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 – April 2016

Manager	**Edward Guinness** (from launch in December 2007)
Fund size	**$5.1m**
AUM under strategy	**$18.2m**

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.

Alternative energy review

The first quarter of 2016 was mixed for alternative energy companies. China's declining stock market in January and February affected renewable energy equities as much as any other sector. March did see a rebound from the Chinese markets, and while uncertainty around Chinese growth prospects remain, market fears have subsided. The slight rebound in the oil price has also improved sentiment for the wider energy sector. Changes to fossil fuel prices have not impacted the development of alternative energy installation projects and 2016 global forecasted demand for solar PV and wind remains strong at 67GW and 60GW, respectively (Bloomberg).

Renewable energy projects have proved their competitiveness against fossil fuel projects in several auctions over the first quarter as a result of being able to offer low long term electricity prices. In Morocco's January wind power tender, winning bids were $30/MWh which is cheaper than any form of fossil-fuel electricity in Morocco and is largely unsubsidised. In March Peru awarded contracts to unsubsidised bids for solar photovoltaics (PV) as low as $48/MWh and in Mexico eleven packages of wind and solar projects and certificates were sold at an average price of $41.8/MWh at the end of the month. The lowest price for solar was $35.5/MWh and the contracts were for 1,691MW of solar and 394MW of wind.

These results are encouraging for the renewable energy sector in three ways. First, in that cost reductions are still being achieved even as the technology matures. Second, developing countries are recognising the potential of using alternative energy sources and are taking action to stimulate activity. Third, financial institutions are becoming comfortable with lending to alternative energy projects even in developing markets.

Other sectors experiencing record growth are energy storage and electric vehicles. While the portfolio does not hold any stocks that are dedicated to energy storage alone, a growing number are integrating energy storage into their offerings. Both Enphase and Solaredge have offerings that combine their inverters with batteries and most of the solar module manufacturers are developing ways to combine energy storage into the projects that they are selling. Ormat, the fund's only current geothermal investment, is developing a 10MW grid storage project in the US as their first foray into this sector.

The fund's weak quarter can be almost entirely attributed to the fund's solar holdings. The solar sector was weak on the back of Sunedison, one of the largest US solar companies (not held in the fund) heading towards bankruptcy.

Notable strong performers were the fund's two Brazilian investments, Companhia Energetica de Minas Gerais (CEMIG) and Cosan Industria Comercio, which rallied 50.7% and 38.1% respectively in the quarter. These two stocks had been oversold and have recovered along with the Bovespa index, which increased by 18.7%.

Boralex, the Canadian wind power owner and operator, also contributed positively with an increase of 14.4% in Q1 2016 as the market responded to good operating performance and started to recognise the impact of new projects contributing financially. Ormat Technologies, the geothermal company was up 13.1% and Futuren, the French renewable energy project company was up 10.5% over the quarter.

The most poorly performing stocks were Wasion Group, China Singyes, Boer Power, and, losing 48.9%, 40.9% and 37.21% over the quarter respectively. Boer Power missed its sales estimates by 18%, causing analysts to overly downgrade the stock. We are of the belief that Boer Power is well-positioned to benefit from the continuing focus on energy efficiency and energy management systems at the distribution level in China. Wasion and China Singyes released weak numbers indicating delay of contracts. Enphase lost 33.6% of its stock value since beginning of the year. Enphase continues to be one of the most volatile stocks in the portfolio, with an increase of 50% in Q4 2015 after the US investment tax credit for solar PV was extended, and a decrease of 33.6% in Q1 2016 following missed sales targets. Nevertheless, Enphase continues to be a large inverter supplier in the fast-growing United States solar PV market where we see large growth potential for the company. Canadian Solar lost 33.4% of its market value in Q1 2016, following an increase of 74% in its stock price in Q4 2015.

Outlook

Solar

The global photovoltaic (PV) market grew from 44GW in 2014 to 55GW in 2015. The forecasts range between 64-68GW in 2016 and 70-73 GW in 2017, giving a 19% compound annual growth rate between 2013 and 2017 using the most optimistic forecast. Political risk continues to decrease in the sector, as more countries are investing in unsubsidised PV.

China, Japan and the United States will drive over half of the PV demand in 2016. The Chinese National Energy Administration stated that it expects China to install between 15GW and 20GW annually to meet a goal of 150GW by 2020. China installed 17.3GW in 2015, short of its 20GW target. The transmission grid in China is struggling to keep up with the installations of

PV and, more worryingly, some renewable energy projects have been waiting months for remuneration for electricity delivered. China is investing heavily in its transmission and distribution grid and we expect the trend in increasing solar PV to continue. The country continues to battle poor air quality due to coal plants, increased urbanisation and cars on the road, all of which contribute to China's renewable energy momentum.

Japan cut its overly-generous feed-in tariff by 11% from 1 April 2016. We do not foresee an adverse impact on solar PV installation rates since the solar PV systems in Japan have an artificially high cost, propped up by preference for local brands. We expect Japan to install between 12 and 14GW in 2016, although grid constraints could become prohibitive from 2017 onwards.

The United States is likely to install upwards of 10GW of solar PV in 2016, up from 7.5GW in 2015. With the extension of the Investment Tax Credit until 2022, more solar PV projects have become economically viable while homeowners continue to benefit from solar PV by reducing their electricity bill. The price which owners pay for solar PV systems in the US remains higher than that of their European counterparts. As this gap narrows, we expect unsubsidised solar to flourish in the United States.

In Europe, governments are increasingly restricting PV build and are moving towards a more centrally-controlled bidding system. The UK government has cut PV subsidies while the German government has announced that it may remove feed-in tariffs completely for ground-mounted systems in favour of tenders. The European minimum import price has been called into review and will likely not be resolved until Q1 2017. Since the European Union only makes up one sixth of the global PV market – if even that – the negative impact of the MIP is small on module-producing companies.

Latin America has seen a flurry of activity in solar PV. In 2016, Mexico and Peru tendered 1.8GW and 180MW of PV, respectively, to be built by 2018. Chile has over 2GW of solar PV under construction to come online in 2016 and 2017. Chile will not be able to sustain its growth in PV due to country size and grid constraints, while Mexico has a population ten times that of Chile and is also expanding its grid infrastructure.

PV module prices have fallen slightly over the quarter, though not extraordinarily. The silicon price remains low, enabling solar wafer, cell and module manufacturers to maintain their margins. The polysilicon oversupply is likely to remain until 2018 unless the PV market grows even more than expected.

Wind

The wind market is set to reach 60GW in 2016, resulting in a 10% decrease in annual installations compared to 2015. China, the United States and Europe are the largest onshore wind markets, with 20GW annually in China and 10GW in each of the US and Europe.

China is experiencing grid constraints and has announced a ban on wind farm construction in particularly isolated regions until the grid can be reinforced. More encouragingly, the Chinese government now allows wind farm operators to sell the electricity from the wind farms directly to large consumers for a price lower than the government feed-in tariff. This is very good news for wind farm operators, as the alternative is curtailment, for which the operators are not compensated.

With the extension of the US Production Tax Credit the United States will remain a key market well into 2020, with wind competing directly with natural gas plants for capacity additions. Europe has a stable market that will be centrally administered rather than encouraged by feed-in tariffs.

Wind is also shaking off its dependence on subsidies. Recently a Spanish wind farm was able to provide reserve power by curtailing output and switching it on again on demand. This proves that wind can also become profitable by providing grid services rather than just selling power.

The new offshore wind market is set to decrease in 2016 and then double in 2017 to 5GW. Most of the offshore wind installations are in Europe, with 1GW in China. Due to the relatively few offshore wind plants that have been built, it is unclear whether the industry can reach its levelised cost of energy (LCOE) target of $110/MWh.

Other technologies

Energy efficiency is set to grow continuously beyond Europe and the United States, giving a boost to companies in the efficient lighting, heating technologies, grid technologies, metering and insulation sectors. Companies in other sectors tend to have an interesting company-specific story rather than high sectoral growth.

Long-term outlook

During the first quarter of 2016, alternative energy has continued to cut costs and compete with conventional electricity sources. Energy storage companies are making large strides in grid-scale storage, small-scale storage and electric vehicle battery systems. Battery storage systems are set to decrease dramatically in price, potentially providing a new investment opportunity in 2016.

Portfolio changes

During the quarter we bought a position in Boer Power (HK: 1685) to gain exposure to the increased energy efficiency market in China.

We sold the fund's position in Verbund (AV: VER) due to declining wholesale power prices in Europe which we believe will remain weak.

Fund Performance

The Guinness Alternative Energy Fund was down 6.23% (in USD) for the first quarter of 2016. This compared to a fall in the Wilderhill New Energy Global Innovation Index in the first quarter of 4.71%, a fall in in the Wilderhill Clean Energy Index of 15.02% and a fall in the MSCI World Index of 0.18%.

Edward Guinness & Samira Rudig
Guinness Alternative Energy Fund

April 2016

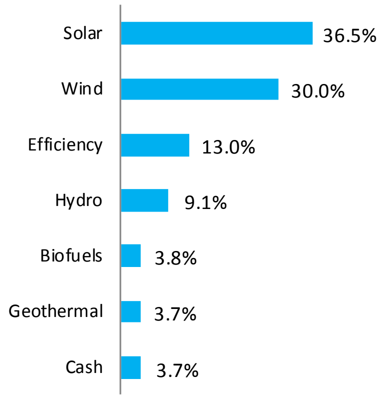
PORTFOLIO

31/03/2016

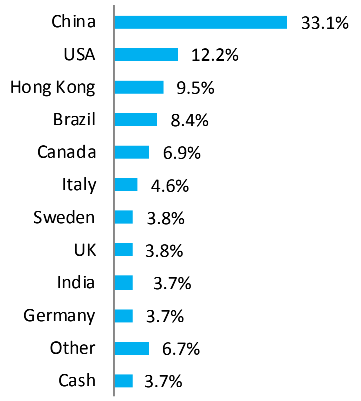
Fund top 10 holdings

Inbre	4.6%
Huaneng Renewables	4.6%
CEMIG	4.5%
China Longyuan Power	4.0%
Cosan	3.8%
Nibe Industrier	3.8%
Good Energy	3.8%
Ormat Technologies	3.7%
Mytrah Energy	3.7%
Concord New Energy	3.7%
% of Fund in top 10	40.2%
Total number of stocks in Fund	31

Sector analysis



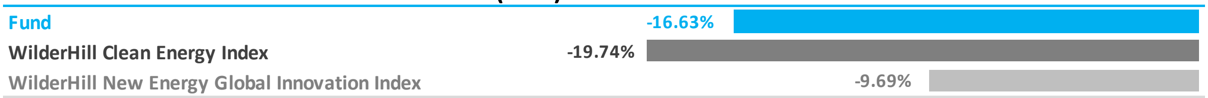
Geographic allocation



PERFORMANCE

31/03/2016

Annualised % total return from launch* (USD)



Discrete years % total return (USD)	Mar '12	Mar '13	Mar '14	Mar '15	Mar '16
Fund	-47.9	-11.0	70.8	-14.5	-19.3
WilderHill Clean Energy Index	-47.1	-20.7	65.3	-20.5	-28.0
WilderHill New Energy Global Innovation Index	-41.1	-2.0	57.9	-4.0	-11.5

Cumulative % total return (USD)	3 months	Year-to-date	1 year	3 years	5 years	From launch*
Fund	-6.2	-6.2	-19.3	17.9	-45.4	-77.2
WilderHill Clean Energy Index	-15.0	-15.0	-28.0	-5.3	-60.3	-83.8
WilderHill New Energy Global Innovation Index	-4.7	-4.7	-11.5	34.1	-22.5	-57.0

RISK ANALYSIS

31/03/2016

Annualised, three years, in USD	Wilderhill Clean Energy Index	Fund
Alpha	0	0.46
Beta	1	0.71
Correlation	1	0.85
R squared	1	0.72
Volatility	25.27	28.76

*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 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.

Telephone calls maybe recorded and monitored.