EDISON

Leaf Clean Energy Company

Turning over a new leaf

Leaf Clean Energy has transformed itself over the last two years from a largely passive investor in renewables to an active fund focused on energy and resource innovation. This has been achieved through creating a focused management team and an extensive network of partners. We visited the Leaf investment team, extended professional network and group investee companies. The combination of a recovering renewable market in the US, the rigorous investment process now implemented by Leaf and the stage of investee development provides the opportunity to participate in upside potential. We believe the current valuation discount to peers should close as realisations occur and investees deliver on their business plans.

Year end	Revenue (\$m)	Net profit* (\$m)	EPS* (c)	NAV/share (c)	P/NAV (x)	Yield (%)
06/10	0.0	(45.0)	(23.1)	164.0	0.49	N/A
06/11	0.0	(16.4)	(7.1)	160.3	0.50	N/A
06/12**	0.0	(33.8)	(26.3)	141.5	0.57	N/A
06/13**	0.0	1.5	1.1	142.7	0.56	N/A

Note: *Net profit and EPS are normalised, excluding intangible amortisation, exceptional items and share-based payments. **FY12 and FY13 reflect early adoption of IAS10 amendments.

Active participation to create value

Leaf has transformed its approach from a largely passive investor to a more active owner of businesses. The group now gets involved in all aspects of its investees' development, providing access to experienced management and partners that provide strategic, operational and financial discipline. This combination of deep operational and financial experience should enable investees to address new markets, improve efficiency and generate future value.

Results: Progress despite challenging environment

Leaf's 2013 results demonstrated that the development of an active strategy over the past two years is paying off. With the portfolio stabilised and beginning to create value, the NAV per share grew by 0.8% in 2013 to 142.66 cents (93.8p) driven by a gain in fair value of investments of \$6.0m and receipt of \$0.8m of interest from investees, offset by \$5.2m in administration expenses and a \$0.1m tax expense. Importantly, progress was delivered across all portfolio companies with many now entering a period of rapid growth potential as new markets open up.

Valuation: Realisations will drive belief in the model

Leaf sits at a 40% discount to AIM-listed investment peers across the renewables market. We believe this is driven by the poor track record under the previous approach and the lack of appetite for the sector over the past two years. With investment in renewables returning and many investees set to reach an inflection point in their business plans, we believe that the next few years should demonstrate Leaf's new model with realisations acting as a catalyst to re-rating.

Initiation of coverage

Investment companies

28 October 2013

Price	48.0p
Market cap	£62m
	\$1.60/£
Net cash (\$m) (incl \$3m restricted cash)	21.0
Shares in issue	128.7m
Free float	53.5%
Code	LEAF
Primary exchange	AIM
Secondary exchange	N/A

Share price performance



52-week high/low 76.50p 46.50p

Business description

Leaf Clean Energy is a UK, AIM-listed investment company focused on growth equity and project development capital in private, technology-based renewable energy and resource innovation companies and projects, primarily in North America.

Next event	
AGM	December 2013
Analyst	
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Edison profile page



Leveraging the network to deliver value

Company description: Strategic renewable investor

Leaf Clean Energy is a UK, AIM-listed investment company. It focuses on late stage VC and early stage PE in private, technology-based renewable energy and resource innovation companies and projects. Leaf's SEC registered, wholly owned investment advisory subsidiary (Leaf USA) is headquartered in Washington, DC, US. Originally listed in 2007 having raised £200m, Leaf currently has nine investments across a wide range of renewable sectors. It underwent a transition of approach in 2010, which saw the original asset manager replaced by a core internal management team (Leaf USA) dedicated to Leaf. This has yielded a step change in investment rigour, as well as the creation of an expert network of partners and advisors from which Leaf can support the operations of investee companies.

Valuation: Discount to peers should narrow with performance

Leaf currently sits at a 40% discount to other AIM-listed peers involved in the sector, which we believe is due to the lack of an established track record of value creation and the subdued investment climate in the sector to date. However, we feel that with the change in its management approach, the embedded team now actively driving investees' business plans and significant market opportunities ahead of each company, this discount should narrow as value is created and realisations begin to occur.

Financials: Portfolio stability achieved

The 2013 results demonstrated that Leaf has been able to achieve stability across the portfolio and deliver an uplift on underlying value. The NAV increased by \$1.5m to \$183.7m through a \$6.0m gain in fair value of investments and receipt of \$0.8m of interest on loans from investees, offset by \$5.2m in administration costs and a \$0.1m tax expense. With Leaf having invested an additional \$16.4m of direct equity and debt into investees and having received \$0.5m and \$3.6m of accrued and current interest and repayments of principal on loans to investees in the period, it closed 2013 with \$21.0m cash on the balance sheet, sufficient to meet the needs of the portfolio. As a result, we feel that Leaf has turned a corner following a period of decreasing NAV during a challenging time.

Sensitivities: Economic and regulatory environment key

Given the nature of Leaf Clean Energy's portfolio, there are several macroeconomic sensitivities that could have a significant effect on the investment success of the business:

- Macro issues: As was evident following the financial crisis and subsequent recession, government expenditure on renewable deployment and research can be affected by the economic climate. Leaf seeks to mitigate this by identifying and investing in disruptive technologies that do not rely on government subsidies to compete.
- Regulatory issues: The regulatory environment can provide opportunities and threats to Leaf's investees. Key to capitalising on this is ensuring management of both Leaf and investees stay abreast of technical and regulatory developments. This is achieved through the deep partner network, membership of industry associations such as the American Council of Renewable Energy (ACORE) and through Leaf's US investment advisory office in Washington, DC.
- Specific investee risk: There are clearly development and timing risks across each separate investee company that could affect the valuation of Leaf's holdings in those companies. This is managed through having board level seats and through the operational deployment of management to help in the running of these businesses. In addition, Leaf ensures that it maintains a diverse spread of investees with exposure across a number of technologies.



Exhibit 1: Company at a glance

Investment objective and background

Leaf Clean Energy's investment objective is to achieve shareholder returns through capital growth rather than income and it manages this through the measurement of net asset value per share.

Leaf was established to invest in clean energy projects, predominantly in North America. Clean energy includes activities such as the production of alternative fuels, renewable power generation and the use of technologies to reduce the environmental impact of traditional energy sources. It is currently focused on the energy and resource innovation sector.

Leaf seeks to achieve long-term capital appreciation primarily through making privately negotiated acquisitions of interest (principally equity but also equity-related and subordinated or mezzanine debt securities) in both projects and companies that own assets or participate in the clean energy sector, with a focus on energy and resource management.

Recent deve	lopments
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27 September 2013: Announcement of full year results for the year ended June 2013.

Forthcoming		Capital structure		Fund details		
AGM	December	Total expense ratio Expenses as % of initial capital raised	2.8% 1.3%	Group	LEAF	
Interim results	March 2014	Net gearing FY13	0	Exec director	Bran Keogh	
Year end	June	Annual mgmt fee	N/A	Address	PO Box 309, Ugland House, George	
Launch date	2007	Performance fee	N/A		Town, Grand Cayman KY1-1104, Cayman Islands	
Continuation vote	December 2013	Fund life	Indefinite	Phone	+1 202 289 7881	
		Loan facilities	0	Website	www.leafcleanenergy.com	
Dividend policy and history			Capital raisings and sh	nare buybacks		

There is no dividend history for the fund. The primary route for returns is capital appreciation as opposed to income.



Leaf raised £200m of equity in 2007 with no further fund-raisings since. Over the past six years, the fund has repurchased 71m shares, equating to a return of capital of £49m (\$79m). Leaf seeks to repurchase shares when there is weakness in the share price to deliver value to shareholders.



NAV per share record (cents)



Portfolio composition by investment cost (as at 30 June 2013)







Source: Leaf Clean Energy, Edison Investment Research



Company description: Strategic renewable investor

Leaf Clean Energy is a UK-listed investment company focused on renewable energy and resource innovation markets and projects, primarily in North America. Leaf's SEC-registered investment advisory subsidiary has an office in Washington, DC, US. The group currently has nine investments across private companies and projects in wind, concentrated solar, hydro, landfill gas, biomass and advanced materials.

Leaf Clean Energy – history and transition

Leaf Clean Energy listed on the UK's AIM market in June 2007, raising £200m to invest in renewable energy companies and projects, primarily in North America. Initially the group was structured with a non-executive board and a third-party asset manager that managed the day-to-day running of the fund and its investments. Following an initial flurry of investments and the subsequent recession, the structure of the company was altered to replace the third-party asset advisor with an internal team brought together over the past three years by the board, led by current Executive Director Bran Keogh, who moved into an executive role. Exhibit 2 below shows a timeline of the key events, investments and hires.





Source: Edison Investment Research



Strategy core to value uplift potential

Leaf's strategy has evolved from a passive investment approach into a more active management style, leveraging the group's experience and ensuring that it can bring significant added value to investees. A detailed process has been established to identify investment opportunities, understand regulatory drivers and specify where the group can add value. Several questions are posed to ensure key value criteria are met, namely:

- Sector focus: Investment is in sustainable technologies, resource and energy efficiency companies and renewable projects. Leaf focuses on companies with disruptive technologies, addressing large market opportunities offering above-market returns with non-correlated risk with the existing portfolio.
- Investment stage: Investment is undertaken in post-revenue growth companies with an identified path to profitability or project equity in late-stage developments. Leaf primarily invests in Series B through to pre-IPO investment rounds, with funds carrying investees to cash flow break-even.
- Target management: Fundamental to the investment, Leaf seeks proven management teams with relevant sector expertise, track record and a clear vision for the growth path. If there are weaknesses in the existing team, Leaf will use its network of relationships to identify suitable replacement management. In addition, Leaf actively contributes to its portfolio companies, leveraging the combined skill, expertise, network, resources and advice of the group.
- Geographic focus: Investment is primarily based in North America, but international investments will be looked at on an individual basis. More important is a geographic diversity across the company's commercial base and sales pipeline to diversify against country-specific risk. International investments must be supported through development banks or similar validations.
- Investment size: Typical investment is in the US\$5-20m range with an equity stake in the corporate preferred.

Only once investment opportunities have passed these criteria will Leaf seek to enter the next stage of the process. Key to the strategy is ensuring that only those opportunities where true value can be created as a result of Leaf's involvement are actioned. Exhibit 3 below highlights the rigour with which the group conducts its market and commercial due diligence assessment.

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Exhibit 3: Leaf Clean Energy's screening process and relative pass-through rates (%)



Source: Edison Investment Research

Since the transition to the new approach, Leaf has reviewed over 500 opportunities, c 77% of which have come through Leaf's network of partners and advisors built up since 2011.



Experienced management team and network of partners

Since 2010, Leaf's management approach has been to bring together a group of experienced professionals in clean energy markets. These are supported by a network of partners drawn from finance, industry and operations and maintenance, overseen by a board of directors with significant business expertise, as shown in Exhibit 4 below:

Director	Position	Experience
Peter Tom	Chairman	 Peter Tom, CBE, is chairman of Leaf Clean Energy's board of directors. He is currently executive chairman of AIM-listed building materials group Breedon Aggregates. Peter was formerly chief executive of Aggregate Industries plc, which he led until its acquisition by Swiss materials group Holcim for £1.8bn in 2005. He served as chairman of the UK aggregates industry trade association in 2007, managing its amalgamation that year with two related associations to form the Quarry Products Association. Peter has been chairman of Leicester Tigers rugby club for 20 years. He was awarded a CBE for service to business and sport in 2006.
Bran Keogh	Executive director	 Bran Keogh has been a director of Leaf Clean Energy since its formation in 2007. He became executive director in 2010 and oversees the investment strategy and the active management of investee companies. He previously worked for Irish government agency Irish Productivity Centre, as a business development and strategic planning specialist. He has led large-scale financings for various projects in construction and energy sectors and has a particular expertise in the appraisal and commercial development of renewable energy projects, with an emphasis on structured finance. Bran is a shareholder and director of a number of companies with investments in both renewable and conventional power generation in Ireland. These include Tynagh Energy Ltd, a 400MW combined cycle gas turbine (CCGT) project and one of the first independent power producers in Ireland; Western Power, which is developing a number of large wind farm opportunities; and Greener Ideas, a joint venture with Bord Gáis Éireann (BGE) to develop 400MW of open cycle gas turbine (OCGT) projects.
J Curtis Moffatt	Director	 Curtis Moffatt is a partner at Van Ness Feldman, a law firm specialising in US energy and environmental laws where he counsels clients on issues including project development, climate change and corporate restructuring. Curtis has represented energy clients for over 30 years before state and federal regulatory commissions, courts and legislative bodies. In addition, he has served as special regulatory counsel in financial transactions that include public and private placements involving cogeneration and gas and petroleum products pipeline projects. Curtis is a member of the board of visitors of the Nicholas School of the Environment at Duke University, and is a regular participant in the energy and environment programmes of the Aspen Institute. He has served on the board of the Charitable Foundation of the Energy Bar Association and has served on the boards of several philanthropic organisations. Curtis was selected by Energy Law as one of the Best Lawyers in America (2010-12). He has also been recognised in Chambers Global (2009-12), Chambers USA (2008-12), and Legal 500 USA (2011) for his expertise in energy and environmental law. Curtis is the chair of the company's audit committee.
Peter O'Keefe	Director	 Peter O'Keefe is an investor in the renewable energy industry and developer of renewable energy projects and technologies. His company, Greenvale Ventures, is active in biomass export markets developing a platform of wood pellet production and storage facilities in the south-eastern US. Peter also serves in an advisory capacity to a diverse group of businesses in several industries, including engineering, financial services and direct marketing media. Peter is a director on the board of regulatory compliance services company Regscan Inc. Previously he worked at Carret Asset Management, a privately owned investment advisory firm, where he was a registered professional with the National Association of Securities Dealers holding both series 7 and 63 licences. Peter served as the senior advisor to the chairman of the Democratic National Committee, the finance director for the William J. Clinton Presidential Foundation and the associate director for business in the White House under President Clinton. He is an original member of the Clinton Global Initiative and a member of the Economic Club of Washington, DC. Peter serves as a member of Leaf's audit committee.

Exhibit 4: Leaf board of directors

Source: Leaf Clean Energy and Edison Investment Research

The investment team has been significantly expanded and strengthened over the past three years as the management of the investment process was internalised. In total, the team has over 100 years of energy experience. Exhibit 5 below provides an overview of the internal management team and portfolio advisory team.



Name	Position	Experience	Expertise and focus
Jim Potochny	Chief financial officer, Chief compliance officer	 CFO, MicroEdge, Arkivo, CDS HP; Intel 	Manages the internal team, third-party administrator and other outside resources. Provides financial oversight of investee companies and manages Leaf's financial reporting, audit, tax, regulatory, risk management and compliance activities.
Yonatan Alemu	Principal	VP, Mercator CapitalLegg Mason	Solar, wind, biofuels, energy efficiency
Matthew Fedors	Principal	JPMorgan	Conventional generation, hydroelectricity, water, advanced materials
Omar Karar	Senior associate	JPMorgan	Biomass, wind, solar
Jeremy Semble	Associate	Fieldstone CapitalMarakon Associates	Water, landfill gas
Jeff Putnam	Associate	UBS	Advanced materials, solar
Portfolio advisors			
Vandana Gupta		 MD, JPMorgan MD, GE Energy Financial Services Morgan Stanley 	Solar, wind, biomass, conventional generation
Gerard McCaughey		CEO, InfinecoCEO, Century Homes	Water, green buildings, waste to energy
PurEnergy		 Operating asset manager of >4,000MW 	Team with decades of experience operating a wide range of renewable plants

Exhibit 5: Leaf team and portfolio advisors

In addition to the internal management team, Leaf has fostered strong ties with a network of partners across financial firms, law firms, industry associations and due diligence specialists. This network provides Leaf with a combination of access to deal flow, financing for investees, understanding of geopolitical development and deep market knowledge and is a key differentiator of the group's approach and value add to investees. Key to the management's role is providing strategic and operational guidance and the group will only seek investment where it can obtain a meaningful board position and provide active participation in the investee's development.

Market dynamics influence investment approach

The market for renewable investment has been varied since the fund launched in 2007. With the onset of the financial crisis, the subsequent recession and pressure on government budgets, appetite for the renewable sector waned. However, we believe that there are signs of a return to investment in the area, driven by several key themes:

- Ongoing requirement for sustainability: Several global trends are driving the long-term switch to an increase in renewable energy. With population growth expected to continue and the development of emerging markets continuing to place pressures on fossil fuels, alternative generation will continue to be sought. Between 2010 and 2040, the US Energy Information Administration (EIA) predicts that world energy consumption will increase by 56% and while fossil fuels will continue to account for c 80% of the energy use, renewables are expected to be the fastest-growing segment. This will be driven by considerations such as energy price volatility, pollution control and energy security.
- Global renewable investment: Over the next 20 years, overall global investment in renewable energy is forecast to more than double from around \$200bn to >\$450bn (Bloomberg New Energy Finance). The EIA expects new build capacity investment to reach \$255bn by 2015, with renewable generation accounting for c 8.4% of global power output.
- Technology development: A key driver of increased investment is the drive towards grid parity in terms of cost of electricity generation with solar and wind learning curves driving cost reductions at a pace three times as fast as fossil fuels. As technology develops further, the EIA expects this to reach an inflection point within the next five years, at which such renewable



energy production will become economically viable on a standalone basis without substantial subsidies.

The group has invested across the board in terms of technology areas. This is key to spreading technology risk and is largely determined by the individual opportunities presented. Importantly, Leaf is targeting those areas where technologies provide a commercial alternative in the absence of government subsidies, leading to long-term sustainable returns.

Nascent return of investor confidence in the sector

Investor confidence in the renewable energy market has been eroded since the highs of 2007 at the time of Leaf's initial creation, as can be seen in Exhibit 6 below. This has been driven by a combination of the impact of the financial crisis, recession and hesitant and uncertain government support for renewable energy projects. In addition, the opening up of substantial new reserves of shale gas in the US has removed one of the key drivers in terms of energy independence and driven down relative costs of marginal energy production.



Source: Datastream

Source: Datastream

Over the past 12 months, however, we have seen a nascent recovery in sentiment. Exhibit 7 shows that the WilderHill New Energy Index has outperformed the S&P500 by some 43%. We believe that this has been driven by a combination of a renewed support from the US government with the passing of the production tax credit, the decreasing cost of certain renewable technologies and an increasing awareness of the benefits of sustainable generation.

IPO activity picking up, profile increasing

The IPO market is gradually opening up again, particularly in the US where several recent highprofile transactions have provided evidence that confidence is beginning to return for differentiated offerings or asset-backed operations with attractive yields. Alternative energy IPOs and secondary offerings over the past 12 months have included Tesla Motors (US, \$660m and \$360m convertible and secondary offerings in May 2013); Solar City (US, \$448m, secondary offering in July 2013, post December 2012 IPO); Pattern Energy (US, \$352m IPO in September 2013) and Mighty River Power (NZ, \$1.44bn in May 2013). In each case there has been strong demand, with offerings oversubscribed.

Venture capital and private equity markets still lagging behind

Whereas equity markets have begun to function again, investment from VC and PE firms is taking more time to revive. In the year to 30 June 2013, global investment by VC/PE firms in clean energy was \$6.1bn, down 18% from 2012, highlighting the latent concerns in the community. However, these figures mask an uptick during the last six months of that period with investment beginning to return. As overall confidence returns, we expect a gradual recovery in investment into the sector.



Investee companies provide a broad technology spread

Leaf's portfolio currently consists of nine investee companies spread across a range of renewable and energy efficiency markets. The portfolio can be subdivided into three main areas:

- Growth companies. These companies provide the group with growth opportunities where a new technology or innovation has been developed to address an emerging or expanding need. Leaf has typically invested at the point of true commercial ramp up with each company having a clear route to market and path to expansion. Leaf typically provides a combination of management resource, access to further capital, links to financial and commercial backers and suitable strategic guidance. Leaf will seek to exit such businesses within five years through either a strategic buyer, IPO or secondary buyout.
- Development platforms. Investees consist of management teams in charge of several project developments across multiple platforms and opportunities. Leaf provides the necessary access to financial resources, strategic advice, planning, permitting and operational ramp up support. Investment typically takes place at the corporate, rather than project level. Investees will have a future planned pipeline of activity and clear growth paths. Leaf's exit options for such investments will be determined by the specific project pipelines and appetite from secondary or strategic buyers. Leaf has the option to hold over the long term, but considers exit opportunities in the four- to six-year time horizon.
- Projects. The final group of investees are in specific projects or single site operations. These projects will be brought through the planning and development phase into operational usage. Leaf provides support at each stage from planning through to optimisation with an exit sought once the core development has been completed through either a trade or financial buyout.



Exhibit 8 below gives a brief overview of each company, our view of the stage of development and Leaf's investment to date.

Company Description/ Leaf investment Stage of Opportunity				Opportunity
	location	(\$m/initial date)	development	
Lehigh Technologies	Recycling of scrap tires into chemical additives/ Atlanta, GA	5.0/July 2012 Equity Minority stake One board seat (of seven)	Growth	 Target of trebling of revenue in three years, enhance margins and reach cash flow break-even position. Drivers: market expansion, increased loading with existing customers, enhanced functionalisation and increased capacity utilisation. Leaf targeting risk adjusted returns consistent with late-stage venture returns.
MaxWest Environmental Systems	Wastewater sludge treatment with associated energy recovery/ Sanford, FLA	23.8/August 2008 Equity Significant stake (<50%) Three board seats (of seven)	Growth	 Target to win first equipment sale of second-generation system followed by delivery of equipment sale and DBOO pipeline. Drivers: market growth, increased regulation and increasing market acceptance.
SkyFuel	Concentrated solar power technology provider/ Arvada, CO	33.4/April 2008 Equity and convertible debt mix Significant stake (>50%) Three board seats (of seven)	Growth	 Target of winning international equipment suppliers to drive accelerated revenue growth. Drivers: identified project pipeline. Technology development, lowest cost proven solution. Leaf targeting potential international partner.
Invenergy Wind	Wind energy developer, owner, operator/ Chicago, IL	30.0/December 2008 Convertible debt Minority stake Observer seat on board	Development platform (passive)	 Target to increase in installed capacity of c 800MW to 4,243MW by end of 2013. Drivers: largest independent wind developer in the US, management track record in delivering value.
Energía Escalona	Hydroelectric/ Veracruz, Mexico	10.1/August 2008 Equity Majority stake (87.5%) Three board seats (of three)	Development platform	 Target to deliver Escalona and Dos Puentes hydroelectric projects – combined 19.5MW. Drivers: strategic EPC partnership to drive to COD. Leaf achieved partial realisation with strategic partner, future returns to be achieved once project complete.
Vital Renewable Energy Company (VREC)	Biofuel production/ Goiás, Brazil	23.0/August 2008 Equity and convertible debt mix Minority stake One board seat (of seven)	Development platform	 Target to increase operational capacity from 1.5m to 2.4m tonnes. Drivers: operational improvements, ethanol market strength in Brazil, strategic location in Goiás region. Leaf targeting a potential exit to strategic buyer once capacity increase delivered.
Johnstown Regional Energy (JRE)	Landfill gas extraction and cleaning/ Johnstown, PA	37.5/November 2008 Equity and debt mix Wholly owned (100%) Three board seats (of three)	Project	 Target to increase output from the three landfill gas sites. Drivers: capital investment improvement programmes, receipt of Californian renewable protocol standard, long-term contracts. Leaf targeting small increase in capex to achieve volume improvement.
Multitrade Rabun Gap	Biomass power plant/ Rabun Gap, GA	11.4/July 2008 Equity Majority stake (75%) Three board seats (of five)	Project	 Target to improve operational efficiency to decrease burn rate, increase output and reach cash flow break-even. Drivers: further operational improvement plans assessed. Leaf is targeting a small investment in engineering enhancements to allow Rabun Gap to improve cash flow.
Multitrade Telogia	Biomass power plant/ Telogia, FL	7.3/August 2009 Equity Majority stake (66.25%) Three board seats (of five)	Project	 Target to improve operational efficiency and seek to improve long-term power contract. Drivers: operational efficiency through PurEnergy assessment of improvements. Leaf is targeting commercial developments to improve pricing and provide stable long-term cash flow.

Source: Leaf Clean Energy, Edison Investment Research

As can be seen, the nine companies provide access to markets with varying degrees of support, international exposure and growth prospects. In the following section we examine each company in more detail, as well as the supporting market themes and opportunities.



Growth investments: Focus on commercialisation

The three growth investment companies provide Leaf with an opportunity to share in the upside success of the move to full commercialisation. Leaf has undertaken a key role in developing the management teams, strategies and strategic partnerships from which each of these companies are set to benefit as follows:



Lehigh Technologies (investment \$5.0m, July 2012)

Lehigh Technologies was founded in 2003, is headquartered in Tucker, Georgia, and has approximately 55 employees. Lehigh is Leaf's first investment since the change in management approach and highlights the focus on companies with an initial established track record and a clear growth path. The business is engaged in the recycling of end of life tyres, which are then processed through Lehigh's patented Cryo/Turbo mill to produce micronised rubber powder (MRP). This can then be used in the manufacture of various rubber and non-rubber products across numerous applications.

Technology provides differentiator

Lehigh's technology is based on a proven and patented process, which consists of a highly controlled cryogenic turbo milling process. This combination of freezing and milling enables the recycled rubber compound to be ground to a fine powder. With production facilities that are highly automated, powder sizes ranging from 40 mesh (largest at 400μ) to 300 mesh (50μ) can be achieved allowing the product to be applicable to a much wider market than standard methods, which tend only to produce the larger powder sizes.

Importantly, Lehigh's MRPs are lower cost and more price stable than the synthetic and natural rubbers and plastic resins that they replace. In addition, for each pound of Lehigh material used, customers save the equivalent of 0.8 gallons of oil and 10kWh of energy, which enables Lehigh to facilitate its customers in succeeding with green, sustainability, performance and process goals as well as cost targets.

Strategy to expand market share and address new markets

The group has a strategy built upon expanding the success of the proven technology and existing experience, which has seen it supply six of the top 10 tyre and retread manufacturers. There are several routes being pursued to drive such expansion:

- Supply enhanced quantities into existing customers. Lehigh has been investing in its marketing and testing with customers to show how further usage of MRP can be accommodated within the required performance criteria. As finer and more consistent particle sizes are achieved, there is a greater opportunity to utilise more of the product.
- Capture new customers in traditional markets. There is scope for further expansion into new customers in Lehigh's traditional markets. There are some barriers to entry for particular manufacturers as some have their own in-house applications to provide similar recyclability.
- Develop new geographical presence. Lehigh currently has a single manufacturing plant located in Georgia, US, at which all the company's MRP is produced. Lehigh is seeking to access new geographical markets through a number of potential routes including 1) distributor agreements such as that announced in Latin America; 2) potential partnerships to open regional manufacturing locations such as with Hera in Spain; and 3) expanding customer relationships from the home US market to global relationships.
- Expand beyond traditional markets. As Lehigh's technology has advanced and finer particle sizes have been achieved, increasingly advanced markets have been opened up to the use of



MRP. This has gone beyond like for like replacement and moved into property modifying of speciality chemicals and materials and the use of a closed loop service for the recycling of post-industrial rubbers.

Market opportunity

Lehigh is targeting several end markets for which its micro rubberised powder is particularly attractive, as shown in Exhibit 9 below.



Competition provided by traditional methods

There are several alternative methods of used tyre recycling that provide competition to Lehigh. These tend to be based on ambient grinding technologies that fail to produce a comparable size of powder. There are overlaps at the larger scale (lower mesh) end of Lehigh's product range, however the finer mesh and greater consistency produced by the Lehigh process attract a greater premium than direct competitors and provides a barrier to entry.

Leaf involvement to support market expansion

On 19 July 2012, Leaf made a \$5.0m investment in senior preferred stock in Lehigh Technologies as part of a larger funding round. Leaf identified several potential elements in which it could add value:

- Access to fresh capital. Leaf has played an important role in securing additional equity and debt capital for the company.
- Introductions to global partners. With Lehigh having an already established position and facility in the US, Leaf has focused on providing global introductions for the business to potential partners in the international market.

Valuation catalysts related to top-line growth

As the first investment made by Leaf following the change in approach to management of the fund, we believe that Lehigh will provide a clear marker for the success of the new approach.

The key driver of the valuation will be the market expansion strategy with revenues targeted to quadruple by 2015. This will enable capacity utilisation at Lehigh's plant to increase, while an



increase in margins will be supported by the mix effect as higher margin and functionalised MRP is delivered.

Potential returns are targeted to be consistent with those sought for other late-stage venture capital investments.



MaxWest Environmental Systems (investment \$23.8m, August 2008)

MaxWest Environmental was created in 2008, is headquartered in Sanford, Florida, and has a team of 18 people, including indirect staff at the operating facility. The business designs, integrates and supplies key process equipment for the treatment of wastewater sludge residues (biosolids) from treatment stations. The equipment, consisting of a gasifier, a cyclone, a process heater/thermal oxidiser and a feed system, treats the biosolid through a series of highly engineered process steps. This significantly reduces the volume and toxicity of the residue to create an inert ash that can then be safely disposed while providing for energy recovery from the biosolids. This equipment is scalable and provides a bolt-on solution for the onsite treatment of biosolids.

Technology developed and being enhanced

The MaxWest system consists of several key components, as shown in Exhibit 10 below.

Exhibit 10: MaxWest second-generation gasifier system



Source: MaxWest

MaxWest has been operating a commercial facility in Sanford, Florida since 2009 under a 20-year design, build, own and operate contract. Through this contract, MaxWest has been able to demonstrate and develop its fluidised bed gasification system in a commercial operation environment, and moved from its first-generation system to the current second-generation design, which now has >1,000 system run hours. This is the only commercially operating biosolids gasification facility in North America that operates on 100% biosolids.

Scalable solution allows MaxWest to address a wide range of customers

The MaxWest system is a scalable solution based on required throughput rates at wastewater treatment plants, from 2m US gallons a day to 49m US gallons a day. Each unit will be optimised



for the differing rate requirements and can be operated at single sites, alongside the wastewater plants or under a regional hub and spoke model where necessary.

Strategy based around equipment sales or design, build, own, operate

MaxWest's market strategy is predominantly as an equipment supplier of its gasification system. It also has the option to operate a design, build, own and operate approach where appropriate:

- Equipment sales. MaxWest will sell its biosolids gasification system directly to municipalities, generating revenue of between \$2.5m and \$7m depending on the system throughput rates. In this case, the client will own and in many cases operate the equipment, with MaxWest providing training and support during the commissioning phase. There is also the potential to secure ongoing operations and maintenance revenues.
- Design, build, own and operate (DBOO). As in Sanford, Florida, MaxWest will also offer a DBOO model where appropriate under a long-term contract. While this method will initially be used to drive market acceptance, the preferred method in the longer term will be the more capital efficient equipment model, except in situations where the economies of scale and higher cost of alternative methods provide attractive returns with a project partnership model.

MaxWest's route to market has evolved to utilise a direct sales approach to major US municipalities, focusing on those states with high alternative disposal costs such as Northeast US and California. MaxWest has also developed a series of relationships with independent equipment sales representatives across the US, who already serve the water and wastewater treatment market. This allows greater coverage at a lower cost than retaining a large dedicated in-house sales team. Furthermore, MaxWest has engaged with the consulting engineering community, which is providing opportunities for the MaxWest system.

Market opportunity in the US supported by regulatory development

Throughout the US there are over 16,000 wastewater treatment plants, generating c 7.1m dry tonnes of wastewater sludge and biosolids a year. The largest 3,300 plants account for 92% of the total quantity produced annually. Each state will have a different approach to the treatment and disposal of wastewater relating to the size and spread of conurbations, as well as the local structure of the water market. MaxWest has identified a total addressable US market of \$1.2bn. The disposal of biosolids presents a large and growing problem and one where the number of solutions is shrinking. The main drivers for the market are:

- Further growth of underlying wastewater treatment market. The wastewater treatment industry has averaged a compound growth rate of 0.9% pa over the past five years as population growth, industry expansion and urbanisation have been coupled with the recent emergent economic recovery. Assuming a continuation of the recovery and with population growth continuing, the rate is expected to increase to 1.7% pa over the coming five years, providing a solid underpinning of underlying wastewater generation.
- Increasingly stringent regulations. The management of biosolids must comply with Federal Regulations as set by the US Environmental Protection Agency (EPA). The biosolids industry largely came under regulation in 1993 through an amendment to the Clean Water Act of 1972. However, further tightening of regulations is due to come into force with a proposed change to include sewage sludge within solid waste classifications. As a result, emissions from sewage sludge incinerators, an alternative disposal method, will be regulated under the EPA's clean air act. Other alternatives such as landfill and land application are also facing increasing regulation and scrutiny. We believe that this is likely to make municipalities study alternative solutions and is also likely to increase the cost of competing disposal methods to those supplied by MaxWest.



MaxWest's sales pipeline addresses both individual equipment sales opportunities and larger DBOO projects as municipalities are seeking to provide a sustainable, cost effective solution to the treatment of biosolids. It is likely to be involved in major tenders across both routes and has been shortlisted for several large opportunities, which are due for selection over the coming two years. Given the problem of biosolids disposal is not just confined to the US, MaxWest also sees an international market opportunity for its system in countries where alternative disposal methods are becoming increasingly regulated and costly. This has the potential to at least double the market opportunity over the medium term.

Competition

There are several forms of competition for the MaxWest solution, predominantly in the form of alternative disposal methods. This gives MaxWest the opportunity to provide a solution to an increasingly challenging disposal problem through substitution. Exhibit 11 below shows the various routes for disposal.





Source: O2 Environmental Inc

Within different states there will be differing drivers regarding which disposal method is considered more desirable and cost effective. Importantly, the cost of disposal is increasing as, for example, landfill costs rise and transportation costs for disposal increase. This makes an on-site solution increasingly attractive from a cost and environmental perspective.

Leaf involvement and value add across the board

Since investment in MaxWest in 2008, Leaf has made several contributions to the development of the company, which has accelerated since the change in Leaf's management approach in 2010.

- New management. Leaf was instrumental in supporting the development of the management team, having helped identify and recruit both CEO Steven Winchester and interim CFO Bill Whitman to MaxWest. Both have substantial relevant industry and financial experience, having held senior roles at Black & Veatch (a global engineering, consulting and construction company) and Covanta (waste to energy) respectively.
- Focusing of strategy on equipment. Through Leaf's involvement, the business strategy has also moved towards a more capital efficient equipment sales model. Previously the strategy was weighted more in favour of DBOO, which meant development was slow and capital requirements were high. MaxWest now looks to use the DBOO model only where economies of scale provide attractive returns and suitable partners can be found to enhance the offering.
- Optimisation of operations. Since May 2013, the Sanford facility has been operated by PurEnergy Operating Services, an asset manager and O&M partner of Leaf at other sites and companies. This has brought decades of operations experience to the team. In addition,



SkyFuel OD

utilisation at Sanford has also been increased through expansion to accept third-party wastewater sludge for treatment.

Access to capital. Leaf has provided MaxWest with support on accessing fresh capital and developing partnering opportunities across engineering, procurement, construction and financial partners for the DBOO model. Leaf's relationships across equity and debt financing organisations have proved significant.

Valuation catalysts linked to delivering pipeline

MaxWest has a current bid pipeline of >\$75m of equipment sales and >\$9m pa of DBOO opportunities over the next 18-24 months. Any significant wins will provide a valuation catalyst for the company and the delivery of such deals are seen as key to the future development. MaxWest anticipates a build-up of opportunities to support revenue growth to some \$60m based upon a combined model. This equates to c 5% of the addressable market.

Leaf is targeting to take MaxWest through to cash flow break-even within a two-three year time horizon as initial equipment orders are converted to revenues. The potential for exit exists once the pipeline has been converted to a sustainable order backlog with suitable routes encompassing a trade sale or secondary buyout.

SkyFuel (investment \$33.4m, April 2008)

SkyFuel was founded in 2007 and its headquarters are in Arvada, Colorado. The company designs, develops and manufactures solar power technology and equipment for the concentrated solar power (CSP) market. It has developed an innovative, lowest cost solar collector solution that provides significant cost reducing benefits over existing glass-based solar collectors in terms of installation, operation and maintenance while achieving superior performance. Through a combination of innovative R&D and engineering design, SkyFuel has been able to take an established technology, enhance it through materials innovations, make it bankable and deliver best-in class costs some 20-30% below competitors. With operational systems already installed and proving their worth, it can address significant international opportunities, for example in Saudi Arabia where a potential 20-year, 25GW solar investment programme has recently been announced.

Technology

SkyFuel provides complete CSP collector systems that have been designed to provide similar performance characteristics to existing products, with reduced cost, operational maintenance and weight requirements, as shown in Exhibit 12.





Exhibit 12: Components of SkyFuel's SkyTrough concentrated solar power system

Source: SkyFuel

Key to the technology is the SkyTrough parabolic trough for utility scale power. It uses a reflective polymer-based, film which replaces traditional glass-based mirrors. This film, called ReflecTech, was developed by SkyFuel in conjunction with the US National Renewable Energy Laboratory (NREL) and has several key advantages over glass-based collectors:

- Weight. The SkyTrough construction is designed to provide a lightweight yet stable platform for the solar collector. The advantage of the lightweight construction is that the system size can be optimised without the need for substantial unit construction costs. Likewise, with a lower weight, fewer hydraulic drives are required to maintain directional focus. This reduces power consumption and improves operational reliability by reducing the potential number of system failure points.
- **Cost.** SkyFuel's technology provides for a system cost that is typically 20-30% lower than current generation parabolic trough designs. Importantly, there is no requirement for significant investment in a large glass factory to support any scale up of operations and only modest capital requirements to support the manufacture of the core components. This consists of the manufacture of optical mirror panels and the parabolic ribs. The balance of structural, drive and thermal receiver components are outsourced to high-volume, global suppliers.
- Installation. The aluminium space frame design requires no field welding or precision field assembly jigs. It has been designed for ease of installation and has 40% fewer parts and 30% less material than competing assemblies. SkyFuel also manufactures the critical parabolic rib components for the mirror panel installation, with the ReflecTech mirror simply sliding into these ribs. This reduces installation time and removes the need for onsite focusing, ensuring a consistent operational and higher optical performance.
- Durability. Due to the fact that the ReflecTech mirror film is a polymer-based film on an aluminium substrate, the resultant parabolic trough is more resistant to damage on installation and through operation. ReflecTech has a hard, scratch-resistant coating that can be cleaned like any glass mirror and has undergone accelerated durability trials at the NREL, equivalent to



35 years of outdoor exposure with no degradation of performance. The performance has also been verified in operation at the commercial demonstration system at the SEGS II solar field operated by Cogentrix Energy.

SkyFuel has a proprietary design with strong IP protection covering the frame design, connectors, mirror panel insertion/removal design and the sun-tracking controller. It is the combination of these elements that allows SkyFuel to deliver its competitive advantages.

Strategy to fully commercialise the technology

SkyFuel's strategy is to address those areas of the solar market where other technologies, including solar PV, cannot compete. In particular, there are certain forms of power generation and other applications where concentrated solar power provides a competitive advantage:

- Storage integrated solar power. Where there is a need for dispatchable power for night time or cloudy periods, where PV cannot operate. The thermal lag in the system and thermal storage tanks mean that generation can occur for periods during which the sun is covered for a certain period of time. This means greater power reliability can be achieved using existing energy storage systems in combination with CSP.
- **Combined heat and power.** Remaining heat from electricity generation is used for industrial processes, for example in water desalination or mining. The overall energy efficiency in such an operation is substantially higher than separate systems or standalone generators.
- Hybrid power. For where firm power generation is required, concentrated solar power can be used in conjunction with existing power generation infrastructure. This can be achieved through co-firing of solar plants with natural gas, coal, biomass, geothermal, diesel or bio-diesel facilities. This can be used to extend the life of facilities, provide enhanced efficiency and reduce the consumption of the traditional resource.
- Small-scale dispatchable CSP. Given the ability to deploy a low-cost solution that does not require significant capital intensity for developers, SkyFuel has a competitive advantage in small-scale CSP.

Overall, the strategy is to take SkyFuel from the early stage through to full commercialisation. There is a significant pipeline in place and a number of smaller-scale systems have already been delivered and are operating.

Market opportunities across the globe

SkyFuel is targeting the concentrated solar market across the globe and has identified a market potential for CSP and CSP hybrid of an additional 30GW over the next seven years, as shown in Exhibit 13 below. This equates to a \$130bn market opportunity assuming an installed cost of \$5,000/kW.





Exhibit 13: Forecast installed CSP/CSP hybrid capacity 2020, MW

Source: Bloomberg New Energy Finance, AT Kearney, GBI Research. Note: CSP Hybrid numbers only to 2015.

Parabolic trough applications dominate the current market, with a 95% market share, and while other technologies such as Solar Towers also form part of the future supply, we expect the mature, proven trough technology to remain the dominant choice in these markets.

International opportunities are visible and being pursued

Supporting the growing pipeline of opportunities, several governments have announced formal incentive programmes for CSP. These projects total some 2GW of additional installed power, equivalent to just under today's total global installed capacity. These projects are expected to close over the next 18 months and are present in Saudi Arabia, Chile, Morocco, India, South Africa, Kuwait, Italy and China. Increasingly, many of these international markets have a requirement for local content, which can be catered for through a low capital SkyFuel manufacturing site in-country where necessary. In our view this is a significant advantage over costly glass manufacturing plants.

Competition in the CSP space less mature and/or more costly

Key to SkyFuel's attraction is the combination of a proven technology, ie parabolic trough, and the lower costs associated with the design. Exhibit 14 below highlights the relative total plant installation cost and maturity of differing CSP technologies.



Exhibit 14: Capital cost comparison (installed cost \$/kW), excluding storage

Source: Bloomberg New Energy Finance and SkyFuel estimates



Given SkyFuel's relative cost (c 20% cost advantage) and market focus, we believe that it has a substantial competitive advantage over both current generation parabolic trough technology and newer, unproven technologies. While there are several competing CSP firms around the globe, the market itself has been challenged over the past three years as those whose models relied on subsidies with higher-cost products found it difficult to compete and several firms went into administration.

Leaf involvement and value add

Having been involved with SkyFuel since 2008, Leaf has been through the key R&D phase of the company's development and has been actively involved in recent years in preparing for commercialisation. In particular, Leaf has been instrumental in developing the strategic partnerships required to take the company to full scale market acceptance. Key steps have included:

- Recruitment of senior management. CEO Rick LeBlanc and chief commercial officer Kelly Beninga have both joined during Leaf's ownership. Mr Leblanc has over 30 years' experience in managing and building high-technology companies and leading them through to commercialisation. He has significant experience at both Siemens and Chemrec.
- Innovative risk-transfer insurance. A key success is an industry first risk-transfer insurance product secured from Munich Re. Efforts to obtain this were supported by Leaf and it covers not only a performance warranty but also extends warranty coverage to the project owner or investor and provides a debt service coverage on the solar field itself. We believe that this is a unique coverage arrangement and highlights the confidence in the product and technological development. This is further supported by bankers' engineering reports that prove the bankability of the SkyFuel system in both the US and Europe.
- Developing strategic partnerships. Leaf has led efforts to develop further strategic relationships and develop the optimum business plan with the management of SkyFuel. This has covered banking relationships, strategic partnership development and international development, where potential JVs with in-country partners may provide opportunities.

We believe that the relationship between SkyFuel and Leaf is indicative of the value that Leaf can bring to its investees. In particular it shows the cross-fertilisation of company, technology and project finance relationships throughout the Leaf network.

Valuation catalysts relate to conversion of international project pipeline

SkyFuel has invested in developing its international project pipeline to capture the greatest potential share of the forthcoming CSP projects. With planned, visible projects equating to c 2GW across all regions over the coming three years, SkyFuel is aiming to build upon its 24MW of delivered systems to date. Based upon SkyFuel's assessment of probabilities of project development and potential win rates, this could lead to a significant ramp-up in revenues over the next three years.

Leaf has provided significant support through the R&D to commercialisation phases of SkyFuel's development. With international campaigns targeting opportunities in geographies where CSP is most advantageous, SkyFuel is actively discussing opportunities for partnerships in these regions. These could not only support opportunity capture, but also provide potential financial partners. We believe that this may well provide an appropriate exit route for Leaf.



Development platforms and project investments

The Leaf team possesses significant experience in developing a full suite of project activities, which it uses to support investees that have a development focus, as shown in Exhibit 15 below.

Development requirement	Leaf team capability/key success criteria
Project finance	 Team has extensive project finance/energy banking experience Demonstrated track record of financing portfolio projects prior to Leaf
PPA (power purchase agreement)	 Bankable terms and structures Energy and capacity tariffs Deep understanding of power markets
EPC contracting (engineering. procurement, construction)	 Bankable terms and structures Well-versed in contracts from different jurisdictions (US, Latin America, Europe)
Site control	 Easement/purchase/option negotiation Working with local laws and practices Social issues
Additional equity	Global relationships with equity providers and investment banks

Throughout the portfolio, there are several investee companies that are either developing or operating individual projects or a suite of renewable activities in a particular sector or region. Each of these investees has a particular opportunity set that Leaf is supporting in order to create value.

Invenergy Invenergy (investment \$30.0m, December 2008)

Invenergy is a Chicago, US-based clean energy developer, owner and operator of clean energy assets, predominantly in the wind market. It has over 4,000MW of projects operating, in construction or under contract and has a strong management team with proven experience in developing and operating power generation assets. With a diversified portfolio and a growing pipeline that has accelerated following a slowdown in 2010 and 2011, Invenergy is continuing its expansion in the US, Canada and, to a lesser extent, the UK and Poland.

Management team record of creating investor value

The senior management team has a track record of founding and growing companies that have created value for investors over careers spanning over 20 years together, as shown in Exhibit 16 below.

Name	Years' experience	Position	Previous companies
Michael Polsky	40	President and CEO	Indeck, SkyGen, board member at Calpine
James Murphy	34	EVP, CFO, COO	Arthur Andersen's Utility Practice Group, Deerpath Group, SkyGen, Calpine
James Shield	30	EVP, chief development officer	Sargent & Lundy, Indeck, SkyGen, Calpine
Bryan Schueler	22	SVP – Development	ComEd, SkyGen, Calpine
Alex George	30	SVP – Asset management	Sargent & Lundy, SkyGen, Calpine
Joseph Condo	20	SVP – General counsel	SkyGen, Calpine

Exhibit 16: Invenergy management team experience

President and CEO Michael Polsky has founded three independent power companies, two of which have developed a combined 15,000MW+ of generating assets, generating substantial returns for investors upon exit:

- Indeck. Equity appreciation of \$150m over a five-year period.
- SkyGen. Equity appreciation of around \$535m in approximately three years, representing an IRR of 73% and a 5.6x investment multiple.



With the management team largely consisting of the main players from each of these previous ventures, we believe that the experience of the Invenergy team provides a substantial opportunity for the group.

Largest independently owned wind energy company

Under the leadership of the management team, Invenergy has grown to be the largest independently owned wind energy company in North America, all delivered through organic growth, as shown in Exhibit 17 below.

Exhibit 17: 2012 wind energy ranking by installed capacity (MW)



Source: AWEA 2012 US wind managing ownership rankings

As at 30 June 2013, Invenergy had a total of 49 projects, with a total of 4,243MW either operating, under power purchase agreement or under contract.

Strong development track record

Invenergy has a strong track record in the development of wind energy projects, largely thanks to the fully integrated in-house and through-project capabilities. This has allowed the company to appropriately control the entire value chain and operate with shorter development cycles. It has also provided the flexibility to act quickly to changes in the operating and financing environment and to minimise project execution risk. This has allowed a strong record of delivery to time and within budget across the last five years. Exhibit 18 below shows the growth profile of capacity, with a 2004-13 CAGR of some 75%:



Exhibit 18: Capacity additions and cumulative wind energy development (MW)

Source: Invenergy. Note: 2013 figures based upon projects under construction or under contract.

Leaf participation passive in nature

Given the scale of Invenergy, its management track record and the minority interest that Leaf has within the business, the investment is treated as passive within the construct of the fund. While Leaf



is kept appraised by Invenergy, the direct influence of Leaf is lower than in other projects where the fund owns a majority stake.

Valuation driven by ongoing development and improved sentiment

As Invenergy continues its expansion of installed capacity to reach over 4.3GW, revenue growth will continue to drive the relative valuation. In addition, the success of recent IPOs such as Pattern Wind (current valuation equivalent to c \$2,400/kW), combined with the ongoing improvement in sentiment towards dividend paying wind stocks should also deliver valuation upside potential.

With such improvements in valuation, Leaf should have the opportunity to seek a secondary buyout exit.



Energía Escalona (investment \$10.1m, August 2008)

Energía Escalona is a Mexico City-headquartered renewable energy project development and acquisition platform in Mexico. Its strategy is to identify and develop small-scale renewable opportunities, initially focused on late-stage hydroelectric projects where the significant experience of the management team provides greatest opportunity. This currently includes two construction ready run-of-river hydro projects totalling 19.5MW in the state of Veracruz, on the Las Minas River. In the longer term, the company provides a strong platform to develop small, low-impact hydroelectric and other renewable projects in Mexico and Latin America.

Dedicated development team with significant local experience

The in-house development team has substantial experience across the project lifecycle, including PPA and EPC negotiation, operations and finance. The project directors also have strong connections and experience within the Mexican energy sector, as shown in Exhibit 19 below.

Exhibit 15. Energia Escalona team has significant rocal knowledge		
Name	Experience	
Eduardo Kukutschka (project director)	Electrical engineer with 30 years' experience in executive positions in the Mexican energy sector, including prior roles with Siemens and ABB. Deep relationships with equipment manufacturers, national and international contractors and local authorities of the electrical sector.	
Armando Matinez	Mechanical engineer with 32 years' experience in Comsisión Federal de Electricidad's (CFE) Hydro division, in the project areas and also as plant manager of various hydro plants including Las Minas, the hydroelectric facility that is upstream of the Escalona project.	
Gerardo Gaytan	Civil engineer with 38 years' experience in the energy sector in executive roles within CFE and Enron. Participated in the development, execution and operation of thermal and hydroelectric plants. Maintains close relationship with CFE, the CRE and other government authorities.	

Exhibit 19: Energía Escalona team has significant local knowledge

Source: Energía Escalona

This deep experience in the Mexican energy sector provides Energía Escalona with a substantial advantage in understanding, developing and negotiating relevant portions of the projects it undertakes. It also provides extensive off-take, EPC and lender relationships, along with access to a network of potential partners providing a source of new opportunities across the sector.

Strategy to develop small-scale renewable projects

Energía Escalona's strategy is focused on the late-stage development of renewable projects in Mexico and has several key elements:

- Development of smaller opportunities (<30MW).
- De-risked by having land control and the water concession prior to acquisition.
- Provide several different off-take options, including CFE.
- Negotiation of structured financing and EPC contract.

Energía Escalona has a clear understanding of where in the development lifecycle it can add the most value through the use of its strategic relationships and experience. It operates during the



crucial permitting and EPC, power marketing and finance negotiation phase after initial studies have been completed and a clear feasibility study has been completed.

Mexican power market supports renewable development

The Mexican power market is based predominantly on fossil fuels, as shown in Exhibit 20 below.



Exhibit 20: Mexican power generation breakdown is >75% fossil fuels

Source: SENER. Note: Natural gas includes CCGT, CC and dual gas/oil facilities.

With the marginal fuel in most regions remaining heavy oil, there are several elements of the regulatory structure that are designed to promote renewable energy development:

- CRE has a small producer scheme that allows facilities under 30MW to sell power directly to CFE at the short-term marginal cost of production in the region.
- A self generation framework allows independent power production if the off-taker has a small stake in the plant.
- Renewables can bank excess power with CFE for use when the plant is down, ie providing a backup.
- Wheeling charges for renewables are at a lower rate than for other fuels.

Significant small hydro potential exists

With a supportive structure, the initial focus of Energía Escalona was to address the significant potential offered from small-scale hydroelectric power. There is a good river network, with the National Commission on Energy Efficiency estimating a national flow of some 410,000 million m³ a year. This equates to an estimate for small hydro potential in Mexico of 3,250MW.

Escalona and Dos Puentes projects construction ready

Energía Escalona is currently involved in two run-of-river hydroelectric projects located on the Las Minas River in the Veracruz state of Mexico:

- Escalona project. A 14.5MW hydroelectric facility will utilise constant river flow from the upstream discharge of a CFE dam. This will be directed through a water intake structure to be built just below the water discharge and travel through a 5km pipeline to the powerhouse, removing the need for a dam and minimising the environmental impact. The project will then wheel power back to the grid via an overhead transmission line back to the interconnection point near the upstream CFE Las Minas plant substation.
- Dos Puentes project. A 5MW facility immediately downstream from the Escalona facility. A water intake will be built on the Las Minas and Santa Rita Rivers to channel water into a pressurised penstock.

Both the Escalona and Dos Puentes projects are in advanced stages of development, with planned commercial operating dates (COD) of late 2015 and early 2016 respectively.



Robust project pipeline and future development opportunities

Beyond the two current projects, Energía Escalona has a future development pipeline in the surrounding region, including the neighbouring state of Puebla as shown in Exhibit 21 below.





Source: Energía Escalona

These projects have been identified through Escalona's strategic EPC partner, other independent developers and through a number of CFE projects that were either paused or were older projects that can be modernised and upgraded and total some 100MW of potential projects.

Leaf value add in strategy and process

There are clear areas of reinforcement that Leaf has brought to Energía Escalona through the team's significant experience as a project developer and by instilling a rigorous process. In addition, Leaf has contributed to several other key strategic moves:

- It aided the restarting of the Escalona project following an idle period after underperformance of the previous EPC contractor.
- It amended the Escalona water concession, increasing the project size by 6.5MW.
- It monetised a portion of the Escalona project by signing a JV and strategic partnership agreement with a leading Mexican construction firm with expertise in water and wastewater, through a joint equity agreement. This aligns the interest of both the investor and EPC provider, and has also led to the option to participate in the Dos Puentes project.

Project development and market dynamics will act as valuation catalysts

The potential valuation catalyst for Energía Escalona is the successful development of the two existing hydroelectric projects, Escalona and Dos Puentes. This should drive the project valuations based on successful CODs in 2015 and 2016 respectively.

Leaf's target is to drive the first two projects to completion, continue to grow a robust project development pipeline and build a sizeable hydroelectric company that can be exited by selling to a larger strategic buyer or via a public listing.





VREC (investment \$23.0m, August 2008)

Vital Renewable Energy Company (VREC) was founded in late 2008, to focus on the development of greenfield sugarcane processing assets with a large local operational partner in Brazil. Following changes in the global and local markets, focus switched to the acquisition and upgrade of undervalued brownfield assets. As a result, VREC executed the acquisition of a fully operational sugarcane crushing mill and ethanol production facility (BSA mill) with significant expansion potential.

Strategy to develop the BSA mill

The core strategy of VREC is the development and expansion of the current BSA operating facility. This will utilise VREC management's track record for achieving above average agricultural and industrial performance and structuring of long-term credit lines to leverage the company's asset base. VREC will then seek to exit at a premium valuation once suitable scale has been achieved.

VREC management's extensive experience

The VREC management team has extensive experience, bringing together finance, agricultural and ethanol/sugar production experience as shown in Exhibit 22 below.

EXHIBIT 22: AREC	Exhibit 22: VREC S leadership team			
Name and position	Profile			
Management team				
Ricardo Roccia CEO	 Founder and CEO of VREC; led initial capital raise and has led investments and operations to date Secured more than \$45m in long-term financing from local commercial banks to back the asset's expansion programme Responsible for financial structuring and risk management of large hydro projects at Odebrecht Finance/M&A positions at Goldman Sachs (London) and Banco Pactual (Sao Paulo) 			
Ermor Zambello COO	 >35 years' experience in the sugar/ethanol sector, with focus on agriculture, new project development and acquisitions Senior operations management positions for multi-facility operations, including Grupo Farias, Destilaria Caiman and Concana 			
Douglas Costa Corporate controller	 >10 years' experience with internal and external auditing, international accounting and Sarbanes-Oxley compliance Manager and senior audit positions at Ernst & Young and Deloitte Touche Tohmatsu 			
Marcelo Pereti Senior financial analyst	 VREC's senior analyst since 2009, having reviewed and modelled >20 investment opportunities in the Brazilian sugarcane industry Business development/financial analyst positions at BrasilAgro focused on agriculture and biofuels 			

Exhibit 22: VREC's leadership team

Source: VREC, Edison Investment Research

The leadership team is supported by a syndicate of international institutional investors, including Leaf Clean Energy, which has a significant minority stake. The syndicate is led by Paladin Group, two members of which are operating principals on the board of VREC.

BSA mill provides a solid base for expanded capacity

The BSA facility is located in the central Brazilian state of Goiás and was constructed in 2008 with installed crushing capacity of 1.2m tonnes. VREC acquired 100% ownership at the end of 2010 and since the acquisition has successfully expanded the asset, increasing its crushing capacity to 1.5m tonnes and adding a sugar production factory. The company has long-term, exclusive feedstock supply contracts in place through a syndicated association of local sugarcane growers, and with an abundance of arable land to expand its proprietary sugarcane programme. BSA produces all necessary electricity and steam to operate the facility through the combustion of bagasse, and has secured a Goiás state tax incentive for ethanol, sugar and bagasse sales through to 2020.

Strong customer base with good diversification

VREC maintains a balanced customer mix between the oil majors/traders and emerging ethanol traders with the largest six customers (including Petrobras) accounting for c 55% of the customer base. The combination of emerging distributors that prepay ethanol purchase and majors that pay within five to 10 business days from delivery helps provide a good balance of cash flows to the



business. Brazilian ethanol is sold through the liquid spot market with the assistance of SCA, a leading ethanol marketing firm providing deep knowledge of market dynamics. In addition, VREC distributes its raw (VHP) sugar in the international markets via large trading companies and sells white sugar in the domestic market.

Growth strategy based upon key fundamentals to create value

VREC's strategy is to grow the BSA mill from the current operational capacity of 1.5m tonnes to c 2.4 m tonnes to capitalise on this strategically located asset in the region. The VREC team was able to purchase the BSA mill at a below market multiple and operated the facility profitably during its initial three years of ownership using an experienced operational team and low operational risk profile. It has a conservative financing plan in place through pursuing government-backed (BNDES) debt financing for expansion.

Leaf's target is to support VREC through to completion of the mill expansion and then seek a subsequent exit at the stage of increased capacity as it becomes a highly attractive acquisition asset for either a strategic or a secondary buyer.



JRE (investment \$37.5m, November 2008)

Johnstown Regional Energy (JRE) owns and operates three landfill gas-to-methane projects that were placed into operation in 2006 and 2007 at landfills located in south-western Pennsylvania. JRE extracts raw landfill gas, cleans it in advanced technology processing plants and sends the gas into pipelines to be purchased by buyers across the US in California. The facilities are operated by Leaf's O&M partner PurEnergy and produce a total of 1,800-2,400mcf per day of pipeline-quality natural gas. This is sold to off-takers via long-term, premium fixed-price take-or-pay contracts.

JRE process overview - extract, collect, treat, deliver

JRE extracts landfill gas from decomposing municipal solid waste at three landfills using vertical wells and horizontal collectors. Gas blowers then draw the gas under vacuum from the collection wells to the intake of the JRE processing plant, where the gas is compressed and scrubbed through a series of membranes to remove impurities such as nitrogen, carbon dioxide and hydrogen sulphide. Once cleaned, the gas is then transported via JRE-owned pipelines to tie-in points of a major gas utility.

Leaf value add in restructuring operations and commercial strategy

Leaf has added value to JRE since taking on full investment oversight through several key steps to restructure both the operations and commercial evolution of the business:

- Commercial strategy. Leaf was instrumental in transitioning JRE's commercial strategy from one devised under a high-price environment to a long-term sustainable approach. In 2008, gas prices ranged from \$8-13/mmBtu and the original structure combined forward sales and fixed-price contracts to local manufacturers at then discounted rates. With the advent of the substantial drop in gas prices to below \$3, these contracts were operating at a loss. Following the transition from Leaf's former asset advisor to its internal team, Leaf helped JRE negotiate the cancellation of the original gas purchase agreements and secure two long-term agreements via 10-year fixed price take-or pay contracts at a net price that is currently 2.5x higher than index prices.
- Operational management. Leaf also transitioned the operational management and asset management of the landfill gas projects to its asset management partner PurEnergy. This has allowed operational performance to improve and financial reporting to become more professional. With PurEnergy overseeing the projects, several steps have been taken to increase production at the sites, reduce downtime and improve efficiency.



Having secured improved long-term commercial arrangements, the value creation opportunity for JRE is now to raise production levels and volumes. It is undergoing a comprehensive engineering study with the aim to raise production levels through well field expansion and operational improvements.

Valuation catalyst - volume improvement to capitalise on green credentials

With JRE having successfully secured both improved long-term pricing and the recent notification by the California Energy Commission that its gas is certified as meeting the California renewable protocol standards, the opportunity exists to increase revenues through access to the higher-margin Californian market, where JRE now sells 100% of its product.

Leaf is undertaking studies with its consultant engineer and PurEnergy as asset manager to identify and propose volume improvement measures at the three landfill sites to increase output. This will require a small increase in capital expenditure, with the potential to significantly increase production.

Multitrade Telogia

Multitrade Telogia (investment \$7.3m, August 2009)

The Telogia project is one of two biomass projects within Leaf's portfolio. It is a 14MW woody biomass electricity generation plant in operation since July 2009. Leaf purchased the plant in 2009 as part of an old shuttered merchant biomass power plant, which had been producing power since the late 1980s. It has undergone an extensive refurbishment, which included a complete rebuild of the boiler and numerous upgrades to other key equipment. Telogia is located in a robust wood basket in a region of Florida that allows it to source attractively priced feedstock through a total of 20 suppliers in the immediate vicinity with adjacent counties producing c 1.1m green tonnes of biomass resource on an annual basis. The plant provides electricity through a long-term, 15-year PPA with Seminole Electric.

Leaf value add through improving operational efficiency

Since ownership, Leaf has installed PurEnergy as asset manager and has taken steps to improve operational efficiency at the plant. It has overseen investment in a series of upgrades, which have increased efficiency and extended the useful life of the plant. The Leaf team was instrumental in obtaining a USDA guaranteed loan financing for the project. Leaf has also ensured that the commercial strategy of the plant is such to produce visible contracted revenues streams and predictable costs to drive stable cash flow generation. Potential valuation uplift arises from ensuring that operational efficiencies continue to rise to further enhance cash flows.



Multitrade Rabun Gap (investment \$11.4m, July 2008)

Rabun Gap is the second biomass facility owned by Leaf and is a 20MW woody biomass electricity generation plant based in northern Georgia. In 2009, Leaf converted the plant into a biomass power plant, which was originally designed as a Fruit of the Loom textile factory. It has been operational since January 2010 and receives 30 to 50 truckloads of wood fuel daily from a total of 20 suppliers. These encompass six paper mills and 14 logging contactors. The plant produces electricity through a long-term, 20-year PPA with Coweta-Fayette, a local co-op serving 58,000 customers in Georgia.

Leaf focus on operational and corporate development

Leaf is engaged in developing both the operational and corporate development of Rabun Gap. It installed PurEnergy to operate the plant. With the same asset manager managing both Telogia and Rabun Gap, enhanced operational efficiencies and cross-learning are possible. Value creation will be delivered through increasing operational efficiency and driving improved sourcing of wood resources given the abundant potential supply in the state, which boasts the largest amount of commercial forest land of any US state.



Sensitivities

There are several key sensitivities related to investment in Leaf Clean Energy, many of which are outside the control of the company itself. In particular, we highlight the following areas that will affect the investment case:

- Economic development. As was witnessed during the recession, renewable energy investment, along with other forms of capital investment, suffered from the pressures on government debt levels. To mitigate this area of risk, Leaf is ensuring that it has a broad spread of investments in companies that have international end markets, many of which are largely decoupled from the US economy. Despite this, the fundamental health of the global economy will have a bearing on investment sentiment in the sector and could make realisations more difficult to achieve.
- Regulatory environment. With many renewable markets still largely dependent upon regulation and government-funded support, signals from policymakers can have a significant bearing on investment appetite. The US delays and shifts in sentiment towards production tax credits is a clear example of the potential impact of policy uncertainty. To mitigate this risk, Leaf is actively involved with policymakers and industry associations such as ACORE (American Council of Renewable Energy) and has a policy of targeting technologies that are sustainable in a non-subsidised environment.
- Specific investee company risk. Each investee has a combination of technical, financial and market risks that are independent of each other. As part of the initial investment process, Leaf identifies such risks and ensures that there are suitable metrics in place to identify whether investees are performing to plan. In addition, Leaf insists that it obtains board membership that is commensurate with its stake to allow greater control of strategic direction. Despite this oversight, there will be times where certain investee companies will fail to deliver and therefore Leaf uses a probability-based valuation approach to its investments.
- Ongoing investment requirements. At the outset of each investment, Leaf identifies the future capital requirements. This will then drive the level of new investment activity that is available over and above commitments to existing investees. Leaf currently has \$21.0m of cash reserves available to it, of which \$3.1m is on a restricted basis. The Leaf board has stated that there is sufficient cash to meet the needs of the portfolio.
- Track record/exit potential. Since formation in 2007, Leaf's has had a track record of asset impairments and sliding net asset values. This provides an element of concern regarding the adequacy of previous controls. Since Leaf installed its internal team in 2010, it has been operating to ensure value is created in its existing holdings and invested solely in Lehigh as a new holding. Therefore, we believe that a positive exit from an existing investment would provide some confidence that the new investment methodology is being successful.
- Lack of visibility of fair value of holdings. Due to the nature of Leaf's holdings in unquoted investments and the disclosure of current fair value only at the aggregate level there is an element of risk regarding individual valuations. As a result, reliance upon the audit process takes particular relevance, along with the conservative approach taken by management, which is validated through market transactions.

Overall, we feel that the new management approach is key to extracting value from the existing portfolio and, more importantly, providing confidence in the management team for future investments.



Valuation

NAV

With Leaf's structure as a fund, it undertakes a fully audited process to calculate its NAV. As the group invests in unquoted direct investments, Leaf undertakes an assessment across each of its investees based upon International Private Equity and Venture Capital Valuation Guidelines. This encompasses the most appropriate techniques of a range of valuation methods including DCFs, transaction and market multiples and recent transaction terms. Management applies a large degree of prudence to its valuation approach to take into account the uncertainties in investment in the unquoted space.

Current share price at a 47% discount to NAV/share

Leaf's reported NAV per share as at June 2013 was 142.66 cents, or 93.80p (at 1.521), an increase of 0.8% from 141.52 cents or 90.23p (at 1.569) per share in 2012. The current share price of 46.5p sits at a 48% discount to the last reported NAV.

Comparative valuations highlight potential of successful development

We have compared Leaf to a range of other investors and project developers in the clean energy sector and wider private equity and venture capital market, as shown in Exhibit 23 below.

Company	Description	Market cap (£m)	P/NAV (x)	Yield (%)	Comment
Renewable Energy Generation	Engages in the development, construction, and operation of renewable energy facilities in the United Kingdom. Wind focused.	80.7	1.13	1.9	Recent disposal of Goonhilly wind farm (12MW) for £25.1m EV/£9.1m net profit highlights success.
Ludgate Environmental	Investments in development capital, expansion stages, early and pre-IPO stage in quoted and unquoted securities in private and public companies in the cleantech sector.	33.2	0.71	3.2	The company is due to be wound up by 30 June 2015. Exploring options for value creation.
Utilico Investments	Closed-end investment fund invested in gold mining, renewables, electricity, water & waste, ports, financial services, toll roads, oil & gas, infrastructure information technology (IT), airports and telecoms.	145.3	0.88	6.8	Net portfolio loss recorded in FY13, affected by share price decline on a Resolute Mining investment.
Helius Energy	Engaged in developing, building and operating renewable biomass sites within the UK, either directly or in partnership.	13.4	0.59	0.0	Recent commercial handover of Rothes 8.32MW and 66.5t/h pot ale evaporator plant achieved, further projects in planning stage.
Greencoat UK Wind	Closed-end investment trust, investing in wind farm projects with a capacity >10MW. Will invest in equity and associated debt instruments.	271.1	1.03	1.4 (target 6%)	Recent IPO of infrastructure fund with portfolio of 126.5MW of operational UK wind assets.
Average			0.87		
Leaf Clean Energy		59.9	0.52	0.0	Recent results showed positive progression in NAV.

Exhibit 23: Comparative company analysis, AIM-listed clean energy investors

Source: Edison Investment Research. Note: Prices as at 24 October 2013.

As can be seen, Leaf trades at a 40% discount to the average P/NAV of peer AIM-listed renewable and cleantech funds and investors. This discount can be explained by the previous track record of declining NAV under the previous structure, as well as the lack of yield compared to the dividend paying funds invested in established operational assets. However, we believe that as Leaf begins to deliver enhanced value and begins to demonstrate returns through disposals, this discount should narrow.



Financials driven by fair value movements

As Leaf operates as a fund with substantially all of its investments held in private companies under a fair value basis, Leaf has early adopted the amendments to reporting under IAS10: investment entities issued by the IASB in October 2012. As a result, as of 30 June 2013, Leaf no longer fully consolidates its investment subsidiaries or reports separate standalone parent company information, but instead presents consolidated statements with investee subsidiaries shown at the fair value of Leaf's investment.

Earnings and NAV development benefiting from fair value gains

2013 results showed a stabilisation of Leaf's investee performance with the NAV as at 30 June 2013 standing at \$183.7m, \$1.5m higher than 30 June 2012. This improvement came about through a combination of a \$6.0m gain on revaluation in the carrying value of the portfolio companies and the receipt of \$0.8m of interest income on loans to portfolio companies, less \$5.2m of administration expenses and \$0.1m of tax expenses. Exhibit 24 below shows the gains or losses on portfolio valuation since fund inception.







We see the positive revaluation in 2013 as encouraging and it highlights the fact that many investees are reaching a point in development that should see valuations develop further, as they either move from R&D to commercialisation or as project enhancements fully show through.

Balance sheet and cash considerations

Leaf has no debt on the balance sheet, with investments at fair value through the profit and loss accounting for \$163m while cash accounts for \$21m, of which \$3.1m is restricted cash. This restricted element relates to collateral accounts securing two letters of credit in relation to one of Leaf's investments. These are due to be released on or before 30 November 2013, after which time Leaf anticipates the corresponding cash collateral accounts to be released and the cash made available to Leaf. Exhibit 25 below shows the development of the investment and cash element of the balance sheet since listing.





Exhibit 25: Relative investment values and cash balances of the group since listing (\$m)

Source: Edison Investment Research

The Leaf Board has stated that the cash available to the group is sufficient to meet its liquidity needs.



Exhibit 26: Financial summary

US\$'000s	2008	2009	2010	2011	2012*	2013*
Year end 30 June	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS						
Net gains/(losses) on investments at fair value through P&L	0	(30,400)	(8,650)	750	(29,108)	5,955
Interest income on investments and foreign exchange gains/(losses)	16,689	(12,380)	(16,887)	(12,665)	1,094	814
Gross portfolio return	16,689	(42,780)	(10,610)	8,691	(28,014)	6,769
Other income	0	(1,591)	(14,927)	(20,606)	0	0
Administration expenses	(9,071)	(11,071)	(17,823)	(2,752)	(5,489)	(5,172)
Operating Profit (before GW and except.)	7,618	(55,442)	(43,360)	(14,667)	(33,503)	1,597
Intangible Amortisation	0	0	0	0	0	0
Exceptionals	0	0	0	0	0	0
Other	0	0	0	0	0	0
Operating Profit	7,618	(55,442)	(43,360)	(14,667)	(33,503)	1,597
Net Interest	0	(119)	(1,619)	(1,557)	0	0
Profit Before Tax (norm)	7,618	(55,561)	(44,979)	(16,224)	(33,503)	1,597
Profit Before Tax (FRS 3)	7,618	(55,561)	(44,979)	(16,224)	(33,503)	1,597
Tax	0	0	0	(10,224)	(330)	(129)
Profit After Tax (norm)	7,618	(55,561)	(44,979)	(16,442)	(33,833)	1,468
Profit After Tax (FRS 3)	7,618	(55,561)	(44,979)	(16,442)	(33,833)	1,468
Average Number of Shares Outstanding (m)	200.0	189.8	177.5	142.6	128.7	128.7
EPS – normalised (c)	3.8	(29.1)	(23.1)	(7.1)	(26.3)	1.1
EPS – FRS 3 (c)	3.8	(29.1)	(23.1)	(7.1)	(26.3)	1.1
Dividend per share (c)	0.0	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)	N/A	N/A	N/A	N/A	N/A	N/A
EBITDA Margin (%)	N/A	N/A	N/A	N/A	N/A	N/A
Operating Margin (before GW and except.) (%)	N/A	N/A	N/A	N/A	N/A	N/A
	10/1	1071				
BALANCE SHEET	55.000	457.000	400 754	400.000	100 751	400.050
Fixed Assets	55,000	157,220	166,754	189,862	138,751	162,653
Intangible Assets	0	18,137	28,095	13,424	0	0
Tangible Assets	0	53,257	57,470	45,014	17	20
Investments	55,000	85,826	81,189	131,424	138,734	162,633
Current Assets	341,067	174,962	102,739	55,326	44,403	21,882
Stocks	0	128	406	521	0	0
Debtors	315	2,982	3,355	8,183	479	887
Cash & cash investments	340,752	171,852	98,978	46,622	43,924	20,995
Current Liabilities	(2,342)	(7,188)	(8,044)	(5,381)	(955)	(868)
Creditors	(2,342)	(5,611)	(5,351)	(2,541)	(955)	(868)
Short term borrowings	0	(1,577)	(2,693)	(2,840)	0	0
Long Term Liabilities	0	(10,670)	(25,119)	(28,094)	0	0
Long term borrowings	0	(7,689)	(21,908)	(28,094)	0	0
Other long term liabilities	0	(2,981)	(3,211)	0	0	0
Net Assets	393,725	314,324	236,330	211,713	182,199	183,667
CASH FLOW						
Operating Cash Flow	11,549	(9,072)	(28,183)	(17,734)	(5,701)	(5,311)
· •	0	(3,072)	0	0	5,967	624
Net Interest Tax	0	0	0	0	(333)	
	0	(23,449)	(7,067)	(2,086)	(333)	(267)
Capex						(21)
Acquisitions/disposals	(54,950)	(83,201)	(13,639)	(27,448)	7,304	(17,944)
Financing	386,107	(26,467)	(36,133)	(11,542)	(4,766)	0
Dividends	0	0	0	0	0	0
Net Cash Flow	342,706	(142,189)	(85,022)	(58,810)	2,461	(22,919)
Opening net debt/(cash)	0	(340,752)	(162,586)	(74,377)	(41,470)	(43,924)
HP finance leases initiated	0	0	0	0	0	0
Other	(1,954)	(35,977)	(3,187)	121	(7)	(10)
Closing net debt/(cash)	(340,752)	(162,586)	(74,377)	(15,688)	(43,924)	(20,995)

Source: Leaf Clean Energy accounts, Edison Investment Research. Note: 2008-11 consolidated results; *2012 and 2013 restated for early adoption of amendments to IAS10: Investment Entities.



Contact details

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Revenue by geography

N/A

CAGR metrics		Profitability metrics		Balance sheet metrics		Sensitivities evaluation		
EPS 08-13	N/A	ROCE 13	N/A	Gearing 13	N/A	Litigation/regulatory	•	
EPS 11-13	N/A	Avg ROCE 08-13	N/A	Interest cover 13	N/A	Pensions	0	
EBITDA 08-13	N/A	ROE 13	N/A	CA/CL 13	N/A	Currency	€	
EBITDA 11-13	N/A	Gross margin 13	N/A	Stock days 13	N/A	Stock overhang	€	
Sales 08-13	N/A	Operating margin 13	N/A	Debtor days 13	N/A	Interest rates	0	
Sales 11-13	N/A	Gr mgn/Op mgn 13	N/A	Creditor days 13	N/A	Oil/commodity prices	•	

Management team

Chairman: Peter Tom, CBE

Peter Tom is chairman of Leaf Clean Energy's board of directors. He is executive chairman of AIM-listed building materials group Breedon Aggregates and was formerly chief executive of Aggregate Industries, which he led until its acquisition by Swiss materials group Holcim for £1.8bn in 2005. He served as chairman of the UK aggregates industry trade association in 2007, managing its amalgamation that year with two related associations to form the Quarry Products Association. Peter has been chairman of Leicester Tigers rugby club for 20 years. He was awarded a CBE for service to business and sport in 2006.

Executive director: Bran Keogh

Bran has been a director of Leaf Clean Energy since formation in 2007 and became executive director in 2010. He previously worked for the Irish Productivity Centre as a business development and strategic planning specialist. He has led large-scale financings across construction and energy. Bran is a shareholder and director of several Irish companies involved in renewable and conventional power generation, including Tynagh Energy, a 400MW combined cycle gas turbine project; Western Power, which is developing a number of large wind farms; and Greener Ideas, a JV with Bord Gáis Éireann (BGE) to develop 400MW of open cycle gas turbine projects.

Principal shareholders

	(70)
INVESCO Asset Management Limited	45.83
Lansdowne Partners	14.25
Kames Capital	13.88
Aviva Global Investors Limited	7.80
Jupiter Asset Management	7.42
J.P. Morgan Chase	3.92
BlueCrest Capital Management	3.32

Companies named in this report

Tesla Motors (US); Solar City (US); Pattern Energy (US); Mighty River Power (NZ); Siemens (GE); General Electric (US); Renewable Energy Generation (UK); Ludgate Environmental Fund (UK); Helius Energy (UK); Greencoat UK Wind (UK); Utilico Investments (UK); Covanta (US)

(%)



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