LEAF RESOURCES LIMITED

Sustainable products from plant biomass

Australian Securities Exchange Announcement **25th February 2014**

Shareholder update:

Highlights

- **4 Material Transfer Agreements signed for the supply of samples for testing.**
- **3 Confidentiality Agreements signed.**
- **Lux Research's report gives the major rival process' sugar costs of $0.23/kg. Leaf Resources comparable estimate is $0.15/kg, an $0.08/kg or $80 per tonne advantage.**
- **Addition of Dr. Les Edye and Dr. Marc Sabourin to our team.**

Dear shareholder,

Since our last detailed update in July 2014, we have made excellent progress towards the goal of commercialising our proprietary Glycell™ process.

Leaf Resources' Glycell™ process is a proprietary technology that is an essential first step of the biorefining process (pretreatment) in breaking down biomass into its constituent parts (cellulose, hemicellulose and lignin) prior to being converted into marketable products such as are biobased chemicals, bioplastics and other renewable products.

Leaf Resources is now actively engaged, marketing the major benefits of the Glycell™ process to the many companies seeking what we produce; cheap; clean cellulosic sugars. The key benefit of our process is the lower net cost of the cellulosic sugars we can deliver, with our sugars estimated to cost 35% less than other current major processes, a decrease from $230/per ton to $150/per ton[1].

Business Development Update

- Leaf Resources has signed 4 Material Transfer Agreements (MTAs). These agreements facilitate the exchange of pretreated biomass or cellulosic sugars derived from the Glycell™ process for testing and evaluation by the recipient companies, a necessary precursor to commercial negotiations. These agreements include confidentiality and IP protection clauses to protect Leaf Resources' intellectual property.

- We are in discussion with another 3 companies on MTA's for cellulosic sugars.

- We have signed 3 Confidentiality Agreements (CA). A CA allows Leaf Resources to provide our comprehensive data pack on the Glycell™ process to companies for evaluation.

[1] Estimate calculated using assumptions as published by Lux Research and applied in Leaf's technoeconomic model.

- Collaboration Agreement with ZeaChem

  This agreement is progressing well with testing at Andritz being successfully completed. We are now waiting on final analytical results, which will allow us to plan the integration of our Glycell^{TM} process in ZeaChem's demonstration facility at Boardman, Oregon. Results already published, have detailed the successful processing of Poplar, ZeaChem's chosen feedstock for their Boardman plant.

- Other Business development activities

  Our business development activities are focused on discussions with targeted companies and lifting the technology profile. Leaf Resources management will be attending two key conferences in March 2015, including Advanced Bio-economy Leaders Conference in Washington DC and World BioMarkets in Amsterdam.

Public Profiling

- Leaf Resources presented at the Advanced Bio-economy Leaders Conference (ABLCnext) in San Francisco during November 2014. Following the conference, the following comments were published in the Biofuels Digest by Jim Lane, the Editor, and the conference organiser:-

  "What's Up? Sugars are the new oil if sugars can be cheap enough to replace the old oils. Leaf Resources think they have cracked a part of that puzzle with massively advantaged yields for C6 sugars.

  Why Hot? The absence of competition – only a handful of companies have technology for breakthroughs on sugar costs – Here's the wonder from Down Under."

- Leaf Resources were a finalist in the National Banksia Sustainability Awards for Innovator of the Year in November 2014

- Leaf Resources also presented at 2014 BIO Pacific Rim Summit on Industrial Biotechnology and Bioenergy in December 2014 at San Diego, California

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What is Biorefining and how large is the Opportunity?

"Biorefining is the sustainable processing of biomass into a spectrum of marketable products including; biobased chemicals, bioplastics and biofuels.

The potentially large scale of the biorefining opportunity is not well understood in Australia.

World-wide there is an estimated 5 billion tons of agricultural waste and this represents a massive, potential resource for biorefineries. This is enough biomass for over 3 billion tons of cellulosic sugars worth an estimated $750 billion at $250 per tonne.

A report commissioned by the Australian Government, identified the potential for 10 – 15 biorefineries of 1 million bone dry tons in temperate Australia alone[2]. In addition, another report showed that tropical Australia has sufficient biomass to support a further 6 to 8 biorefineries of a similar size[3]. The potential for biomass as a resource for biorefineries in equatorial regions, the large agricultural areas of the USA, India and China and Northern Europe is significantly larger than the Australian opportunity.

The Demand for Biobased Products:

Whilst a significant biomass resource is available, the other side of the ledger is the demand for the final product produced from that resource. The key products produced by biorefineries are biobased chemicals (chemicals derived from biomass that can replace petroleum derived chemicals), bioplastics and biofuels.

- **Biobased chemicals** are experiencing a compound average growth rate of 20% with the consequence that the market is expected to exceed $500 billion by 2017. In the longer term, biobased chemicals are predicted to grow to 22% of the $4 trillion chemical market. Worldwide chemical companies such as Dupont and Procter and Gamble have a stated corporate goal that 25% of their sales will be biobased by 2020.

  Cellulosic sugars can provide the input for many biobased chemicals and the ability to produce economical, clean sugars from biomass (as our Glycell™ process does) is commercially very important.

- **Biobased plastics** are able to replace 80% - 90% of petroleum based plastics and therefore represent a large growth opportunity. Accordingly, demand is expected to grow strongly from a small base of 3.5 M tonnes, (a $2 billion market) compared with the fossil based plastics market which is some 75 times larger at 265 M tonnes.

  Coca Cola has as a goal the complete replacement of petroleum based plastics for its bottling operations and many other companies have similar goals for their packaging requirements. Cellulosic sugars are a feedstock for many biobased plastics.

[2] Parratt and Associates, Scoping Biorefineries – temperate biomass value chains.

[3] Corelli Consulting Biorefinery scoping study: tropical biomass.

- In the biofuels markets the continuing pressure of the food for fuel debate opens up the use of cellulosic sugars as the feedstock for ethanol replacing corn and sugar as the input. With over 200 ethanol plants in the USA alone, this represents a large opportunity.

What the Future Holds for Leaf Resources

In the next 12 months our attention is focused on licensing, Joint Ventures and collaborations. Our business strategy has four key targets:

- **Paper and Pulp market.** Paper and pulp companies generally have access to biomass, they are strategically keen to embrace biobased markets and they understand our process because it utilises equipment they already use. Leaf Resources' will utilise these advantages to establish the Glycell™ process in this market.

- **Retrofit opportunities**: We have identified a limited number of opportunities and an economic model to retrofit the Glycell™ process into existing operations.

- **To sell the Glycell™ process, as a bolt-on plant to an existing ethanol plants:** With the sharp fall in oil prices, the economics of existing ethanol plants has weakened. The increased pressure on the use of corn for fuels and the green credentials of corn ethanol provides an opportunity to sell the Glycell™ process, as a bolt-on plant to existing ethanol plants.

- **Renewable Chemicals**: We have established contact with companies in the renewable chemicals markets and will work with them to establish projects through Joint Ventures or licensing that make economic sense. We are looking at prospective projects in Australia.

Rival processes

Lux Research is an independent research and advisory firm, providing strategic advice and ongoing intelligence on emerging technologies. In their 2013 report entitled "Cellulosic Chemicals and Fuels Race to Compete with First-Gen Sugars Economics" it was stated that: "***unlocking explosive growth in lignocellulosic chemicals/fuels requires inexpensive conversions"*** and they identified 5 key conversion technologies currently in use. The table below is the estimated sugar costs (biomass at $70 BDT).

Technologies	**Cost of sugars**
Dilute acid	$0.23/kg
Ammonia fibre explosion	$0.25/kg
Steam explosion	$0.26/kg
Supercritical fluid	$0.22/kg
Concentrated acid	$0.18/kg

We have estimated the sugar costs for our Glycell™ process using the same assumptions as the Lux Research report at $0.15/kg, which given the slightly higher biomass assumption is consistent with our previous announcement of 5c/1lb at $55/BDT (there are 2.2 lbs. per kilo).

Dilute acid is a common process used as pretreatment and together with steam explosion represent the major competition to the establishment of the Glycell™ process. Based on the Lux numbers, Leaf Resources Glycell™ process has at least an $80 per ton operating cost advantage over major competitive technologies.

Lux Research recently included Leaf Resources on their database. Their summary was:

"Clients should continue to monitor scale up progress, as cost and performance claims provide advantages over existing technologies (steam explosion dilute acid etc.)"

Technology Development

Our technology continues to be improved. Progress over the last 6 months include:

- **Commercially available process to recycle the glycerol**: We have identified, and are currently testing, a commercially available process to recycle the glycerol used in the Glycell™ process. Initial testing has established proof of concept, which is encouraging. We will now proceed to testing at pilot scale and optismisation.

- **Increasing the efficiency and economics of the Glycell™ process:** We have been able to decrease the processing time in the main reactor, which allows for a 20% greater throughput. This increases considerably the efficiency and economics of the Glycell™ process;

- **Adapting our process to suit the Corrugated Cardboard Market:** We have developed a variant of the Glycell™ process, that, produces a prototype cellulose pulp that is potentially suitable for use in the corrugated cardboard market;

- **Testing on common bacteria and yeast:** Tests of our cellulosic sugar samples on common industrial bacteria and yeast will commence early in March 2015. The results from this testing will provide us with important base data for prospective users.

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Staff Resources

Over the last 6 months we have welcomed Dr. Les Edye and Dr. Marc Sabourin to the Leaf Resources team.

Dr. Les Edye

Les joined the Leaf Resources team in July 2014, as Head of Research & Development. He has a background in carbohydrate chemistry, expertise in biofuel production processes and sustainable biomass supply, and research interests in the conversion of lignocellulosics to fuels and chemicals and biorefining for total biomass utilisation. He is recognised internationally and since 2007 held the position of National Task leader, International Energy Agency, Bioenergy Task 39 – Commercialising Advanced and Conventional Liquid Biofuels from Biomass. He is the author of over 90 peer-reviewed journals, conference proceedings and book chapters and three patents. He also holds the position of adjunct Associate Professor, Biofuels and Biorefineries at Queensland University of Technology.

Dr. Marc Sabourin

Marc is a seasoned business development engineer with over 28 years in the global Pulp and Paper industry. He has delivered growth focused, technical business development and process engineering solutions to industry throughout his career, most recently in the role of Global Director, process development of the pulp and fiber division of Andritz (Andritz is a globally leading supplier of plant equipment and services, for Pulp and Paper and other industries). Through his career Marc has developed a large network of contacts within the Pulp and Paper industry as well as the emerging biorefinery space.

Syngenta/QUTBluebox

Agreements have been signed, finalising this previous collaboration and the licensing arrangements with QUT Bluebox. There are minimal ongoing obligations for Farmacule Bioindustries Pty Ltd, Leaf Resources' wholly owned subsidiary.

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Funding

Over the past 6 months, Leaf Resources' presence in the share market has grown, with our story and future prospects gaining some traction. This has been assisted by presentations at the Microcap conference in Melbourne in October 2014; Wholesale Investor conferences in Melbourne, Brisbane, Sydney and Singapore; and a comprehensive roadshow to brokers in Perth, Melbourne, Sydney and Adelaide.

We have been supported by our corporate advisers, Lodge Capital who have been ably assisted by Gordon Capital. This increased presence enabled Leaf Resources to raise $1,707,000 late in 2014 at $0.15.

Daily chart 16th February 2015 (source ASX)

Conclusion

2015 will be a significant year for Leaf Resources, as we progress the commercilisation of our proprietary Glycell™ process. Biorefining represents a big opportunity and we are already speaking to a number of quality companies. As stated earlier, the next 12 months will be focused on negotiations leading to licensing deals, Joint Ventures and key national and international collaborations.

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Link Market Services

At Leaf Resources, we are committed to sustainable business practices and to ensuring that you receive all shareholder communications promptly. To assist us you can keep your records up to date, with our share registry, Link Market Services (Link). Via Link's website www.linkmarketservices.com.au you can access a range of information and make some changes online for your own holding, or download forms to authorise other changes.

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3. Enter your Security holder Reference Number (SRN) or Holder Identification Number (HIN)
4. Enter your postcode or if your registered address is overseas, click on the OUTSIDE AUSTRALIA link to look up your country of residence.
5. Enter the security code displayed
6. Tick the box regarding the terms and conditions
7. Click on LOG IN

About Leaf Resources Ltd (ASX: LER)

In virtually every industry, consumer demand for greener more natural products is fuelling a surge of interest in bio-based alternatives to replace oil based products.

Leaf Resources is commercialising the Glycell™ pretreatment technology: This is the first essential part of the process on a path to bio-based products.

The Glycell™ Process is an innovative technology that uses a low cost, recyclable, biodegradable reagent glycerol, in a simple process. This process breaks down plant biomass into lignin, cellulose and hemicellulose at low temperature and pressure.

Cellulose, a critical building block for many bio-based products, produced by the Glycell™ processes can be used directly as cellulose fibre, chemically converted to cellulose derivatives or converted to cellulosic sugars using enzymatic hydrolysis. These cellulosic sugars can then be converted to bio-based materials, bio-plastics and green chemicals, the markets for which are extremely large and fast growing.

Leaf Resources commercialisation strategy is to partner with industry leaders across the breadth of product supply chains. This will bring synergies and speed to the commercial adaption of our production process technology in a capital-efficient manner. Leaf Resources sees this path as an effective means of deployment to multiple plants in diverse settings and the opportunity to further innovation in both product and process technologies.