



ASX Announcement

21st March 2025

New Technology Agreements

GreenHy2 Limited (ASX:H2G) wish to announce that we have signed a contract with European technology supplier H2Core to provide leading edge storage solution technologies as part of a series of new technology negotiations currently in progress. The new technology arrangements provide a significant number of advantages over previous technologies both in price and commercial readiness. The technologies include new leading edge Supercapacitor Batteries and Hydrogen technologies.

Supercapacitors

The new agreements include access to advanced battery storage systems and in particular supercapacitor-based solutions that are competitive on a CAPEX basis to traditional Li Ion batteries and have much lower operating cost and significantly longer life (at least 5 times). The new battery solutions utilise Graphene Supercapacitors and are now commercially competitive due to revolutionary low-cost manufacturing techniques. The significant reduction in cost for our graphene-based 100% supercapacitor battery solution now provides both the benefits of Li Ion and Hydrogen combined without the disadvantages. As the batteries are 100% supercapacitor they also significantly outperform Hybrid batteries (partial supercapacitor and partial Li Ion).

The benefits include

- a. Exceptionally long life or 500,000 cycles at cell level, delivering between 25-40 years of life at 3 cycles per day, compared to 6-10 years for Li Ion and 30 years for Hydrogen.
- b. Depth of Discharge is 100% which is equivalent to hydrogen, but better than Li at only 75-80%. Effectively providing 20-25% more battery capacity for the same size kWhr rating
- c. Fully recyclable which is equivalent to Hydrogen though significantly better than Li at only 20-30%



- d. Extremely safe compared to Li as there is no thermal runaway and the supercapacitors are simpler to use than hydrogen. The fire risk for our supercapacitor batteries is extremely low. Li Ion has significant fire risk both due to thermal runaway and the intensity of the fire making it almost impossible to contain once ignited.
- e. Round Trip efficiency for the module is over 99% compared to 90% for Li and 30-85% for Hydrogen with energy recovery.
- f. Charge time for supercapacitors is minutes compared to hours for Li and Hydrogen
- g. Discharge rates up to 5 times Li and Hydrogen
- h. The temperature range for the supercapacitor batteries is an impressive -30 to +70 degrees with no cooling required making them extremely adaptable to all environments
- i. Pure supercapacitor Batteries are 100% static electricity storage and therefore do not require exotic material or mined resources and are manufactured using synthetic graphene which makes them a significant decarbonising technology

Low pressure Hydrogen

Low pressure Hydrogen (LPH) storage technology is simple and cost competitive with Li Ion capex solutions with improved safety and lower operational cost.

- j. The low pressure (LPH) storage is consistent with safe Metal Hydride solutions, with no thermal runaway fire risk
- k. LPH is being implemented on our Telstra contract and will provide Telstra with over 50% cost saving compared to the previous Hydrogen technology
- l. LPH is simple and has no requirement for thermal management which is required for Metal some Hydride storage.
- m. LPH and Metal Hydride solutions have virtually zero self-discharge making the solution well placed for large seasonal shift of energy compared to other technologies.

Supercapacitor Batteries and LP Hydrogen storage solutions both have their place in providing storage and where Supercapacitors will replace Li Ion solutions, Hydrogen is still well placed to provide seasonal energy storage shift due to virtually nil self-discharge rate. H2G is also moving to supercapacitor batteries

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instead of Li Ion for the startup and balancing requirements in our H2 systems. The limitation until now of providing large scale Supercapacitor Batteries has been cost however advances in manufacturing graphene have made it possible to provide the majority of storage in Supercapacitors and taking advantage of their considerable benefits over other technologies.

Regards,

A handwritten signature in black ink on a light-colored background, appearing to read 'William Howard'.

William Howard
Executive Director, Chief Financial Officer & Company Secretary
GreenHy2 Limited

This announcement has been authorised for release by the Board.

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ABOUT GREENHY2

GreenHy2 Limited (ASX: HG2) 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.