

This report is primarily designed to inform you about recent developments in the energy markets invested in by the Guinness Global Energy Fund. It also provides information about the Fund portfolio, including recent activity and performance. For regulatory purposes it falls within the legal definition of a financial promotion. Please therefore note the risk warnings on the last page of this document and the following statements:

It contains facts relating to the energy market and our own interpretation. Any investment decision should take account of the subjectivity of the comments contained in the report.

It is for information only and all the information contained in it is believed to be reliable but may be inaccurate or incomplete; any opinions stated are honestly held at the time of writing, but are not guaranteed. The content of the document should not therefore be relied upon. It should not be taken as a recommendation to buy or sell individual securities.

## REPORT HIGHLIGHTS

### GENERAL

- Both OIL and GAS price evolution may be entering **new phases**

### EQUITIES

- Big valuation gap in PER terms now exists between the MSCI World Energy Index and the S&P500.

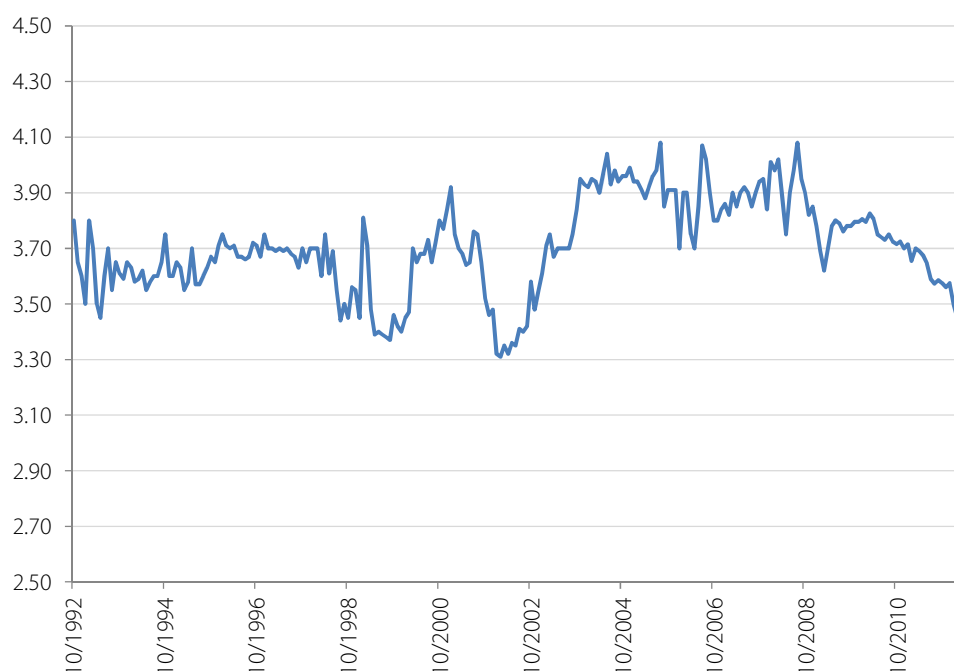
### OIL

- WTI oil price moved slightly higher during month - Brent weakened slightly. Since April month end both have been weaker. With Iran production at 20 year low, Iran position on nuclear reprocessing could soften and Brent premium **unwind**.

### NATURAL GAS

- Henry Hub weak but **could be bottoming**. Gas being shut in and rig count falling sharply. Coal to gas switching ramping up. First LNG exports from the US Gulf approved albeit some years away.

## CHART OF THE MONTH Iran oil production 1992-2012 (million barrels/day)



Source: Bloomberg LP; Guinness Asset Management (May 2012)

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## 1. Oil market – April 2012 in review



**Figure 1: Oil price (WTI \$/barrel) 18 months October 31 2010 to April 30 2012**

Source: Bloomberg

The West Texas Intermediate (WTI) oil price began the month at \$103.02. It stayed in a fairly tight range of \$101 to \$106 throughout the month, closing at \$104.87. So far in 2012, WTI has averaged \$103.01; as a reminder, WTI averaged \$95.04 for the full year 2011.

April saw a continuation of the gap between the WTI and Brent benchmark oil prices that started at the beginning of 2011. The spread, which peaked at nearly \$30 in September 2011, had narrowed to around \$12 by January but ended April back at nearly \$15. It is being driven by strength in the price of Brent on the back of Iranian tensions and weakness in WTI led by oversupply in the US mid-continent. Brent has averaged nearly \$119 so far in 2012.

Factors which strengthened the WTI oil price in April included:

- Supply disruptions.** There are continuing supply problems in both the OPEC and non-OPEC world which are keeping important barrels off the market. Within OPEC, Iranian production is down 425,000 barrels/day since the end of 2010 which is likely a direct result of the European Union oil embargo which comes into effect in July, together with the tough financial sanctions imposed on Iran. At the same time, Libyan production is down 235,000 barrels since the end of 2010. Although

Saudi Arabia, Kuwait and the UAE have more than made up for the Iranian/Libyan shortfall, it has resulted in reduced OPEC spare capacity. Estimated spare capacity is at 2.5m b/day, down from a 'comfortable' level of 3-4m barrels/day. Meanwhile, in the non-OPEC world, conflict in Syria and Yemen, the prolonged dispute between Sudan and South Sudan, and a poor sugarcane harvest in Brazil have combined to reduce non-OPEC supply (including biofuels) by around 0.8m b/day versus average 2010 production levels. There are also weather-related and mechanical problems in the North Sea, Canada and Australia.

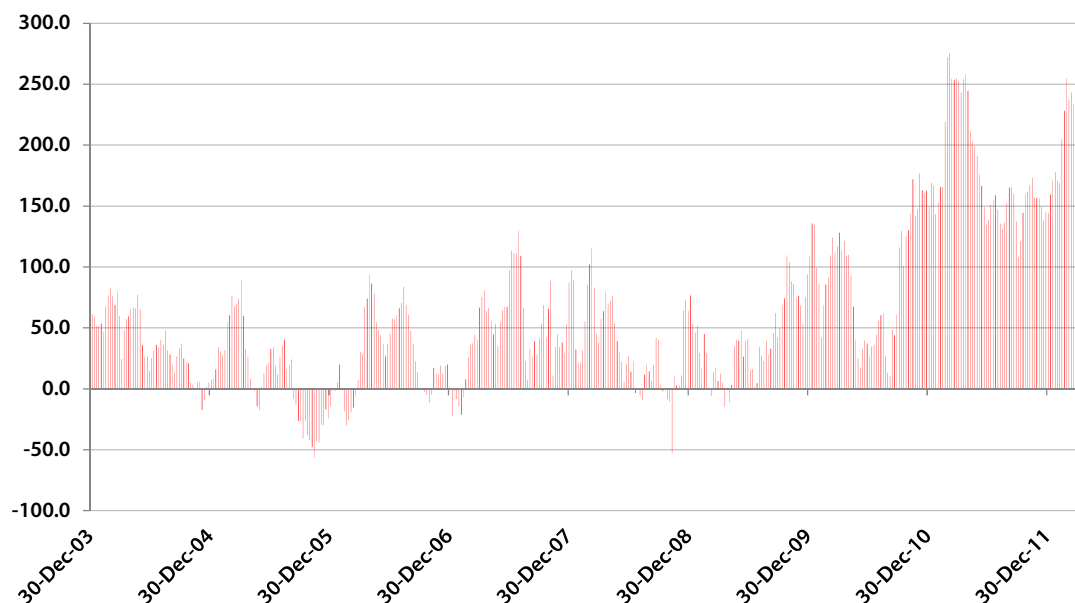
- **China oil imports.** Chinese imports of crude continue to rise, despite market fears of a Chinese domestic slowdown. Imports for March were reported at 24m tonnes, which equates to approximately 5.5m barrels/day; this represents an increase of 20% since June 2011. Even after a series of downgrades from the International Energy Agency, non-OECD demand is forecast to rise 1.25m barrels/day in 2012 – OECD demand may be flagging but the developing world's thirst for oil is not abating.

Factors which weakened the WTI oil price in April included:

- **Weak US demand.** Gasoline demand for April was reported to be down 1.7% year-on-year. This actually represents a recovery from the data for the first three months of the year which showed more severe declines. The impact of higher oil prices is being felt: US gasoline prices have risen steadily since the last week of 2011, up 20% from an average of \$3.32/gallon to \$4.00/gallon.
- **Rising oil inventories.** The preliminary number for March 2012 OECD oil stocks shows a level of 2.65 billion barrels. This is at the top end of the 10-year range. We saw a tightening of OECD oil inventories from September 2011 onwards despite the increase in OPEC production and the emergency release by the IEA, but the February and March data suggests the situation is loosening. The April number will be very interesting.

## Speculative and investment flows

As mentioned above, the New York Mercantile Exchange (NYMEX) net non-commercial crude oil futures open position moved lower in April but remains at an elevated level. It started the month at 230,000 contracts long and moved steadily lower over the month to reach 212,000 contracts at the month end. This represents a meaningful long position and suggests that there remains considerable speculative premium in the current oil price – as we might expect, given the supply disruptions mentioned above and the continuing if diminishing threat of Iranian conflict.



**Figure 2: NYMEX Non-commercial net futures contracts: WTI January 2004 – April 2012**

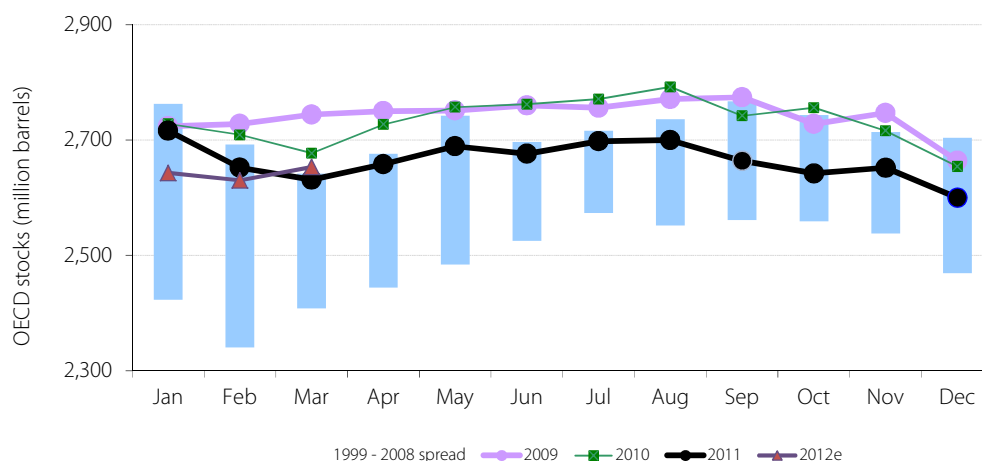
Source: Bloomberg/Nymex (May 2012)

## OECD stocks

The February 2012 OECD total crude and product number published in the April 2012 IEA Oil Market Report fell by 12 million barrels from 2,642 million barrels, giving a total stock of 2,630 million barrels. When expressed as number of days of demand cover (57.5 days), we see that we are below the February 2011 level (57.9 days) but towards the top of the tight/loose spread of 1998-2010.

Preliminary indications for the March 2012 OECD total crude and product number (also published in the April 2012 IEA Oil Market Report) suggest that total OECD inventories rose by 23 million barrels, giving a total stock of 2,653 million barrels.

What we saw in September and October 2011 was a significant shift down in the absolute inventory level versus the 1998-2009 spread, and versus the level seen in recent years, as shown in the graph below. This tightening happened even as OPEC-12 production increased to make up for lost Libyan production, and the IEA released 60 million barrels of emergency reserve. Of course, OECD demand now is well below its all-time high hence the fact that when expressed in terms of days' cover the inventory level is still towards the top of the 10-year spread.



**Figure 3: OECD total product and crude inventories – monthly 1998 to 2012**

Source: IEA Oil Market Report (April 2012); Guinness Asset Management estimates

## 2. 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 2012.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e
<b>World Demand</b>	76.7	77.4	77.7	79.3	82.5	84.0	85.2	87.0	86.5	85.5	88.2	89.1	89.9
<b>Non-OPEC supply</b> (includes Angola and Ecuador for periods when each country was outside OPEC <sup>1</sup> )	46.2	47.2	48.1	49.1	50.3	50.4	51.3	50.5	49.6	51.5	52.6	52.7	53.4
Angola supply adjustment <sup>1</sup>	-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 <sup>1</sup>	-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 <sup>2</sup>	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
<b>Non-OPEC supply</b> (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	52.7	53.4
OPEC NGLs	3.1	3.4	3.7	3.9	4.2	4.3	4.3	4.3	4.5	4.9	5.3	5.8	6.3
<b>Non-OPEC supply plus OPEC NGLs</b> (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	58.5	59.7
Call on OPEC-12 <sup>3</sup>	27.4	26.7	26.1	26.6	28.5	30.1	30.6	31.7	31.4	29.1	30.3	30.6	30.2
Iraq supply adjustment <sup>4</sup>	-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
<b>Call on OPEC-11<sup>5</sup></b>	24.8	24.3	24.1	25.3	26.5	28.3	28.7	29.6	29.0	26.7	27.9	27.9	27.5

<sup>1</sup> Angola joined OPEC at the start of 2007, Ecuador rejoined OPEC at the end of 2007 (having previously been a member in the 1980s)

<sup>2</sup> Indonesia left OPEC as of the start of 2009

<sup>3</sup> Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi, U.A.E. Venezuela

<sup>4</sup> Iraq has no official quota

<sup>5</sup> Algeria, Angola, Ecuador, Iran, Kuwait, Libya, Nigeria, Qatar, Saudi, U.A.E. Venezuela

Source: 2000 - 2009: IEA oil market reports; 2010 - 12: 12 April 2012 Oil market Report

Global oil demand in 2011 was 2m b/day up on the previous 2007 peak. 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. The IEA forecast a further 0.8m b/day rise in demand in 2012,

but the key variable driving this forecast – global GDP growth – is subject to uncertainty at present. We would not be at all surprised to see an outcome either noticeably lower or higher than this.

## **OPEC**

Three years ago at its extraordinary meeting on December 17 2008, OPEC announced a new quota target of 25.0m b/day with effect from 1 January 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 remained unchanged until the OPEC meeting on December 13 2011, at which OPEC made the following statement:

*"In light of the foregoing and given the demand uncertainties, the Conference decided to maintain the current production level of 30.0 mb/d, including production from Libya, now and in the future. The Conference also agreed that Member Countries would, if necessary, take steps (including voluntary downward adjustments of output) to ensure market balance and reasonable price levels. In taking this decision, Member Countries confirmed their preparedness to swiftly respond to developments that might have a detrimental impact on orderly market developments. Given the ongoing worrying economic downside risks, the Conference directed the Secretariat to continue its close monitoring of developments in supply and demand, as well as non-fundamental factors, such as macro-economic sentiment and speculative activity, keeping Member Countries abreast at all times."*

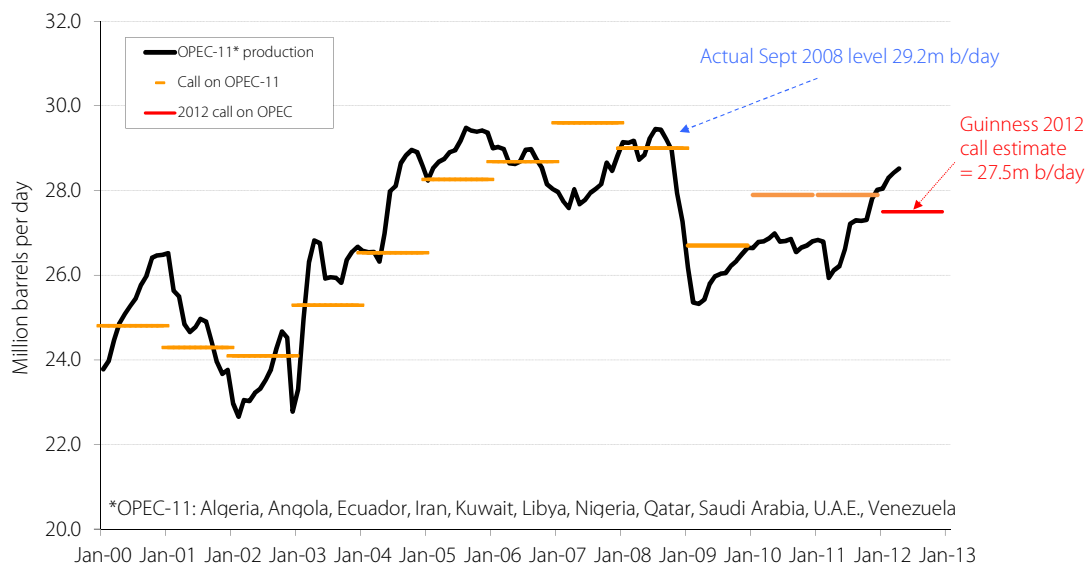
The 30m barrel figure includes 2.7m for Iraq, so in effect 25.0m for OPEC -11 has been moved up to 27.3m. In some ways this number is irrelevant: members had been producing well in excess of the previous quotas, with the December production number for OPEC-11 at 28.0m b/day. Indeed, the fact that they declined to give county-by-country quotas at all suggests that the quota system is of diminishing importance. This is consistent with the view that OPEC as a group are less effective at managing the oil market when the oil price is at the higher end of the range as it is now, but have shown themselves to be effective at cutting production when the oil price weakens significantly – as they did three years ago, in December 2008.

The table below shows changes in production among OPEC-12 since the start of 2011. If this data proves to be accurate, it suggests that production is running significantly ahead of pre-MENA unrest levels, with OPEC responding to a combination of rising global demand and faltering non-OPEC supply. Saudi production alone is up around 1.6m b/day, and total OPEC-12 production is 2.22m b/day higher than December 2010. Given that OECD oil inventories have been tightening in recent months, it suggests that the higher level of OPEC production has so far been absorbed fairly easily.

('000 b/day)	31-Dec-10	30-Apr-12	Change
<b>Saudi</b>	<b>8,250</b>	<b>9,820</b>	<b>1,570</b>
Iran	3,700	3,275	-425
UAE	2,310	2,650	340
Kuwait	2,300	2,720	420
Nigeria	2,220	2,135	-85
Venezuela	2,190	2,335	145
Angola	1,700	1,715	15
<b>Libya</b>	<b>1,585</b>	<b>1,350</b>	<b>-235</b>
Algeria	1,260	1,240	-20
Qatar	820	795	-25
Ecuador	465	485	20
<b>OPEC-11</b>	<b>26,800</b>	<b>28,520</b>	<b>1,720</b>
Iraq	2,385	2,885	500
<b>OPEC-12</b>	<b>29,185</b>	<b>31,405</b>	<b>2,220</b>

Source: Bloomberg LP (May 2012)

The graph below shows the estimated call on OPEC-11 for 2012, which we currently estimate to be around 27.5m b/day versus apparent production of 28.4m b/day. Given the market is in balance, it suggests that the actual call has recently been higher than 27.5m b/day. The reasons for this are likely a combination of weaker than expected non-OPEC supply and stronger non-OECD demand.



**Figure 4: OPEC apparent production vs call on OPEC 2000 – 2012**

Source: Bloomberg/IEA Oil Market Report (May 2012)

### Supply looking forward

The non-OPEC world is struggling to grow production meaningfully. The growth was 2% p.a. between 1998-2003, 1% p.a. from 2003-2008 and is forecast to be 1.5% p.a. from 2008-2012.

Non-OPEC production growth for 2011 was 0.1m b/day (up by just c.0.2%), 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 was revised down. The IEA currently forecast non-OPEC supply growth of 0.7m b/day in 2012, reflecting a greater pipeline of new project start-ups than 2011 and the return of various fields that underwent heavy maintenance last year. Once again this looks to be optimistic, however, as a series of supply disruptions in Sudan, Syria and Yemen threaten to bring the figure lower. The North Sea, Canada and Australia have also endured recent weather-related and operational problems.

Looking further ahead we must consider the impact of potential increases in supply from Iraq. The questions 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 2.9 m 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 2012 is 1.2m b/day, similar growth to 2011 but down from 2.2m b/day in 2010. The components of this growth can be summarised as follows:-

<i>m b/day</i>	<b>Demand 2009</b>	<b>Demand 2010</b>	<b>Demand 2011</b>	<b>Demand 2012</b>	<b>Growth 2010</b>	<b>Growth 2011</b>	<b>Growth 2012</b>
Asia	18.19	19.50	20.20	20.79	1.31	0.70	0.59
M. East	7.53	7.82	8.01	8.24	0.29	0.19	0.23
Lat. Am.	5.99	6.30	6.48	6.68	0.31	0.18	0.20
FSU	4.18	4.46	4.69	4.80	0.28	0.23	0.11
Africa	3.33	3.39	3.35	3.54	0.06	-0.04	0.19
Europe	0.71	0.68	0.70	0.70	-0.03	0.02	0.00
	<b>39.93</b>	<b>42.15</b>	<b>43.43</b>	<b>44.75</b>	<b>2.22</b>	<b>1.28</b>	<b>1.32</b>

**Figure 5: Non-OECD oil demand**

Source: IEA Oil Market Report (April 2012)

As can be seen the main area of decline in growth is in the FSU, followed by Asia and the Middle East. A word on China demand growth: of the 1.3m b/day of non-OECD growth forecast for 2012, China represents 0.4m b/day (31%). As recently as 2010, growth from China (1m b/day) represented 45% of total non-OECD demand growth (2.2m b/day). The Middle East, Africa, other areas of Asia, and Latin America are all central to the developing world industrialization and urbanization thesis and are sometimes overlooked.

As regards OECD demand in 2012, the IEA are forecasting a small decline (0.5m b/day) with North America and Europe down and the Pacific up slightly. These forecasts depend heavily on the assumption used for GDP growth. The IEA's forecast of 0.8m b/day for global demand growth is based on global GDP growth of 3%: they also forecast that global GDP growth of 2.6% would leave oil demand flat year-on-year from 2011 to 2012.

## 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. Since November 2010 it has generally moved above this range, trading in a wider range of \$80-\$110. Brent's trading range over the same period has been higher, at \$100-\$125.

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

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e
Average WTI (\$)	26.1	31.2	41.7	56.6	66.1	72.2	99.9	61.9	<b>79</b>	<b>95</b>	<b>90</b>
Average Brent (\$)	25.1	28.9	38.5	54.7	65.5	73.2	97.1	62.5	<b>80.8</b>	<b>111</b>	<b>100</b>
Average Brent/WTI	25.6	30.1	40.1	55.7	65.8	72.7	98.5	62.2	79.9	<b>103.0</b>	<b>95</b>
Average Brent/WTI Change <sup>+</sup> y-o-y (\$)	-	4.45	10.1	15.6	10.2	6.9	25.8	-36.3	17.7	<b>23.1</b>	<b>-8</b>
WTI Change <sup>+</sup> y-o-y (%)	-	17%	33%	39%	18%	10%	35%	-37%	28%	29%	-8%

We think the most likely scenario going forward is that we will see the average price of Brent and WTI fall back to 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 Libya crisis (from an oil and gas production point of view) resolving itself, MENA-associated concerns about supply should be falling. However Iran, Syria and Yemen are doing a good job of replacing Libya as a source of supply worry. In Syria, with Hezbollah and Iran backing the Alawite/Shia minority government and Saudi sources financing the arming of Sunni rebels, there is a clear risk that Iran responds by trying to destabilise the Shia (oil producing) eastern region of Saudi Arabia. As regards Iran, the continuing rhetoric between Iran and the West, with US and European policy of oil embargoes from July, underlines that we are only one ill-judged military move away from another oil spike. In Iraq stability remains elusive. To this can be added significant supply disruptions in Yemen and Sudan/ South Sudan.

### 3. Natural gas market – April 2012 in review

The US spot natural gas price (Henry Hub) opened April at \$1.98 per Mcf (1000 cubic feet) and traded down to a low of \$1.84 on April 20 before recovering to \$2.11 at the month end. The spot gas price is averaging \$2.31 so far in 2012, well down on the 2010 and 2011 averages of \$4.38 and \$4.00 and 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) rose slightly over the month, from \$2.80 to \$2.91. The strip price averaged \$4.35 in 2011, having averaged \$4.86 in 2010 and \$5.25 in 2009.



**Figure 6: Henry Hub Gas spot price (\$/Mcf) 18 months – October 31 2010 to April 30 2012**

Source: Bloomberg (May 2012)

Factors which weakened the US gas price in April included:

- Storage levels.** At the end of April, the total storage level of natural gas in the US was 2,576 Bcf, 873 Bcf above the 5 year average. Weekly Injections of gas into storage during April were actually lower than the seasonal average but the absolute amount of gas in storage remains far too high. The bearish market view which forced spot natural gas prices below \$2 is that storage will be full well before the withdrawal season begins (typically mid-November), which would mean that there was no home for the gas being produced and prices would weaken further.

Factors which strengthened the US gas price in April included:

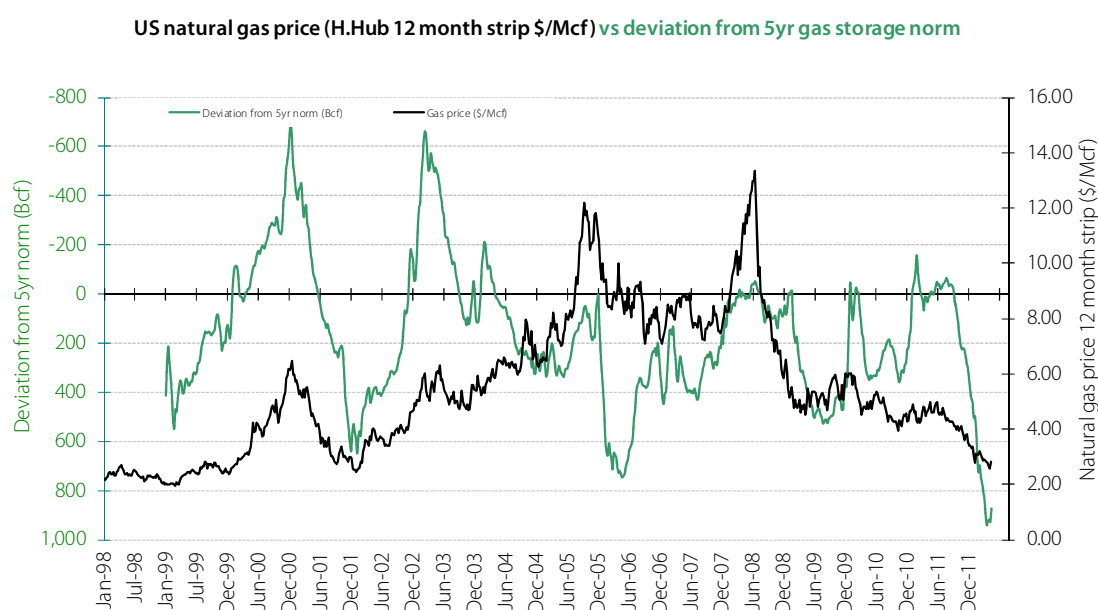
- Coal to gas switching.** With the gas price below \$3, gas fired power generation has risen significantly at the expense of coal. The most recent data available (compiled by BENTEK Energy) indicates that gas consumed for power generation in March was up 6.3 Bcf/day (41%) year-on-year. Total demand for gas fell slightly in March (down 0.3 Bcf/day), indicating that gains in demand from coal to gas switching have been outweighed by decline in demand caused by very mild weather. Nevertheless, it is an indication that with normalised weather, total gas demand should be buoyant.
- Falling gas drilling rig count.** The US natural gas directed rig count (reported by Baker Hughes) declined from 658 to 613 rigs during April. Since the end of October, the rig count has declined by 321 rigs (34%). The falling rig count reflects a suspension of activity in areas that are no longer economic to drill, given the highly depressed gas price. Whilst there is a likely to be a reasonable lead time between a fall in the rig count and a fall in production, it provides a signal that US gas production growth should moderate later this year. The oil-directed rig count continues to grow.
- US production data.** The February data (latest available) from the Energy Information Agency indicated that onshore US natural gas production was down 0.5 Bcf/day (0.5%) month-on-month, but still up 7.9 Bcf/day (13.2%) over the February 2011 level. Whilst the month on month decline is a move in superficially positive, it is tempered by the

knowledge that Chesapeake and other producers have shut in around 0.5 Bcf/day of production, suggesting that underlying production change was around flat.

- US LNG exports.** On April 16 the Federal Energy Regulatory Commission authorised the construction of gas export facilities at the Sabine Pass LNG terminal on the US Gulf Coast. The facility has been approved to have an export capacity of 2.6 Bcf/day. First exports are not expected until 2016 but it is a positive sign that LNG exports from the US are gathering momentum.

## 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 7: Deviation from 5yr gas storage norm vs gas price 12 month strip**

Source: Bloomberg, EIA (May 2012)

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. A cold 2010/11 winter followed by a hot summer tightened storage again, with storage levels staying around the 5 year average for much of this period. However, most recently, milder weather conditions have coincided with a significant oversupply of gas into storage and this has driven prices down to their lowest levels for a decade.

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.

## 4. 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 80% 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 "fracking" techniques, offsetting declines in offshore production and imports from Canada and of LNG. Total supply fell in 2009 as onshore production declined, but has grown again very strongly in 2010 and 2011 as horizontal drilling has 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 (of which around 30% comes from petrochemicals) 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. Between 2000 and 2009 industrial demand was in steady decline, falling from 22.2 Bcf/day to 16.9 Bcf/day. Since 2009 the lower gas price (particularly when compared to other global gas prices) and recovery from recession has seen demand rebound, up in 2011 to 18.5 Bcf/day.

Total gas demand in 2011 (excluding Canada exports) was 68.3 Bcf/day, up by 2.1 Bcf/day (3.0%) vs 2010 and up 4.5 Bcf/day (7%) vs the 5 year average. The principal contributors to the increase in 2011 vs 2010 are industrial demand (+0.6 Bcf/day), power generation (+0.6 Bcf/day) and exports to Mexico (+0.5 Bcf/day).

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

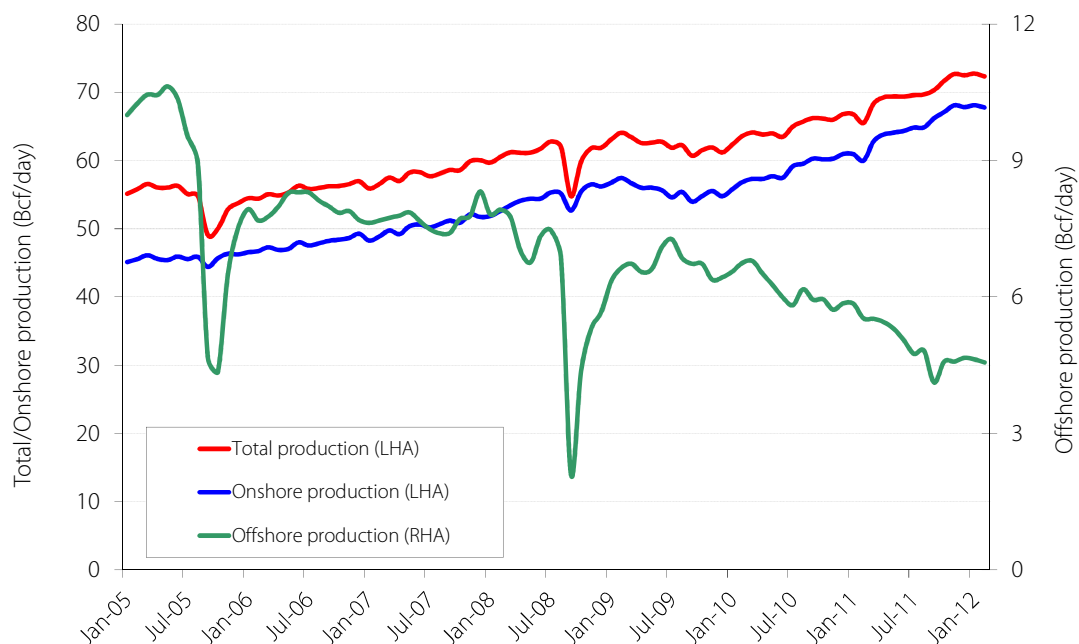
## Supply Outlook

### *Change in Rig Count*

Whilst the onshore drilling rig count remains an important driver of gas supply, the picture has become muddled 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 to a range of 600 – 1,000 rigs ever since, contributed to a slowdown in the growth of onshore production, but has so far failed to cause a decline. Why is this? Firstly, the composition of the rig count has changed, with a shift to more powerful 'premium' rigs, some capable of doing two or three times the work of a smaller 'conventional' rig. Hence a lower rig count today is producing more gas than a higher rig count in 2008. Secondly, the number of oil directed land rigs has grown significantly, to 1,328 rigs at the end of April 2012, up by over 1,000 rigs since the trough for oil drilling in June 2009. Whilst these rigs are drilling primarily for oil, they also produce an amount of associated natural gas which is contributing to the overall supply picture.

As a result, onshore supply has continued to rise and is now around 20% 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 8: US natural gas production 2005 – 2012 (Lower 48 States)**

Source: EIA (May 2012)

### Liquid natural gas (LNG) arbitrage

The UK national balancing point (NBP) gas price – which serves as a proxy to the European traded gas price – rose in March and is still at a very significant premium to the US gas price (\$9.30 versus \$2.11). LNG supplies to the UK have been somewhat constrained, particularly in light of strong demand for LNG to Asian markets have, helping to support the price in recent months. US LNG imports remained below 1 Bcf/day in April as cargoes took advantage of the higher prices in Europe and Asia.

### Canadian imports into the US

Net Canadian imports of gas into the US dropped from 9 Bcf/day in 2007 to 6 Bcf/day in 2011. This was initially driven by falling rig counts and a less attractive royalty regime enacted in 2007 and has accelerated due increased domestic demand from Canadian oil sands development. Although the Canadian rig count has recovered somewhat, we expect net imports to continue to decline.

### Demand Outlook

Taking into account the extremely warm winter in the US, we expect gas demand nonetheless to grow in 2012 by at least 0.5 Bcf/d to 68.8 Bcf/d. In addition there is likely to be further demand growth from coal to gas switching which could be anywhere in a 2 – 6 Bcf/day range as a result of the low \$2/ Mcf gas price.

Looking out further, the low US gas price has stimulated various initiatives that are likely have a material impact on demand from 2015/16 onwards. The most significant is the group of LNG export terminals in the US and Canada which in the planning/early construction stages. We can identify a pipeline of six terminals which would add nearly 11 Bcf/day to total US demand

(15% of overall demand), with first exports in late 2015. Inevitably some will be delayed and some never built, but nevertheless we think this will be a meaningful source of new demand. Industrial demand will also grow thanks to the construction of new petrochemical plants: Dow Chemical and Chevron Phillips have large new Gulf Coast facilities planned for 2017, the first new crackers to be built in the US since 2001.

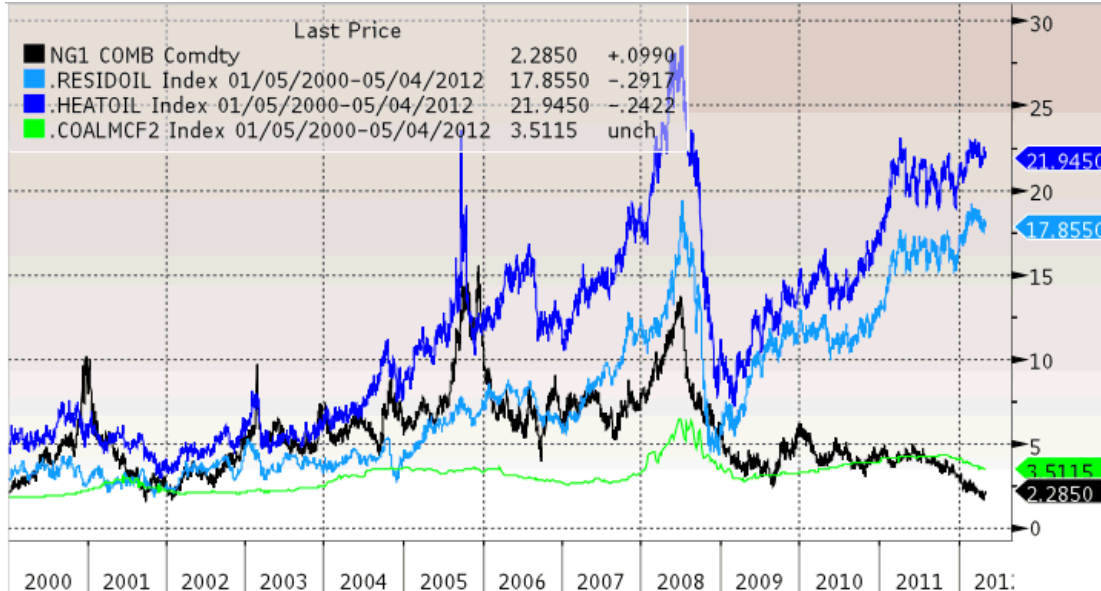
We also believe that gas will continue to take the majority of incremental power generation growth in the US. The combined cycle gas turbine fleet (CCGT) operated in 2010 at 39% of capacity versus the coal fleet at 70% of capacity. The CCGT fleet will not reach 70% anytime soon (it is not all in the 'right place' geographically), but we do expect it to grow its market share and add several Bcf/day to gas demand over the next few years.

## 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 49.7x at the end of April was well outside the more normal ratio of 6-9x. If the oil price averages around \$90 in 2012 and the relationship between the oil and gas price returning to its longer-term average of 6-9x, this would imply the gas price increasing back to above \$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 is now below the coal price support level, indicating that coal to gas switching for power generation is likely to accelerate in the short term.



**Figure 9: Natural gas price (black) vs residual fuel oil (light blue), heating oil (dark blue) and Sandy Barge (adjusted) (green) 2000 – 2012**

Source: Bloomberg LP (May 2012)

## 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 sub \$3 is below the marginal cost of supply and as further reduced rig count holds back new supply we expect the price to start to recover. We believe the gas price

may then be held around the \$4-5 range for a period until demand grows further, and longer term we expect the price to normalise to \$6-8. The problem today is the quantum of the gas storage surplus. The current surplus of 940 Bcf needs 3 Bcf/day of undersupply versus demand to bring it back to normal by end January 2013 given average weather.

## 5. Guinness Global Energy Fund performance review

The main index of oil and gas equities, the MSCI World Energy Index, was down by 0.74% in April. The S&P 500 was up by 0.63% over the same period. The Fund was down by 2.21% (class B) over this period, underperforming the MSCI World Energy Index by 1.47% (all in US dollar terms).

Within the Fund, April's stronger performers Helix, Penn Virginia, Petrochina, Nexen and Canadian Natural Resources. Poorer performers were Petrominerales, Chesapeake, JA Solar, JKC and Hess.

The following tables show the Fund's performance along with the performance of the MSCI World Energy Index over various periods to **April 30 2012** as well as over calendar years. Since the Fund was launched on March 31 2008 and therefore no actual performance numbers are available prior to this date, the numbers shown represent simulated past performance. The investment team has been running global energy funds in accordance with the same methodology continuously since November 1998 and therefore we believe the performance numbers quoted are a fair reflection of what the performance of this Fund would have been. The returns are calculated using a composite of the Investec GSF Global Energy Fund class A to February 29 2008 (date the team ceased to manage the Fund); the Guinness Atkinson Global Energy Fund from March 1 2008 to March 31 2008 (launch date of this Fund) and the Guinness Global Energy Fund class B since launch. All performance data in US dollars.

Year to date and annualised average returns	Year to date	1 year	3 years annualised	5 years annualised
Guinness Global Energy (B)	+4.8%	-23.4%	+13.5%	+1.2%
MSCI World Energy Index (Total return)	+3.0%	-11.1%	+14.8%	+2.5%

Calendar year performance	2011	2010	2009	2008	2007	2006	2005	2004
Guinness Global Energy (B)	-14.3 %	+14.4 %	+60.7 %	-48.2 %	+37.9 %	+10.0 %	+62.3 %	+41.0 %
MSCI World Energy Index (Total return)	+0.8 %	+12.7 %	+26.9 %	-37.9 %	+30.9 %	+18.5 %	+29.5 %	+28.9 %

Source: Bloomberg, bid to bid, (inclusive of all annual management fees but excluding any initial charge or redemption fee), gross income reinvested, in US dollars; \*calculation Guinness Asset Management Limited. Performance would be lower if initial charge and/or redemption fee were included.

**Past performance should not be taken as an indicator of future performance. Returns stated above are in US dollars; returns in other currencies may be higher or lower as a result of currency fluctuations.**

The value of this investment and any income arising from it can fall as well as rise. This will be as a result of market, currency and exchange rate fluctuations as well as other factors. The Fund's Prospectus gives a full explanation of the characteristics of the Fund and is available at [www.guinnessfunds.com](http://www.guinnessfunds.com). You may lose money in this investment.

## Buys/Sells

There were no buys or sells during the month.

## Sector Breakdown

The following table shows the asset allocation of the Fund at **April 30, 2012**. We have also shown the asset allocation of the Guinness Atkinson Global Energy Fund (our US global energy fund which was started in 2004 and is managed in tandem with the Guinness Global Energy Fund) at year-end 2006 and 2007 for comparative purposes:

(%)	31 Dec 2006*	31 Dec 2007*	31 Dec 2008	31 Dec 2009	31 Dec 2010	31 Dec 2011	30 Apr 2012	Change YTD
<b>Oil &amp; Gas</b>	<b>95.4</b>	<b>103.5</b>	<b>96.4</b>	<b>98.2</b>	<b>93.3</b>	<b>97.9</b>	<b>95.8</b>	<b>-2.1</b>
Integrated	29.9	40.3	41.6	35.9	33.0	30.9	29.5	-1.4
Integrated – Canada & Emerging Mkts	15.3	25.9	12.1	11.9	8.2	8.8	8.6	-0.2
Exploration and production	30.3	25.8	28.7	32.8	37.1	41.1	39.9	-1.2
Drilling	9.9	8.1	5.2	8.5	6.1	5.9	5.9	0.0
Equipment and services	3.4	3.4	6.4	5.9	5.4	6.1	6.9	0.8
Refining and marketing	6.6	0.0	2.4	3.2	3.5	5.1	5.0	-0.1
<b>Solar</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>3.2</b>	<b>1.3</b>	<b>1.3</b>	<b>0.0</b>
<b>Coal and consumables</b>	<b>3.3</b>	<b>2.5</b>	<b>2.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Construction and engineering</b>	<b>0.0</b>	<b>0.0</b>	<b>0.4</b>	<b>0.3</b>	<b>0.3</b>	<b>0.4</b>	<b>0.4</b>	<b>0.0</b>
<b>Cash</b>	<b>1.3</b>	<b>-6.0</b>	<b>0.9</b>	<b>1.5</b>	<b>3.2</b>	<b>0.4</b>	<b>2.5</b>	<b>2.1</b>
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	

\*Guinness Atkinson Global Energy Fund

Source: Guinness Asset Management

Basis: Global Industry Classification Standard (GICS)

## 6. Guinness Global Energy Fund portfolio

The fund at **April 30 2012** was on P/E ratios versus the S&P 500 Index at 1,398 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, \$96.4 for 2011 and \$104.8 for 2012). This is shown in the following table:

	2007	2008	2009	2010	2011	2012
Fund PER	8.5	7.6	16.1	10.5	9.3	8.6
S&P 500 PER	16.9	28.2	24.6	16.7	14.5	13.3
Premium (+) / Discount (-)	-50%	-73%	-35%	-37%	-36%	-35%
Average oi price (WTI \$)	\$72.2/bbl	\$99.9/bbl	\$61.9/bbl	\$79.5/bbl	\$95/bbl	\$90/bbl (est)

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

## Portfolio Holdings

Our **integrated** and similar stock exposure (c.39%) is comprised of a mix of mid-cap, mid/large-cap and large-cap stocks. Our four large caps are BP, Chevron, Royal Dutch Shell, and Total. Mid/large and mid-caps are ENI, StatoilHydro, ConocoPhillips, Hess, and OMV. At the end of April the median PER of this group was 10.1x 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 2010 PER but more attractive 2011 PER of 9.1x.

Our **exploration & production** exposure (c.40%) 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, Stone and Penn Virginia) and two more (Apache and Noble) which have significant international production. One of the key metrics behind a number of the E&P stocks held is low enterprise value /proven reserves. 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, Newfield and Stone all with quite low PERs (7x – 12x 2011 earnings) and (ii) Noble, Carrizo, and Penn Virginia with higher PERs (15x - 27x 2011 earnings). However, all look reasonably attractive on 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 five as E&P companies (JKX Oil and Gas, Dragon Oil, Afren, 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 4.5x 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 7.5x 2011 earnings. JKX is a gas focused E&P company with production in the Ukraine and trades on 6.2x 2011 earnings. Afren focuses on offshore West African production and trades on 17.1x 2011 earnings (falling to 6.1x 2012 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-focused E&P trading on 4.1x 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 7.5x and 10.3x 2011 earnings) and those which operate in the US and internationally (Helix, Transocean and Halliburton on 13.6x, 35.5x and 10.2x 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. Marathon Petroleum has an attractive embedded midstream business which is likely to be spun off in 2012.

Our alternative energy exposure is currently a single unit split equally between two companies; JA Solar and Trina Solar. Both were loss making in 2011 due to dramatic falls in solar prices during the year. Trina is a Chinese solar module manufacturer and JA Solar is a Chinese solar cell manufacturer. Some measure of their recovery potential may be indicated by their 2010 PERs of 2.2x and 0.9x respectively.

# GUINNESS GLOBAL ENERGY FUND

MANAGER'S UPDATE: May 2012



## Portfolio at March 31 2012 (for compliance reasons disclosed one month in arrears)

Guinness Global Energy Fund 31 March 2012													
Stock	ID_ISIN	Curr.	Country	% of NAV	2006	2007	2008	2009	2010	2011	2012	2013	31/03/2012
					mean PER	mean PER	mean PER	mean PER	mean PER	mean PER	mean PER	Mkt. Cap. (bn USD)	
<b>Integrated Oil &amp; Gas</b>													
Chevron Corp	US1667641005	USD	US	3.37	13.7	122	9.4	20.9	11.5	8.0	8.3	8.0	212.0
Royal Dutch Shell PLC	GB00B03MLX29	EUR	NL	3.48	8.8	7.0	8.1	15.6	11.4	8.4	7.8	7.3	222.7
BP PLC	GB0007980591	GBP	GB	3.41	6.8	6.8	5.4	9.5	6.6	6.6	6.6	6.3	140.4
Total SA	FR0000120271	EUR	FR	3.37	7.0	7.1	6.1	11.0	8.2	7.4	7.1	6.8	120.5
ConocoPhillips	US20825C1045	USD	US	3.51	7.7	7.9	7.1	21.0	12.8	8.9	9.0	8.4	96.8
ENI SpA	IT0003132476	EUR	IT	3.44	6.3	6.8	6.3	12.3	9.4	9.0	7.9	7.2	93.9
Statoil ASA	NO0010096985	NOK	NO	3.47	8.2	11.2	8.4	15.3	11.5	9.9	8.8	8.5	86.6
Hess Corp	US42809H1077	USD	US	3.47	10.7	9.9	8.1	30.8	11.4	9.8	9.0	7.1	20.1
OMV AG	AT0000743059	EUR	AT	3.38	5.2	5.1	4.2	10.7	6.7	8.4	6.4	5.7	11.6
				<b>30.89</b>									
<b>Integrated Oil &amp; Gas - Canada</b>													
Suncor Energy Inc	CA8672241079	CAD	CA	3.28	13.2	13.7	10.2	30.8	20.5	9.1	9.5	8.3	50.9
				<b>3.28</b>									
<b>Integrated Oil &amp; Gas - Emerging market</b>													
PetroChina Co Ltd	CNE1000003W8	HKD	HK	3.45	11.2	10.9	14.1	14.9	12.0	11.8	10.4	9.7	279.1
Gazprom OAO	US3682872078	USD	RU	1.70	6.6	6.4	5.6	6.3	4.7	3.3	3.5	3.9	144.4
				<b>5.15</b>									
<b>Oil &amp; Gas E&amp;P</b>													
Apache Corp	US0374111054	USD	US	3.54	13.7	11.6	9.0	18.1	10.8	8.5	8.0	7.1	38.6
Marathon Oil Corp	US5658491064	USD	US	3.36	4.8	5.8	4.9	17.2	9.0	8.5	8.4	6.9	22.3
Devon Energy Corp	US25179M1036	USD	US	3.44	11.3	10.2	7.2	19.7	12.0	11.8	11.2	9.6	28.7
Chesapeake Energy Corp	US1651671075	USD	US	3.08	6.4	7.2	6.5	9.4	7.9	8.3	12.9	7.8	15.4
Noble Energy Inc	US6550441058	USD	US	3.46	25.8	18.0	13.9	29.0	23.7	18.6	15.2	11.5	17.3
Newfield Exploration Co	US6512901082	USD	US	3.48	9.9	10.8	11.0	6.8	7.5	8.5	10.8	9.4	4.7
Stone Energy Corp	US8616421066	USD	US	1.67	10.4	5.6	5.1	12.4	14.1	7.4	6.9	7.1	1.4
Carrizo Oil & Gas Inc	US1445771033	USD	US	1.72	39.8	40.4	15.7	19.2	22.2	27.5	11.5	6.1	1.1
Penn Virginia Corp	US7078821060	USD	US	0.78	2.5	2.5	1.8	nm	nm	nm	nm	nm	0.2
Bayfield Energy Holdings PLC	GB00B3N3KL75	GBP	GB	0.49	nm	nm	nm	nm	nm	nm	7.9	3.4	0.22
Triangle Petroleum Corp	US89600B2016	USD	US	0.40	nm	nm	nm	nm	nm	nm	nm	23.5	0.3
				<b>25.41</b>									
<b>Oil &amp; Gas E&amp;P - Canada</b>													
Canadian Natural Resources Ltd	CA1363851017	CAD	CA	3.32	22.6	15.7	10.1	13.7	13.6	14.3	10.9	8.5	36.4
Nexen Inc	CA65334H1029	CAD	CA	3.47	11.2	6.4	4.8	16.5	10.9	10.7	8.1	6.2	9.7
				<b>6.79</b>									
<b>Oil &amp; Gas E&amp;P - Emerging markets</b>													
Dragon Oil PLC	IE0000590798	GBP	GB	1.76	28.3	16.8	13.9	20.2	14.7	7.9	7.2	6.8	5.1
Petrominerales Ltd	CA71673R1073	CAD	CA	1.87	110.0	38.2	14.6	19.2	7.6	5.2	5.6	5.9	1.8
Afren PLC	GB00B0672758	GBP	GB	1.82	nm	nm	nm	177.6	33.3	16.8	6.8	6.2	2.3
Soco International PLC	GB00B572ZV91	GBP	GB	1.72	45.0	41.4	44.5	27.7	28.9	24.7	7.0	6.4	1.6
JKX Oil & Gas PLC	GB0004697420	GBP	GB	1.05	5.2	4.1	5.1	5.5	6.1	7.2	5.0	5.7	0.4
Ophir Energy PLC	GB00B24CT194	GBP	GB	0.39	nm	nm	nm	nm	nm	nm	nm	nm	2.97
WesternZagros Resources Ltd	CA9600081009	CAD	CA	0.23	nm	nm	nm	nm	nm	nm	29.2	15.1	0.32
Pantheon Resources PLC	GB00B1255X82	GBP	GB	0.02	nm	nm	nm	nm	nm	nm	nm	nm	0.01
				<b>8.86</b>									
<b>Drilling</b>													
Transocean Ltd/Switzerland	CH0048265513	USD	US	0.33	18.6	5.1	3.8	4.6	9.2	38.6	18.9	11.4	19.2
Patterson-UTI Energy Inc	US7034811015	USD	US	2.28	4.3	6.8	7.3	nm	25.5	8.0	7.5	7.4	2.7
Unit Corp	US9092181091	USD	US	3.36	6.4	7.5	6.3	16.2	14.1	10.4	9.3	9.0	2.1
				<b>5.98</b>									
<b>Equipment &amp; Services</b>													
Halliburton Co	US4062161017	USD	US	3.43	15.2	13.1	15.3	25.4	16.5	9.9	8.7	7.5	30.6
Helix Energy Solutions Group Inc	US42330P1075	USD	US	2.84	6.2	5.3	7.3	30.7	33.7	11.9	10.6	9.1	1.9
Shandong Molong Petroleum Machinery Co Ltd	CNE1000001N1	HKD	HK	0.08	9.5	6.6	4.4	12.1	nm	6.6	3.8	3.3	0.62
				<b>6.35</b>									
<b>Solar</b>													
Trina Solar Ltd	US89628E1047	USD	US	0.76	nm	9.8	5.9	4.4	2.1	237.7	nm	11.5	0.6
JA Solar Holdings Co Ltd	US4660901079	USD	US	0.63	9.1	24.4	36.1	nm	1.0	nm	nm	70.7	0.3
				<b>1.40</b>									
<b>Oil &amp; Gas Refining &amp; Marketing</b>													
Marathon Petroleum Corp	US56585A1025	USD	US	1.74	nm	nm	nm	nm	24.1	6.3	7.5	7.2	15.1
Valero Energy Corp	US91913Y1001	USD	US	3.33	3.1	3.3	4.8	nm	16.2	6.5	6.8	5.6	14.2
				<b>5.07</b>									
<b>Construction &amp; Engineering</b>													
Kentz Corp Ltd	JE00B28ZGP75	GBP	GB	0.46	nm	30.9	31.3	30.8	21.2	16.1	14.2	12.2	0.91
				<b>0.35</b>									
				<b>100.00</b>									
Research holding					<b>P/E</b>	<b>8.9</b>	<b>8.6</b>	<b>7.7</b>	<b>16.3</b>	<b>10.6</b>	<b>9.3</b>	<b>8.5</b>	<b>7.5</b>
					<b>Med. PER</b>	<b>9.5</b>	<b>7.9</b>	<b>7.3</b>	<b>16.4</b>	<b>11.5</b>	<b>8.9</b>	<b>8.2</b>	<b>7.3</b>

The Fund's portfolio may change significantly over a short period of time; no recommendation is made for the purchase or sale of any particular stock.

## 7. Managers' concluding comments

The energy world continues to be dominated in 2012 by three big themes: Iran related oil supply fears, US shale gas over-production and reduced demand effects in the US and Europe from higher oil and gasoline prices.

As commented last month, fears over Iran include fears of Israeli action to try and halt Iran's nuclear program as well as concerns that, whatever happens, there will be a material reduction in Iranian oil exports due to UN and bilateral sanctions – and this is happening. Syrian unrest involving Iran and Saudi in proxy conflict and supply disruption in Yemen, Sudan and more recently Nigeria all continue to provide subsidiary cause for angst and support for WTI and Brent oil prices. Since month end however both Brent and WTI have started to weaken and the gap between them is narrowing – down from over \$20 early April to \$14 as we write.

In the US high amounts of natural gas in storage, caused by a combination of strong shale gas production growth and mild weather, has weakened the US natural gas price, taking it well below \$3/mcf, and for a few days below \$2. Recently however the price has begun to recover as the latest data on coal to gas switching (higher than expected) and low gas storage injection rates at average weather temperatures has moved sentiment more positive.

Our sense is that we could be at a turning point for both oil and US natural gas prices.

In essence for oil the 'no big spike' scenario is winning because the Iran crisis is slowly resolving and as a result the WTI and Brent oil price are falling back and converging on \$90. At that level any demand dampening effect will unwind. (The convergence trend reflects progress being made in the US to iron out infrastructure bottlenecks created by rising US on-shore and rising Canadian oil sands production).

In this scenario the rate of recovery in Libyan production, the level of supply disruption in Yemen, Sudan, Syria and Nigeria and the rate of Saudi, Kuwait and UAE supply adjustment in response will sit for many months at centre stage and drive the evolution of inventories and oil prices over the next 9 months more than the changing picture in global demand or the rest of non-OPEC supply. In our view it all points to oil prices in the \$80 – 100 range: a comfort zone for Saudi et al.

On US gas our view persists that the current sub \$3/mcf gas prices cannot continue for too long. We continue to 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 25x, as well as to gas prices in Europe and Asia which are 100% and 200% higher than in North America. Extreme ratios rarely last.

Our belief remains that supply growth will eventually be constrained as the economics of dry gas production lead to a cut in dry gas drilling activity. This is now clearly happening. The high marginal cost of the marginal shale mcf is leading to falling gas production from existing fields to compensate for the extra supply coming from hold-by-drilling activity and production of what is effectively "associated" gas in liquids rich shale beds and from new shale oil fields. However, how long this will now take to have a large enough effect to rebalance the market is the big question. If the gas rig count falls to 500-600 ( it is currently 613 versus an average of 918 between August 2010 and October 2011), with the drop split between horizontal and vertical drilling rigs pro rata to the rig count in mid-2011, and the oil rig count held steady, that should do it by the end of 2012 or latest mid-2013.

Notwithstanding the weak gas price the odds are now increasing that energy equity earnings in 2012 will slightly exceed those in 2011. It is important to appreciate that the gas heavy E&Ps

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which are hurt by the weak gas price are energetically moving into oil to compensate and the strength of the oil price so far this year means that the **average** oil price in 2012 is potentially on track to match or exceed that of 2011 (\$111 Brent/\$95 WTI) .

Energy equity valuations (the fund based on consensus estimates is on a 2012 P/E ratio of 8.6X at April 30th 2012 (2010 pre Libya/Iran crises P/E of 10.5X) **which is well below the broad market's 13.3x** (S&P500 at 1,398 with 2012 forecast EPS of \$104.8).

The super-majors, to our way of thinking, are not expensive and non-majors have become increasingly good value thanks to 2H 2011 corrections. All this of course assumes the oil price stabilizes around the level now sought by OPEC (say WTI \$90/ barrel vs. \$79 2010 actual; \$95 2011) and the gas price in due course recovers.

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 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.

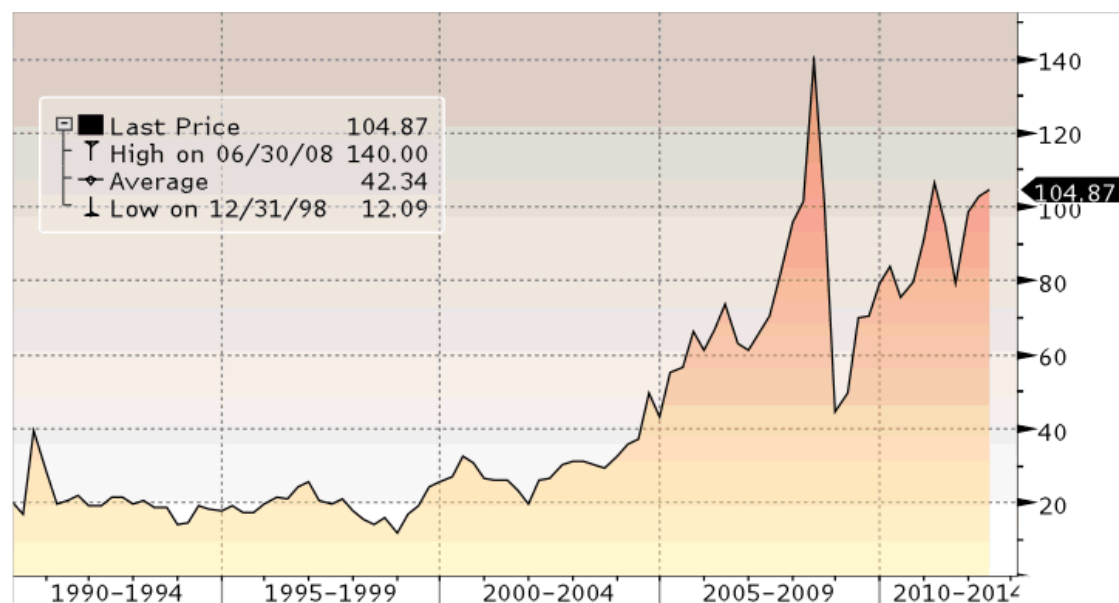
## **Tim Guinness**

Chairman & Chief Investment Officer

## **Will Riley, Ian Mortimer & Tom Nelson**

Fund investment team

## **Appendix: Oil and gas markets, historical context**



**Figure 10: Oil price (WTI \$) last 21 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.

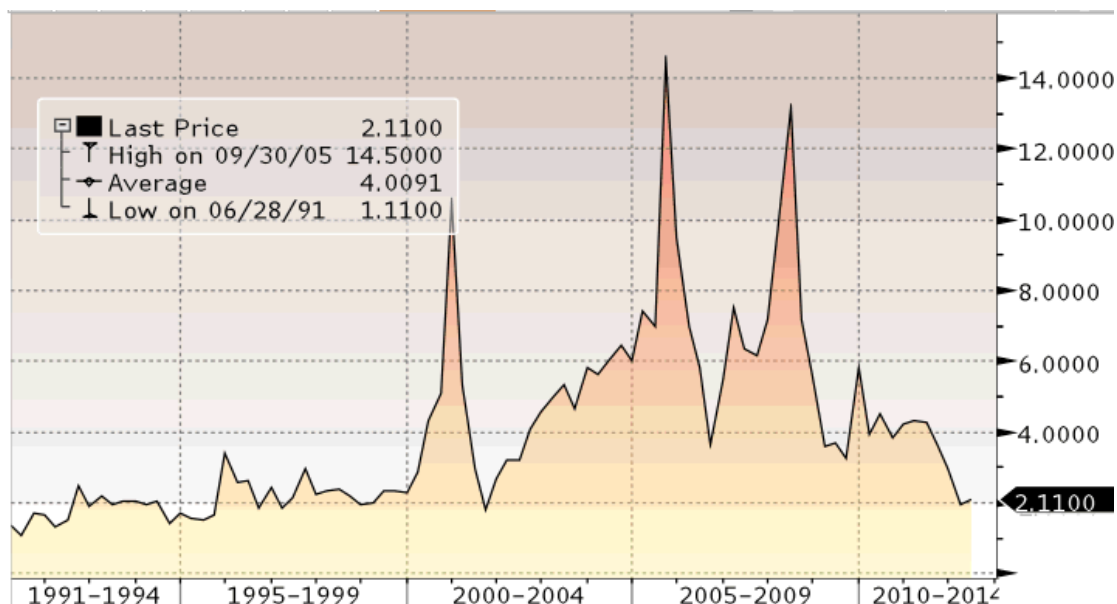
Then, in late 2002 early 2003, war in Iraq and a general strike in Venezuela caused the price to spike upward. This was quickly followed by a sharp sell-off due to the swift capture of Iraq's Southern oil fields by Allied Forces and expectation that they would win easily. Then higher prices were generated when the anticipated recovery in Iraq production was slow to materialise. 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 ex 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 which 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 to act 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 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's responded decisively and reduced output, helping the price to recover in 2009 and stabilise in the \$70-95 range where it remained for over 18 months. Most recently we have seen the price rise again above \$100 in response to unrest in North Africa and the Middle East and declining OPEC spare capacity.



**Figure 11: North American gas price last 20 years (Henry Hub \$/Mcf)**

Source: Bloomberg

With regard to the US natural gas market, the price traded between \$1.50 and \$3/Mcf for the period 1991 - 1999. The 2000s were a more volatile period for the gas price, with several spikes over \$8/mcf, but each lasting less than 12 months. On each occasion, the price spike induced a spurt of drilling which brought the price back down. Excepting these spikes, from 2004 to 2008, the price generally traded in the \$5-8 range. Since 2008, the price has averaged below \$4 as progress achieved in 2007-8 in developing shale plays boosted supply while the 2008-09 recession cut demand. Demand has been recovering since 2009 but this has been outpaced by continued growth in onshore production.

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 remains a regional market more than a global market because the infrastructure to export LNG from North America is not yet in place.

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***The value of this investment and any income generated by it, may fall as well as rise as a result of the market and currency fluctuations and an investor may not get back the amount they invest.***

# GUINNESS GLOBAL ENERGY FUND

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