Guinness Atkinson
Alternative Energy Fund Update

GUINNESS ATKINSON FUNDS

Fourth quarter 2016

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Quarterly commentary

The fourth quarter was shaped by the shock-victory of Donald Trump in the United States Presidential election early November which lead to underperformance of the alternative energy sector. Contrasting with Hillary Clinton's encouraging campaign stance in support of renewable energy, Donald Trump had mainly made negative comments about wind and solar technologies while lauding coal companies. While the US market is not the largest for either wind or solar it has large potential for growth and is an important part of many alternative energy companies' plans. Even more than Trump's rhetoric, his appointees to the US Environmental Protection Agency (EPA) and Department of Energy (DoE) have hit sentiment hard. Both appointees are pro-nuclear, pro fossil-fuels and climate change skeptics. It would be no surprise if they pushed for the dissolution of the US Clean Power Plan, which aims to decrease coal levels in the energy mix and increase support for alternate energy. Uncertainty around the two main federal subsidies for wind and solar power in the United States, the Investment Tax Credit (ITC) for solar and the Production Tax Credit (PTC) exists, but note that it was the Republican-controlled house who passed the extension and the phase-out schedule of the wind and solar tax credits in December 2015. Furthermore on a state-level many incentives are likely to remain intact. While this current period of uncertainty is not positive for alternative energy stocks and sentiment, we think that it accelerates the arrival of unsubsidized alternative energy projects to the US which will herald a much more stable growth era.

Performance contribution
Efficiency

Overall, our efficiency holdings were broadly flat over the quarter. All four of our holdings exposed to the automotive industry performed positively: Johnson Controls International, Ricardo, Sensata Technologies and Tianneng Power. Johnson Controls and Tianneng Power produce batteries for cars, the former li-ion for electric vehicles and the latter lead-acid batteries for slow electric vehicles while expanding its small li-ion division. Ricardo provides engineering consulting services for fuel efficiency among other things and Sensata Technologies provides sensors and controls. The stocks tied to heating – Nibe Industrier and Centrotec - performed negatively as did two of our energy management related holdings, Wasion Group and Boer Power, responding to concerns over Chinese capital goods and infrastructure spending.

Fourth quarter 2016

Hydro

Both hydro positions performed negatively over the third quarter, for unrelated reasons. Cemig had benefited from the 10% increase in value of the Brazilian Real to the US dollar in the third quarter, but suffered a 12% drop post-US election after which the share has lagged the Brazilian IBOVESPA Index. In addition, Brazil's stagnating economy means that the power market could be in overcapacity if power demand does not increase. Cemig changed its CEO in what appears to be a political move. Cemig has continued to decrease leverage and exceeded operating income expectations significantly in Q3 2016.

Iniziative Bresciane has seen higher rainfall levels than 2015 and continues to construct new hydro plants, but the liquidity remains a barrier to increasing share price. We expect the stock to rerate over the next two years to reflect the higher earnings capacity.

Geothermal

The fund's geothermal holding, Ormat Technologies, has continued to do well as more plants are completed and generate cash flow for the company. The company exceeded expectations on equipment sales while remaining on track for installation targets.

Biofuel

The only biofuel holding, Brazil's Cosan, followed a similar trajectory to Cemig. After rallying through most of October, the share price was hard hit by the US presidential election result. The company's results were positive while its leverage is declining.

Wind

The wind sector performed poorly over the fourth quarter, except for Good Energy, a small UK-based renewable energy utility which has continued to see good growth in customers. The two worst performing wind stocks were Mytrah Energy, an Indian wind IPP, and Senvion, a German wind turbine manufacturer. Mytrah Energy has seen a major shareholder looking to sell their position, which has weighed heavily on the share price. Senvion saw a less radical fall in its share price than its European peers following Donald Trump's election due to the lower US exposure. Unlike its peers, Senvion has not recovered part of its initial drop, but has become the victim of poor sentiment in the wind sector. Analysts predict a flat 2017 in terms of earnings for Senvion while 2018 would see the company return to growth.[1] We see the company as well-placed to capture growth in emerging wind markets without the risk of reduction in US policy support for wind. Half of our wind holdings are Chinese Independent Power Producers (IPPs) that have declined broadly in line with the Han Seng Composite Index (-7%) and the Golden Dragon Index (-5%). The holding in Canadian IPP Boralex remained flat over the quarter overall despite a fall of

[1] Bloomberg

15% immediately after the US election result. Ironically, a deal to acquire a wind farm in the Niagara region turned analysts bullish on the stock, recovering the losses from election night.

Solar

The solar holdings in the portfolio performed poorly, with worries of overcapacity throughout the manufacturing value chain, the uncertainty of the magnitude of the next Chinese feed in tariff cuts in 2017 and the election of Donald Trump in the United States. Recent worries of overcapacity have hit the solar sector since the installation rush in China during H1 2016 which resulted in manufacturers starting to announce capacity expansions. Over the second half we have seen manufacturers take capacity out of production and scale back expansion plans.

The 2017 Chinese feed in tariff (FiT) cuts have been announced and are not as drastic as first feared. The cuts are significant enough that we expect a new installation rush in H1 2017. We expect manufacturers to be more cautious about capacity expansion plans this year.

The election of Trump has increased uncertainty for companies exposed to the US solar market. Since the US presidential election result was announced, four out of our five solar manufacturing holdings have recovered most of their value to pre-election levels, but have nevertheless been weak over the quarter. Our inverter holdings, Enphase and SolarEdge, were also hurt by Mr Trump's election, as most of their products are sold to customers in the US. Enphase does not have a strong balance sheet and we exited our position in mid November 2016. SolarEdge has been building a healthy cash position and has a lower cost base for its products which we think gives it a meaningful advantage.

Xinyi and China Singyes also saw a decrease in share price, partially because of China decreasing its minimum target for solar installations from 150 to 110 gigawatts (GW) by 2020 in November 2016. We stress that the target reduction sets a minimum rather than an installation cap and we expect these installation levels to be exceeded.

Overall sentiment is poor towards the sector and share prices reflect that. However, with current low module prices we expect unsubsidised solar installations to increase significantly over the next 12 to 24 months which will increase visibility over future financials. We believe any improvement in sentiment to the sector has the potential to deliver strong upside to current share prices.

Comment more on the top and bottom performers:
The top five performers over the quarter were Ormat Technologies (10.76%), Good Energy (7.21%), Tianneng Power (7.15%), Cosan (1.33%) and Sensata Holding (0.44%). As above, the

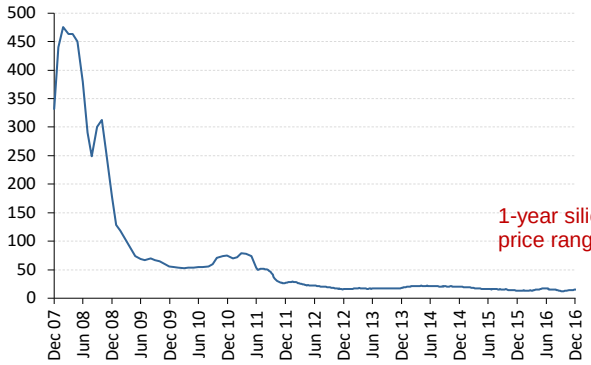
energy efficiency part of the portfolio has been most supportive for the fund, while Ormat continues to do well in the geothermal niche.

The bottom five performers were JA Solar (-20.80%), SunPower (-25.90%), SolarEdge (-28.03%), Senvion (-29.82%) and Mytrah Energy (-42.58%). This reflects the poor performance of the solar sector. The weak performance of Senvion is giving up the strong performance of the previous quarter, while Mytrah has suffered from a major holder trying to sell their position in the market. We believe that Mytrah will recover once this overhang has gone.

Outlook

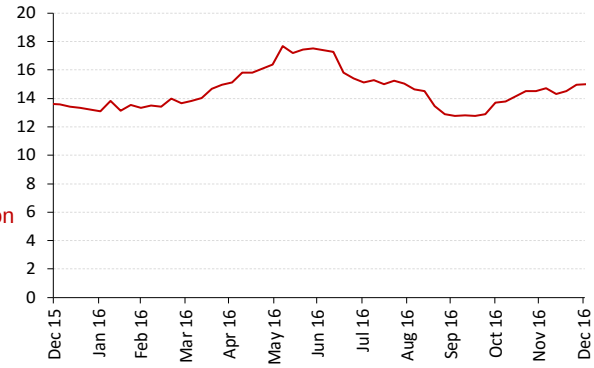
Solar

Long-term Silicon price ($/kg)



Source: Bloomberg

Trailing Twelve Month Silicon price ($/kg)

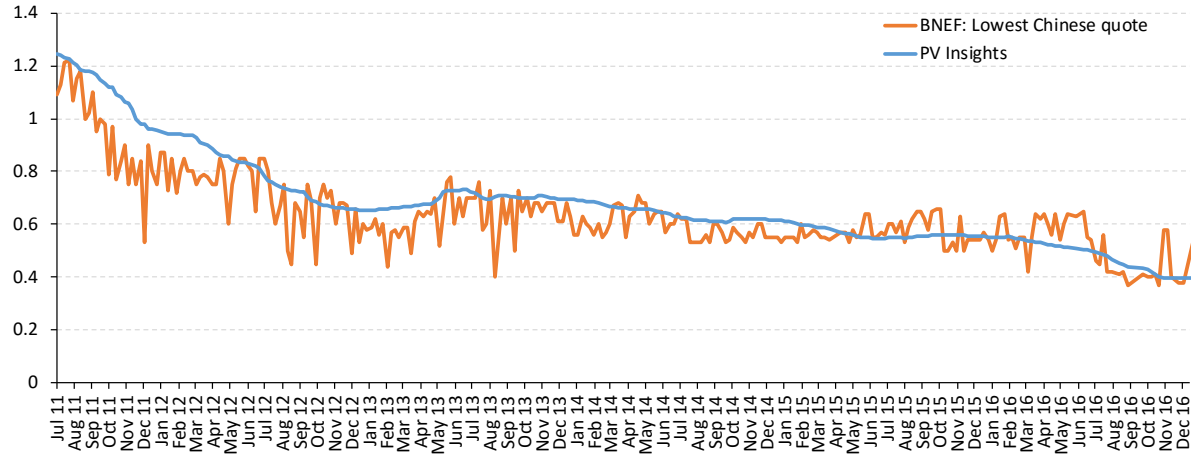


Source: Bloomberg

Over the quarter, the Bloomberg New Energy Finance polysilicon spot price increased from $12.88 to $14.97. Polysilicon prices had reached an all-time low at the end of Q3 2016. For historical context, polysilicon prices have fallen from a high of $475/kg in February 2008 to just over $50/kg in December 2009. Since then, polysilicon has continued to fall in price albeit not as dramatically. Since August 2012, polysilicon has failed to maintain a price above $20/kg for any significant amount of time. The costs for producing silicon in existing plants is now believed to be just under $10/kg for the lowest cost producers. Several polysilicon production plants still have costs of over $20/kg[2]. We are aware of smaller suppliers entering the market who claim to have production costs below $10/kg using new technologies. We do not believe that there will be a major bottleneck in polysilicon supply causing a price spike unless annual installation volumes more than double from current levels in 2017. We have no investments in polysilicon producers.

[2] Bloomberg New Energy Finance

Module Price ($/W)



Source: Bloomberg as of 01/09/2017

Solar photovoltaic (PV) module prices have declined steadily and have seen a lurch downwards following the reduction in Chinese feed-in tariffs in June 2016, when supply outstripped demand. During Q4 module prices dropped 7% from $0.40/W[3] to $0.37/W, likely squeezing some manufacturer margins. China announced feed-in tariff cuts of that could induce an installation boom in H1 2017, boosting demand and alleviating oversupply. We expect the module price to stabilize as demand for early 2017 ramps up.

Over the long run, prices are likely to continue declining further due to technology improvements and economies of scale, thus manufacturers should be able to maintain margins over the long run. Consolidation of the solar module manufacturers is likely and will further support margins. We believe that the companies in the portfolio are well-placed to weather this period, with low cost bases and/or strong balance sheets and shareholder support.

Solar PV forecast

	2013	2014	2015	2016	2017	2018
World	41.6	45.0	56.0	69.8	75.3	87.7
Asia	24.0	25.9	35.6	44.3	44.0	40.7
North America & Caribbean	5.5	7.4	8.6	13.8	13.7	18.2
EU Europe	9.8	6.8	7.5	5.5	5.5	6.4
Central & South America	0.1	0.9	0.7	1.6	3.4	5.9
Non-EU Europe	0.9	0.8	1.0	1.4	2.8	4.6
Oceania	0.9	1.2	1.3	1.3	2.1	3.8
Middle East & North Africa	0.3	0.7	0.7	1.1	2.3	5.5
Africa (excl. North Africa)	0.2	1.4	0.4	0.8	1.4	2.7

Source: Bloomberg. Note: Sorted by 2016 forecast installations

Asia is by far the most important region for solar demand. China today accounts for most of that demand, but India has aggressive growth aspirations and other countries in the region

[3] W stands for watt

are seeing meaningful growth. Many countries have announced the phase-out of any subsidy support for solar by mid-2020s due to its rapid cost declines and belief that the technology will be able to compete with fossil-fired generators.

China has an annual feed-in tariff that is adjusted in June. In the first half of 2016, China installed 20GW which was in line with many analysts' expectations for the full year. Another feed-in-tariff cut in June 2017 could drive a surge in installations in H1 2017. The Chinese government changed the total installation target from 150GW to at least 110GW by 2020. We expect the target would be met and surpassed easily. India has announced a goal to increase solar capacity to 100 GW by 2022, which will require a ramp up in the pace of solar capacity additions. The country is forecast to have installed 9.5GW by end of 2016, potentially doubling installed capacity in 2017. Japan has been a very important market for 2014, 2015 and 2016 due to high feed-in tariffs offered. Japan's annual installation levels are expected to fall significantly from 2017 because of feed-in-tariff reductions and the introductions of auctions, which would likely decrease prices as has occurred globally. We still believe that analysts are underestimating the growth that will be achieved in Asia, particularly South East Asia.

Outside of Asia, the next most important market is the US, where the extension of the ITC in December 2015 created a fertile support regime for growth of solar installations. The election of Donald Trump throws the future existence of the ITC into question. Historically, the capex of solar projects in the US has been higher than in Europe. Installation costs are catching up with international best practice, which would buffer a reduction in the ITC by the Trump administration. Rather than attacking the ITC, the Trump administration appears to have taken aim at the global climate agreement and the Clean Power Plan, both of which would affect sentiment but not earnings or installations of solar power in the United States in the next five years.

Europe is now evolving from being the leading subsidy-driven market to driving unsubsidized installations. Unsurprisingly, it is the southern European countries with high insolation and high energy costs where we believe there to be upside to analysts' forecasts between 2017 and 2020.

Latin America is the next most important market and we believe has huge potential because of grid constraints and utility costs. The slowing of Brazil's economy and the consequential cancellation of auctions for renewables was a blow to the Latin American renewables industry. However, in the longer term, we expect wind and solar power to replace existing power stations on cost. The Middle East and Africa have huge potential although it may take time for them to benefit from the installation cost efficiencies being achieved elsewhere in the world.

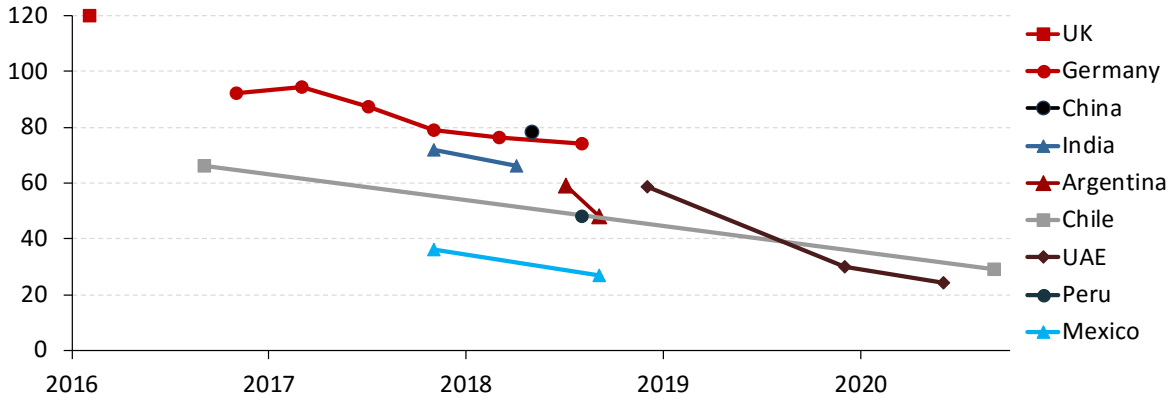
Lower module and project prices are improving the economics of solar photovoltaic (PV) and are beginning to compete with fossil fuel generation in many locations. This transition

away from subsidies is likely to lead to a meaningful surge in installations growth that is less likely to be matched by product price falls. Since solar PV projects are easy to permit and quick to build compared to other power generating technologies, taking only a few months compared to years, we expect demand levels for solar PV to respond to lower prices faster than other technologies.

The solar industry stunned the world by providing record-low pricing for solar projects in Q3. In Q4, the trend of decreasing cost of solar power over time could be seen in Mexico, Argentina and Germany. The newest auction results were lower than those from previous auctions. The projects in Argentina from the latest auction now lie on the same cost line as Chile, while Mexico achieved a new Latin American record low solar bid of $27/MWh[4].

Solar Levelized Cost of Electricity (LCOE) developments

PV bids by delivery date ($/MWh)



Source: Bloomberg, Cleantechnica, Guinness Atkinson Asset Management

Wind

After last year's record level of global wind installations, analysts expect a slight decrease in the global wind market in 2017. Last year's rush to complete projects before a tariff decrease meant that a record 29GW[5] of wind power was installed in China in 2015 – 19GW in H2 2015 alone. China is forecast to install around 23GW per year between 2017 and 2020. Chinese wind farm operators would continue to benefit from limitations on curtailment implemented in May 2016. The Chinese government targets 30GW of new wind installations in 2016, mainly in regions that have lower curtailment rates. However, whether the government will be successful is unclear – the country would have to repeat its phenomenal installation rate achieved in H2 2015. The clear majority of the Chinese wind market is supplied by Chinese turbine manufacturers, offering limited opportunities for non-Chinese

[4] MWh stands for megawatt hour
[5] Source: Bloomberg

manufacturers. The question for many wind manufacturers is whether Chinese wind turbine manufacturers would gain acceptance from clients outside of China.

Wind forecast

	2013	2014	2015	2016	2017	2018
World (including offshore)	33.9	48.6	62.7	56.5	58.4	65.2
Asia	17.2	23.7	32.4	30.1	29.7	30.3
EU Europe	11.9	10.5	13.8	10.9	12.9	10.6
North America & Caribbean	2.5	7.7	11.0	10.4	8.9	10.6
Central & South America	0.7	3.9	3.3	3.4	3.3	6.9
Non-EU Europe	0.9	0.9	1.0	0.8	1.3	1.4
Africa (excl. North Africa)	0.0	0.7	0.7	0.8	1.4	2.2
Oceania	0.5	0.8	0.3	0.1	0.3	1.8
Middle East & North Africa	0.2	0.4	0.2	0.0	0.6	1.4

Source: Bloomberg. Note: Sorted by 2016 forecast installations

Outside of China, analysts expect wind demand to decrease slightly by 1GW as European installation levels fall[6]. The United States is the largest individual market outside Asia. The United States Congress extended the production tax credit (PTC) which supports wind installations at the end of 2015 out to 2019. The PTC declines annually from end-2016 onwards, meaning that there was a rush to commence building projects in 2016 and there will be a rush to begin construction of wind farms before the end of every year until end-2019. However, this may not translate into immediate earnings for turbine manufacturing companies since the PTC works on construction start date or money spent on the project so far, rather than by commissioning date. To qualify for the PTC, projects must be completed within two years from start of construction, meaning that wind turbine manufacturers are likely to see an increase in their earnings with a one-year lag.

The election of Donald Trump brings uncertainty to the US wind industry, but we are hopeful that Trump would not threaten the PTC as many beneficiaries of the US wind industry are in 'red states' supporting the republican party. It could be likely that developers will rush to provide proof of commencing construction to lock in the PTC in fear that the US president-elect would attempt to change this tax credit.

With the expected cost and performance improvements of turbines, we believe that onshore wind power will be even more competitive compared to conventional sources in the United States, which may support higher growth than expected in 2018 and 2019 and will help the industry continue once the PTC has tapered off.

Europe is expected to see demand between 11 and 13GW per annum between 2016 and 2018, driven by the feed-in-tariffs in France and general competitiveness of wind power with conventional sources. Developers were rushing to complete projects by year-end before auctions begin in Germany in 2017, after which installation levels will probably fall by around 1GW. Germany is starting construction on a transmission link with Norway,

[6] Bloomberg

essentially using Norway's many hydro plants as energy storage. This opens grid capacity and would allow for even higher penetration of renewables in northern and central Europe.

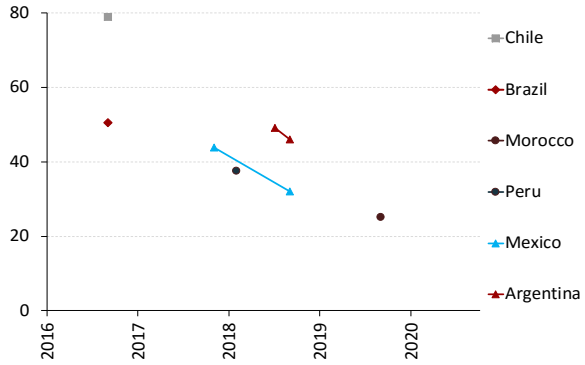
Canada and Mexico are the next sources of demand growth. Mexico's liberalization of the energy market has brought new interest. The country's second power auction in early October brought new records to Latin America, with wind dropping to $32/MWh, only $2 off the cheapest wind bid record set in Morocco. Chile has made headlines due to its auctions where wind power bids have decreased in price since last year, down to $38/MWh from $79/MWh. The delivery dates for these two prices are four years apart, partially explaining the dramatic drop in price, equivalent to an annualized decrease of 17%.

Auctions across the globe continue to bring wind power prices down, with turbine suppliers seeing pressure on margins. Price pressure in the onshore wind sector is not as intense as in the solar sector – there are fewer manufacturers, the technology is broadly competitive today and policy remaining broadly supportive. However further research and development spending to improve efficiency and lower costs will as with all industries be critical in allowing all in the value chain to maintain margins. The larger question remains whether Chinese manufacturers will gain the trust of developers outside of China.

Corporates continue to provide purchase power agreements (PPAs) to renewable energy projects, predominantly wind. The US market was historically driven in part by large corporations signing PPAs, and we are beginning to see the same thing happen in Europe, reducing the importance of the utilities. We believe this trend will continue and support unsubsidized installations.

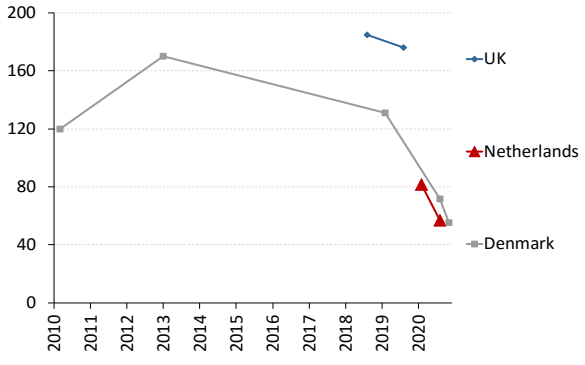
Wind LCOE developments

Onshore wind bids by delivery date ($/MWh)



Source: Bloomberg, Guinness Asset Management

Offshore wind bids by delivery date ($/MWh)



Source: UK government, Government of the Netherlands, Windpower Monthly, Vattenfall, Guinness Atkinson Asset Management

Note: Projects have not been standardized for plant lifetime or financing cost and so values may not necessarily be directly comparable.

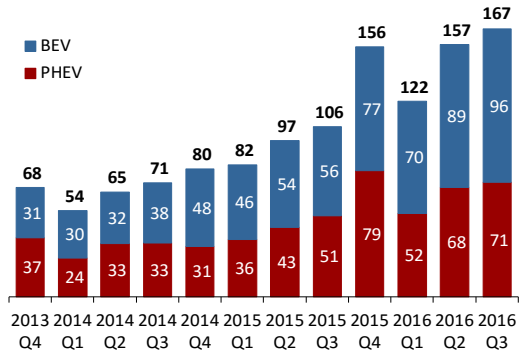
Offshore wind updates

Offshore wind continued to make headlines in Q4, but not as much as in Q3. The biggest story included the oil supermajor Shell undercutting the leading Scandinavian offshore

wind developers Dong and Vattenfall by over 20% in the Netherlands' latest offshore wind auction. Shell partnered with relatively experienced players in the offshore industry to reach a low bid. Shell may have deemed that a lower return would be worth new knowledge on offshore wind to be gained from this project. Shell is by no means the first oil company interested in offshore wind: Statoil leads the oil-industry offshore wind enthusiasts with investments floating turbines in Scotland. However, the oil industry has found entering this sector difficult. Some had hoped that experience in offshore drilling and the infrastructure around these operations would provide synergies with offshore wind that could be easily exploited. Unfortunately for these companies, the technological hurdles were higher than expected and the synergies less lucrative.

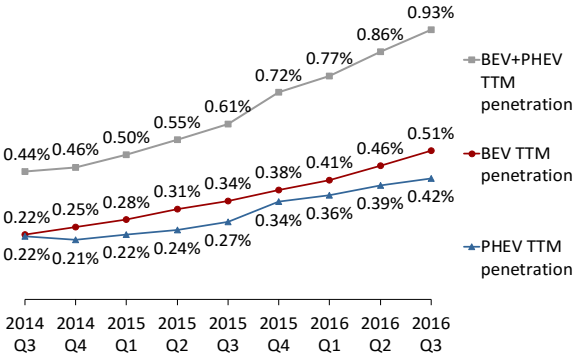
Electric Vehicles

Quarterly plug-in vehicle sales in selected countries (thousands)



Source: Bloomberg, Cleantechnica

Trailing 12-month plug-in vehicle penetration of new car sales in selected countries (%)



Source: Bloomberg. Note: TTM means trailing twelve months. Total EV sales across selected countries divided by total car sales in these countries show the penetration above.

Note: Selected countries include Austria, Belgium, Canada, China, Denmark, France, Germany, Ireland, Italy, Japan, Netherlands, Norway, Spain, Sweden, Switzerland, UK and USA. These countries were chosen for data availability and represent three-quarters of all car sales globally. BEV stands for battery electric vehicles and PHEV stands for plug-in hybrid electric vehicles.

Electric vehicles (EVs) have shown strong growth in sales numbers since 2014. Compound quarterly growth rate is 8.5% between Q4 2013 and Q3 2016, translating to a 38.7% compound annual growth rate.

The graph on the right shows the TTM market share of EVs in new car sales in the selected countries. The market share has been consistently growing for the last two and a half years. As has been the case for the duration of the graph, Norway has the highest market share of EVs among new car sales, with 30% in Q3, 28% in Q2 and 30% in Q1. The exceptionally high market share in Norway is due to effective tax breaks and benefits to EV owners along with a relative expansive charging network. A long way behind Norway lies Sweden, at 4.2% for Q3, up from 3.7% in Q2. The sensitivity of EV sales to policy changes has been experienced in the Netherlands, where EV market share dropped from a high of 16.3% in Q4 2015 to

2.2% in the following quarter. This was due to an expiration in a subsidy for PHEVs at year end 2015.

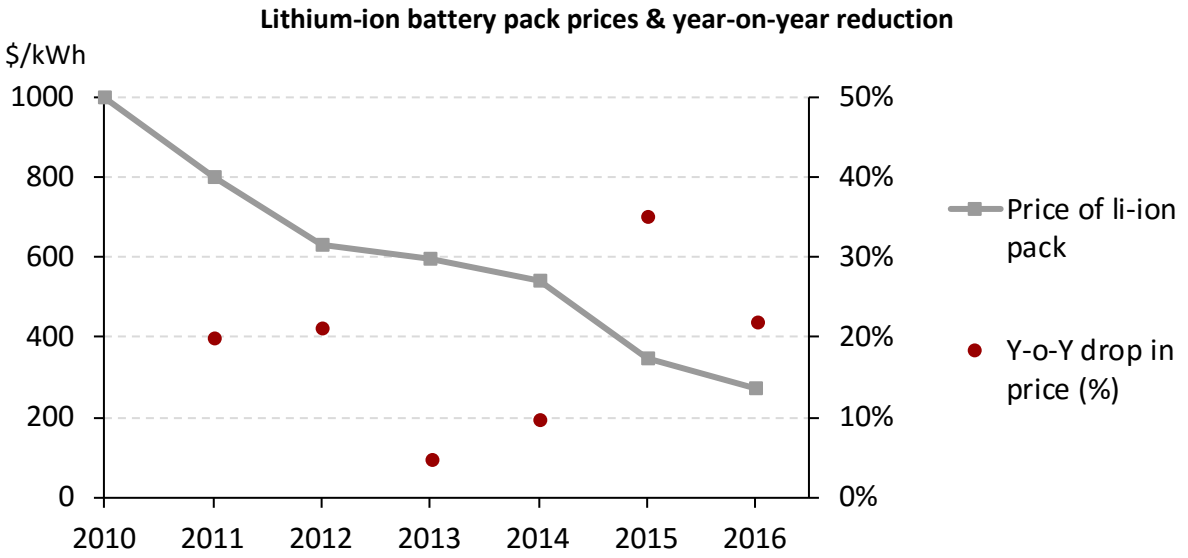
In July, Germany introduced a subsidy scheme for EVs worth €1.2 billion. Prospective EV owners can apply for a €4,000 or a €3,000 grant when purchasing a BEV or a PHEV, respectively. However, the market share of EVs after the subsidy introduction in Germany in Q3 increased to 0.8% from 0.5%, which is quite disappointing. Preliminary numbers for Q4 2016 indicate that the subsidy is having little impact on total EV sales in Germany – a potential counter-argument to Norway's success. However, it took Norway three years to achieve a market share of 1% and a further three years to reach 3%, after which only three more years were needed to reach 30% and remain there.

The fourth quarter saw the release of the Renault Zoe with 250 miles of driving range on a single charge under ideal conditions, falling to 186 miles in real life driving conditions. The Chevrolet Bolt and the Tesla model 3 will be released in 2017.
These EV models are set to be the first batch of affordable, long-range models coming to market at an approximately $30-35,000 price point.

Additional positive news for electric cars came from reported battery prices, shown in the graph below. The price of a li-ion battery pack for electric vehicles averaged $273/kWh[7] over 2016, per Bloomberg. They also report that larger original equipment manufacturers could negotiate prices as low as $220/kWh. Long-range electric cars, such as the new versions of Nissan Leaf and Renault Zoe and the new models, such as Chevrolet Bolt and Tesla model S, are becoming price competitive with combustion engine vehicles solely due to battery cost reduction. This assumes that 40% of the long-range vehicle cost came from batteries in 2015, when battery prices were closer to $350/kWh. Should this unexpectedly rapid decline in EV batteries continue, EVs would become price competitive with combustion engine vehicles within the next two years.

[7] kWh stands for kilowatt-hour

Fourth quarter 2016



Source: Bloomberg New Energy Finance

Stationary storage progress updates

The drop in EV battery pack pricing also bodes well for stationary storage. Although stationary and mobile batteries have different specifications, the underlying technology is similar and in many cases the same. Using the UK's enhanced frequency response tender results from August we estimated the per kWh price of stationary storage. We saw bids as low as $450/kWh, with the winning bids averaging $600/kWh. The drop in the GBP to USD exchange rate will have also reduced these figures. Nevertheless, at $450/kWh wind and PV with one hour of battery storage can compete with diesel generators and peaker plants, provided above-average capacity factors and best-in-class installation costs. At $4/MMBtu[8] of gas, wind with one hour of storage can compete with combined-cycle-gas turbines which are used for baseload and medium load electricity generation.

Portfolio changes

We sold Enphase, a US microinverter manufacturer due to liquidity concerns. We replaced the holding with Ricardo, an engineering consultancy for the automotive sector.

Fund Performance (Q4 2016)

The Guinness Atkinson Alternative Energy Fund was down 8.73% for the fourth quarter of 2016. This compared to a fall in the Wilderhill Clean Energy Index of 4.75%, an fall in the Wilderhill New Energy Global Innovation Index of 4.61% and an increase in the MSCI World Index of 1.99%.

[8] MMBtu stands for million british thermal units

Guinness Atkinson
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Fourth quarter 2016

Total Returns as of 12/31/16

Total returns	Q4 2016	2H 2016	YTD 2016	5 year	10 year	From launch (3/31/06)
Guinness Atkinson Alternative Energy Fund	-8.73%	-4.92%	-17.16%	-2.93%	-12.95%	-12.80%
Wilderhill New Energy Index	-4.61%	0.60%	-6.43%	6.75%	-4.21%	-3.28%
Wilderhill Clean Energy Index	-4.75%	-3.61%	-22.12%	-5.34%	-13.95%	-14.75%
MSCI World Index	1.99%	7.09%	8.18%	4.43%	11.08%	11.08%

Calendar year returns	2011	2012	2013	2014	2015	2016
Guinness Atkinson Alternative Energy Fund	-42.53%	-15.20%	61.54%	-14.29%	-11.40%	-17.16%
Wilderhill New Energy Index	-38.91%	-4.14%	55.70%	-2.16%	1.51%	-6.43%
Wilderhill Clean Energy Index	-50.50%	-17.37%	58.54%	-16.93%	-10.36%	-22.12%
MSCI World Index	-4.99%	16.56%	27.43%	5.58%	-0.28%	8.18%

CY = Calendar Year

Expense Ratio: 1.98% (net); 2.31% (gross)

All return figures represent average annualized returns except for periods of one year or less, which are actual returns.

Performance data quoted represents past performance; past performance 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. Performance data current to the most recent month end may be obtained by visiting www.gafunds.com or calling 800-915-6566.

The Funds impose a redemption fee of 2% on shares held less than 30 days. Performance data does not reflect the redemption fee. If reflected, total returns would be reduced.

The Advisor has contractually agreed to reduce its fees and/or pay Fund expenses (excluding Acquired Fund Fees and Expenses, interest, taxes, dividends on short positions and extraordinary expenses) in order to limit the Fund's Total Annual Operating Expenses to 1.98% through June 30, 2017. To the extent that the Advisor waives its fees and/or absorbs expenses to satisfy this cap, it may recoup a portion or all of such amounts absorbed at any time within three fiscal years after the fiscal year in which such amounts were absorbed, subject to the 1.98% expense cap in place at the time recoupment is sought, which cannot exceed the expense cap at the time of the waiver.

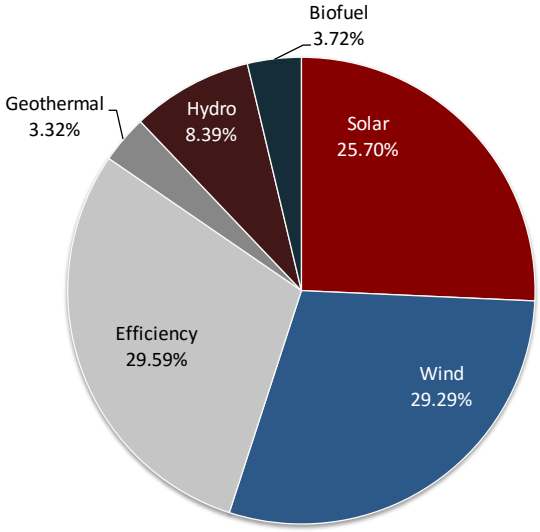
Guinness Atkinson
Alternative Energy Fund Update

GUINNESS ATKINSON FUNDS

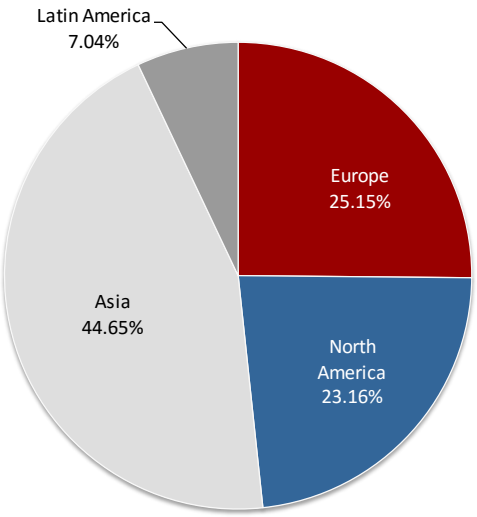
Fourth quarter 2016

Fund Holdings

Sector breakdown



Domicile breakdown



Top 10 holdings as of 12/31/16	% of assets
INIZIATIVE BRESCIANE-INBRE S	5.00%
BORALEX INC -A	3.83%
COSAN SA INDUSTRIA COMERCIO	3.67%
CONCORD NEW ENERGY GROUP LTD	3.54%
GOOD ENERGY GROUP PLC	3.54%
RICARDO PLC	3.43%
SCHNEIDER ELECTRIC SE	3.42%
TIANNENG POWER INTL LTD	3.35%
CHINA LONGYUAN POWER GROUP-H	3.33%
NIBE INDUSTRIER AB-B SHS	3.33%

Edward Guinness and Samira Rudig *February 2017*

Commentary for our views on global energy and Asia markets is available on our website. Please click here to view.
Total returns reflect a fee waiver in effect and in the absence of this waiver, the total returns would be lower.

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

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

The Fund invests in foreign securities which will involve greater volatility and political, economic and currency risks and difference in accounting methods. The risks are greater for investments in emerging markets. The Fund is non-diversified meaning its assets may be concentrated in fewer individual holdings than diversified funds. Therefore, the Fund is more exposed to individual stock volatility than diversified funds. The Fund also invests in smaller companies, which will involve additional risks such as limited liquidity and greater volatility. Current and future portfolio holdings are subject to risk. 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.

Fund holdings and/or sector allocations are subject to change at any time and are not recommendations to buy or sell any security.

The WilderHill New Energy Global Innovation Index (NEX) is a modified dollar weighted index of publicly traded companies which are active in renewable and low-carbon energy, and which stand to benefit from responses to climate change and energy security concerns.

The WilderHill Clean Energy Index (ECO) is a modified equal dollar weighted index comprised of publicly traded companies whose businesses stand to benefit substantially from societal transition toward the use of cleaner energy and conservation.

The MSCI World Index (MXWO) is a capitalization weighted index that monitors the performance of stocks from around the world.

The Han Seng Composite Index (HSCI) is a capitalization weighted index that monitors the performance of companies listed on the Hong Kong Stock Exchange.

The MSCI Golden Dragon Index is a capitalization weighted index that monitors the performance of companies listed in China and Chinese securities listed in Hong Kong and Taiwan.

The Ibovespa Brasil Sao Paulo Stock Exchange Index (IBOV) is a gross total return index weighted by market value to the free float and is comprised of the most liquid stocks traded on the Sao Paulo Stock Exchange (Bloomberg).

One cannot invest directly in an index.

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