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## Alternative Energy *brief*



Ed Guinness

January 2015

**Commentary and Review by portfolio manager  
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*The solar companies fell in Q4 as sentiment for energy investments were hit by the falling oil price and by signs that Chinese demand would not meet some investor expectations.*

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- Commentary and Outlook
- Portfolio Changes
- Performance
- Holdings

### **Commentary and Outlook**

The difficult fourth quarter saw the solar stocks in the portfolio underperform alongside some of the smaller wind utility companies. The solar companies fell as sentiment for energy investments were hit by the falling oil price and by signs that Chinese demand would not meet some investors' expectations. Our view is that the oil price is not a major driver of the solar industry's viability and that delays in Chinese installations are likely to catch up in 2015. Most of the issues recently faced have been delays in completing projects rather than cancellation of projects. The solar manufacturers are beginning to build a moat around their competitive position. First, by virtue of the scale that these companies have achieved and the learning curve they have had to go down to achieve cost reductions. Second, and probably more importantly, as a result of moving into the installation and development game.

Most of the module manufacturers are now pursuing a strategy where they will develop the sites that they provide panels for. These sites are then sold on a “value” basis, as completed solar sites are valued on their predictable projected cash-flows as opposed to solar modules, which have become highly commoditized. This enables the companies to focus their efforts on the markets exhibiting the most growth and protects them from competing each other out of business. This should provide support for margins, notwithstanding the likelihood of further, more graduated falls in solar pricing.

The smaller wind utilities suffered from low wind conditions in Europe and lower liquidity. The long term outlook for these stocks remains good and they trade at significant discounts to the implied valuations of the yieldcos.

The fund’s only biofuels holding, Cosan, performed poorly as a result of the falling oil price. We believe that as a Brazilian distributor, the company is less directly exposed to oil price moves than investors now realize and is both attractively priced and likely to exceed investor expectations.

The bright points for the portfolio were limited in the third quarter, but we were pleased to see how well China Longyuan and China Datang performed in the context of a difficult Chinese market. The portfolio’s geothermal, metering and groundsource heatpump companies all performed well. There is, in fact, a good case that the woes of the oil industry may benefit the geothermal industry, as access to cheap drilling rigs will make prospecting for geothermal resources cheaper without lowering their value.

## Outlook

After a 2014 where the sector digested the gains of 2013, we believe that the alternative energy sector has the potential to start delivering on its promised returns to investors. The headwinds and uncertainty facing the sector remains significant, but as these headwinds are overcome, the robustness of the sector to external threats has been increasing.

There are few in the industry who predicted the fall in the oil price, the shale gas phenomenon in the US, falling wholesale power prices in both Europe and the US and the failure of carbon pricing. While in the long-run, finite supplies of fossil fuel exists, the unexpected growth in shale gas and oil over the last ten years in the US serve a timely reminder that more of those reserves are likely to be extracted than expected and probably at lower prices. In the medium term, the oil and gas industry is likely to remain cyclical. It is, therefore, not likely to be rising fossil fuel prices that drive the switch to alternative energy, but the increasing economic competitiveness of alternative energy, with growth supported for energy security, environmental and climate change reasons.

In the US energy security has become less of a concern, as a direct result of the increases in oil and gas production. However, for much of the rest of the world, energy security concerns remain high. Much of Europe is dependent on Russia for natural gas and the Middle East for oil; Japan has almost no fossil fuel reserves of its own; China and India are dependent on fossil fuel imports to support continuing growth. The current economic problems that Russia is facing as a result of sanctions are not going away and are exacerbated by the low oil price. Saudi Arabia and the Gulf states may be rich enough to sustain a price war for several years, but the economic hardship in countries heavily reliant on oil exports for hard currency is likely to lead to political turmoil and unrest. For this reason, the likelihood of political unrest that increases the oil price is significantly higher.

Environmental concerns are today the strongest driver of policy supportive of alternative energy. Pollution problems in China and India are creating a tangible health problem. With pollution alerts keeping residents in-doors, fossil fuel emissions have been causing a direct reduction in GDP. China has emerged as the strongest supporter of the renewable energy industry. It is already the largest installer annually of wind installations, and it is forecast to become the world's largest installer of solar installations in 2015. Underpinning that, the majority of solar module manufacturing is now carried out by Chinese companies, and its leading wind turbine manufacturers are beginning to produce products that will be viable outside of China at a much lower cost than its international competitors.

Climate change remains an important if secondary driver of alternative policy. President Barack Obama has made climate change policies central to what he would like to achieve over the remainder of his last term in office and despite the best efforts of the Republican Party, climate change is still on the political agenda in the US. Further increases in support are seen in China and India albeit not just for climate change reasons. Policy in Europe has remained steadily in favor of action to address climate change, notwithstanding headline reductions in subsidy levels. However, Australia has taken a major step away from its alternative energy policy driven following the Liberal Party's 2013 election victory and Saudi Arabia has pushed back its targets for solar deployment.

A major development over the last two years has been the emergence of large "yieldcos" as financing vehicles for alternative energy installations. These have a low cost of capital and are providing a more certain home and pricing for plant under development. This is having a knock on effect for developers and for manufacturers who are now competing as developers and as a result stimulating demand. These yieldcos are bringing alternative energy towards the mainstream of energy and we are seeing both manufacturers and utilities respond with yieldco offerings of their own.

Utilities in the meantime are facing growing threats from alternative energy. In Germany, the levels of solar and wind installations have significantly reduced the amount that utilities earn from power plants that provide power to cover peaks in demand and with consumers increasingly generating their own electricity, they are seeing falls in demand for their power. Utilities will have to evolve and embrace these changes or they will not survive.

The long term direction of travel still appears to be towards electrification of the vehicle fleet. Over the next five years there are a large number of electric vehicles due to come to the market at costs that do not make them prohibitive, and increased adoption is likely to see an acceleration in engineering solutions to the charging problems that electric vehicles have. It is important to remember that electricity is much more widely available than petrol/gasoline in terms of number of locations as any building with a connection to the grid can become a "filling" station.

A further part of our vision of the long term future of energy is that we will hopefully be using significantly more energy, more efficiently. Improvements in efficiency can make a meaningful difference to lowering our energy consumption while supporting growing GDP and quality of life. We believe that in the long run rather than being perceived as an expensive source of energy, alternative energy costs will continue to fall over the long term which will enable us to consume more energy for the same cost while supporting higher levels of economic activity and advances in quality of life globally.

The cost of solar, wind, geothermal and hydropower has now reached a point where unsubsidised production of electricity is viable in an increasing number of locations and the costs continue to fall. While this is likely to emerge gradually as a theme we continue to position the fund for the long term growth of the sector.

## Portfolio Changes

There were no major changes to the portfolio in the fourth quarter. The Theolia refinancing closed which resulted in the acquisition of traded warrants in the stock as well as additional shares acquired in the rights issue.

## Fund Performance (Q4 2014)

The Guinness Atkinson Alternative Energy Fund was down 14.50% for the fourth quarter of 2014. The fund performed between the two industry indices, which were down 9.66% and 16.23% and the sector underperformed the MSCI World Index which was up 1.16% for the quarter.

Total returns	Q4 2014	YTD 2014	1 year	5 year	From launch (31/03/06)
Guinness Atkinson Alternative Energy Fund	-14.50%	-14.29%	-14.29%	-12.02%	-12.43%
Wilderhill New Energy Index	-9.66%	-2.16%	-2.16%	-5.08%	-3.45%
Wilderhill Clean Energy Index	-16.23%	-16.93%	-16.93%	-12.49%	-14.36%
MSCI World Index	1.16%	5.65%	5.65%	16.26%	10.94%

Calendar year returns	2009	2010	2011	2012	2013
Guinness Atkinson Alternative Energy Fund	33.42%	-21.90%	-42.53%	-15.20%	61.54%
Wilderhill New Energy Index	41.12%	-13.65%	-38.91%	-4.14%	55.70%
Wilderhill Clean Energy Index	29.81%	-4.76%	-50.50%	-17.37%	58.54%
MSCI World Index	30.94%	12.49%	-4.92%	16.71%	27.49%

CY = Calendar Year Expense Ratio: 2.00% (net); 2.13% (gross)

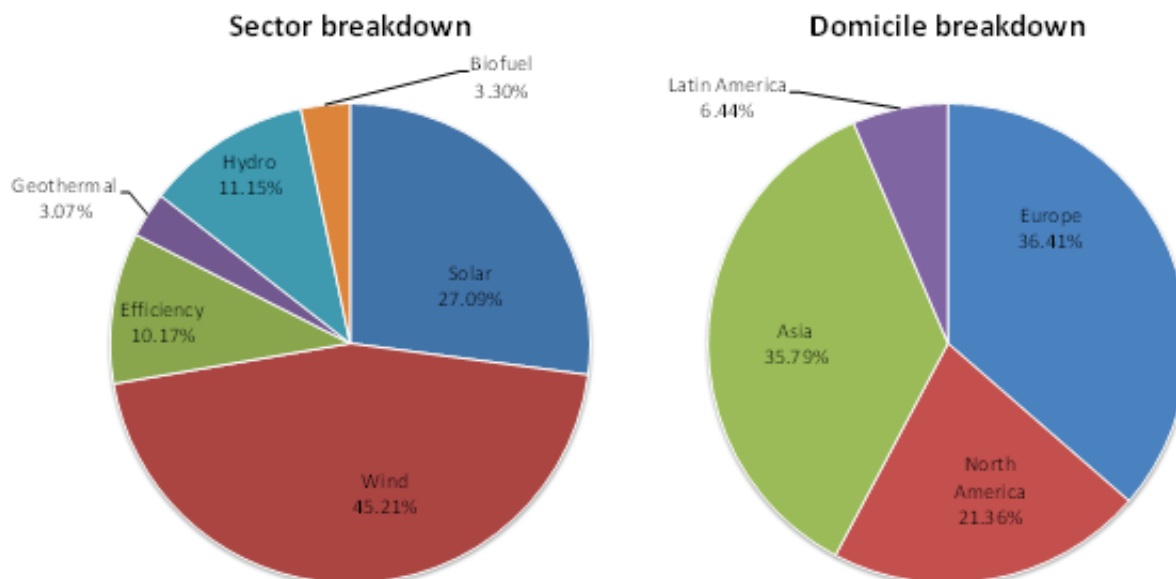
The Advisor has contractually agreed to reduce its fees and/or pay fund expenses in order to limit the Fund's Total Operating Expenses to 1.98% through 06/30/2016.

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](http://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.

**Fund Holdings**



The top five performers over the fourth quarter were China Longyuan (+5.19%), Carmanah Technologies (+4.40%), Ormat Technologies (+3.46%), Wasion Group (+0.78%) and China Datang (+0.20%).

The bottom five performers over the fourth quarter were Theolia (-47.38%), Cosan (-38.94%), Greentech Energy (-37.01%), Canadian Solar (-32.37%) and Jinkosolar (-28.30%).

<b>Top 10 holdings as of 12/31/14</b>	<b>% of assets</b>
THEOLIA SA - REGR	6.13%
INIZIATIVE BRESCIANE-INBRE S	5.05%
NORTHERN POWER SYSTEMS CORP	4.38%
GOOD ENERGY GROUP PLC	4.31%
MYTRAH ENERGY LTD	3.63%
ENPHASE ENERGY INC	3.36%
SUNPOWER CORP	3.29%
COSAN SA INDUSTRIA COMERCIO	3.25%
TRINA SOLAR LTD-SPON ADR	3.12%
YINGLI GREEN ENERGY HOLD-ADR	3.11%

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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.

*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. Investments focused on the energy sector may be exposed to greater risk than an investment 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 business's 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.

One cannot invest directly in an index.

A Yieldco is generally defined as a publicly traded company that predominantly distributes its cash flows from owned operating assets as dividends or other payments to investors, focusing on income as opposed to growth.

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[Click Here](#) for top 10 holdings of the Guinness Atkinson Alternative Energy Fund.

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