

20 June 2016

Australian Securities Exchange Announcement

Investor Presentation

Attached is the company's new presentation detailing our proprietary Glycell™ process, the market opportunities for the process and the projects we are currently developing.

About Leaf Resources Ltd (ASX: LER)

Leaf Resources is commercialising the Glycell™ process.

The Glycell™ Process is an innovative technology that uses a low cost, recyclable, biodegradable reagent glycerol, in a simple process that breaks down plant biomass into lignin, cellulose and hemicellulose at low temperature and pressure. The cellulose is then converted to cellulosic sugars through enzymatic hydrolysis and the lignin, hemicellulose and glycerol become valuable co-products.

Cellulosic sugars are a major feedstock for green, renewable biobased chemicals, bioplastics and biofuels, products whose markets are multi \$billions and fast growing. Many biobased products can now economically replace petroleum based products.

The Glycell™ process can produce cellulosic sugars at under \$50 per tonne when co-products are included. This compares with \$220 per tonne for sugars produced from the conversion of corn starch, the cheapest alternative and \$280 per tonne for raw sugar.

By dramatically reducing the cost of the main feedstock for bio based chemicals, plastics and biofuels, the Glycell™ process has the potential to change the face of global renewable production.

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INVESTOR PRESENTATION

June 2016

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COMPANY OVERVIEW



*Leaf Resources
is a green chemical
company that uses
plant waste/biomass
to create industrial
chemicals to replace
petrochemicals in
manufacturing*

- Patent pending Glycell™ process that converts plant biomass into industrial sugars (a key component used to create green/sustainable chemicals)
- Large cost advantage over other processes that create industrial sugars
- Glycell™ is well-suited for a low-carbon world as it is sustainable, carbon friendly and cuts carbon emissions

THE PROBLEM



The world is actively shifting from a petroleum-based economy to a sustainable green economy



Manufacturers moving away from petrochem due to environmental concerns



However, some dirty fossil-based petrochemicals are indispensable



The chemicals are used to manufacture a variety of everyday items such as:

- Clothes
- Pharmaceuticals
- Food
- Household goods

THE SOLUTION



1



Glycell™ is an industry disruptor due to its large cost advantage and green credentials



2



The Glycell™ process can operate at any scale providing maximum flexibility to capitalise on potential opportunities in the bio-based chemical, bioplastic and biofuel markets



3



Also addresses environmental pollution from waste generated from Ag businesses as most waste plant biomass can be used as inputs for Glycell™



4



Glycell™ turns plant-waste into industrial sugars – a key ingredient to creating green chemicals that can be used as substitutes for petrochemicals

DISRUPTING A MULTI-BILLION DOLLAR INDUSTRY



Petrochemicals

Dirty fossil fuel-based petrochemicals are used to produce thousands of everyday household items



Glycell™ can be used to produce a chemical substitute that can replace petrochemicals in EVERY manufacturing process

COMPELLING INVESTMENT PROPOSITION



1.

Large market opportunity for Glycell™ with petrochem market expected to hit US\$758bn by 2022 (Grand View Research)

2.

Manufacturers moving away from petrochem due to environmental concerns

3.

Glycell™ is an industry disruptor due to its large cost advantage and green credentials

4.

The agriculture industry generates plenty of waste plant biomass – providing lots of cheap/free inputs for Glycell™

5.

The technology is proven to work at pilot plant scale (up to 5 tonnes per day)

6.

Very broad application of the technology as Glycell™ can create green chemicals to replace virtually every petrochemical in their manufacturing process

STRONG MANAGEMENT TEAM



KEN RICHARDS MANAGING DIRECTOR

Track record in managing, growing and transitioning high growth ASX and private companies in a variety of industries. (Bachelor of Commerce, MBA, AICD Fellow)

ALEX BAKER CHIEF OPERATING OFFICER

Over 20 years' industry experience, science and technology commercialisation professional including waste stream value creation. CEO of Maverick Biosciences leading that company into the bio-medical product field. Bachelor and Masters degrees in science, biotechnology & technology management

DR LES EYDE VP – R&D

Over 30 years professional experience in research and development in Australia and in the US. Internationally recognised - since 2007 held the position of National Task leader, International Energy Agency, Bioenergy Task 39 – Commercialising Advanced and Conventional Liquid Biofuels from Biomass. PhD in carbohydrate chemistry, expertise in biofuels production processes and sustainable biomass supply.

DR MARC SABOURIN EXECUTIVE VP – BUSINESS DEVELOPMENT (AMERICAS)

29 years professional experience in research & development, process engineering and project execution. Formerly held positions in process and research engineering in the pulp & paper industry, including senior roles at Andritz. Bachelor and Master's degrees in chemical engineering, Ph.D in science specialising in energy reduction mechanisms in thermo-mechanical pulping

HELEN PENNISI

Track record in managing, growing and transitioning high growth ASX and private companies in a variety of industries. (Bachelor of Business, CPA)

DIRECTORS

Dr. Jay Hetzel (Chairman), Charles Wilson and Matthew Morgan

THE MARKET OPPORTUNITY



- Large and global market opportunity for Glycell™ with petrochem market expected to hit US\$758bn by 2022 (Grand View Research)
- At \$65bn, the bio-based chemical market is already large but is forecast to secure 22% of the \$2 trillion chemical market by 2025. Underpinning this growth is the fact that “virtually every petroleum-based chemical can be replaced by a biomass-derived chemical”. The goal of major chemical companies is to have 25% of their chemicals bio-based by 2020
- At \$2 billion, bio-plastics is a smaller market although Morgan Stanley predicts it to grow by an annual rate of up to 40%. Given that the fossil-based plastics market is currently 75 times larger and that up to 90% of fossil-based plastics can be replaced by bio-based plastics, the potential for growth is significant. Companies such as Coca Cola recognise this opportunity:



“We are working to completely eliminate the use of non-renewable fossil fuels in our plastic bottles”

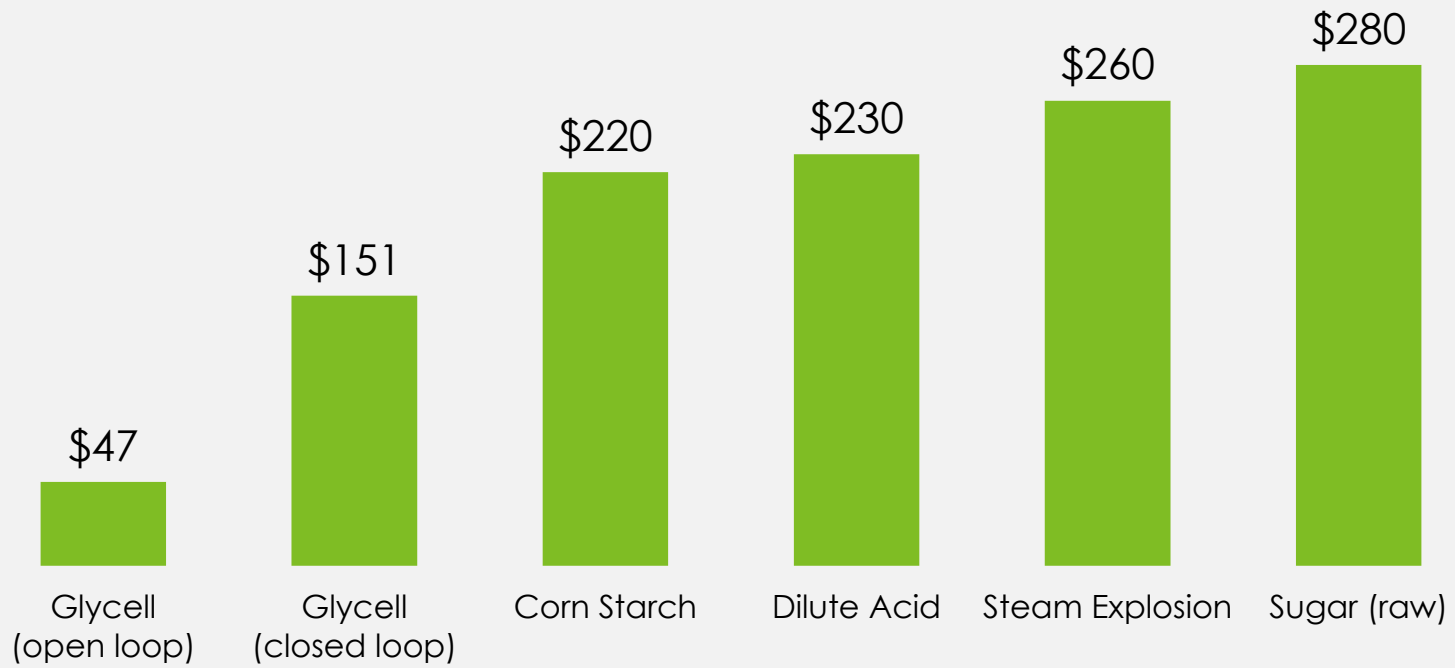
– COCA COLA

GLYCELL™: STRONG ECONOMIC CASE



- Glycell™ has a strong cost advantage
- Industrial sugars are a key component in green chemistry
- Glycell™ can lower costs to manufacturers

SUGAR COST CURVE, US\$



AWARD-WINNING PROCESS



NOMINATED AS ONE OF 3
FINALIST 'BREAKTHROUGH BIO-
BASED TECHNOLOGY PLATFORM'

March 2016
World Bio Markets Bio Business
Awards



NO 32: THE 40 HOTTEST SMALL
COMPANIES IN THE ADVANCE
BIO-ECONOMY 2015/2016

Awarded at Advance
Bio-economy Leaders
conference in San Francisco



FINAL 5 SOFFINOVA
RENEWABLE CHEMISTRY START-
UPS AWARDS 2015

Bio World Congress
(Montreal)



FINALIST BANKSIA SUSTAINABILITY
AWARDS 2014

Innovator of the Year (Australia)



WINNER CONSENSUS
GREENTECH AWARDS 2014

(Australia)



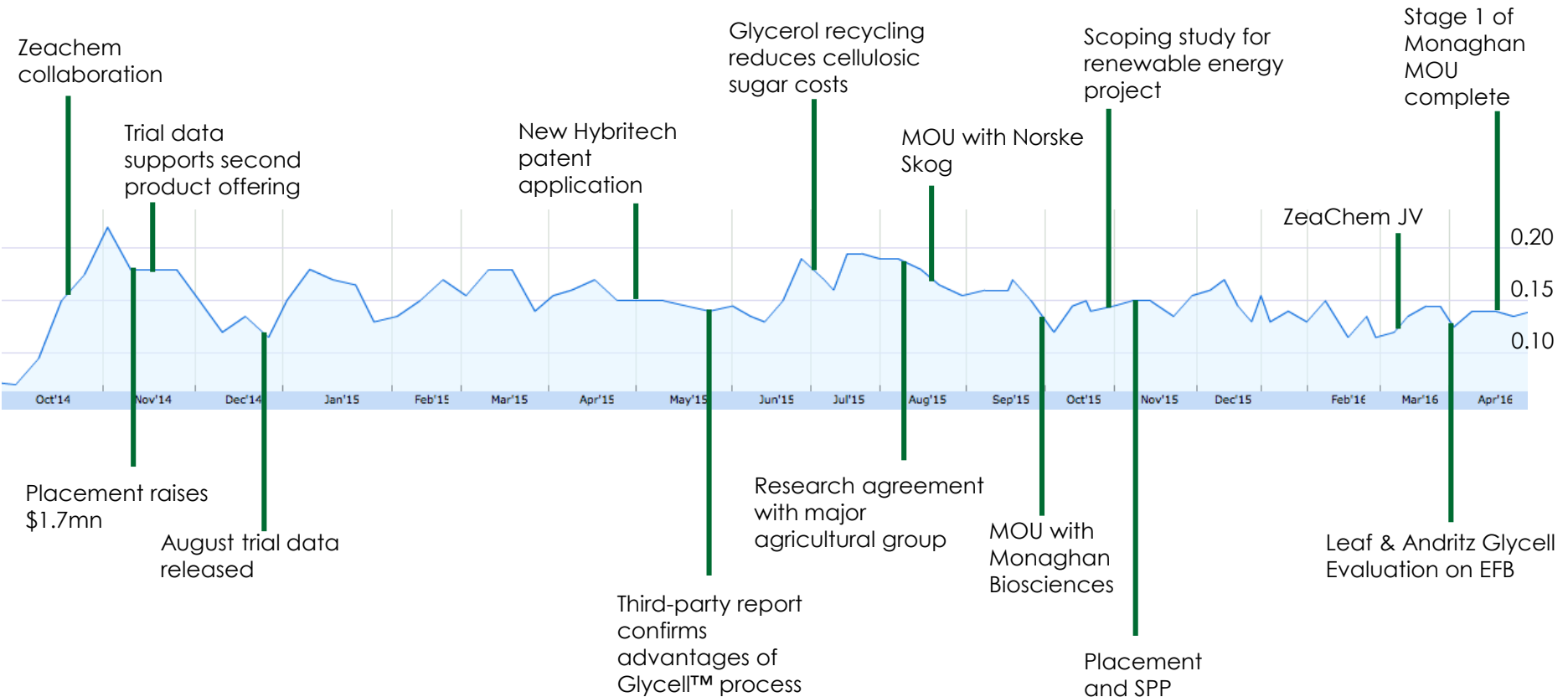
PATENTS

PCT applications lodged
June 2014

VALUE CREATION TIMELINE



Leaf Resources is delivering on multiple commercial milestones but these have yet to be reflected in its share price



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CURRENT PROJECTS AND CASE STUDIES

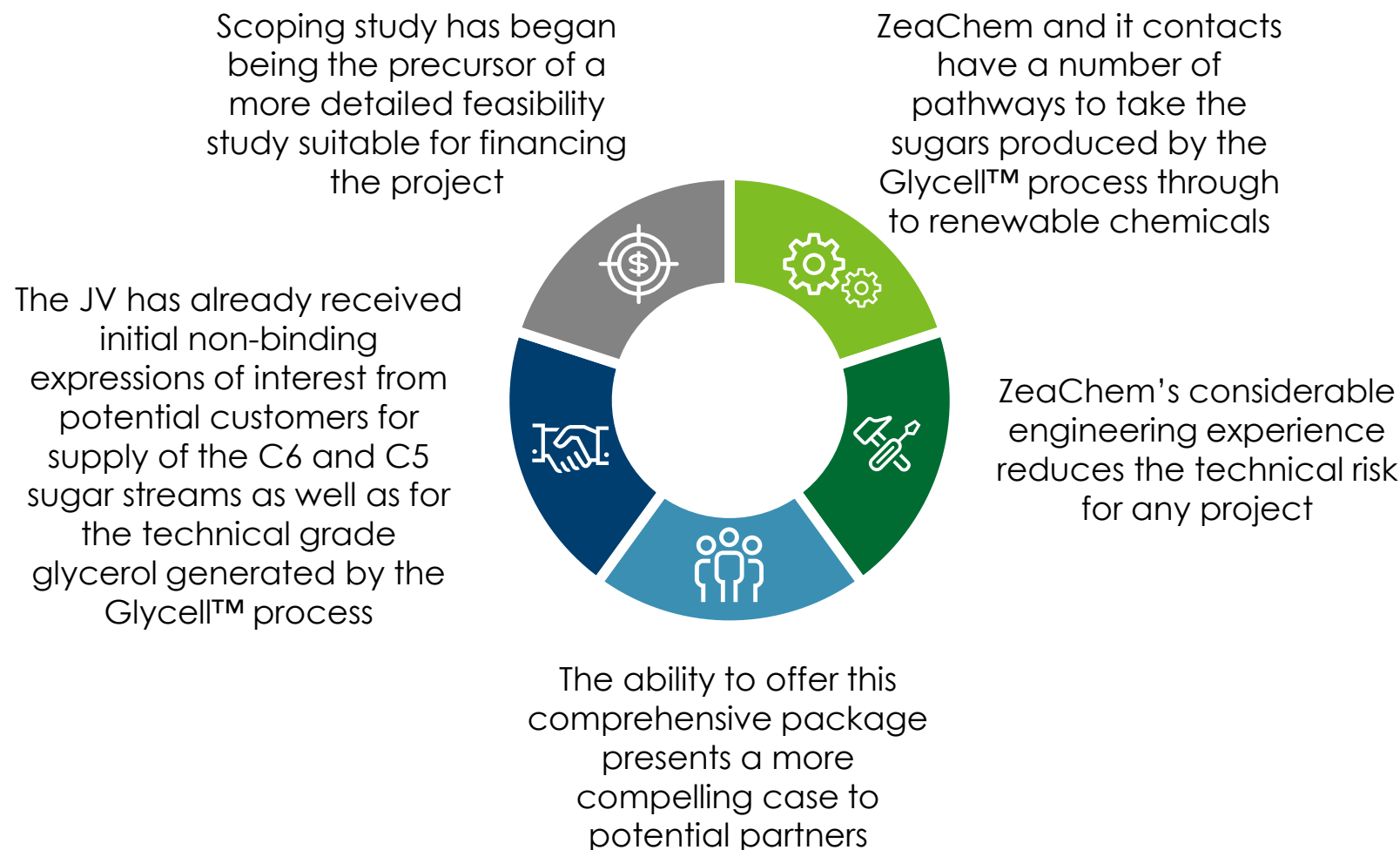
ZEACHEM JV: THE PROBLEM



- Leaf Resources has a disruptive technology but has not built and operated a demonstration plant
- ZeaChem has operated a demonstration scale bio-refinery in Boardman, Oregon since 2012
- The core of the Boardman plant is the same plant as used by Leaf Resources' Glycell™ process
- JV agreement to establish a Glycell™-based project in SE USA
- Agreement recognises the mutual benefits of combining ZeaChem's biorefinery engineering experience and renewable chemical technology, with Leaf Resources' proprietary Glycell™ process
- The combination should increase the opportunities available to Leaf Resources for the commercialisation of the Glycell™ process



ZEACHEM-GLYCELL™ SOLUTION



MONAGHAN BIOSCIENCES: THE PROBLEM



- Monaghan Biosciences is part of Monaghan Mushroom Group: the 2nd largest mushroom producer in world.
- Monaghan Mushrooms produces a significant amount of spent mushroom compost from their operations each year.
- Both Monaghan Biosciences and Leaf Resources believe that this material could be an integral part of a viable bio-based project.
- The aim of the MOU is to convert spent mushroom compost to renewable chemicals.



MONAGHAN-GLYCELL SOLUTION



Initial results show Monaghan/Leaf approach produces 25% more sugars than the nearest competitive technology



Leaf and Monaghan Biosciences have agreed to move to stage 2 of the JV agreement, which is a larger scale pilot testing program



An off-take contract for the renewable chemical produced is being sought in order to deliver a complete project that is attractive for financing



End objective is a bankable feasibility study for a renewable chemical project

RICE HUSK: AN EXCITING OPPORTUNITY



Rice husk is a new, large economical opportunity for Leaf Resources

Rice husk contains silica in a potentially valuable form

Leaf Resources has lodged a provisional patent for a process that extracts the Silica

The remaining biomass is an attractive and cheap input into the Glycell™ process

Further testing is required to evaluate the quality of the Silica

Silica can be used in microchips, specialty metals and alloys, optics, pharmaceuticals and has other valuable uses

There are 770 million tonnes of rice husk in Asia



See ASX announcement 2nd June 2016

OTHER OPPORTUNITIES



ANDRITZ AND EMPTY FRUIT BUNCH (EFB)



Leaf's Glycell™ process shows a higher recovery of C6 sugars over the rival dilute acid process at Andritz's Springfield facility

LARGE AUSTRALIAN AGRICULTURAL COMPANY



Research agreement to create valuable bio-products from agricultural waste

Phase 1 – laboratory scale testing the agricultural waste with Glycell™ & work towards a feasibility study for a commercial operation in Australia

NORSKE SKOG AUSTRALIA



Investigate the use of Glycell™ to convert, Radiata Pine to cellulosic sugars and the subsequent conversion of those sugars to renewable chemicals

OTHER LICENSING OPPORTUNITIES



We are still in discussions with other companies in USA, Europe, Asia and South America on potential opportunities

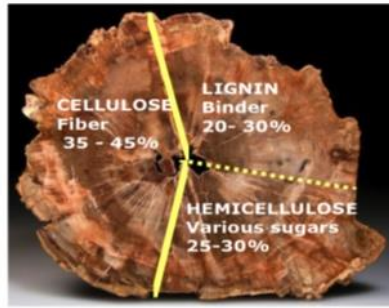
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HOW GLYCELL™ WORKS

GLYCELL™ PROCESS OVERVIEW



PLANT BIOMASS



LEAF RESOURCES

Glycell™
process

INDUSTRIAL SUGAR

Cellulosic
Sugars

MULTI BILLION DOLLAR MARKETS

Biobased
Chemicals

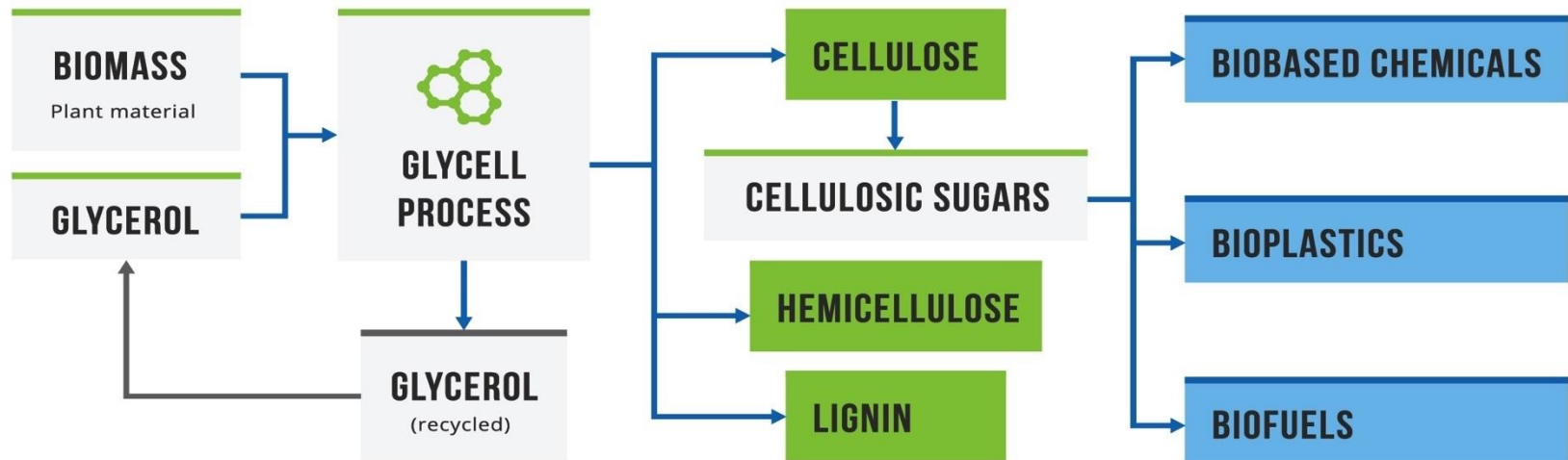
SOURCES OF PLANT BIOMASS:

Plantation timber:
Eucalyptus, Poplar,
Pine
Sugar cane waste –
bagasse
Palm waste – Empty
Fruit Bunch
Wheat straw
Rice Husks
Corn stover

END PRODUCTS:

Malic acid
Succinic acid
2,5-Furan dicarboxylic
acid (FDCA)
3-Hydroxypropionic
acid (3-HPA)
Glucaric acid
Glycerol
Aspartic acid

GLYCELL™: PLANTS TO CHEMICALS



The Glycell™ process is the vital first stage of converting biomass to green chemicals



BIOMASS FLEXIBILITY

- Input materials are very cheap or free
- Key drivers of cost advantage:
 - Glycell™ process technology operates at lower temperature and pressure conditions, resulting in lower operating costs
 - The main reagent, Glycerol, can be recovered and sold at a profit
 - Technology recovers more cellulose from the biomass input
 - Can be transferred and applied at any scale of operation

Hardwoods



Empty fruit bunch
(EFB)



Bagasse



Wheat straw



THE GLYCELL™ ADVANTAGE



PRODUCT BENEFITS



- Low temperature and low pressure
- 'Off the shelf' equipment
- Operates at any scale
- Quick & Continuous process
- Suitable for wide range of biomass

ECONOMIC BENEFITS



- Lower capital costs
- Lower operating costs
- Dramatically higher sugar recovery from plant matter
- Compelling environmental benefits
- Lower energy use, lower carbon footprint

THE GLYCELL™ PROCESS HAS BEEN PROVEN AT PILOT SCALE
(5 TONNES PER DAY)

The background of the slide is a photograph of tall, thin grass with reddish-brown seed heads, illuminated by warm, golden light. A semi-transparent white rectangular box is positioned in the center-left, containing the title text.

MARKETING AND PRICING STRATEGY

REVENUE MODEL FOR GLYCELL™



LEAF RESOURCES WILL EARN REVENUES BY EITHER:

- Licensing the Glycell™ Process with upfront access fee and ongoing royalty or
- By “sponsoring” and participating in projects that utilize the Glycell™ process and participating in profits as well as licensing fees

OUR CHOICE WILL DEPEND ON:

- The customer: some companies want to do everything themselves
- The economic benefit we deliver
 - Advantaged biomass
 - Licenses for renewable chemical
 - Access to off balance sheet finance



OUR KEY
DRIVER/GOAL IS TO TO
DELIVER PROFITABLE
PROJECTS

GO-TO MARKET STRATEGY



- A viable biorefinery project needs:
 - **Biomass:** A economic, long term biomass supply
 - **Site:** Preferably a site with utilities already in place
 - **Conversion technology:** A partnership or license with a company that has the technology to convert the industrial sugars to renewable chemicals
 - **Off Take:** A off take agreement with a chemical company

- Leaf Resources is working on 3 projects on all 4 fronts:

Example – ZeaChem JV (SE USA)

- **Biomass:** There are plentiful supplies of well price hardwood available. Potential party to contract with identified
- **Site:** This is an industrial area with many available sites. Potential sponsor of site identified
- **Conversion Technology:** Expressions of Interest already received for the industrial sugars and recycled glycerol
- **Off Take:** in discussion

MILESTONES FOR NEXT 6 MONTHS



PROJECT	MILESTONE
ZeaChem JV	<ul style="list-style-type: none">• Complete scoping study• Obtain an option on site• Obtain an option on biomass supply• Secure off-take agreements• Commence BFS
Monaghan JV	<ul style="list-style-type: none">• Complete Phase 2 testing• Identify site and glycerol supply• Finalise Biomass supply agreement• Indicative agreements with conversion technologies• Commence scoping study
Rice Husk	Finalise characterisation of Silica and process improvement
Sugar Samples	Progress sugar sample acceptance by third parties

Goal is to have 3 projects under development

SUMMARY OF INVESTMENT PROPOSITION



1

Right time and right place for Glycell™ due to growing environmental concerns around fossil fuels and carbon pollution

2

Large and growing market opportunity with Glycell™ disrupting an industry that's estimated to be worth US\$758bn by 2022 (Grand View Research)

3

Strong green credentials and project economics for Glycell™ will drive market adoption of the technology

4

The technology has already moved out of the lab and into the field as it's proven to work at plants processing tonnes per day

5

Very broad application of the technology as Glycell™ can create green chemicals to replace virtually every petrochemicals used in manufacturing processes today



THANK YOU

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