



## Alternative Energy Brief October 2008

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Welcome to the October 2008 Guinness Atkinson Alternative Energy Brief.

### STOP PRESS

Investment decisions in current market conditions are not easy. Nevertheless we consider it important to continue to set down what is happening to your fund and the changes in the fundamental drivers of the alternative energy markets, as we see them, despite these difficulties.

We hope you find our update useful.

In this issue:

- Our current macro views on alternative energy markets
- Portfolio Breakdown
- Fund Performance
- Stock Performance
- Trading

### Macro market views

Over the last three months we have seen highly volatile markets and changing economic conditions for the alternative energy sector. While the stocks have performed poorly over the third quarter, there were a number of positive steps for the sector too.

### Negative factors

- **Broad equity market capitulation.** The energy and alternative energy sectors were among the last major sectors to fall in 2008, but when they did the impact has been severe. The valuation multiples that investors are paying for high growth stocks has fallen both as a result of falling multiples across all markets and concerns over future earnings. Our view is that when markets stabilize, the companies that are in a position to execute their growth strategies will be highly sought after by equity investors and that the alternative energy companies are

generally well placed to deliver growth, although possibly not as much growth as had previously been expected.

- **Credit crunch.** Many of the technologies (solar, wind, hydro, geothermal) ultimately involve capital intensive projects and we look at concerns that capital will be more expensive and in short supply.
  - **Wind.** The wind turbine manufacturers are not highly levered and have strong order books. If anything we would expect this to create a barrier to entry for new entrants. Current expansion plans are well funded. Their customers, the wind project developers, fall broadly into two main camps – the large utility spin-outs (Iberdrola Renovables, EDF Energies Nouvelles etc) and the smaller independent power producers. We believe that the utility spin outs will remain well funded for new projects, but the smaller producers may see some projects pushed back until financing is available. Our understanding is that spreads have increased, but that the high quality revenues (government guaranteed/from major utilities) make this an area where the banks are still keen to provide debt financing
  - **Solar.** Solar installations are capital intensive, but we see developers still expecting to be able to finance projects given the 10% plus returns with government support. The solar manufacturing sector has been through extensive capital rising over the last three years, and most manufacturers' balance sheets are either net cash or not significantly levered, with capital expenditures financed for the net 12 months or more. We expect financing for new plant to be difficult and this should help to secure the position of the incumbents.

- **Oil price pullback**

With the increasing spectre of recession, the oil price has fallen from a peak of \$147 to \$73 (as I write). While we now have no exposure to biofuels, which is the sector most directly impacted by the oil price, the oil price is used as a reference price for gas, and lower energy costs are likely to feed through into a pause in the trend of rising electricity prices. However, higher construction costs for new build plants and increased tightness of electricity supply will mean that electricity prices are unlikely to decline much if at all.

- **Rising construction costs**

Over the past three years, there has been a marked rise in construction costs for large engineering projects, driven by higher raw material and labor costs. For the wind industry this has meant higher prices. However, the costs for new build conventional power plants have risen by even more than for alternative energy projects, so while absolute costs are higher, there is a relative advantage for the industry. We would expect to see construction costs plateau and possibly decline, which will ultimately benefit the economics of projects in the future, and might enhance margins on already contracted

projects. We note that the prices of steel and copper have declined markedly, which should benefit the wind industry in particular.

- **High food prices**

In a similar fashion and notwithstanding recent pullbacks, the sharp move upward in global food prices, particularly corn, soy and palm oil has been blamed on the rise in use of biofuels. There are in fact many reasons why we have seen rising food prices, including the cost of the energy and fertilizer, a multiyear drawdown of global stocks and rising global population. Partly as a result, biofuels have fallen lower down the agenda as politicians have woken up to the fact that higher food prices are much more of an issue than high petrol prices. We expect food prices to remain higher than they were previously and that the existing biofuels refining capacity will struggle as a result of tight refining margins.

- **Potential oversupply in the solar module and in the silicon market**

Many commentators and analysts are concerned that module supply will grow faster than demand, and similarly that there will be considerable excess silicon supply. This is a complex issue as a result of the length of the value chain for solar companies.

Lack of silicon has been a bottleneck for the industry, which has both limited production and seen silicon costs increase from around \$50 per kg to over \$400 per kg in the spot market. However we note that the serious solar players with long term silicon contracts are paying \$60-80 per kg. If this bottleneck is cleared, we would expect spot silicon prices to fall more into line with contract prices, and for there to be some pressure on contract prices. For the incumbent silicon manufacturers who have a cost base of around \$30 per kg or below, this should remain an attractive margin business. The new entrants, many of whom are forecast to have costs of \$70-100 per kg or more will be able to provide the quantities of silicon needed but will struggle to push contract prices too far.

On the module front, we note that there has been much expansion of cell and module manufacturing capacity, and there is potential for some of the pure module manufacturers to be squeezed by falling module prices and firm silicon prices. We generally favor the more vertically integrated plays. Those who can benefit from paying lower silicon prices and having access to material are going to be well positioned, but we also believe that the growth of the industry will create huge opportunity for installers of systems.

It is our expectation that module prices will fall significantly over the next five years, possibly by as much as 50%. This is the roadmap for the industry to reach independence from subsidies and planned cost reductions are expected at least to match these price reductions. This is vital to sustain growth rates of 35% and above. We expect that the solar industry will see some reduction in percentage margins, but that this will be more than offset by the high volume growth.

- **Retrenchment of individual spending**

This is hard to predict but logic argues that a reduction in household spending will see less high capital spend energy saving investments made, which would negatively impact home solar, ground source heat pumps and hybrid vehicles (among others). We note however that our company which installs ground source heat pumps – WFI industries – has pre announced a record quarter in the last two weeks as households look for the most cost effective way to reduce energy consumption and bills.

- **Lehman's collapse.**

An unexpected side effect of the collapse of Lehman has touched a number of companies in the solar sector. Evergreen Solar, Sunpower and JA Solar had financial exposure to Lehman's as a result of earlier convertible bond issues. How much the companies will recover is yet to be determined, but the scale of the issue is small for Sunpower and JA Solar. Evergreen Solar, which is not held in the fund, may potentially suffer a 25% dilution to existing shareholders.

### **Positive factors**

- **Regulatory progress.**

Until recently one of the main issues overhanging the alternative energy industry was the regulatory uncertainty in a number of countries. We now have better clarity than we have had for a number of years. The most significant announcement was the addition of the Energy Improvement and Extension Act to the \$700bn Emergency Economic Stabilization Act of 2008 - recently passed to provide support to the US financial system. This provides \$17bn of tax breaks to the alternative energy sector. The solar subsidy is now confirmed for 8 years, and we would hope to see future legislation to provide long term support for the wind industry which only received a one year extension in this bill. At the state, level, mandated renewable portfolio standards that require minimum levels of generation from renewable sources have been adopted by states accounting for 60% of retail power sales in the United States, which would lead to at least 95GW of renewable generation being installed through 2020.

Spain has been the driver of solar growth in 2008, and the cost of this has led to the imposition of a cap on the volume of installations that qualify for a subsidy. The uncertainty over this has been overhanging industry demand estimates, but the cap has now been set at 500MW, ahead of market expectations.

A surprise announcement that the Japanese will be reintroducing a subsidy program for the solar industry has provided a welcome tonic, and previous legislation in France, South Korea, Greece and Italy has started to bear fruit in 2008 and is expected to contribute meaningfully to global demand in 2009.

While the economy is now the principle driver of policy, there are concerns that subsidies will be an early cost cutting casualty. We are monitoring for signs of this, but to date the

importance of energy independence, the environment and addressing potential future high energy costs mean that alternative energy has not yet suffered.

- **Recent electricity price rises**

Electricity prices have risen sharply over the last 18 months, with public announcements of utility rate rises of as much as 33% in the UK and similar increase across North America and Europe. These have been driven by capacity constraints and higher oil, gas and coal prices. While fossil fuel prices have fallen over the last quarter, the capacity constraints remain and estimate for cost of new build fossil fuel and nuclear power plants have continued to rise. This serves to improve the relative economics of alternative energy.

- **Potential for economic stimulus to be channelled through energy infrastructure projects**

One of the impacts of a potential implementation of Keynesian economic policies is that we expect higher expenditure on infrastructure projects, which could offset any reduction in individual demand. This should benefit the alternative energy industry as we would expect to see the utility sector as an easy home for large government capital expenditures. In addition to specific projects, we hope to see support for much needed enhancements to national electricity transmission networks.

- **A new president**

Whether Barack Obama or John McCain wins the next election, we believe the coming election will be a positive catalyst for alternative energy stocks. Both candidates have made support for alternative energy an explicit item in their campaign platform.

## **Conclusions**

While times are tough for all investors today, we look on it as a time of opportunity for alternative energy investors. There are numerous companies whose valuations have been hurt by external factors, but whose underlying business models are sound. High quality execution, careful cash management and a focus on costs will see companies enter the next growth phase in good financial shape. The medium and long term outlook for the sector is still excellent and we are encouraged to see progress both in terms of regulatory support for the industry and reductions in cost.

## Sector and geographic breakdown

Sector	% of Assets	Region	% of Assets
Solar	41.63%	Europe	54.40%
Wind	27.85%	North America	23.78%
Hydro	8.89%	Asia	17.45%
Efficiency	8.01%	Australasia	0.39%
Geothermal	6.80%	Latin America	3.93%
Biomass Energy	3.43%		
Biofuel	2.89%		

We maintained our overweight position in Solar stocks with a 41.63% holding. We think that the next 5 years should carry the solar industry to a position where the holy grail of grid parity is achievable. Investments in solar cover all elements of the value chain from silicon producers to cell and module manufacturers and installers and distributors. Concerns about the US and Spanish subsidy regimes, combined with worries about oversupply have been weighing on the stocks, but the recent bill passed in the US and the introduction of a 500MW cap into Spanish law have put that behind us as we had expected. The main concerns now relate to demand destruction and availability of financing for future projects, as discussed in the first section of this report.

We hold 27.85% in wind and our positions in wind are split evenly between turbine manufacturers and wind farm developers. Turbine manufacturers are benefiting from tight market conditions, and wind farm developers are well placed because of faster approval cycles and increasing asset values.

Efficiency includes stocks in a number of areas from hybrid vehicles and ground source heat pumps to building efficiency and LED lighting where companies will profit from reducing energy use for industry and consumers. We currently hold 8.01% of the portfolio in efficiency stocks.

Hydro forms a lower risk strand of the portfolio, with a current weight of 8.89%. The overarching idea behind holding these is because of their low operating cost which means that increases in electricity prices and payments for carbon credits go straight to the bottom line. Geothermal Power, at 6.80% of the fund, has similar dynamics, and is similarly location constrained, but is at a much earlier stage of implementation.

We remain circumspect about Biofuels which account for 2.89% of the fund now, although we are monitoring valuations carefully. We prefer biofuels stocks that have some form of vertical integration (ie they manage their own feedstock production). Biofuel refining stocks have most potential as shorter term trading ideas.

Biomass Energy accounts for 3.43% of the fund. There are a number of opportunities in this space, but the growth potential and returns are less attractive than elsewhere.

Fuelcells remain some way from mass commercialization and we currently hold no investments. Similarly we hold no wave/tidal investments today.

Europe accounts for 54.40% of the assets in the fund versus 23.78% in North America. This reflects the earlier development of the European wind and solar industries. We have 21.78% in Asia, Australia and Latin America and are continually looking for international opportunities that are under the US investor's radar screen.

<b>Top Ten Holdings as of 09/30/08</b>	<b>% of Assets</b>
Cia Energetica de Minas Gerais	3.91%
PNOC Energy Development Corp	3.56%
Q-Cells AG	3.50%
Novera Energy PLC	3.43%
Solarworld AG	3.23%
Suntech Power Holdings Co Ltd	3.23%
Nordex AG	3.20%
EDF Energies Nouvelles SA	3.20%
Gamesa Corp Tecnologica SA	3.11%
JA Solar Holdings Co Ltd	3.07%

#### **Liquidity analysis as at 09/30/08**

<b>Mkt Cap \$m</b>	<b>Positions</b>	<b>% of Assets</b>	<b>Position size</b>	<b>Positions</b>	<b>% of Assets</b>
>1000	20	57.85%	Full	23	66.29%
500-1000	6	11.85%	Half	15	26.58%
250-500	8	15.64%	Research	11	7.09%
100-250	7	9.80%			
50-100	4	2.54%			
<50	4	2.28%			

The liquidity of the portfolio remains good. The percentage of the portfolio that is in stocks with a market capitalization of over \$1 billion has however fallen to 57.85% from a high of 66.08%. Only 4.82% of the portfolio is invested in stocks with a market capitalization below \$100 million. While the universe has grown steadily, recent market moves have reduced the size of some of the companies in the sector. We are endeavouring to maintain a balance between holding larger capitalization more liquid stocks and positions in smaller capitalization less liquid stocks where the value and growth opportunity might be greater.

We have segmented the portfolio into three types of holding: full, half and research. We currently hold 23 full units and 15 half units, with a further 11 research positions. This enables us to benefit from a strict rebalancing discipline.

## Valuation as at 9/30/2008

Valuation metrics	2007	2008	2009
P/E	23.61	17.73	12.35
P/Sales	1.91	1.42	1.07
EV/Sales	2.16	1.60	1.20
EPS growth		33.13%	43.59%
Sales growth		35.06%	32.99%
% NAV +ve eps	81.94%	82.18%	97.13%

Source: GA estimates, Bloomberg. P/E based on total portfolio value but include negative earnings at zero.

We have decided to include some valuation metrics for the portfolio to demonstrate why we perceive there to be an investment opportunity in the sector. The fund is trading on a 17.73x P/E multiple in 2008 which falls to a 12.35x P/E multiple in 2009. This is a function of the strong growth in earnings, notwithstanding downgrades as analysts pare their forecasts. By comparison the S&P500 at the end of September at 1166 was on a similar P/E of 12.2X based on the current ( Zachs 21 Oct) estimate of S&P500 EPS of 95 for 2009.

The percentage of holdings with positive eps increasing from 81.94% to 97.13%. On an EV/Sales basis, the fund is trading on 1.60x 2008 sales, falling to 1.20x 2009 sales. These are not multiples that reflect the long term growth potential of the sector. We think that this emphasizes how the alternative energy companies in which we are invested are companies that are achieving real sales and earnings rather than promising future sales, and can be analysed using conventional financial metrics – they do not require a “new paradigm” to justify valuations.

Afternote: At the time of writing as readers will be only too aware the S&P500 is trading between 900 and 1000 ie down 20% +/- 5 % from the start of the month and the fund has fallen 5-10% more. On unchanged earnings estimates the fund is now cheaper than the S&P and on a multiple below 10X 2009 earnings.

## Fund performance (3rd Quarter 2008)

The Guinness Atkinson Alternative Energy Fund was down 31.20% in the third quarter of 2008. We are down 41.78% year to date, which is behind the WilderHill New Energy Global Innovation Index, but well ahead of the WilderHill Clean Energy Index. For the quarter we were broadly in line with our two benchmark funds.

As discussed earlier, broad market weakness has seen the alternative energy sector hit hard – the S&P was down 8.36% over the same period. The selling down has been fairly indiscriminate and we expect the higher quality names to begin to outperform as the investment climate calms down

### Total Returns as of 09/30/08

	Jul 08	Aug 08	Sep 08	QTD 08	YTD 08	1 Year	From inception
Guinness Atkinson Alternative Energy Fund (inception 03/31/06)	-10.04%	2.91%	-25.69%	-31.20%	-41.78%	-38.81%	-10.28%
WilderHill New Energy Global Innovation Index	-4.82%	-1.13%	-25.69%	-30.08%	-38.68%	-31.56%	0.91%
WilderHill Clean Energy Index	-3.57%	2.05%	-24.79%	-25.98%	-47.64%	-37.06%	-15.17%

Gross Expense Ratio 1.58%

Net Expense Ratio\* 1.64%

\* The expense ratio shown is from the most recent prospectus (April 30, 2008). The Fund has an expense cap in place and the advisor is contractually obligated to cap the total expenses at least through June 30, 2009. The Advisor has guaranteed total fund operating expenses (as a percentage of net assets) will not exceed 1.98% through June 30, 2009 or until such a later date as the Advisor determines.

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.**

### Stock performance

Top 5	Size	Q3	Bottom 5	Size	Q3
Futurefuel Corp	Research	8.33%	VRB Power Systems	Research	-84.38%
Sunpower Corp	Full	-1.46%	Tanfield	Half	-74.92%
Suntech Power	Full	-4.24%	Greentech Energy	Half	-68.05%
Waterfurnace	Half	-6.00%	Solar Integrated	Research	-62.35%
Echelon Corp	Half	-9.36%	Solaria	Full	-61.97%

It is distressing when the list of top performing stocks for a quarter includes only one position in positive territory and to have over 5 holdings down more than 60% in a quarter.

Of the better performing stocks, Futurefuel is a small biofuels holding which has held onto its cash position and value. Sunpower and Suntech are two solar stocks which have good differentiation of product and manufacturing position and strong management teams. Waterfurnace International is a company operating in the niche area of ground source heat pumps, which with their short payback periods and reduction for purchasers have held up despite the weak property market.

Of the bottom 5, VRB Power Systems and Solar Integrated are both research holdings. Tanfield has been nothing but a tale of woe and despite lowered exposure has continued to underperform. Greentech are a wind farm developer and have seen their stock hit hard – our channel checks indicate that current projects will progress as planned. Solaria struggled as downstream solar players in Spain were punished further for the reduction in market size there – we believe they will come through this with a good European market position.

## **Trading**

The sale of Xantrex to Schneider went through as intended. We sold our stake in Acciona to remove any potential Spanish property exposure; we sold down Babcock and Brown Wind Partners as they do not appear to be following a growth strategy now. We sold our stake in CPFL Energia to take profit and sold out of Solon, the German module manufacturer.

We acquired stakes in three Asian solar companies – Trina Solar, JA Solar and Renesola as we were able to gain comfort on the quality of their output and we think they are well positioned for developments in the spot silicon and module markets. We bought a position in Verbund, the Austrian utility to add to stability in the fund.

Thank you for your continuing support.

Tim Guinness  
Edward Guinness  
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*October 2008*

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.

This information is authorized for use when preceded or accompanied by a prospectus for the Guinness Atkinson Global 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 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.*

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

Beta measures the volatility of a fund, as compared to that of the overall market. The market's beta is 1.00; a beta higher than 1.00 is considered to be more volatile than the market, while a beta lower than 1.00 is considered to be less volatile.

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.

One cannot invest directly in an index.

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