



# **INVESTOR PRESENTATION**

**(August/September 2011)**

**WAG LIMITED**

# Executive Summary

- *Pacific Pyrolysis Pty Limited (**PacPyro**) has a **proven** waste management technology that **creates valuable energy & biochar***
  - *Diverts large volumes of waste materials from landfill or to higher value products*
  - ***World wide ownership** of technology*
  - *Significant commercial, reputational, social & sustainability benefits*
- *Business plan targeting strategic relationships with large international companies & institutions*
  - *Creating value from rising waste disposal costs, environmental and regulatory constraints*
  - *Will enable progressive large scale rollout of technology*
  - *AUS\$10.2Bn+ Australian waste market (MOU's in place with Transpacific Industries, Norske Skog & Transfield)*
- *Highly experienced board and quality management team*
- *A\$5m raising to facilitate the commercial deployment with a clear strategy*
- *ASX listed WAG Limited (ASX Code: **WAG**) will complete the acquisition of PacPyro in Q4, 2011. WAG to be renamed PacPyro Ltd*

# Opportunity Background

*Today's waste problems are major value opportunities for PacPyro's proven technology*

## Waste levels are growing...

Commercial and municipal waste levels to increase by 4.5% per annum



## Regulatory bodies are limiting land fills...

New landfills take 5-10 years to gain approvals

A NSW government consultant reported that without action Sydney's landfills may be full by 2016-2017. Consequently 2mtpa of waste may need to be transported 250km for dumping

AWT solutions are needed to deliver sustainable, higher value outcomes

## Costs are forecast to rise...

Landfill costs are up to \$100 per tonne.

Landfill levies have been imposed in all states in Australia, including:

- NSW (current metro levy \$70.30/t, increasing to over \$130/t by 2015/16)
- Vic (current \$44/t to \$58.50/t by 2014/15)

# Opportunity Definition

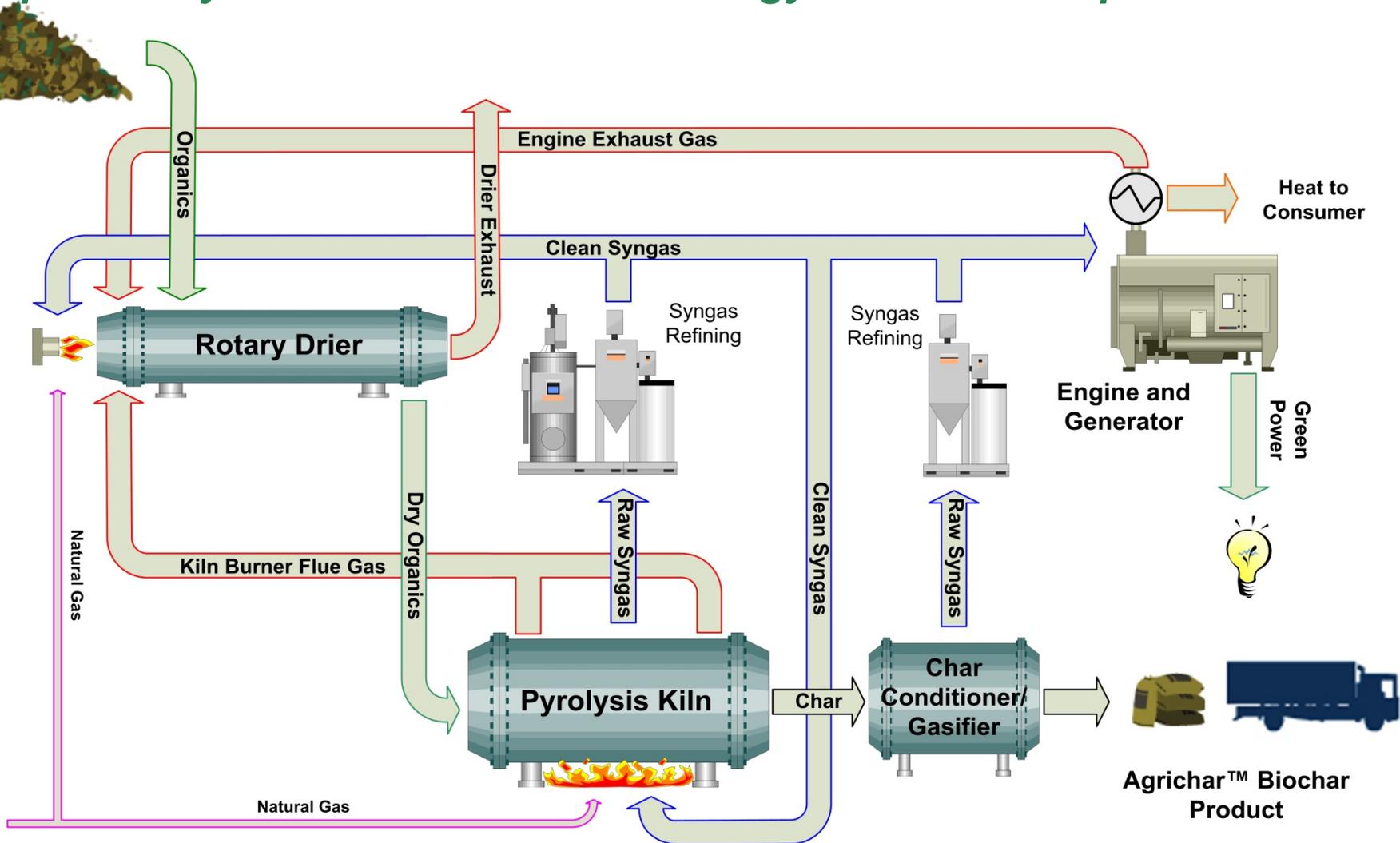
*The key to success is targeting companies and areas with greatest need*

**Strategic Goal** – Make PacPyro proven technology a key ingredient in large international and institutional business plans in dealing with long term waste management solutions (waste management, industrial including pulp & paper and integrated multi site waste/construction/manufacturing/high carbon intensity companies)

Waste Management, Industrial/Pulp & Paper, Embedded Energy	
Activities	Key Outcomes
Assess volume and suitability of feedstock	Supports 2tph and/or 4tph deployment followed by multiple plant roll-out
Assess value of waste management & by-products (energy, biochar, carbon) revenue (or cost saving streams) & complete comprehensive review of PacPyro solution to potential partners business	Fact based robust commercial model showing PacPyro solution is superior to “business-as-usual” practices and fits technology mix
Complete detailed design for commercial deployment	Feasibility level studies to support tenders, fabrication, investment approvals, commissioning & operations

# How The PacPyro System Works

*Independently verified modular technology for ease of implementation*



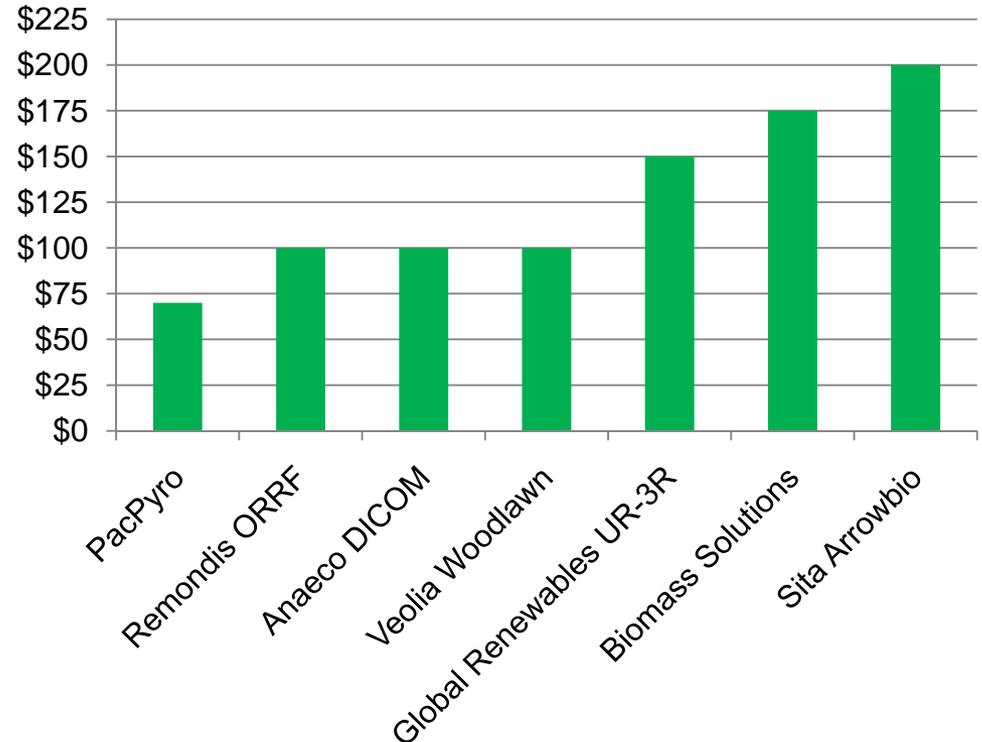
# PacPyro Waste Management Opportunity

*Ideally placed to penetrate the AUS\$10.2Bn Australian waste management market as well as international opportunities*

At a scale of 0.3tph PacPyro solution reduces waste volumes by between 70% to 90%. A base commercial scale plant of 2-4tph is predicted to achieve the same results

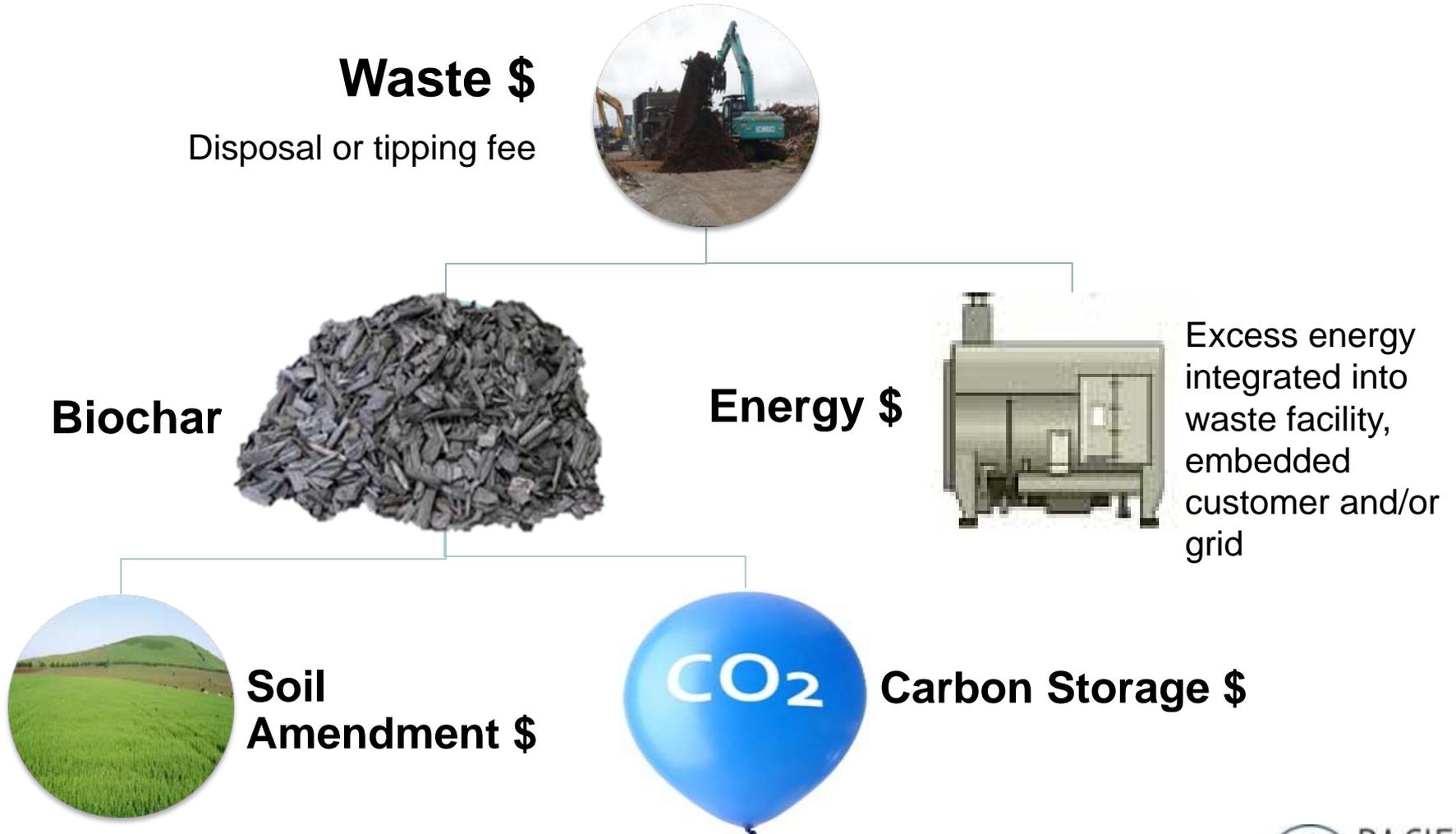
PacPyro commercial scale economics compare favourably with the “tipping fees” required by other non land fill waste management solutions

**Tipping fees needed for commercial viability**



# PacPyro Value Capture

*Material revenues from multiple areas on the value chain*



# PacPyro Revenue Streams

*Value capture along the chain and under a range of project models*

**Technology**



Up front license fees and ongoing royalties

**Engineering**



Feasibility and project development, project delivery (future EPC, EPCM, “turn-key”), O&M, upgrades & modular expansions

**Project**



Equity ownership of project revenue streams, project aggregation in renewable energy/waste/biochar

**Output related**



*Biochar* – marketing, off-takes, new product development

*Carbon/Emissions* – voluntary and certified carbon offsets

# Other Key Market Drivers

## Government Funding & Energy Drivers

Australian funding & initiatives include:

- ARENA (\$3.2bn)
- CEFC (\$10bn)
- RET (45,000GWh by 2020)
- RDAF (\$1bn)

Global Energy Price Increases and Energy Poverty – BioEnergy is a key technology piece

## Carbon Abatement Potential

Significant potential for domestic and offshore carbon abatement:

- Landfill diversion & Carbon Farming Initiative (Aust)
- International accreditation for biochar- sequestration (Europe, NZ, North American states)

## Biochar Potential

Application potential for broad range of agronomic markets and soil types:

- Increases crop yields (up to 300%+);
- Improve fertilizer efficiency (can reduce Nitrogen inputs by up to 90%);
- Improve water-holding capacity (25%+)

Global technology application potential across Waste Management, Renewable Energy, Agronomy and Carbon Abatement

# Commercialisation

Q4 2011

Q1 2012

Q2 2012

2012 Beyond

Commercial Partnerships

Conduct detailed assessment of key players in the waste management market

Identify the highest value proposition for incorporating PacPyro solution within their waste management business

Develop detailed commercial terms for the strategic partnership with each potential partner

Approach targeted strategic partners with Term Sheet

Complete DD and finalise terms for the first commercial deployment of PacPyro system

Complete engineering designs for commercial deployment

Complete all required regulatory consents for project construction & operation

Deploy commercial scale across multiple markets

Government Funding & Policy

Continue review of and application for government grants available for PacPyro Waste Management System

Aust CFI bio char methodology

Apply for project funding from government funded independent body

NZ ETS bio char methodology

Accreditation of methodologies under Australian CFI and NZ ETS

Deploy PacPyro equity, partner funds (and government funding) for project pre-construction

Seek accreditation under offshore schemes including EU, US state base schemes, Asia

Apply government funding for commercial scale deployment

Contribute significantly to waste management and renewable energy targets, carbon emissions reduction and agronomic outcomes

# Offer Details

## Capital Structure (post WAG acquisition of PacPyro)

Description	Amount
Ordinary Shares on Issue	15.32m
Ordinary shares to be issued to PacPyro shareholders	15.62m
\$5m Capital Raising @ 20c per Ordinary Share	25.00m
Total Ordinary Shares post acquisition	55.94m

## Options

Description	Amount
40 cents on or before 31 December 2011	1.25m
80 cents on or before 31 December 2012	1.25m
\$1.20 cent on or before 31 December 2013	1.25m

**WAG LIMITED**

## Application of Funds 12 mths

Description	Amount A\$ '000s
PacPyro commercial partners term sheet development	\$500
Engineering design for project deployment	\$800
Personnel	\$1,000
Working Capital*	\$3,100
<b>Total</b>	<b>\$5,400</b>

\* Includes \$500k cash from WAG



# Acquisition Timetable

Date	Event
30 September 2011	Notice of Meeting dispatched to WAG shareholders
7 October 2011	Prospectus lodged with ASIC and ASX
14 October 2011	Offer under Prospectus opens
2 November 2011	WAG Shareholder meeting (Note 1)
4 November 2011	Offer under Prospectus closes
16 November 2011	Completion of Acquisition by WAG of PacPyro Allotment of Shares under Prospectus
21 November 2011	Expected date of re-instatement of securities

Note 1: The proposed change in activities will trigger a suspension of WAG securities which will be activated on the morning of the General Meeting and will cease once WAG has satisfied the requirements of Chapters 1 and 2 of ASX Listing Rules.

# Proposed PacPyro Board

## **Dr Keiran Wulff (Chairman)**

Keiran has over 25 years international operating experience in the Energy Industry with strong networks in MENA, PNG, Europe, SE Asia and Australasia. He has held positions of Chief Operating Officer Oil Search Ltd and President Oil Search Middle East Limited. A strong strategist with a successful transaction, operational and value adding history. Keiran has had leading involvement in numerous transactions with a combined value of over US\$2B.

## **Dr Michael Ottaviano (Non Executive Director)**

Michael's background is in R&D and Technology Commercialisation. He is the MD of Carnegie Wave Energy Limited. Prior to this, he advised companies on new product development, IP, innovation portfolio management and technology commercialisation.

## **John Glen (Chief Executive Officer)**

John's background is investment banking, followed by advising companies on project development, funding, expansion and strategy in the resources, energy, property and service sectors. John co-founded PacPyro in late 2009, and put together the management buy-out of the technology and the pilot plant and then more recently securing ownership of the technology for PacPyro.

## **Peter Mann (Director Corporate and Strategic Development)**

Peter has worked in corporate advisory and strategy roles since his retirement as a professional AFL footballer. He is a director of Water and Carbon and has a strong background in sustainable ventures and raising capital for this sector. His previous roles have included; consultant with the Boston Consulting Group, stockbroker with Patterson Ord Minnett, Retail Bus.Dev. Manager for Macquarie Bank and Executive Director of the AFL Player's Association.

## **Adam Townley (Chief Financial Officer)**

Adam is a chartered accountant with experience working for large accounting firms in insolvency and corporate restructuring. He has worked as an adviser to global investment banks on operational performance improvement and strategic investment. He has also raised capital and established new ventures in the technology and environmental space. He is a co-founder of PacPyro.

# PacPyro Management

## **Adriana Downie (Chief Technical Officer) & co-founder of PacPyro**

Adriana has over six years of industry experience in the commercial development of new technology and has managed several large scale research programs. Adriana holds bachelor degrees in both Chemical Engineering and Science from the UQ and has recently finalised a Ph.D. program at UNSW on the pyrolysis of biomass for biochar and bioenergy. Adriana has co-authored several scientific papers, presented numerous conference papers, and authored a chapter in the Earthscan published book '*Biochar for Environmental Management*'. She has raised the profile of biochar globally with her work well documented in the media including numerous print articles and documentaries.

## **Peter Klatt (Engineering Manager) & co-founder of PacPyro**

Peter is a leading expert on pyrolysis and gasification in Australia with over 22 years experience in the design, construction, commissioning, and operation of large scale biomass gasifiers and fluid bed combustors. He spent over 17 years in the steel industry developing and implementing process efficiency improvements to industrial thermal processes. Peter has had various roles ranging from leading R&D programs to the oversight of construction, commissioning, and operation of several commercial plants. He has been an integral part of the development of the PacPyro technology for over eight years. Peter has issued one U.S. patent and two Australian patents and authored numerous technical papers. He holds a Diploma in Business and a Certificate in Metallurgy from Southern Cross University and Wollongong University, respectively,

## **Robert Downie (General Manager Operations) & co- founder of PacPyro**

Robert is the General Manager of the Somersby Advanced Engineering Facility. He has commercial and engineering experience working across various renewable energy and low carbon technologies such as biomass gasification and pyrolysis, biomass hydrolysis, and direct coal liquefaction. He has an intimate understanding of the PacPyro technology through the management of its development over the last 5 years. Robert is a Chartered Professional Engineer, a member of the Australian Institute of Engineers, and an AICD Graduate. He holds a Master of Business and Technology from UNSW along with both a Bachelor of International Business Management and a Bachelor of Chemical Engineering with Honours from UQ.

# Contact Details

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