

# ASX Release

12 August 2021



## DUG protecting IP for hydrogen energy storage system

The DUG Technology Group (ASX: DUG) (“**DUG**” or the “**Company**”) is pleased to announce that it is in the process of filing a number of patent applications related to hydrogen energy storage systems.

Hydrogen energy storage systems are a possible green-power solution when renewable energy sources are not generating power. The economics of such systems are closely tied to the capital cost of hydrogen electrolyzers. DUG has been developing low-cost, maintainable solutions as part of the Company's green-innovation investment initiatives.

DUG believes the theoretical and practical aspects of its hydrogen electrolyser research are now mature enough to warrant protecting the novel aspects of this technology. A working, proof-of-concept electrolyser has been created based on these aspects. The Company's current modelling suggests, by implementing renewables-generated power and a hydrogen energy storage system, it can generate power at a levelized cost of energy (LCoE) of AU\$0.13 per kWh. This implies a levelized cost of hydrogen (LCoH) of AU\$3 per kilogram. While these values are inherently economical, DUG expects they will also have far-reaching implications with respect to both commercial and household applications of the technology.

The Company has recently announced the signing of an option to lease land in Geraldton, Western Australia, progressing plans to build the world's first, climate-positive, high-performance computing (HPC) campus (refer to ASX announcement 9 July 2021). DUG's award-winning and patented immersion cooling system (refer to ASX announcement 24 May 2021) would be utilised to make the new campus arguably the most energy efficient in the world. Geraldton is a premium location for green energy, with an ideal climate for both wind and solar. There are, however, on average six hours each day when these renewables are not generating - an impetus for the Company's investigations into hydrogen energy storage systems.

Commenting on the applications, DUG's Chief Engineer Mark Lommers FIEAust said: “Low-cost hydrogen energy storage technology represents a significant milestone in the quest for a solution to the intermittency of traditional renewables generation. These advances complement our innovative approach to data centre cooling systems to deliver the world's most climate-friendly HPC.”

DUG Managing Director Dr Matthew Lamont said: “It is an understatement to say that we are very excited by the potential of this opportunity. Green-technology solutions that help to reconcile both environmental and economic agendas are today's mandate as we transition to a sustainable future.”

Authorised for release by the Board of DUG Technology Ltd.

**ENDS**

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## About DUG

DUG is an ASX listed technology company, headquartered in Australia, that specialises in analytical software development and reliable, green, high-performance computing (HPC). The company is built on a strong foundation of applied science and a history of converting research into practical, real-world solutions. DUG delivers innovative software products and cost-effective, cloud-based HPC as a service backed by bespoke support for technology onboarding. DUG's expertise in algorithm development and code optimisation enables clients to leverage big data and solve complex problems.

DUG is a global company with offices in Perth, London, Houston and Kuala Lumpur, supporting a diverse industrial client-base that includes radio-astronomy, biomedicine and meteorology, as well as the resource, government and education sectors. DUG designs, owns, and operates a network of some of the largest and greenest supercomputers on Earth. The company continues to invest and innovate at the forefront of software and HPC, working towards a climate-positive future.

To learn more, please visit [www.dug.com](http://www.dug.com).