

ASX ANNOUNCEMENT

Friday 24 May 2024

GreenHy2 Limited | 2024 Annual General Meeting Chairman and Managing Director's Presentation

In accordance with ASX Listing Rule 3.13.3 please find attached the Chairman and Managing Director's Presentation to be made at the 2024 Annual General Meeting of GreenHy2 Limited (ASX: H2G, "GreenHy2") to be held on Friday 24 May 2024 at 11.00 am (Sydney time).

ENDS

This announcement had been authorised for release by the board.

FOR FURTHER INFORMATION PLEASE CONTACT:

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Executive Chairman & Managing Director
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William Howard

Executive Director, CFO & COMPANY SECRETARY
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ABOUT H2G

GreenHy2 Limited (ASX: H2G) is one of Australia's leading innovators in the delivery of engineering solutions for renewable energy. The company was established in 2011 and has specific expertise in Solid State Hydrogen Storage for use in fuel cells and as hydrogen gas. GreenHy2 is a clean energy company dedicated to reducing our collective carbon footprint.



**GreenHy2
2024**

Solid State Hydrogen Storage

PIONEERING
HYDROGEN STORAGE 

www.greenhy2.com.au

Overview

Bringing the 100% Renewable Solid State Hydrogen Storage solution to Customers



GreenHy2 is commercialising Solid State Hydrogen Storage Technology to provide 100% Renewable Fraction Storage, Off-Grid autonomy and Safe and Reliable renewable energy solutions.

GreenHy2 is utilising the benefits of solid-state Hydrogen storage to increase energy security, reduce cost and strengthen renewable energy supply networks while removing diesel from both Industrial and Utility users.

Key Targets

- Remote locations and Diesel generation displacement
- Hot Locations where Li Battery Life and performance is severely impaired*

*NT SetUp Program Identified Significant Loss in Battery Capacity and Life reduction to < 6 years in 40-50 Deg C Environments



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Company Snapshot

ASX Ticker	H2G
Shares on Issue	523M
Market Cap	\$5M ¹
Cash @ Bank	~\$1.0M
Debt	Nil

1. At 23rd May 2024

Capital Raising

Rights Issue 1 for 4

Fully Subscribed Rights Issue Raised ~\$630k

Includes Underwriting of \$300k

Completed May 2024

R&D Tax Incentive

Total Received to date ~\$950k

Incentive anticipated FY24 ~ \$450k

CR1

4

FY23 Highlights (suggested reordering of activities – numbers for information and can be deleted from final)



Highlights		
Business Activity	Achievement	Comment
Current Enquiries and marketing	Receiving 10 Active enquiries/month	Market Momentum has significantly increased in CY24
Successful Capital Raising	\$0.63M	15% Raise Completed at 15% Discount to Market
Company Name Change	GreenHy2 Limited	ASX Ticker Code “H2G”
Re-branding	GreenHy2 and H2G	Registered greenhy2.com.au and h2g.au
Leading Edge Digital Presence	Website	Name and Brand targeted at clean energy and remote site market
R&D Tax Support	~\$950k	Secured two rounds of R&D Tax Incentives
Reduced Operating Costs	Now \$100k/month	Significant Reduction in operating Cost
Tenders Submitted	Over \$100M	Market is actively assessing the Technology
Cutler’s Cottage Demonstration Trial	>12 months of Operation	Received formal trial completion from EE with 100% Availability and Reliability Operational Contract extension signed

Infrastructure Demand

Australian Strategic Influences

-applicable to much of the Asia Pacific Region

The Solid State Hydrogen Storage is a strategic fit for Australia for the following reasons

Fragile Grid System

Low population density over a very large area or a series of complicated islands - impossible to have an economic National Grid. Many users have long SWER lines where 1% of users can use from 20% to 50% of Grid costs.

Our System is ideal for removal of distribution network therefore reducing cost

Hazard Prevention

Transmission lines are damaged by (and may cause) natural disasters form bushfires to storms and floods, requiring high maintenance which is a significant risks that needs to be managed.

Our System reduces transmission and distribution networks

Dependence on Diesel

Remote communities, mines and islands rely on diesel generators which require significant maintenance and are costly to run, noisy and difficult and or unsafe to deliver fuel during fires, floods and cyclones.

Our System removes diesel generators and is very competitive with Diesel cost

Low Cost and Economic Solution

The abundance of solar and wind power in the Asia Pacific Region represents a significant opportunity for renewable power generation.

Our System is safe and low cost to operate with the potential to be operated from Solar, Wind and or hydro generation

Market Analysis Sectors



Predominant
current
markets are



Stand Alone
Power Supplies
(SAPS and SPSS) for
Government Utilities



Remote
Telecommunications
Installations (AUS and NZ)



Diesel Substitution
for Remote
Communities
Mines, Islands etc.



Current off grid
installations








Micro Grids for smaller
communities



Islands for environmental
sustainability and
substitution of diesel

Market Near Term



Customer		Opportunity	Status of engagement with GreenHy2
	Telstra	<ul style="list-style-type: none"> Partnered with H2G to trial fully redundant dual MEDI system for telecommunications System is 48-50VDC Applicable to all Telecoms for both Mobile and Fibre Optic Repeater Stations Telecoms Diesel Replacement 	<ul style="list-style-type: none"> Committed \$1.5M to Project TDRIP Awarded \$1.5M matching Grant Currently Negotiating Grant Deed Expected Start around Early June
	Essential Energy	<ul style="list-style-type: none"> Completed 12 Month Performance Trial with 100% Availability and Reliability Provided 100% Renewable Fraction Year round No Diesel Required 	<ul style="list-style-type: none"> Working on 10-unit project Signed extension to Operations Contract Developed a Commercial Model that includes O&M H2G have access to current SAPs program (approx. 300) SAPs Program based on price competitive 40 Year NPV
	Otago University	<ul style="list-style-type: none"> NZ Renewable Market Market includes Telecoms Another showcase installation 	<ul style="list-style-type: none"> Otago have funding to Purchase a MINI unit Currently Negotiating Logistics
	Horizon Power	<ul style="list-style-type: none"> 57,000 Customers heavily supported by microgrids and diesel power stations Future Investment if converted to SPSS > \$20B 	<ul style="list-style-type: none"> Short Listed to Submit EOI for Hydrogen micro grid Solution Submitted EOI for two 100% Diesel Indigenous Communities Project around \$15M currently under evaluation Notification late May 2024
	Fiji Ministry of Energy	<ul style="list-style-type: none"> Major Diesel Replacement Programs Fiji Rural Electrification Program (FREF) for Remote Villages without Power Significant number of Exclusive Islands reliant on Diesel Interest from Islands such as Momo 	<ul style="list-style-type: none"> FREF have funding for Solar Battery Installations Failed Li Ion Projects due to thermal runaway and fire Actively discussing a number of Projects Including Namara Village on Kadavu and other FREF Projects Large Scale Funding from EU, AusAid, USAid, ADB, WB etc.

Growth Strategy



Organic Growth (Australian has largest identified Global Market)

- SAPS, SPS, Solid State Hydrogen Market >\$100B Market to 2030
- Diesel Replacement for Remote, Rural, Mines, Islands and Diesel Supported SAPs
- Microgrids using Hybrid Systems with Hydrogen/Natural Gas Alternative

Residential Market

- GKN Currently developing a Modular Residential Hydrogen Storage system
- Paired to Home Solar
- Provide both Electricity and Hydrogen Gas for Cars or Home

Local Manufacture

- Opportunity to Manufacture Locally
- Opportunity for Local Assembly with Asian Supply Chain at lower Cost

Unit Cost Reduction and Finance Initiatives

- Supply Chain from Asia – Significant Opportunities already identified
- Provide Finance Solution for Capex to Opex Transfer



Technology

Solid State Hydrogen Storage in Metal Hydrides



Technology and Case Studies



Technology

Solid State Hydrogen Storage in Metal Hydrides



Key Features



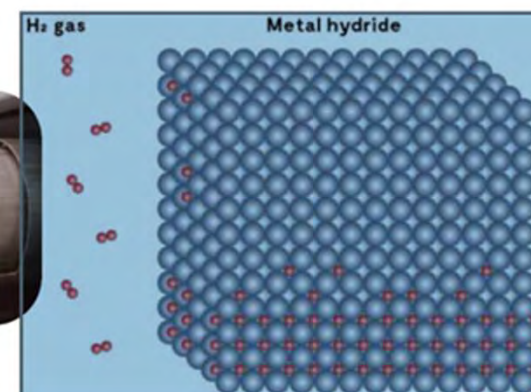
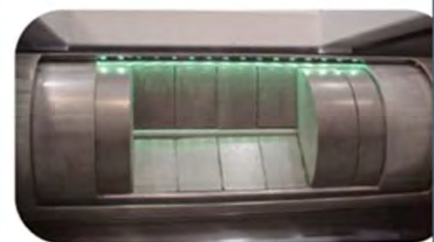
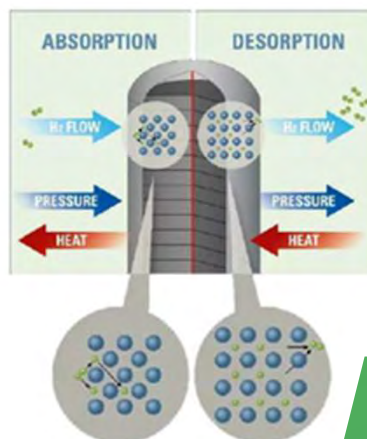
The technology for creating the Metal Powder Lattice is patented



Hydrogen is stored as a solid within the Metal Powder Lattice



Metal Powder retains its lattice structure permanently and does not degrade



H₂ is stored as metal hydride / solid state

Low pressure (<40 bar) - inherent

Low temperature (<65°C)

Technology

Solid State Hydrogen Storage in Metal Hydrides

Key Advantages

Very High Energy Density



3 times more energy than compressed Hydrogen at 700 Bar and up to 10 times Lithium

Cost Advantage



Storage cost is significantly cheaper than lithium and diesel and has at least a 20 year life

Extremely Safe



Hydrogen storage is low pressure and solid state, that is extremely safe. The storage is approved for Utility usage and passed all bushfire, operation and customer safety regulations

Off Grid



Only commercial technology capable of 100% renewable fraction

Completely Green



Technology is targeted at 100% renewable generation

Technology

Solid State Hydrogen Storage in Metal Hydrides



Why is hydrogen the answer



100% sustainable

Green hydrogen is an emission free fuel



Versatile

Multiple energy pathways



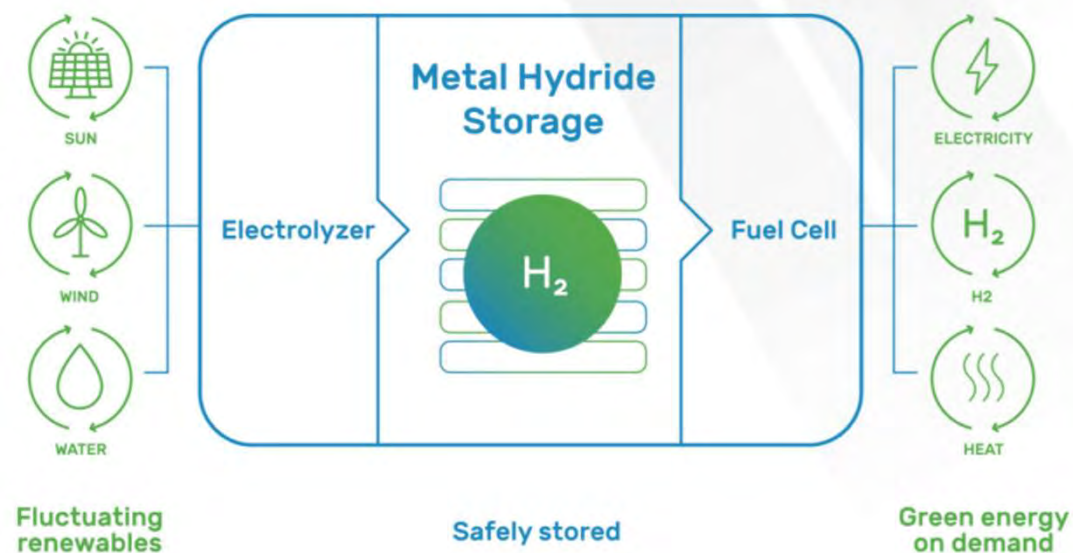
Transportable

Distribute energy across sectors and regions



Storable

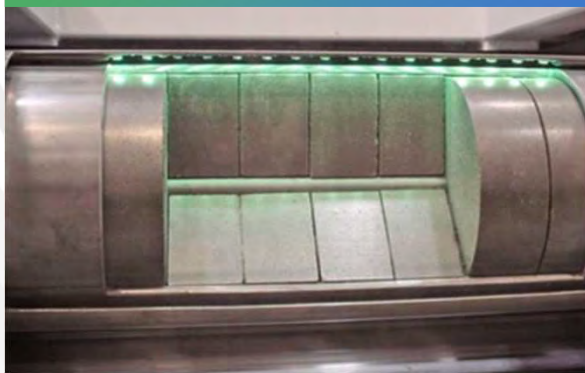
Easily stored and provides an energy buffer to increase system resilience



Enables large-scale renewable integration and power generations

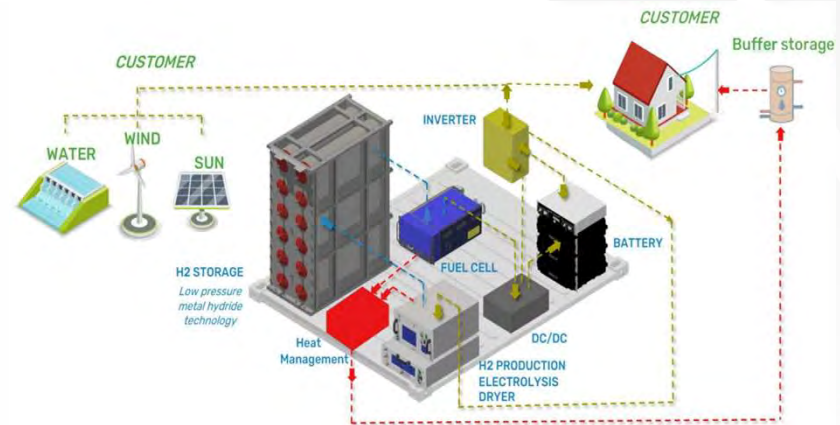
Intellectual Property

Metal Hydride Technology - GKN



GKN Developed the first Commercial Solid State Storage System for Hydrogen with Integrated Electrolysers and Fuel Cells. The robust system generates green hydrogen from 100% renewable energy sources, storing it compactly and safely in metal hydride for reuse when there is no generation.

Solar and off Grid IP – GKN and GreenHy2



GreenHy2 have been working with GKN over two years to provide a fully compliant solution to the Australian market. This included Design of the integrated system to meet 100% off-grid capability being fed from 100% renewable fraction; is in full compliance with Australian electrical requirements, safety standards, HAZOPs and Fire regulations; has the capability to integrate into a local solar configuration; and, be compliant with a Government Utility and National Parks regulations and requirements.

Technology

Metal Hydrides vs Traditional Battery Storage



Comparison to Lithium Batteries and Compressed Hydrogen

	Li-ion Batteries	High Pressure Hydrogen	Low Pressure Hydrogen
	Lithium-ion Battery	High-pressure Hydrogen	Metal Hydrides
Safety	Medium risk	Medium risk	Low risk ✓
Recyclability	5% Current range of recyclability	70% Issue are carbon fiber materials	100% Just standard metals ✓
Lifespan	Medium < 10 years	Medium > 10 years	High > 20 years ✓



Safety

Safest way to store hydrogen



Sustainability

100% recyclable



TRL

Commercially available now



Costs

Long life & potentially eliminates compression

Products

Hydrogen Storage Commercial Systems



HY2 Product Suite and Scalable Applications

HY2MINI



10 – 25 KG



170 - 425 KWH Electrical



Utility Stand-Alone Power Supplies



Industry / Transport

HY2MEDI



30 - 120KG



0.5 – 2 MWH Electrical



Power Backup

HY2MEGA



+260 KG



8.6 MWH Energy



Micro Grids & Buildings



Off-Grid

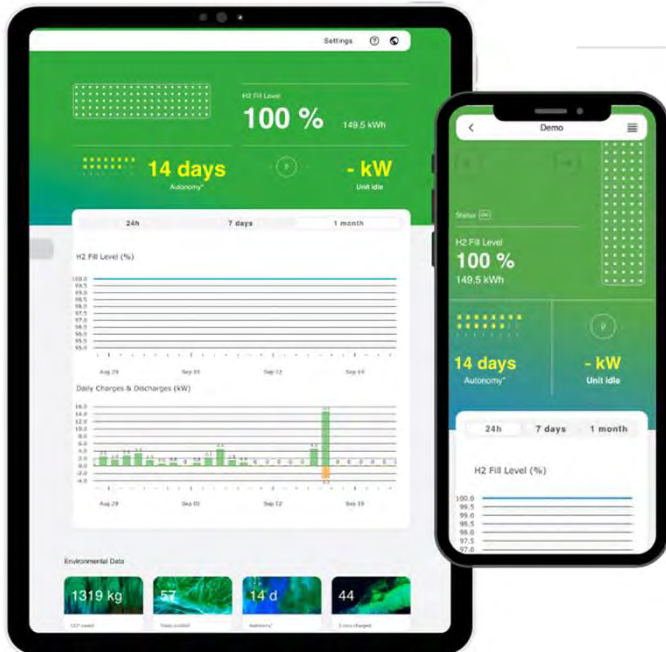
SYSTEMS

STORAGE

Digital Platform and Building Blocks



Technology Digital Platform



Digital Roadmap and Services



Advanced performance
monitoring



Operating model
improvements



Basic system monitoring
and status tracking



Systems and
unit comparison



Data pipeline sanity
check and tracking



Maintenance and alert
notification



Efficiency analysis
powered by advanced
analytics



Analysis



Base simulation and modelling



Parameter driven system definition



Advanced closed loop simulation



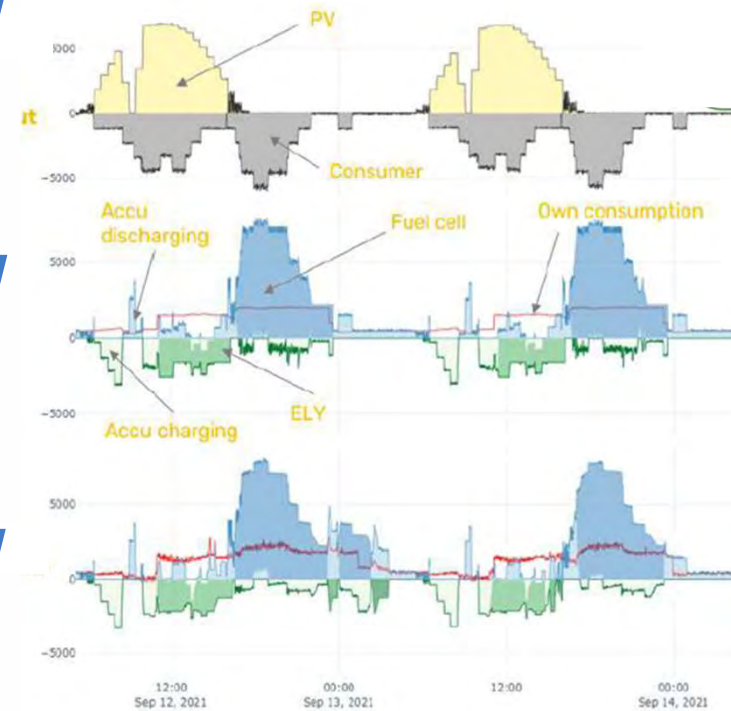
Extended simulation (+ Heat)

PIONEERING
HYDROGEN STORAGE

Input/Output

Simulation

Measurements



Case Studies

Off Grid

Only Commercial Technology Capable of 100% Renewable Fraction

Completely Green

Technology is using 100% renewable generation

Cost Advantage

Storage cost is significantly cheaper than Lithium and diesel and has at least 30 year life

Extremely Safe

Low Pressure solid state hydrogen storage that is extremely safe, has been approved for Utility usage and passed all bushfire, operation and customer safety regulations for use in a Utility Network. Operates at ambient temperature and low pressure.



MINI Systems

25kg H2 Capacity
Stand Alone Solar Power
System
Demonstrator

Case Studies

Decentralised Solutions

Application
100% Off-Grid

System
MEDI



2MWh

Stored Energy

60kg

H2 Storage

16kW

Nominal Power

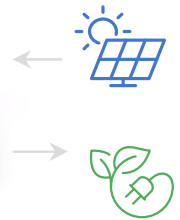
12kW

Electrolyzer

- Remote shelter 2,000m above sea-level – extreme conditions.
- 100% off-grid with remote management.

Application
Residential e-Charging

System
MEDI



2MWh

Stored Energy

120kg

H2 Storage

16kW

Nominal Power

24kW

Electrolyzer

- Decentralized energy system to charge 20 cars off-grid feeding green power as range extender into coupled small 120 kW battery.

Case Studies

Decentralised Solutions

Application
Micro Grid

System
MEGA



17MWh

Stored Energy

500kg

H2 Storage

1MW

Nominal Power

1.5MW

Electrolyzer

- Two HY2MEHA's added to the mega-watt class hydrogen assets at the ARIES facility on NREL's Campus, CO.
- Validate and simulate grid scale use-cases.

Application
100% Off-Grid

System
MINI



1MWh

Stored Energy

25kg

H2 Storage

8kW

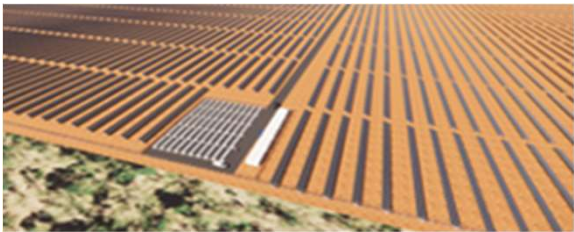

Nominal Power

10kW

Electrolyzer

- Replacement of current grid connection and back-up diesel gen-set. New decentralized clean energy system based on purely PV and green hydrogen storage to power the cottage emission-free.

Case Studies

Project	Details	Status	Next Steps
Groote Eylandt 	MEGA System x 3 Large Mine and Aqua Culture Island Mine 10MW Solar	Finalising design Reviewing funding Expression of Interest	Final design Final investment decisions
Ergon Thursday Island and Bamaga 	MEGA System x 20 19GW / year Island and Remote Settlements	Prequalified and shortlisted Feasibility study won	Feasibility study submitted and under review



QUESTIONS & ANSWERS

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