Energy storage for electric vehicles wellington

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Researchers at Te Herenga Waka--Victoria University of Wellington, have developed water-based electrolytes for use in batteries and supercapacitors, aiming to meet the demand for energy storage facilities from small to utility-scale. Focusing initially on both the redox flow batteries and supercapacitors technologies, Allegro Energy is the latest venture built off Wellington UniVentures" technology, providing clean and green energy storage solutions for a renewable energy economy.

As fossil fuels become scarcer, the need to harvest and store energy from renewable sources has become more urgent. Electricity from solar installations or wind turbines for example is becoming more frequently used, which significantly helps us to reduce our fossil fuel consumption. Stationary storage facilities have been developed to help solve the intermittency of renewable energy vectors and match the increasing supply and demand issues.

Spinning out of research developed by Dr Fraser Hughson, Dr Rohan Borah and Professor Thomas Nann, Allegro Energy uses a water-based electrolyte system to enable high performance storage technology at a low cost, helping to tackle the issue of how energy can be stored.

Renewable energy technologies are fast-growing as individuals and organisations aim to avert the worst impacts of climate change. Supercapacitors in particular are in the spotlight with the increased demand for electric vehicles and research focusing on sustainable battery technology.

The water-based electrolytes developed by the Allegro Energy team are less toxic than other electrolytes currently used in supercapacitors and have been proven to store large amounts of energy. Not only that, but they are significantly cheaper than current storage options.

The redox flow battery technology, also developed by Professor Thomas Nann who is now based at the University of Newcastle in Australia, uses water-based electrolytes and performs in a similar way to the supercapacitor technology.

With both projects aligning, Allegro Energy will focus on the delivery of both technologies, and Wellington UniVentures has been part of this journey.

Hamish Findlay, Wellington UniVentures" General Manager Commercialisation says: "It"s fantastic to see both Fraser, one of our Emerging Innovators and Thomas Nann, one of Te Herenga Waka"s ex-academics, work together to commercialise this project.

We"re pleased that we have been able to support right from the early stages - from understanding the potential of the technology and guiding Fraser through the commercialisation process, to securing early funding from the KiwiNet Emerging Innovator Programme to take the next step in developing real-world applications for energy storage solutions."

Wellington UniVentures is excited by Allegro Energy"s prospects as it accelerates the transition to a zero-carbon and renewable economy.

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