

World Hydrogen Summit 2021

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Sanne Weekers Business Development

L A V ·O· COMPANY OVERVIEW

OUR MISSION

To empower a world with limitless energy.

OUR STORY

LAVO is a green energy portfolio brand powered by Hydrogen.

Established in 2020, it honours Antoine Lavoisier, the French scientist, who identified and named hydrogen.

LAVO was incubated by Providence Asset Group and applies the innovative technology of metal hydride, developed by the University of New South Wales, for storage of renewable energy to power businesses, residential properties and lifestyle appliances. 1 A 14.0.

The world's first integrated hybrid hydrogen battery that combines with rooftop solar to deliver sustainable, reliable and renewable green energy to your home and business.

40kWh capacity 20,000 cycles 24/7 control

L A V·O· HYDROGEN HYDRIDE TECHNOLOGY

Hydrides deliver a high energy density and safe method for long duration storage.

- Increased life span and value 20,000 cycles of output with minimal degradation
 Improved sustainability The metal alloys composing the hydride can be recycled and re-used
- post expiry
- Ambient temperature operation Operates under room temperature
- High energy density >2 times density compared to liquefied/compressed hydrogen
- Lower operating pressure Stored at 30 bar, equivalent to a household/BBQ gas bottle
- Scalable solutions

Able to be used in multiple applications from small to large scale

• Safety focussed

Metal self-regulates the rate of hydrogen release, reduces regulatory requirements

	LAVO HYDROGEN HYDRIDES	LIQUIFIED HYDROGEN	PRESSURISED HYDROGEN
ENERGY DENSITY	12.6MJ/L	8.0MJ/L	5.6MJ/L
SAFETY & STORAGE	30 bar Self regulated release Room temperate	-253 degrees Celsius	700 bar
STORAGE EFFICIENCY (Lower Heat Loss Value)	95%	60%	84.5%
SUSTAINABILITY	20,000 cycles Metal alloys are non-toxic 100% recyclable	High production and equipment cost	High production and equipment cost



L A V·O· HYDROGEN ENERGY STORAGE SYSTEM

LAVO HESS combines existing technology with patented metal hydride to deliver long duration energy storage.

LAVO integrates with standard rooftop solar systems and water to:

- Create hydrogen from water using an electrolyser
- Store Hydrogen into a patented LAVO metal hydride
- Convert hydrogen to electricity via a fuel cell and discharge to the family home
- Control safety, operations and communications via digital control system



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L A V.O. PRODUCT DEVELOPMENT

With LAVO, the possibilities are endless





$L \land V \cdot O \cdot$

World's first lifestyle and technology brand powered by hydrogen LAVO™ System, LAVO™ H2Q, LAVO™ E-Bike and any future lifestyle products, app (targeted **individuals, businesses and C+I applications**)



HEOS

Large **Utility Scale** - Containerized Metal Hydride Hydrogen Storage Solution as the enabler for decarbonation, targetting large utility and industrial users and producers









FRANC

Intelligent **Centralised Asset Management System** as optimizer for the performance of generation and storage assets

L A V·O· HEOS – INDUSTRIAL SCALE HYDROGEN STORAGE

Large Scale Modular H₂ Energy Storage LAVO | HEOS™

LAVO | HEOS[™] is a containerized version of our metal hydride storage technology which enables low-cost and high-density projects for Power2Power and Power2X applications.

Suitable for integration into large scale solar, wind and industrial applications, the LAVO | HEOS 20' containers provide a scalable and transportable hydrogen storage solution.

The LAVO | HEOS[™] system integrates with electrolysers and fuel cells without the need of compressors.

LAVO | HEOS 20' ISO CONTAINER

- Modular (1 30 vessels)
- Max. total hydrogen storage 360kg or 12MWh per container
- Operates at 30bar in room temperature range



L A V·O· HEOS – Hydrogen Energy Operating System

LAVO is working with strategic partners in Net Zero critical industries in Australia and overseas such as:

- The mining Industry
- Agribusiness
- Telecom market
- Renewable generation markets

Through techno-economic modelling LAVO can provide advice on optimizing renewable energy spill and electrolyser efficiency, providing the best suited solution to deliver the lowest cost of green hydrogen.





Sanne Weekers Sanne.weekers@lavo.com.au Business Development

Thank you