Guinness Alternative Energy Fund

A high conviction pureplay equity fund managed by Edward Guinness investing in quoted companies in the alternative energy sector.

INVESTMENT COMMENTARY – review of the 2nd quarter 2017

Manager	**Edward Guinness** (from launch in December 2007)
Fund size	**$9.3m**
AUM under strategy	**$20.1m**

Aim

Guinness Alternative Energy Fund gives investors pureplay exposure to global alternative energy markets.

The Fund is managed for capital growth and invests in companies in the solar, wind, hydro, geothermal, biofuels, biomass and energy efficiency sectors.

Investment case

We believe that over the next twenty years the alternative energy sector will benefit from the combined effects of:

- Higher energy prices driven by population growth, developing world industrialisation and diminishing fossil fuel supplies
- Falling costs of alternative energy assets as the technology improves
- Energy security concerns
- Climate change and environmental issues

The Guinness Alternative Energy team has been managing alternative energy portfolios since 2007.

The Fund is a long-only equity portfolio of around 30 equally-weighted positions.

Normally the Fund is invested in companies with a market capitalisation over $100 million.

Quarterly commentary

The alternative energy sector had a good quarter in which the fund fared well. Several auctions showed the sector's economic competitiveness compared to conventional fuels and grid technologies. Developers of offshore wind projects participating in an auction in Germany for delivery from 2024 decided they did not need a specific subsidy and would deliver power on a merchant basis. In India, tender bids by solar projects are proving cheaper than prices being paid to existing coal plants. Tesla won a tender in Australia to provide batteries that will improve grid resilience in South Australia. This involved a promise to deliver the largest li-ion battery ever built, without subsidy, within 100 days. President Trump, meanwhile, appears to have become less negative towards alternative energy. Despite the proposed exit from the Paris climate accord, he has proposed using solar to defray the costs of the wall with Mexico. China, the leader in both production and installation of alternative energy facilities, witnessed strong solar installation numbers for the first half of 2017 and is maintaining and even increasing its ambitious targets for electric vehicles, batteries and associated infrastructure.

Performance contribution

Wind

The fund's wind sector stocks contributed negatively to performance, with the Chinese renewable asset companies underperforming because of lower wind power output than expected for this quarter. China Datang was the

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GUINNESS ASSET MANAGEMENT LTD

only Chinese asset owner with a positive return this quarter, due to analyst upgrades.

Good Energy, a UK renewable energy utility, fell in price as rumours of a possible merger with its largest competitor, Ecotricity, subsided. Good Energy issued a corporate bond to fund growth and is well positioned to grow its subscriber and generation base in the UK.

Mytrah Energy, an Indian wind power developer and independent power producer (IPP), has not moved significantly in price over the quarter despite satisfactory progress by the business. The company has continued to grow its portfolio and won a highly competitive solar auction in Q2 2017. Investor concerns relate to a stretched balance sheet, which the company has under control, and Indian country risk. Boralex, a Canadian wind power IPP, continued to do well, operating its existing assets and growing its portfolio.

Solar

The solar stocks were the main contributors of positive performance within the portfolio. In China, solar installations in Q1 2017 were, contrary to expectations, as high as in Q1 2016, leading to upward revisions of demand expectations by analysts. Donald Trump seems to be leaving the key US Investment Tax Credit alone and has even suggested that the wall with Mexico be covered with solar panels. This announcement benefited both First Solar's and SunPower's share prices, two US-headquartered module manufacturers. President Trump's attempts to push through tax reform have been hampered, allaying fears that capacity for solar financing from the tax equity market will be diminished. This also boosted the overall solar market by lessening worries over a reduction in US demand exacerbating the oversupply situation. The core solar holdings of Sunpower, First Solar, JinkoSolar and Canadian Solar all performed very well over the quarter.

JA Solar, the Chinese module manufacturer, has seen less of a response to the improved market dynamics due to a lower management buyout offer being made during the quarter. Management offered to buy the company out at $6.80 per ADR, having previously made an offer of $9.69 per ADR in June 2015.

Our Chinese solar glass manufacturing holding, Xinyi Solar, did poorly due to fears of industry oversupply and decreased project returns. China Singyes, a solar power system installer, is well positioned to benefit from the Chinese market moving from utility-scale to rooftop installations, but had a poor quarter. The company span out one of its small business units, which was less well received by the market.

Efficiency

Overall, our efficiency holdings were strong in the larger international companies but weak in the Chinese companies.

Schneider Electric appears to be benefitting from Chinese demand for its building and industry units. Kingspan Group is facing higher costs but these are being offset with a healthy increase in revenue. Prysmian continues to restructure and focus on delivering its energy projects, which is where we believe the long-term value in the company lies, since countries will need to integrate more renewables and expand their electricity networks. The company's Q1 results fell below consensus but the stock could recover due to its long-term potential. Centrotech, a German company focused on energy efficiency technology for buildings, delivered on revenue and margin in Q1 2017 and expects further growth, boosting the share performance. Nibe Industrier, a heat pump and heating, ventilation and air conditioning (HVAC) specialist, did relatively well after beating its Q1 2017 highest analyst estimate. Johnson Controls, an HVAC and automotive battery producer, had a flat quarter

as concerns around its earnings growth surfaced.

Wasion, Tianneng, Boer Power and Ricardo were poorer performers over the quarter. Wasion's largest customer, China's State Grid, decreased its orders after a centralized metering tender which weighed on its share price. The company's earnings also came in below expectations. Tianneng fell on voting results from its annual general meeting and recovered slightly following an analyst upgrade. We still feel that the company has potential due to its electric bicycle battery offering and its venture into lithium-ion batteries for vehicles. Boer Power is currently in a restructuring phase. The company focuses on energy management in distribution grids, something that should be in high demand as China increases its renewable energy installations on rooftops. Ricardo appears to have a larger shareholder selling some of their portion towards the end of the quarter, suppressing the share price. We expect the stock to recover as its fundamentals and order book are strong.

Hydro

Iniziative Bresciane has seen good rainfall and has constructed several new hydro plants, but the share liquidity remains a barrier to increasing share price.

The Brazilion IBOV Index has been weak over the second quarter because of the economic and political turmoil in Brazil. Cemig is particularly sensitive to these events since it relies on government concessions and the Brazilian economy for power generation and demand and has performed weakly over the quarter.

Geothermal

The fund's geothermal holding, Ormat Technologies, exceeded analysts' expectations in Q1 2017 and contributed positively to performance as a result. The company continued to execute its project pipeline and acquired a battery management system software company in Q1 2017 to enter the energy storage and demand response markets in the long term – two areas we believe will benefit from the increase in renewable energy deployment.

Biofuel

The fund's only biofuel holding, Brazil's Cosan, has had a similar fate to Cemig, with macro worries about Brazil affecting sentiment despite Cosan beating analysts' consensus estimates for the first calendar quarter.

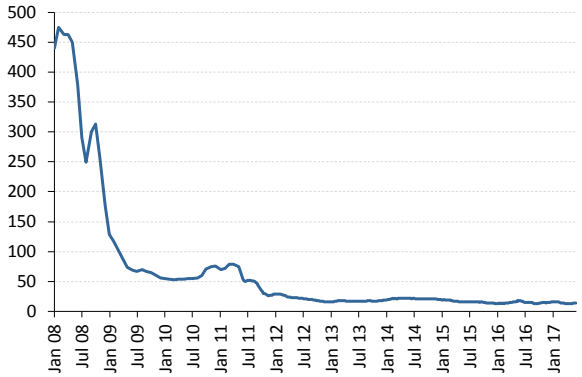
On a stock basis, the top five performers over the quarter were SunPower (53.1%), First Solar (47.16%), Canadian Solar (29.75%), JinkoSolar (25.53%) and Mytrah Energy (21.54%).

The bottom five performers were Cemig (-27.05%), Concord New Energy (-18.10), Cosan (-14.73%), Good Energy (-12.83%) and Wasion (-12.62%).

Outlook

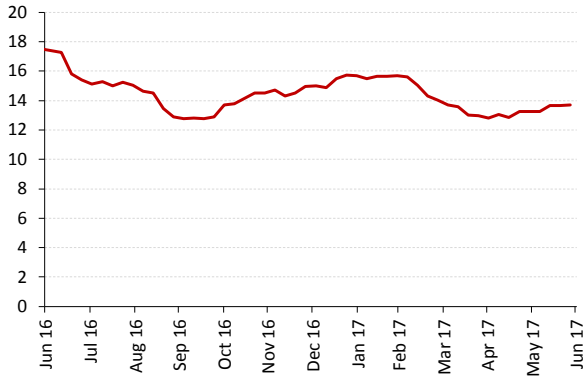
Solar

Long-term Silicon price ($/kg)



Source: Bloomberg

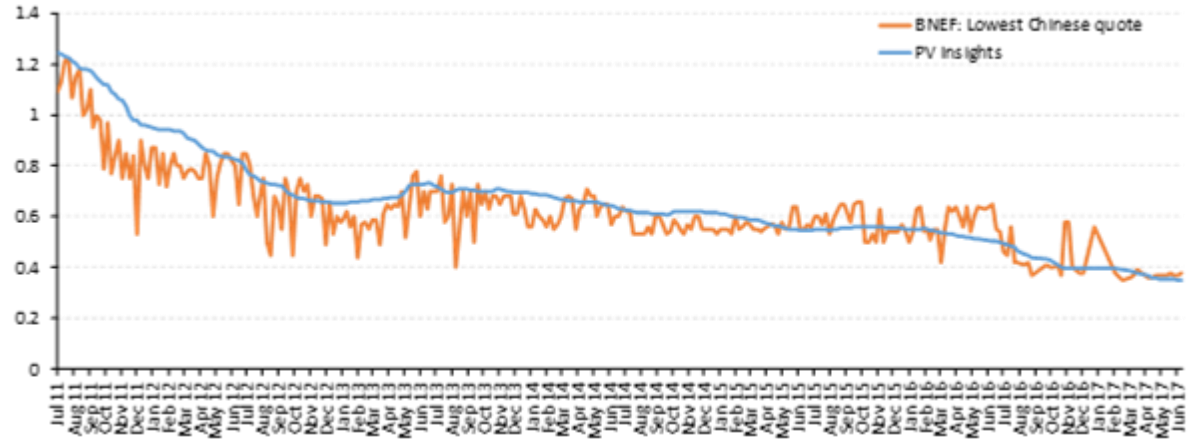
TTM Silicon price ($/kg)



Source: Bloomberg

Over the quarter, the Bloomberg New Energy Finance polysilicon spot price decreased slightly from $14.01/kg to $13.69/kg. Polysilicon prices have risen from their all-time low at the end of Q3 2016 of $12.80/kg. For historical context, polysilicon prices have fallen from a high of $475/kg in February 2008. Since August 2012, polysilicon has failed to maintain a price above $20/kg for any significant amount of time. The cost of producing silicon is now believed to be just under $9/kg for the lowest cost producers. Several major polysilicon production plants still have costs of over $20/kg, which are uncompetitive at today's prices[1]. We do not believe that there will be a major bottleneck in polysilicon supply, causing a price spike, unless annual solar installation volumes more than double from current levels in the next year. We have no investments in polysilicon producers.

Module Price ($/W)



Source: Bloomberg

Historically, module prices have steadily decreased and have seen lurches downwards following the reduction in policy support in large markets. Module prices continue to decline but have shown signs of stabilizing in Q2 2017, dropping 3.5% from $0.34/W to $0.33/W, which was less than the 5% drop in Q1 2017. The price decline has been unexpectedly large over the last 12 months, down 34% since the end of

[1] Bloomberg New Energy Finance

June 2016, and correspondingly the addressable market for solar power has increased significantly. At the end of 2016, analysts expected module prices to reach $0.33/W in 2018, not 2017, and $0.31/W in 2019; it now seems possible for module prices to hit $0.31/W by the end of this year. The solar market has outdone its forecasters yet again, which means demand growth should be supported and if anything should continue to exceed expectations. We are now at a point where solar is consistently proving competitive with fossil fuels in auctions in a diverse range of countries. This will allow for lower policy impact on demand.

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

Solar PV forecast

	2013	2014	2015	2016	2017	2018	2019
World	**41.6**	**45.0**	**56.0**	**75.0**	**78.7**	**89.4**	**93.0**
Asia	23.4	26.6	35.7	48.0	48.2	41.8	42.3
North America & Caribbean	6.1	7.2	8.0	14.7	12.5	16.9	18.6
EU Europe	9.8	6.9	7.9	5.7	5.3	5.6	5.9
Non-EU Europe	0.9	0.6	1.1	1.6	3.3	4.4	5.1
Oceania	0.9	1.1	1.3	1.5	2.6	4.7	6.5
Central & South America	0.2	0.8	0.7	1.6	2.6	5.5	4.6
Middle East & North Africa	0.3	0.5	0.8	1.1	2.4	4.8	6.3
Africa (excl. North Africa)	0.3	1.3	0.5	1.0	1.9	2.9	3.7

Source: Bloomberg. Note: Sorted by 2017 forecast installations

Overall, analyst forecasts of demand for solar panels show continued growth. It is probable that the global demand for solar panels will hit 100GW by the end of the decade. 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. We believe that this would be a positive boost to the industry, as it would no longer be as vulnerable to policy changes.

Asia is by far the most important region for solar demand. China today accounts for most of Asian demand and is expected by market commentators to stabilize at 25-35GW of annual demand between 2017 and 2020. In Q1 2017 China installed 7GW, much like last year's Q1. Following the Q1 announcement by the Chinese authorities, analysts increased their forecast for 2017 demand in China to 30GW. However, China is facing some problems with paying out its subsidies in time as the solar installation rates are higher than expected and the subsidy pot empties faster than it can be replenished. So far, this has not stopped developers from developing and commissioning plants. China is beginning to introduce a tradable renewable energy certificate (REC) scheme that will enable faster payments to developers and alleviate the public financing of renewable energy projects. Our expectation is that once again Chinese demand will exceed analysts' forecasts.

India is emerging as Asia's second-largest demand source, surpassing Japan. In Q1 and Q2 2017 India held auctions for solar projects. The winning bids came in at 2,440 rupees ($38/MWh), lower than the running costs of existing coal plants. India scrapped plans for 14GW of coal power plants because of the falling price of solar power in the country. India installed a record 4.5GW in 2016 and is poised to install around 9GW annually over the next three years. India has set an ambitious goal of 100GW of solar by 2022. Although the target may not be met, it is not unthinkable that India could come close, given growth rates that have been achieved in other countries.

Installation volumes in Japan – once the second-largest PV market – will decrease to 5GW per year as the latest incentives are reduced. Other Asian market demand is forecast to pick up as governments and entrepreneurs increasingly recognize the possibilities for reform of electricity systems that solar affords for high-energy-cost, high-insolation countries. We believe that analysts are underestimating the potential surge in solar installations in South Asia and South East Asian countries.

Outside of Asia, the US is the most important market, where the extension of the Investment Tax Credit in December 2015 created a fertile support regime for growth of solar installations. With the election of Donald Trump, solar sentiment initially nosedived and then partly recovered as the US president began to have trouble passing his proposals through Congress. The solar stock prices have, however, become very sensitive to president Trump's (Twitter) statements. Mr Trump's comment on covering the wall with Mexico with solar panels saw US solar stock prices increase.

The more serious trade case, a petition for a $0.40/W tariff on foreign modules brought forward by Suniva, a US solar cell and module manufacturer that filed for Chapter 11 bankruptcy protection on 17th April, also lifted the share prices of First Solar and Sunpower, two US manufacturers of panels. If the tariff is adopted, the solar sector in the US is likely to see lower demand due to reduced access to cheap solar modules for installers. However, manufacturers are likely to respond quickly to any tariff to continue to supply the US market. There remains a big opportunity to lower costs of US installations; the US has one of the highest rooftop installation costs in the world at $3/W. Installation costs in Germany and Australia are currently c.$1.5/W, and lower in China.

The rooftop segment in the US could absorb some of the increase in module cost should the $0.40/W tariff be adopted. We also believe there is scope for installation costs to reach the lower levels seen in China if tax credits are removed, as these have a side-effect of encouraging high up-front installation pricing. Lowering installation costs to these levels would allow customers to achieve similar economics to those they have with tax credits today. The economics of solar in many parts of the United States are so favourable that they should not require subsidies to support installations. This should underpin continued installation growth over the medium term in the US, notwithstanding any policy change implemented.

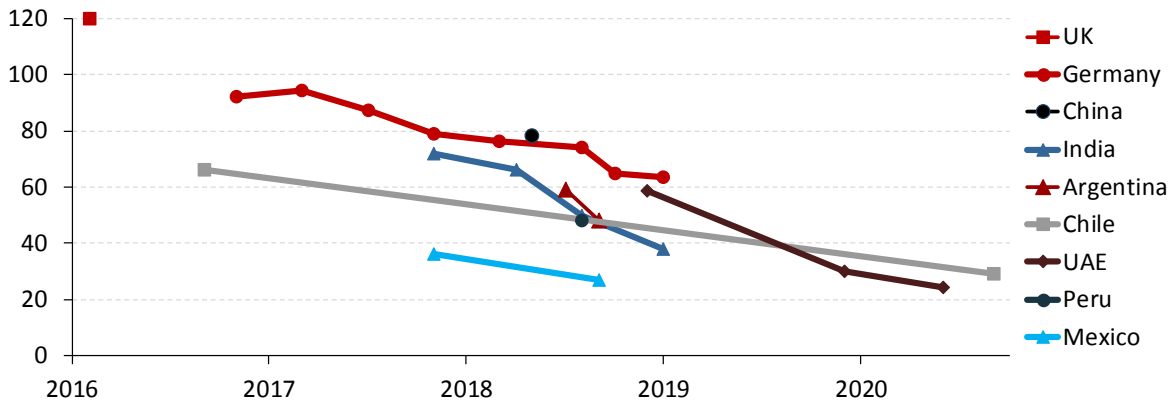
The European Union countries are seeing the highest growth in unsubsidised installations. Unsurprisingly, it is the sunny southern European countries with high energy costs where we believe there to be upside to analysts' solar installation forecasts between 2017 and 2020. Among non-EU countries, Turkey is witnessing the strongest solar demand today, following significant complications in its subsidy regime that have now been overcome.

The Latin American markets continue to have excellent prospects. Mexico has hosted several successful solar auctions, as has Argentina and growth even remains strong in Brazil, notwithstanding its political turmoil and stalling economy.

The Middle East and Africa have immense potential, especially with many countries in Africa having high power prices and high economic growth driving electricity demand growth. In the Middle East, countries using diesel to generate electricity are recognizing that there is a compelling case for solar that would allow them to maximize foreign currency oil revenues.

Solar LCOE developments

PV bids by delivery date ($/MWh)



Source: Bloomberg, Cleantechnica, Guinness Asset Management

The chart above shows the trend of decreasing solar power over time according to delivery dates of tender-winning projects and by country. India (darker blue line) had the most sensational bid price drops of the quarter. Its most recent winning bid came in at $38/MWh on 12 May 2017, a 23% decrease from the winning bids in a separate auction only three months earlier. The delivery dates for India's winning bids are officially 12 months after signing of the bid acceptance. The chart above assumes more a more conservative timeline. India now joins the rapidly expanding club of countries where solar power is cheaper than running fossil fuel plants. With the quicker-than-expected decrease in module manufacturing costs and prices, we expect the number of countries where solar is cheaper than fossil fuel generators to grow.

As subsidies are rolled back due to lack of necessity, the solar market and module demand can grow organically without being rocked by subsidy changes as it was in the past. Other than cost, the advantages of solar power projects over conventional power generators, such as easy permitting, short construction time and its modular nature, will allow for quick adoption and continued increases in demand.

Wind

The global wind power market decreased marginally in 2016 but is set to increase from 55GW in 2016 to 65GW in 2019. This growth is due to the rapid increase of offshore wind installations in China, the United Kingdom, Germany and other European countries. The second quarter in 2017 saw zero-subsidy offshore wind projects in planning.

Wind power installations forecast

Offshore wind updates

In April 2017, Dong Energy, the Danish utility focusing on offshore wind power for growth, and EnBW, a German utility, both won auctions for offshore wind projects in the North Sea. The greatest surprise was that both winning bids were for zero government subsidies, mainly relying on the future wholesale power price to provide sufficient cash flows for project returns. The difference between these bids and those that bid for a subsidy could simply be due to differing in-house power price forecasts, rather than some large advantage in the project construction.

Although these projects will not have fixed payments for each MWh delivered, there are other forms of

government support. These projects have a €0/MWh price floor should the price fall below zero for up to six consecutive hours. The German renewable energy law also guarantees the projects, if built, a paid-for transmission line and priority dispatch to the wholesale power market. The speculation is that turbines with a capacity of 15MW would be used to bring down the cost, which is double the capacity of the largest wind turbine currently in operation, as well as cheap financing. In addition, the projects are only due to be commissioned by 2024 with final financing decisions to be made in 2021.

These projects are still seen as exceptions to the rule. Other countries do not have the same levels of government support as these projects enjoy, and would likely still require some form of subsidy

China remains the largest market by far for the wind sector. China is forecast to install around 21GW per year between 2017 and 2020, including offshore wind. China tightened curtailment rules making it less easy to curtail wind power output. This translates to an increase in revenues for Chinese wind power plant owners overall. So far, curtailment has fallen and the new legislation has been enforced successfully, although curtailment remains a drag on performance for operators. The Chinese government has halted further development of onshore wind farms in regions where curtailment is highest, meaning that there will be less electricity price pressure on those areas and on existing wind facilities owners' margins. Annual installations of onshore wind in China may decrease, but those decreases will be countered by an increase in installations of offshore wind projects, providing between 1.5GW and 2.5GW of incremental demand in China.

Most of the Chinese wind market is supplied by Chinese turbine manufacturers, offering limited opportunities for non-Chinese manufacturers. As China ventures into offshore, more non-Chinese companies may enter that market. Conversely, as the Chinese market stagnates, the open question is whether Chinese manufacturers will expand their customer base abroad and take some market share from non-Chinese manufacturers.

	2013	2014	2015	2016	2017	2018	2019
World (including offshore)	**34.4**	**48.7**	**62.7**	**54.8**	**60.1**	**63.7**	**65.5**
Asia	17.2	23.7	32.7	27.6	29.2	29.4	30.3
EU Europe	11.9	10.5	13.8	11.8	15.4	11.2	12.8
North America & Caribbean	3.0	7.8	10.6	9.8	9.2	12.1	12.9
Central & South America	0.7	3.9	3.3	3.3	2.5	6.1	3.8
Non-EU Europe	0.9	0.9	1.1	1.4	1.5	1.8	1.9
Africa (excl. North Africa)	0.0	0.7	0.7	0.4	1.4	1.5	1.3
Oceania	0.5	0.8	0.4	0.3	0.4	0.8	1.6
Middle East & North Africa	0.2	0.4	0.2	0.2	0.4	0.9	0.9

Source: Bloomberg. Note: Sorted by 2017 forecast installations

The United States is the largest individual market for wind power outside Asia. At the end of 2015 the United States Congress extended the production tax credit (PTC), which supports wind installations, out to 2019. The PTC will decline annually from the end of 2016, a schedule which caused a rush to secure the subsidy last year and led to record orders for larger global wind turbine manufacturers. Similarly, there will be a rush to begin construction of onshore wind farms before the end of every year until the end of 2019. However, this may not translate into immediate earnings for turbine manufacturing companies, since the PTC is determined by the start of construction or the amount spent on the project, 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. This two-year completion rule also explains the increase in wind installations in North America expected in 2018.

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. This may support higher growth than expected in 2018 and 2019 and will support the industry after the PTC has tapered off.

Europe is expected to continue to see annual wind installation demand of between 11GW and 13GW between 2016 and 2018, driven by feed-in tariffs in France and by competitiveness of wind power with conventional sources. Auctions for wind power projects are being introduced in Germany in May 2017 and are expected to drive down wind installation pricing. Expected annual onshore wind installation levels in Germany are expected to fall by around 1GW, although there may be unexpected demand resulting from the change in market dynamics. Germany is starting construction on a transmission link with Norway essentially as a means of using Norway's many hydro plants as energy storage. This opens up grid capacity and should allow for even higher penetration of renewables in northern and central Europe.

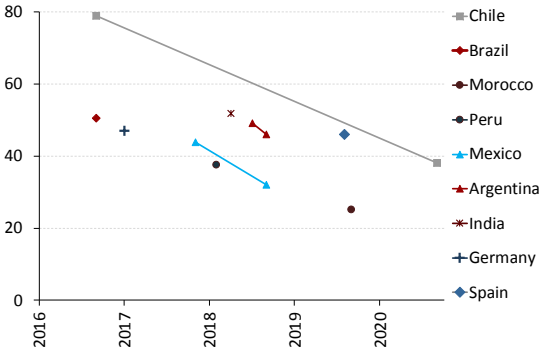
Canada and Mexico are the next sources of demand growth. Mexico's liberalization of the energy market has brought new interest. The country's second power auction in early October brought new records to Latin America when wind dropped to $32/MWh, only $2 off the cheapest wind bid record set in Morocco. 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, which partly explains the dramatic drop in price, equivalent to an annualized decrease of 17%.

Auctions around 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, as with all industries, further research and development spending to improve efficiency and lower costs will 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.

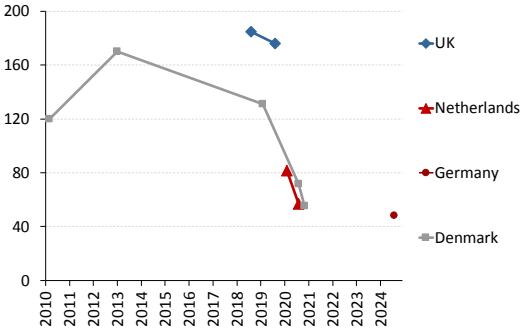
Wind LCOE developments

Onshore wind bids by delivery date ($/MWh)



Source: Bloomberg, Guinness Asset Management

Offshore wind bids by delivery date ($/MWh)

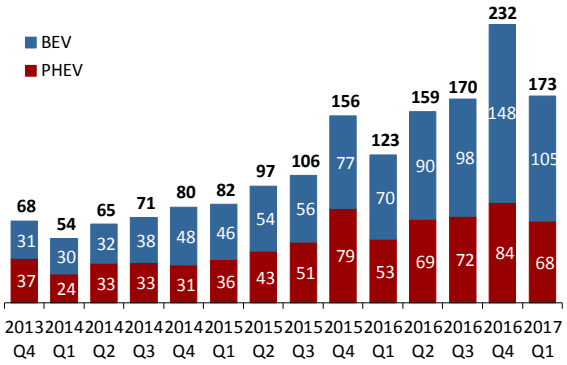


Source: UK government, Government of the Netherlands, Windpower Monthly, Vattenfall, Guinness Asset Management

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

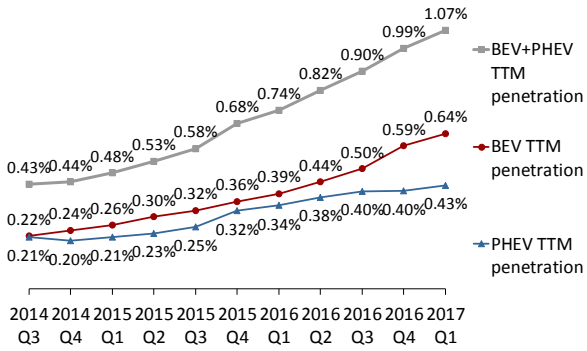
Electric Vehicles

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.

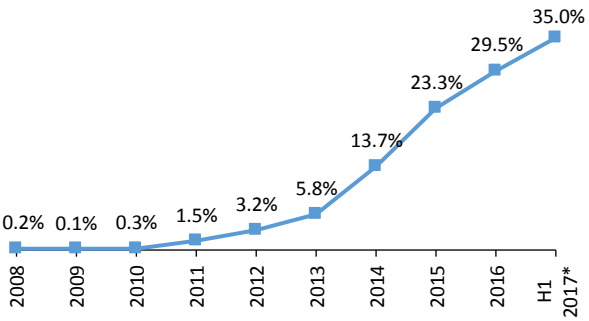
Note: Selected countries include Austria, Belgium, Canada, China, Denmark, France, Germany, Ireland, Italy, Japan, Netherlands, Norway, Spain, Sweden, Switzerland, UK and USA. These countries were chosen for data availability and represent three-quarters of all car sales globally.

Electric vehicle (EV) sales continue to grow year-on-year. The compound quarterly growth rate is 7.43% between Q4 2013 and Q1 2017, translating to a 33.2% compound annual growth rate. However, the data show that Q1 is seasonally the worst quarter of the year for EV sales. If this pattern continues, the EV market share would reach record levels in 2017.

The chart on the right above 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.

Bellwether for combustion engine vehicles: Norway

Annual plug-in vehicle sales in Norway as percentage of total passenger vehicles sold



Source: ev-sales

As has been the case for the duration of the graphs above, Norway has the highest market share of EVs among new car sales, with preliminary H1 2017 numbers showing a record 35% market share for EVs, with both Q1 and Q2 also having 35% EV market share. This is up from 30% in 2016. June 2017 saw the EV market share climb to 42%. The exceptionally high market share in Norway is due to effective tax breaks, which bring the price of an EV on par with combustion engine vehicles, and benefits to EV owners along with a relative expansive charging network.

Overall, Q1 2017 saw the electric vehicle market share increase well above 1%, including in all major markets. In most markets, the new EV models that have a longer battery-only range have been very successful. The older models of the Nissan Leaf which have a shorter range are selling well, potentially due to discounts now that the newer version has been released. We anticipate another record year for electric vehicles and view Norway as a bellwether for the potential of the EV market.

Stationary storage progress updates

Stationary battery storage and electric vehicles are intertwined thanks to similar battery technologies. Cost reductions in one can lead to cost reductions in the other. Stationary battery storage technologies have been used in a string of successful projects over the last few quarters, with projects being completed in a matter of months. Tesla announced that the company will install a 100MW/129MWh battery plant in 100 days in South Australia to help remedy the grid which is less reliable than desired. Elon Musk, Tesla's CEO, said that if the company could not deliver this project – the largest stationary battery storage project in history – the price charged would be zero. Mr Musk said this would cost the company at least $50m. This is equivalent to an all-in project cost of $388/kWh as a most optimistic estimate, a competitive stationary battery cost.

Portfolio changes

No changes to the portfolio

Fund Performance (Q2 2017)

The Guinness Alternative Energy Fund was up 4.45% for the second quarter of 2017. This compared to a rise in the Wilderhill New Energy Global Innovation Index in of 7.38%, an increase of 8.54% in the Wilderhill Clean Energy Index and a rise in the MSCI World Index of 4.19%.

Edward Guinness & Samira Rüdig-Sotomayor
Guinness Alternative Energy Fund

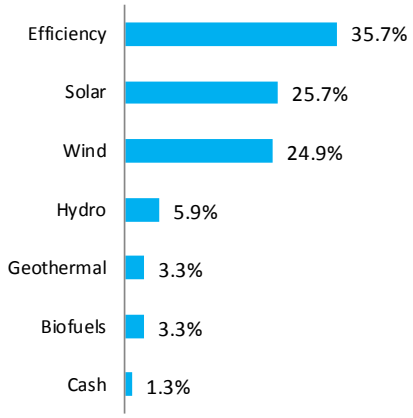
PORTFOLIO

31/07/2017

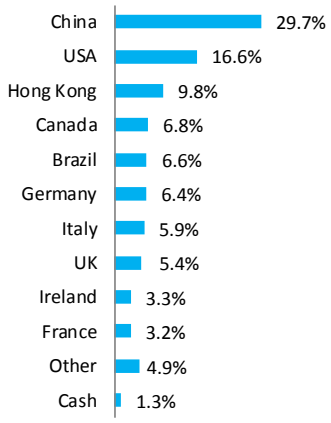
Fund top 10 holdings

First Solar	3.5%
Xinyi Solar	3.5%
China Datang Renewable Power	3.5%
Boralex	3.4%
Jinko Solar Holdings	3.4%
Prysmian	3.4%
Canadian Solar	3.4%
Concord New Energy	3.4%
Centrotec Sustainable	3.3%
Ricardo Plc	3.3%
% of Fund in top 10	34.1%
Total number of stocks in Fund	31

Sector analysis



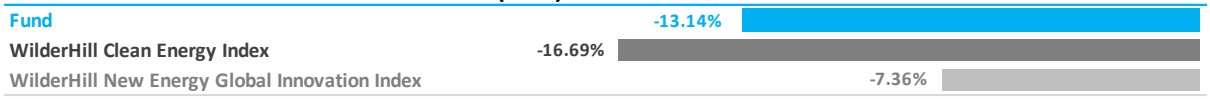
Geographic allocation



PERFORMANCE

30/06/2017

Annualised % total return from launch* (USD)



Discrete years % total return (USD)	Jun '13	Jun '14	Jun '15	Jun '16	Jun '17
Fund	36.2	45.8	-20.2	-22.4	5.5
WilderHill Clean Energy Index	21.8	29.3	-21.2	-29.3	14.0
WilderHill New Energy Global Innovation Index	31.0	44.9	-7.0	-14.8	15.0

Cumulative % total return (USD)	3 months	Year-to-date	1 year	3 years	5 years	From launch*
Fund	4.5	10.1	5.5	-34.7	29.7	-75.3
WilderHill Clean Energy Index	8.5	18.3	14.0	-36.5	0.0	-82.5
WilderHill New Energy Global Innovation Index	7.4	14.3	15.0	-8.9	72.9	-51.8

RISK ANALYSIS

30/06/2017

Annualised, three years, in USD	Wilderhill Clean Energy Index	Fund
Alpha	0	-0.75
Beta	1	0.70
Correlation	1	0.83
R squared	1	0.69
Volatility	18.66	14.26

*Fund launch date: 19/12/2007.

Performance data based on the Fund's 'E' share class (AMC: 0.75%, max OCF: 1.24%), except periods starting prior to 02/09/2008, which are based on a composite of the Fund's 'A' share class (AMC: 1.00%, max OCF: 1.49%) from Fund launch (19/12/2007) until the launch of the Fund's E class (02/09/2008).

Source: Bloomberg and Financial Express, bid to bid, (inclusive of all annual management fees but excluding any initial charge or redemption fee), gross income reinvested. Performance would be lower if initial charge and/or redemption fee were included.

Past performance should not be taken as an indicator of future performance. The value of this investment and any income arising from it can fall as well as rise as a result of market and currency fluctuations.

All returns stated here are in US dollars; which is the Fund's base currency. Returns in different currencies may be higher or

lower as a result of currency fluctuations.

Important information and risk factors

Issued by Guinness Asset Management Limited, authorised and regulated by the Financial Conduct Authority.

This report is primarily designed to inform you about recent developments in the alternative energy markets invested in by the Guinness Alternative Energy Fund. It may also provide information about the Fund's portfolio, including recent activity and performance. It contains facts relating to the alternative energy market and our own interpretation. Any investment decision should take account of the subjectivity of the comments contained in the report.

This document is provided for information only and all the information contained in it is believed to be reliable but may be inaccurate or incomplete; any opinions stated are honestly held at the time of writing, but are not guaranteed. The contents of the document should not therefore be relied upon. It should not be taken as a recommendation to make an investment in the Fund or to buy or sell individual securities, nor does it constitute an offer for sale.

Risk
The Guinness Alternative Energy Fund is an equity fund. Investors should be willing and able to assume the risks of equity investing. The value of an investment and the income from it can fall as well as rise as a result of market and currency movement, and you may not get back the amount originally invested. The Fund invests only in companies involved in the alternative energy sector; it is therefore susceptible to the performance of that one sector, and can be volatile. Details on the risk factors are included in the Fund's documentation, available on our website.

Documentation
The documentation needed to make an investment, including the Prospectus, the Key Investor Information Document (KIID) and the Application Form, is available from the website www.guinnessfunds.com , or free of charge from:-

- the Manager: Capita Financial Managers (Ireland) Limited, 2 Grand Canal Square, Dublin 2, Ireland; or,
- the Promoter and Investment Manager: Guinness Asset Management Ltd, 14 Queen Anne's Gate, London SW1H 9AA.

Residency
In countries where the Fund is not registered for sale or in any other circumstances where its distribution is not authorised or is unlawful, the Fund should not be distributed to resident Retail Clients. **NOTE: THIS INVESTMENT IS NOT FOR SALE TO U.S. PERSONS.**

Structure & regulation
The Fund is a sub-fund of Guinness Asset Management Funds PLC (the "Company"), an open-ended umbrella-type investment company, incorporated in Ireland and authorised and supervised by the Central Bank of Ireland, which operates under EU legislation. If you are in any doubt about the suitability of investing in this Fund, please consult your investment or other professional adviser.

Switzerland
The prospectus and KIID for Switzerland, the articles of association, and the annual and semi-annual reports can be obtained free of charge from the representative in Switzerland, Carnegie Fund Services S.A., 11, rue du Général-Dufour, 1204 Geneva, Switzerland, Tel. +41 22 705 11 77, www.carnegie-fund-services.ch. The paying agent is Banque Cantonale de Genève, 17 Quai de l'Ile, 1204 Geneva, Switzerland.

Singapore
The Fund is not authorised or recognised by the Monetary Authority of Singapore ("MAS") and shares are not allowed to be offered to the retail public. The Fund is registered with the MAS as a Restricted Foreign Scheme. Shares of the Fund may only be offered to institutional and accredited investors (as defined in the Securities and Futures Act (Cap.289)) ('SFA') and this material is limited to the investors in those categories

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