Global Energy Fund Update
April 2017

REPORT HIGHLIGHTS

FUND NEWS • Fund size $40.4 million at end of March 2017

OIL

Brent and WTI weaker as market awaits clear evidence of OPEC production cuts

The West Texas Intermediate (WTI) oil price started January at $53.7/bbl and, after falling to a low of just under $47/bbl in March, rallied a little to end the quarter at $48.2/bbl. WTI averaged $43.5/bbl in 2016, having averaged $48.7 in 2015 and $93.1 in 2014. Brent oil traded in a similar way, opening January at $55.4/bbl and closing at $51.1/bbl, having fallen to below $50/bbl in March. The fall in crude prices came as oil and refined product inventories continued to build in January and February, despite OPEC production cuts coming into force on 1 January 2017. Concerns around inventory levels were compounded by signs that the US onshore oil system would grow well again in 2017, even at $50/bbl.

NATURAL GAS

US gas price falling below $3 on warm weather despite market being structurally undersupplied

US natural gas was also weak, the spot price falling from $3.68/mcf to $2.92/mcf: another warmer than average winter depressed heating demand, despite the gas market being structurally undersupplied.

EQUITIES

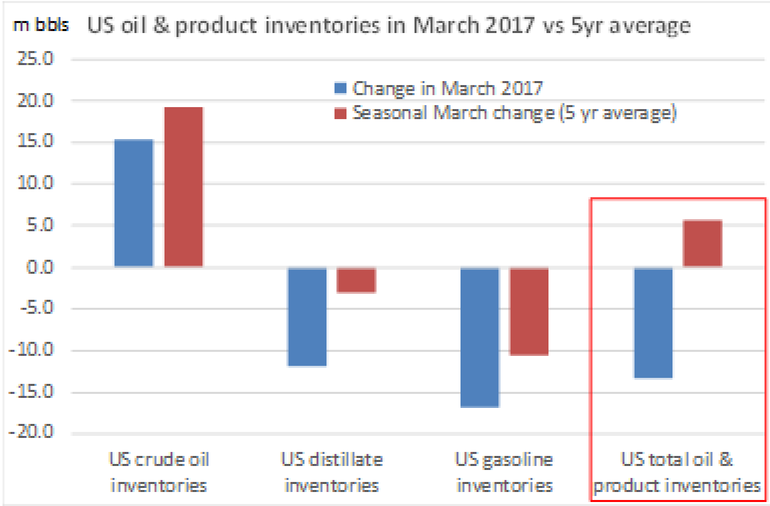
Energy underperforms the broad market

The main index of oil and gas equities, the MSCI World Energy Index, was down by 4.78% in the first quarter of 2017. The S&P 500 Index was up by 6.07% over the same period. The Guinness Atkinson Global Energy fund was down by 7.64% over this period (all in US dollar terms).

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 https://www.gafunds.com/our-funds/#fund_performance or call (800) 915-6566.

CHART OF THE QUARTER - US oil & product inventories fell in March, despite crude builds

Inventories of crude oil in the US continued to build in March, up from 535m barrels to 520m barrels. The build attracted a significant amount of negative commentary, from a market expecting to see inventory draw as the OPEC production cuts filter through. Our observation is that, while crude inventories built in March, the build was less than normally expected at this time of year. Further, total inventories of crude oil and refined products actually fell, declining by 13m barrels, indicating a tighter market than many think. We expect that US inventories will draw in April.

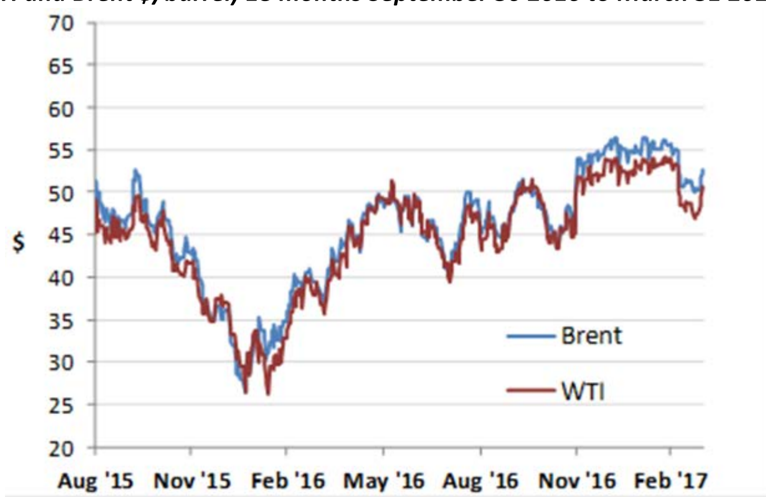

m bbls
US oil & product inventories in March 2017 vs 5yr average
25.0
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
-20.0
Change in March 2017
Seasonal March change (5 yr average)
US crude oil inventories
US distillate inventories
US gasoline inventories
US total oil & product inventories

First Quarter 2017 in Review
Manager's Comments
Performance: Guinness Atkinson Global Energy Fund
Portfolio: Guinness Atkinson Global Energy Fund
Outlook
Appendix: Oil and Gas Markets, Historical Context

1. First quarter 2017 in review

i) Oil market

Figure 1: Oil price (WTI and Brent $/barrel) 18 months September 30 2016 to March 31 2017



Source: Bloomberg LP

The West Texas Intermediate (WTI) oil price started January at $53.7/bl and traded down to a low for the quarter of $47.3/bl on March 21, before rallying somewhat to close at $50.6/bl. WTI has averaged $51.8/bl so far in 2017, having averaged $43.4 in 2016, $48.7 in 2015 and $93.1 in 2014.

Brent oil traded in a similar way, opening January at $56.8/bl, falling to $50.6/bl in late March, and closing the quarter at $52.8/bl. The gap between the WTI and Brent benchmark oil prices was broadly unchanged during the quarter, at $2-3/bl. The WTI-Brent spread averaged $1.7/bl during 2016, having been well over $10/bl at times since 2011

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

- **Signs of continued good OPEC compliance with announced January 2017 production quota cuts** Actual production data for March 2017 is not yet available but indications are that OPEC is maintaining good levels of compliance with its January 1, 2017 production quotas. February production for participating OPEC members was reported by the IEA at at 29.9m b/day, versus target production of 29.8m b/day. Non-OPEC production cuts are more difficult to track but appear to running at around 0.3m b/day, so around half of the agreed 0.6m b/day reduction.

Factors which weakened (or were neutral to) the WTI and Brent oil prices in the quarter:

- **US onshore oil production growing** At the start of April, the EIA reported that US onshore oil production increased by 45k b/day during January 2017. We regard this data point as neutral: it is well below the 150k b/day growth estimate initially reported in the EIA's weekly production reports, but marks the start of growth in US onshore supply which will continue throughout 2017. Recent monthly production moves have been erratic due to winter weather disruption to operations, but the last four months have shown an average decline of 10k b/day which compares to average monthly declines in the previous six months of 70k b/day.

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

- **Crude oil inventory builds in the US** Inventories of crude oil in the US built sharply in the quarter, reaching 216m barrels. The build attracted a significant amount of negative commentary, from a market expecting to see inventory draw as the OPEC production cuts filter through. Our observation is that the rate of build has slowed and, in fact, total inventories of crude oil and refined products actually fell by 14m barrels in March. The markets appears more undersupplied than the headline crude oil data suggests

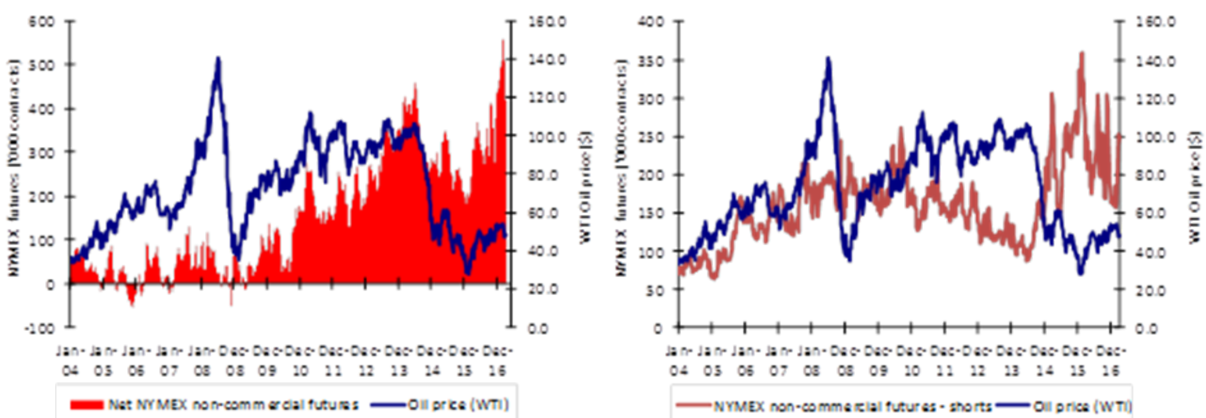
- **NYMEX non-commercial net long position unwinds** As discussed on following page

- **US oil drilling rig count increasing** The Baker Hughes oil directed rig count continued its recovery during the quarter, increasing from 525 at the end of December to 662 at the end of March, up by a total of 137 rigs over the quarter. The rig count reached a low of 316 rigs in May 2016, having peaked in October 2014 at 1,609 rigs.

Speculative and investment flows

The New York Mercantile Exchange (NYMEX) net non-commercial crude oil futures open position (WTI) fell over the quarter, ending the month at 398,600 contracts long versus 444,900 contracts long at the end of December. The net position peaked at 556,600 in late February. Typically there is a positive correlation between the movement in net position and movement in the oil price. The net short position grew from 164,000 contracts to 250,000 contracts.

Figure 2: NYMEX Non-commercial net and short futures contracts: WTI January 2004 – March 2017

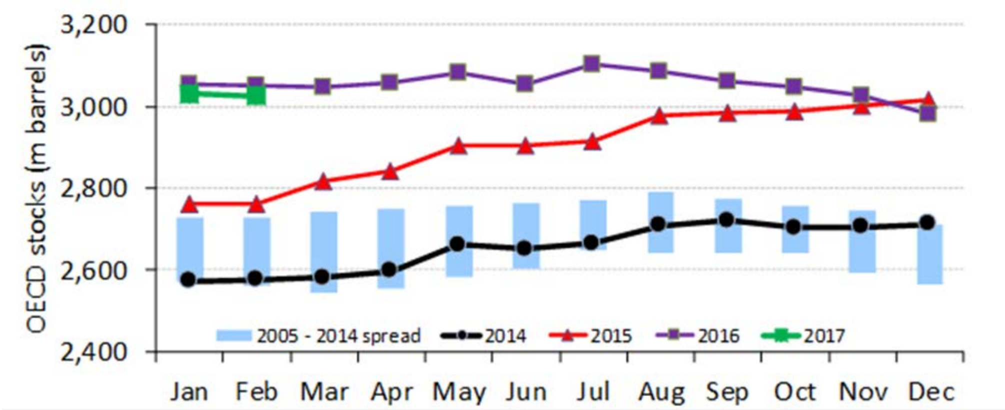


Source: Bloomberg LP/NYMEX/ICE (2017)

OECD stocks

OECD total product and crude inventories at the end of February (the latest data point available) were estimated by the IEA to be 3,025m barrels, down by 5m barrels versus January and flat relative to the end of November 2016. Having been in decline over the second half of 2016, inventories have loosened at the start of 2017, as a flush of pre-OPEC cuts production reaches the market (with a lag). Inventories are still considerably above the top of the 10 year historic range, but we expect them to tighten over the next few months.

Figure 3: OECD total product and crude inventories, monthly, 2004 to 2017



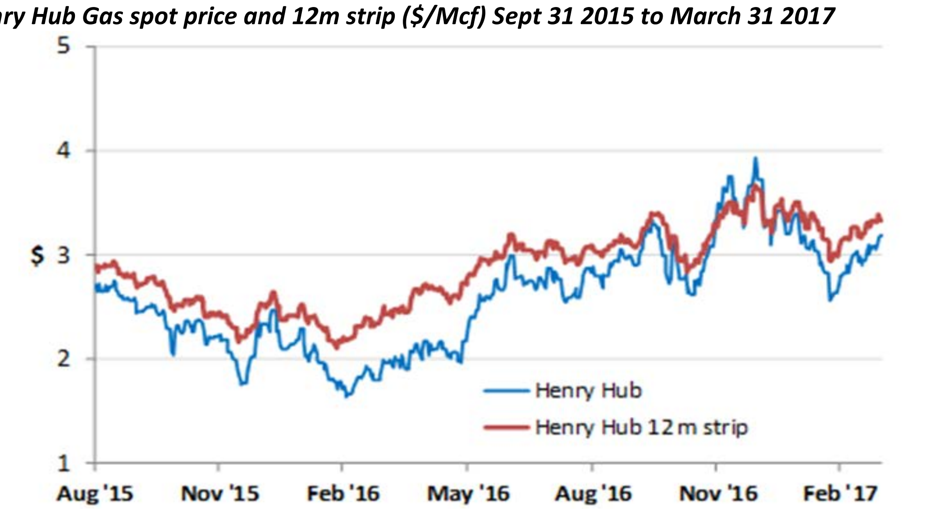
Source: IEA Oil Market Reports (March 2017 and older)

ii) Natural gas market

The US natural gas price (Henry Hub front month) opened the quarter at $3.72 per Mcf (1,000 cubic feet). The price traded lower (reaching $2.56 towards the end of February) and recovered to close March at $3.19. The spot gas price averaged $2.55 in 2016 which compares to an average gas price of $2.61/mcf in 2015 and $4.26 in 2014 (assisted by a very cold 2013/14 US winter). The price averaged $3.72 over the prior four years (2010-2013).

The 12-month gas strip price (a simple average of settlement prices for the next 12 months' futures prices) traded down from $3.63 to $3.33. The strip price averaged $2.84 in 2016, having averaged $2.86 in 2015, $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) Sept 31 2015 to March 31 2017



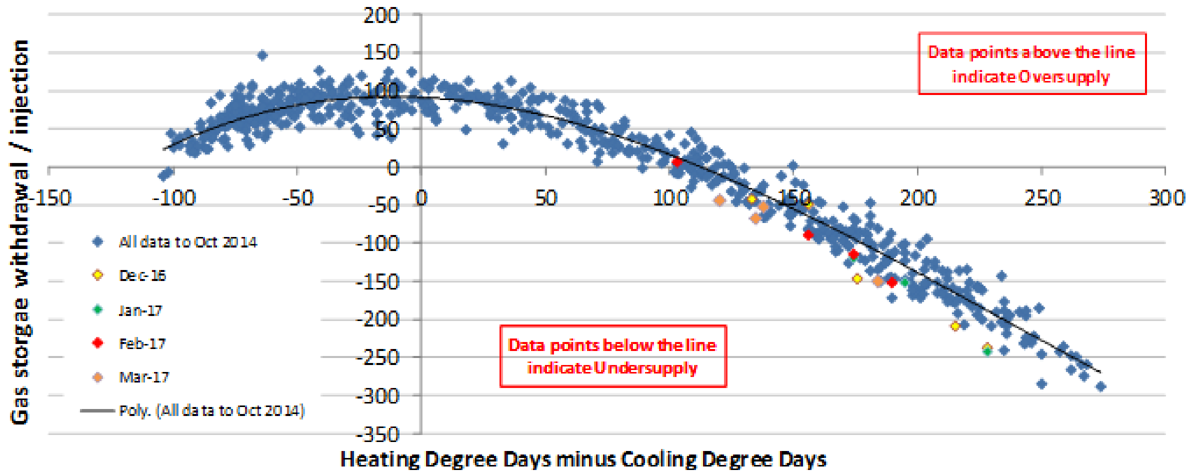
Source: Bloomberg LP

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

- **High level of gas in inventories** At the start of the quarter, total inventories were reported at 3.36 tcf (0.1 tcf above the 10 year average of 3.5 tcf) and closed the quarter at 2.05 tcf (0.4 tcf above the 10 year average of 1.66 tcf)

- **US shale oil production returning to growth, bringing associated gas** US onshore oil production grew in January 2017, and is expected to continue to grow throughout the year, heralding the return of associated gas production. If US onshore oil supply is up on, average, by 0.3m b/day this year versus 2016, we would expect around 1 Bcf/day of associated gas growth

Figure 5: Weather adjusted US natural gas inventory injections and withdrawals



Source: Bloomberg LP; Guinness Atkinson Asset Management

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

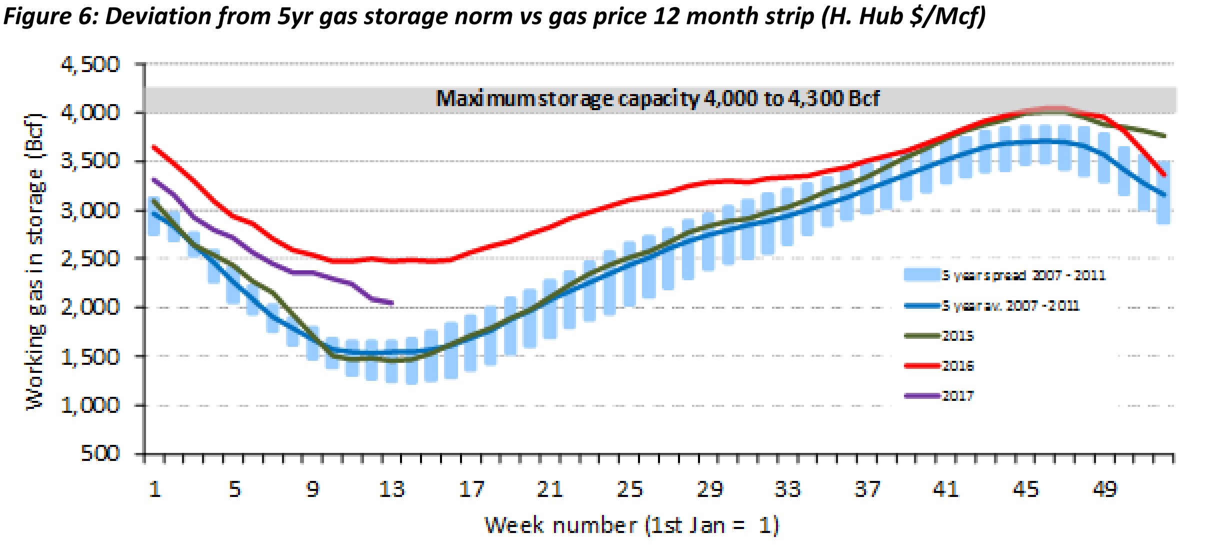
- **Undersupplied US natural gas market** Adjusting for the impact of weather in the first quarter, the most recent injections of gas into storage suggest the market is, on average, around 3.5 bcf/day undersupplied. The gas market shifted into structural undersupply in late 2015, but that has been trumped over the last 18 months by two successive warm winters which have lowered demand.

- **Weaker US onshore natural gas production** Onshore US natural gas production averaged 74.9 Bcf/day in January 2017, down by 0.4 Bcf/day on the level reported for December 2016 and down 3.0 Bcf/day on the January 2016 level. Production from the north-east of the US (Marcellus and Utica) has remained around flat over the last 12 months, but has declined in other key regions including Texas and Oklahoma.

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 28th March 2017 were reported by the EIA to be 2,049 Bcf. The 314 Bcf draw in inventories during March was greater than the ten year average of 171 Bcf, though inventories are still well above the top of the five year range.

Figure 6: Deviation from 5yr gas storage norm vs gas price 12 month strip (H. Hub $/Mcf)



Source: Bloomberg; EIA (April 2017)

1. MANAGER'S COMMENTS

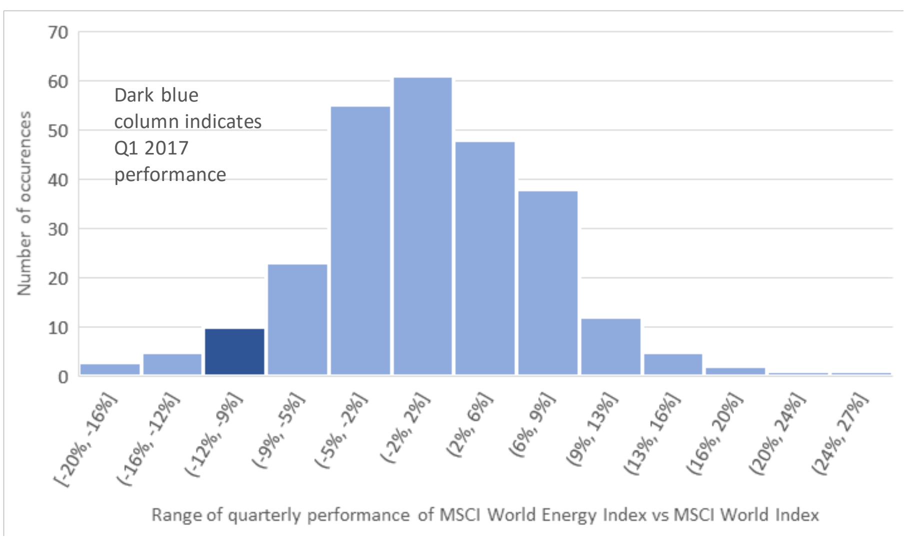
A poor start for 2017 but our positive outlook is not affected

After being the strongest equity sector in 2016, the energy sector has been the worst performing equity subsector so far in 2017 with the weakness erasing all sector outperformance delivered since March 2016 when oil prices were at $38/bl. Increasing US oil inventories, low confidence in OPEC cuts and expectations for greater US onshore oil production are all reasons to explain the large underperformance. We have studied these two indexes, and since 1995 we can find only three occasions since 1995 where the sector has underperformed markets in this scale (while spot oil prices performed as badly or better than they were in 1Q 2017) and each was a 'bump in the road' during a cyclical recovery in energy equities. In the 6, 12 and 24 months after each event, energy equities outperformed markets by 13%, 12% and 32% respectively.

Energy equity sector performance year to date has been disappointing with the MSCI World Energy index down 4.8% at the end of March 2017 versus the MSCI World Index which is up 6.5%, a relative underperformance of 11.3%. Given the underperformance, the energy sector has now performed in line with broader markets since the end of March 2016, when WTI crude price was around $38/bl. This energy equity performance contrasts with strong absolute and relative performance in 2016, when the MSCI World Energy Index was up 27.6% versus the MSCI world of 8.2%.

Commodity price movements are a clear driver of energy equity performance and so far this year, energy equities have performed broadly in line with the five year forward Brent oil price but have underperformed spot oil prices. For the quarter as a whole, WTI crude oil prices are down 6%. At 11.3%, the relative equity underperformance is significant but it is within historical bounds. Since 1995, there have been 11 occasions (excluding this one) where the energy equity sector has underperformed world equity markets by 11.3% or more (over a three-month period) highlighting the significance of this quarter's underperformance.

<u>Histogram of three-month performance of MSCI World Energy Index vs MSCI World Index</u>
All quarterly periods since 1995 presented in groups of relative performance. Dark blue shows the occasions where MSCI World Energy Index has underperformed MSCI World by between 9% and 12% in a quarter



Eight of the 11 underperformance occasions had coincident weakness in the spot oil price (an average spot oil price decline of 27% over those events). This quarter is significant in that it has occurred while spot oil prices were only moderately weak (-5.8%). Since 1995, there have been only three periods where WTI prices have fallen by maximum of 6% during such a period of energy equity weakness; February 1999, December 1999 and February 2000. On all occasions, the energy sector was recovering from recent supply/demand shocks and all subsequently witnessed 6mth, 12mth and 24mth periods of energy equity outperformance versus broader equity markets. The average outperformance was 15% over the subsequent 6 months, 19% over the subsequent 12 months and 42% over the subsequent 24 months.

Events over the quarter that have caused weakness

We can find nothing of individual significant size or concern that explains sector weakness so far in 2017, so we attribute it to a collection of various negative issues that have led to negative relative performance. As we see them, the key issues are as follows:

- **Crude oil inventory builds in the US** The rush from OPEC to ramp up production prior to the January cuts resulted in US oil inventories swelling in the first months of 2017. The US market is the 'market of last resort' for excess oil and seasonally, the first quarter is a time when inventories generally build. Nonetheless, weekly data towards the end of the quarter is now indicating that the US is now receiving lower oil imports and inventory builds (across both crude oil and crude oil products) have started to slow. We await further data through April to confirm these trends.

- **Improving outlook for US onshore oil production** The outlook for US onshore production remains unclear. At the start of April, the EIA reported that US onshore oil production increased by 45k b/day during January 2017 and we regard this data point as neutral since it was well below the 150k b/day growth estimate initially reported in the EIA's weekly production reports. However, it does mark the start of growth in US onshore supply which will continue throughout 2017. Prior to this data point, monthly production moves had been erratic due to winter weather disruption to operations. However, the last four months now have shown an average decline of 10k b/day which compares to average monthly declines in the previous six months of 70k b/day.

- **Q4 2016 results indicating greater US onshore activity** The reporting season has confirmed the attractiveness of the US onshore system with many companies forecasting large capital expenditure growth plans for 2017. Cost inflation is being reported by service companies while the large cap and Super Majors are reporting further cost control and efficiency gains. The effect for the Super Majors has been reflected in lower future oil price requirements to cover cash capex and dividend commitments. All in all, this implies greater confidence and greater levels of activity in the coming months.

Reasons to believe the underperformance will revert

So, we believe we are in period of volatility where equity markets are awaiting physical evidence (in reported inventory data) that OPEC cuts are real while company news indicates growing confidence over future US onshore oil production growth. We believe that these fears will be proved to be short term and have confidence in the outlook for energy commodities and energy equities for the following reasons.

- **Tanker data indicating that OPEC cuts are real and that US inventories should start to fall** It takes a minimum of 6 weeks for crude oil produced in the Middle East to be delivered by tanker to the United States. The effect of OPEC production cuts should, therefore, start to be seen in lower US oil imports and lower US oil inventories in the next few weeks. The actual moment has been delayed because oil imports have remained high as a result of 'floating storage' in the Gulf of Mexico and the Caribbean being closed out. We expect the recent downturn in inventories to continue in March as OPEC cuts bite and US refinery utilisation undergoes a seasonal increase.

- **No structural deterioration to profitability** We monitor near term changes in Cash Flow Return on Investment (CFROI) to monitor earnings momentum and see little change in recent weeks. We cannot find any downward revision pattern and remain confident that underlying profitability for the broader energy sector is on a journey back towards mid cycle. Internal factors such as cost control, better capital utilisation and efficiency efforts will be as important as external factors like oil prices in improving profitability.

- **More muted production response of the US onshore system** We are sceptical that the US onshore oil industry can deliver enough oil production to satisfy world oil demand growth into the end of the decade at current oil prices. We believe that this specific area will see a reversion of efficiency gains and the advent of cost inflation as drilling and completion activity starts to ramp up. Our analysis indicates that $70/bl will be required by the end of the decade for the US to deliver up to 1.0mn b/d of steady oil production growth.

- **Confidence in OPEC to control oil prices** Having spent 12 months putting together the new quota system, we believe that OPEC (led by Saudi Arabia) has the resolve to carry out planned production cuts and to normalise world oil inventories. Compliance appears to be high so far and we see a high likelihood that OECD oil and oil product inventories will fall by around 200mnbls in the first half of 2017. We note that OECD oil and oil product inventories were already falling in 4Q 2016 by pre-the start of OPEC quota cuts. If OPEC deliver, we expect that the 1998-2000 period will be a good template for how energy commodities and energy equities will perform.

- **Historical precedent indicates a good recovery is likely** The five previous occasions where energy equities underperformed broader equity markets by over 11.6% (while spot oil prices were down less than 6% or up) were subsequently confirmed as just bumps in the road as part of a cyclical recovery. On all five occasions, the energy sector was recovering from recent supply/demand shocks and all subsequently witnessed 6mth, 12mth and 24mth periods of energy equity outperformance versus broader equity markets. The average outperformance was 13% over the subsequent 6 months, 12% over the subsequent 12 months and 32% over the subsequent 24 months. Time will obviously tell, and history never repeats itself perfectly, but historical precedent does give comfort that the energy sector will rebound.

2. Performance – Guinness Atkinson Global Energy Fund

The main index of oil and gas equities, the MSCI World Energy Index, was down by 4.78% in the first quarter of 2017. The S&P 500 Index was up by 6.07% over the same period. The Guinness Atkinson fund was down by 7.64% over this period (all in US dollar terms).

Within the portfolio, we saw weakness from exploration and production companies, particularly those that have higher operating cost bases (QEP Resources, Carrizo, Tullow) and require more than $50/bbl to grow successfully. North American oriented services companies (Halliburton; Unit Corp) also suffered a concern that the ramp up in activity in the US would be slower than expected as lower oil prices dent the ramp up of production. Within our North American Exploration & Production group, we also saw concerns with Apache's stock after initial results from their Alpine High Permian position were underwhelming.

At the positive end of the portfolio, better returns were posted by OMV, which is successfully shifting its business away from high cost UK North Sea oil and towards lower cost Russian gas. We also saw a well-received oil sands divestment from Conocophillips, which help improve its debt structure, plus stronger earnings from Chinese solar manufacturer, JA Solar.

Performance as of March 31, 2017 (inception date is 30 June 2004)

Inception date 6/30/04	Full Year 2010	Full Year 2011	Full Year 2012	Full Year 2013	Full Year 2014	Full Year 2015	Full Year 2016	YTD 2017	1 year (annualized)	Last 5 years (annualized)	Since Inception (annualized)
Global Energy Fund	16.63%	-13.16%	3.45%	24.58%	-19.62%	-26.99%	27.04%	-7.64%	12.71%	-3.75%	6.66%
MSCI World Energy Index	12.73%	0.71%	2.54%	18.98%	-10.93%	-22.02%	26.96%	-4.78%	15.22%	-0.19%	6.28%
S&P 500 Index	15.06%	2.09%	15.99%	32.36%	13.66%	1.38%	11.76%	6.07%	17.12%	13.24%	8.08%

Source: Bloomberg
Expense ratio: 1.41%

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4. Portfolio – Guinness Atkinson Global Energy Fund

In February, we sold our position in Exxon and purchased a position in Enbridge. Exxon, the world's largest oil & gas super-major, has provided excellent defensive characteristics for the Fund since we purchased it in 2011. However, as we move into the next cycle, we believe that there are better growth options elsewhere in the sector. Enbridge is a dual Canadian/US listed midstream company, which has recently merged with gas pipeline specialist, Spectra Energy, to form North America's largest midstream operation. With the growth of onshore oil and gas production expected in the US and Canada over the next five years, we believe Enbridge is well placed to execute its pipeline expansion plans, which offers meaningful potential upside to shareholders.

Sector Breakdown

The following table shows the asset allocation of the Fund at **March 31, 2017**.

(%)	31 Dec 2008	31 Dec 2009	31 Dec 2010	31 Dec 2011	31 Dec 2012	31 Dec 2013	31 Dec 2014	31 Dec 2015	31 Dec 2016	31 Mar 2017	*Change YTD*
Oil & Gas	**96.4**	**96.1**	**93.2**	**98.5**	**98.6**	**95.6**	**95.3**	**94.4**	**97.9**	**97.1**	***-0.8***
Integrated	53.7	47.2	41.2	39.6	39.1	39.6	37.5	40.5	45.8	41.6	*-4.2*
Exploration and production	28.7	32.0	36.9	41.5	41.6	36.8	38.1	37.0	37.3	37.5	*0.2*
Drilling	5.2	8.4	6.3	6.0	7.4	6.8	3.1	1.7	2.3	2.5	*0.2*
Equipment and services	6.4	5.4	5.3	6.6	7.1	9.0	13.1	11.1	8.9	8.5	*-0.4*
Storage & transportation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	*3.7*
Refining and marketing	2.4	3.1	3.5	4.8	3.4	3.4	3.5	4.1	3.6	3.3	*-0.3*
Coal and consumables	**2.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Solar	**0.0**	**0.0**	**3.2**	**1.2**	**1.2**	**2.8**	**3.5**	**4.9**	**1.0**	**1.4**	**0.4**
Construction and engineering	**0.4**	**0.4**	**0.4**	**0.4**	**0.6**	**0.9**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Cash	**0.9**	**3.5**	**3.2**	**-0.1**	**-0.4**	**0.7**	**1.2**	**0.7**	**1.1**	**1.5**	**0.4**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**0.0**

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

Guinness Atkinson Global Energy Fund Portfolio

Based on the information shown previously, the table below shows the fund valuation in terms of historical and forward (analyst consensus estimates from Bloomberg) price/earnings (P/E) ratios versus the S&P500 Index.

	2009	2010	2011	2012	2013	2014	2015	2016	2017E
Fund P/E	14.1	9.3	8.0	8.2	9.2	10.0	20.5	33.5	20.3
S&P 500 P/E	41.6	28.2	24.5	24.4	22.0	20.7	23.5	22.2	18.2
Premium (+) / Discount (-)	-66%	-67%	-67%	-66%	-58%	-52%	-13%	51%	12%
Average oil price (WTI $)	$62/bbl	$80/bbl	$95/bbl	$94/bbl	$98/bbl	$93/bbl	$48/bbl	$43/bbl	$55/bbl

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

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 Chevron, BP, Royal Dutch Shell and Total. Mid/large and mid-caps are ENI, Statoil, Hess and OMV. At March 31 2017, the median P/E ratios of this group were 28.3x/15.9x 2016/2017 earnings. We also have two Canadian integrated holdings, Suncor and Imperial Oil. Both companies have significant exposure to oil sands in addition to downstream assets.

Our exploration and production holdings (c.38%) 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 and QEP Resources), with four other names (Apache, Occidental, ConocoPhillips, Noble) having significant international production and one (Tullow) which is African focused. 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 some exposure to North American natural gas.

We have exposure to four (pure) emerging market stocks in the main portfolio, though one is a half-position, and in total represent 11% of the portfolio. Two are classified as integrateds (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 3.8x 2017 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.

The portfolio contains one midstream holding, Enbridge, North America's largest pipeline company. With the growth of onshore oil and gas production expected in the US and Canada over the next five years, we believe Enbridge is well placed to execute its pipeline expansion plans.

We have useful exposure to oil service stocks, which comprise around 9% 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 and Schlumberger).

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 has benefited from the rise in US exports of refined products seen in recent times.

Our alternative energy exposure is currently split between two companies: JA Solar and Sunpower. JA Solar is a Chinese solar cell and module manufacturer while Sunpower is a more diversified US solar developer. We see them as well placed to benefit from the expansion in the solar market we expect to continue for a number of years.

Portfolio at March 31 2017

Guinness Atkinson Global Energy Fund 31 March 2017																
Stock	ID_ISIN	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	2016 B'berg mean PER	2017 B'berg mean PER	2018 B'berg mean PER
Integrated Oil & Gas																
Chevron	US1667641005	USD	US	3.38	12.23	9.4	20.9	11.5	8.0	8.7	9.7	11.2	29.5	77.4	23.6	17.9
Royal Dutch Shell PLC	GB00B03MLX29	EUR	NL	3.40	5.2	6.1	12.0	8.5	6.3	6.2	8.2	7.3	15.4	25.4	14.7	11.8
BP PLC	GB0007980591	GBP	GB	3.81	5.3	4.2	7.3	5.1	5.0	6.3	7.8	9.3	16.3	31.2	15.9	12.8
Total SA	FR0000120271	EUR	FR	3.40	6.4	5.2	13.3	10.3	9.2	8.8	9.8	10.0	12.8	15.1	12.1	10.5
ENI SpA	IT0003132476	EUR	IT	3.48	5.9	5.5	10.8	8.2	7.8	7.6	12.2	14.2	66.5	nm	24.0	16.2
Statoil ASA	NO0010096985	NOK	NO	3.33	7.2	5.2	9.9	7.4	6.4	5.7	7.0	9.9	23.9	121.4	16.3	13.3
Hess Corp	US42809H1077	USD	US	3.53	8.1	6.6	25.2	9.3	8.0	8.2	8.4	11.6	nm	nm	nm	nm
OMV AG	AT0000743059	EUR	AT	3.35	7.0	5.8	14.8	9.2	11.6	8.1	9.9	12.2	10.9	11.2	13.1	12.0
				27.67												
Integrated Oil & Gas - Canada																
Suncor Energy Inc	CA8672241079	CAD	CA	3.41	17.2	12.8	38.7	25.7	11.4	12.7	12.8	12.7	36.3	nm	22.7	20.5
Canadian Natural Resources Ltd	CA1363851017	CAD	CA	3.39	20.6	13.3	18.1	17.9	18.8	27.4	19.4	12.6	313.2	nm	25.5	16.4
Imperial Oil	CA4530384086	CAD	CA	3.38	12.5	9.8	20.4	17.7	11.0	9.8	12.6	10.6	22.8	67.3	16.2	15.3
				10.18												
Integrated Oil & Gas - Emerging market																
PetroChina Co Ltd	CNE1000003W8	HKD	HK	3.64	6.2	8.0	8.5	6.8	6.7	7.7	8.6	8.5	26.3	102.9	19.3	12.7
Gazprom OAO	US3682872078	USD	RU	3.73	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
				7.37												
Oil & Gas E&P																
Apache Corp	US0374111054	USD	US	3.55	5.9	4.6	9.2	5.5	4.3	5.4	6.3	9.2	nm	nm	42.8	25.9
Occidental Petroleum Corp	US6745991058	USD	US	3.31	12.1	7.1	17.0	11.2	7.6	9.1	9.1	10.9	381.7	nm	59.9	34.9
ConocoPhillips	US20825C1045	USD	US	4.14	5.2	4.7	13.8	8.4	5.9	8.7	8.9	9.4	nm	nm	69.9	27.7
QEP Resources Inc	US74733V1008	USD	US	1.59	nm	nm	nm	9.2	7.8	10.2	9.1	9.0	nm	nm	nm	nm
Devon Energy Corp	US25179M1036	USD	US	3.47	5.9	4.2	12.8	7.0	6.9	12.9	9.8	8.1	16.9	nm	21.9	15.0
Noble Energy Inc	US6550441058	USD	US	3.83	12.6	9.7	20.3	16.6	13.1	15.0	11.1	14.7	602.5	nm	nm	101.9
Newfield Exploration Co	US6512901082	USD	US	3.42	11.5	11.8	7.3	8.0	9.1	15.2	20.5	20.0	50.9	34.3	17.6	14.1
Carrizo Oil & Gas Inc	US1445771033	USD	US	1.67	40.9	15.9	19.5	22.5	27.9	19.7	12.9	12.9	29.9	28.7	21.5	12.1
				24.99												
International E&P																
CNOOC Ltd	HK0883013259	HKD	HK	3.90	11.4	8.3	12.2	7.0	5.3	5.7	5.8	6.9	20.7	nm	13.9	10.5
Tullow Oil PLC	GB0001500809	GBP	GB	1.45	18.2	11.0	38.5	18.6	4.2	3.8	28.7	nm	nm	55.2	22.1	12.4
Soco International PLC	GB00B572ZV91	GBP	GB	1.05	14.8	15.9	9.9	13.7	8.8	2.4	2.6	4.0	nm	nm	65.1	15.7
				6.40												
Midstream																
Enbridge Inc	CA29250N1050	USD	CA	3.73	nm	nm	47.9	41.3	37.3	34.3	31.6	29.0	26.2	24.3	22.9	20.6
				3.73												
Drilling																
Unit Corp	US9092181091	USD	US	2.47	4.2	3.6	9.2	7.9	5.9	5.8	6.5	5.7	nm	nm	18.8	9.5
				2.47												
Equipment & Services																
Halliburton Co	US4062161017	USD	US	3.24	19.4	22.7	37.6	24.5	14.7	16.5	15.9	12.5	33.3	nm	49.6	17.6
Helix Energy Solutions Group Inc	US42330P1075	USD	US	1.81	2.3	3.2	13.4	14.7	5.2	4.2	7.2	4.0	46.0	nm	nm	38.1
Schlumberger	AN8068571086	USD	US	3.31	18.6	17.4	28.7	28.3	21.6	18.7	16.4	14.1	23.3	67.6	44.6	23.1
				8.36												
Solar																
JA Solar Holdings Co Ltd	US4660902069	USD	US	1.03	9.2	3.8	nm	1.0	nm	nm	nm	7.7	3.9	9.1	33.1	8.6
SunPower Corp	US8676524064	USD	US	0.38	12.1	5.3	6.7	5.3	92.9	50.8	5.4	5.8	3.9	nm	nm	25.5
				1.41												
Oil & Gas Refining & Marketing																
Valero Energy Corp	US91913Y1001	USD	US	3.29	8.5	12.2	nm	41.8	16.7	13.6	16.2	10.9	7.5	18.0	13.2	10.7
				3.29												
Research portfolio																
Cluff Natural Resources PLC	GB00B6SYKF01	GBP	GB	0.34	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
EnQuest PLC	GB00B635TG28	GBP	GB	1.29	nm	nm	nm	6.0	6.8	2.1	2.3	4.2	40.4	2.7	30.9	2.6
JKX Oil & Gas PLC	GB0004697420	GBP	GB	0.36	0.4	0.5	0.5	0.6	0.7	1.0	1.8	5.1	nm	nm	12.6	nm
Ophir Energy PLC	GB00B24CT194	GBP	GB	0.12	nm	nm	nm	nm	nm	nm	nm	2.0	nm	nm	nm	nm
Shandong Molong Petroleum Machinery Co L	CNE1000001N1	HKD	HK	0.12	6.0	4.0	11.1	4.3	6.0	nm	nm	nm	nm	nm	nm	nm
Sino Gas & Energy Holdings Ltd	AU000000SEH2	AUD	AU	0.35	nm	nm	nm	nm	nm	97.0	nm	97.0	nm	nm	32.3	6.9
WesternZagros Resources Ltd	CA9600081009	CAD	CA	0.07	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	21.7
				2.65												
			Cash	1.47												
			Total	100												
			PER		8.4	7.4	14.4	9.2	8.4	8.6	9.8	10.4	28.2	46.6	24.9	16.4
			Med. PER		8.5	6.6	13.3	9.2	7.8	8.7	9.4	10.0	26.2	29.9	22.1	15.2
			Ex-gas PER		8.3	7.4	15.1	9.5	8.7	8.4	9.8	10.4	26.8	43.4	24.7	16.1

Research holding

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. Bloomberg PER refers to Bloomberg analyst consensus Price/Earnings ratio.

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. Read and consider it carefully before investing.

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

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

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

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 applied to the annual rate of return of an investment to measure the investment's volatility. Standard deviation is also known as historical volatility and is used by investors as a gauge for the amount of expected volatility.

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.

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, taxes, depreciation and amortization.

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

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