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# STRATEGIC CARBON

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# Disclaimer

1. Permanence periods refer to the Clean Energy Regulator's assessment of the duration of time it will take for vegetation or soil to remove carbon from the atmosphere. 2. For more information about Carbon West, please refer to their website www.carbonwest.com.au.

This presentation contains assumptions around the number of Australian Carbon Credit Units (ACCUs) generated over a permanence period<sup>1</sup> of 1 of 25 years. The basis of these assumptions have been derived from an independent expert's report (named "Carbon Project Development Report for RLF Carbon" prepared in June 2022) by Carbon West<sup>2</sup> who is a specialist in soil carbon management and methodology. The expert report contains theoretical calculations on a range of ACCUs generated per year and hectare (Ha) over the permanence period. The range of ACCUs per year and Ha outlined in the report was 1.92 to 7.44 and a conservative mid-range point of 3 ACCUs/Year/Ha has been applied to generate financial estimations throughout this presentation. The premise of these estimations are not proven and are subject to further testing, including a soil carbon pilot trial that has been outlined on page 14. Investors should be aware that further testing including the soil carbon pilot trial may not generate ACCUs or the number of ACCUs estimated from the expert report, therefore the financial and ACCU estimations provided in this presentation should not be relied upon. Any references to revenue are not financial forecasts of the Company but estimates of potential market sizes.



# **RLF's Game-Changing Potential in Carbon**

From Ken Hancock – Managing Director & CEO (Global)



We aim to deliver our Accumulating Carbon in Soil System (ACSS) to the Australian grain industry, aggregating land for soil carbon projects and integrating with current farming practices to increase  $CO_2$  captured and stored in our agricultural soils.

We see a significant opportunity to increase yield, improve soil health and biodiversity whilst monetising our proprietary systems and technology in partnership with farmers and emitters to meet Australia's net zero targets.



# **RLF's Carbon Model**

RLF AgTech is the conduit between Farmer, Emitter and Financial Investor



### **RLF's competitive** advantage:



> RLF Proprietary Products



> RLF PPD Technology and inhouse experience



> RLF Agronomic Systems – practical on farm experience for implementation



> Provisional Patent filed for "A Methodology of Accumulating Carbon in Soils"



# **Monetising Soil Carbon**

Australian Grain Market - A Large Scale Integrated Solution to Generating Carbon Credits

### **Our Difference to Other Carbon Developers**

- Aggregating land (accessing farmers current) landholding) in Australia's grain sector to deliver large scale carbon credit generation potential
- ✓ Our Proprietary System for ACCU generation ACSS program (provisional patent filed)
- ✓ Our ACSS program results in emission savings from direct fertiliser reduction
- ✓ Ability for RLF to generate potential multiple annuity revenue streams:
  - **Carbon Credits**
  - Product Sales
  - Compliance Systems for farmers

### **Our Advantages**

- Energy Regulator<sup>1</sup>

- grain market

✓ Native Title or Crown land issue unlikely to cause delays of project registrations with the Clean

 No change of land use required by farmers to participate with ACSS program

Risk appropriate model where RLF AgTech is the facilitator (Project Developer) with farmers on commercial farmland for large emitters.

Developing a carbon credit generation system that could potentially scale into the international



# **Key Highlights**

Harnessing and monetising soil carbon in the Australian grain market

### **ASX Exposure to Carbon Credits**

- ASX investors have the opportunity to gain exposure to both the Australian Carbon Credit market (upon RLF being able to commercialise ACSS in soil carbon) and RLF AgTech's existing global crop nutrition business
- RLF AgTech's ACSS is ready for implementation at commercial scale with the launch of our 5,000 ha soil carbon pilot program

### **Investor Returns, Annuity Revenue Stream & Value Creation**



CO<sub>2</sub>

- Annuity revenue through both RLF product sales and a potential share of ACCU generation for the 25 year life of the projects
- RLF's opportunity focuses on the commercial farming grain sector to combine increases in food production and carbon offsets where other typical registered soil carbon projects have been focused only on tree and pastoral crops.
- Utilising our product technology, systems and practical on farm experience, we aim to be a first mover in the Australian grain crop market to aggregate large scale ACCU production.

### **Proprietary and Protected System**



- Provisional patent filed titled 'A Methodology for Accumulating Carbon in Soil' ACSS Program
  - Patent provides the process and framework for a sustainable system to allow farmers to potentially generate ACCUs.
- Investment into technical R&D, product development and systems to create an end-to-end solution for Australia's grain farmers.



# Farmer Benefits



Annual reduction of soil applied fertiliser rates Up to

**Direct emission and** potential cost reductions by using less soil applied fertilisers.

# Yield increase of 10-30% annually

We allow farmers to do more with less, helping increase farm profits, improve sustainable soil health and reduce carbon output.



### Share in monetisation of carbon credits (ACCUs)

 Soil carbon ACCUs represent a potential new revenue stream for Australian grain farmers.



### **Improved soil health** for long term productivity

RLF Products help build healthier and more resilient plants, whilst increasing both root mass and biological activity around the root zone, leading to healthier and more productive sustainable soils



# Australian Grain Sector<sup>1</sup>

**Commercial Farming Opportunity** 

Western Australia

19.1<sup>Mt</sup>

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# 55<sup>Mt</sup> Total FY22 (est.) **Grain Production**

New South Wales **17.1**<sup>Mt</sup>

# Tasmania

Queensland

 $\Lambda \cap$ 

South Australia

7 1 Mt

Victoria

7.1 Mt



The Australian Carbon Credit system uses best in class compliance to generate highgrade and durable carbon credits that will provide a solid foundation to springboard into the global carbon market.



**KEN HANCOCK** MANAGING DIRECTOR & CEO (GLOBAL)



# Visualising a Carbon Credit



Humus in soils is the largest terrestrial store of organic carbon: worldwide, about four times as much carbon is stored in soils as in above-ground vegetation, and more than twice as much as in the atmosphere -

*https://www.cleanenergywire.org/factsheets/carbon-farming-explained-pros-cons-and-eus-plans* 

Source: On site visit Australian wheat farmer Mullewa, WA 2023

Barren soil

(no carbon/light coloured)

Carbon penetration at depth (dark colour)



# Accumulating Carbon in Soil System

Our system utilises the ACSS, partnering with farmers to use our provisional patent "A Methodology of Accumulating Carbon in Soils".



### **STEPS IN ACSS METHODOLOGY**



PPDT Priming Seed to increase early vigour, root system growth and yield potential.



Reduce nitrogen and phosphorous soil applied fertiliser by 20% to encourage more root growth below 15cm whilst significantly reducing fertiliser emissions.



Apply PPDT and nitrogen as foliar to the leaf to drive increase in yield by 10-30% and accelerate root system growth and soil biological activity delivering increased glomalin production and more long-term soil carbon.



15cm Top Soil -High oxidation zone in traditional farming – low potential for ACCU production

High Quality Carbon Credits (ACCUs)

# **Carbon Farming System**

PROBLEMS WITH EXISTING CROPPING SYSTEMS IN CARBON PRODUCTION AND CO<sub>2</sub> STORAGE:

FARMERS MUST:



High rates of chemical fertilisers in top 15cm soil can reduce root growth and sub surface organic matter



Carbon (organic matter) in top 15cm of soil quickly oxidises to atmosphere and can not be used for long term  $CO_2$  storage

Static yields in agriculture do not sequester additional  $CO_2$  from the atmosphere



(0)-

Many agricultural systems focus on applying products for top growth not root growth and do not optimise CO<sub>2</sub> sequestration



Significantly reduce soil applied chemical nitrogen and phosphorous fertilisers without reducing yields



Increase plant yields to grow more biomass and sequester more  $CO_2$  from the atmosphere



Develop more organic matter glomalin (recalcitrant carbon) at depth in the soil, this carbon does not oxidise quickly and can be a stable  $CO_2$  storage solution for thousands of years.



# Pathway to Accumulating Carbon



## Stage 3

Expansion of RLF's endto-end solution for Australian grain farmers Pursue Global Roll Out

Expansion of CER registrations in Australian commercial farmland Potential large scale ACCU generation

**R&D** into major international cropping systems including wheat, barley, corn and rice for carbon credit generation

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# **RLF's 5,000 Hectare Pilot Program**

Applying RLF's ACSS in a real farm setting

# The Pilot Program has the potential to generate between 9,600<sup>1</sup>to 15,000<sup>2</sup> ACCUs per year.

# **Fill** Project Details

- Implementation of ACSS
- Working with RLF Carbon and our experienced soil carbon consultants

### **Project Program**

- RLF is the facilitator and the farmer is the project proponent<sup>2</sup>.
- 25 year permanence period<sup>3</sup> with an initial soil testing period of 5 years
- Application of RLF product and systems integration with ACSS

9,600 = 1.92 ACCUs/Year/Ha x 5,000 Ha. ACCUs are based on Carbon elected between an ACCU range of 1.92 - 7.44. The purpose of this is to provide information on the potential range of ACCU generation of the 5,000 Ha Pil report on soil carbon met 15,000 = 3 ACCUs/Year/Ha x 5,000 Ha. ACCUs are based on Carbon West's independent expert report of an ACCU generation of 3 ACCUs/year/Ha – this is a to provide information on the potential range of ACCU generation of the 5,000 Ha Pilot Program which is based on the Carbon West independent expert report of a person that is responsible for carrying out a project and has the legal right to do so. Permanence period refers to the Clean Energy Regulator's assessment of the duration of time it will take for vegetation or soil to remove carbon from the atmos eration of 3 ACCUs/year/Ha – this is a mid point selected between an ACCU range of 1.92 – 7.44. The purpose of this calculation is nt expert report on soil carbon metho

### **Project Registration**

RLF will work together with the landholder and an independent compliance consultant to ensure the project is registered within CER guidelines



**Based on the conservative Australian Carbon** Safeguard Mechanism we estimate between 160Mt - 240Mt<sup>1</sup> of ACCU demand per year from 2030.

We believe global demand will be orders of magnitude greater than this.

> RAJ AGGARWAL MANAGER OF CARBON STRATEGY & CORPORATE DEVELOPMENT



ole of 4 to 6 times the demand of 40 million ACCUs per year as per the NAB forecast – Market Res



# Australian Grain Industry - Carbon **Generation Potential**

# **S** million



Hectares of grain crops in Australia

Accumulating Carbon in Soil System (ACSS) potential



Total no. of ACCUs in demand per year by 2030 under the Safeguard Mechanism





69 million = 3 ACCUs/Year/Ha x 23 million Ha. ACCUs are based on Carbon West's independent expert report of an ACCU generation of 3 ACCUs/year/Ha – this is a mid point selected between an ACCU range of 1.92 – 7.44. The purpose of this calculation is to provide an indication of the potential ACCU generation in the context of the Australian Grain Industry which is based on the Carbon West independent expert report on soil carbon methodology 3. Global Grain market is approximately 662 million Ha – Source https://www.fao.org/faostat/en/#data/QCL

significant.





No. of ACCUs potentially generated from grain crops in Australia

# Australian grain crops make up only 3% of the global grain market, meaning the potential on an international scale is

# **RLF Carbon Opportunity Model** Based on internal modelling we estimate the Potential Carbon Opportunity for the 23 million hectare Australian Grain Industry reveals the following:

### Australian carbon price

<sup>\$</sup>36.50

ACCU gross revenue Estimated to be...

**Z**.**D** billion per annum

OR

over the 25 year life of the project.

1. Please refer to Appendix A for assumptions and calculations

NB: ACCUs are based on Carbon West's independent expert report of an ACCU generation of 3 ACCUs/year/Ha – this is a mid point selected between an ACCU range of 1.92 – 7.44. The purpose of these calculations is to provide a market potential estimation of RLF AgTech's gross revenue from ACCU generation if the Company were to potentially apply their ACSS to the total Australian grain market. This estimation does not imply that RLF AgTech will generate these gross ACCU revenues across the total Australian grain market and that it may only generate in a part of the grain market.

**RLF ACSS Gross Product Revenues** per hectare

### estimated to be...

ber vear



### **ACSS Benefits**

### Increased Yield & Quality for Farmers

### **Reduced Greenhouse Gas Emissions**

while increasing CO<sub>2</sub> sequestration

### The creation of **Direct Soil Carbon and** ACCUs



# International Carbon Market

### According to Carbon pricing initiative-related research undertaken by the World Bank 2021<sup>1</sup>

Carbon pricing initiatives have been Implemented across the globe

Carbon reduction is being mandated in several global markets 47

National jurisdictions are covered by these initiatives



2. GHG – Greenhouse Gas

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- . Netherlands https://www.reuters.com/business/environment/dutch-farmers-protest-plan-curb-nitrogen-pollution-2022-06-
- . Canada <u>https://www.cfib-fcei.ca/en/media/federal-governments-plan-to-cut-fertiliser-emissions#:~:text=Fede</u>

These initiatives would cover

11.86 gigatonnes of CO<sub>2</sub> equivalent (GTCO2E).

Representing

23.17% Global GHG<sup>2</sup> emissions



NTERNATIONAL CARBON MARKE



r%20Canadian%20agri%2Dbusinesses

# **Australian Carbon Market Forecast**



1. Australian Government DCCEEW. Trading Economics

2. Tribeca carbon forecasts, Bloomberg, Safeguard Mechanism = \$84/ACCU = \$75 + 2% CPI adjustment from FY24 to FY30 – Dept of Climate Change, Energy, the Environment and Water "Safeguard Mechanism Reforms Position Paper". For more information about the Safeguard Mechanism refer to Appendix B.

3. https://accus.com.au – on and around 19 March 2023





# **Technical Team**



**RAJ AGGARWAL** Manager - Carbon Strategy & Corporate Development

Raj has over 18 years experience in carbon advisory & trading, having worked with large corporates including Macquarie Capital, Woodside Energy, Synergy & Select Carbon in energy transition, decarbonisation, & carbon sequestration.





### DR. HOOSHANG NASSERY BSc. MSc. Ph.D. Chief Scientist & Head of Plant Physiology

Hooshang has an extensive international academic & research record & has held positions as Professor of Biology within the university education sector, senior research roles in both government & private enterprises & is credited with a number of significant findings in the field of plant nutrition.





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### JENNIFER WEST Consultant – Carbon Markets

Jennifer is passionate about natural farming systems & putting carbon back into our soils. She has solid knowledge and experience of ERF soil carbon management, the emerging carbon market & the opportunities it presents for farmers. Carbon West now acts as a registered agent for 12 ERF soil carbon projects with the Clean Energy Regulator.



Manager - Field & Carbon Research Hossein is a highly experienced research scientist with proven track records in agricultural R&D projects at various R&D institutions & universities (DPIRD, UA & UWA). Focussing on environmental & soil constraints (nutrient deficiencies & ion toxicities) limiting crop growth, Hossein has published his findings as refereed journal articles & presented the works widely in crop science events.

### DR. CARL URBANI BSc. (Hons), Ph.D. Chief Chemist & Head of R&D

Dr. Urbani has extensive experience in inorganic, organic, and polymer chemistry. He is responsible for new product development, including laboratory and pilot scale testing, and manufacturing scale-up.

### **GRANT BORGWARD**

### Manager- Corporate Commercial Farming

With 20+ years at RLF, Grant is directly responsible for on the ground sales & support. He ensures our technical agronomic solutions have practical applications for our large regional channel partners in western markets & assists our Commercial & Corporate Farming sales team in Asia.

# DR HOSSEIN KHABAZ-SABERI BSc. MSc. Ph.D



# GAINING MOMENTUM

Towards Carbon Monetisation in the Australian Grain Market

# RLF'S KEY BENEFITS

- Aggregating land (accessing farmers current landholding) in Australia's grain sector to deliver large scale carbon credit generation potential
- Turn key solution for farmers
  - Proprietary System for ACCU generation
  - ACSS program (provisional patent filed)
- Providing emission savings for farmers from direct fertiliser reduction using our ACSS program
- Generating potential multiple revenue annuity streams from products, carbon credits and compliance system for farmers
- Commercialisation opportunity in the grain market at an international scale

- program
- Increase yield by 10-30%

 $\checkmark$ 

 $\checkmark$ 

- 20%

- productivity



No change in land use by using RLF's ACSS

Reduced fertiliser cost savings by up to

Sustainable farming practices by reducing harmful soil applied fertilisers Potential share in ACCU generation Improved soil health for long term



# **Thank You**

This presentation has been authorised for release by the Board of Directors.



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# Appendix A

Estimate of Financial Benefits from Soil Organic Matter (OM) using RLF's Accumulating Carbon in Soil System (ACSS)

	Units	Per Hectare	Average Farm	Average Farm	Australian Grain Market
Area Size	ha	1	2,000	2,000	23,000,000
Time	Years	1	1	25	25
Organic Matter Generated Above Baseline	Tonnes	6	12,000	300,000	3,450,000,000
Average Total ACCU Generated	ACCUs	3.0	6,000	150,000	1,725,000,000
ACCU Spot Price	A\$	36.50	36.50	36.50	36.50
ACCU Market Value	A\$	110	219,000	5,475,000	62,962,500,000

### Assumptions

RLF's ACSS increases Organic Matter in the soil to a depth of 30 cm by 1% every 5 years			Source
Soil bulk density g/mL	-	1.0	Internal RLF Assumption
Intial Soil OM, D 0-30 cm (% Per Hectare)		1%	Internal RLF Assumption
Initial Soil OM, D 0-30 cm (Tonnes per Hectare)		30	Internal RLF Assumption
Conversion of Soil Organic Matter to C02equivalent (Tonnes Per Annum)		3.0	ACCU Yield Generation <sup>1</sup>
ACCU AUD Market Price (Per Tonne)	\$	36.50	On or around 19 March 2023 –
ACCU Government Cap Price	\$	75.00	Safeguard Mechanism – refer to





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 <sup>&</sup>lt;u>https://accus.com.au</u> – on and around 19 March 2023
ACCUs are based on Carbon West's independent expert report of an ACCU generation of 3 ACCUs/year/Ha – this is a mid point selected between an ACCU range of 1.92 – 7.44. The purpose of these calculations is to provide a market potential estimation of RLF AgTech's gross revenue from ACCU generation if the Company were to potentially apply their ACSS to the total Australian grain market. This estimation does not imply that RLF AgTech will generate these gross ACCU revenues across the total Australian grain market and that it may only generate in a part of the grain market.

# **Appendix B**

Safeguard Mechanism Information

- The Safeguard Mechanism Creates Demand for ACCUs

### Overview

- Political changes around aspects of Safeguard Mechanism still in play
- Covers facilities emitting over 100,000t of CO<sub>2</sub>e pa
- Represent c. 28% of all Australia emissions •
- At 1 July 2023, 210 largest emitters required to reduce emissions by 4.9% pa
- Capped pricing @ \$75-\$100+ (reviewed in 2027)
- **CBA** Sustainable Economics •
  - 0.3% buffer in emissions forecasts
  - Base case 44m ACCU cumulative short 2023 –2030 0

### Short Implies ACCUs trading near cap of \$75-\$100 upside potential post 2027 review)

ACCU market scenarios – cumulative supply-demand analysis from 2023-24 to 2029-30

Scenario	Supply (Mt)	Demand (Mt)	Surplus / Deficit (Mt)	Likelihood
High ACCU Price	51	140	-89	Medium
Base case	64	108	-44	High
Low ACCU Price	95	90	5	Low

### **Selected Safeguard Mechanism Participants**





# attract a significant premium





ANGLO COAL



ACCUs banked, or to be delivered, post 2030 likely to

