

Newsletter



Hydrogen
Society
of Australia

Looking backwards, looking forward!

Hydrogen is marching on – will you join us?

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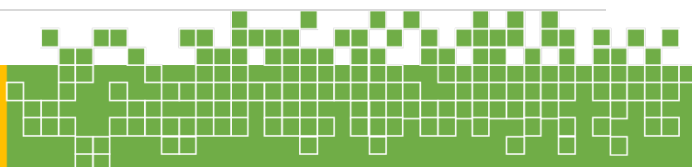
Message from the HSA President – Adam Osseiran

We listened to our members, and we thank all those who have completed the survey. We now have a much better view of the demographics of HSA membership. It is really encouraging to notice the increasing numbers across the Nation. I encourage members from the Eastern States to invite their colleagues and friends to join the Hydrogen Society of Australia and benefit from its growing critical mass to build their career in hydrogen and contribute to the Australian hydrogen endeavour.

This Newsletter is full of news and information on what is going on in the Australian hydrogen ecosystem but also globally. Check out the article from our corporate member, **HF Integration**. Read the result of our survey and explore our latest **Industry Focused Academic Research** series. The first session was recently given by **Dr Quentin Meyer** who is leading the HSA NSW Chapter. The June session will be given by one of our HSA members who relocated temporarily to the USA. Liam Turner will give an overview of the applied research at the Washington State University in Seattle, USA.

Take a look at our collaborative events such as the excellent joint **HSA-AIE event** and others in the upcoming months. Consider joining the **Hydrogen Global Governance Platform** using the discount rate provided to HSA members. Share with us events and activities **in your region** so that we announce them to the whole Nation through all HSA's channels. **If you are not yet a member of HSA, please consider joining us to get access to free or discounted events, training material and the latest information in the hydrogen space.**

[Click here to explore membership options](#)



Members Spotlight – Andrew Sutherland, HF Integration Pty Ltd.



Andrew Sutherland is the Director of **HF Integration**, a leading human factors consultancy based in Perth. He is a **Human Factors Specialist**, with over 20 years' experience in providing practical human factors support to hazardous industries, including heavy haul rail, energy, resources, and defence. He holds Masters qualifications in psychology and human factors, and in 2015 was elected as a Fellow of the **Chartered Institute of Ergonomics and Human Factors**. Andrew leads the technical team at HF Integration, who are currently helping companies to identify and manage the human factors risks associated with their rapid decarbonisation plans. Andrew Sutherland and his

colleague Nat Griffiths (HF Specialist) have prepared the following article on hydrogen from a human factors perspective.

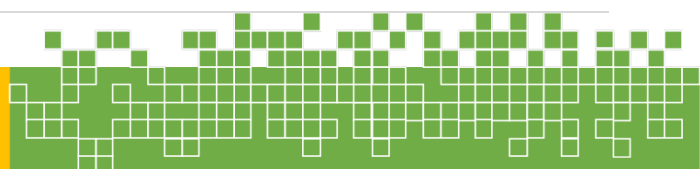
Hydrogen: a human factors perspective

Hydrogen has emerged as a promising energy source for the future, as it is clean, versatile, and abundant. The hydrogen industry is expected to grow quickly over the coming years, with increased demand from various sectors, including transportation, power generation, and industrial processing. However, as the hydrogen industry develops, it brings with it a range of potential human factors issues that need to be addressed to ensure safe and efficient operations. These can be easily overlooked in the rush to implement new hydrogen solutions, but the management of human factors risk is critical to the success of these projects.

The term human factors refers to the interactions between people and the systems, processes, and technologies they use, and how these interactions impact overall system performance and safety. Such issues may arise at all stages of the hydrogen supply chain, from production and storage, to transportation and utilisation. As examples, the production of hydrogen can involve high-pressure and high-temperature processes that pose significant safety risks to personnel, while the transportation of hydrogen can present challenges related to the handling, storage, and distribution of this highly flammable gas.

The hydrogen industry is moving incredibly quickly, and there is a risk that human factor concerns, which are part of wider process safety management obligations, could be missed. For more insights on some of these human factor issues, HSA members can access a more detailed article in the members only Knowledge Portal. **Login to your HSA account** and [click here](#).

This article considers how hydrogen's physical properties, and the manner in which it will be transported and used by both industry and the general public, emphasise the importance of taking a user-centred approach to its introduction, and managing human factors risk. Methods for human factors risk management within process safety are already available, and they must be included in asset risk assessments and safety studies in this fast-moving industry.



Hydrogen Links: Industry Focused Academic Research – Session1 - Dr Quentin Meyer

Dr Quentin Meyer, leading the HSA NSW Chapter, and Lorie Jones, HSA Vice-President, launched the **Industry Focused Academic Research** Webinar series after a discussion last summer figuring out how the HSA could bridge the gap between industry and academia. Dr Quentin Meyer gave the kick-off talk last Thursday (25/05/2023), giving a general overview of his current research activities, focusing on "How to make hydrogen fuel cells cheaper and more efficient".

Session 1: How to make hydrogen fuel cells cheaper and more efficient



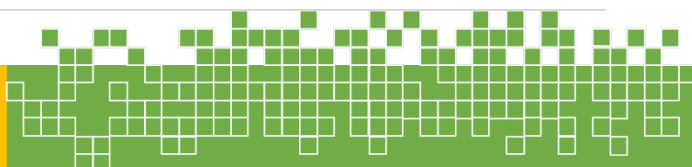
As a brief overview of Quentin's background and experience, he obtained a master's degree in *Electrochemical Engineering and Electrochemical Research* in 2011 from the **Grenoble Institute of Technology** followed by a PhD in *Advanced Diagnosis for Proton Exchange Membrane Fuel Cells* in 2015 from **University College London**. After a successful post-doctoral position in 3-D imaging of hydrogen fuel cells at University College London, he relocated to Australia in 2017 and joined Prof Zhao's group as a senior post-doctoral researcher and laboratory manager at the **University of New South Wales**. After setting up the new hydrogen laboratory and helping secure research funding, he currently leads the exciting hydrogen fuel cells cluster.

Quentin started **Session 1** by introducing hydrogen fuel cells, from a small cell to a stack. Then he discussed the key challenges his research tackles, being costs and efficiency. Costs are addressed by developing cheaper catalysts and working on their integration in hydrogen fuel cells. Efficiency improvement is under development using deep learning artificial intelligence imaging and simulations. He then addressed a high-level Q&A, with both industry and leading academics. The audience had exciting questions on how to install fuel cells as a company, how to understand their 10,000 hours durability and how to figure out the best applications. Others from the audience asked why the fuel cell research is harder than the liquid cell testing at ambient temperature. Dr Meyer did a great job answering these questions - we all had a good time and learnt a lot! It was a successful launch, and we look forward to the next speakers! **Login to your HSA account** and [access Quentin's presentation here](#).

Over the coming months, the following line-up of speakers will present a short overview of their research. Each talk will range from 20 to 30 minutes, with a brief Q&A session at the conclusion:

- Washington State University (Liam Turner) - emerging hydrogen/liquid hydrogen disruptor technologies and risk mitigation [June 22].
- Murdoch (Speaker tbc) – Environmental focused and sustainable concrete could form the basis of a new building and construction industry in the town of Collie [July tbc].
- ECU (Alireza Keshavarz) – Hydrogen geo-storage: challenges and opportunities [August 24].
- UNSW (Chuan Zhao) – Hydrogen production via electrolysis [September tbc].

This is an evolving series of presentations, with our objective being to lock in one online presentation a month. We are reaching out to academic research institutions to encourage their participation. The latest information can be found at <https://hydrogensociety.org.au/product/hydrogen-links-industry-focused-academic-research-monthly-webinar-series-by-the-hsa/>



AIE/HSA Event - Hydrogen's Role in the Energy Ecosystem – Perth [12:00 to 14:00 AWST] – 30 May

The **Hydrogen Society of Australia (HSA)** was pleased to collaborate with the **Australian Institute of Energy (AIE)** to deliver a face-to-face networking event in Perth, which was held over lunch at the **Parmelia Hilton Perth** (14 Mill Street). A series of presentations followed by a facilitated panel discussion provided an overview of hydrogen's role in the energy ecosystem and how hydrogen will assist in achieving our net zero target by 2050.

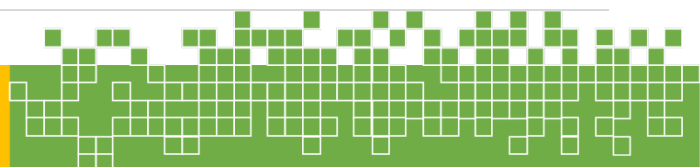


- Furat Dawood (HSA Steering Committee member, founder of **Hydrogen Economy Group**) - provided an overview of the hydrogen ecosystem (Hydrogen 101)
- Dr Ghazal Avijegon (HSA Steering Committee member, Commercial Lead, Renewable fuels, **ATCO GAS**) - provided industry insights and case studies from ATCO's perspective
- Andrew McCluskey (HSA Chair, Executive GM Hydrogen, **Siemens Ltd**)- provided industry insights and case studies from Siemen's perspective
- Katie McKenzie (Director, **AIE National President, EY**) – facilitator.

The event was very engaging, with good food and great networking opportunities. Many thanks to Brian Haggerty (**HSA Steering Committee member**), Caren McClaren (**AIE Perth Branch Chair**) and Lorie Jones (**HSA Director and Vice-President**) for orchestrating this collaborative event, with Ken Lee (**AIE, Western Power**) providing valuable technical and logistical support.



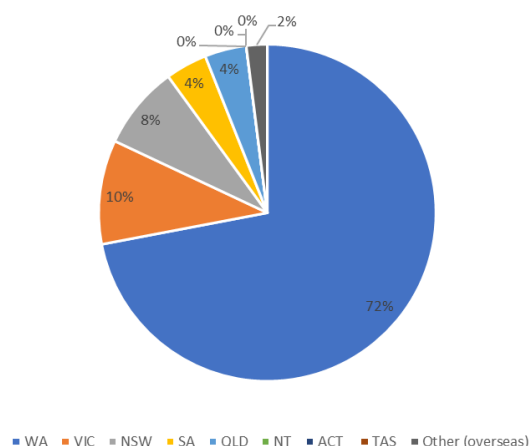
Left to right: Brian, Caren, Lorie, Ghazal, Andrew, Furat and Caren. Ken is behind the camera!



Member Insights – Membership Survey – Final results

This year, the HSA is focused on strengthening our national outreach and building our footprint in regional areas. The HSA has recently undertaken a survey of our existing members, to better understand the themes and activities that would increase membership value. Based on final survey results, all of our members surveyed to date are supportive of the HSA setting up state-based Chapters in WA, VIC, NSW, SA and QLD. Suggested areas of focus are education and training; industry and academic collaboration; and standards and regulations, encompassing the following themes:

HSA Members Breakdown

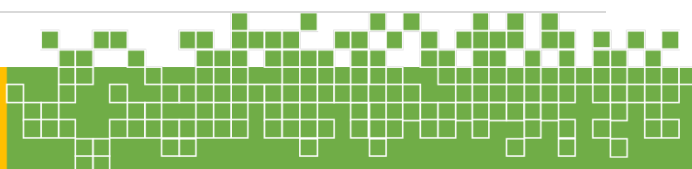


Collaboration and Knowledge Sharing

- There is a desire for more networking and business development events, to facilitate collaboration between industry and academics. HSA could be a good intermediary to ensure that hydrogen-based university projects at the postgraduate level are industry-aligned (ie. setup an Education Connection and Mentoring programme).
- The logical approach for establishing an Australia - wide Hydrogen Society may be to align with like-minded groups who are already moving in similar directions and who could combine the limited resources of our volunteers who no doubt have many competing priorities for their time.
- The HSA could facilitate increased engagement with industry, with a focus on the various hydrogen initiatives in strategic industrial areas, such as the Western Trade Coast (ie. Kwinana), the Pilbara (ie. Karratha), Oakajee, etc. Set up and support local clusters and upcoming projects involving hydrogen and new technologies including wind, solar and ammonia. Focus on sharing “lessons learnt” including solving some of the industry challenges by utilising support workgroups (ie. Quality, Safety, Technical, Engineering, System Engineering, Environmental, Human Factors and User Centred Design, etc).
- Focus on the ability of the end user to have a say in the infrastructure and access to hydrogen. Find the best structured approach to integrate end users and manufacturers of vehicles that allows for projects to begin. End users will rely on the way to be paved by governments and hydrogen providers and we should focus on how an end user can enter the H2O world without excessive outlay.
- A forum to discuss the uptake of heavy-duty hydrogen trucks and/or earthmoving equipment in an industrial or mining environment should be established in association with the various hydrogen hubs underway around Australia.
- Facilitate discussion with authorities, government bodies, etc.

Education and Training

- There is a need to share real lessons learnt around funding, setting up of projects etc. We can all read theory but it is good to understand real life experience. It would also be good to have some guest presentations on 'what' people are doing. Also, it would be good if the chapter and the HSA in general could connect the community with what is happening outside of Australia.
- With Engineers Australia understood to be considering an Australia wide EA Hydrogen technical series in each state, there may be a role for the HSA Chapters, but also the Australian Hydrogen



Research Network (AHRN), to work together to offer some compelling technical content that would be of interest to those already involved in the hydrogen sector but also those who are new to the concept and need some help to understand 'how to begin'.

- Promoting awareness of the benefits of Hydrogen to society while also including awareness of the engineering issues and the research and work being performed to solve them. Promoting participation in the Hydrogen space for the purposes of industry employment of members.
- We need to follow through and launch a searchable skills matrix, which HSA members can use to network with each other, and external players (such as recruiters) can use to search for potential candidates.
- Support local and National Hydrogen Day events. Hold and share events across different chapters so that “lessons learnt” are shared.

HSA members can login to the Knowledge Portal and click on the link below to get access to the complete survey. [Access survey report here.](#)

Career Opportunities:

There are a number of academic and employment opportunities highlighted in our Knowledge Portal including those listed below:

UNSW PhD Candidate

The University of New South Wales (Sydney, Australia) is looking for a PhD candidate to work on an Australian Research Council-funded project in Electrochemical Nitrogen Reduction in the School of Chemistry. Please apply if you have a passion for research and wish to pursue a career in the fields of clean energy and sustainability such as: Energy storage and conversion; Hydrogen economy; and Decarbonisation technologies. Click on the following link for further information: <https://hydrogensociety.org.au/phd-scholarships-on-electrosynthesis-of-ammonia-at-unsw/>

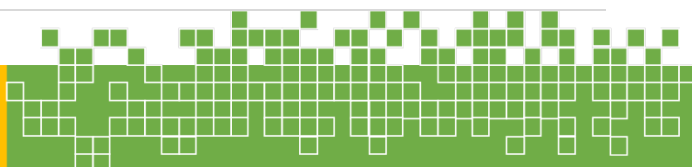
UNSW is also offering a number of PhD Scholarships on the following topics:

- Electrosynthesis of Ammonia [Click here for more information](#)
- Fuel Cells UNSW [Click here for more information](#)
- CO2 Electroreduction [Click here for more information](#)
- Water Electrolysis [Click here for more information](#)

Curtin University - Job opportunities with International Futures Lab – Redefine H2E (Munich)

Expression of Interest for Researcher positions at the Technical University of Munich: An opportunity provided by the Technical University of Munich, Curtin University, and the International Future Lab: Redefine H2E. Working under the supervision of Professor Peta Ashworth (Director of the Curtin Institute for Energy Transition), we have an exciting opportunity available for a Core Scientist. Click on the following link for further information. <https://hydrogensociety.org.au/job-opportunities-with-international-future-lab-redefine-h2e-munich/>

For the full list of opportunities currently advertised on the HSA website, [click on this link](#)



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

The Hydrogen Society of Australia (HSA) has an established relationship 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. 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.

The Hydrogen Society of Australia arranged for a tailored demonstration of the Business News website features for our HSA members on 16th May [10:00am AWST], which was very informative.

If you are interested to have free guest access for 4 weeks to explore Business News, please select the WABN subscription product within our HSA Members Only portal:

<https://hydrogensociety.org.au/product/hsa-members-benefit-wa-business-news-subscription/>

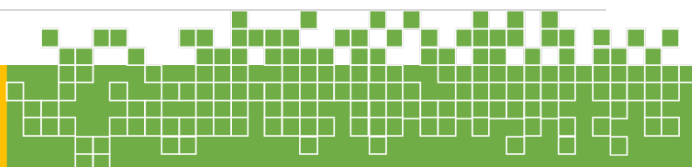
Member Benefit – Hydrogen Standard subscription (HSA members discount)

The Hydrogen Society of Australia (HSA) has partnered with The **Hydrogen Standard** to offer HSA members a significant discount to gain access to the **Global Government Hydrogen Platform**, a renowned source of hydrogen policy data. <https://thehydrogenstandard.com/hydrogen-global-governance-platform/>

The Hydrogen Standard provides market insights, research and news for the hydrogen community to stay up to date with the latest developments. One of the flagship products is the hydrogen global governance platform that provides insights into government commitments to hydrogen on a country, regional and global scale. If you can't keep up with all the developments governments across the globe are providing on their hydrogen roadmaps, you are not alone. More than 50 countries worldwide have now a strategic hydrogen document and another two dozen or so are actively considering or preparing one. As such, Hydrogen Standard has developed the Hydrogen Global Governance Platform, which keeps track of all those individual developments daily. Subscribers will have access to a global, regional and country specific overview on a host of topics outlined in various government hydrogen roadmap strategies, such as funding arrangements, R&D interests, infrastructure commitments, fuel cell vehicle targets, electrolyser capacity commitments, trade agreements and more. The Hydrogen Society of Australia arranged for a demonstration of the Global Hydrogen Platform on **Wednesday 26 April, from 5:00pm to 5:30pm AWST**. The recordings of the April update are available on our website at the following link:

<https://hydrogensociety.org.au/product/hsa-member-benefit-subscription-discount-hydrogen-global-governance-platform-by-the-hydrogen-standard/>

Due to the collaboration between the Hydrogen Standard and the Hydrogen Society of Australia, HSA members will get a significant discount on the initial subscription to the platform (75% for students; 52% for individuals and 80% for Enterprise members). If you are interested in subscribing to the **Hydrogen Global Governance Platform** at a significant discount, please select the Hydrogen Standard subscription product within our HSA Members Only portal: [Click here for further information.](#)



Education and Knowledge Sharing – Past Events and Presentation Material

Login to your password protected HSA members portal and you can access the videos and PowerPoint presentations from past events in the **Knowledge Centre**: <https://hydrogensociety.org.au/knowledge-centre/videos/>. You can also view the event proceedings and find the links to the various presenters under **Past Events**:

<https://hydrogensociety.org.au/hydrogen-space-2023-networking-and-presentations/>

Upcoming Hydrogen Events

ErLaw event - Melbourne Hydrogen Forum 2023 [face to face 10:30am to 4:30pm AEST] – mid July

The Hydrogen Society of Australia is collaborating with **Energy Resources Law (ErLaw)** and has arranged a 20% discount for our members to participate in the Melbourne Hydrogen Forum 2023 to be held at Norton Rose Fulbright, L38 477 Collins Street, Melbourne. Key items of discussion will include:

- skills development, industry collaboration and best prospective use cases for Hydrogen in Australia;
- new adapted planning, environmental and permitting regimes that will be needed to accelerate hydrogen projects in Australia;
- key commercial, legal and risk issues in structuring hydrogen projects and developing contract terms for this novel market; and
- proposed Australian certification and accreditation arrangements, including the Guarantee of Origin work.

The Forum has been rescheduled to mid-July, with date still to be confirmed.

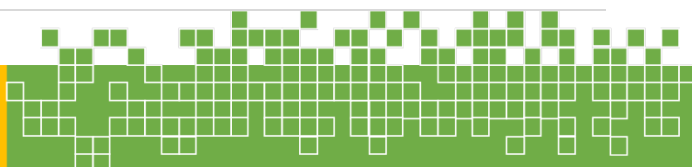
Connecting Green Hydrogen APAC 2023 – Melbourne – 25 to 26 July 2023

CGHA 2023 will bring together industry live and in person to discuss the green hydrogen agenda in Australia and the APAC region. CGHA creates a unique set-up where the policymakers as well as domestic and international developers, investors, experts and solution/product providers, meet, learn and debate. HSA was a supporting partner for this event in July 2022, and is pleased to be a supporter for this year's event in July 2023. **HSA members will have access to an exclusive 20% discount off the conference registration.** Log into your members portal and [click here to obtain the HSA discount code](#), and then log into the conference website below to register for the event.

<https://www.apac.gh2events.com/agenda> .

2023 08 29_Global Clean Energy Conference_Perth – ABC News

Mark McGowan has announced a high-level international meeting linked to the high-profile Boao forum for Asia will be coming to Perth on August 20. Mr McGowan said: "There is no bigger issue than clean energy. All countries need to embrace it. We are, and we want to help countries like China to embrace it and use the opportunities that are available in WA to improve their outcomes. Opportunities for hydrogen, renewable hydrogen, renewable ammonia, solar and wind are available in WA". Further details will be forthcoming.



Second Annual Hydrogen Connect Summit – Brisbane – 06 to 07 September 2023

The HSA was proud to have supported the first Hydrogen Connect Summit in Brisbane as an Endorsing Association. Following the Summit there have been myriad State, Federal and private sector initiatives to provide funding, stimulate investment, accelerate off take and address the skills challenge. Click here to view the White Paper <https://hydrogenconnect.com.au/latest-news/white-paper/> Dates are locked and loaded for the 2nd Annual Hydrogen Connect Summit 2023 (6-7 Sept 2023) at the Brisbane Convention & Exhibition Centre) and planning is already well underway. **HSA members will have access to an exclusive 20% discount off Summit registration.** <https://hydrogenconnect.com.au/>

Fifth Australia Hydrogen Day – National – 08 October 2023

Following on from a very successful AHD event in 2022 held in Western Australia (in collaboration with Murdoch University), the Hydrogen Society of Australia is planning to promote a nationwide series of events this year, building upon our State Chapter structure. The coordinated planning for this series of events will require setting up a Working Group with priority. HSA members are invited to put their hands up to assist with this working group as a Volunteer. Further information about this process is forthcoming.

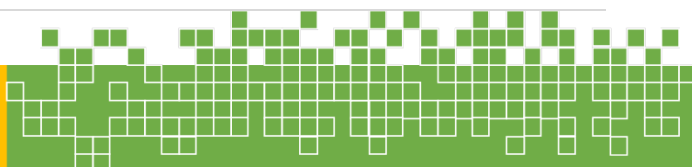
Snippets of Hydrogen making moves around the world

2023 04 26_State of Hydrogen Report_Australian Trade and Investment Commission

Under the **National Hydrogen Strategy** (the Strategy), the Australian Government committed to undertake an annual review of Australia's clean hydrogen industry development performance and publish an annual **State of Hydrogen** report, with the 2022 report released in April 2023. As the first country in the world to export hydrogen, Australia is an industry pioneer. We are also a leader in hydrogen production, with more than 100 green hydrogen projects in 2022. This is double the number in 2021. Our project pipeline is valued from A\$230 billion to A\$300 billion. Australia also has around 40% of all announced global hydrogen projects. The Australian Government's new State of Hydrogen report reinforces the powerhouse potential of Australia's A\$40 billion green hydrogen industry. Produced annually, this report details our pathway for a clean hydrogen future, the development of our hydrogen industry, and how it compares to the rest of the world. It also includes what governments around Australia are doing to advance the industry and pave the path forward. [Click here for full article](#)

2023 04 28_H2 in aviation | Aircraft will fly on 35% hydrogen-based fuels by 2050 under new EU blending rules_Rechargenews

Aircraft departing European airports will need to refuel with ever increasing quantities of sustainable aviation fuels (SAFs) and hydrogen based synthetic fuels as soon as 2025, under new blending rules agreed by the European Commission. The proposal envisages planes refuelling with blends containing at least 2% of SAFs in 2025, of which 1.2% should be derived from synthetic aviation fuels — hydrocarbons such as e-kerosene made by combining carbon molecules with green hydrogen produced using renewable energy. Blend mandates will be ratcheted up every five years until they reach 70% of SAFs by 2050, of which 35% should be made from synthetic aviation fuels, sometimes called e-fuels. [Click here for full article](#)



2023 05 03_Produce hydrogen and purify water at same time_Inside Water

Affordable, easily produced catalyst fuels a new process that could revolutionize off-grid energy solutions. The **University of Alberta** researchers have developed a new catalyst that could revolutionize how we produce hydrogen and purify water. When placed in any water and provided with a small amount of energy, the catalyst produces hydrogen that can be fed into a fuel cell to generate electricity and distilled water that is safe to drink. In addition to the catalyst being a marked improvement on the current catalysts available, it also transforms an energy-intensive process into something that can be achieved with far lower temperatures and less energy input. [Click here for full article](#)

23 05 09_Hazer advances first hydrogen plant in Europe_BN

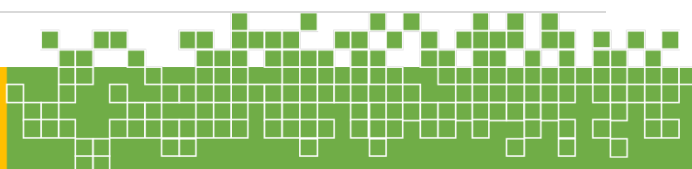
Perth-based chemical engineering business **Hazer Group** has extended its nonbinding memorandum of understanding with French utility company **ENGIE SA** to establish its first facility in Europe located in Montoir-de-Bretagne in France. The clean hydrogen and graphitic carbon production site is set to be established at an existing liquefied natural gas (LNG) import and regasification terminal, owned and operated by ENGIE's affiliate company ELENGY. Once in operation, the joint project would use **Hazer** technology to target an initial production capacity of 2,500 tonnes of hydrogen per year to be used in industrial applications and mobility. [Click here for full article](#)

2023 05 09_Hydrogen Headstart to power new jobs & industry_Ministers Treasury Portfolio media release

The Albanese Government's second Budget is ensuring Australia can reach its potential as a renewable energy superpower, with \$2 billion for a new **Hydrogen Headstart** program to scale up development of Australia's renewable hydrogen industry. This critical new investment is all about making Australia a global leader in green hydrogen, as competition for clean energy investment accelerates around the world. The net zero transformation is the largest change to both Australia and the world's economy since the industrial revolution. After a decade of policy inaction, Hydrogen Headstart contributes to the over \$40 billion of investment by the Albanese Government to make Australia a renewable energy superpower.

2023 05 10_ \$2bn for hydrogen highlights budget resources spend_BN

The centrepiece of the federal budget's resources investment was the \$2 billion **Hydrogen Headstart** initiative, which Treasurer Jim Chalmers championed as an opportunity to make the nation "*a world leader in producing and exporting hydrogen power*". The initiative will provide revenue support for large-scale projects through competitive hydrogen production contracts, which the government said would help to bridge the commercial gap for early projects and put Australia on a course for global leadership. It suggested two-to-three major projects could be in production in Australia by 2030. A further \$38.2 million was allocated to a guarantee of origin scheme, which would certify renewable energy and verify emissions from clean energy products including hydrogen. The hydrogen initiative was announced the same day as the release of the state government's study into the **South West Interconnected System**, which flagged the development of hydrogen projects as a significant driver of additional power demand on the local grid. It follows earlier investment from the federal government in **regional hydrogen hubs** across Australia, including in the **Pilbara**. [Click here for full article](#)



2023 05 11_More than 1,000 clean hydrogen projects worth \$320bn announced, but few have reached FID_Hydrogen Insights

More than 1,000 renewable and low-carbon hydrogen projects requiring \$320bn of investment by the end of 2030 have been announced globally, although less than 10% have reached final investment decision, according to a new report from the Hydrogen Council lobby group. Of these projects, 112 are for gigawatt-scale production — 91 of which are green and 21 are “low-carbon” (a term that is not clearly defined here but usually used as a reference to blue H₂) — and will need about \$150bn of investment by 2030 says the Hydrogen Insights 2023 study, which was written in collaboration with consultant McKinsey. [Click for full article](#)

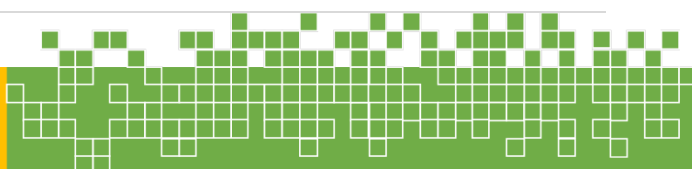
2023 05 15_Australian hydrogen in demand as South Korean manufacturers look to reach renewable energy target by 2050_ABC News

Companies like **Korea Zinc**, the largest zinc refinery in the world, have signed up to RE100, with ambitions to be completely renewable energy powered by 2050. Korea Zinc refines a number of metals that go into making batteries, including zinc, copper and lead. But refining those metals is a power-hungry process and as a resources and energy importer, it's relying on its suppliers to make the energy transition too. Korea Zinc's Australian business, **Sun Metals**, owns **Ark Energy**, which is building a green hydrogen plant in **Townsville**. Once at capacity, Korea Zinc hopes to ship more than 500,000 tonnes of hydrogen a year from Queensland to Korea to power its factory. It will also on sell excess energy to other Korean users.

Some Korean businesses want to use Australian hydrogen in their operations locally, rather than look to exporting the gas in one form or another. **POSCO**, Korea's largest steel maker and Australia's biggest iron ore customer, has been granted land by the Western Australian government to create a hydrogen fuelled plant in the **Pilbara**. The plant would use hydrogen power in the energy intensive process of refining WA iron ore into hot briquetted iron (HBI), which are pellets of refined iron ore that can then be shipped to POSCO's steel works on the peninsula. Using hydrogen energy so close to its source in the Pilbara eliminates the transport logistics of moving both the hydrogen and the iron ore on ships to Korea. [Click here for full article](#)

2023 05 15_Industry maps 'net-zero' future for gas supply, exports_BN

Gas producers have mapped nine industrial zones to "carpool" greenhouse gas emissions and give the sector a future in a net-zero economy. Using shared transmission and pipelines, the zones proposed in a new report would plug gas, renewable energy, carbon capture, and hydrogen production into manufacturing, refineries and new industries. The future industrial heartlands include **Adelaide-Port Augusta** and the **Cooper Basin** in South Australia, two in WA - **Perth and the Pilbara**, and **Melbourne-Gippsland** in southern Victoria. Taking in vast onshore gas fields, **Sydney to Newcastle** is the focus in NSW and **Brisbane and the Surat Basin** in Central Queensland. The Northern Territory zone includes the **1500-hectare precinct near Darwin**, already designated for gas-based industry and home to a Santos liquefied natural gas (LNG) project and the INPEX LNG project. The zones also include 74 proposed hydrogen projects and 89 renewable projects. Hydrogen has the potential to become a major export, generate electricity in transport fuel cells and gas turbines, and a source of high heat needed to make steel and chemicals. [Click here for full article](#)



2023 05 16_Frontier and AGIG deal could give WA's gas network a shot of green hydrogen_Stockhead

Frontier's goal of becoming a significant green hydrogen player has received a big leg up after signing a collaboration with AGIG to inject hydrogen from its **Bristol Springs** Green Hydrogen Project into the **Dampier to Bunbury Natural Gas Pipeline (DBNGP)**. Under the agreement, the two companies enter discussions to determine the type of agreements that will allow for the injection of an agreed percentage of hydrogen into the Mainline South section of the DBNGP – Western Australia's biggest gas transmission asset with a connection point just 300m from the proposed hydrogen plant location. Both parties will work together to undertake a Front End Engineering and Design (FEED) Study for the injection facility and hydrogen blending station. [Click here for full article](#)

2023 05 17_Samsung, Infinite plan \$4.8bn hydrogen project_BN

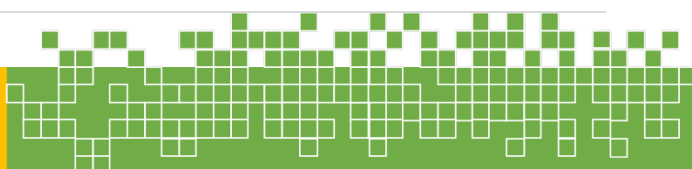
Perth company **Infinite Green Energy** has linked up with South Korea's **Samsung C&T** to pursue the development of a world-scale hydrogen plant just south of **Dongara**. With an estimated cost of \$4.8 billion, the **Arrowsmith plant** is forecast to produce up to 300 tonnes of green hydrogen per day, or 100,000t per year for domestic and export markets. It will include 700 megawatts of electrolyzers to convert water into hydrogen, powered by a massive 750MW of solar panels, 1,550MW of wind turbines and 240MW of batteries. The companies did not provide any details on funding sources for the ambitious project. They are targeting first production in 2028. [Click here for full article](#)

2023 05 18_Sprintex kicks off fuel cell compressor delivery to EU hydrogen shipping project_Stockhead

Sprintex has begun delivery of fuel cell compressors as part of its participation in the €14m **Sustainable Hydrogen powered Shipping Project (sHYpS)** to decarbonise cruise liners. The program is funded by the EU government and includes the repowering of six cruise liners, each with 16 modular hydrogen fuel cell power units of approximately 6mW each for a total of 96mW per ship. The company has now completed manufacturing and testing, and commenced delivery of the initial A\$270,000 S26 ultra-high-speed ecompressor order, with the program expected to bring revenue to Sprintex (ASX:SIX) of approximately \$1.5 million for a six-ship trial. [Click here for full article](#)

2023 05 20_APA confirms Parmelia hydrogen potential_BN

APA has confirmed the potential to convert part of the **Parmelia gas pipeline** to transport hydrogen between the **Kwinana** industrial complex and **Alcoa's Pinjarra alumina refinery**. Testing on a 43km section of the pipeline proved that it was technically feasible, safe and efficient to transport pure or blended hydrogen at the pipeline's current operating pressure. In May last year, APA signed a memorandum of understanding with **Wesfarmers Chemicals, Energy and Fertilisers** to assess in parallel the viability of green hydrogen production and transport via the Parmelia pipeline to Wesfarmers' production facilities in Kwinana. The full Parmelia mainline gas pipeline spans 416km and currently transports gas from **Perth Basin gas fields** near Dongara, the **Carnarvon Basin** via the Dampier to Bunbury natural gas pipeline, and **APA's Mondarra gas storage facility**. It interconnects with **ATCO Gas' distribution network** in the Perth metropolitan area. [Click here for full article](#)



2023 05 23_ Stakeholders question SA government's use of River Murray for Whyalla hydrogen plant_ABC News

Irrigators and environmental experts say the SA state government commitment to use **River Murray** water to power a half a billion dollar hydrogen power plant project in **South Australia** raises questions about how the natural resource is used. **Whyalla**, on South Australia's upper Spencer Gulf, will be the site of the new hydrogen power plant. The hydrogen plant will work alongside a planned desalination plant, also proposed by the SA state government. While the desalination plant proposal is yet to be approved, the state government has committed to using 200 megalites of River Murray water annually to power the hydrogen plant. [Click here for full article](#)

2023 05 26_Green hydrogen plants next to green steelworks to boost efficiency and kickstart both industries_The Conversation

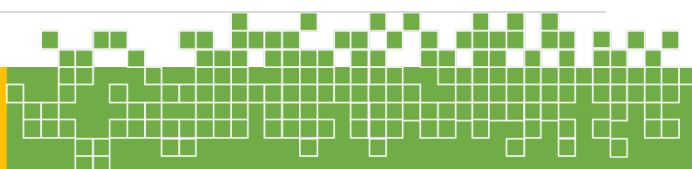
The race to net zero is accelerating. Just last week, United States President **Joe Biden** and Australian Prime Minister **Anthony Albanese** unveiled a climate pact to boost cooperation. The move signifies Australia is becoming a global leader in the renewable energy roll-out and critical mineral supply. Australia's rich iron ore deposits and cheap solar offer yet another way we can lead. If we locate green hydrogen plants near green steel facilities, we can shift the highly polluting steel industry away from fossil fuels. Major iron ore centres in the **WA Pilbara** and **SA Eyre Peninsula** already have ports, a workforce and other infrastructure. That makes them the logical first choice to co-locate solar, wind and hydrogen with iron and steelmaking. [Click here for full article](#)

2023 05 26_Mid West hydrogen hub progresses_BN

Kinara Power and **Blue Diamond** are the first of six companies to agree to the key terms on options to lease land in the **Oakajee Strategic Industrial Area**. The Australian companies were offered land in the renewable hydrogen-focused industrial precinct last year, which is being developed by the state government. **Fortescue Metals Group's** green hydrogen arm **Fortescue Future Industries**, **BP Australia**, **Copenhagen Infrastructure Partners** and **Green LOHC** were also approved for land at the precinct. Minister for State Development, Jobs and Trade **Roger Cook** said the government welcomes the significant step to progress the development of the Oakajee Strategic Industrial Area. "Clean energy and green products made from renewable hydrogen are in demand globally," he said. [Click here for full article](#)

2023 05 26_ The hydrogen industry's plans for growth are ambitious, UBS says, but funding is lagging behind_The Australian

The global hydrogen industry is growing at a rapid rate, with more than 1000 large-scale projects on the drawing board, UBS says. However, less than 10 per cent of the \$US320bn worth of projects which aim to be built by 2023 have committed funding. But Australia's industry mirrors the global experience, with 89 of the announced 113 hydrogen-related projects in Australia still in the development phase. Out of the 32 export-focused projects identified, 15 of these specified what the target export market was. Out of these 15 projects, 14 are targeting Asia, largely Japan (47 per cent), Korea (20 per cent) and Singapore (13 per cent). 28 per cent of the 113 projects have an end-use of domestic mobility.' [Click here for full article](#)



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