Media Release
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Titan Hydrogen's disruptive Fuel Cell Technology could make hydrogen mainstream

Sydney, NSW: Titan Hydrogen Limited is on the cusp of commercialising a revolutionary, disruptive Fuel Cell Technology to generate more electrical energy from the same amount of hydrogen. This will lead to a substantial decrease in the cost of travel.

It will also be the first mobility fuel cell manufactured in Australia.

While incremental industry approaches could yield a 5-10% improvement, Titan Hydrogen's radically disruptive approach to fuel cell development has the potential for a much bigger increase in fuel cell efficiency.

Titan Hydrogen's approach is based on clear academic evidence that will lead to substantive impacts such as a potential >60% increase in fuel cell efficiency.

The company has patents pending and further patents will be submitted shortly.

Titan Hydrogen's approach is disruptive and changes hydrogen to become mainstream.

Currently, Polymer Electrolyte Membrane (PEM) fuel cells typically convert less than 40% of the energy of the supplied hydrogen into electricity.

The pitfalls of this are:

• Buses and trucks require large quantities of hydrogen to achieve reasonable range, reducing cost effectiveness of fuel cell powered vehicles; and

• Low conversion efficiency of fuel cells means that efficiency of using hydrogen to store electricity can be as low as 50% (compared with batteries at >90%).

Titan Hydrogen has the solution to today's problems with its "Titan Fuel Cell" which improves fuel cell efficiency by 60%. The Titan Hydrogen Hybrid converts buses and trucks to hybrid hydrogen vehicles, dramatically improving emissions and fuel economy.

In summary, the Titan Fuel Cell:

• Is a breakthrough disruptive novel (patented) approach;
• Is estimated to increase efficiency by >60%;
• Significantly reduces the amount of hydrogen required for vehicles for distance travelled; and
• Leads to game-changing use of stored hydrogen for power generation.

Titan Fuel Cell status and outlook:

• Patent pending.
• Two-stage development process.
• Proof of Concept to commence in Q3 2021 and be completed by end of Q4 2021.
• New design and test to be completed by end of Q1 2022.
• Demo program in Q4 2021, sell-in concept to truck manufacturer.
• Identify JV partner to manufacture Titan Fuel Cell stacks by end of Q1 2022.
• Commercialise to Truck, Bus, Forklift, Train and Ship industries.
• Global OEM licensing program 2022.

Hydrogen fuel cells gaining momentum

The Hydrogen Council estimates that hydrogen could be as cost competitive as conventional transport options by 2030 without a carbon cost.

For heavy-duty trucks and long-range segments in particular, fuel cell electric vehicles (FCEVs) are emerging as a complementary solution to battery electric vehicles (BEVs).

The Hydrogen Council believes FCEVs can achieve breakeven with diesel for heavy-duty long-haul transport by 2028 if hydrogen can be made available for $US4.50 per kg (including hydrogen production, distribution and refuelling station costs) at the pump.

The global target for the rollout of FCEVs is 4.5 million vehicles by 2030, with China, Japan and Korea leading the charge.

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ABOUT TITAN HYDROGEN LIMITED

Titan Hydrogen Limited is developing a fuel enhancement system that can be installed into trucks, buses and power generators to upgrade traditional diesel engines to cost-saving, emissions-reducing, hydrogen hybrid engines. Titan is also advancing a revolutionary technology that enables the production of more efficient hydrogen fuel cells.