



Hydrogen
Systems
Australia



WHY GREEN HYDROGEN? **WHY HSA?**

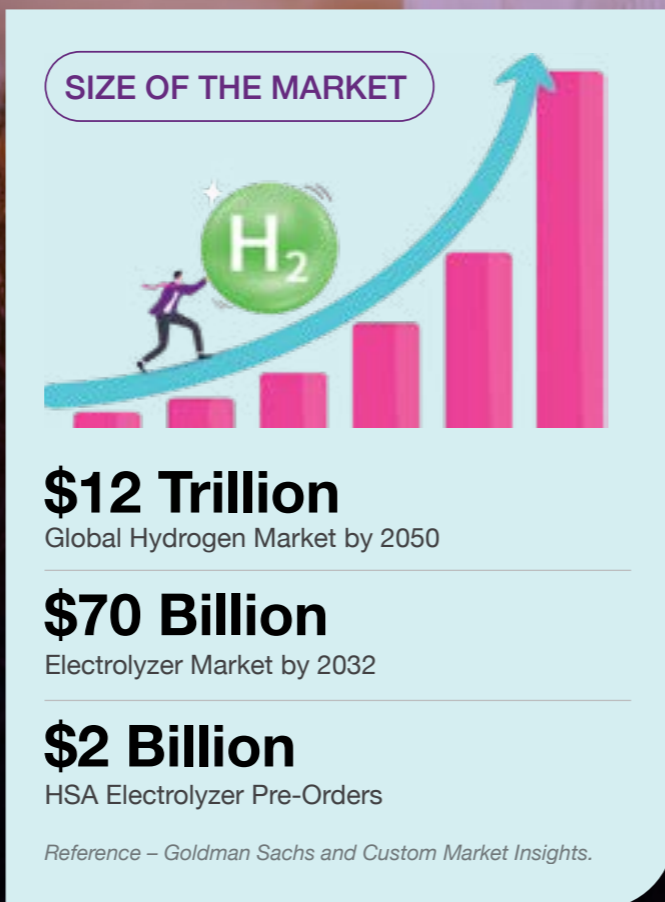
HSA's Dual Frequency Plasma Electrolyzer technology is on track to become the 'great enabler' of solutions vital for activating a multi-trillion dollar global Hydrogen market.

WHY GREEN HYDROGEN?

We have no choice.

Whether you believe in Climate Change or not, the world is officially on the march to decarbonisation, and Green Hydrogen plays a significant role in what will become an enormous market.

But there's a problem. Current Hydrogen electrolyzer technology costs too much, lacks efficiency, and isn't clean. Our innovation is driving the change and forming solutions. Hydrogen Systems Australia overcomes major issues with our game-changing, fully patented Dual Frequency Plasma Electrolyzer technology. Cheaper, more efficient, and cleaner. There are a number of ways to produce hydrogen, each delineated by a colour. Green Hydrogen is clean hydrogen. Join us in the most exciting market on planet earth.



THE EXCITING TRUTH ABOUT GREEN HYDROGEN

There are certain industries and applications throughout the world that will require a reliable, affordable supply of Green Hydrogen. That's a fact.

The biggest companies in the world are embracing Green Hydrogen, industries are adopting it quickly, governments worldwide have defined roadmaps, strategies and subsidies rolling out. Significant public and private investments are in full swing.

So, let's be specific on where Green Hydrogen will be used.

What are the "unavoidables", those specific (and huge) market segments and applications which will need Green Hydrogen to survive and thrive in a world focused on Clean Energy? Think Fertilisers (small scale and large scale), Hydrogenation,

Methanol, Hydrocracking, Desulphurisation, Heavy Duty Transport, Energy Storage, Power Generation, Off-Grid. By replacing traditional fuels and energy requirements with Green Hydrogen, industries can substantially reduce their carbon footprint and support global decarbonisation efforts. But the current electrolyzer technologies being used such as Alkaline, PEM and AEM face an uphill battle on cost and efficiency. They always will.

At HSA, we are confident our Dual Frequency Plasma Electrolyzer technology can produce Green Hydrogen significantly more efficiently and at a much lower cost.



Energy Security

Green Hydrogen is crucial for energy storage, and vital for Energy Security. This function is crucial for integrating renewable sources like wind and solar into the energy grid, and ensuring a stable and reliable power supply.



Power Generation

Hydrogen can be directly used in fuel cells to generate electricity, providing a clean and efficient power source. This is particularly useful in remote or off-grid areas lacking traditional power infrastructure. Hydrogen fuel cells/generators are also used for providing electricity and heat in buildings and as backup power for critical facilities.



Transportation/Maritime

Green Hydrogen is being used to power heavy duty transport buses, trucks, trains, ships – while advancements are being made in FCEV (fuel cell electric vehicles) and a potential transition in combustible engines – providing a significantly cleaner alternative to fossil fuels.



Aviation

The aviation industry is turning to hydrogen as a critical component for sustainable aviation fuels significantly reducing the carbon footprint of air travel.



Industrial Processes

Green Hydrogen is essential for decarbonizing industrial processes, especially in steel manufacturing to significantly lowering emissions compared to traditional methods.



Ammonia & Methanol

Hydrogen is also utilized in producing green ammonia and methanol, which are vital for fertilisers, and other industrial uses, as well as being an excellent energy storage vehicle.



Green Steel

One of the most promising emerging techniques is hydrogen-based direct reduction. This process involves using hydrogen gas (H2) to reduce iron ore to iron, which is then used to make steel. Unlike traditional steel production, hydrogen-based direct reduction emits only water vapor.



Industrial Heating

Green Hydrogen is the "new gas", which can serve heating needs in industrial settings.

THE HSA VISION

EUROPEAN-STYLE ATTRACTION MODEL LEAN MANUFACTURING PLANT 2027



Childcare

Skunkworks

Training Centre

Hydrogen
Production

Factory

Offices

Innovation Centre

Hydrogen
Systems
Australia

Artist impression

WHY HYDROGEN SYSTEMS AUSTRALIA?

Groundbreaking Tech

We believe HSA's Dual Frequency Plasma Electrolyzer technology will be the "great enabler" in the Clean Tech transition that simply cannot be ignored. Innovation will continue to drive the technology changes in flow with our own technology and business goals, and what we're offering will be a significant part of the global solution. All solid purpose-driven objectives to provide real solutions where Green Hydrogen is needed.

Big Vision

No hype. No unrealistic goals. No square pegs in round holes. The hydrogen sector is being dubbed the "new gold rush" or "new oil", which are good analogies, but with that comes lofty claims, unsuitable industry or application ambitions, and turbo-charged greenwashing.

At HSA we're clear on our vision, have a great team and impressive advisory board offering sound guidance. In simple terms, we are enabling an inexpensive and efficient means to provide the world with a reliable and affordable supply of Green Hydrogen where it's needed.

If indeed it is the new 'Gold Rush', then we're creating the best shovels in the business.

Experienced Team

HSA has an impeccable team in place with vast experience comprising decades of proven expertise in Hydrogen, Science, Leadership, Manufacturing, Engineering, Marketing, Business Development and the Start-Up space.

Culture is in our DNA as we implement our 'HSA Spirit' framework built on solid foundations, a people first approach, as we pursue our vision to clean up the planet and provide a better world for our children and future generations.

Our HSA Spirit strategy focuses on community engagement, shareholder communication, team respect and a mission of prosperity for all.

Our Products

Our real pitch is Energy Security with a "use it where you make it" approach as our primary objective, and our play is unique, well executed, and with ambitions of playing a meaningful role in a multi-trillion-dollar sector by 2050. Our products are designed for the small to medium scale market yet can be scaled up. Think dairy farms, remote communities, island or mountain resorts, ammonia as a storage solution, and even hydrogen hub projects. In fact, anywhere diesel is required we can drop in solutions with significant points of difference: Cheaper and more efficient Dual Frequency Plasma Electrolyzers using clean, Green Hydrogen.



Built Different

We're built different at Hydrogen Systems Australia. A Melbourne-based head office, US-based laboratory with a world-leading R&D science team, and connections all over the globe including a UK subsidiary focused on the creation of hydrogen hub projects. HSA offers feasible, affordable, efficient and cheaper solutions while on the march to help hit global targets in the rush for Energy Security. Already we have secured agreements for \$2billion in pre-orders, regional licence holders around the globe are lining up, and we're ahead of schedule in our US lab with outstanding test results.

Investment

Lead investment offers are on the table, and they will provide value beyond the dollar in so many exciting ways. Though fundraising was always going to be a challenge starting from scratch with a unique technology, volatile economic times, and during and after a pandemic, we've been consistent, true to our word and successful in our mission. And we were prepared to say no to investors who weren't the right fit or who didn't align with values. HSA has qualified for R&D tax incentives domestically and globally as approved by AusIndustry and has achieved Early Stage Innovation Company (ESIC) status enabling investors taxation concessions. HSA also has US\$2Billion pre-orders in place (MOUs).

INCREASED EFFICIENCY

HSA's patented technology uses plasma to create hydrogen instead of membranes (PEM), chemicals (AEM) or precious metals. It's a proven technology being mapped across to a different application.

PROVEN TECHNOLOGY

Technology is completely scalable and can be used for small, medium and large applications. Lab tests have already produced outstanding results as we dive deep into prototype development.

LOW ENERGY REQUIREMENTS

Increased value with an expected energy conversion rate down to as little as 35kWh for 1kg of hydrogen production. We are also confident we can drive the cost to the desired \$2/kg at scale.



JOIN US

IN THE MOST EXCITING MARKET ON PLANET EARTH

Welcome to an Australian-made, best practice global company with exciting rewards in store for those who join us on the journey.

Hydrogen Systems Australia has a groundbreaking technology, Lean Manufacturing principles, an excellent team including world leading scientists, and an attraction model elevating us beyond previous commercial principles from years gone by.

Why would you invest or partner with an Aussie company like us in the manufacturing space? Because we have a pedigree, and a modern, very exciting and different way of addressing the market.

Green Hydrogen innovation has emerged as a vital transformative solution in the quest for clean energy and decarbonisation. Its potential to replace fossil fuels across various sectors positions it as a critical component of global sustainability strategies.

The significant growth projections for the Green Hydrogen market underscore its importance, driven by technological advancements and innovation. Due to the unique groundbreaking nature of our technology and early market pull Hydrogen Systems Australia is well placed as a major player in an enormous market for decades to come.

Join us on HSA's quest to enable true Energy Security with mass production of Green Hydrogen on a global scale.

www.hydrogensystems.com.au

Contact us today

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