

Leaf Resources

Company update

Value creation through Glycell commercialisation

Alternative energy

Leaf Resources (LER) is taking steps to commercialise its Glycell technology. This produces sugars from biomass for processing to high-value bio chemicals at a much lower cost than alternative technologies, providing the foundation for new projects based on 'advantaged' biomass. Glycell has the potential to transform the economics of global renewable chemicals.

Year end	Revenue (A\$m)	PBT* (A\$m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
06/14	0.0	(1.6)	(2.4)	0.0	N/A	N/A
06/15	0.0	(2.2)	(1.6)	0.0	N/A	N/A
06/16e	0.1	(2.8)	(1.7)	0.0	N/A	N/A
06/17e	0.2	(2.7)	(1.5)	0.0	N/A	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

Proactively pursuing business opportunities

For organisations that have access to low-cost biomass that would otherwise be disposed, burnt or used in a low-value application, Glycell provides a business opportunity for a high-value project producing a renewable chemical. LER has a proactive strategy to sponsor projects and has already negotiated three MOUs. The strong economics of such projects has created potential opportunities to negotiate a more valuable free carried interest rather than a royalty.

Targeting the US, Europe, Asia and Australia

LER is pursuing project opportunities in the US, Europe, Asia and Australia. In the US, it is pursuing project scoping opportunities through a JV with ZeaChem, which has engineering expertise and a biorefinery. LER has also negotiated an MOU with the R&D arm of Monaghan Mushrooms, the second largest mushroom producer in the world, for a possible project in Europe. In Australia, LER has MOUs with Norske Skog Australia and a large international agricultural company. For Asia, LER conducted a joint evaluation with Andritz, a global supplier of plant, equipment and services for the pulp and paper and other industries, on Empty Fruit Bunch (EFB) with positive results. EFB is a readily available waste biomass derived from palm oil production in Indonesia, Malaysia and Thailand.

Valuation potential not reflected in the share price

We have valued the potential free carried interest that LER would achieve through the creation of a project. Using the NPV₁₀ approach, we assume a 210,000 bone dry tonne low-cost biomass project producing a standard renewable chemical using the Glycell process. At a 'typical' renewable chemical price of US\$1,500/t at free carried interests of 5%, 10% and 15%, LER's corresponding interests would be valued at A\$0.37, A\$0.73 and A\$1.10/share for a single project. Given LER's global proactive scoping activity, there is potential for many projects plus royalty agreements as the technology gains global momentum. The corresponding value for the first five projects would be A\$1.83, A\$3.65, and A\$5.48/share.

1 June 2016

Price **A\$0.10**

Market cap **A\$13m**

US\$0.72/A\$

Net cash (A\$m) at 31 March 2016 0.79

Shares in issue 133.3

Free float 68.6

Code LER

Primary exchange ASX

Secondary exchange N/A

Share price performance



% 1m 3m 12m

Abs (28.6) 0.0 (31.0)

Rel (local) (30.3) (9.2) (26.9)

52-week high/low A\$0.20 A\$0.10

Business description

The Glycell process, developed and owned by Leaf Resources, is an intermediate-stage process in the conversion of biomass to bio-based chemicals, plastics and fuel. Advantages include lower capital and operating costs relative to alternative technologies and recovery and quality benefits.

Next events

June activities July 2016

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The Glycell process

LER has developed and owns the Glycell process. This uses glycerol as a reagent to break down lignocellulosic biomass to cellulosic sugars, used as a feedstock for bio-based chemicals. This is achieved at a substantially lower cost than existing processes with many productivity-related, technical and revenue enhancement benefits. Benefits compared to existing processes include:

Productivity

- **High recovery of cellulose:** high recovery of cellulose (c 94%) and hemicellulose.
- **High, rapid conversion to sugars:** conversion of cellulose and hemicellulose to cellulosic sugars. Can be up to 99% for cellulose from bagasse (sugarcane waste).
- **Overall efficiency:** overall Glycell efficiencies of cellulose recovery and conversion to sugar can be >90%. For existing processes such as dilute acid, typical industrial-scale cellulose recoveries and conversion efficiencies are both c 80%, giving an overall efficiency of <70%.
- **Rapid processing time:** due to the effectiveness of using glycerol as a reagent.
- **Plant scale flexibility:** large variation in plant scale possible (100,000-700,000 tonnes biomass feedstock pa).
- **Continuous:** rather than a batch process.

Technology

- **Operates on virtually all biomass:** includes sugar cane bagasse, wheat straw, various hardwoods including Eucalyptus Globulus, poplar and American mixed hardwoods and Empty Fruit Bunch (EFB) from palm oil plantations. Evaluation work continues on softwood species.
- **Simple:** innovative and effective.
- **Low temperature and pressure:** the mild temperature and pressure combined with the glycerol solvent leads to less degradation of products to contaminate the sugar, resulting in cleaner sugars. Capital costs and energy, operating and maintenance costs are also lower.
- **Off-the-shelf equipment:** standard industrial items.
- **Bolt-on flexibility:** can be bolted onto and integrated within existing plants.

Revenue optimisation

- **Separate sugar streams:** the Glycell process produces separate cellulosic hexose sugar C6 (glucose) and cellulosic pentose sugar C5 (xylose) streams. Other existing processes produce various cocktails requiring separation and may not be suitable for all fermentation processes.
- **Clean sugars:** the Glycell process produces very clean sugars, which are essential for many renewable chemicals.
- **C6 sugars:** fermented into a range of chemicals and fuels.
- **C5 sugars:** require novel organisms and can be used for higher-value applications.
- **Significant co-product potential:** lignin and upgraded glycerol.
- **Lignin:** existing processes decompose the lignin structure so that it becomes less useful and normally only good for combustion (heat value). Glycell produces a high-quality lignin product with an assumed sales price of US\$450/t. There are also higher-value opportunities and a growing market. Some high-specification lignin may potentially achieve a price up to US\$850/t.
- **Glycerol:** by upgrading glycerol used in the process to a higher-value specification of 99.7% during recycling, an additional co-product is created. There is an arbitrage between purchased 'waste' glycerol at c US\$200/t (a biodiesel by-product) and a sale price of c US\$500/t for the 99.7% glycerol. The glycerol for the process is replaced with 'waste' diesel at the lower price.

Glycell value proposition

Glycell opens up opportunities for completely new value-adding bio businesses:

- Projects based on low-cost or zero cost 'advantaged' biomass that is available regionally, which would otherwise be disposed as landfill, burnt, or utilised in a low-value application.
- The economics of such projects can be very attractive and may provide the opportunity for LER to negotiate a free carry in a project, which is more valuable than a licence fee.

Projects using advantaged biomass create substantial value

We have modelled a 'typical' project that converts advantaged biomass to a standard renewable chemical with mainstream applications. Glycell produces the cellulosic sugars from the biomass.

Key assumptions for our model include:

- **Biomass:** cost US\$70 per bone dry tonne, processed through a plant with a capacity of 210,000 bone dry tonne (BDMT) per year, a rate favoured by LER because of its profit potential.
- **Sales prices:** standard renewable chemical US\$1,500/t, pentose (C5) sugars US\$265/t.
- **Co-products:** lignin price US\$450/t, 99.7% pure glycerol price US\$522/t.
- **Capital cost:** US\$230m.
- **Parameters:** discount factor 10%, tax rate 30%, project life 15 years, 100% of project.

Our valuation for this project is US\$701m (Exhibit 1) at a renewable chemical price of US\$1,500/t. We have also carried out a sensitivity analysis at different chemical prices. Valuations are US\$561m and US\$841m at renewable chemical prices of US\$1,200/t and US\$1,800/t respectively.

Exhibit 1: Indicative valuations – 210 BDMT pa renewable chemical plant with advantaged biomass

Renewable chemical price (US\$/t)	1,200.0	1,500.0	1,800.0
NPV ₁₀ (US\$m)	561.3	701.3	841.2

Source: Edison Investment Research

LER actively engaging with potential project partners

LER has a proactive strategy to sponsor projects that can use Glycell technology. It is engaging with potential partners with the objective of creating business opportunities for projects. It has already negotiated three MOUs.

The Glycell process is applicable to existing chemical manufacturers, companies in sectors such as pulp and paper with spare capacity and companies that produce biomass waste.

The economics of a project derived from low-cost or advantaged biomass are very strong because the low cost of the cellulosic sugar feedstock provides higher margins and valuation uplift. This has created the potential opportunity for LER to negotiate a free carry interest. This would provide a better financial outcome for LER than a licence fee. Requirements for these projects include:

- **Biomass supply:** low-cost source, readily available near the project, low transport cost.
- **Glycell technology:** to produce cellulosic sugars from the biomass at low cost.
- **Process plant:** to convert the back-end molecules of the cellulosic sugars to renewable chemicals for sale.
- **An offtake agreement:** for the sale of the renewable chemicals from the process plant. The offtake agreement may be with a major chemicals company that requires the renewable chemical for conversion to more complex chemical products.

- **Finance:** to build a new plant or modify an existing plant. Under a free carry arrangement, finance would be provided by the majority owner(s) of the project.

Opportunities – the US

LER believes that the US offers some of the best opportunities for the application of Glycell. LER is in discussions with various companies on potential opportunities.

LER is pursuing many of its US project scoping activities through a JV with ZeaChem, an unlisted company. ZeaChem has engineering expertise and a biorefinery plant that can incorporate Glycell.

ZeaChem

LER and biorefiner ZeaChem, of Denver, Colorado, had been in separate discussions with potential partners in the US. They subsequently decided that a joint approach would be beneficial to both parties and have already received initial non-binding expressions of interest from potential customers.

- **Biorefinery upgrade:** ZeaChem has a 10 ton per day demonstration scale refinery in Boardman, Oregon, which has operated since December 2012. ZeaChem is currently evaluating the conversion of its demonstration plant into a commercial production facility for advanced/cellulosic ethanol and speciality chemicals.
- **Regional focus:** initially, the JV will be focused on the south-east industrial heartland of the US. This region has ready access to supplies of hardwood and regional authorities eager to encourage employment.
- **Initial project:** the JV has selected a project in the south-east region. A JV plan has been agreed and a scoping study is underway. The study is a precursor to a more detailed feasibility study suitable for financing the project. The JV partners have already received initial non-binding expressions of interest from potential customers in the region. There has been interest for the supply of C6 and C5 sugar streams and the technical grade glycerol generated by the Glycell process.
- **Conditions:** under the JV agreement, LER retains full rights to all Glycell intellectual property and any associated royalties and upfront payments. ZeaChem retains full rights to its intellectual property, royalties and payments. LER and ZeaChem can still pursue individual opportunities.
- **LER investment in ZeaChem:** with the signing of the JV, LER has invested A\$550,000 to acquire a 13% interest in ZeaChem with the potential to increase to 45%, on a fully diluted basis, in the future. The attraction to LER of this investment is the biorefinery, which is being expanded to a commercial scale, and ZeaChem's engineering skills. The biorefinery has the potential to be cash flow positive after its expansion to the commercial scale.

Opportunities – Europe

LER has experienced a lot of interest in its Glycell process in Europe. Its key opportunity in Europe is its MOU with Monaghan Biosciences, a subsidiary of the Ireland-based Monaghan Mushrooms.

Monaghan Biosciences

Monaghan Mushrooms, the second largest mushroom producer in the world, had been seeking a commercial application for its spent mushroom substrate. Following discussions and favourable test work results, LER and Monaghan are seeking to establish a renewable chemical project under an

MOU. Project work is underway with regard to potential end-products and co-products and sales contracts. As the project develops, the current 50/50 ownership split may be changed to allow other parties to enter and assist in project financing.

- **Background:** in January 2015, Monaghan Biosciences signed a Material Transfer Agreement under which LER provided cellulose produced by the Glycell process for testing with Monaghan Biosciences' enzyme technology. The results of the testing showed that the Monaghan Biosciences' enzyme technology, in combination with Glycell pre-treatment, produced superior performance compared with other commercial enzymes and pre-treatments. This led to further discussions about how the technologies could be commercially exploited.
- **MOU discussions:** these led to the signing of an MOU between LER and Monaghan Biosciences and its parent company Monaghan Mushrooms to establish a viable renewable chemical project using Monaghan Mushrooms' spent mushroom substrate as feedstock and Monaghan Biosciences' enzyme technology integrated to the Glycell cellulosic sugar platform. The MOU details the preliminary work leading to a bankable feasibility study. LER and Monaghan Biosciences would initially each hold 50% of the project.
 - **Monaghan Mushrooms:** this is a major producer of mushrooms throughout Europe. It produces a significant amount of spent mushroom substrate from its operations each year. Both LER and Monaghan Mushrooms believe this material could be an integral part of a significant bio-based project. Most of its production sites are in Europe. Therefore, a renewable chemical project will most likely be located in Europe.
 - **Monaghan Biosciences:** this is a wholly owned research and development arm of Monaghan Mushrooms. One of its objectives is to develop commercial applications for the substantial quantities of spent mushroom substrate produced in the organisation. Monaghan Biosciences has a skilled team of highly qualified research and development scientists with commercial and industrial experience. The organisation is located in state-of-the-art facilities in Tyholland, County Monaghan in Ireland. A focus is developing enzyme technology for several industry segments.
- **Funding:** the budget for the initial phase of the project was A\$300,000, to be shared equally. These funds were to be used to acquire the data for the bankable feasibility study. The budget and funding of the bankable feasibility study will be decided at a later stage. Some government funding may be available. As the project develops, the level of ownership may be reduced to allow other parties to assist in the financing of the project.
- **Project work:** preliminary work included testing the substrate mass (mainly Stage 1), moving to a pilot-scale process evaluation and enzyme optimisation (mainly Stage 2). The intention is to use the data generated for engineering design and modelling. In addition, detailed work is also planned with regard to potential end-products for C5/C6 sugars, lignin and the potential for valorising the spent glycerol. Potential contracts for the sale of these end-products would also be investigated.
- **Substrate supply:** Monaghan Mushrooms has a large amount of spent mushroom substrate and is keen to turn it into a more valuable product.
- **Licensing:** both Monaghan Biosciences and LER have provided a free option to licence their respective technologies on terms to be agreed. The terms would be based on the economic benefit against the National Renewable Energy Laboratory (NREL) dilute acid benchmark.
- **Stage 1 results:** this stage has now been completed. In combination with a Monaghan Biosciences enzyme cocktail, the tests found that Glycell pre-treatment gave a superior result to the dilute acid process route, hydrolysing 25% more cellulose over a 24-hour time frame. The pre-treatment trials were carried out at BPF in the Netherlands (<http://www.bpf.eu>). Enzymatic hydrolysis and analysis was carried out in Ireland and at Monaghan Biosciences.

Several other important observations on chemical application and material conditioning and handling were made that will contribute to the next stage.

- **Stage 2:** based on the results of Stage 1, LER and Monaghan Biosciences agreed to move to Stage 2 and are now implementing that plan. This stage will include tonnes per day pilot testing at the Andritz facility in Springfield, Ohio.

Opportunities – Asia

Asia has strong chemical markets and a demand for renewable chemicals. LER is now working to attract potential partners to help develop projects that can use the Glycell technology to take advantage of the availability of cheap 'advantaged' feedstocks in the region, such as EFB biomass.

Joint evaluation by LER and Andritz on EFB

LER and Andritz have conducted a joint evaluation to assess the performance of Glycell pre-treatment technology on EFB, a readily available waste biomass product of the palm oil industry. Andritz is a global supplier of plant, equipment and services for the pulp and paper and other industries. The tests were carried out at its facility in Springfield, Ohio.

The main sources of EFB generation are Indonesia (approx 22-23mtpa), Malaysia (approx 20mtpa) and Thailand (over 2mtpa).

Evaluation results using Glycell:

- **Cellulose to glucose (C6 sugar):** conversion yield was 91% at 72 hours. This was on average 13% higher than using a dilute acid process.
- **Xylan (C5 sugar) to xylose:** conversion yield was 75% after 72 hours of saccharification retention. This was on average 9% higher when compared to using a dilute acid process.

The evaluations above used EFB material that had been applied to a proprietary material washing and resizing stage designed by Andritz.

Opportunities – Australia

While the US, Europe and Asia are more of a focus for LER, the company has established two MOUs in Australia:

- **Large international agricultural company:** at the first stage of an evaluation project on agricultural waste. Positive results have been delivered creating increased focus on the potential of Glycell in that company. LER and the agricultural company are working towards a feasibility study for a commercial operation in Australia.
- **Norske Skog Australia:** investigation of the use of Glycell to convert radiata pine to cellulosic sugars and the subsequent conversion of these sugars to renewable chemicals. Norske Skog operates a newsprint production facility at Albury, NSW with a 274,000 tonne pa capacity. The mill utilises up to 55% recycled fibre with the balance of fibre sourced from plantation radiata pine. The Norske Skog MOU is part of LER's strategy to explore opportunities at brownfield sites, such as newsprint mills and other possibilities, to reduce capital.

Valuation

LER has a proactive strategy to sponsor projects most appropriate for its Glycell technology and is engaging with potential business partners. It is the low cost of the cellulosic sugar derived from

biomass using Glycell that creates the high margin for a high-value renewable chemical project. By demonstrating the benefits of Glycell, LER will seek to negotiate free carry interests in projects.

We have modelled a biomass to renewable chemical project that converts advantaged biomass to a standard renewable chemical with mainstream applications. Indicative valuations were provided earlier in the report in Exhibit 1, accompanied by the key valuation assumptions used.

In Exhibit 2, we tabulate a range of indicative valuations for LER, in A\$/share, for the value of a free carried interest in an individual project. We vary the renewable chemical price from US\$1,200/t to US\$1,800/t and the free carried interest from 5% to 15%.

Exhibit 2: Indicative valuations (A\$/share) for a free carried interest in a renewable chemical project			
Renewable chemical price (US\$/t)	1,200.0	1,500.0	1,800.0
NPV ₁₀ (US\$m)	561.0	701.0	841.0
NPV ₁₀ (A\$m)	779.2	973.6	1,168.1
LER interest (A\$m)			
Free carry @ 5%	39.0	48.7	58.4
10%	77.9	97.4	116.8
15%	116.9	146.0	175.2
LER interest (A\$/share)			
Free carry @ 5%	0.29	0.37	0.44
10%	0.58	0.73	0.88
15%	0.88	1.10	1.31
Shares (m)	133.3	A\$/US\$	0.72

Source: Edison Investment Research

LER is pursuing project opportunities in the US, Europe, Asia and Australia. In the US, the company is pursuing project scoping opportunities through a JV with ZeaChem, which has engineering expertise and a biorefinery. LER has also negotiated an MOU with the research and development arm of Monaghan Mushrooms, the second largest mushroom producer in the world, for a possible project in Europe. In Australia, LER has negotiated two MOUs, one with Norske Skog Australia and one with a large international agricultural company. For Asia, LER has conducted a joint evaluation with Andritz, a global supplier of plant, equipment and services for the pulp and paper and other industries, with positive results. This evaluation assessed the performance of Glycell on EFB, a readily available waste biomass product of the palm industry. The main sources of EFB generation are Indonesia, Malaysia and Thailand.

In Exhibit 3, we provide an assessment of the potential range of LER valuations possible for between one and five projects proceeding over a range of 5-15% free carried interests. We have used a price of US\$1,500/t for the renewable chemical produced. There are other permutations possible, but our assessment encapsulates a reasonable initial range.

Given the dramatic reduction in the cost of producing cellulosic sugar from biomass using Glycell and the potential for projects across many geographies, we believe there is potential for many more projects over time as the benefits of Glycell are demonstrated and the trend towards biochemicals accelerates.

Exhibit 3: Assessment of LER valuation range (A\$/share) for different project numbers and free carry rates					
No of projects	1	2	3	4	5
Free carry @ 5%	0.37	0.73	1.10	1.46	1.83
10%	0.73	1.46	2.19	2.92	3.65
15%	1.10	2.19	3.29	4.38	5.48

Source: Edison Investment Research

In our initiation report of 9 September 2015 [Game-changer technology for bio-based products](#), we calculated NPV₁₀ valuation ranges based on expected royalty streams and access fees over 10 years achieved by the Glycell technology. We assumed the achievement of a 5% global market share of carbohydrate equivalents (CHEQ) by year 10, assuming a CHEQ growth rate of 6.5% pa. Our core valuations were A\$1.45/share (no co-products), A\$4.95/share (including lignin co-products) and A\$6.29/share (including lignin and glycerol co-products).

In that report, we stated that if Glycell technology is widely adopted the expansion of capacity using this technology could be at a more rapid rate and 'lumpier', which would lead to a higher valuation.

LER has proactively adopted a strategy of sponsoring projects that can use Glycell technology. It is creating opportunities for free carried interests in these projects in preference to the negotiation of less remunerative royalty streams. LER's strategy may lead to the more rapid adoption of its Glycell technology and ultimately a higher valuation.

In some instances, such as the installation of Glycell technology in existing projects or large chemical complexes, it may be more practical to negotiate royalty and technology access fees.

Financials

LER is actively involved in discussions with a broad range of organisations in many countries with the objective of establishing commercial applications for the company's Glycell technology.

Earnings

LER has no current source of earnings. Earnings are dependent on the successful adoption of its Glycell technology and the receipt of cash flow from free carried interests negotiated in projects or royalty streams and access fees.

Cash flow

LER is undertaking joint venture projects with selected partners and may receive research fees. The company is expected to receive approximately A\$75,000 in research fees in the June quarter, FY16. It also expects to receive in the order of A\$90,000 from the 2014/15 Export Market Development Grant (EMDG) application. This assumes the EMDG second tranche payout factor for the 2014/15 year remains consistent with the 2013/14 year at 65.28 cents in the dollar.

In 2016/17, LER believes it will receive an R&D tax incentive and EMDG exceeding A\$500,000. As in the previous two years, LER has indicated in releases to the ASX that it believes it will be able to raise equity as needed. For the purpose of our model, we assume an equity raise of approximately A\$2.3m at a notional price of \$0.12/share. This level of equity is consistent with forecast costs and equity raisings in previous years.

Balance sheet

At 31 March 2016 LER had cash of A\$0.79m and no debt. During the March quarter 2015/16, LER invested A\$550,000 to acquire a 13% stake in ZeaChem. LER has signed a JV agreement with ZeaChem to establish a Glycell-based project in the US.

Exhibit 4: Financial summary

	AS'000s	2013	2014	2015	2016e	2017e
30-June		IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS						
Revenue		718	1	11	130	155
Cost of sales		(1,316)	(1,478)	(1,871)	(2,608)	(2,550)
Gross profit		(598)	(1,477)	(1,860)	(2,478)	(2,395)
Administration		(76)	(138)	(340)	(343)	(355)
EBITDA		(673)	(1,615)	(2,201)	(2,821)	(2,750)
Depreciation & amortisation		(2)	(2)	(3)	(3)	(4)
EBIT (before amort. and except.)		(675)	(1,617)	(2,204)	(2,825)	(2,754)
Intangible amortisation		0	0	0	0	0
Exceptionals		3	0	0	0	0
Share based payments		(8)	(16)	(241)	(194)	(200)
EBIT		(680)	(1,633)	(2,445)	(3,019)	(2,954)
Net interest		23	14	13	0	14
Profit Before Tax (norm)		(652)	(1,603)	(2,191)	(2,825)	(2,740)
Profit Before Tax (FRS 3)		(657)	(1,619)	(2,432)	(3,019)	(2,940)
Tax		299	91	519	683	647
Profit After Tax (norm)		(354)	(1,512)	(1,672)	(2,142)	(2,093)
Profit After Tax (FRS 3)		(359)	(1,528)	(1,913)	(2,336)	(2,293)
Minorities		0	0	0	0	0
Associated company income		0	0	0	0	0
Net income (norm)		(354)	(1,512)	(1,672)	(2,142)	(2,093)
Net income (FRS 3)		(359)	(1,528)	(1,913)	(2,336)	(2,293)
Average number of shares outstanding (m)		49.8	62.4	106.5	123.3	144.3
EPS - normalised (c)		(0.7)	(2.4)	(1.6)	(1.7)	(1.5)
EPS - normalised and fully diluted (c)		(0.7)	(2.4)	(1.6)	(1.7)	(1.5)
EPS - (IFRS) (c)		(0.7)	(2.5)	(1.8)	(1.9)	(1.6)
Dividend per share (c)		0.0	0.0	0.0	0.0	0.0
Gross margin (%)		N/A	N/A	N/A	N/A	N/A
EBITDA margin (%)		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
BALANCE SHEET						
Fixed Assets		87	4	46	578	588
Intangible assets		0	0	0	0	0
Tangible assets		87	4	46	28	38
Investments		0	0	0	550	550
Current Assets		807	619	1,171	1,106	1,846
Stocks		0	0	0	0	0
Debtors		58	53	66	224	224
Cash		478	475	699	553	1,294
Other		271	91	406	328	328
Current Liabilities		(218)	(541)	(454)	(744)	(719)
Creditors		(218)	(541)	(454)	(744)	(719)
Short term borrowings		0	0	0	0	0
Long Term Liabilities		0	0	0	(15)	(15)
Long term borrowings		0	0	0	0	0
Other long term liabilities		0	0	0	(15)	(15)
Net Assets		676	81	762	925	1,701
CASH FLOW						
Operating Cash Flow		(408)	(1,258)	(2,204)	(2,662)	(2,250)
Net interest		23	15	13	5	14
Tax		200	271	204	761	647
Capex		(2)	(3)	(20)	(9)	(10)
Acquisitions/disposals		3	84	(25)	(550)	0
Equity financing, other		(7)	888	2,257	2,310	2,340
Dividends		0	0	0	0	0
Net cash flow		(192)	(2)	224	(145)	740
Opening net debt/(cash)		(669)	(478)	(475)	(699)	(553)
HP finance leases initiated		0	0	0	0	0
Other		0	0	0	0	0
Closing net debt/(cash)		(478)	(475)	(699)	(553)	(1,294)

Source: Company accounts, Edison Investment Research

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