

ASX Announcement

7 March 2022

Company Update

Highlights

- **CRH** continues to progress its three Australian **green hydrogen** projects advancing **land and project partner agreements**.
- A **fourth project using waste to produce hydrogen** has been identified in Brisbane with discussions ongoing with proponents and potential offtakers.
- **Allegro's** Levelised Cost of Storage (**LCOS**) calculations based on an electric bus application show the **LCOS for Allegro supercapacitors is well below that of lithium-ion batteries and current market supercapacitors**.
- The **significant cost advantages** of Allegro's supercapacitors compared to those currently available in the market, combined with high performance and being non-toxic and non-flammable, is **generating interest from several large companies** across Australia, the European Union and the United States.
- The cost advantages of Allegro's electrolyte also provide **significant commercialisation opportunities** for Allegro's Redox Flow Battery (**RFB**) and supercapacitor technology to address **gigawatt scale utility energy storage** and in applications such as Frequency Control Ancillary Services (**FCAS**) and Fast Frequency Response (**FFR**).
- **Enosi's** Australian operations continue to grow with offshore expansion initiated. Commercialisation opportunities for Powertracer in **traceability-based carbon reporting**, with the United Nations **24/7 Carbon Free Energy (CFE)** compact gaining traction as the new standard in emissions reduction.
- **Uniflow's Cobber** Canberra demonstration has commenced with the first round of interested parties visiting the demonstration site on 2 March.

ReNu Energy Limited (**ReNu Energy**) (**ASX: RNE**) is pleased to provide an update on the recent activities of its wholly owned subsidiary Countrywide Renewable Hydrogen Limited (**CRH**), and of its other investee companies.

Green Hydrogen – 100% ownership of Countrywide Renewable Hydrogen

Countrywide Renewable Hydrogen Limited (**CRH**) is accelerating progress on its three domestic green hydrogen projects advancing land and project partner agreements. A fourth project using waste to produce hydrogen has been identified in Brisbane.

CRH has commissioned its engineering contractor, Wood, to commence early-stage work on the Melbourne Hydrogen Hub project. Discussions are advancing with several parties with respect to project collaboration, hydrogen and other offtakes. While discussions are confidential and not complete, management is confident it will be in a position to provide further information in the coming weeks.

CRH's early mover market opportunity is to tap into Australia's abundance of renewable energy for the transition from carbon-based fuels to hydrogen fuel cells for the logistics sector. The transition will provide a material emissions reduction impact for customers of transport companies; the price of hydrogen will be predictable without the volatility of price fluctuations associated with carbon-based fuels.

ReNu Energy Executive Director Hydrogen, Geoffrey Drucker said: *"The switch to emission free logistics will be driven not alone by the transport companies, but by their customers, many of which have emission reduction targets. Every kilometre travelled can be quantified in terms of the emissions reduced by fuel cell logistics. Fuel cell logistics embraces road, rail and sea transport, materials handling, port and airport drayage. In all of these areas, tried, tested and proven fuel cell vehicles are now available."*

Battery Tech – Investment in Allegro Energy¹

Supercapacitors

Allegro is in early-stage discussions with several large companies across Australia, the European Union and the United States who have expressed interest in the company's supercapacitors, which contain a unique water-based electrolyte. The significant cost advantages of the supercapacitors compared to those currently available in the market and their high performance whilst being non-toxic and non-flammable, is generating interest from potential customers in the electric mobility manufacturing and power engineering industries.

Allegro has calculated the Levelised Cost of Storage (**LCOS**) for different storage options for an electric bus using a real-world example considering factors such as the depth of discharge, round trip efficiency specific use cases. The LCOS calculated for Allegro's supercapacitors is substantially less than for lithium-ion batteries and for current market supercapacitors.

Funds raised by Allegro from its December 2021 capital raise have been deployed to acquire equipment for a pilot scale manufacturing plant where pilot volumes of industry-quality supercapacitors will be manufactured. The equipment is scheduled to arrive in April 2022. Allegro has previously built and validated several prototypes of the supercapacitor technology in a laboratory environment and is currently developing its strategy for future manufacturing and to scale the clean energy manufacturing process.

Redox Flow Batteries (RFBs)

Allegro is in early-stage discussions with national and international electricity generators focussed on the LCOS of Allegro's RFBs at gigawatt scale. With a large potential total addressable market for Allegro's RFB applications in utility storage in Australia alone and the cost advantages of Allegro's electrolyte, significant commercialisation opportunities exist for Allegro's RFB and supercapacitor technology to address utility-scale energy storage and in applications such as Frequency Control Ancillary Services (**FCAS**) and Fast Frequency Response (**FFR**). Allegro is early-stage discussions with potential project partners to build a pilot/lighthouse battery to demonstrate the application of the technology for utility storage.

¹ ReNu Energy holds a 5% interest in Allegro with future participation rights.

Thomas Nann, Founder and CEO of Allegro, will be speaking at the National Clean Tech Conference and Exhibition to be held in Brisbane on 27-28 March 2022 on the topic of 'Microemulsions electrolytes: a new platform technology for electrical energy storage'.

Energy as a Service (EaaS) Tech – Investment in Enosi Australia²

The Australian operations of Enosi Australia Pty Ltd (**Enosi**) continue to grow with:

- Enosi's energy partners increasing the number of organisations, users and community groups using Powertracer;
- Enosi's community trading algorithm now live, with partnering retailers initiating new communities and carbon-free energy initiatives to raise money for local clubs; and
- Enosi expanding its existing retail partner base progressing contracts with several new retailers.

Enosi is progressing opportunities for offshore expansion of Powertracer with prospects initiated in New Zealand, Singapore, the United Kingdom and the United States.

The commercialisation opportunities for Powertracer continue to grow with the United Nations 24/7 Carbon Free Energy (**CFE**) compact gaining traction as the new standard in emissions reduction. 24/7 CFE means that every kilowatt-hour of electricity consumption is met with carbon-free electricity sources, every hour of every day, everywhere. The 24/7 CFE compact recognises that carbon offsets and renewable certificate schemes cannot lead to full decarbonisation of electricity grids unless key principles are adopted such as traceability and time-matched energy sourcing, similar to that delivered by Enosi's Powertracer solution. Other members of the UN Compact include Google, AES, and EnergyTag.

Micro Renewable Energy Generator – Investment in Uniflow Power³

Uniflow Power Limited's (**Uniflow**) first demonstration of its advanced prototype of the Cobber in Canberra at the Renewable Energy Demonstrate Site was run on 2 March 2022. Demonstrations will continue for potential partners, grant funders and interested investors, including several specialist agencies and programs in Canberra which have programs specifically established to support demonstration of new renewable energy technologies in micro-grids.

This announcement has been authorised for release to ASX by the Board of ReNu Energy.

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² ReNu Energy holds a 5.8% interest in Enosi with future participation rights.

³ ReNu Energy holds a 5% interest in Uniflow with future participation rights.



About ReNu Energy

ReNu Energy's purpose is to strategically drive the transition to a low carbon future. It does this by investing in renewable and clean energy technologies and identifying and developing hydrogen projects to create stakeholder value, enabling the transformation to a low carbon future through collaboration and innovation.

ReNu Energy's vision is to be a leader in the renewable and clean energy sector in Australia striving for a sustainable future, producing hydrogen for domestic use and with a portfolio of domestic and international projects.