



Hydrogen
Society
of Australia

Looking backwards, looking forward!

Hydrogen is marching on – will you join us?

In this month's email....

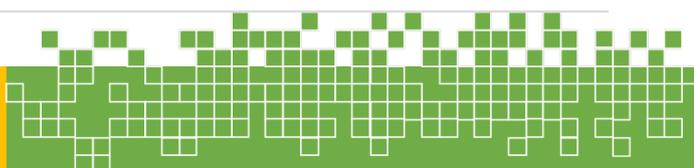
- Message from the HSA Steering Committee
- Members in Spotlight – CO2CRC – Building a Low Emissions Future
- Member Benefits – WA Business News Subscription (free guest access and discount)
- Upcoming Training – Safety and Risk Management, Standards and Regulations
- Upcoming HSA Events
 - ✓ H2 World Webinar Series (Module 12)
 - ✓ National Hydrogen Day
 - ✓ World Renewable Energy Congress (Workshops and training)
- Upcoming External Events / other external links
- Snippets of Hydrogen making moves around the world
- We acknowledge the support of our corporate members!

Message from the HSA Steering Committee

As foreshadowed in our previous newsletters, we are continuing to pursue a number of key initiatives to add value to our membership. We have upgraded our website to include a members' only portal, designed to facilitate networking and provide a store of knowledge. We have recently launched the members networking group on LinkedIn. Some of the functionality and content is still under construction, and we would welcome members comments and inputs as we proceed with the upgrade. Not yet a member? Why should you join the HSA, with our new features coming up in the next few months?

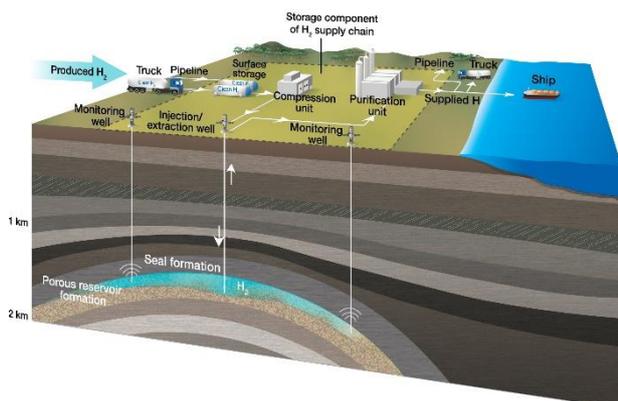
- As a **recruiter**, you will access a database of professionals working in the hydrogen space, with a broad range of skills and expertise.
- As a **student** and **young professional**, you will access a network of well-established experts in the hydrogen space in Australia, with free or discounted training material and conference opportunities.
- As a **hydrogen industry expert**, you will promote your company through our regular webinars and newsletters, with your company listed on our database.
- As a **member of the public**, you will broaden your knowledge in hydrogen, and access premium contents such as webinars, interviews, member database and so much more!

Consider joining the HSA to get access to free or discounted events, training material and the latest information in the hydrogen space – [become a member](#).



Members Spotlight – CO2CRC – Building a Low Emissions Future

Australia is expected to produce at least 20MT of hydrogen a year by 2050. To manage this volume of hydrogen, large scale, safe and cost-effective storage solutions will be required. Underground Hydrogen Storage (UHS) in geological formations can provide large scale, safe and cost-effective storage solutions. Global technical and operational experience of geological storage of hydrogen is limited. Field scale testing in subsurface geological formations is the essential next step to demonstrate and mature the technical and economic viability of UHS.



An initial Underground Hydrogen Storage (UHS) study, co-led by CO2CRC and CSIRO, and in collaboration with Beyond H2, has investigated key technical issues, including fundamental hydrogen storage processes, hydrogen withdrawal effectiveness and integration of UHS with hydrogen production and downstream distribution. The pre-feasibility study sets the foundations for a hydrogen facility demonstration that will safely store and withdraw hydrogen from a geological storage reservoir.

CO2CRC is a not-for-profit research organisation with an Applied Research Strategy that supports the commercial deployment of low and zero emissions technologies. [The full article is available on the members only portal on the Knowledge tab under Publications.](#) Further information about hydrogen programs at CO2CRC can be found on the CRC website: co2crc.com.au; or by contacting either:

- David Whittam (Program Manager Hydrogen; david.whittam@co2CRC.com.au), or
- Roy Anderson (Strategic Partnerships Manager; roy.anderson@co2crc.com.au).

Member Benefits – WA Business News Subscription (free guest access and discount)

The Hydrogen Society of Australia (HSA) has partnered with Business News (BN), to explore and collaborate on opportunities to promote hydrogen initiatives to professionals and the broader community. Business News is a respected, trusted, and credible independent news source for WA businesses and for any Australian with an interest in commerce, politics, and industry.

As highlighted by Ashleigh Dovadola (BN Subscription Relationship Manager), Australians are turning to BN not only for their business needs but also their daily news intake. Across our website platform we reach over 2 million unique readers annually including over 15,000 fully paid subscribers and a print readership of 25,000 senior executives. Business News would like to offer HSA members guest access for 4 weeks to explore our full content and features so that key individuals can gain a better insight into why Business leaders choose to engage with us year on year.

If you are interested to have free guest access for 4 weeks to explore Business News, please select the WABN subscription product within our Members Only portal – [Click here.](#)

Upcoming Training – Safety and Risk Management, Standards and Regulations

The **Hydrogen Society of Australia** collaborated with **Gexcon** and **Integrated Energy** to provide a half-day training course and networking sessions on 24 August. The course provided an overview of the hydrogen ecosystem, hydrogen safety and risk management, standards and regulations. The participants came from a range of backgrounds including government entities, engineering consulting companies, academic institutions, and energy providers. The overall feedback from the event was very positive, and we are considering to offer a repeat of this training module in early October, depending on the level of interest.



Further information will be forthcoming soon, in the meantime, click on the following link to register your interest [training-course-waitlist-sign-up/](#)

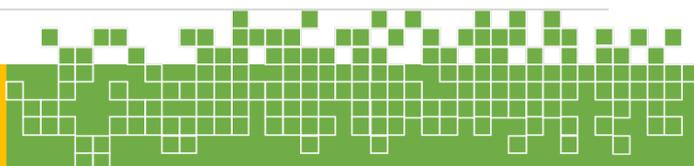
HSA Event – H2 World Webinar Series

The successful rollout of the Hydrogen Society of Australia and Clariden Global collaboration web series H2 World is now complete. Content has included presentations from the **3rd Hydrogen Production, Storage, and Infrastructure Development Global Summit (2022)**, updates from respective presenters and experts, live QnA sessions, as well as networking opportunities. The twelve modules have been successfully delivered to our members, and recordings of the first nine are now available on our members only portal in the [Knowledge Centre under Video Content](#), with the rest to come soon.

Login to your members portal for easy access to the following links.

Delivered

- **Module 12** on 31 August: Our twelfth module featured a recorded presentation on the **Hydrogen Park Murray Valley Project**, delivered by Sean McGuire (ENGIE's Senior Business Development Manager). This pre-recorded presentation provides an overview of the project from its inception in 2019 as a feasibility study, to how it fits into the larger picture of Australia's targets for long-term hydrogen development and figures. Available soon.
- **Module 11** on 17 August: **Large Scale Water Electrolysis and Green Ammonia Technologies**, delivered by Karan Bagga (CTO & Director, Thyssenkrupp Udhe Australia). Karan joined us online to provide an update and undertake a short QnA with the audience. An in-person networking event was hosted by QUT. Available soon.

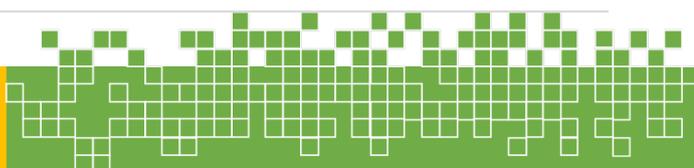


- **Module 10** on 03 August: **The Hydrogen Energy Supply Chain (HESC) Project in Gippsland Victoria: World's First Integrated Liquid Hydrogen Supply Chain**, delivered by Jeremy Stone (non-Executive Director & Advisor, J-Power Latrobe Valley). Jeremy joined us online to provide an update and undertake a QnA session with the audience. Available soon.
- **Module 9** on 20 July: **Oz Mineral Case Study: Safe, Scalable, Hydrogen Storage** delivered by Mark Rheinblander (Founder and CEO of Carbon280). [Watch recording here.](#)
- **Module 8** on 06 July: **Developing Utility Scale Bankable Solar and Hydrogen Projects** delivered by Muren Guler (Managing Partner of Venn Energy). [Watch recording here.](#)
- **Module 7** on 22 June: **Large Scale, Low Cost Compressed Hydrogen Storage – the Missing Link to a Green Hydrogen Future**, delivered by David Bentley (CEO of Ardent Underground Hydrogen Storage). David joined us online to provide an update and undertake a short QnA with the audience. [Watch recording here.](#)
- **Module 6** on 08 June: **Green Hydrogen in Mining and Refining** delivered by Sreeraj Balachandran (Principal Decarbonisation at RioTinto). [Watch recording here.](#)
- **Module 5** on 25 May: **Enabling Large-Scale Hydrogen in Underground in Preparation for Australia to be the Largest Hydrogen Exporter** delivered by Dr. Matthias Raab (CEO CO2CRC). Matthias joined us online to provide the latest news on these projects and undertake a QnA session with the audience. [Watch recording here](#)
- **Module 4** on 11 May: **Green Hydrogen & Ammonia - Scaling Up Commercialization** delivered by Dr. Attilio Pigneri (Founder and CEO H2U - The Hydrogen Utility). An in-person networking event was hosted by the University of Queensland. [Watch recording here.](#)
- **Module 3** on 27 April: **Renewable Hydrogen Technology Demonstration in Canberra - A Case Study of Australia's First Public Hydrogen Refuelling Station** delivered by Daniel Harding (Executive Branch Manager - Climate Change and Energy Division, Environment, Planning and Sustainable Development Directorate, ACT Government). [Watch recording here.](#)
- **Module 2** on 13 April: **Port Kembla Case Study: Australia's First Hydrogen - Powered Trucks and Refueling Station In Decarbonizing The Freight Industry** delivered by Alan Watkins (Executive General Manager at Coregas). Wodek Jakubik (Innovation Manager at Coregas) joined us online to provide an update and undertook a QnA session with the audience. [Watch recording here.](#)
- **Module 1** on 30 March: **How ATCO is Blending Hydrogen into the Gas Network** delivered by Kapz Malhotra (ATCO's General Manager of Engineering Projects). Following his pre-recorded presentation, Kapz joined us online to provide an update and Q&A. [Watch recording here.](#)

Upcoming HSA Event – National Hydrogen Day 2022 – October 08

The Hydrogen Society of Australia (HSA), in collaboration with Murdoch University, will celebrate the 4th Australia Hydrogen Day 2022 (AHD22) on Saturday the 8th of October 2022, from 9:30 am to 3:00 pm, at Murdoch University, South Street, Murdoch. This year events are planned to take place in Brisbane, Sydney, Melbourne, and Adelaide at the same date and time. There will be a live broadcast from Perth to the other States.

We are currently pulling together the program with speakers and sponsors. This event plan will engage school/university students, industry, professionals, academics, and government in the future of hydrogen. Speakers from government, industry, research organizations, and students will outline the status and future strategy for the hydrogen industry. In addition, there will be an



exhibition of hydrogen industry and hub developments, research projects, and a hydrogen-themed students' poster competition to facilitate engagement and collaboration.

Early bird registration is open now until the 15 September and is free for HSA members. – [Click here](#)

To find out more about the Student Poster competition and register your interest (posters to be submitted by 22 September). - [Click here](#)

Please get in touch with us if you want to be part of this event or can help pull it together.
contact@hydrogensociety.org.au.

Upcoming HSA Event - World Renewable Energy Congress XXI – December 4th to 9th

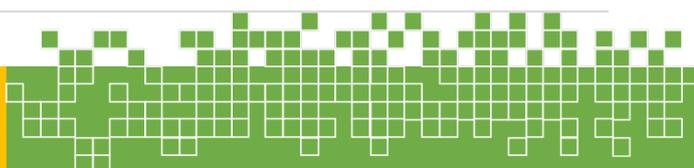
The Hydrogen Society of Australia (HSA) is a Supporter of the [World Renewable Energy Congress XXI](#) to be held at Murdoch University in Perth Western Australia from 4th to 9th December 2022. The source and nature of energy, the security of supply and equity of distribution, the environmental impact of its supply and utilization, are all crucial matters to be addressed by suppliers, consumers, governments, industry, academia, and financial institutions. In addition to the traditional common and parallel session format, the conference will be offering several workshops relating to specific research, industry and policy issues.

As a Conference Supporter, the HSA will be organising two events on Sunday 4th December.

HSA Power-to-Hydrogen-to-X (P2H2X) Short Course: This short course is aimed at academics and industry leaders interested in learning more about the advantages and uses of different Hydrogen technologies. The P2H2X short course covers the Hydrogen Economy's essential technical and economic aspects comprising the four main areas of the hydrogen economy: production; storage and transport; safety and risk management; and utilisation. Several aspects of each of the areas will be presented and discussed. The presenters are recognised leaders in industry and academia who are abreast of the most current status of each area.

HSA Hydrogen Industry Workshop: A hydrogen industry workshop will follow the short course. The hydrogen industry leaders will present their projects' development, technical challenges, and barriers that hinder the Hydrogen Economy advancement. Presentations will be followed by a round table discussion to resolve the technical challenges and overcome regulatory, policy, and financial barriers. Participants will have the opportunity to hear directly from the Hydrogen Industry leaders and discuss their insights with the subject matter experts and the WREC 2022 conference delegates.

Online registration is available now on the [WREC2022 website](#) (Early bird registration will be open until 05 October 2022). **HSA members will receive a 10% discount coupon - you can access the coupon discount by registering for the [WREC2022 discount on our website](#).**



Upcoming External Events (with HSA as a supporting partner/endorsing association)

Hydrogen Connect Summit 2022 - September 8-9 (Brisbane)

MCI is partnering with H2Q (Queensland Hydrogen Industry Group) to build the inaugural Hydrogen Connect Summit, and HSA will be supporting this summit as an **Endorsing Association**. The Summit will be held at the Brisbane Convention & Exhibition Centre on 8-9 Sep 2022 with QLD Government as the Principal Sponsor on the event. The event is being designed to connect all the key players and facilitate deal-making in the rapidly expanding hydrogen industry. David Cavanagh (Integrated Energy and Hydrogen West, HSA Enterprise Supporters) will be chairing the panel discussion on Day 1: *Growing Domestic Demand to Fuel Australia's Green Hydrogen Revolution*. **The cost for delegate registration is discounted for members of HSA.** [Click here for further details and registration.](#)

Critical Minerals and Energy Investment – September 28 -29 (Perth)

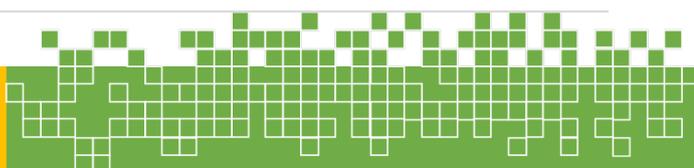
Critical Minerals & Energy Investment Conference and Exhibition takes place on 28-29 September 2022 in Perth, Australia. This event focuses on critical minerals, raw materials strategy, sourcing and processing, green investment economy, as well as hydrogen that plays a crucial role in the global energy market's transition to a low-carbon economy. We are highlighting the growing importance and role critical minerals play in clean energy transition, sustainment of the digital world, critical infrastructure, transport and defence and security. For the 2022 edition, we are including Asia, Africa and the Americas in addition to coverage of Europe and Australia. It's a hybrid event and we are proudly supported by the Government of Western Australia. [Click here for further details and registration](#)

17th International Symposium on Metal-Hydrogen Systems (MH2022) - 2022 Oct 30 to Nov 04 (Perth)

MH2022 is an International Symposium on Hydrogen that is held every two years at international venues around the world, and in 2022 we are expecting a large number of both International and National attendees, approximately 400 delegates. Although focussing on hydrogen storage, the Symposium program covers all areas of hydrogen such as production, storage, distribution and utilisation. The International Symposium runs over 5 days and a MH2022 Summer School will be held over 2 days prior to the Symposium (total length of Symposium + Summer School = 7 days). Craig Buckley (HSA Steering Committee member) will be chairing this conference and the HSA will be supporting this International Symposium as an Endorsing Partner, with **discounted registration fees for HSA Members**. More information on <https://www.metal-hydrogen2022.com/>.

Global Hydrogen Energy Meet: Positioning Hydrogen 2022 - November 21st to 23rd

This three-day conference will be held in Melbourne from 21 to 23 November 2022. One of the objectives of this conference is to highlight Australia's potential as a "green" hydrogen superpower. Positioning Hydrogen 2022 will be a closed door B2B event for international industry leaders and key decision-makers from across the value chain for exchanging valuable insights, building and fostering business relationships, and driving forward innovation and collaboration within the industry. HSA will be supporting this summit as an Endorsing Association and **there is a 20% discount for members of HSA** (contact our membership team on contact@hydrogensociety.org.au to obtain the membership discount code). [Click here for further details.](#)



Snippets of Hydrogen making moves around the world

2022 07 15_Making Net Zero Aviation Possible – Executive Summary_McKinsey: A tailored and robust set of policies will be needed to overcome the technological and economic challenges that have been preventing SAFs from scaling. In this decade, policymakers should (1) de-risk private investments for new SAF production pathways, (2) bridge their cost differential compared with fossil jet fuel, and (3) direct sustainable feedstock to the aviation sector. Simultaneously, the way for hydrogen/battery-electric aircraft can be paved by supporting R&D and ensuring future accessibility to renewable electricity and green hydrogen at scale.

<https://www.mckinsey.com/industries/aerospace-and-defense/our-insights/decarbonizing-the-aviation-sector-making-net-zero-aviation-possible>

2022 08 03_Microsoft says hydrogen fuel cells could mean emission-free backup power for data centres_Stockhead: The three-megawatt hydrogen fuel system consists of a pair of shipping containers each holding 18 proton exchange membrane (PEM) fuel cells with a cap of radiator fans on top of each container. With the prototype testing of the three-megawatt fuel cell system now complete, engineering company Plug plans to roll out an optimised commercial version of high-power stationary fuel cell systems that have a smaller footprint.

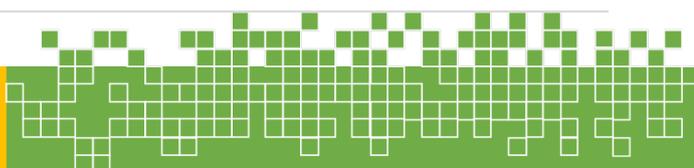
<https://stockhead.com.au/tech/asx-tech-stocks-microsoft-says-hydrogen-fuel-cells-could-mean-emission-free-backup-power-for-data-centres/>

2022 08 04_Long a Climate Straggler, Australia Advances a Major Bill to Cut Emissions_New York Times: After years of being denounced as a laggard on climate change, Australia shifted course on Thursday, with the Lower House of Parliament passing a bill that commits the government to reducing carbon emissions by at least 43 percent from 2005 levels by 2030, and reaching net zero by 2050. With critical support from the Australian Greens now in place, the new Labor government is expected to push the legislation through the Senate in a few weeks. Prime Minister Anthony Albanese said it would put the country “on the right side of history.” The 43 percent pledge brings Australia closer to Canada, South Korea and Japan, while still falling short of commitments from the United States, the European Union and Britain.

<https://www.nytimes.com/2022/08/04/world/australia/climate-bill.html>

2022 08 04_Frontier Energy’s Bristol Springs project in Western Australia’s South West region could be one of Australia’s lowest cost producers of green hydrogen_Stockhead: The Pre-Feasibility Study completed by Xodus Group found that a Stage One solar farm with a capacity of 114 megawatts could power a 36.6MW alkaline electrolyser to produce 4.4 million kg of green hydrogen per annum at the low all-inclusive cost of just \$2.83 per kg. This is hugely significant as it places the project within striking distance of the \$2/kg mark which is widely touted as the price point where green hydrogen becomes competitive with Energy.

<https://www.theaustralian.com.au/business/stockhead/frontier-says-it-will-create-one-of-australias-lowestcost-green-hydrogen-producers/news-story/8645d6f02df12b2503d6397cb294e76e>



2022 08 11_Contract to spark \$80m hydrogen, LNG hub plans_BN: Plans to build an LNG and hydrogen testing hub in Kwinana are moving forward, with Valmec and Kent appointed to undertake engineering work. The \$80 million Kwinana Energy Transformation Hub is an initiative of the Future Energy Exports Cooperative Research Centre, through its subsidiary business Luth Eolas. It will produce about 800 kilograms per day of green hydrogen from an electrolyser, and 10t/d of LNG. <https://bit.ly/3cvy5qY>

2022 08 10_Electric highway charger supplier named_BN: The first electric vehicle charger along Western Australia's proposed electric highway is expected to be installed by the end of this year courtesy of a major Victoria-based outfit. Energy Minister Bill Johnston, Environment Minister Reece Whitby and Premier Mark McGowan today announced JET Charge had been awarded a contract to install 98, 150-kilowatt DC EV chargers at 49 locations across the state. The network, to be delivered as part of a \$4.1 million effort by Synergy and Horizon Power, is expected to be fully up and running by 2024. <https://bit.ly/3R1CkJP>

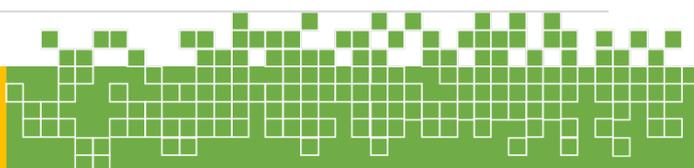
2022 08 16_Metgasco looks to the future with Patriot Hydrogen acquisition_Stockhead: With the world continuing to move towards net zero, Metgasco is ensuring that it stays on top of this transition by acquiring renewable hydrogen producer Patriot Hydrogen. The waste biomass to hydrogen developer has already manufactured its first proof of concept unit and expects to commission it for Kimberley Clean Energy (KCE) before the end of the year as part of a comprehensive memorandum of understanding for the delivery of up to 75 units to support remote power needs in northern Australia.

<https://www.theaustralian.com.au/business/stockhead/metgasco-looks-to-the-future-with-patriot-hydrogen-acquisition/news-story/95d9b9f4fb9fe7bbe7ac929eed3602ee>

2022 08 17_Frontier highlights potential for big boost to green hydrogen production_Stockhead: Frontier has identified a pathway to increasing green hydrogen output at its Bristol Springs project less than two weeks after announcing some of Australia's lowest production costs. Results from the Renewable Expansion Technical Assessment completed by Xodus Group, which incorporated the total 846 hectares of land under the company's control, found that a solar-only solution could produce at least 438 megawatts of power. This is nearly four times higher than the planned 114MW Stage One solar farm and could deliver a corresponding increase in green hydrogen production. <https://stockhead.com.au/energy/frontier-highlights-potential-for-big-boost-to-green-hydrogen-production/>

2022 08 18_Hydrogen Fuel Hub for Kwinana_BN: The McGowan government has committed \$10 million to a renewable hydrogen fuel project being driven by Woodside Energy's H2 Perth Project. Once the project is operational, Woodside will produce 800 kilograms of hydrogen per day to fuel cars and heavy-haulage trucks. In Kwinana today, construction company BGC and transport business Centurion showcased hydrogen fuelled vehicles as part of their push to decarbonise their fleet. "There will be trucks on the road from 2024, that only use renewable hydrogen," Premier Mark McGowan said. <https://bit.ly/3B1DT5e>

2022 08 23_High-intensity effort to lower emissions_BN: As the home of Western Australia's first oil refinery, Kwinana played a key role in the development of the state's petroleum industry. Now, the established industrial zone 40 kilometres south of Perth could be home to research for the next



generation of energy projects. The Future Energy Exports Cooperative Research Centre is building momentum behind its Kwinana Energy Transformation Hub, a micro-LNG and green hydrogen plant. The \$80 million hub would produce about 10 tonnes of liquefied natural gas per day, while its accompanying electrolyser would make 800 kilograms of hydrogen daily. <https://bit.ly/3qg5Xvv>

2022 08 25_Green light for Engie, Yara hydrogen plant_BN:

A development assessment panel has approved Engie and Yara Pilbara's hydrogen plant in the Burrup Strategic Industrial area. The plant is dubbed 'The Yuri Project', and Engie Australia and Yara Pilbara Fertilisers plan to produce renewable ammonia on Murujuga, or the Burrup Peninsula. The project comprises a renewable hydrogen plant and associated infrastructure, a dedicated solar photovoltaic (PV) farm, electrolyser and its balance of plant. The development aim to provide 180 kilograms per hour of renewable hydrogen to replace the use of natural gas at the adjoining existing Yara Pilbara Ammonia plant. <https://bit.ly/3TtX1Qj>

We acknowledge the support of our corporate members!

[Click here to find out more about their technical services and corporate offerings in the hydrogen space.](#)

- Innovate Australia
- BE&R Consulting
- Good Water Energy Ltd
- Hydrogen Energy Pty Ltd
- Polish Investment and Trade
- CO2CRC
- Edith Cowan University
- Queensland University of Technology
- Integrated Energy Pty Ltd
- Truck Centre WA
- Environmental Engineers International
- Gexcon
- Hyzon
- HF Integration
- Murdoch University
- Horizon Power
- WA Business News

We are all in this together...

Please share this newsletter with your network, as they may be interested in joining the HSA.

Together we can foster a hydrogen society for Australia and a global renewable energy future.

Hydrogen is marching on - will you march with us?

<https://hydrogensociety.org.au/>

Contacts



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