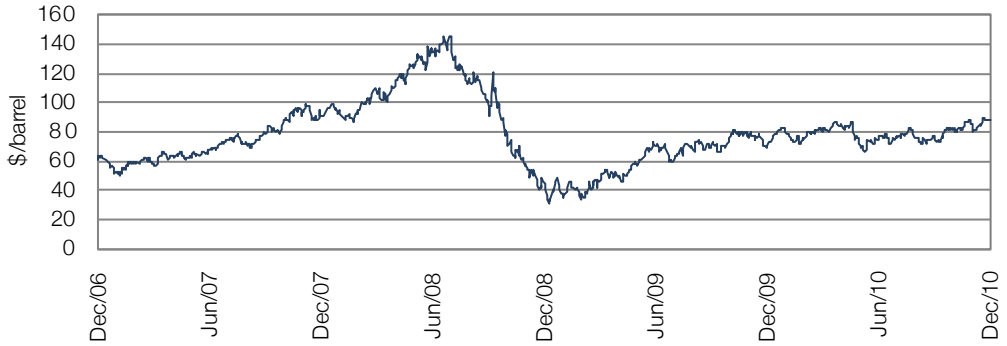
WTI regained strong upward momentum in early December with the price rising to $89/barrel on 3 December. This was up 16% on a year previously. Between early and mid December WTI was stable at $88-89/barrel. In the year-to-date mid December WTI has averaged $79/barrel. Assuming that WTI averages about $89/barrel over the balance of the month, the mean price for 2010 will be $79.4/barrel, up 28% on 2009.

WTI price movements since the end of the third quarter of 2010 have largely been driven by three factors. These are sentiment surrounding the dollar, US macroeconomic news flow and developments in the evolving European sovereign debt crisis. Supporting roles have been played by tightening monetary policy in China as the authorities there grapple with growing inflationary pressures and an apparent desire on the part of OPEC to boost light crude prices closer to $100/barrel. In retrospect the announcement of the Federal Reserve's second round of quantitative easing in early November seems to have had little or no impact on crude prices, contrary to expectations in some quarters. The explanation seems to be that the market had discounted the event well in advance.

The marked softening in WTI for a time in the second half of November was driven largely by two key factors. Firstly, fears concerning the potential impact on oil demand of the broadening sovereign debt crisis in Europe and secondly tightening monetary policy in China. The subsequent rally in prices in the closing days of November and early December was a function partly of relief that a solution, at least for now, had been found to Ireland's debt crisis and partly growing optimism concerning the near-term outlook for the US economy. Bullishness relating to the US has been supported by a growing body of statistical evidence in recent weeks pointing to strengthening

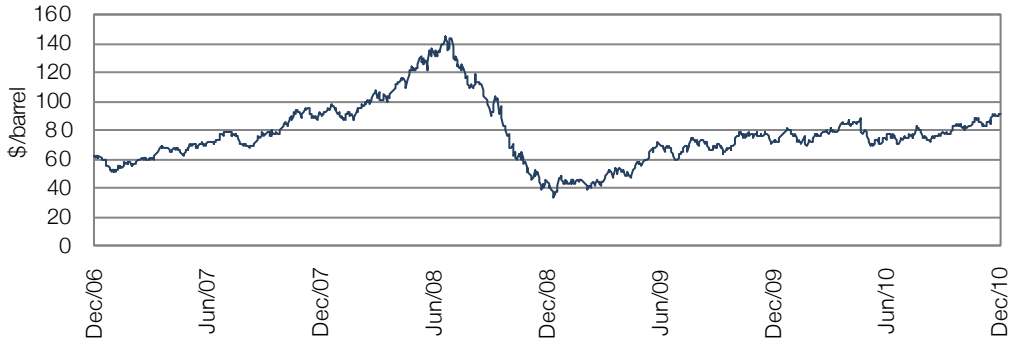
economic activity plus the accord between President Obama and Congress on a new fiscal stimulus package based on tax cutting. The release of decidedly bearish employment data on 3 December momentarily dampened the bullish sentiment but this was subsequently more than offset by a sharp drop in the dollar. Since early December prices have essentially continued to be buoyed by more positive economic data and an upbeat assessment of the impact of the fiscal package in 2011.

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: WTI-Brent discount persists

WTI has been trading more or less consistently at a discount to the North Sea benchmark Brent since the second half of August. After a historically wide discount averaging $2.5/barrel in September there was a narrowing to $1.0/barrel in October. This mainly reflected the depressing impact on Brent of the month long strike at French refineries which left 30mmbbl sitting offshore in tankers. The WTI discount widened in November to $1.5/barrel and in early December hit $2.2/barrel. On a year-to-date basis, however, prices for similarly graded WTI and Brent (39.6 degrees API and 0.24% sulphur and 38 degrees API and 0.4% sulphur respectively) are roughly in line with each other on average.

Historically, WTI has traded at a premium to Brent reflecting the strength of demand for high-grade refinery feedstock in the US and the cost of transportation to the US from other regions. The sustained WTI discount at the significant levels over the past four months or so is pretty much unprecedented and reflects structural changes in the marketplace along with short run influences. The underlying issues appear to be continuing high inventories at the Cushing, Oklahoma WTI basing point and the strength of demand in Far Eastern markets. The former is at least in part attributable to increased supplies stemming from the Bakken fields of North Dakota/ Montana and the Athabasca tar sands of Alberta, Canada. Effectively**,** WTI is now a very much a US Mid-Continent benchmark while Brent is more indicative of the broader supply/demand relationship internationally. Indeed, the bulk of oil futures contracts are set with regard to Brent.

Reflecting the international characteristic of Brent, prices have been buoyed over recent months not only by strong economic growth in the Far East but also the attempts of the Chinese authorities to window dress energy consumption and CO_2 emissions. In support of this policy coal-fired power stations have apparently been ordered to scale back operations, not surprisingly resulting in power outages. The void is effectively being filled by the more intensive use of diesel fueled stand-by and base load generating sets. Therefore, all that the Chinese authorities have succeeded in doing is encouraging a temporary switch in the energy mix. In late November and early December Brent has also been buoyed by extreme weather in Europe. This has boosted heating oil demand and encouraged greater power station fuel oil usage.

Dubai Fateh, a light but relatively sour grade (31 degrees API and 2% sulphur), is often used as a price reference point for Far Eastern shipments. It normally trades at a modest discount to higher grade Brent, which has also been the case of late. In November the discount was $2.0/barrel down from $2.5/barrel in October. However, the discount widened to $3.3/barrel in early December, but this was well within the historical range and reflected the strength of Brent. Nigerian Bonny Light, a low sulphur grade (32.9 degrees API and 0.16% sulphur) prized by refineries in the Atlantic Basin and elsewhere has been trading within the normal premium range *vis-à-vis* Brent of late. The Bonny-Brent premium averaged $1.8/barrel in November and widened to $2.2/barrel in early December reflecting supply disruptions and the threats of terrorist attacks on oil infrastructure in Nigeria.

Interestingly, the ultra high grade Malaysian sourced Tapis Far Eastern benchmark crude closed at $95.7/barrel on 3 December so $100/barrel oil in some parts of the world is close at hand. The Tapis premium to Brent at $4.6/barrel was within the historical range.

Exhibit 4: Recent light crude prices

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

	2010					
$/Barrel	Aug	Sep	Oct	Nov	15 Dec	Dec YTD
WTI	76.6	75.3	81.9	84.2	88.5	79.0
Brent	76.7	77.8	82.9	85.7	91.6	79.1
Dubai	74.2	75.3	80.3	83.7	89.4	77.6
Bonny	78.7	79.3	84.5	87.5	93.1	80.7
Tapis	81.3	82.3	89.9	91.6	94.7	83.4
Differentials						
WTI-Brent	-0.1	-2.5	-1.0	-1.5	-3.1	-0.1
Brent-Dubai	+2.5	+2.5	+2.6	+2.0	+2.2	+1.5
Brent-Bonny	-2.0	-1.5	-1.6	-1.8	-1.5	-1.6

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	99.8
2009	43.2	59.7	68.1	76.0	61.8
2010	78.8	77.9	76.1	84.8e	79.4e
2011	92.0e	95.0e	90.0e	85.0e	90.5e

Source: Bloomberg and Edison Investment Research

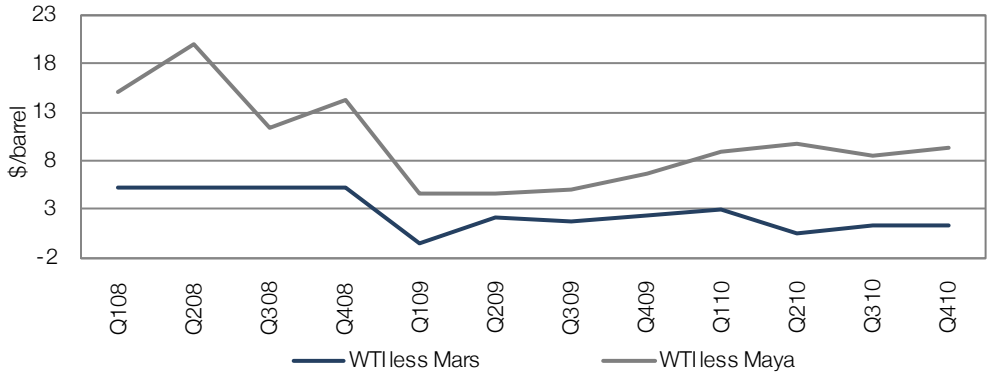
US heavy crude discounts: Mars discount still anomalous

The discounts for heavy sour crudes from light sweet crudes remain in part, at least, anomalous from a specification perspective. Mars, a medium sour grade (API 28.9 degrees and 1.93% sulphur) sourced from the Gulf of Mexico traded at a discount to low sulphur WTI of $1.52/barrel on average in November. Although representing a slight narrowing from the previous month's $1.58/barrel, the November discount was somewhat more plausible than in May and September 2010 when Mars actually stood at premiums to WTI of $1.36/barrel and $0.11/barrel respectively. Since mid November, the Mars discount has narrowed sharply from about $1.5/barrel to $0.4/barrel, a differential that fails to reflect the higher variable and fixed costs of processing this crude grade. For 2010 as a whole, the Mars discount to WTI looks like averaging about $1.5/barrel, which is marginally above the previous year's $1.45/barrel but considerably below the discounts of roughly $5.5-7.0/barrel between 2004 and 2008.

The discount structure for Maya, a Mexican heavy sour grade (API 22 degrees and 3.4% sulphur) used widely at Gulf Coast refineries, looks more realistic than the differentials applying to Mars. For November, the discount averaged $9.67/barrel, the highest level in five months. This has been followed in early December by a slight narrowing to $9.4/barrel. For 2010 as a whole the Maya discount looks like coming in at about $9.1/barrel on average, considerably above 2009's $5.3/barrel. However, compared with the discounts of $11-16/barrel for much of the period from 2004 to 2008, current differentials remain much lower. The factors tending to depress heavy

discounts continue to be a combination of high inventories at Cushing and tighter availability of heavy crudes following the earlier cutback in OPEC production. This applies particularly to Venezuela, a major source of heavy crude, where production has fallen by about 0.4mmb/d since 2007/08.

Exhibit 6: Medium and heavy sour crude oil discounts

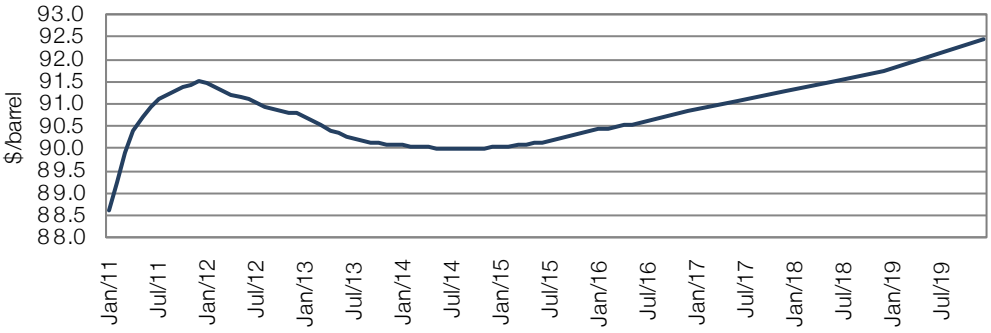


Source: Valero Energy

Forward curve: Move into backwardation

For most of the past two years the NYMEX WTI forward curve has been in contango. The curve has tended to be characterised by a moderate upward slope over the balance of the decade, reflecting readily available near-term supplies and an anticipated tightening supply/balance in the out years. Recently the curve has moved into moderate backwardation between 2012 and 2015. As of mid December, the curve shows a rise in WTI from around $88.5/barrel spot to $91.5/barrel during the next 12 months or so. This is followed by a dip to $90/barrel through early 2015. Between 2015 and 2020 the WTI forward curve slopes upward, returning to roughly $92.5/barrel in the latter year. Brent shows a similar picture but with a premium to WTI of roughly $1.25/barrel.

Exhibit 7: NYMEX WTI forward curve



Source: Bloomberg

The relatively steep upswing in the curve over the next few months reflects expectations of a tightening marketplace. Key factors here could be speculation that the US authorities will ultimately be successful in stimulating the economy and that Chinese demand will remain strong. Post 2012 a slight easing in marketplace pressure appears to be anticipated.

Real prices: Historically very high

Crude oil prices adjusted for inflation have rarely been higher than presently. Based on EIA data, the only periods over the past 40 years when prices have been higher than at present in real terms were in 1980/81 and in the first three quarters of 2008. In fact, these were probably also post war peaks for real oil prices. According to the EIA, real prices in early December 2010 were about 18% and 38% less than the January 1981 and July 2008 highs respectively. Significantly, the price surges in advance of the peaks in 1980/81 and in 2008 occurred immediately before the onset of the most severe recessions of the post war era in the US and indeed elsewhere.

The key question now is what level of oil prices would again trigger recessionary forces in the western world economy. We suspect that the answer is significantly below the $145/barrel spot high for WTI encountered in 2008. This reflects the fact that the western world economies are far weaker than two or three years ago in terms of overall wealth and employment. Additionally, there are the ongoing issues of the fragility of the banking sector and severe public sector budgetary pressures, if not sovereign debt crises, in many countries. Quite possibly light crude prices not much higher than present levels of around $90/barrel would act as a significant constraint on economic growth in the western world if sustained. Prices of $100-110/barrel could conceivably provoke a recession.

Supply/demand balance

Supply: Q4 firming

2010: After being pretty much on a plateau for the first three quarters of 2010, world oil production appears to have firmed noticeably early in the fourth quarter. According to OPEC data, production in October came in at 86.8mmb/d, the highest level since the second quarter of 2008. The increase from the previous month of about 0.8mmb/d reflected gains of 0.64mmb/d by non-OPEC sources and 0.14mmb/d by OPEC. Compared with a year earlier, October production was up around 1.5mmb/d or 1.8%. The increase was accounted for broadly by non-OPEC sources of crude 0.8mmb/d, OPEC natural gas liquids (NGLs) (not subject to quota restrictions) 0.5mmb/d and OPEC crude 0.2mmb/d.

OPEC crude production has followed a very consistent month-to-month pattern in 2010 and has averaged just over 29.1mmb/d. The month-on-month gain in October of 0.14mmb/d was driven largely by Angola and Nigeria with increases of 81,000b/d and 97,000b/d respectively. Partly offsetting these and other smaller gains were declines in Iraq and Saudi Arabia of 19,900b/d and 33,600b/d respectively. Angola and Nigeria both benefited from the completion of maintenance and repair work. The dip in Iraqi and Saudi output in October appears to have mainly reflected minor dips in domestic demand. Significantly in the case of Iraq, a new government was formed in November which could set the scene for a resumption of exports from the Kurdistan semi-autonomous region in 2011. Near term these could be over 100,000b/d. The Iraqi authorities have also announced their intention of increasing export shipment capacity offshore Basra in the coming months. The new mooring buoy installations could be partially on-stream by late 2012. Importantly, Iraq is not constrained by OPEC's quota restrictions and furthermore is not likely to be until mid decade at the earliest.

Non-OPEC crude production has remained on a strong growth path in 2010. Crude output in October was estimated by the IEA to be 53.2mmb/d, which we believe is a record. The performance was seasonally strong and reflected the completion of maintenance programmes in the North Sea and the Caspian Sea and general capacity expansion. Seasonally adjusted production also benefited this year from the absence of storm damage in the Gulf of Mexico (GOM). For 2010 as a whole OPEC and the IEA are looking for gains in non-OPEC crude output of 1.2mmb/d and 0.9mmb/d respectively, with the key drivers regionally being North America, Latin America, Russia and China.

Within North America US production is expected to gain by as much as 0.33mmb/d to 8.48mmb/d (crude plus biofuels plus NGLs), according to OPEC. The Bakken oilfields' other onshore sources, NGLs and bio-fuels are all expected to contribute. Interestingly, one of the leading independents, EOG, has recently indicated that it believes US crude oil production has the potential to be boosted by 1mmb/d by 2015 by the intensive application of horizontal drilling with multi-stage fracs in the tight shale formations of the Mid-Continent and Rockies. EOG is suggesting that the techniques that have so effectively applied to unlocking shale gas can to some extent at least be applied to shale oil. They have, of course, already been very successfully employed in the Bakken/Three Forks-Sanish formations of North Dakota and Montana. In the near future the Eagle Ford shale formation of southern Texas appears to hold great promise.

Elsewhere in North America, the Athabasca tar sands are expected to boost Canadian production in 2010 by 0.11mmb/d to 3.35mmb/d according to OPEC. Significantly, the sharp decline in Mexican crude production in recent years appears to have been largely arrested in 2010. Production for the full year looks like coming in at about 2.96mmb/d, down 0.02mmb/d from the previous year. This compares with declines of 0.20mmb/d, 0.32mmb/d and 0.19mmb/d in 2007, 2008 and 2009 respectively. The solution has apparently been an aggressive programme of gas injection and horizontal drilling.

In the North Sea, another area of mature production, there have been precious few signs in 2010 of the secular decline in production being arrested. According to OPEC, production is expected to drop for the year by 0.20mmb/d to 2.16mmb/d in Norway, 0.09mmb/d to 1.39mmb/d in UK and 0.02mmb/d to 0.24mmb/d in Denmark. Among other factors, production in the North Sea was hit particularly hard in 2010 by heavy and prolonged third quarter maintenance programmes.

In Latin America the key development of late was the start-up in late October of pilot production in the giant Tupi field, about 250km south of Rio de Janeiro, Brazil. This is the first commercial production from the pre-salt zone in the Santos Basin. The plan is to reach planned capacity of 100,000b/d during 2011and then to move onto the second stage of development during 2012. Reflecting the development of both the pre-salt and post-salt zones Brazil's crude oil production is expected to climb from about 2.1mmb/d currently to around 3mmb/d at mid decade and approximately 5mmb/d by 2020. There will also be substantial quantities of gas produced. Adding to the allure of offshore Brazil as an oil producing province has been the recent announcement that the Libra oilfield to the north of Tupi could contain recoverable reserves of up to 15bnbbl. This is roughly twice the scale of Tupi and would be the largest discovery in the Americas since Cantarell,

Mexico in 1976. Offshore Brazil is undoubtedly the most exciting area for oil exploration and development in the world currently.

Both OPEC and the IEA continue to look for an increase in OPEC NGL and non-conventional production in 2010 of around 0.5mmb/d to 5mmb/d. In October a major new addition to capacity came on-stream in Qatar with the commissioning of Qatargas 3. By the second quarter of 2011 this facility should boost capacity by about 0.23mmb/d. All told, we continue to expect an increase in total non-OPEC controlled supply in 2010 of around 1.5mmb/d to 57mmb/d. Allowing another 0.4-0.5mmb/d increment for OPEC crude production and total global oil supply could be up in 2010 by a highly significant 2mmb/d. This would be equivalent to a gain of about 2% and take global production to a little over 86mmb/d.

2011: Non-OPEC oil supply growth in 2011 may well be less robust than an exceptionally strong 2010 but nevertheless should still be significant. Bearing in mind the positive trends in late 2010 supply could, indeed, surprise on the upside. The IEA, in fact, in November raised its forecast of non-OPEC crude oil production growth in 2011 by 0.3mmb/d to 0.8mmb/d. This was based on an upgrade of the outlook for North America and China. As the IEA has noted, the gain in non-OPEC crude production between 2009 and 2011 could be the strongest for a three year period since 2002 to 2004. Contrasting with the IEA, the EIA has downgraded its expectations for 2011 and is now anticipating a drop in non-OPEC crude production of 0.25mmb/d against 0.16mmb/d previously. In the EIA's view there is a likelihood of declining supplies in North America, the North Sea and Russia. We continue to believe that the EIA's forecast is unduly cautious in the absence of major interruptions to supply for technical, weather-related or geo-political reasons.

Regionally the key areas of strength in terms of non-OPEC crude production in 2011 are expected to be Brazil, Canada, Colombia, China and the Caspian Basin producers Azerbaijan and Kazakhstan. Bio-fuels globally should also continue to support production led by Brazil and the US. The key constraints on oil production in 2011 are likely to be the North Sea and possibly Mexico. Russian production in 2011 is expected to be broadly flat.

OPEC NGLs should make another important contribution to the growth in global petroleum supply in 2011. Particularly important in this regard are new projects coming on-stream in the UAE and Qatar. Based on assessments made by the IEA, OPEC and the EIA, OPEC NGLs could generate incremental production in 2011 of between 0.5mmb/d and 0.7mmb/d. Overall therefore, we continue to believe that non-OPEC oil production, including OPEC natural gas liquids has the potential to increase by 0.8mmb/d to 0.9mmb/d in 2011, abstracting from major supply interruptions or significant delays in new project start-ups. The IEA forecasts would in fact suggest a gain of nearer 1.5mmb/d.

Demand: Boost from arguably non-recurring factors in 2010

Global oil demand has been significantly stronger since the second quarter of 2010 than might have been expected a few months ago based on macro economic developments. As a result, the three key forecasting agencies have all raised their forecasts for 2010 demand growth. Of the three the IEA remains the most bullish with forecast growth of a hefty 2.3mmb/d or 2.7% for 2010. If this actually materializes, it will be the largest yearly gain since 2004 and only the second time since the late 1970s that growth has significantly exceeded 2mmb/d. The EIA is looking for demand growth

of about 2mmb/d in 2010 while OPEC is considerably more bearish with a gain of 1.3mmb/d. All three agencies are forecasting slower growth in 2011. The IEA and OPEC are both looking for gains of 1.2mmb/d while the EIA is forecasting growth of 1.4mmb/d. Growth in 2010 and 2011 follows a cumulative decline of 1.9mb/d in 2008/9.

The firmer than expected demand trend over the past two or three quarters reflects four key factors. Firstly, there has been stronger than anticipated economic growth in the OECD world in general and Western Europe in particular. Secondly, already buoyant demand in China has been boosted by a surge in generating set usage for the reasons mentioned earlier. Thirdly, oil demand surged in Japan during the summer months due to an unprecedentedly hot summer. Effectively this led to greater power station fuel oil usage and higher vehicle fuel consumption due to intensified air conditioner use. Lastly, there appears to have been seasonally heavy restocking of heating oil in Germany during the third quarter. Why this should have occurred is not entirely clear except that stocks may have been depleted after the harsh winter of 2009/10.

The demand growth forecasts for 2011 look plausible assuming only a moderate world slowdown as anticipated by the IMF and many other forecasters. The IMF's forecasts call for world real GDP growth at market exchange rates of 3.7% in 2010 and 3.3% in 2011. However, we believe there is risk to the downside given the generally lacklustre economic backdrop in the OECD world, the possibility of the sovereign debt crisis spreading in Europe and the likelihood that monetary policy will be tightened in China and in other non-OECD economies. Stimulatory policy measures, including quantitative easing are seen as the salvation in some quarters in the US and elsewhere, but probably will not have much impact on economic activity near-term bearing in mind a whole raft of concerns relating to such factors as regulation, employment, personal and public sector indebtedness and commodity price inflation. We are effectively in a liquidity trap from which it will probably take some years to emerge. It should also be noted that a number of the factors boosting oil demand in 2010 were by nature exceptional. If they prove non-recurring, demand could surprise to the downside in 2011 independently of the strength of the economy.

Bearing in mind the economic backdrop in the OECD world at least plus the impetus behind improving the fuel economy of the transportation fleet we believe it is very unlikely that global oil demand growth in 2012 will exceed 1mmb/d or about 1%. For perspective, the average annual growth rate between 2004 and 2009 was 0.8mmb/d.

Market balance: Tightening in H210

The crude oil market tightened in the second half of 2010. The key manifestation of this was the 43mmbbl decline in OECD commercial inventories between August and September at a time when an increase would normally be expected. At 2.75bnbbl (crude plus refined products) at the end of September, OECD inventories however remained historically high both absolutely and in terms of days outstanding. Inventories were still about 70mmbbl higher than the 5-year average for the time of year and were equivalent to a very comfortable 60 days consumption. Based on EIA projections, OECD inventories are likely to end 2010 at 2.73bnbbl. This is 94m barrels more than the average for the time of year and equivalent to 58 days consumption.

Looking at the non-OPEC supply/global demand balance for 2010, the IEA forecast implies a significant deficit of 0.9mmb/d. The EIA's position would suggest a modest deficit of 0.3mmb/d

while OPEC's forecasts would imply a surplus of 0.3mmb/d. For 2011 the IEA's forecasts call for a surplus of 0.3mmb/d while OPEC is looking for a deficit of 0.4mmb/d and the EIA for a deficit of 1mmb/d. Arguably this is an unduly stringent approach to assessing the tightness of the market given that global demand includes OPEC. In practice, OPEC demand growth will be satisfied by production from the same source. Assuming OPEC demand growth of 0.2mmb/d in both 2010 and 2011, the non-OPEC supply/non-OPEC demand balance may not, in fact, be far away from equilibrium in both years. For 2012 we would also see no reason why the market should be far away from equilibrium, assuming global demand growth of about 1mmb/d and subject to the caveat of no major supply shocks.

US inventories

Crude oil: Declining from a very high level

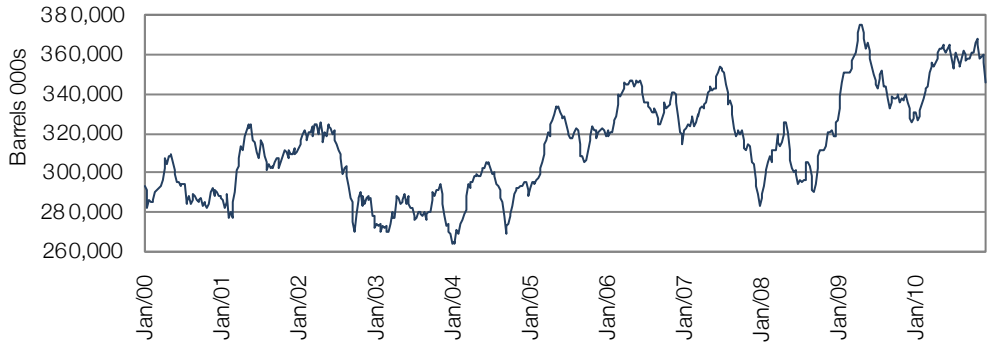
US commercial crude oil inventories have slipped modestly from the recent highs in the second quarter of 2010 but remain elevated by historical standards. Based on Department of Energy (DOE) data, crude inventories stood at 355.9mmbbl on 3 December. This was down 3.8mmbbl on the previous week but up 19.8mmbbl on a year earlier. Compared with the second quarter high of 365mmbbl crude inventories on 3 December were off 9.2mmbbl or 2.5%. Significantly, crude inventories were around 20mmbbl above the upper limit of the average range for this time of year. In fact, the only periods over the past 30 years when crude inventories have been significantly above current levels are May 2009 and the second and third quarters of 1990, when they were between 375mmbbl and almost 390mmbbl.

After declining moderately during October and early November, crude inventories at Cushing, Oklahoma, the WTI basing point and the world's largest tank farm, have edged higher over the past three weeks. As of 3 December Cushing's inventories were 34.9mmbbl, up 0.4mmbbl on the prior week and 1.5mmbbl on a year earlier. Currently, inventories are equivalent to 76% of the EIA's recently identified 45.9mm barrel working capacity for Cushing. Shell capacity has been given as 55mmbbl and is in the throes of being expanded by about 10mmbbl to cater for extra supplies from Canada and the US Mid-Continent.

Gasoline: Seasonally high

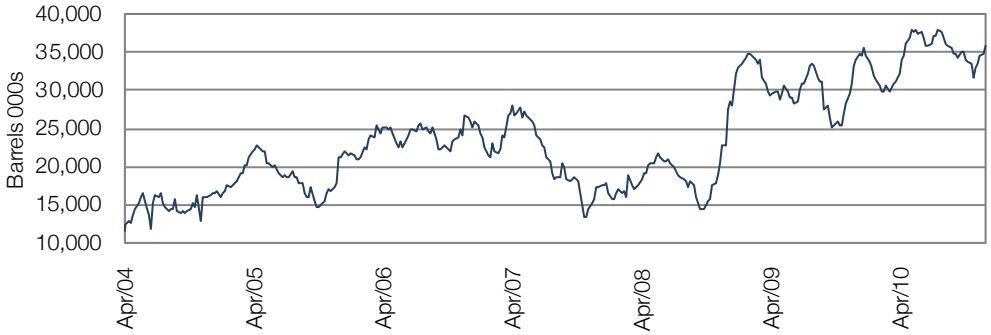
US gasoline inventories have shown a fairly weak seasonal decline since the end of the third quarter of 2010. Based on EIA data, gasoline inventories on 3 December were 214mmbbl, up 3.8mmbbl on the prior week but down 2.3mmbbl on a year earlier. Gasoline inventories currently are just above the upper end of the range for the time of year.

Exhibit 8: US crude oil inventories



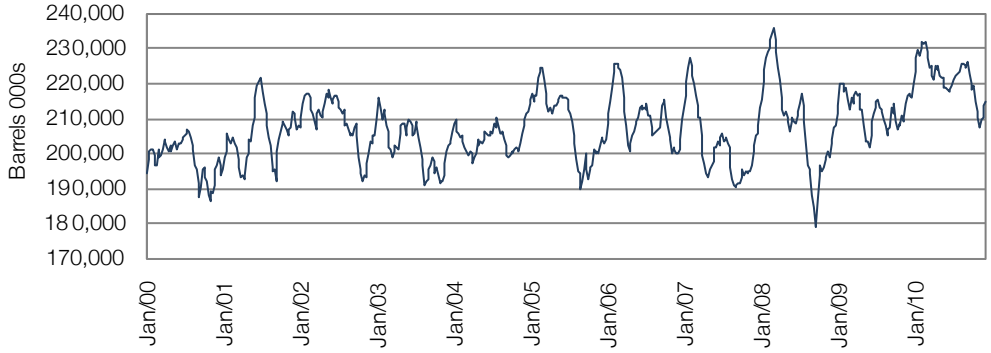
Source: Bloomberg

Exhibit 9: US Cushing oil inventories



Source: Bloomberg

Exhibit 10: US gasoline inventories

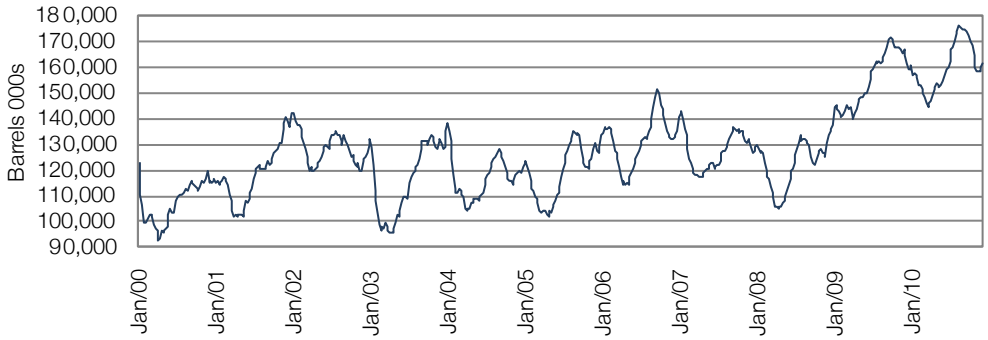


Source: Bloomberg

Distillates: Seasonally high

US distillate inventories have fallen significantly from the 20 year plus peak of 176mmbbl recorded in August 2010 but are still high from a seasonal perspective. At 3 December distillate inventories were 160.2mmbbl, up 2.1mm from the previous week but down 7.1mmbbl or 4% from a year earlier. According to the EIA, distillate inventories currently are slightly above the upper limit of the average range for this time of year. A key factor behind seasonally high distillate inventories, bearing in mind the importance of the heating oil sub-sector, has been generally benign US weather conditions this fall. However, this is now in the throes of changing with the arrival of a substantially colder airstream along the eastern seaboard and in the Midwest.

Exhibit 11: US distillate inventories



Source: Bloomberg

Refinery crack spreads: Firming trend of late

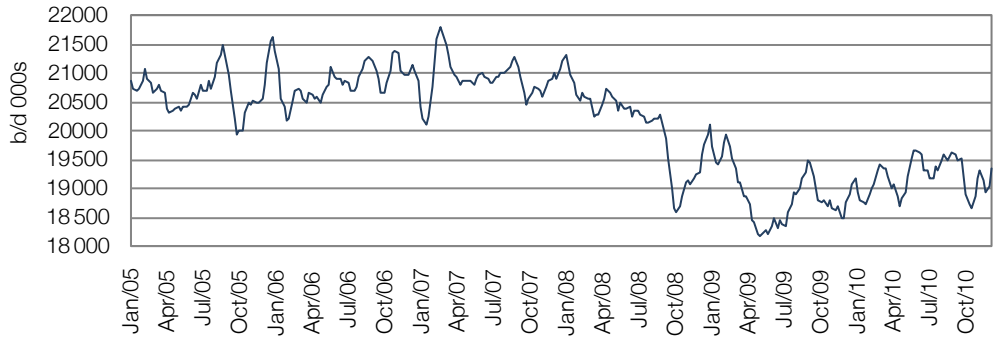
There has been a noticeable widening in US refinery crack spreads since the lows of August. The front month NYMEX WTI 321 crack spread (the margin before refining costs on converting three barrels of WTI into two gallons of gasoline and one of diesel), for example, has risen from the August 23 low of $6.11/barrel to a recent high on 2 December of $12.31/barrel. Subsequently the spread has slipped and on 8 December was at $10.80/barrel. The widening in crack spreads in recent months has been driven by a significant tightening in refined product markets reflecting in part firming demand and in part a sharp cutback in refinery utilisation late in the third and early in the fourth quarters. International factors have probably also been supportive of the tightening tendency. The upshot has been a sharp uptrend in refined product prices that has comfortably outpaced crude. Compared with the lows in August, NY Harbour regular gasoline prices have risen by 27% while diesel has climbed about 25% on the same basis.

Current NYMEX WTI 321 crack spreads are in line with the average since 2005 and imply very comfortably profitable operations for the bulk of US refineries. This applies particularly as utilisation rates have risen sharply since mid October from about 82% to 87.5%. Near term, crack spreads depend largely on two factors, namely, the strength of the economy and hence refined product markets in the coming months and the severity of the winter along the eastern seaboard and Midwest. Unless there is a prolonged spell of extreme weather we think it unlikely that crack spreads can be sustained for long above recent levels of roughly $10-12.5/barrel.

US refined product demand: Stronger than expected

US petroleum product demand has been significantly stronger than expected over recent months and indeed quarters. Based on EIA data, demand, after falling by 0.2% year-on-year in the first quarter of 2010, rose by 2.4% and 4.1% in the second and third quarters respectively. Taking the most recent four week period ending 3 December, demand averaged 19.03mmb/d and was 2.9% higher than a year previously. Not surprisingly given the recovery from recession in 2010 demand has been driven by distillates and several other products orientated to the industrial economy. By comparison, the largest product category, gasoline, which is more exposed to general business activity and personal transportation, has only shown an increase of about 0.3% so far in 2010. Over the most recent four week period gasoline demand has actually fallen 0.7% year-on-year while distillates demand is up 5.3%. Interestingly, jet fuel demand is 1.9% lower over the last four weeks than a year earlier.

Exhibit 11: US petroleum product demand



Source: EIA

For 2010 as a whole the EIA is forecasting US petroleum product demand of 19.09mmb/d, a gain of 1.7% from 2009. Within this forecast gasoline and distillates are expected to show gains of 0.4% to 9.04mmb/d and 4.1% to 3.78mmb/d respectively. Despite the upturn in 2010, petroleum demand still lags by a wide margin the 2005 annual peak of 20.80mmb/d and weekly highs of up to 22mmb/d between 2005 and 2007. However, gasoline consumption will only be 2.6% off the 2007 record of 9.29mmb/d. For 2011 the EIA is looking for modest growth in US petroleum product consumption of 0.9% which we believe is realistic assuming continuing fairly sluggish economic development.

Crude oil price outlook: Upgrading forecasts

Sentiment in the oil market has clearly turned bullish in the closing weeks of 2010 with the benchmark light crude grades moving above the upper limit of the trading range prevailing over the past 18 months or more. We believe in the near term, at least, sentiment will remain bullish which could take WTI and Brent to over $100/barrel on a spot basis during the first and second quarters of 2011. This is expected to be driven by three key factors, namely, further evidence of strengthening economic activity, optimism concerning the latest round of US fiscal stimulus and the distinct possibility in the coming weeks of the simultaneous occurrence of extreme weather in both Western Europe and North America.

We believe the bullish trend may continue through the second quarter before dissipating in the second half of 2011. The latter reflects the likelihood of US economic activity failing to fully respond to stimulatory action, the backwash of the sovereign debt crisis in Europe and economic growth cooling in the large developing economies in response to tightening monetary policy. Particularly during the second half a key wild card concerning oil markets is whether the exceptional factors of 2010 in terms of the heat wave in Japan and misguided energy policies in China do indeed prove exceptional. In the event that they are non-recurring, demand could appear surprisingly soft on a year-on-year comparison in the second half of 2011.

Based on the stronger than expected price trend over recent weeks, we have sharply upgraded our fourth quarter 2010 WTI price forecast from $79.0/barrel to $84.8/barrel. This takes the average for 2010 up from $78.0/barrel to $79.4/barrel. Reflecting the carryover strength from 2010 plus the near term bullish factors mentioned above we have also upgraded our WTI price forecast for 2011 from $79.3/barrel to $90.5/barrel. Our quarterly scenario is as follows: Q1 $92.0, Q2 $95.0, Q3 $90.0, Q4 $85.0. Assuming the non-recurrence of the exceptional factors driving oil demand in China and Japan in 2010 we would expect Brent to perform on average more or less in line with WTI in 2011. For 2012 we are provisionally looking for WTI to average about $90/barrel assuming a broadly balanced market. As we have noted, we think it unlikely that the economy will be sufficiently strong over at least the next two or three years to sustain light oil prices significantly above $95/barrel without severely constraining economic growth and hence oil demand. A spike in WTI to say $120/barrel would probably be followed by a downward spiral much as in 2008 due to discretionary consumer spending being sucked out of the economy.

Exhibit 13: WTI and Brent price trends

Note: YTD December 15, 2010 averages WTI $79.0/barrel, Brent $79.1/barrel. Time series data refer to yearly averages.

$/b	2003	2004	2005	2006	2007	2008	2009	2010e	2011e	2012e
WTI	31.1	41.5	56.6	66.1	72.2	99.8	61.8	79.4	90.5	90.0
Brent	25.0	28.8	38.3	54.5	65.1	97.3	61.7	79.6	90.5	90.0

Source: Bloomberg and Edison Investment Research.

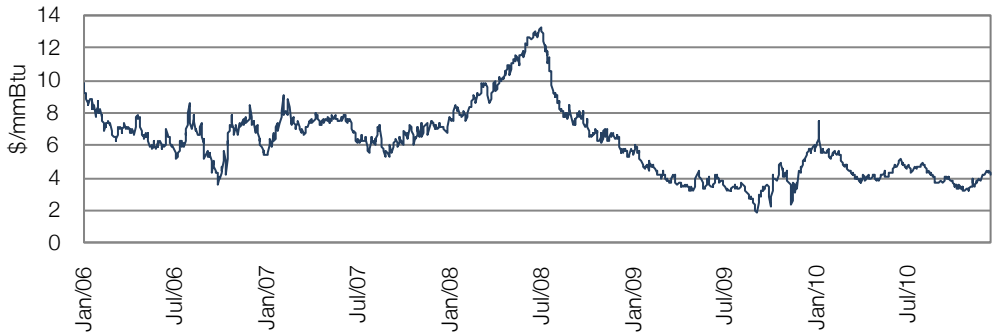
US natural gas prices

Market balance: Buoyant consumption and production

US natural gas consumption has remained buoyant in recent months. For the third quarter of 2010 it was running at 57.83bcf/d, up a hefty 7.7% on a year earlier. During the summer months consumption was buoyed by heavy demands on power generation reflecting high temperatures over much of the country and hence heavy air conditioner usage. Taking the year-to-date September 2010 US natural gas consumption was 5.4% higher than in 2009 driven by industrial and power generation markets, which showed gains of 9.4% and 7.3% respectively. Despite a benign fall weather wise, industry sources point to buoyant natural gas demand continuing in the fourth quarter. A resurgent industrial sector and power generation are likely to have remained the key drivers. In early December the temperatures in the Midwest and Northeast turned decidedly cooler. Generally across the country they were about 2ºF below normal and 5ºF below a year

previously. If sustained, which seems possible, cold weather could significantly boost residential gas demand for space heating in December.

Exhibit 14: Henry Hub price trend



Source: Bloomberg

For 2010 as a whole the EIA is looking for growth in US natural gas consumption of 5.7% to 65.88bcf/d or 24tcf. The EIA continues to forecast broadly unchanged demand in 2011 on the assumption of the non-recurrence of the demand surge in the third quarter of 2010. Notwithstanding this factor, the EIA's 2011 forecast could prove conservative if the latest tax cutting package really does boost economic activity.

The trend in US natural gas production has remained robust. In the year-to-date September 2010 production was up 2.8% driven by the Lower 48 states. Here there was a gain of 4.2%, but this was partly offset by declines in the GOM and Alaska. The EIA is expecting a strong fourth quarter and is looking for a gain in natural gas production of 3.5% to 62.09bcf/d for full-year 2010. This constitutes an upgrade from previous forecasts and would be in line with the 1973 record. For 2011 the EIA continues to forecast broadly unchanged US natural gas production with a gain of 1.4% in the Lower 48 offset by a drop of 14% in the GOM. Natural gas imports have continued to decline in 2010 and for the year as a whole are forecast at 10.17bcf/d, down 1% on 2009 and around 20% on the recent high in 2007. Such is the availability of gas in the Lower 48 that there has recently been talk in industry circles of establishing an LNG plant in Louisiana for export shipments.

Surprisingly perhaps in view of depressed prices, the Baker Hughes natural gas rig count has been pretty stable since April 2010. In the week ended 3 December there were 961 rigs in operation against 971 in April. However, depressed gas industry economics suggest that a significant drop in the rig count is possible in the coming months, which will probably have adverse implications for production in the Lower 48 in 2012. EOG Resources and Chesapeake Energy, two of the pioneers in developing shale gas reserves in recent years, have both indicated of late their intention to shift capital spending away from gas to potentially considerably more profitable liquids.

Inventories: Historically high

US natural gas inventories have shown a seasonal dip in recent weeks but remain at historically high levels for the time of year. Based on EIA data, inventories were 3.73tcf on 3 December. This was a modest 1.3% down on a year earlier but a hefty 10% above the five year average for the time of year. Unless there is a prolonged spell of severe cold weather in the Midwest and Northeast, inventories are likely to remain above average during the winter period.

Prices: Seasonal firming of late

US natural gas prices were under heavy seasonal pressure during the shoulder period between late summer and the onset of the winter inventory withdrawal period typically beginning in late October/early November. However, prices bottomed out in late October at levels significantly above the lows of September/October 2009. Taking the benchmark Henry Hub quote at Erath, Louisiana (NYMEX delivery point), the price plumbed a 2010 low of $3.18/mmbtu on October 25. This nevertheless was significantly above the spot lows of $1.88, $2.86 and $2.68/mmbtu in September, October and November 2009 respectively. Since the October 25 low, the Henry Hub quote has shown a seasonal firming tendency and on 9 December was $4.52/mmbtu, around a four month high but down 14% on a year previously. Assuming that the recent relatively cold weather in the Midwest and Northeast persists over the balance of December, we believe that the Henry Hub quote could average about $4.6/mmbtu during the month and $3.88/mmbtu for the fourth quarter of 2010. This would imply an average for 2010 of $4.40/mmbtu, up 12% on 2009 but down on our earlier forecast of $4.51/mmbtu.

Natural gas prices at many other hubs in the US are significantly lower than at the Henry Hub reflecting a lack of a sizeable local market and inferior access to the major areas of consumption in the Midwest and Northeast. In the case of the Opal, Wyoming hub, for example, the price in early December 2010 was about $4.1/mmbtu and the average for 2010 will probably be in the region of $3.95/mmbtu. US natural gas prices remain low by international standards. For example, LNG prices delivered to Japan extend up to $12-13/mm Btu depending on source while the UK price for natural gas at the virtual NBP hub on December 13 was $9.66/mmbtu using an exchange rate of $1.57/£.

Much has been made of the implications of depressed US natural gas prices for production and particularly investment in field exploration and development. However, it needs to be remembered that lifting and pipeline tie-in costs for the low cost producers are decidedly modest at perhaps $1.5/mcf. This leaves plenty of headroom *vis-a-vis* the prevailing prices even at the hubs with the most depressed quotes. In the short term it is the marginal cost-pricing relationship that will determine production levels rather than fully accounted costs. Production may therefore hold up better than many expect in 2011. Fully accounted costs, including finding and development and SG&A, are in the region of $3.5/mcf for the lower cost producers so even a Henry Hub natural gas price averaging around $4.5/mmbtu may be perfectly sustainable for a surprisingly long period. As EOG Resources has suggested the new normal for US gas prices might be $4 to $7/mmbtu rather than the $7-10/mmbtu expected say five years ago, before the advent of the surge in US shale gas production.

For 2011 we are maintaining our earlier Henry Hub average price forecast of $4.70/mmbtu. This assumes much the same weather conditions as in 2010 and a modest tightening of the market towards the back end of the year. For 2012 we are provisionally looking for an average Henry Hub quote of $5.20/mmbtu based on the assumption of a further tightening in the market place driven in part by demand growth and in part by a continuing levelling off or maybe modest decline in production. As always, much will depend on the wild card of weather conditions.

Exhibit 15: Henry Hub quarterly scenario

Note: Average 1 January to 15 December 2010 $4.38/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	3.88e	4.40e
2011	5.10e	4.35e	4.60e	4.75e	4.70e

Source: Bloomberg and Edison Investment Research

Exhibit 16: Henry Hub natural gas price trend

	2003	2004	2005	2006	2007	2008	2009	2010e	2011e	2012e
$/mmBtu	5.63	5.85	8.79	6.72	6.96	8.89	3.94	4.40	4.70	5.20

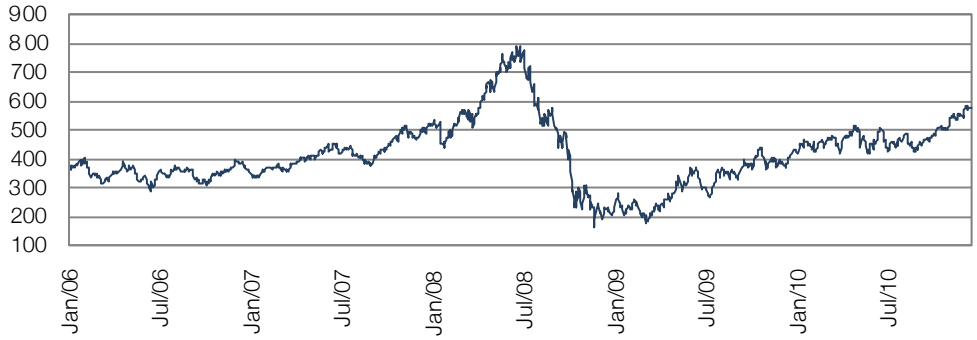
Source: Bloomberg and Edison Investment Research

Share price performance and investment reflections

Performance: Strong performance by the AIM juniors

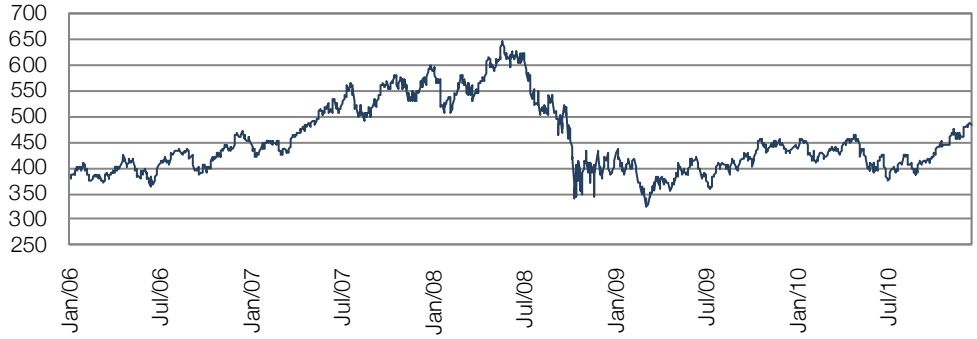
Both large capitalisation and junior oil stocks have generally performed strongly in recent weeks, but the latter have been the clear winners in 2010. The FTSE 350 Oil & Gas Index of large and mid-tier capitalisation UK oil and gas stocks has recovered much of the ground lost in the aftermath of BP's Macondo well disaster at the end of April and as of 13 December was up 32% from the 1 July low. It is, however, still down 4% from the first trading day of 2010 and 8% from the 20 April 2010 high immediately prior to the Macondo incident. The broadly based S&P 500 Oil & Gas Index of large and mid capitalisation US energy stocks, which arguably provides a better guide in 2010 to the underlying performance in oil and gas than the FTSE 350, is up 12% from the beginning of the year. After trending broadly flat between the end of the third quarter of 2009 and early in the third quarter of 2010 the AIM Oil & Gas Index of junior stocks has subsequently risen about 35%. This has taken the Index up a hefty 40% from the start of 2010 to around a 28 month high. For perspective, the FTA All Share Index has risen 7% since the start of 2010 while the AIM All Share Index has climbed 33%. The S&P 400 Oil & Gas Index of mid tier US E&P stocks has also had a very strong performance since the start of 2010 with a gain of 50%.

Exhibit 17: S&P 400 E&P index



Source: Bloomberg

Exhibit 18: S&P 500 Oil and Gas index



Source: Bloomberg

The AIM junior oil and gas stocks have continued to be propelled by intense speculative interest in oil and gas exploration and development stories. Over the past two months or so the news flow among the juniors has been mixed. Examples of three stocks with some significant positive exploration news have been Aminex, Cove Energy and Gulf Keystone. Aminex, a well established junior with a full London Stock Exchange listing, announced in late October a significant oil (70%) and gas find on its Shoats Creek property in Louisiana. The find was made at the 50% owned OM10-1 well drilled by the operator El Paso while appraising the Upper Wilcox sandstones. The well is currently towards the end of a 60 day test and has been producing at 500boe/d. Further drilling of the Wilcox formations is expected in 2011 which could ultimately result in a sizeable increase in Aminex's output. Even more significant in due course at Aminex could be its onshore and offshore Tanzania acreage. The 50% owned offshore Nyuni licence is now believed to have mean GIIP of 2.8tcf. A well is planned here in the first quarter of 2011.

Offshore Tanzania and Mozambique is indeed attracting increasing attention by explorers. Cove Energy's exposure to the region through its partnership with a consortium led by Anadarko has already proved deeply rewarding. The stock has shown around a fivefold gain since the beginning of the year. At the end of November Anadarko announced its Lagosta natural gas discovery in the Rovuma Basin offshore Mozambique. Significantly, this was Anadarko's third discovery in the zone in 2010. Cove's working interest is 8.5%. Anadarko now believes that it has sufficient resources in the Rovuma Basin to justify an LNG project and has indicated that it expects to find at least 4tcf of

gas in the zone. Following its £110m share placing in November Cove appears to have adequate financing in place to keep pace with Anadarko's rapid exploration schedule.

Gulf Keystone has been one of the most successful junior explorers over the past year or two. This reflects particularly the Shaiken-1 discovery in Kurdistan which could portend a truly giant find. The stock has virtually doubled over the past year. Helping embellish the story of late was the announcement on 6 December of MOL's submission to the Kurdistan authorities of a discovery report relating to the Bijell-1 exploration well in which Gulf has a 20% stake. This followed the completion of well testing in November. P50 oil-in-place has been put at 2.42bnboe in the Jurassic formations. Unfortunately the oil is heavy, but recoverable reserves could still potentially be around 500mmbbl. In the Shaiken block Gulf announced on December 1 the spudding of the Shaiken-2 appraisal well. This is a deep well aiming to appraise the Cretaceous, Jurassic, Triassic and Permian formations at depths of up to 5,000m (Shaikan-1TD of 2,950m). It will take approximately six months to drill and test. A significant increase in the P90 to P50 OIP of 1.9bn to 7.4bnbbl is a very real possibility. Gulf has indicated that the Shaikan structure has the potential for OIP of up to 13bnbbl. The key issue now surrounding Gulf Keystone is possibly not so much geological but political. Exports from Kurdistan continue to be embargoed due to an absence of a production revenue sharing between the regional authority and the central government in Baghdad.

The inherent risks of oil exploration have recently been highlighted by Desire Petroleum. After a detailed analysis of the wire line logs, its Rachel North well in the North Falklands Basin was found to contain mainly water and only residual hydrocarbons. This finding followed a bullish statement a few days earlier. Nevertheless, oil appears to have flowed through the reservoir sands at some stage and Desire has indicated that the reservoir quality in the upper sands is good. Not surprisingly perhaps, Desire continues to believe in the prospectivity of the East Flank Play fairway. A well on the Dawn/Jacinta prospect towards the southern extremity of the Basin is planned in the near term. Desire has fallen about 50% since the news broke on the Rachel North well on 6 December.

Portfolio re-focusing

As far as the large capitalisation stocks are concerned the key story of late has been asset portfolio refocusing. This, of course, has been most apparent in the case of BP which is now over 70% of the way to raising the $30bn that it has earmarked for compensation, clean-up costs and possible fines in the wake of the Macondo disaster. The two latest disposals relate to the sale of 60% stake in Pan American Energy, the second largest petroleum producer in Argentina and the bulk of BP's assets in Pakistan. The latter were sold to Hong Kong-based United Energy Group Ltd, for $775m or $18.1/barrel of the proved reserves of 43.1mboe. We regard this as a very positive outcome for BP. Generally the prices obtained by BP in its disposal programme have surprised to the upside and would imply a far higher valuation for the company than suggested by the current share price. There is, however, nothing unusual in this finding. The oil majors have long been known as stores of value.

The buyer of the Argentine assets, not surprisingly, was the Bridas Corporation which already owned 40% of Pan American. Bridas owned jointly by local Argentine interests and the Chinese major CNOOC paid $7.06bn for the 60% stake. This equated to $7.7/barrel (a little higher including

assumed debt) of the net proven reserves of 917mmbbl. In March 2010 CNOOC acquired 50% of Bridas for $3.1bn or $9.7/barrel of proved reserves. The valuation basis for the Pan American assets is low by international standards for high quality proven reserves and profitable operations but it has to be remembered that the regulatory regime in Argentina is demanding given hefty export taxes and domestic prices for oil and gas that are below international levels. There are, however, signs that the regulatory regime may be easing given the desire to boost reserves and output. The domestic prices, for example, have been made more favourable for shale gas discoveries. Interestingly, RepsolYPF recently announced a large 4.5tcf shale gas discovery at Loma de la Lata in Provincia Neuquen. This is the largest discovery in Argentina in 35 years. Another point to bear in mind about Argentina is that presidential elections in 2011 could usher in a more liberal oil and gas regulatory regime. The driver is the need to boost supplies to help sustain rapid economic growth.

Elsewhere in Argentina, Occidental recently decided to sell its local E&P interests which have proved and probable reserves of 393mmboe and production of 51,000boe/d. The buyer this time was Sinopec, the Chinese integrated major and the consideration was $2.45bn. The valuation basis of $6.2/boe looks to be broadly in line with that of the Pan American Energy-BP deal, once allowance is made for assumed debt. CNOOC and Sinopec have been on a major acquisition binge in 2010 in Latin America in general with transactions to date valued at over $20bn. The reasons appear to be the availability of large scale reserves at low valuations internationally. The strategy is contrarian and we believe may well prove shrewd.

Occidental has decided that it wishes to focus strategically on the US. Towards this end and subsequent to the Argentine disposal it has spent $3.2bn on oil and gas assets in south Texas and North Dakota. The former are mainly mature gas related properties with proved reserves of 360bcfe or 60mmboe producing 200mmcf/d. They have been bought from Royal Dutch Shell for a hefty $1.8bn, equivalent to $30/boe. However, the properties are believed to be capable of substantial development based on the estimated resource potential of 840bcfe.

In North Dakota the assets being acquired relate to leases at a Bakken/Three Forks shale oil play in the Williston Basin. The consideration is $1.4bn. Production is about 5,500b/d and the seller is a private individual. Bakken/Three Forks plays have been attracting considerable interest in 2010 from a number of mid-tier E&P concerns and even Exxon itself. The Bakken/Three Forks formations of the Williston Basin have so far proved to be easily the most prolific of the shale plays. The technology to unlock the difficult to access oil through horizontal drilling and multi-stage fracs now seems to have been largely perfected in the Bakken formations, while the recoverable reserve base is still substantial at up to an estimated 4.3bnbbl according to the USGS in North Dakota and Montana alone. An added attraction is that the Bakken/Three Forks formations yield high quality oil that sells in line with WTI. With WTI nudging $90/barrel variable netbacks can easily be $50/barrel or more.

Although not as large as that of BP, Shell has been undertaking its own divestiture programme in 2010. The objective is to reduce dependence on mature assets such as in south Texas and to re-focus on projects with perceived greater growth potential such as large scale gas projects in Australia and the Middle East, the Athabasca tar sands and the Texas Eagle Ford shale plays.