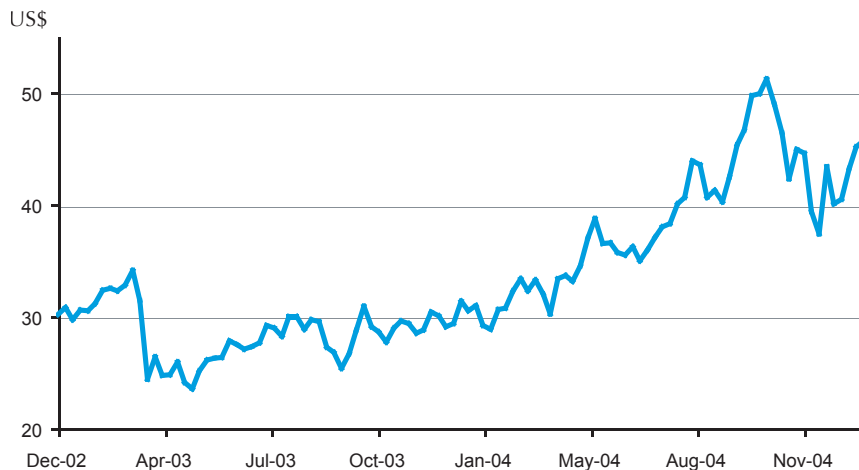


Alternatives to US\$50 oil

Alternative Energy

With oil prices again heading higher, pressures from rapid growth from India and China and political pressures to reduce hydrocarbon emissions, the market for alternative energies look bright.

IPE Brent Crude - Daily Closing for previous 24 months



Alt. energy exp. v. FTSE Oil & Gas (rebased)



- **Oil prices again approach US\$50.** We believe that market pressures and risk issues will maintain the upward trend
- Kyoto and other, more local, protocols are likely to drive governments to reduce carbon emissions over the course of the next several years
- The combination is, in our opinion, likely to sharpen investor focus on alternative (renewable) energy sources. Independent analysis suggests that renewables could provide 50% of all energy demands by 2050.
- We explore a series of such opportunities ranging from fuel cells to chicken manure via electromagnetic oil prospecting and carbon emissions trading
- Our proprietary index of the aggregate (market cap weighted) share price performance of such companies shows a significant outperformance over the FTSE Oil & Gas sector over the last six months – including therefore the period when oil breached the US\$50 level.

Companies included in this sector

Company	Symbol	Recent Price (p)
Alkane	ALK	12
Azure Dynamics Corp	ADC	43
Biofuels Corporation	BFC	151
Ceres Power Holdings	CWR	120
Clean Diesel	CDT	73
Climate Exchange	CLE	190
Compact Power	CPO	12
D1 Oils	DOO	168
ITM Power	ITM	76
Impax Group	IPX	6
Ocean Power Tech.	OPT	86
Offshore Hydrocarbon Mapping	OHM	236
Solar Integrated Tech.	SIT	104
XL TechGroup	XLT	190

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Most companies and individual consumers breathed a sigh of relief as 2004 ended with oil prices falling back below US\$40 (Brent Crude). But the memory and pain of prices over US\$50 is still fresh. Investors are likely to get a series of unpleasant reminders of those effects as companies around the world report 2004 finals in the coming weeks.

With oil prices again heading higher we are taking the opportunity briefly to explore the alternatives to oil when prices are US\$50 – and above. Longer term, the driver to alternative sources is bound to come from political pressure to reduce hydrocarbon emissions and it is this that will underpin long-term demand for alternative energies.

The fall in prices from over US\$50 needs to be set in some historical context. In nominal terms, prices have been rising for at least the last twenty years. Excluding the first Gulf War (GW1), Brent Crude traded throughout the 1990s in the range of approximately US\$15 to US\$20. The threat of GW2 coupled to rising growth in the main Western economies has pushed the range higher by some US\$10 in the early years of this century.

However, it is now evidently that the two Gulf Wars have added a structurally higher risk premium to the oil price: the end of GW2 has not seen the oil price fall back to pre-war levels.

If this is to represent some new reference point, then the economics of rapid growth in populous countries such as India and China are likely to maintain upward pressure – even to the extent that, in some commentators' views, real oil prices will again challenge the peaks of the early 1970s.

Against that background it is hardly surprising that even the oil majors are exploring alternatives to oil as a primary energy source. Shell, in a 2001 study, estimated that renewable sources could, in extremis, supply 50% of global energy demand by the year 2050. On a less demanding scenario, global energy demand would rise by over 100% between 2000 and 2050 with the proportion supplied by "conventional" fuels falling from 85% to 60% over the same period. In other words a potential rise in demand for alternative energy sources of over 400%.

The difficulty for investors however is in identifying a single vehicle by which to gain exposure to the expected explosion in demand for renewable energy sources.

Most smaller companies specialising in wind and/or tidal generation tend to be unquoted. Others are subsidiaries of larger utilities such as Scottish and Southern Electricity and Scottish Power. More recently, Ventus VCT a venture capital trust has been launched specifically to raise money for investment in wind power systems.

Alternative energy companies

Company	Symbol	Business Segment	Recent Price (p)	Mkt Cap (£m)	Last Year-End
Alkane	ALK	Methane Extraction	12	10.5	Dec-03
Azure Dynamics Corp	ADC	Hybrid electric powertrains for commercial vehicles	43	42.2	Dec-03
Biofuels Corporation	BFC	Biodiesel	151	45.7	na
Ceres Power Holdings	CWR	Fuel cell (hydrogen and natural gas)	120	69.2	na
Clean Diesel	CDT	Fuel catalysis	73	12.4	Dec-03
Climate Exchange	CLE	Emissions trading market	190	57.0	na
Compact Power	CPO	Biomass conversion	12	3.6	Mar-04
D1 Oils	DOO	Biodiesel	168	36.0	na
ITM Power	ITM	Fuel cells	76	69.8	Apr-04
Impax Group	IPX	Environmental financial services	6	2.2	Sep-04
Ocean Power Technologies	OPT	Tidal power	86	44.3	Apr-04
Offshore Hydrocarbon Mapping	OHM	Electromagnetic mapping for oil	236	68.4	Aug-04
Solar Integrated Technologies	SIT	Solar power	104	34.8	na
XL TechGroup	XLT	Emissions trading and life sciences	190	92.0	na

Elsewhere, fuel-cell technology promises to augment, if not to replace, conventional petrol/diesel combustion engines. The concept is simple: combine hydrogen and oxygen in one of several ways to produce water and in the process generate electricity. In turn, that is used to drive an electric motor and thus to power, for example, a car. Within the UK one of the main developers of such technology is Morgan Crucible, but again it represents only a small part of its overall business.

Inevitably the listed opportunities are at an early stage of development and so tend to have limited financial history and trading records. As such they are certainly not suitable for every investor.

While oil prices are an immediate driver for alternative energy sources and schemes to improve energy efficiency, it is the need to reduce carbon emissions that will underpin long-term growth in the alternative energies.

Developed countries, with their higher demand for conventional fossil fuels tend to produce more by way of CO₂ emissions than less developed countries. The Kyoto protocol established the basis for a system of trading so-called energy credits between countries: a major producer country can buy credits from a country with less immediate demand.

The result is a nascent market for trading such credits. Although young, the market is showing signs of developing into a significant opportunity by which investors could diversify portfolio risk and participate in a source of new growth.

The first major trades have been conducted, a derivative market is being developed and Exchange Traded Funds should soon be available.

One of the most direct opportunities by which investors may consider involvement appears to be through AIM-listed XL TechGroup. Following a successful IPO

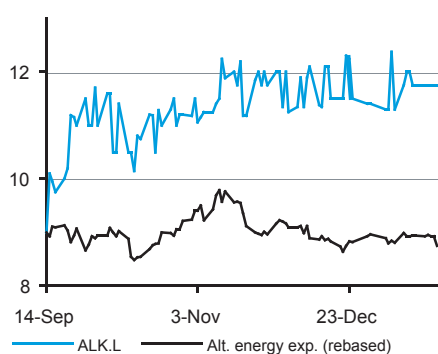
in October 2004 (raising some £23m at 150p and capitalising the company at almost £73m) the shares now trade at around 190p.

As 2005 gets underway oil prices are again heading back towards US\$50. The pressure on oil prices will only continue. While this will weigh on the profit margins of oil-dependent companies and economies so it will, in our opinion, develop the demand for alternatives to US\$50 oil.

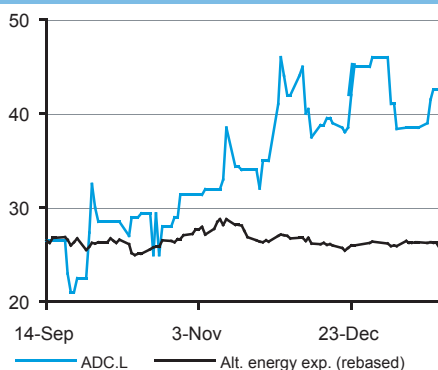
The moral of the story at present seems to be to take a portfolio approach to an exposure to alternative energy – i.e., taking long-term positions in several. There will certainly be volatility along the way, and the technology of some may not live up to its early promise, but the underlying direction is clear.

Company Thumbnails

AKL v. Alt. energy exposure (rebased)



ADC v. Alt. energy exposure (rebased)



Alkane Energy plc (ALK)

Alkane Energy is an international renewable energy company which designs, builds, maintains and operates facilities for energy production, methane utilisation and specialist gas treatment, and captures methane from biogas plants, landfills, coalmines and sewage works and uses it for decentralised electricity generation. The majority of its revenue arises in Germany following the acquisition of a 51% stake in Pro2 (pan-European renewable technology systems and services). Evidently currency factors will be watched closely by investors and management alike. Turnover at the interim stage (30th June 2004) almost matched the full year turnover of the prior year and EBITDA losses were reduced.

Azure Dynamics Corporation (ADC)

Azure Dynamics is dual listed both on AIM and in Toronto. It has developed hybrid propulsion systems for light commercial vehicles. Its core product, the Hybrid Electric Vehicle (HEV), comprises an electric motor, batteries and an additional energy source such as a small internal combustion engine/ generator. It uses regenerative braking to charge the batteries. It is a development stage company with the first commercial sales expected to have started around the end of 2004. Trials with three London taxis commenced in June 2004.

Biofuels Corporation (BFC)

Appears set to become one of Europe's largest producers of biodiesel, a fuel based on vegetable oil and thus with negligible sulphur content. It floated on AIM on June 17th 2004 and produced its maiden set of interims since the listing on 30th November 2004. The flotation raised some £15m with a further £17m available through loan facilities.

The selling price of biodiesel is referenced against Ultra-Low Sulphur Diesel (ULSD) and the company operates a hedging strategy based upon the price both of ULSD and of Crude Palm Oil (CPO) – one of the principal feed stocks.

As with many companies operating in this “space” BFC is “early stage “ and as such vulnerable from time to time to increased working capital requirements. Most recently elements of infrastructure, which had been due to be lease-financed, were in the end financed directly.

Recent management appointments provide perhaps some of the most encouraging signals for investors. Management was recently strengthened by the appointment as non-executive director of Clare Spottiswoode, until 1998 the head of Ofgas, the UK regulator for the gas industry. Since that appointment Mr Sean Sutcliffe has been appointed as Chief Executive having been Executive Vice President and Managing Director, New Businesses at British Gas.

Climate Exchange (CLE)

Until the end of 2004 was known as Chicago Environmental plc. It is a closed investment trust registered in the Isle of Man whose purpose is to invest in environmentally-related companies. To date it has made three principal investments.

By far the largest of these is the Chicago Climate Exchange Inc – a self-regulatory exchange established to administer the world’s first multi-national and multi-sector marketplace for trading greenhouse gas emissions (credits). Other significant investments include Ceres Power and Biofuels Corp. At the interim stage (30 June 2004) CLE had over £10m cash on the balance sheet and a Net Asset Value of some 87p. As we write the share price is 190p

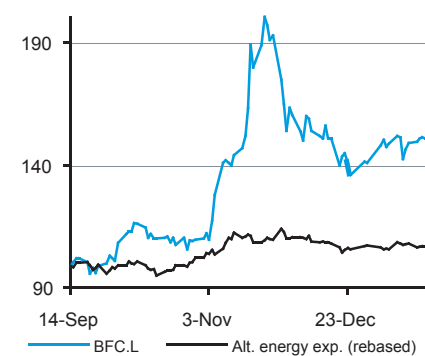
Compact Power Holdings (CPO)

Compact Power has developed a technology for converting biodegradable waste to gas, which in turn is used to generate electricity. Its advanced thermal conversion technology uses pyrolysis, gasification, and high-temperature oxidation to ‘slow cook’ waste at low temperatures and produce energy. It was recently chosen by the UK government’s environmental agency to be one of seven demonstrator plants to fulfill national obligations under EU law to reduce the use of landfill sites. Failure to comply could result in the UK government being fined some €0.5m euros per day by the EU. Recent increases in turnover have been overshadowed by fears for cashflow. The company has recently arranged a secured loan of £500,000. Investors appear to have taken the news positively given that, since the announcement, the share price has risen by some 20%. Nonetheless the issue will continue to attract attention in coming months.

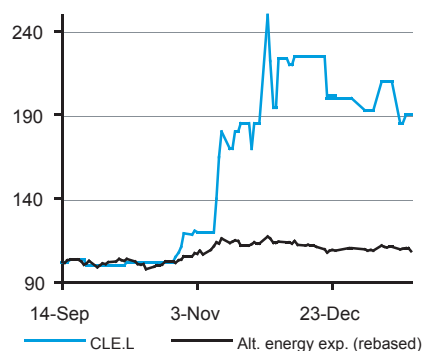
D1 Oils (DOO)

D1 Oils is a significant producer of biodiesel with operations principally in Africa, India and Asia Pacific. The feedstock for the D1 process is taken from energy crops which produce vegetable oil, tallow or cooking oil. D1 was originally established in 2002 to focus on the development of portable refinery technology to produce biodiesel for the UK transport industry. The high price at the time of rape seed

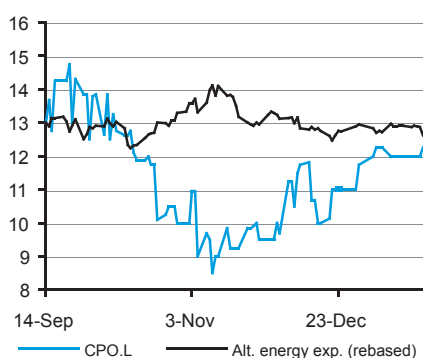
BFC v. Alt. energy exposure (rebased)



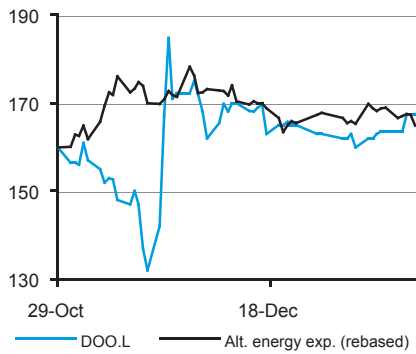
CLE v. Alt. energy exposure (rebased)



CPO v. Alt. energy exposure (rebased)



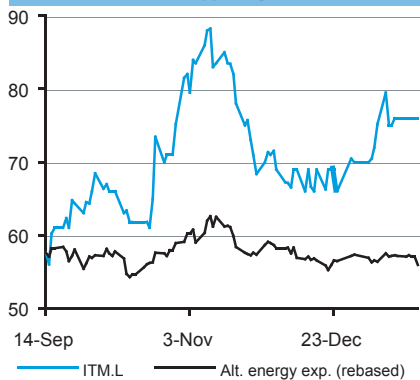
DOO v. Alt. energy exposure (rebased)



oil drove the company to explore alternatives and, in 2003, it identified jatropha curcas as its preferred feedstock. The company's operations in the Asia Pacific region include nurseries for the jatropha curcas tree. Trials of growing jatropha trees in India were successfully completed 6-months ahead of schedule in November of 2004. First harvests of oil-bearing seeds are expected by the end of 2005 thus reducing projected costs of supply.

In November 2004 it announced a (51%) joint venture agreement under which D1 Oils China will operate a refinery to supply bio diesel to the Chinese market. As with BFC (see earlier) D1 Oils is an early stage company with the expectation, in our opinion, of further cash calls to be made on investors.

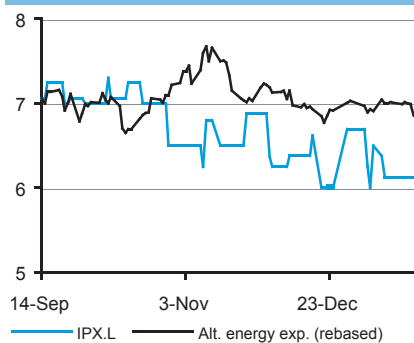
ITM v. Alt. energy exposure (rebased)



ITM Power (ITM)

ITM Power has developed fuel-cell technology and describes itself as providing the enabling technology for the "hydrogen-economy". ITM was floated on AIM in June 2004 raising £10m before expenses and capitalising the company at some £46m. Since then the share price has risen by some 50% - outperforming the Oil & Gas sector by approximately the same amount over the same period. ITM is an early stage company with no revenues shown at the interim report for June 2004.

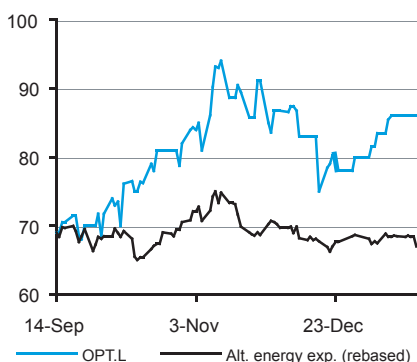
IPX v. Alt. energy exposure (rebased)



Impax Group (IPX)

Impax is a financial advisory and asset management company quoted on the Alternative Investment Market of the London Stock Exchange. A rather unusual exposure to alternative energy, the focus of the Group is the provision of financial services within the environmental markets sector, particularly alternative energy, waste management and water treatment. It has two principal subsidiaries: asset management and corporate finance. Recent history has been mixed and results for the year-ended September 2004 showed continuing, but reduced, operating losses despite an almost 50% increase in turnover. Losses at the adjusted EPS level were approximately halved. There has been some recovery in the share price since the record low of 3.4p reached in July 03. But even the recent levels around 7p are a long way below the highs of 49.5p reached in January 1997.

OPT v. Alt. energy exposure (rebased)



Ocean Power Technologies (OPT)

Ocean Power Technologies claims leadership in cost-effective, advanced, and environmentally sound offshore wave power technology. Its PowerBuoy™ system extracts the natural energy in ocean waves, and is based on the integration of patented technologies in hydrodynamics, electronics, conversion mechanics, and computer control systems. It has established pilot schemes in Hawaii, supported by the US Navy, and more recently off the North Coast of Spain in a joint venture with Iberdrola – the Spanish utility company. It appears to be an early stage company with limited financial information. The share price has recently recovered after lows of 70p in September last year. Even so they remain well below the highs

of 126p hit in November 2003 shortly after its admission to AIM. More hopefully perhaps the recovery since last September has outpaced the Oil & Gas sector over the same period.

Offshore Hydrocarbon Mapping (OHM)

OHM provides electromagnetic (EM) surveying and data interpretation services to the offshore oil industry. EM has been used for many years by research scientists to examine hydrothermal and volcanic systems on mid ocean ridges. OHM has developed the technique further to make it into a new and potent tool in hydrocarbon exploration and reservoir assessment. It provides an alternative to conventional techniques, including drilling in difficult environments. The technology is ship-based and OHM now has two crews operating in the deep-water basins of the Atlantic Ocean, the North Sea and has plans to extend operations into the coastal waters of Norway and the West Coast of Africa.

Significantly the company Chairman has drawn attention to the possibility that major oil companies base their exploration plans on an expectation that oil prices will again fall back to the levels of the early 1990s. If so, that may help to explain the problems experienced recently of a lack of significant new finds and consequent depletion of existing reserves. Both conspire, ironically perhaps, to maintain higher oil prices. OHM believes that its services may provide an alternative to that vicious spiral.

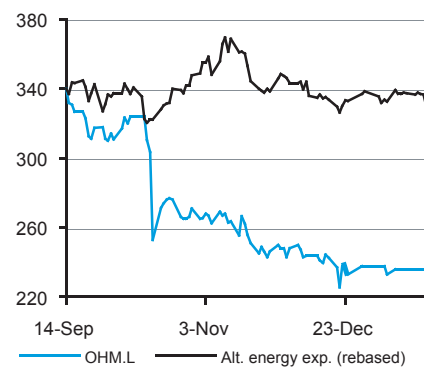
The share price has been highly volatile but broadly around a rising trend line which has risen some 14% since its first listing in March 2004 – despite the event noted below. Latest results (for the year ended August 2004) showed turnover of £4.7m, almost trebled over the prior year and a significant move from loss to pre-tax profit. In that report the company warned of a failure of one of its systems, the consequent need to deploy a replacement and thus of a likely hit to 2005 profit. The share price reacted accordingly but appears more recently to have stabilised. The directors have also noted in the report and Accounts a third-party action against the Group alleging patent infringement. No provision was deemed to be necessary.

Solar Integrated Technologies (SIT)

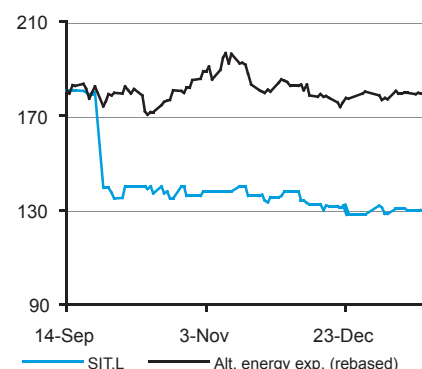
Solar Integrated Technologies designs, manufactures and installs solar electric roofing products for commercial, industrial and mobile applications worldwide. The Los Angeles-based company has combined seventy-five years as a leader in energy efficient commercial roofing systems with world-class solar technology to offer unparalleled roofing solutions and mobile power systems that produce reliable and affordable “green” power.

As we write the company has issued a profit warning and announced management changes. The profit warning centres on the recognition of revenues and the

OHM v. Alt. energy exposure (rebased)



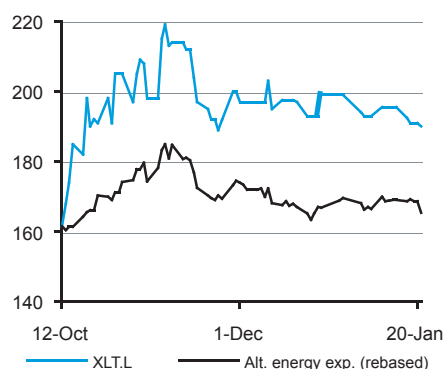
SIT v. Alt. energy exposure (rebased)



company will henceforth recognise revenue only on the completion of installations rather than attributing an element of profit to work in progress.

Taken at face value such a change should represent only a timing difference. However this is the second significant discontinuity since the collapse of the share price in September 2004 and we will reserve judgement until we feel that the dust has settled on a technology opportunity in principle of undoubted value in the years ahead.

XLT v. Alt. energy exposure (rebased)



XL TechGroup (XLT)

XL TechGroup is a Florida-based business set up to commercialise technologies which aim to solve medical and environmental problems. It currently has three principal operations of which AgCert is of interest in the present discussion. Others include alternatives to banned pesticides (BioPesTech) and various projects within Life Sciences.

AgCert has a business model whereby it invests in and helps to develop certain types of livestock farming including pigs and chickens. The “by-products” are certifiable as carbon credits which may then be sold to industrial organisations and countries. As such it is playing a significant role in the development of the nascent market of trading CO2 emission credits, estimated by Point Carbon (an Oslo-based consultancy) to reach a value in Europe of \$10bn by 2008 – helped by Russia’s recent signing of the Kyoto Protocol. It listed on AIM in October 2004 raising £22m, since when its shares have risen from 150p to 190p having touched a record 216p on November 2004.

I certify that this report represents my own opinions.

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