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## HIGHLIGHTS

**FUND NEWS** • Fund size \$44.3 million at end of December

### OIL

#### **Brent and WTI continued to decline over the quarter**

Brent oil declined from \$54.1/barrel (bl) to \$37.3/bl in the quarter while the WTI oil price declined from \$49.2 to \$37, taking the Brent/WTI discount to zero at the end of the year. Global oil demand grows strongly and US production has peaked, but the markets remained oversupplied due to elevated OPEC (Organization of the Petroleum Exporting Countries) production. OPEC met on December 4 and effectively rolled over their previous market share strategy into the next few months

### NATURAL GAS

#### **US gas price down; gas market is now structurally undersupplied but weather still in control**

Henry Hub gas fell during the quarter, down from \$2.52 to \$2.34. The continuation of unusually warm weather pulled the price below \$2/mcf during December, then snapped back as the market moved further into structural (i.e. weather adjusted) undersupply. Inventories sit above the 5 year range.

### EQUITIES

#### **Energy underperforms the broad market**

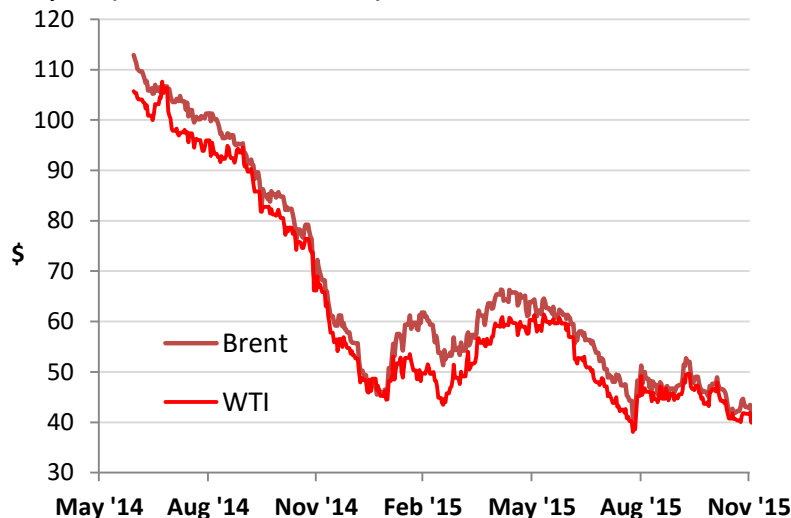
The main index of oil and gas equities, the MSCI World Energy Index, was down by 0.5% in the fourth quarter of 2015. The S&P 500 Index was up by 7% over the same period.

**Fourth Quarter 2015 in Review**  
**Manager's Comments**  
**Performance: Guinness Atkinson Global Energy Fund**  
**Portfolio: Guinness Atkinson Global Energy Fund**

## 1. Fourth quarter 2015 in Review

### i) Oil market

*Figure 1: Oil price (WTI and Brent \$/barrel) 18 months June 30, 2014 to December 31, 2015*



Source: Bloomberg LP

The West Texas Intermediate (WTI) oil price started October at \$49.2/bl and traded down over the quarter to close at \$37.0/bl. WTI averaged \$48.7 in 2015, having averaged \$93.1 in 2014, \$98.0 in 2013 and \$94.1 in 2012.

Brent oil traded in a similar way, opening the quarter at \$54.1/bl and weakening before closing them quarter at \$37.3/bl. The gap between the WTI and Brent benchmark oil prices continued to compress as the year progressed. The WTI-Brent spread averaged \$5.8/bl during 2014, having been well over \$20/bl at times since 2011.

#### Factors which strengthened the WTI and Brent oil prices in the quarter:

- **Falling onshore US oil production**

US onshore oil production fell in October (the latest data point available) for the seventh consecutive month. Onshore production declined by 58,000 b/day in October, bringing the total decline since April 2015 to around 400,000 b/day, or 5% of April production. We expect declines in onshore US oil production to have continued to accelerate in the rest of the fourth quarter (this will become clear when the data is released in Feb/March), with the first annual declines in monthly production having come in November.

- **US oil drilling rig count falls further, plumbing new lows for 2015**

The Baker Hughes oil directed rig count continued to roll over during the quarter, falling from 614 rigs on October 2 to 536 on December 31, a fall of 78 rigs.

**Factors which weakened WTI and Brent oil prices in the quarter:**

- **Warm weather leading to lower US demand**

The fourth quarter has seen much warmer weather than usual in the United States, resulting in dampened consumption of heating fuels. Total US product demand in December 2015 was around 1% lower than demand in December 2014.

- **Elevated level of OPEC supply, particularly from Iraq and Saudi Arabia**

Initial estimates suggest that OPEC production averaged 32.9m b/day in December, flat versus the previous month. Note that OPEC supply now includes Indonesia who were readmitted to the group in December but still at an elevated level compared to the start of the year (December 2014 production was 30.4m b/day) and the calculated 'call on OPEC' for 2015. The main contributors to OPEC's higher production since December 2014 continue to be Iraq (at 4.4m b/day) and Saudi (at 10.3m b/day).

- **Movements in OECD inventories indicate oversupply**

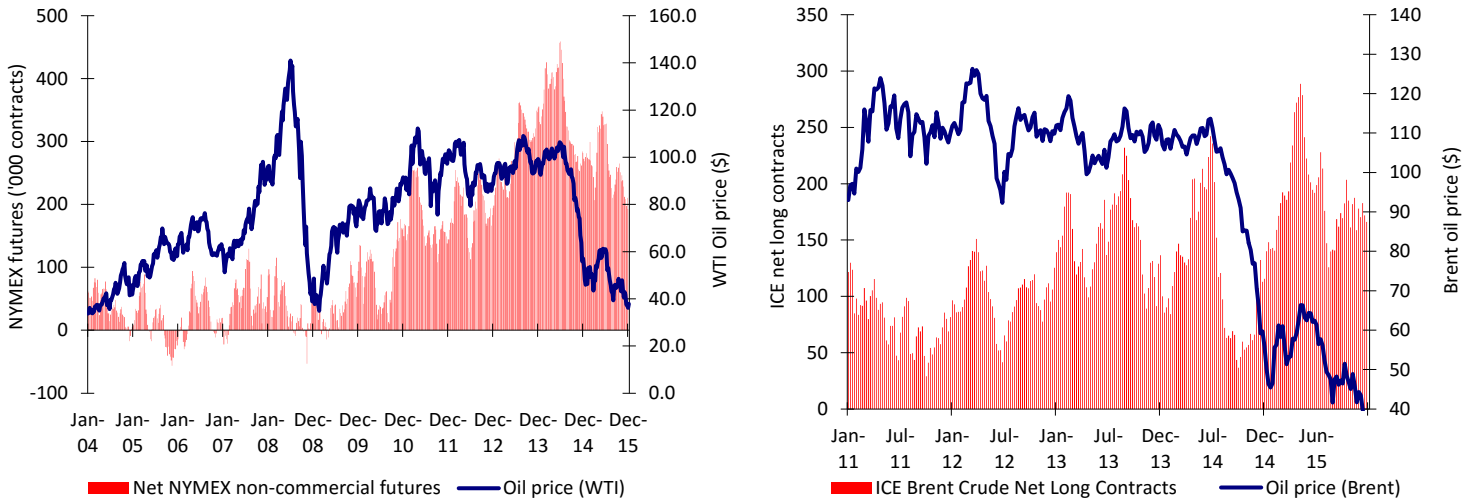
OECD (Organization of Economic Co-Operation & Development) total product and crude inventories at the end of November were reported as being 2.969bn bls, down 11m barrels versus the end of September 2015. While inventories are not building at the rate that they were building at the beginning of the year, they still indicate that the market is oversupplied.

**Speculative and investment flows**

The New York Mercantile Exchange (NYMEX) net non-commercial crude oil futures open position (WTI) declined in the quarter, ending the quarter at 196,000 contracts long versus 216,000 contracts long at the end of September. The current net long position of 196,000 contracts is significantly down from its peak of 460,000 contracts in June 2014.

The equivalent non-commercial position for Brent oil, ICE Brent crude oil net long contracts, rose in the quarter, up from 141,000 contracts to 164,000 contracts long.

**Figure 2: NYMEX Non-commercial net futures contracts: WTI January 2004 – December 2015;  
 ICE Brent crude net long contracts : January 2011 – December 2015**

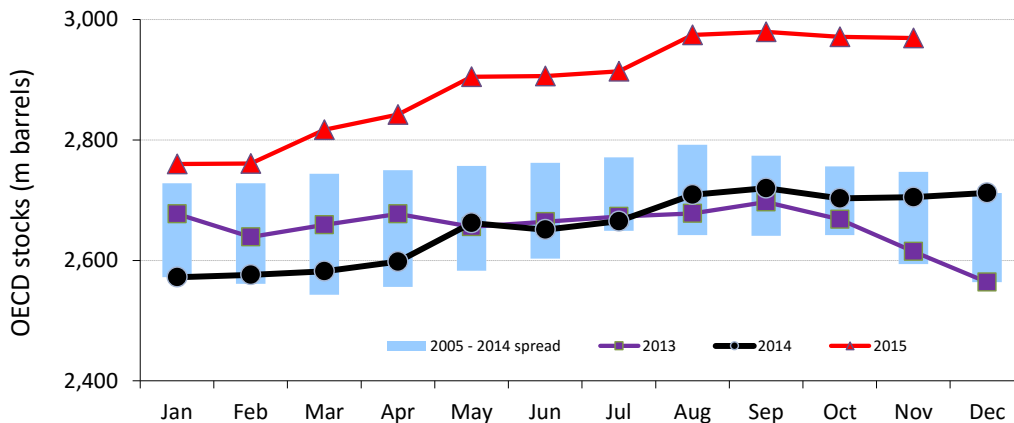


Source: Bloomberg LP/NYMEX/ICE (2015); ICE = IntercontinentalExchange

**OECD stocks**

OECD total product and crude inventories at the end of November (the latest data point available) were estimated by the IEA (International Energy Agency) to be 2,969m barrels, down 5m barrels versus August 2015 (the last data point reported in this report). The small decline compares to a similar decline in 2014 and an average decline of 50mn bls reported over the previous five years. The three month rolling average for changes to inventories indicates continued oversupply of around 0.5m b/day, and all this leaves inventories considerably above the top of the 10 year historic range.

**Figure 3: OECD total product and crude inventories, monthly, 2004 to 2015**



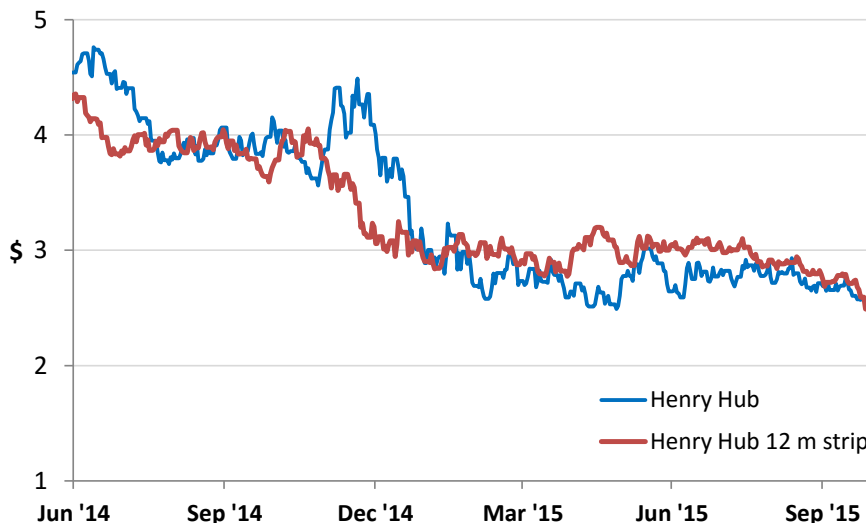
Source: IEA Oil Market Reports (December 2015 and older)

**ii) Natural gas market**

The US natural gas price (Henry Hub front month) opened the quarter at \$2.52 per Mcf (1000 cubic feet). The price trended lower to close December at \$2.34 per Mcf, despite dropping to a low of less than \$1.80/Mcf during December. The spot gas price averaged \$2.63/mcf in 2015, which compares to an average gas price in 2014 of \$4.26 (assisted by a very cold 2013/14 US winter). The price averaged \$3.72 over the preceding four years (2010-2013), significantly below the average in each of the previous five years (2005-2009).

The 12-month gas strip price (a simple average of settlement prices for the next 12 months' futures prices) traded in a similar fashion, starting the quarter at \$2.75 and closing the quarter at \$2.53. The strip price averaged \$2.86 so far in 2015, having averaged \$4.18 in 2014, \$3.92 in 2013, \$3.28 in 2012, \$4.35 in 2011, \$4.86 in 2010 and \$5.25 in 2009.

**Figure 4: Henry Hub Gas spot price and 12m strip (\$/Mcf) March 31, 2014 to December 31, 2015**



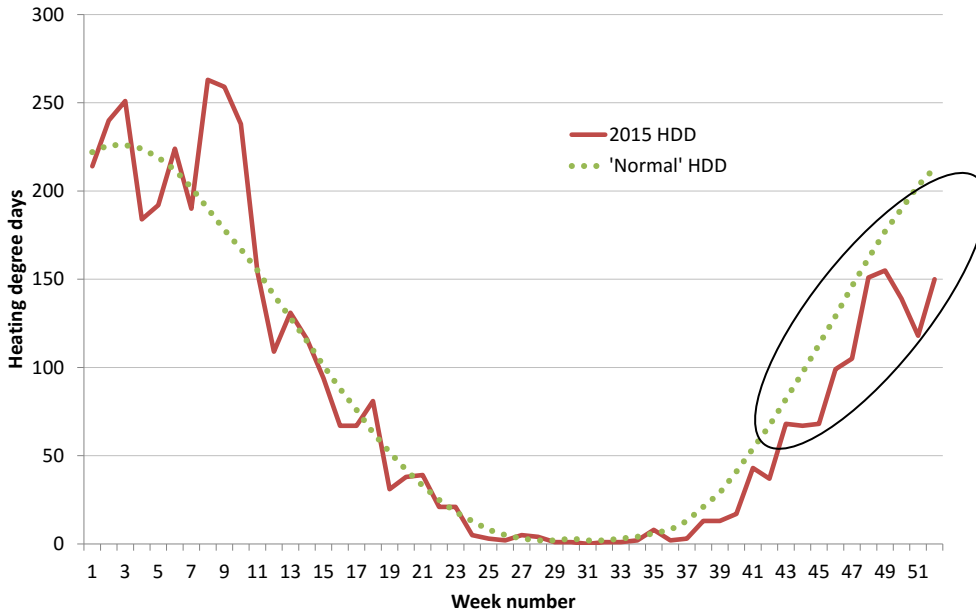
Source: Bloomberg LP

**Factors which weakened the US gas price in the quarter included:**

- **Unusually warm weather dampening heating demand**

The unusually warm autumn and early winter the US extended into December and has depressed heating demand for natural gas, which in turn has increased the amount of gas being injected into storage. The chart below shows how temperatures (measure in 'heating degree days') have been consistently below the seasonal average since mid September:

**Figure 5b: 2015 heating degree days in the US vs 'normal' heating degree days (last 10 years)**

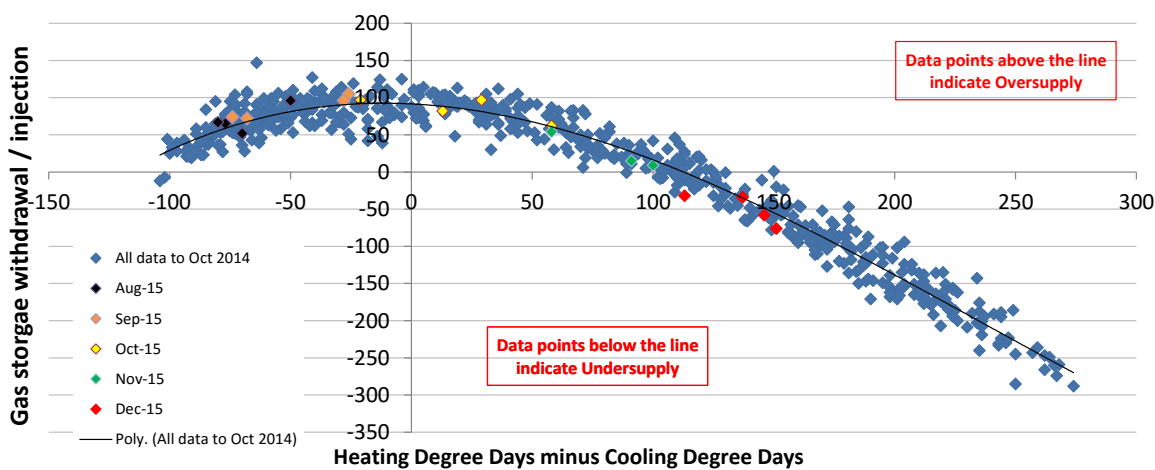


**Factors which strengthened the US gas price in the quarter included:**

- **Structurally undersupplied market**

Adjusting for the impact of weather in December 2015, the most recent injections of gas into storage suggest the market is, on average, about 2 Bcf/day undersupplied (as indicated by the red dots on the graph below). The market shifted into structural undersupply mid quarter and the level of undersupply has gradually intensified. This has been trumped for the time being by warmer weather, causing natural gas inventory levels to trend towards the top of the five year range.

**Figure 6: Weather adjusted US natural gas inventory injections and withdrawals**

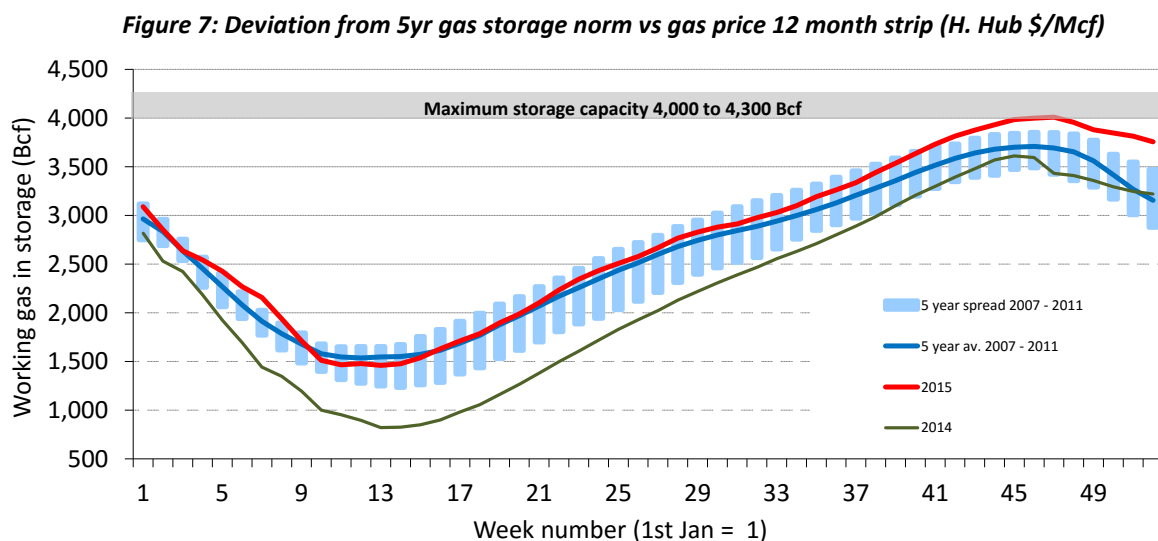


- **Onshore gas production declined in October**

The EIA (Energy Information Agency) reported that October US natural gas production (the latest data point available) rose by 0.4 Bcf/day, to 83.9 Bcf/day, versus the previous month. The majority of the increase came from Louisiana (+0.1 Bcf/day) and ‘other States’ (+0.1 Bcf/day). Year-on-year onshore production growth is now running at 5.2 Bcf/day, having been as high as 8 Bcf/day at the end of 2014.

**Natural gas inventories**

Swings in the supply/demand balance for US natural gas should, in theory, show up in movements in gas storage data. Natural gas inventories at the end of December were reported by the EIA to be 3,756 Bcf. The month on month draw was less than average, leaving inventories above the top of the five year range.



Source: Bloomberg; EIA (December 2015)

The 2013/2014 winter saw gas in storage tighten very considerably as a result of extremely cold weather rather than any structural tightening. Coal regained some market share in the spring and summer of 2014 as a result of the higher natural gas prices, though gas in storage remains lower than average. A surge in onshore production since summer 2014, particularly from the Marcellus region and as a by-product of shale oil production (‘associated’ gas), has since led to above average gas in storage levels.

## 2. MANAGER'S COMMENTS

### 2015 IN REVIEW

After the historic decision by OPEC in November 2014 to switch from a price to a market share strategy, the oil price fell sharply and remained at a depressed level for much of 2015, averaging \$54/bl for the year. North American oil production moved into decline, whilst global oil demand grew handsomely. However, the market was kept over-supplied for much of the year as a result of extra supply from OPEC. We view this move, particularly in Saudi's case, as an attempt to keep the boot on the throat of non-OPEC producers, and ensure a lasting re-set of the oil cycle.

- The dominant themes for global oil markets last year were:
  - i) OPEC holding firm on market share strategy; production raised by 1.3m b/day  
The oil market was kept over-supplied for much of the year as a result of 1.3m b/day of extra supply from OPEC, most notably from Saudi Arabia and Iraq.
  - ii) Continued but slowing non-OPEC supply growth, with US production moving into decline  
Non-OPEC supply grew by around 1.3 million barrels per day, reflecting growth from the US in the first half of the year (though now in decline), and the start-up of new projects elsewhere that were sanctioned well before the fall in oil prices.
  - iii) Surging global oil demand, expected to have grown by around 1.8m b/day  
This is made up of non-OECD oil demand growth of 1.3m b/day and OECD oil demand growth of around 0.5m b/day. This represents the strongest year of demand growth since the post-financial crisis bounce in 2010. In the US, vehicle miles travelled are on the rise again, whilst market share for vehicle sales in the US and China shifted in favour of SUVs over smaller cars.
- For natural gas in the US, 2015 ended up being a continuation of the same theme as in the past several years, with the market generally in oversupply. Production growth from newer low-cost gas shales (the Marcellus in particular) along with by-product gas from new shale oil production regularly outran demand growth. Henry Hub averaged \$2.63/mcf in 2015, versus \$4.26 in 2014.

It was a second poor year for energy equities, which fell in sympathy with the oil price. The MSCI World Energy Index started the year positively, matching the gains made by the MSCI World Index in the first four months of 2015, coinciding with the oil price rising into the mid \$60s/bl. Energy equities then traded weakly for most of the rest of the year, ending 2015 with a total return of -22.2% versus the MSCI World's -0.3%. Similar to 2014, the performance of the MSCI World Energy Index was only part of the story, with a number of energy equity subsectors down by around 30% to 60%, particularly those more levered to oil.



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## OUTLOOK FOR 2016

- We expect the oil price to remain volatile for a number of months, with the market still oversupplied. A recovery to \$70+/bl is likely when the market rebalances.
- There are a number of positive signs that the market is rebalancing: oil demand grew strongly in 2015 and is expected to do so again in 2016; US oil production (the principle cause of the oversupply) peaked in April 2015 and its decline is accelerating; the rest of non-OPEC supply has stagnated and we see significantly reduced new project supply from 2017 onwards. An oil price below \$70/bl is not high enough to justify new investment in higher cost and more marginal non-OPEC projects. Against that, we may well see OPEC supply grow again in 2016 as Iranian production recovers post the lifting of sanctions, and if the political situation in Libya improves. Neither of these events would derail the rebalancing process, only delay it by a matter of months.
- In the meantime, Saudi are suffering a significant fiscal deficit (c.\$100bn in 2015) but continue to act rationally in their response to a depressed oil price, realising that an 'emergency' production cut would be a fools' errand as they would simply encourage a sharp recovery in non-OPEC growth. That said, an extremely low price (sub \$40/bl) may well encourage them to stabilise the market, but not necessarily in a vocal fashion. Longer term, we believe that Saudi seek a 'good' oil price, well in excess of current levels to balance their fiscal needs, but they realise that patience is required to achieve that goal.
- If we pull together our supply and demand expectations for 2016, our 'base' case is that OECD oil and oil product inventories build during the start of 2016 (mainly as a result of Iranian oil production increases and the hangover of 2015 oversupply) before a reasonably rapid decline towards more normal levels in the last few months of the year. If the non-OPEC supply data is supportive, it may allow Saudi to seek higher oil prices at the June OPEC meeting.
- Before the market tightens, we could well see lower oil prices. We have seen oil prices drop sharply lower at the bottom of the cycle and this could happen again. Historically, oil prices have bottomed in tandem with a combination of events such as OPEC action, oil inventories becoming full, existing non-OPEC supply shut-ins and oil price forward curves moving into steep contango. The volatility and shape of the forward curve indicate that we are close to this today.

Energy equities have now underperformed the broad market for longer than they did after any of the large price declines since 1970, as represented by the MSCI World and MSCI World Energy Indices. The weighting of energy in the S&P 500 at the end of 2015 was 6.4%, close to its historic lows. This also leaves the relative price-to-book ratio of energy vs the S&P500 at a 50 year low. We do not expect these extremes to be sustained.

- The valuation sensitivity work that we regularly perform tells us that energy equities are today discounting an oil price (into perpetuity) of around \$50-55/barrel. This is above the current spot oil price and in line with the four year forward prices for both Brent and WTI.

In the shorter-term, stock selection remains paramount as we traverse the tightrope of low oil prices and, in many cases, geared balance sheets. However, if you believe (as we do) that a recovery in the oil price to \$70+/bl is likely, the case for accumulating energy equities at this level looks good.

### 3. Performance – Guinness Atkinson Global Energy Fund

The main index of oil and gas equities, the MSCI World Energy Index, was down by 0.48% in the fourth quarter of 2015. The S&P 500 Index was up by 7.03% over the same period. The Fund was down by 0.34% over this period, slightly outperforming the MSCI World Energy Index (all in US dollar terms).

Within the Fund, the fourth quarter’s stronger performers were JA Solar, Trina Solar, Valero Energy, OMV and Apache. Poorer performers were Southwestern, Bankers Petroleum, EnQuest, Devon Energy and Soco International.

#### Performance as of December 31, 2015

Inception date 6/30/04	Full Year 2009	Full Year 2010	Full Year 2011	Full Year 2012	Full Year 2013	Full Year 2014	1 year (annualized)	Last 5 years (annualized)	Last 10 years (annualized)	Since Inception (annualized)
Global Energy Fund	63.27%	16.63%	-13.16%	3.45%	24.58%	-19.62%	--26.99%	-8.06%	-0.30%	5.95%
MSCI World Energy Index	26.98%	12.73%	0.71%	2.54%	18.98%	-10.93%	-22.02%	-3.11%	1.69%	5.22%
S&P 500 Index	26.47%	15.06%	2.09%	15.99%	32.36%	13.66%	+1.38%	12.54%	7.29%	7.40%

Source: Bloomberg

Gross expense ratio: 1.30%

*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](http://www.gafunds.com/performance.asp) or call (800) 915-6566.*

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## 4. Portfolio – Guinness Atkinson Global Energy Fund

We made no portfolio switches during the quarter

### Sector Breakdown

The following table shows the asset allocation of the Fund at **December 31, 2015**.

(%)	31 Dec 2008	31 Dec 2009	31 Dec 2010	31 Dec 2011	31 Dec 2012	31 Dec 2013	31 Dec 2014	31 Dec 2015	Change YTD
<b>Oil &amp; Gas</b>	<b>96.4</b>	<b>96.1</b>	<b>93.2</b>	<b>98.5</b>	<b>98.6</b>	<b>95.6</b>	<b>95.3</b>	<b>94.4</b>	<b>-1.2</b>
Integrated	53.7	47.2	41.2	39.6	39.1	39.6	37.5	40.5	0.9
Exploration and production	28.7	32.0	36.9	41.5	41.6	36.8	38.1	37.0	0.2
Drilling	5.2	8.4	6.3	6.0	7.4	6.8	3.1	1.7	-5.1
Equipment and services	6.4	5.4	5.3	6.6	7.1	9.0	13.1	11.1	2.1
Refining and marketing	2.4	3.1	3.5	4.8	3.4	3.4	3.5	4.1	0.7
<b>Coal and consumables</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>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Solar</b>	<b>0.0</b>	<b>0.0</b>	<b>3.2</b>	<b>1.2</b>	<b>1.2</b>	<b>2.8</b>	<b>3.5</b>	<b>4.9</b>	<b>2.1</b>
<b>Construction and engineering</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.6</b>	<b>0.9</b>	<b>0.0</b>	<b>0.0</b>	<b>-0.9</b>
<b>Cash</b>	<b>0.9</b>	<b>3.5</b>	<b>3.2</b>	<b>-0.1</b>	<b>-0.4</b>	<b>0.7</b>	<b>1.2</b>	<b>0.7</b>	<b>0.0</b>
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>

Source: Guinness Atkinson Asset Management

Basis: Global Industry Classification Standard (GICS)

### Guinness Atkinson Global Energy Fund Portfolio

The table below shows the fund valuation in terms of historical and forward (analyst consensus estimates) price/earnings ratios versus the S&P500 Index.

	2010	2011	2012	2013	2014	2015
<b>Guinness Atkinson Global Energy Fund P/E</b>	6.9	6.9	7.0	7.5	7.9	16.3
S&P 500 P/E	24.4	21.2	21.1	19.0	18.1	19.2
Premium (+) / Discount (-)	-72%	-67%	-67%	-61%	-56%	-15%
Average oil price (WTI \$)	\$79.5/bbl	\$95/bbl	\$94/bbl	\$98/bbl	\$93/bbl	\$49/bbl

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

# Guinness Atkinson

## Global Energy Fund Update

### 2016 Annual Review

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#### Portfolio Holdings

Our integrated and similar stock exposure (c.42%) is comprised of a mix of mid cap, mid/large cap and large cap stocks. Our four large caps are Exxon, BP, Royal Dutch Shell and Total. Mid/large and mid-caps are ENI, Statoil, Hess and OMV. At November 30 2015 the median P/E ratios of this group were 9.0x/14.5x 2014/2015 earnings. We also have one Canadian integrated holding, Suncor. The company has significant exposure to oil sands in addition to its downstream assets.

Our exploration and production holdings (c.36%) give 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 stock here with oil sands exposure is Canadian Natural Resources. The pure E&P (Exploration & Production) stocks have a bias towards the US (Newfield, Devon, Carrizo, Southwestern and QEP Resources), with four other names (Apache, Occidental, Noble, CNOOC and SOCO) having significant international production and two (Enquest and Bankers Petroleum) which are North Sea and European focused respectively. One of the key metrics behind a number of the E&P stocks held is low enterprise value / proven reserves. Almost all of the US E&P stocks held also provide exposure to North American natural gas and include two of the industry leaders (Southwestern and Devon).

We have exposure to four (pure) emerging market stocks in the main portfolio, though one is a half-position. Two are classified as integrated (Gazprom and PetroChina) and two as E&P companies (CNOOC 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 2.6x 2015 earnings. PetroChina is one of the world's largest integrated oil and gas companies and has significant growth potential and, alongside CNOOC, enjoys advantages as a Chinese national champion. SOCO International is an E&P company with production in Vietnam.

We have useful exposure to oil service stocks, which comprise just over 11% of the portfolio. The stocks we own are split between those which focus their activities in North America (land driller Unit Corp) and those which operate in the US and internationally (Helix, Halliburton, Wood Group and Shawcor).

Our independent refining exposure is currently in the US in Valero, the largest of the US refiners. Valero has a reasonably large presence on the US Gulf Coast and is benefitting from the rise in US exports of refined products seen in recent times.

Our alternative energy exposure is currently a single position split equally between two companies: JA Solar and Trina Solar. Both companies are Chinese solar cell and module manufacturers, well placed to benefit from the expansion in the solar market we expect to continue for a number of years.

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**Portfolio at December 31, 2015**

Guinness Atkinson Global Energy Fund 31 December 2015												
Stock	Curr.	Country	% of NAV	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	2013 B'berg mean PER	2014 B'berg mean PER	2015 B'berg mean PER
<b>Integrated Oil &amp; Gas</b>												
Exxon Mobil Corp	USD	US	3.76	10.71	9.2	20.0	13.0	9.3	9.9	10.6	10.6	20.0
Royal Dutch Shell PLC	EUR	NL	3.45	4.6	5.3	10.5	7.4	5.5	5.4	7.2	6.3	13.1
BP PLC	GBP	GB	3.71	4.8	3.8	6.6	4.6	4.6	5.7	7.1	8.4	14.4
Total SA	EUR	FR	3.56	5.5	4.5	11.5	8.9	8.0	7.6	8.5	8.7	10.7
ENI SpA	EUR	IT	3.30	5.3	4.9	9.6	7.3	6.9	6.8	10.9	12.6	42.3
Statoil ASA	NOK	NO	3.73	9.0	6.7	12.2	9.2	8.0	7.5	8.2	9.3	19.1
Hess Corp	USD	US	3.52	8.1	6.6	25.3	9.4	8.1	8.2	8.5	11.6	nm
OMV AG	EUR	AT	4.30	4.9	4.0	10.4	6.5	8.1	5.6	7.0	8.5	8.2
			29.34									
<b>Integrated Oil &amp; Gas - Canada</b>												
Suncor Energy Inc	CAD	CA	4.03	15.0	11.2	33.8	22.5	10.0	11.1	11.2	11.2	30.7
Canadian Natural Resources Ltd	CAD	CA	4.00	14.3	9.3	12.6	12.4	13.1	19.0	13.5	8.8	129.7
			8.03									
<b>Integrated Oil &amp; Gas - Emerging market</b>												
PetroChina Co Ltd	HKD	HK	3.47	5.3	6.8	7.2	5.8	5.7	6.6	7.3	7.2	17.2
Gazprom OAO	USD	RU	3.36	nm	nm	4.9	3.8	2.6	2.7	2.5	3.9	2.6
			6.83									
<b>Oil &amp; Gas E&amp;P</b>												
Apache Corp	USD	US	4.32	5.1	4.0	8.0	4.8	3.8	4.6	5.5	7.9	nm
Occidental Petroleum Corp	USD	US	3.80	12.9	7.6	18.2	12.0	8.1	9.7	9.7	11.6	238.9
QEP Resources Inc	USD	US	1.89	nm	nm	nm	9.7	8.2	10.8	9.6	9.5	nm
Southwestern Energy Co	USD	US	1.56	11.2	4.6	4.7	4.1	3.9	5.2	3.6	3.1	34.3
Devon Energy Corp	USD	US	3.07	4.5	3.2	8.9	5.4	5.3	9.9	7.5	6.2	12.8
Noble Energy Inc	USD	US	3.90	12.1	9.3	19.5	15.9	12.5	14.4	10.6	14.1	319.7
Newfield Exploration Co	USD	US	3.89	10.1	10.4	6.4	7.1	8.0	13.4	18.1	17.6	41.9
Carrizo Oil & Gas Inc	USD	US	1.99	42.3	16.4	20.1	23.3	28.8	20.3	13.3	13.4	30.5
			24.41									
<b>International E&amp;P</b>												
CNOOC Ltd	HKD	HK	3.79	9.3	6.8	9.9	5.7	4.3	4.6	4.7	5.7	14.5
Bankers Petroleum Ltd	CAD	CA	0.76	nm	nm	243.6	10.7	3.9	3.7	2.6	2.3	19.2
Tullow Oil PLC	GBP	GB	1.09	7.6	4.9	32.0	15.5	3.5	3.2	23.9	nm	405.8
EnQuest PLC	GBP	GB	0.62	nm	nm	nm	2.9	3.3	1.0	1.1	2.0	4.8
Soco International PLC	GBP	GB	1.21	18.9	20.3	12.7	17.4	11.3	3.1	3.3	5.1	nm
			7.46									
<b>Drilling</b>												
Unit Corp	USD	US	1.73	2.1	1.8	4.6	4.0	3.0	2.9	3.3	2.9	nm
			1.73									
<b>Equipment &amp; Services</b>												
Halliburton Co	USD	US	3.41	13.4	15.7	26.0	16.9	10.2	11.4	11.0	8.6	23.0
Helix Energy Solutions Group Inc	USD	US	1.22	1.6	2.2	9.1	10.0	3.5	2.8	4.9	2.7	28.9
ShawCor Ltd	CAD	CA	3.40	17.5	14.5	15.4	22.5	38.5	12.6	7.7	11.1	18.1
John Wood Group PLC	GBP	GB	2.94	23.3	16.6	22.2	23.1	15.2	10.6	9.0	9.2	11.6
			10.98									
<b>Solar</b>												
Trina Solar Ltd	USD	US	2.49	15.2	9.1	6.7	3.3	408.1	nm	nm	13.7	12.3
JA Solar Holdings Co Ltd	USD	US	2.39	13.0	5.4	nm	1.3	nm	nm	nm	10.9	6.8
			4.89									
<b>Oil &amp; Gas Refining &amp; Marketing</b>												
Valero Energy Corp	USD	US	4.12	9.1	13.0	nm	44.6	17.8	14.5	17.2	11.6	8.1
			4.12									
<b>Construction &amp; Engineering</b>												
Cluff Natural Resources PLC	GBP	GB	0.41	nm	nm	nm	nm	nm	nm	nm	nm	nm
JKX Oil & Gas PLC	GBP	GB	0.52	0.6	0.8	0.9	0.9	1.1	1.5	2.9	8.0	nm
Ophir Energy PLC	GBP	GB	0.15	nm	nm	nm	nm	nm	nm	nm	2.2	nm
Shandong Molong Petroleum Machinery Co Ltd	HKD	HK	0.16	8.5	5.7	15.6	6.1	8.5	nm	nm	nm	nm
Sino Gas & Energy Holdings Ltd	AUD	AU	0.24	nm	nm	nm	nm	nm	55.9	nm	55.9	nm
Triangle Petroleum Corp	USD	US	0.04	nm	nm	nm	nm	nm	nm	nm	1.3	1.5
WesternZagros Resources Ltd	CAD	CA	0.04	nm	nm	nm	nm	nm	nm	nm	nm	nm
			1.56									
		Cash	0.65									
		Total	100									
		PER		7.6	6.5	11.1	6.9	6.9	7.0	7.5	7.9	16.3
		Med. PER		9.1	6.7	11.5	8.9	8.0	7.5	8.0	8.7	18.1
		Ex-gas PER		7.5	6.6	11.7	7.1	7.2	6.8	7.5	7.9	14.6

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.

# Guinness Atkinson

## Global Energy Fund Update

### 2016 Annual Review

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*The Fund's investment objectives, risks, charges and expenses must be considered carefully before investing. The statutory and summary prospectuses contain this and other important information and can be obtained by calling 800-915-6565 or visiting [www.gafunds.com](http://www.gafunds.com). Read and consider it carefully before investing.*

**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. The Fund's focus on the energy sector to the exclusion of other sectors exposes the Fund to greater market risk and potential monetary losses than if the Fund's assets were diversified among various sectors. The decline in the prices of energy (oil, gas, electricity) or alternative energy supplies would likely have a negative effect on the funds holdings.**

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.

MSCI World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets.

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.

One cannot invest directly in an index.

Price to earnings (P/E) ratio (PER) reflects the multiple of earnings at which a stock sells and is calculated by dividing current price of the stock by the company's trailing 12 months' earnings per share

Free cash flow (FCF) represents the cash that a company is able to generate after laying out the money required to maintain or expand its asset base.

The New York Mercantile Exchange is the world's largest physical commodity futures exchange.

Capital expenditure, or CapEx, are funds used by a company to acquire or upgrade physical assets such as property, industrial buildings or equipment.

Enterprise Value, or EV for short, is a measure of a company's total value, often used as a more comprehensive alternative to equity market capitalization

Standard Deviation (SD) is a measure of the dispersion of a set of data from its mean. The more spread apart the data, the higher the deviation.

Price to book ratio (P/B Ratio) is a ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share.

Opinions expressed are subject to change, are not guaranteed and should not be considered investment advice.

Debt/EBITDA is a measure of a company's ability to pay off its incurred debt. This ratio gives the investor the approximate amount of time that would be needed to pay off all debt, ignoring the factors of interest, axes, depreciation and amortization.