GUINNESS ATKINSON FUNDS

Energy brief

Tim Guinness

November 2011

Commentary and Review by portfolio manager
Tim Guinness

REPORT HIGHLIGHTS

FUND NEWS
• Fund size $160million at end of October

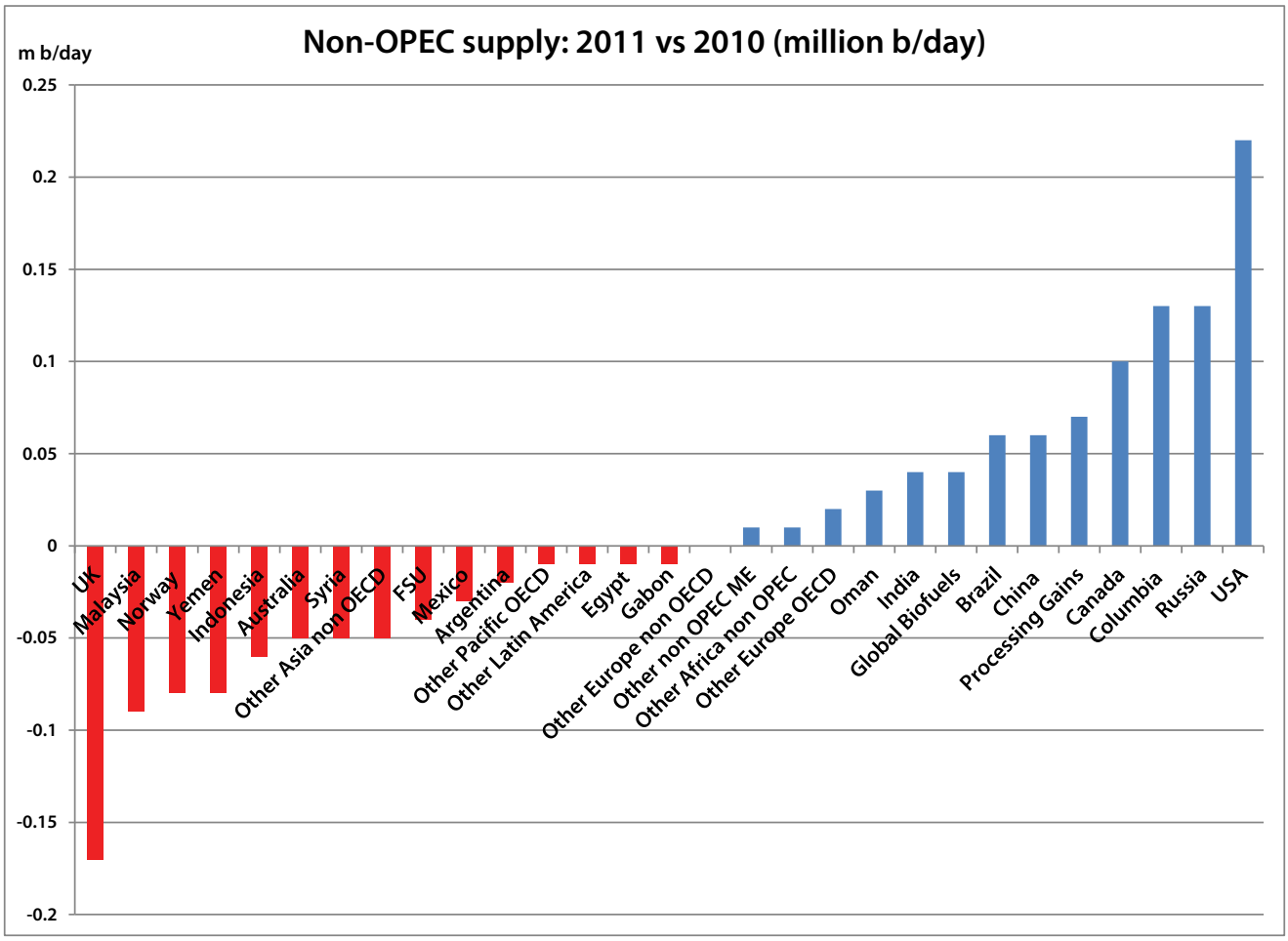
OIL
• Oil strong as equity and commodity markets make up ground. Libyan production up 200,000 b/day in October

NATURAL GAS
• US onshore natural gas production up 10% year-on-year; price is below $4

EQUITIES
• MSCI World Energy Index up 17.12% in October, compared with S&P 500 Index up 10.93%

Chart of the month:

Non-OPEC oil supply growth in 2011 at zero if biofuels and processing gains excluded.



Source: Bloomberg LP (November 2011)

Oil Market – October 2011 Review

Figure 1: Oil price (WTI $/barrel) 18 months April 30, 2010 to October 31, 2011
Source: Bloomberg

The West Texas Intermediate (WTI) oil price began October at $79.20 and fell sharply at the beginning of the month to reach $75.67 on October 4. It then rallied strongly throughout the rest of October and ended the month at $93.19. WTI has now averaged $94.48 for the year to date.

October saw a continuation of the divergence between the WTI and Brent benchmark oil prices that started at the beginning of 2011, although the spread narrowed quite significantly in October. Whereas WTI has historically traded at a small premium to Brent, Brent opened the month around $25 higher than WTI (at $104.26) and closed the month around $16 higher (at $109.52). Oversupply of oil to the WTI trading hub at Cushing, Oklahoma and a shortage of light sweet crude supply from MENA/Europe post the drying up of Libyan supply continue to be the main reasons for the ongoing divergence. Significantly, the WTI futures curve moved into backwardation towards the end of October for the first time since 2009, which was one of the reasons for the narrowing of the WTI-Brent spread.

Factors which strengthened the WTI oil price in October included:

- **Equity and commodity market recovery.** After the heavy sell-off in August and September, there was a strong bounce back in global equity and commodity markets in October. The MSCI World Index was up 10.4%, while the S&P Goldman Sachs Commodity Index was up 9.6%. The market derived short term confidence from the ongoing attempts of European policymakers to solve the debt crisis, although the sharp sell off at the month end demonstrated how quickly the mood can change.

- **Dollar weakness.** After five months of Dollar strength against the Euro, the Dollar fell 3.5% against the Euro in October. The biggest single drop was on October 10 (2%) – the WTI price rose almost $2.50 that day.

- **Non-OPEC supply.** Non-OPEC supply is now forecast by the International Energy Agency (IEA) to grow by only 0.2m barrels/day (b/day) in 2011, while demand, even allowing for recent downgrades, is still forecast to grow in 2011 by 1m b/day. The initial forecast was for non-OPEC supply growth of around 1m b/day this year, but this has been steadily revised down. The struggle for the world to grow production outside OPEC persists.

Factors that strengthened the oil price in October included:

- **Demand downgrades.** In their October report, the International Energy Agency (IEA) revised down global oil demand for 2011 and 2012 by 0.1m b/day and 0.2m b/day respectively. This still leaves demand growth forecasts at 1m b/day and 1.3m b/day for 2011 and 2012 respectively, but the downward revisions reflect lower economic growth expectations. We would not be surprised to see these numbers come down further.

- **Recovering Libya production.** Libyan production is reported to have increased by 250,000 barrels/day in October, from 0.1m b/day to 0.35m b/day. It is difficult to forecast with any certainty how long it will take for production to recover fully (to 1.6m b/day), but using Kuwait in 1990-1991 as a precedent leads us to think that 18 months to 2 years is a likely timeframe.

Speculative and investment flows

The New York Mercantile Exchange (NYMEX) net non-commercial crude oil futures open position grew in October. It started the month at 138,000 contracts long and rose to 160,000 contracts. This represents a meaningful long position and suggests that there remains some speculative premium in the current oil price.

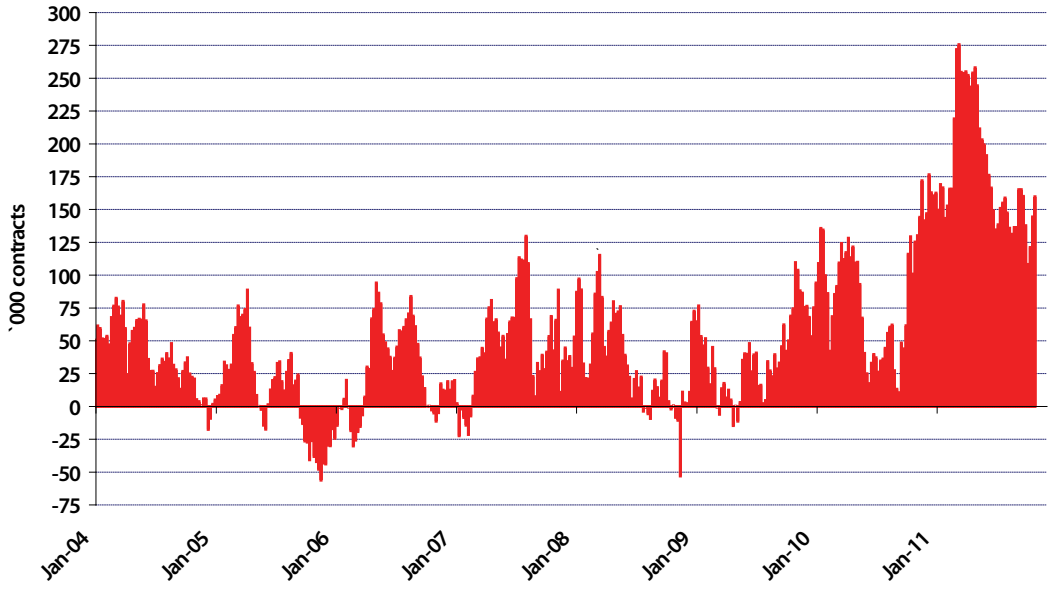


Figure 2: NYMEX Non-commercial net futures contracts: WTI January 2004 – October 2011
Source: Bloomberg/Nymex (October 2011)

OECD stocks

The August 2011 OECD total crude and product number published in the October IEA Oil Market Report fell by 3 million barrels from 2,695 million barrels, giving a total stock of 2,692 million barrels. When expressed as number of days of demand cover (58.4 days), we see that we are below the July 2010 level (60.0 days) but towards the top of the tight/loose spread of 1999-2008.

Preliminary indications for the September 2011 OECD total crude and product number (also published in the October IEA Oil Market Report) suggest that total OECD inventories fell by 13 million barrels, giving a total stock of 2,679 million barrels.

Against the 5 year rolling average published by the IEA, inventories have moved from the high end of the range to the middle over the last 12 months. Against the 1999-2008 range they remain high but in rather than outside the range.

Our projections for inventory levels over the rest of 2011 are heavily dependent on assumptions for how long production outages in Libya last, the continuing OPEC-12 response to the Libyan outage and the extent of weakening demand in the OECD region in response to lower expectations for economic growth. Most recently we have seen OPEC-12 production back at the level we saw at the start of the year, with Saudi Arabia compensating for most of the shortfall from Libya. However, even allowing for a supply response of this scale from the Saudis, our projections (blue line) suggest a tightening of commercial stocks towards the middle end of the range by the end of the year. The additional 60 million barrels, which are supposed to come into the market from the IEA emergency release, either as oil finding its way onto the physical market or oil staying in storage but having its classification changed from strategic to commercial, should now be reflected in the reported storage figures.

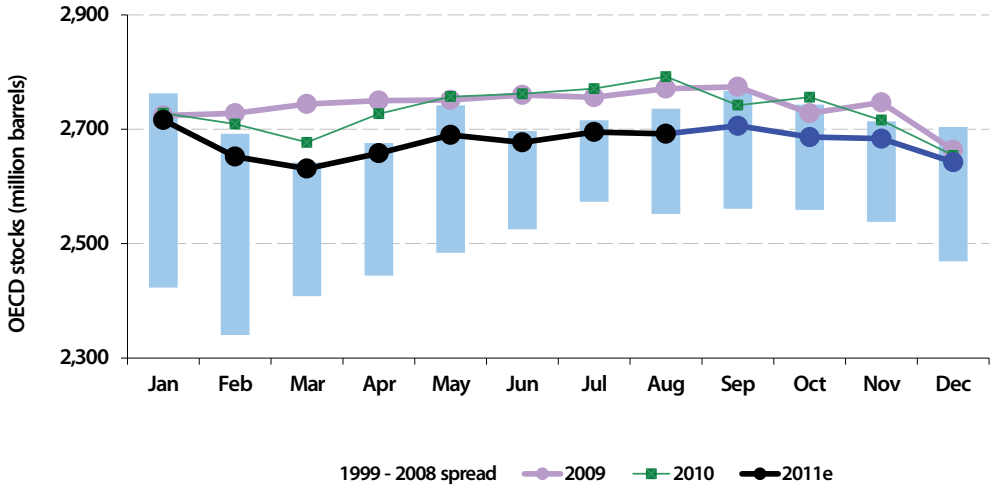


Figure 3: OECD total product and crude inventories – monthly 1998 to 2011
Source: IEA Oil Market Report (October 2011); Guinness Atkinson Asset Management estimates

Oil Market – Outlook

The table below illustrates the difference between the growth in world oil demand and non-OPEC supply over the last 11 years together with the IEA forecasts for 2011 and 2012.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010e	2011e IEA	2012e IEA
World Demand	76.7	77.4	77.7	79.3	82.5	84.0	85.2	87.0	86.5	85.5	88.2	89.2	90.5
Non-OPEC supply (includes Angola and Ecuador for periods when each country was outside OPEC[1])	46.2	47.2	48.1	49.1	50.3	50.4	51.3	50.5	49.6	51.5	52.6	52.8	53.7
Angola supply adjustment[1]	-0.8	-0.7	-0.9	-0.9	-1.0	-1.2	-1.4	0.0	0.0	0.0	0.0	0.0	0.0
Ecuador supply adjustment[1]	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	0.0	0.0	0.0	0.0	0.0
Indonesia supply adjustment[2]	1.2	1.2	1.1	1.0	1.0	0.9	0.9	1.0	1.0	0.0	0.0	0.0	0.0
Non-OPEC supply (ex. Angola/Ecuador and inc. Indonesia for all periods)	46.2	47.3	47.9	48.8	49.8	49.6	50.3	51.0	50.6	51.5	52.6	52.8	53.7
OPEC NGLs	3.1	3.4	3.7	3.9	4.2	4.3	4.3	4.3	4.5	4.9	5.3	5.9	6.3
Non-OPEC supply plus OPEC NGLs (ex. Angola/Ecuador and inc. Indonesia for all periods)	49.3	50.7	51.6	52.7	54.0	53.9	54.6	55.3	55.1	56.4	57.9	58.7	60.0
Call on OPEC-12[3]	27.4	26.7	26.1	26.6	28.5	30.1	30.6	31.7	31.4	29.1	30.3	30.5	30.5
Iraq supply adjustment[4]	-2.6	-2.4	-2.0	-1.3	-2.0	-1.8	-1.9	-2.1	-2.4	-2.4	-2.4	-2.7	-2.7
Call on OPEC-11[5]	24.8	24.3	24.1	25.3	26.5	28.3	28.7	29.6	29.0	26.7	27.9	27.8	27.8

[1]Angola joined OPEC at the start of 2007, Ecuador rejoined OPEC at the end of 2007 (having previously been a member in the 1980s)
[2]Indonesia left OPEC as of the start of 2009
[3]Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi, U.A.E. Venezuela
[4]Iraq has no offical quota
[5]Algeria, Angola, Ecuador, Iran, Kuwait, Libya, Nigeria, Qatar, Saudi, U.A.E. Venezuela

Source: 2000 - 2009: IEA oil market reports; 2010 - 11: 12 October 2011 Oil market Report

Global oil demand for 2010 was 2.7m b/day up on 2009, comprising a rise of 0.6m b/day in the OECD and a rise of 2.1m b/day in non-OECD territories. It is worth noting that this means the combined effect of the 2007-8 oil price spike and the 2008/09 recession was quite small and shrugged off remarkably quickly. 2011 demand is forecast by the IEA to increase by a more modest 1m b/day on 2010, but still implies that this year will comfortably be another record high for global oil consumption, surpassing the pre-recession high (2007) by 2.2m b/day. The IEA forecast a further 1.3m b/day rise in demand in 2012, but the key variable driving this forecast – global GDP growth – is subject to uncertainty at present.

OPEC

Two and a half years ago at its extraordinary meeting on December 17, 2008, OPEC announced a new quota target of 25.0m b/day with effect from January 1, 2009. This amounted to a 4.2m b/day cut from the actual OPEC-11 September 2008 production level of 29.2m b/day. Since then, quotas have remained unchanged.

OPEC-11 production for October 2011 has initially been reported as 27.48m b/day, up 200,000 b/day from September as Libyan production begins to recover. If this proves to be accurate, and we note that these numbers are often subject to quite meaningful revisions, OPEC October compliance will have been at 1.8m b/day (~40%), down from a peak of around 3.8m b/day (~90%).

The compliance picture is a complex one, with Iran, Nigeria and Venezuela originally acting as principal over-producers, joined more recently by Saudi Arabia, Kuwait and the UAE who have increased production to counter the shortfall created by Libya's production being curtailed by approximately 1.5m b/day. The table below shows changes in production among OPEC-12 since the start of the year. If this data proves to be accurate, it suggests that the shortfall caused by the Libyan crisis has now been more than made up by the other members. Saudi production alone is up 1.5m b/day, and total OPEC-12 production is 1.1m b/day higher than December 2010.

	31-Dec-10	31-Oct-11	Change
Saudi	8,250	9,660	1,410
Iran	3,700	3,575	-125
UAE	2,310	2,555	245
Kuwait	2,300	2,545	245
Nigeria	2,220	2,130	-90
Venezuela	2,190	2,290	100
Angola	1,700	1,800	100
Libya	1,585	345	-1,240
Algeria	1,260	1,275	15
Qatar	820	825	5
Ecuador	465	485	20
OPEC-11	26,800	27,485	685
Iraq	2,385	2,770	385
OPEC-12	29,185	30,255	1,070

Source: Bloomberg LP (November 2011)

Near term OPEC production levels will be influenced by the ongoing situation in Libya. While there is significant uncertainty regarding the timing of a recovery in the Libya's production, we think that other members will scale back supply as Libya production rises.

OPEC met on June 8th in Vienna and were widely expected to move the formal quota up to around the level at which they had been producing. However, this was not the outcome, and reports from the meeting stated that members were unable to reach consensus on changes to the quota. The next formal OPEC meeting is scheduled for December 14, 2011.

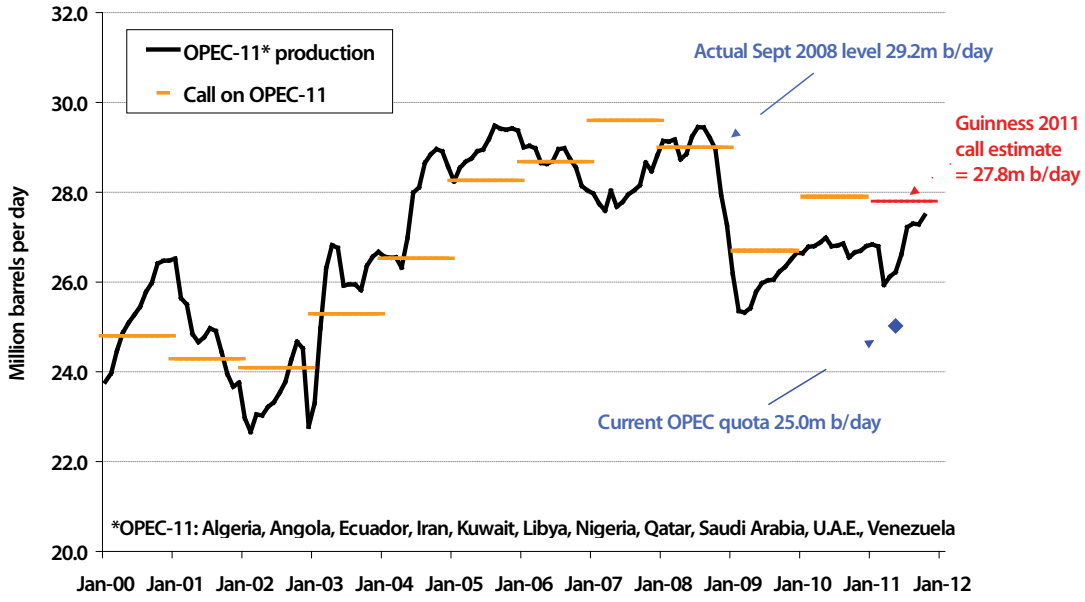


Figure 4: OPEC apparent production vs call on OPEC 2000 – 2011
Source: Bloomberg/IEA Oil Market Report (October 2011)

Supply looking forward

The non-OPEC world is struggling to grow production meaningfully. The growth was 2% per annum between 1998-2003, 1% from 2003-2008 and is forecast 0.5% from 2008-2013.

The current IEA estimate is that 2010 non-OPEC supply growth came in at 1.1m b/day, despite a slow-down in Gulf of Mexico drilling in the aftermath of the April 2010 rig explosion. Non-OPEC production growth for 2011 is currently forecast at 0.2m b/day (up by c.0.4%), having been forecast as high as 0.8m b/day at the start of the year. Since then, supply growth in every region except North America has been revised down. The IEA currently forecast non-OPEC supply growth of 1.0m b/day in 2012, reflecting a greater pipeline of new project start-ups than 2012.

Looking further ahead we must consider the impact of potential increases in supply from Iraq, an OPEC member that has no formal quota. The question of how big an increase is likely, in what timescale, and the reaction of other OPEC members are all important issues. Our conclusion is that while an increase in Iraqi production may be possible, say 2-3m barrels over the next 5 years, if it occurs it will be surprisingly easily absorbed by a combination of OPEC adjustment, if necessary, weak non-OPEC supply growth and continuing growth in demand from developing countries of 10 -15m b/day over the next 10 years. Iraqi production is currently running at 2.8m b/day, down from a high of 3.6m b/day in mid 2000.

Demand looking forward

The IEA forecast for growth in non-OECD demand in 2011 is 1.30m b/day, down from 2.19m b/day in 2010. The components of this growth can be summarized as follows:

m b/day	Demand 2009	Demand 2010	Demand 2011	Growth 2010	Growth 2011	Change in growth	
Asia	18.19	19.46	20.28	1.27	0.82	down	-0.45
M. East	7.49	7.78	7.93	0.29	0.15	down	-0.14
Lat. Am.	5.99	6.30	6.47	0.31	0.17	down	-0.14
FSU	4.18	4.48	4.67	0.30	0.19	down	-0.11
Africa	3.33	3.39	3.36	0.06	-0.03	down	-0.09
Europe	0.71	0.69	0.69	-0.02	0.00	up	0.02
	39.89	42.10	43.40	2.21	1.30		

Figure 5: Non-OECD oil demand
Source: IEA Oil Market Report (October2011)

As can be seen the main area of decline in growth is in Asia, followed by Latin America and the Middle East.

Regarding OECD demand, the IEA is forecasting a small decline in demand (0.32m b/day) with North America and Europe down while the Pacific up slightly. The most recent data points for US weekly refined product consumption suggest that year on year demand is down by around 2-3%. If this level of decline persists for the rest of the year, overall US demand in 2011 may be down slightly more than the IEA is forecasting.

Looking ahead into 2012, forecasts for global oil demand depend heavily on the assumption used for global GDP growth. The IEA's forecast of 1.3m b/day demand growth is based on global GDP growth of 3.9%. We consider that a more conservative GDP forecast of, say, 3.5%, would likely yield demand growth of nearer 1.0m b/day.

Conclusions about oil

From the low of $31.42 on December 22, 2008, we have seen the oil price (WTI) recover to above $70 by May 2009, and range trade around $65-$85 for the subsequent 20 months. In November 2010 it moved above this range, spiking to over $110 and Brent over $125 with the loss of Libyan production. Most recently, WTI has corrected to around $90 and Brent to around $110, something we have not been surprised to see given that an oil price above $85 is not particularly supported by the current supply/demand and inventories balance.

The table below summarizes our view by showing our oil price forecasts for WTI and Brent against their historic levels and the rises in percentage terms that we have seen in the period from 2002 to 2010.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011e	2012e
Average WTI ($)	26.1	31.2	41.7	56.6	66.1	72.2	99.9	61.9	79	90	75
Average Brent ($)	25.1	28.9	38.5	54.7	65.5	73.2	97.1	62.5	80.8	107.5	95
Average Brent/WTI	25.6	30.1	40.1	55.7	65.8	72.7	98.5	62.2	79.9	98.8	85
Average Brent/WTI Change+ y o-y ($)	-	4.45	10.1	15.6	10.2	6.9	25.8	-36.3	17.7	18.9	-13.75
WTI Change+ y-o-y (%)	-	17%	33%	39%	18%	10%	35%	-37%	28%	24%	-14%

e = estimate + using midpoint
Source: Bloomberg, Guinness Atkinson Asset Management estimates (November 2011)

This reflects a belief that any sustained breakout in the oil price is unlikely until OPEC's production cuts are fully unwound. We think the most likely scenario going forward is that we will see the average price of Brent and WTI remain in a trading range of $80-$100 per barrel, with tightness in supply being dampened by weak economic growth in the US and Europe and any significant price weakness below $80 (average) prevented by OPEC cuts.

In the short term, with the Libyan crisis resolving itself, any MENA-associated uncertainty of supply should be falling. We would be remiss, however, if we did not highlight our concern that the Syria unrest is particularly worrying. With Hezbollah and Iran backing the Alawite/Shia minority government and Saudi sources financing the arming of Sunni rebels in Syria, there is a worrying risk that Iran responds by trying to destabilize the Shia (oil producing) eastern region of Saudi Arabia.

Natural gas storage –October 2011 in review

The US spot natural gas price (Henry Hub) opened the month at $3.67 per Mcf (1000 cubic feet) and range traded over the month between $3.40 and $3.72 before closing slightly down to $3.66 at the month end. The spot gas price has averaged $4.15 so far in 2011, down from $4.38 in 2010, which is significantly below the average in each of the previous 5 years (2005-2009).

The 12-month gas strip price (a simple average of settlement prices for the next 12 months' futures prices) range traded between $3.93 and $4.11, closing at $4.11. The strip price is averaging $4.49 in 2011, having averaged $4.86 in 2010 and $5.25 in 2009.

Figure 5: Henry Hub Gas spot price ($/Mcf) 18 months – April 30, 2010 to October 31, 2011
Source: Bloomberg (November 2011)

Factors that weakened the US gas price in October included:

- **US production growth.** The August data (latest available) from the Energy Information Agency indicated that onshore US natural gas production grew for the sixth consecutive month. As a point of reference, there have only been three months since the end of 2009 in which onshore natural gas production has fallen month on month. At 64.9 Bcf/day it is 10% over the August 2010 level. The principal areas of onshore production growth over this period have been Louisiana (Haynesville shale) and Pennsylvania (Marcellus shale).

- **Storage levels.** Despite the growth in production, robust demand, particularly for electricity generation (cold winter and hot summer), has kept storage levels in check for most of 2011. Indeed, between the beginning of the year and the end of August, the storage level moved from 8% above the 5 year average to 1% below it. However, injections of gas since the end of August have been seasonally far higher. The 385 Bcf, which went into storage in October, far exceeded the five-year average for the month (229 Bcf). The storage level at the end of October stood at 6% above the five-year average and very similar to last year's elevated level.

Natural gas storage

Swings in the supply/demand balance for US natural gas should, in theory, show up in movements in gas storage data. The following graph shows the 12 month gas strip price (in black) against the amount of gas in storage expressed as the deviation from the 5 year storage average (in green). Swings in storage have frequently been a leading indicator to movements in the gas strip price.

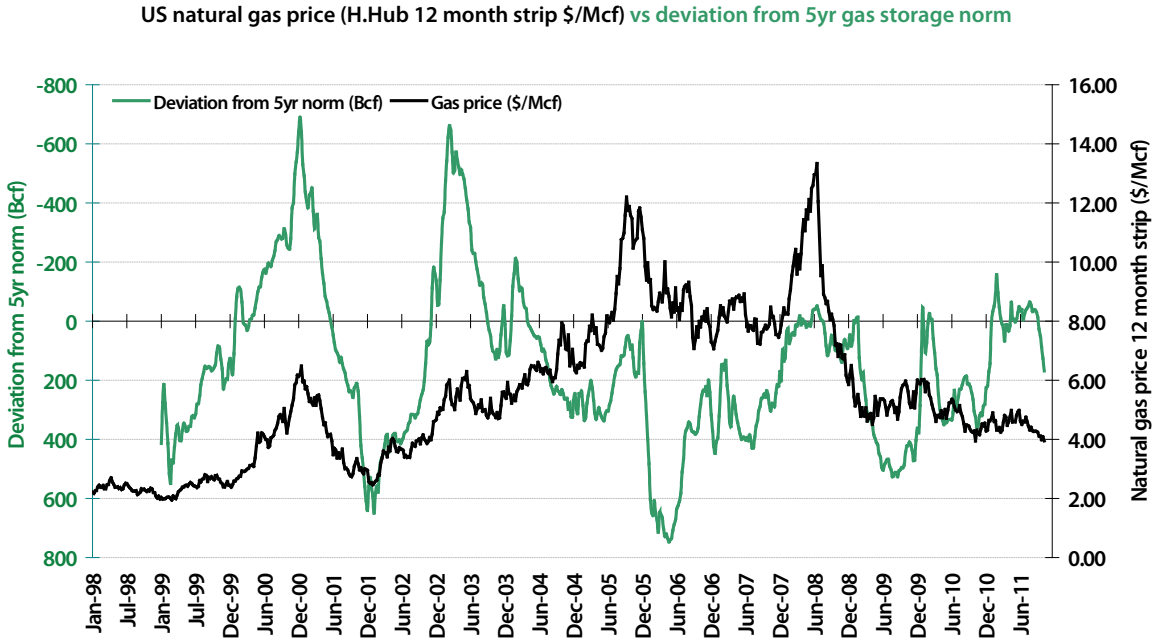


Figure 6: Deviation from 5 yr gas storage norm vs. gas price 12 month strip
Source: Bloomberg, EIA (November 2011)

The surplus of gas in the second half of 2008 and 2009, a result of oversupply during the recession, can be seen in gas storage data, with the inflection point in storage occurring in July 2008 and the storage line moving from negative (i.e. deficit) to positive (i.e. surplus) territory over this 18 month period. This coincided with the gas strip price falling from a peak of over $13 in July to below $5. An unusually cold 2009/10 winter boosted demand and pushed the gas storage level back into balance, only for oversupply to persist again for much of the rest of 2010. This has contributed to the gas strip remaining below $5. Over the past 12 months, a cold 2010/11 winter followed by a hot summer has tightened storage again, with storage levels staying below the 5 year average for much of this period. However, most recently, a return to more normal weather conditions has coincided with an oversupply of gas into storage – a factor in the anaemic price response we have seen since the summer.

We watch movements in gas storage closely, as it is likely to be a coincident indicator, weather adjusted, for the start of a sustained gas price recovery.

Natural Gas Market - Outlook

Supply & demand recent past

The depressed gas price that has persisted in the US since the middle of 2008 reflects the fact that supply/demand fundamentals have been materially different to preceding years.

The supply side fundamentals for natural gas in the US are driven by 5 main moving parts: onshore and offshore domestic production, net imports of gas from Canada, exports of gas to Mexico and imports of liquefied natural gas (LNG). Of these, onshore supply is the biggest component, making up over 75% of total supply. In 2007 and 2008 onshore production grew at an accelerating pace as gas shales were developed using advances in horizontal drilling and "fraccing" techniques, offsetting declines in offshore production and imports from Canada and of LNG. Total supply fell in 2009 as onshore production declined, but it grew again strongly in 2010 as horizontal drilling accelerated once more.

On the demand side, industrial gas demand and electricity gas demand, each about a third of total US gas demand, are key. Commercial and residential demand, which make up the final third, have been fairly constant on average over the last decade - although yearly fluctuations due to the coldness of winter weather can be marked.

Industrial demand tends to trend up and down depending on the strength of the economy, the level of the US dollar, and the differential between US and international gas prices. Not surprisingly, 2009 demand was weaker: industrial demand was 20.3 Bcf/day vs. 21.8 Bcf/day for 2008. However, this demand reduction was less than we feared and not accompanied by falls in demand elsewhere. Total gas demand for 2009 was down 1-2% year on year (1.1 Bcf/day). Total demand in 2010 bounced back strongly, up 6% versus 2009. Year to date for 2011 (to end of August, the latest data point available), total natural gas demand is up 2% versus 2010, led by demand for gas for electricity generation.

Overall, while gas demand in the US has been reasonably robust over the past 2-3 years, it has been trumped over this period by a rise in onshore supply, resulting in the gas price generally remaining low.

Supply Outlook

Change in Rig Count

While the onshore drilling rig count remains an important driver of gas supply, the picture has become muddied over the past two or three years by the accelerating shift from vertical to horizontal drilling. The sharp drop in the onshore rig count since September 2008, when the rig count dropped from a peak of 1,606 gas land rigs to a trough of 665 rigs in August 2009, contributed to a slowdown in the growth of onshore production, but has so far failed to cause a decline. Why is this? Firstly, the rig count has recovered somewhat - it is now back to 934 at the end of October. Secondly, the composition of the rig count has changed, with a shift to more powerful 'premium' rigs, some capable of doing twice the work of a smaller 'conventional' rig. Hence, a lower rig count today is producing more gas than a higher rig count in 2008.

As a result, onshore supply has continued to rise and is now around 13% above the peak in 2008 before the rig count collapsed. But, as we mentioned earlier, we do not believe this growing excess in production over demand can continue indefinitely with natural gas trading well below the marginal cost of supply: either capital spending by the exploration companies will be reduced, lowering production, or natural gas demand stimulated by the low gas price will move up to rebalance the market.

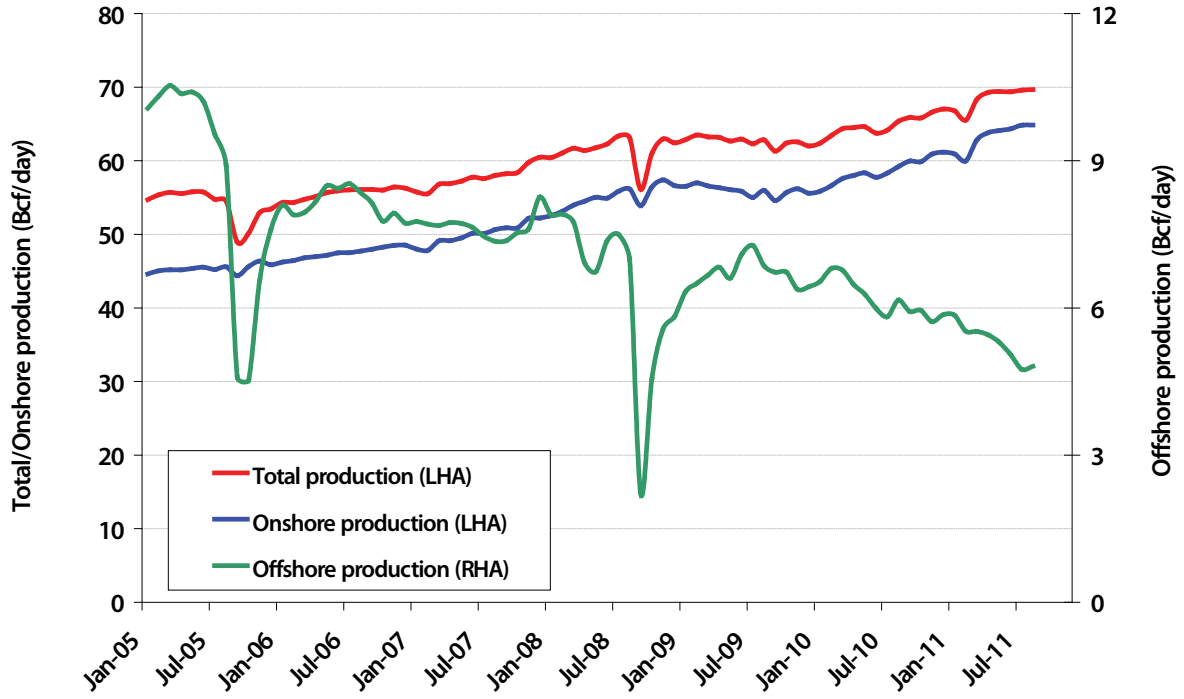


Figure 7: US natural gas production 2005 – 2011 (Lower 48 States)
Source: EIA (November 2011)

Liquid natural gas (LNG) arbitrage
The UK national balancing point (NBP) gas price, which serves as a proxy to the European traded gas price, traded up sharply over the month to close at $10.60 and remains at a significant premium to the US gas price (over 100%). Concerns that LNG supplies to the UK will be constrained, particularly in light of strong demand for LNG to Asian markets, helped to support the price in September. US LNG imports remained below 1 Bcf/day in October as cargoes took advantage of the higher prices in Europe and Asia. It is interesting to note that while the historical analysis has always been of LNG imports into North America, there are now four proposed LNG export terminals which will take US and Canadian natural gas to the world.

Canadian imports into the US
Net Canadian imports of gas into the US dropped from 9 bcf/d in 2007 to 7 bcf/d in 2009. After a flat year in 2010 declines have recommenced and net imports (year-to-date) are another 1 bcf/d lower. This initially was driven by falling rig counts, a less attractive royalty regime enacted in 2007 and increased demand from Canadian oil sands development. Although the Canadian rig count has recovered somewhat, we expect imports to continue to decline.

Demand Outlook
Total US gas demand for 2010 was up 3.8 Bcf/day compared to 2009. Some of this increase can be attributed to abnormally cold weather (the end of the 2009/2010 winter and start of the 2010/2011 winter), but it also confirms the post-recession industrial recovery that we have been expecting. Total demand in 2011 so far (up to and including August) is running nearly 2% higher than 2010.

We expect gas demand to grow in 2011 to a new all-time high, surpassing 2010, although the percentage growth is likely to be smaller than that seen in 2010.

Other

Relationship between gas price and other energy commodity prices in the US

The oil/gas price ratio ($ per bbl WTI/$ per mcf Henry Hub) of 25.7x at the end of October was well outside the more normal ratio of 6-9x. If the oil price averages around $90 in 2011 and the relationship between the oil and gas price returns to its longer-term average of 6-9x, this would imply the gas price increasing back to around $10 once the gas market has returned to balance. This is quite a thought and a long way away from current market sentiment.

The following chart of the front month US natural gas price against heating oil (No2), residual fuel oil (No5) and coal (Sandy Barge adjusted for transport and environmental costs) seeks to illustrate how coal and residual fuel oil switching provide a floor and heating oil a ceiling to the natural gas price. The gas price has been propped up by the coal price support level, both having declined steeply over the past 12 months, whereas the residual and heating oil prices are well above gas and coal.

Figure 1: Natural gas price (black) vs. residual fuel oil (light blue), heating oil (dark blue) and Sandy Barge (adjusted) (green) 2000 – 2011
Source: Bloomberg LP (October 2011)

Conclusions about US natural gas

We believe the period of extreme relative weakness in the US natural gas price to be nearing an end. Natural gas at $4-$4.50 is below the marginal cost of supply, and as demand continues to grow and a further reduced rig count holds back new supply we expect the price to start to recover towards what we consider to be a normalized level ($6-7).

Guinness Atkinson Global Energy Fund Performance Review

The main index of oil and gas equities, the MSCI World Energy Index , was up by 17.12% over the month of October. The S&P 500 was up by 10.93% over the same period. The Fund was up by 19.79% over the month, outperforming the MSCI World Energy Index by 2.67% (all in US dollar terms).

Within the Fund, October's stronger performers were Trina Solar, Valero, Helix, Unit, and Petrominerales. Poorer performers were Forest Oil, JKX, Newfield, Soco, and PetroChina.

Performance as of September 30, 2011

Inception date 6/30/04	Full Year 2009	Full Year 2010	1 year (annualized)	Last 2 years (annualized)	Last 5 years (annualized)	Inception to end 2010 (annualized)	Since Inception (annualized)
Global Energy Fund	63.27%	16.63%	-9.52%	-2.44%	2.56%	18.16%	12.10%
MSCI World Energy Index	26.98%	12.73%	1.11%	1.66%	1.93%	12.06%	8.55%
S&P 500 Index	26.47%	15.06%	1.13%	5.56%	-1.18%	3.61%	1.95%

Performance as of October 31, 2011

Inception date 6/30/04	Full Year 2009	Full Year 2010	1 year (annualized)	Last 2 years (annualized)	Last 5 years (annualized)	Inception to end 2010 (annualized)	Since Inception (annualized)
Global Energy Fund	63.27%	16.63%	3.94%	6.66%	5.48%	18.16%	14.74%
MSCI World Energy Index	26.98%	12.73%	13.06%	8.95%	4.22%	12.06%	10.80%
S&P 500 Index	26.47%	15.06%	8.07%	12.20%	0.25%	3.61%	3.37%

Source: Bloomberg
Gross expense ratio: 1.25%

Performance data quoted represent past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance of the Fund may be lower or higher than the performance quoted. For most recent month-end and quarter-end performance, visit www.gafunds.com/performance.asp or call (800) 915-6566.

The Fund imposes a 2% redemption fee on shares held for less than 30 days.
Total returns reflect a fee waiver in effect and in the absence of this waiver, the total returns would be lower.

Performance data does not reflect the redemption fee and, if deducted, the fee would reduce the performance noted.

Buys/Sells

There were no buys or sells in October.

Sector Breakdown

The following table shows the asset allocation of the Fund at October 30, 2011.

(%)	31 Dec 2006	31 Dec 2007	31 Dec 2008	31 Dec 2009	31 Dec 2010	31 Oct 2011	*Change YTD*
Oil & Gas	**95.4**	**103.5**	**96.4**	**96.1**	**93.2**	**97.0**	***3.8***
Integrated	45.2	66.2	53.7	47.2	41.2	34.8	*-6.4*
Exploration and production	30.3	25.8	28.7	32.0	36.9	44.4	*7.5*
Drilling	9.9	8.1	5.2	8.4	6.3	6.3	*0.0*
Equipment and services	3.4	3.4	6.4	5.4	5.3	6.8	*1.5*
Refining and marketing	6.6	0.0	2.4	3.1	3.5	4.7	*1.2*
Coal and consumables	**3.3**	**2.5**	**2.3**	**0.0**	**0.0**	**0.0**	**0.0**
Solar	**0.0**	**0.0**	**0.0**	**0.0**	**3.2**	**1.5**	**-1.7**
Construction and engineering	**0.0**	**0.0**	**0.4**	**0.4**	**0.4**	**0.4**	**0.0**
Cash	**1.3**	**-6.0**	**0.9**	**3.5**	**3.2**	**1.1**	**-2.1**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**0.0**

Source: Guinness Atkinson Asset Management
Basis: Global Industry Classification Standard (GICS)

Guinness Atkinson Global Energy Fund Portfolio

The fund at October 31, 2011 was on P/E ratios versus the S&P 500 Index at 1253.3, as set out in the table, based on S&P 500 'operating' earnings per share estimates of $49.5 for 2008, $56.9 for 2009, $83.8 for 2010 and $97.5 for 2011. This is shown in the following table:

	2007	2008	2009	2010	2011
Fund PER	8.9	7.8	16.5	10.9	9.2
S&P 500 PER	15.2	25.3	22.0	15.0	12.9
Premium (+) /Discount (-)	-41%	-69%	-25%	-27%	-29%
Average oil price (WTI)	$72.2/bbl	$99.9/bbl	$61.9/bbl	$79.5/bbl	$94.5/bbl (YTD)

Source: Standard and Poor's; Guinness Atkinson Asset Management Ltd

Portfolio Holdings

Our **integrated** and similar stock exposure (c.35%) is comprised of a mix of mid-cap, mid/large-cap and large-cap stocks. Our three large caps are BP, Chevron and Total. Mid/large and mid-caps are ENI, StatoilHydro, ConocoPhillips, Hess, and OMV. At the end of October the median PER of this

group was 9.7x 2010 earnings. We have one Canadian integrated holding, Suncor, which merged in 2009 with PetroCanada. The company has significant exposure to oil sands and as a result stands on a relatively high PER.

Our **exploration & production exposure** (c.43%) gives us exposure most directly to rising oil and natural gas prices. We include in this category non-integrated oil sands companies, as this is the GICS approach. The stocks here with oil sands exposure are Nexen and Canadian Natural Resources. The pure E&P stocks are all largely in the US (Marathon Oil, Forest, Newfield, Devon, Chesapeake , Carrizo, Penn Virginia, and Bill Barrett) and two more (Apache and Noble) which have significant international production. One of the key metrics behind five of the E&P stocks held is low enterprise value /proven reserves (Noble, Forest, Swift, Penn Virginia and Bill Barrett). All of the E&P stocks held also provide exposure to North American natural gas and include two of the industry leaders (Devon and Chesapeake). In PER terms, the group divides roughly into two: (i) Marathon Oil, Apache, Chesapeake, Devon and Newfield all with quite low forward PERs (8x – 11x 2011 earnings) and (ii) Noble, Forest, Carrizo, Penn Virginia and Bill Barrett with higher forward PERs (12x - 26x 2011 earnings, respectively). However, all look reasonably attractive on forward EV/EBITDA multiples.

We have exposure to eight (pure) **emerging market** stocks, though all but one are half-units in the portfolio. Two are classified as integrateds by the GICS (Gazprom and PetroChina) and six as E&P companies (JKX Oil and Gas, Dragon Oil, Afren, Coastal Energy, Petrominerales and Soco International). Gazprom is the Russian national oil and gas company which produces approximately a quarter of the European Union gas demand and trades on 5.1x 2010 earnings. PetroChina is one of the world's largest integrated oil and gas companies and has significant growth potential and advantages as a Chinese national champion. Dragon Oil is an oil and gas E&P focused on offshore Turkmenistan, in the Caspian Sea and trades on 13.2x 2010 earnings. JKX is a gas focused E&P company with production in the Ukraine and trades on 6.2x 2010 earnings. Afren focuses on offshore West African production and trades on 25.2x 2010 earnings (falling to 9.2x 2011 earnings). Coastal Energy is an international E&P company focusing on oil and gas offshore and onshore Thailand and trades on 33.9x 2010 earnings (falling to 15.1x 2011 earnings). Soco International is an E&P company with production in Vietnam and exploration interests across East Africa in Angola, Democratic Republic of Congo and the Republic of Congo. Petrominerales is a Colombia-focuses E&P trading on 10.9x 2010 earnings (falling to 6.9x 2011 earnings).

We have useful exposure to **oil service** stocks. The stocks we own are split between those which focus their activities in North America (land drillers Patterson and Unit on 10.1x and 12.9x 2011 earnings) and those which operate in the US and internationally (Helix, Transocean and Halliburton on 13.2x, 22.0x and 11.7x 2011 earnings).

Our **independent refining** exposure is currently in the US in Valero, the largest of the US refiners, which is currently trading at significant discount to book and replacement value, and Marathon Petroleum Corporation, the refinery business spun out of Marathon at the start of July 2011.

Our **alternative energy** exposure is currently a single unit split equally between two companies; JA Solar and Trina Solar. Trina is a Chinese solar module manufacturer trading on 2.8x earnings (2010) and JA Solar is a Chinese solar cell manufacturer trading on 1.6x earnings (2010).

Portfolio at October 31, 2011

Guinness Atkinson Global Energy Fund 31 Oct 2011

Stock	Country	% of NAV	2006 B'berg mean PER	2007 B'berg mean PER	2008 B'berg mean PER	2009 B'berg mean PER	2010 B'berg mean PER	2011 B'berg mean PER	2012 B'berg mean PER	30/09/2011 Mkt. Cap. (bn USD)
Integrated Oil & Gas										
Chevron Corp	US	3.24	13.5	12.0	9.2	20.5	11.3	7.6	8.2	185.5
BP PLC	GB	3.20	6.6	6.6	5.3	9.3	6.4	6.3	6.3	115.3
Total SA	FR	3.37	6.9	7.0	6.1	10.9	8.1	7.2	7.2	105.7
ENI SpA	IT	3.33	5.7	6.2	5.7	11.2	8.5	7.6	7.1	71.2
ConocoPhillips	US	3.18	7.0	7.2	6.5	19.3	11.7	8.1	8.3	86.9
Statoil ASA	NO	3.32	7.5	10.3	7.7	14.1	10.6	8.9	8.0	69.4
Hess Corp	US	3.30	11.3	10.5	8.5	32.7	12.1	10.2	9.3	17.8
OMV AG	AT	3.19	4.9	4.8	3.9	10.1	6.3	7.2	6.3	9.9
		26.12								
Integrated Oil & Gas - Canada										
Suncor Energy Inc	CA	3.49	12.9	13.3	10.0	30.0	20.0	9.2	9.4	40.5
Integrated Oil & Gas - Emerging market										
PetroChina Co Ltd	HK	3.44	10.4	10.2	13.1	13.9	11.2	10.5	9.7	276.7
Gazprom OAO	RU	1.72	6.6	6.4	5.6	6.3	4.7	3.2	3.4	114.7
		5.15								
Apache Corp	US	3.48	13.6	11.5	8.9	17.9	10.7	8.4	8.2	30.8
Marathon Oil Corp	US	3.28	4.0	4.8	4.0	14.1	7.4	7.1	7.5	15.4
Devon Energy Corp	US	3.05	10.3	9.3	6.6	18.0	10.9	10.5	9.5	23.1
Chesapeake Energy Corp	US	3.35	7.8	8.8	7.9	11.4	9.6	9.9	11.2	16.9
Noble Energy Inc	US	3.63	23.6	16.4	12.7	26.5	21.6	17.6	13.4	12.5
Newfield Exploration Co	US	3.63	11.5	12.5	12.8	7.9	8.7	9.8	8.9	5.3
Forest Oil Corp	US	1.17	4.4	4.7	2.8	6.0	6.9	10.9	9.9	1.6
Bill Barrett Corp	US	3.27	29.4	42.9	15.3	24.6	20.6	22.4	28.2	1.7
Carrizo Oil & Gas Inc	US	1.70	38.3	38.9	15.1	18.5	21.4	24.7	8.5	0.8
Penn Virginia Corp	US	0.89	3.4	3.3	2.4	nm	nm	nm	nm	0.3
Triangle Petroleum Corp	US	0.28	nm	nm	nm	nm	nm	nm	nm	0.16
Lone Pine Resources Inc	US	0.40	nm	nm	nm	nm	nm	26.1	13.3	0.56
		28.14								
Canadian Natural Resources Lt	CA	3.52	24.1	16.7	10.8	14.6	14.5	16.0	12.0	32.5
Nexen Inc	CA	3.38	10.4	5.9	4.4	15.3	10.1	10.3	8.4	8.3
		6.90								
Dragon Oil PLC	GB	1.76	24.7	14.7	12.2	17.7	12.8	7.3	7.0	3.9
Afren PLC	GB	1.69	nm	nm	nm	128.8	24.1	9.9	5.4	1.4
Soco International PLC	GB	1.70	49.3	45.3	48.7	30.3	31.6	16.2	6.2	1.7
JKX Oil & Gas PLC	GB	0.92	5.0	4.0	5.0	5.3	5.9	7.0	4.4	0.4
Coastal Energy Co	CA	0.64	nm	nm	nm	78.4	32.7	15.7	5.8	1.03
Petrominerales Ltd	CA	1.73	154.7	53.7	20.5	27.0	10.7	7.0	7.2	2.05
WesternZagros Resources Ltd	CA	0.17	nm	nm	nm	nm	nm	nm	nm	0.13
Bayfield Energy Holdings PLC	GB	0.39	nm	nm	nm	nm	nm	nm	0.0	0.16
Ithaca Energy Inc	CA	0.37	nm	nm	nm	nm	12.1	12.2	4.5	0.41
Pantheon Resources PLC	GB	0.03	nm	nm	nm	nm	nm	nm	nm	0.02
		9.40								
Transocean Ltd/Switzerland	US	0.53	19.4	5.3	4.0	4.9	9.6	28.1	14.0	15.3
Patterson-UTI Energy Inc	US	2.32	5.0	8.0	8.6	nm	30.0	9.4	7.7	2.7
Unit Corp	US	3.40	7.3	8.6	7.2	18.6	16.1	12.2	10.5	1.8
		6.25								
Halliburton Co	US	3.69	17.1	14.7	17.2	28.5	18.6	11.2	9.2	28.1
Shandong Molong Petroleum I	HK	0.03	8.9	6.2	4.1	11.3	4.5	6.2	3.6	0.63
		3.73								
Trina Solar Ltd	US	0.75	nm	11.1	6.7	4.9	2.4	10.1	16.4	0.5
JA Solar Holdings Co Ltd	US	0.77	13.0	35.1	52.0	nm	1.5	10.3	12.8	0.3
		1.52								
Helix Energy Solutions Group I	US	3.11	6.3	5.4	7.4	31.1	34.2	12.3	10.7	1.4
Valero Energy Corp	US	3.36	3.0	3.2	4.5	nm	15.5	5.0	5.7	10.2
Marathon Petroleum Corp	US	1.34	nm	nm	nm	nm	20.5	4.2	5.5	9.6
		4.71								
Kentz Corp Ltd	GB	0.41	nm	30.1	30.5	30.0	20.7	15.7	14.4	0.82
	Stocks	98.94								
	Cash	1.06								
	Total	100.00								
		P/E	9.0	8.9	7.8	16.5	10.9	9.2	5.0	
		Med. PER	10.3	9.3	7.7	17.7	11.2	9.9	8.3	
Research holding										

Concluding Comments

October's main feature was the spectacle of a succession of high level meetings involving Eurozone leaders and senior officials attempting to address Eurozone sovereign debt and banking and currency problems, accompanied by Greek and Italian parliamentary drama. These ensured stock market volatility remained very high, although overall the month saw some recovery in broad market investor confidence from a very low point at the end of September. This relegated Libya and other MENA crises from the headlines. Of course, the pace of any recovery in Libyan supply, how the Syrian/Yemeni unrest and Israeli/Iran tensions over nuclear development will unfold and how it may spill over to threaten Middle Eastern oil supplies, remain issues that have not gone away.

The possibility remains of a renewed spike in the oil price from here, though absent a new flare-up in the Middle East, the slowing Eurozone economy and recovering Libyan supply should ease current tightness in the market.

Assuming a 'no big spike' scenario and that the Brent oil price falls back to $90, we expect the demand dampening effect seen in the early summer to unwind.

On the non-OPEC supply front, the struggle to grow production continues; the forecast from the IEA is for very low growth in 2011 of 0.1m b/day after 1.1m b/day in 2010. This year's weak growth reflects inter alia a weak project pipeline with weaker production in the North Sea (-250k b/day), Indonesia (-60k b/day), Malaysia (-90k b/day), Yemen (-80k b/day), Syria (-60k b/day), FSU (-40k b/day) and others (net -50k b/day) totalling -630k b/day. These declines nearly offset growth in US/Canada (320k b/day), Latin America (150k b/day), Russia(120k b/day), processing gains (70k b/day), China (60k b/day), and Global biofuels (40k b/day) which total 760k b/day.

On the price weakening side of the argument, September OECD oil inventories (2,684 million barrels vs 2,607 average for 2001-5; fourth highest level of the eleven last years) are still moderately loose due most recently to the OECD strategic reserves release. However, they have hardly risen over the June to September period despite the release and the fact that stocks normally rise in this quarter. Clearly the rate of recovery in Libyan production and rate of Saudi, Kuwait and UAE supply reduction, in response, have moved to center stage and will likely drive the evolution of inventories and oil prices over the next 9 months.

In the US natural gas market, bearish sentiment prevails. Gas in storage is as high as it has ever been at this time of year. Our view that the current sub $4/ mcf gas prices cannot persist is being tested. We point to the extreme levels of divergence from traditional oil per barrel /gas per mcf and coal per tonne /gas per mcf ratios – these used to be in the 6 – 10x range now both are over 20x, as well as to gas prices in Europe and Asia which are 100% and 200% higher than in North America. Our belief is that supply growth will eventually be constrained. The high marginal cost of the marginal shale mcf will likely lead to falling gas production from existing fields and compensate for the extra supply coming from hold-by-drilling activity and production of what is effectively "associated" gas in liquids rich shale beds. However, when this will occur is the big question. A rebalancing of the gas market by oil and gas companies pulling back from over-drilling gas leases is necessary and regularly being put

off. Over the past 12 months the cold winter, warm summer, dropping imports from Canada and via LNG, rising exports to Mexico and falling Gulf of Mexico production contributed to that by preventing gas in storage from ballooning. Our working assumption for 2011 was that gas would recover to $5-6/Mcf by late 2011. We now recognize that is unlikely and do not see this occurring until sometime in 2012 and maybe not until 2013. The catalyst will likely be a pull back in the rig count from the current level of around 2,000 by say 500 rigs.

Energy equities – now around 25% off their highs for the year - are to our way of thinking certainly a good store of value and offer considerable potential for above average returns, if the oil price stabilizes around the level now sought by OPEC (say $85/ barrel vs. $79 2010 actual) and the gas price in due course recovers. Energy equity valuations (the fund is on 2010 PER of 11.2x at October 31, 2011 (2011 PER 9.6X) are well below the broad market (S&P500 15x/12.9x at 1,253 with $83.8 eps/$97.5 eps for 2010/2011 respectively).

The scenario of higher average oil price (WTI) in 2012 than in 2010 means the odds are good that energy equity earnings in 2012 will exhibit useful growth on 2010, albeit lower than 2011 .

Lastly, remember that energy equities are one of the better inflation hedges. If we see dollar inflation of 30/50% over the next decade, it will be surprising if oil and gas prices do not rise by a comparable percentage over that same time frame.

Overall, the Fund continues to seek to be well placed to benefit from the oil and gas price environment described above and to enable investors to benefit from the developing picture in energy markets described above.

Commentary for our views on Alternative Energy and Asia markets is available on our website. Please click here to view.

The Fund's holdings, industry sector weightings and geographic weightings may change at any time due to ongoing portfolio management. References to specific investments and weightings should not be construed as a recommendation by the Fund or Guinness Atkinson Asset Management, Inc. to buy or sell the securities. Current and future portfolio holdings are subject to risk.

Mutual fund investing involves risk and loss of principal is possible. The Fund invests in foreign securities which will involve greater volatility, political, economic and currency risks and differences in accounting methods. The Fund is non-diversified meaning it concentrates its assets in fewer individual holdings than a diversified fund. Therefore, the Fund is more exposed to individual stock volatility than a diversified fund. The Fund also invests in smaller companies, which involve additional risks such as limited liquidity and greater volatility.

MSCI World Energy Index is the energy sector of the MSCI World Index (an unmanaged index composed of more than 1400 stocks listed in the US, Europe, Canada, Australia, New Zealand, and the Far east) and as such can be used as a broad measurement of the performance of energy stocks.

The S&P 500 Index is a broad based unmanaged index of 500 stocks, which is widely recognized as representative of the equity market in general.

The S&P Goldman Sachs Commodity Index serves as a benchmark for investment in the commodity markets and as a measure of commodity performance over time.

It is not possible to invest directly in an index.

Price to earnings ratio (PER) reflects the multiple of earnings at which a stock sells.

Earnings per share (EPS) is calculated by taking the total earnings divided by the number of shares outstanding.

Book Value is the net asset value of a company, calculated by subtracting total liabilities from total assets.

Enterprise value (EV) is defined as the market capitalization of a company plus debt minus total cash and cash equivalents.

EBITDA, Earnings Before Interest, Taxes, Depreciation and Amortization, is an indicator of a company's financial performance which is calculated subtracting Expenses (excluding tax, interest, depreciation and amortization) from Revenue.

EV/EBITDA, also known as Enterprise Multiple, is a ratio used to determine the value of a company.

The Price to Earnings (P/E) Ratio is calculated by dividing current price of the stock by the company's trailing 12 months' earnings per share.

This information is authorized for use when preceded or accompanied by a prospectus for the Guinness Atkinson Funds. The prospectus contains more complete information, including investment objectives, risks, fees and expenses related to an ongoing investment in the Funds. Please read the prospectus carefully before investing.

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Appendix: Oil and Gas Markets, Historical Context

Figure 9: Oil price (WTI $) last 20 years.
Source: Bloomberg

For the oil market, the period since the Iraq Kuwait war (1990/91) can be divided into two distinct periods: the first 9-year period was broadly characterized by decline. The oil price steadily weakened 1991 - 1993, rallied between 1994 –1996, and then sold off sharply, to test 20 year lows in late 1998. This latter decline was partly induced by a sharp contraction in demand growth from Asia, associated with the Asian crisis, partly by a rapid recovery in Iraq exports after the UN Oil for food deal and partly by a perceived lack of discipline at OPEC in coping with these developments.

The last 9 years, by contrast, have seen a much stronger price and upward trend. There was a very strong rally between 1999 and 2000 as OPEC implemented 4 m b/day of production cuts. It was followed by a period of weakness caused by the rollback of these cuts, coinciding with the world economic slowdown, which reduced demand growth and a recovery in Russian exports from depressed levels in the mid 90's that increased supply. OPEC responded rapidly to this during 2001 and reintroduced production cuts that stabilized the market relatively quickly by the end of 2001.

Then, in late 2002 early 2003, war in Iraq and a general strike in Venezuela caused the price to spike upward. This was quickly followed by a sharp sell-off due to the swift capture of Iraq's Southern oil fields by Allied Forces and expectation that they would win easily. Then higher prices were generated when the anticipated recovery in Iraq production was slow to materialize. This was in mid to end 2003 followed by a much more normal phase with positive factors (China demand; Venezuelan production difficulties; strong world economy) balanced against negative ones (Iraq back to 2.5 m b/day; 2Q seasonal demand weakness) with stock levels and speculative activity needing to be monitored closely. OPEC's management skills appeared likely to be the critical determinant in this environment.

By mid 2004 the market had become unsettled by the deteriorating security situation in Iraq and Saudi Arabia and increasingly impressed by the regular upgrades in IEA forecasts of near record world oil demand growth in 2004 caused by a triple demand shock from strong demand simultaneously from China; the developed world (esp. USA) and Asia, excluding China. Higher production by OPEC has been one response and there was for a period some worry that this, if not curbed, together with demand and supply responses to higher prices, would cause an oil price sell off. Offsetting this has been an opposite worry that non OPEC production could be within a decade of peaking; a growing view that OPEC would defend $50 oil vigorously; upwards pressure on inventory levels from a move from JIT (just in time) to JIC (just in case); and pressure on futures markets from commodity fund investors.

Since 2005 we saw a further strong run-up in the oil price. Hurricanes Katrina and Rita that devastated New Orleans caused oil to spike up to $70 in August 2005, and it spiked up again in July 2006 to $78 after a three week conflict between Israel and Lebanon threatened supply from the Middle East. OPEC implemented cuts in late 2006 and early 2007 of 1.7 million barrels per day to defend $50 oil, and with non-OPEC supply growth at best anaemic, demonstrated that it could act as a price-setter in the market, at least so far as putting a floor under it.

Continued expectations of a supply crunch by the end of the decade, coupled with increased speculative activity in oil markets, contributed to the oil price surging past $90 in the final months of 2007 and as high as $147 by the middle of 2008. This latest spike was brought to an abrupt end by the collapse of Lehman Brothers and the financial crisis and recession that followed, all of which contributed to the oil price falling back by early 2009 to just above $30. OPEC responded decisively and reduced output, helping the price to recover in 2009 and stabilize in the $70-80 range where it sits today.

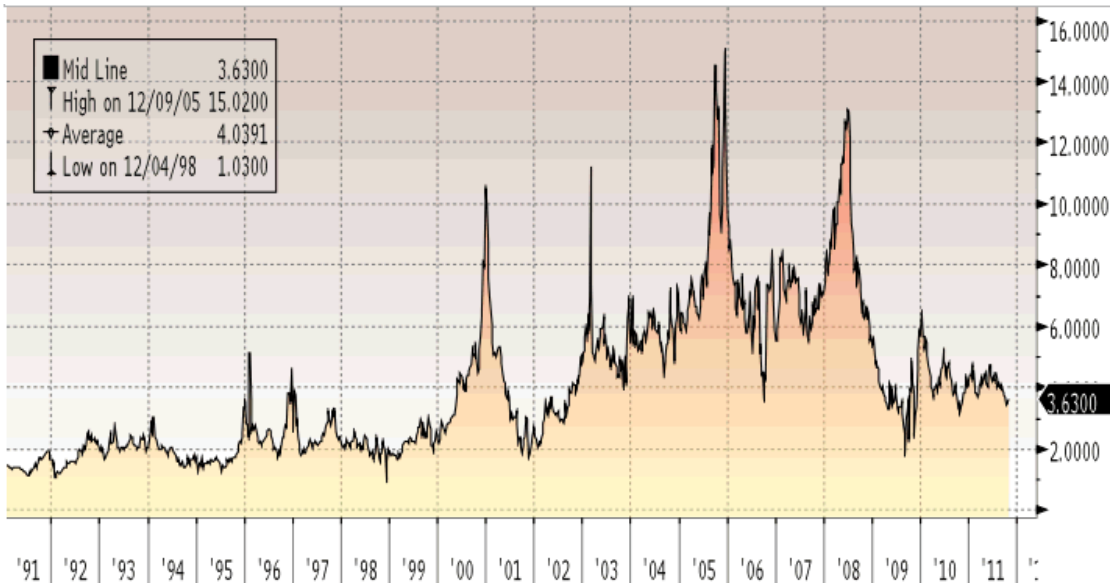

Figure 10: North American gas price last 20 years (Henry Hub $/Mcf)
Source: Bloomberg

With regard to the U.S. natural gas market, the price traded between $1.50 and $3/Mcf for the period 1991 - 1999. This was followed by two significant spikes up to $8-10/Mcf, one in late 2000 and one early in 2003. The spikes were caused by very tight supply situations because there is an underlying problem with supply in the rapid depletion of North American gas reserves. On both occasions, the price spike induced a spurt of drilling, which brought the price back down. More recently we have seen another period of very firm (over $5/Mcf) gas prices followed by a hurricane induced spike. Since the big spike in late 2005, the gas price has traded mainly in the $6-$8 range, with a significant move down precipitated by the collapse of Amaranth in 2006, and most recently a new but short-lived spike in 2008 above $10. In 2009, a very weak period below $4 as progress achieved in 2007-8 in developing shale plays boosted supply while the 2009 recession cut demand. The response to this has been a dramatic fall in the U.S. gas land rig count, which should lead to a rebalancing in the market by 2010. The effects of this are currently playing out.

North American gas prices are important to many E&P companies. In the short-term, they do not necessarily move in line with the oil price, as the gas market is essentially a local one. (In theory 6 Mcf of gas is equivalent to 1 barrel of oil so $60 per barrel equals $10/Mcf gas). It is a regional market more than a global market because LNG imports cannot rapidly respond to increased demand because of the high infrastructure spending needed to increase capacity but that is slowly becoming less true as LNG infrastructure is put in place.