



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

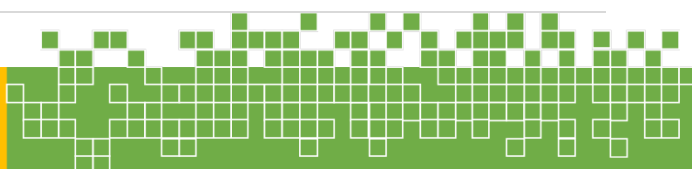
Thanks to our members and to the hard work of our committee members, the Hydrogen Society of Australia is going from strength to strength. We are consolidating our national expansion running more activities across the country. Together we can do more, much more to build a stronger truly clean hydrogen community around Australia, so please call us, volunteer, and connect with others in your local Chapter.

Welcome to our latest corporate member, **InterContinental Energy** (ICE), developing several giga-scale global projects, such as the Western Green Energy Hub, which is one of the world's largest green energy projects with a 50 GW renewable energy hub in Western Australia dedicated to green hydrogen production.

There is so much happening in the green hydrogen area, so we have selected some of them for you here, yet we would like to invite you, our readers, to tell us about clean hydrogen activities in your region, such as career opportunities, conferences, future developments, and news so that we can share them with all here. More importantly, let us know if you wish to be involved in organising the next **Australia Hydrogen Day 2023** on Sunday 8 October 2023 in your Capital City.

Check our latest **Hydrogen Links: Industry Focused Academic Research** seminar which featured one of our excellent early days members, Liam Turner. Take advantage of the **member benefits** offered by our partners and check the future events in our nation.

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 – InterContinental Energy (ICE)

InterContinental Energy (ICE) has been pioneering best-in-class green fuels hubs since 2014 with its portfolio of tier 1 projects across Australia and the Middle East. Using upstream wind and solar, ICE delivers ‘Green Hydrogen’ at scale that will support and accelerate the energy transition. With a highly experienced, multi-disciplinary global team, we think big to turn innovation into action - guided by the ethos of “doing the right thing, the right way”.

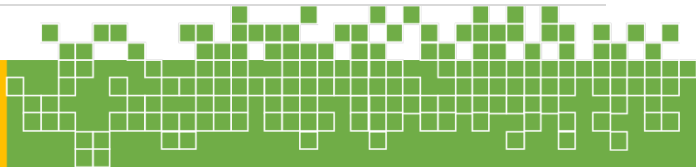
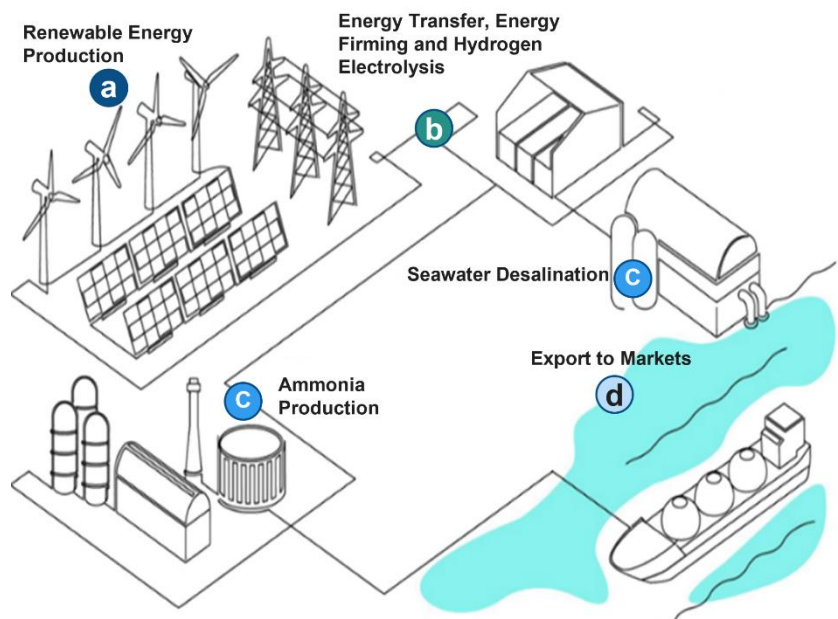
InterContinental Energy operates in three hubs across Singapore, Australia, and the Middle East. The company focuses on optimizing outcomes for all stakeholders, including First Nations and other communities, as well as collaborating with project partners to deliver value to our strategic investors.

Project Concept and Overview of Green Fuel Production Process

- InterContinental Energy’s portfolio of giga-scale projects will be able to produce green hydrogen in the lowest decile of the cost curve, featuring:
 - a Upstream**, hybrid renewables with sites that have world class diurnal wind and solar resources resulting in very high-capacity factors.
 - b Midstream**, comprising energy transfer, energy firming, energy storage and energy conversion, wind and solar energy converted to the production of hydrogen through the electrolysis of water at utilization factors of $\pm 70\%$.
 - c Downstream**, process plants for green fuels production leveraging substantial economies of scale comprising Green Ammonia, e-Methanol, e-Methane and SAF production and the desalination of seawater for the hydrogen production feedstock.
 - d 3 Hubs** in advanced development and **1 hub** in early-stage planning across Asia Pacific and Middle East coastal locations with easy access to seawater and export.

- ICE green fuels target markets are **power, industrials, marine and heavy transport** sectors.

- At the project level, ICE partners with world-class global and local leading players that can provide additional strategic access and insights.



Hydrogen Links: Industry Focused Academic Research – Session 2 – Liam Turner

One of our HSA initiatives is to help bridge the gap between industry and academia, through a series of online webinars referred to as **Hydrogen Links – Industry Focused Academic Research**. The objective of this initiative is both to raise the level of industry awareness and expertise, and deepen the relationships between industry and academia within the HSA. An overview of the upcoming speakers confirmed to date is provided on Page 6.

Session 2: How to unlock zero waste liquid hydrogen storage through the cool properties of cryogenic Hydrogen [delivered on 2023 June 22]



Liam Turner is a Fullbright Scholar from the Washington State University, and a PhD Candidate, Monash University. As a Fulbright scholar, Liam has spent the last year experimentally researching liquid hydrogen storage at the Hydrogen Properties for Energy Research (HYPER) Lab at Washington State University in the United States. Returning to Australia, Liam's mission is to help de-risk the opportunity of liquid hydrogen energy storage while helping develop Australian liquid hydrogen expertise training with insights from U.S. experts.

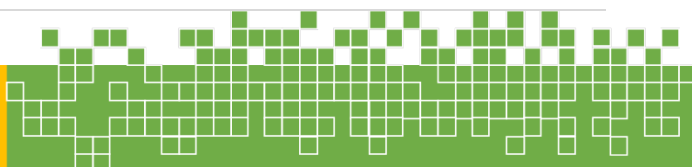
Liquid hydrogen, the freezing fuel at -253 Celsius gave the space age its wings, Liam now sees its potential to propel humanity into a sustainable energy future. Liquid Hydrogen has been utilised as an energy carrier since the 1950's. Through all this time, only a single dimension of value was exploited from the energy intensive liquefaction process: a hydrogen storage density increase to 70 kg/m³. Despite liquid hydrogen's cost-skewed value proposition, many projects are emerging for liquid hydrogen production across the U.S. and Australia for long distance, long duration energy storage/distribution.

Liam discussed how we can re-imagine the cost/benefit ratio of liquid hydrogen to accelerate the adoption of clean hydrogen energy internationally. Properties of liquid hydrogen that have conventionally been seen as costs (such as boil off and extremely cryogenic temperatures) can be leveraged to realise a second dimension of value from liquid hydrogen: use as a fuel and a refrigerant. The presentation explored liquid hydrogen as a fuel and refrigerant in the design of a conceptual liquid hydrogen export ship to realise zero waste, high efficiency energy export.

Realising liquid hydrogen's full value as a fuel and refrigerant requires the fabrication of intricate heat exchangers inside cryogenic cold boxes. Emerging manufacturing techniques including additive manufacturing are enabling engineers to practically implement these heat exchangers to maximise liquid hydrogen's potential as an export energy carrier.

The Q&A discussion explored how industry and researchers across Australia can collaborate with U.S. liquid hydrogen experts to develop new materials to harness liquid hydrogen as a fuel and refrigerant. The discussion then flowed into emerging research questions for additively manufactured materials in liquid hydrogen applications.

The Session 2 presentation recording is now available on the HSA website in our Members Only Knowledge Portal. [Click here to view.](#)



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 here for further information.](#)

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)

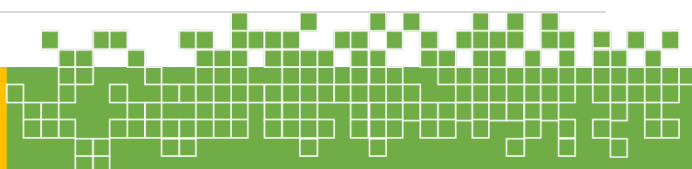
Expression of Interest for Researcher positions at the Technical University of Munich: An opportunity provided by the Technical University of Munich, Curtin University, and the International Future Lab: Redefine H2E. Working under the supervision of Professor Peta Ashworth (Director of the Curtin Institute for Energy Transition), we have an exciting opportunity available for a Core Scientist. [Click here for further information.](#)

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.

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 accessible here.](#)



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.

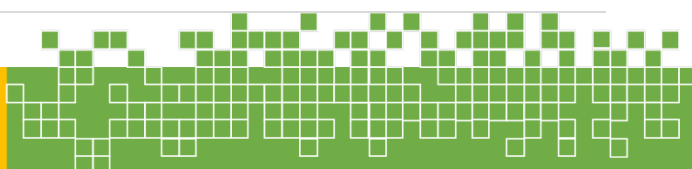
The Hydrogen Standard provides market insights, research and news for the hydrogen community to stay up to date with the latest developments. One of the flagship products is the hydrogen global governance platform that provides insights into government commitments to hydrogen on a country, regional and 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. [Click here to access the updates.](#)

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](#). You can also view the event proceedings and find the links to the various presenters under [Past Events](#) and here, [Hydrogen Space 2023 networking an presentation.](#)



Upcoming Hydrogen Events

Hydrogen Links – Industry focused Academic Research Series

Over the coming months, the following line-up of speakers will present a short overview of their research. Each talk will range from 30 to 40 minutes, with a brief Q&A session at the conclusion:



- UNSW (**Quentin Meyer**) – How to make hydrogen fuel cells cheaper and more efficient [delivered - 25 May, refer to Issue 16, page 3]
- Washington State University (**Liam Turner**) - How to unlock zero waste liquid hydrogen storage through the cool properties of cryogenic Hydrogen [delivered - June 22, refer to Issue 17, page 3].
- MU and HBI (**Furat Dawood and Benny Abraham**) – Integrated Drinking Water and Renewable Energy based Power Supply for remote Aboriginal communities in WA.
August 01 – [register now](#)
- ECU (**Alireza Keshavarz**) – Hydrogen geo-storage: challenges and opportunities
August 24 – [register now](#)
- UNSW (**Chuan Zhao**) – Hydrogen production via electrolysis [September tbc].
- AHRN (**Andrew Dicks**) – Australian hydrogen research networks initiatives [date tbc]

This is an evolving series of presentations, with our objective being to lock in one online presentation a month. The intent is to hold some of these as hybrid events, including food and networking, as well as laboratory tours. We are reaching out to academic research institutions to encourage their participation. The latest information can be found at [Hydrogen Links – Industry Focused Academic Research Monthly Webinar Info](#).

The Hydrogen Society of Australia is collaborating with like-minded organisations to foster collaboration and knowledge sharing between industry and academics. As mentioned above, AHRN will be contributing to our Hydrogen Links series. We are also exploring collaboration opportunities with the ARC Training Centre for the Global Hydrogen Economy (GlobH2E). The ARC Training Centre for the Global Hydrogen Economy (GlobH2E) is a research consortium established in 2021 and funded by the Australian Research Councils and industries. GlobH2E brings together leading Australian researchers and global research institutions, industry partners, hydrogen start-up and government agencies to work together to develop and ramp up new technologies and build nation's skills in a short timeframe. Upcoming webinars include:

- Wednesday, 5th July 2023: **Hydrogen Safety & Standards: What does it mean to you?** A joint presentation by Billy Chan (BOC Linde) and Jon Meunier (Standards Australia).
[More info and register here](#) (free to attend, hybrid)
- Friday, 6th July 2023: **In designing catalysts for clean energy – is the nature of active site always the right question to ask?** Presented by Dr Rosalie Hocking (Swinburne).
[More info and register here](#) (free to attend, hybrid)

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 on this link](#) to obtain the HSA discount code, and then log into the APAC 2023 [conference website below to register for the event here.](#)

Hydrogen Safety and Hazardous Areas Conference – Perth – 10 & 11 August

The Hydrogen Safety & Hazardous Areas conference is a practical and informative platform to showcase best practice, new technologies, and the current standards and regulations for the use of hydrogen and for hazardous areas. It is an opportunity to be part of this rapid global move to renewables, where knowledge and safety are the focus. Prepare to be captivated by an array of knowledgeable speakers who will delve into a wide range of topics. From research, case studies, to practical applications, this conference will offer valuable insights into hydrogen safety and hazardous areas here in Australia and overseas. For more information and to view the program, click here [Hydrogen Safety & Hazardous Areas - Conference Program.](#)

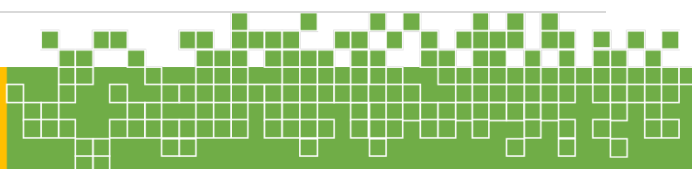
We are pleased to inform you that HSA members receive an exclusive 10% discount on top of the early bird discount which is available up until June 30, 2023. Sign into your members portal and [click here to check out our Member Benefits and Discounts page to obtain the discount code for this conference.](#) Use the code at the following registration link, [Hydrogen Safety and Hazardous Areas Conference registration.](#) Hope you can join us!

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.](#) 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. [Register now.](#)**



ErLaw event – Annual Conference 2023 – 6 to 8 September 2023

The Hydrogen Society of Australia is collaborating with **Energy & Resources Law Association (ErLaw)** and has arranged a 20% discount for our members to participate in the Melbourne Hydrogen Forum 2023 to be held at W Melbourne Hotel, 408 Flinders Lane, Melbourne. The theme of this year's conference is **Resourcing the Future: Sustainable Solutions for the Energy and Resource Industries**. Leading experts will share practical insights on global trends across our two-day program. 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.

Sign into your members portal and check out our Member Benefits and Discounts page to obtain the 20% discount code for this conference. Use the code at the following registration link [Click here to register](#)

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.

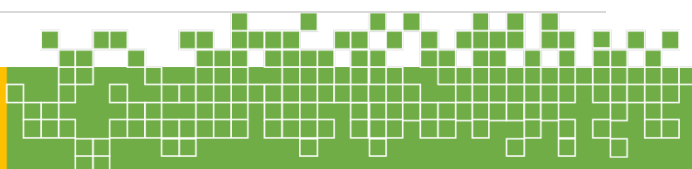
Snippets of Hydrogen making moves around the world

2023 05 31_ Meeting the challenge of a low carbon future [EnergyClubWA](#)

Australia, the world's largest exporter of coal and liquefied natural gas, has committed to achieving net-zero emissions by 2050. As a significant contributor to the country's economy, the energy sector's transition towards a low-carbon energy system is a challenging but necessary step towards achieving this goal. To support this transition and ensure a fair and inclusive transition for all Australians, the International Energy Agency has released the Australia 2023 Energy Policy Review report, providing recommendations to support affected workers and communities. [Click here for more details](#)

2023 06 01_ Germany extends flagship H2 Global green hydrogen purchasing scheme to all EU member states_Accelerate Hydrogen newsletter

Germany is to extend its flagship H2Global scheme for buying green hydrogen from outside the EU to European member states — and appears to have promised an extra €1bn (\$1.06bn) in funding. Details are still emerging on what the EU-wide expansion of the H2Global initiative will look like, whether the German government will continue to bankroll it and who will have ownership of the auction process. However, this could act to bridge the gap between subsidising producers to make green hydrogen at the lowest possible cost while also incentivizing current hydrogen users to switch to a more-expensive product. [Click here for more details](#)



2023 06 02_ Rio invests \$US395m in Pilbara plant_BN

Rio Tinto will spend \$US395 million (\$A597 million) building a desalination plant in a two-year construction effort to increase water supply for communities and operations in the Pilbara. With an expected completion date of 2026, the proposed dampier seawater desalination plant will have an initial capacity of four gegalitres annually, which could eventually be doubled to eight gegalitres. The plant will be located at Rio's iron ore port operations at Parker Point near the existing Water Corporation network, with the build tipped to start in 2024 subject to approvals. [Click here for more details](#)

2023 06 08_US unveils national clean hydrogen strategy and roadmap based around three key priorities_Accelerate Hydrogen

The US government has released its long-awaited National Clean Hydrogen Strategy and Roadmap, with three key priorities: the targeting of "strategic, high-impact uses for clean hydrogen", reducing the cost of clean H₂, and building regional clean hydrogen hubs. Listed goals include producing 10 million tonnes of clean hydrogen by 2030, 20 million by 2040, and 50 million by 2050. "Rather than competing with alternative low-cost and efficient decarbonization technologies, such as electrification, clean hydrogen adoption will focus on end-uses that lack alternatives and are in industries that can build momentum to enable scale, increase benefits, and drive down cost," the document states. This all but rules out the use of hydrogen for cars, the heating of buildings and co-firing in power stations.

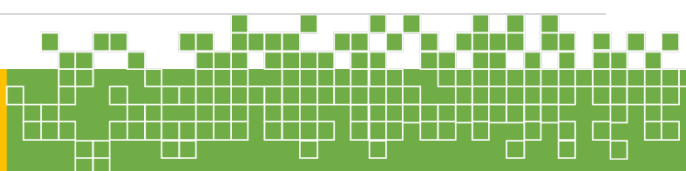
[Click here for more details](#)

2023 06 09_Pilot partners with Australian carbon tech developer to slash Mid-West industrial emissions_Stockhead

Pilot Energy (ASX:PGY) has inked a memorandum of understanding with Australian carbon technology developer KC8 Capture Technologies to collaborate on a carbon capture and storage (CCS) service solution. "This is a great opportunity for two Australian companies to demonstrate the cost-effective capture and sequestration of CO₂ from hard to abate industries in WA. We look forward to successfully progressing this agreement through to a full commercial demonstration supporting the Cliff Head CCS project." Pilot's Cliff Head CCS project will provide the foundation for eventual hydrogen and ammonia production, with the staged Mid-West Clean Energy project targeting over 1.2 million tonnes each year of low-cost, clean ammonia for export while capturing around 99% of the carbon emissions generated. [Click here for more details](#)

2023 06 09_WA companies strike deals with NT Government_BN

Andrew Forrest-chaired FFI, critical minerals developer Tivan and battery cathode and fertiliser company Avenir were the three Western Australian companies to strike early deals for land in the Middle Arm Sustainable Development Precinct. France-based renewable energy power plant developer Total Eren and NSW-headquartered natural gas company Tamboran Resources were the other two companies to receive commitments from the NT government. Located on Darwin's harbour, the \$1.5 billion federal government backed precinct is already home to Santos's Darwin LNG plant and Inpex's Ichthys onshore LNG processing facilities. The precinct is expected to support renewable hydrogen manufacturing and critical minerals processing, while primarily focusing on expanding the NT's gas industry. [Click here for more details](#)



2023 06 12_Rio, Baowu to work on low-carbon projects_BN

Rio Tinto has struck an agreement with the world's biggest steelmaker, China Baowu Steel Group, to collaborate on projects aimed to reduce carbon emissions in the industry. Projects under the memorandum include optimising pelletisation technology for Australian ores as feedstock, expansion of China Baowu's HyCROF technology, and joint study opportunities to produce low-carbon iron in Western Australia. The HyCROF technology can mitigate carbon dioxide emissions from the blast furnace process, Rio said. The research and build of a pilot-scale electric melter at one of Baowu's steel mills in China to enable low-carbon steel making is also part of the list of decarbonisation projects under the memorandum. "Rio Tinto and China Baowu are united in a commitment to accelerating the delivery of low-carbon solutions for the entire steel value chain," Mr Barrios said. [Click here for more details](#)

2023 06 14_Fortescue signs with China Baowu_BN

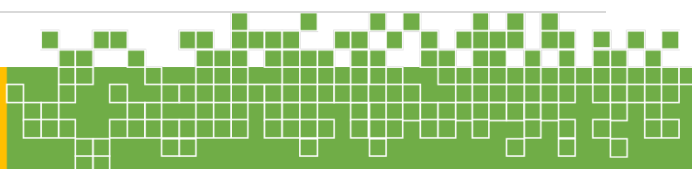
Fortescue is the second company after Rio Tinto this week to partner with world's biggest steelmaker China Baowu in a bid to reduce emissions associated with iron and steel making. FMG today announced it has entered into a memorandum of understanding with China Baowu Steel Group to explore lower emissions iron making technology at one of China Baowu's operations in China while using Fortescue iron ore and green hydrogen. The MoU also covers the two companies' partnership in iron ore beneficiation research and development in renewable energy and green hydrogen. [Click here for more details](#)

2023 06 15_EU Delegated Acts on green hydrogen to imminently become law after clearing European Council and Parliament scrutiny_Accelerate Hydrogen newsletter

The European Union's two Delegated Acts defining what counts as green hydrogen — or in EU terminology, "renewable fuel of non-biological origin" (RFNBO) — will imminently come into force after passing a four-month period of scrutiny by the European Council and Parliament. This means that the two pieces of legislation — including the controversial rules on additionality and temporal correlation will become legally binding in the coming days, as soon as they are published in the daily Official Journal of the European Union. But while the definitions for RFNBOs are about to be set in stone, the actual mandates for switching from grey to green hydrogen are still stuck in negotiations, amid an ongoing row over hydrogen provisions within the new Renewable Energy Directive. [Click here for further details](#)

2023 06 15_Hydrogen and Renewable Energy Bill 2023_HWL EBSWORTH Lawyers

South Australia (State) is already a recognised leader in Australia's transition towards renewable energy. The State is intending to further accelerate utilisation of its renewable resources through the introduction of the proposed Hydrogen and Renewable Energy Act 2023 (SA) (proposed Act) which will deliver a comprehensive new regulatory regime. The proposed Act will facilitate development of hydrogen and broad scale renewable energy projects across freehold and non-freehold land and State waters. Approximately 40% of South Australia is non-freehold pastoral leasehold land owned by the Crown. The proposed Act will open the resource rich pastoral lands and waters of the State to large scale sustainable development. The recent release of the draft Hydrogen and Renewable Energy Bill (Draft Bill) provides greater clarity on the proposed Act and its intention to facilitate a 'one window to government' licensing framework. The proposed framework seeks to provide a clear and sustainable approach to regulating the entire life cycle of renewable energy projects and the generation of hydrogen through the streamlining of land access and development application processes. [Click here for further details](#)



2023 06 15_Progress on Northam hydrogen plant_BN

Perth-based Infinite Green Energy, chaired by Peter Coleman, and South Korean industrial giant Samsung C&T Engineering & Construction Group are hoping to develop a green hydrogen project in Northam, alongside their Arrowsmith hydrogen project proposal. The partners today announced the signing of Israeli renewable and environmental infrastructure company Doral Hydrogen as the final partner to potentially construct and develop the proposed hydrogen project. Dubbed MEG HP1, the project would incorporate a recently acquired 12-megawatt solar farm and 4MW hydrogen electrocyte and battery storage to produce 4 tonnes per day of green hydrogen. [Click here for more details](#)

2023 06 19_WA explores green steel opportunity_BN & MRIWA

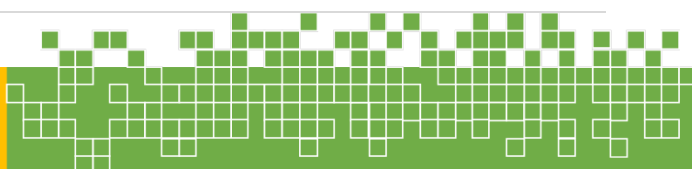
A new report exploring the viability of green steelmaking in Western Australia has found the industry will require big investments in renewable energy to progress. Commissioned by the state government and led by Minerals Research Institute of Western Australia (MRIWA), the report sought to investigate the viability of a transition to green steel production in WA. Green steel refers to steel that is produced using renewable energy, or steel production that uses decarbonisation initiatives at any stage in the process. Using renewable energy sources such as wind and solar to power iron ore mine sites was one of the proposed strategies outlined in the report. Green hydrogen was also a proposed solution for the decarbonisation of the steelmaking process, however, the report notes hydrogen is currently not economically viable for widespread use. Until costs reduce significantly, hydrogen can be substituted for natural gas until prices become more competitive as an immediate alternative to coal. It's estimated the transition to hydrogen could begin when the price hits \$4 per kilogram, down from its current price of \$7 per kilogram. [Click here for more details](#)

2023 06 21_BHP spending \$US4bn to go green_BN

BHP is planning to install up to 500 megawatts of green energy in the Pilbara so it can switch its haul trucks from diesel to batteries. The miner said today it was on track to achieve a 30 per cent reduction in operational greenhouse gas emissions by 2030, from FY20 levels. The biggest challenge in its pursuit of that goal is cutting the use of diesel, with haul trucks being the largest user of diesel in Australia. In a presentation today updating its decarbonisation strategy, vice-president planning and technical Anna Wiley said BHP's preferred pathway to eliminate diesel was via electrification. She said this was more efficient than switching to hydrogen.

2023 06 22_Andrew Forrest: FFI will spend 'tens of billions' on green hydrogen in almost every continent — but we'll start with the US_Accelerate Hydrogen

Australian green hydrogen developer Fortescue Future Industries (FFI) plans to invest billions of dollars — “potentially tens of billions of dollars” — separately in Africa, Australia, Europe and Latin America, but it will start with the US because that is by far the most attractive place to build renewable H2 projects, FFI chairman Andrew Forrest said yesterday (Thursday). In fact, the policy landscape in the US — where green hydrogen producers stand to get up to €3/kg in tax credits as part of the pioneering Inflation Reduction Act (IRA) — is so attractive that investing in the US is more “responsible” than investing in countries that have better fundamental green H2 economics, Forrest told the audience during a live interview at the FT Hydrogen Summit in London. FFI has promised to take final investment decisions (FIDs) on five projects this year, located in Australia, the US, Kenya, Brazil and Norway. [Click here for more details](#)



2023 06 22_Independent analysts reveal a substantial market for H2i Technology_H2itechnology.com.au

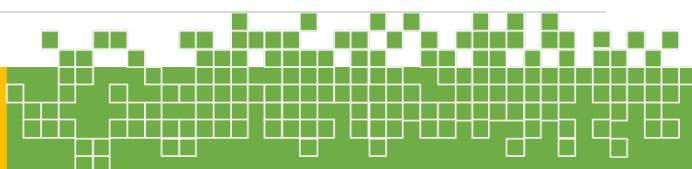
Independent analysts, Gordon Capital, have reviewed opportunities for H2i Technology's hydrogen enhancement system and have found a significant addressable market for its product. Overall, the research showed there are 20 million diesel generators worldwide that are suitable for its attachable kit, which has proprietary software to manage the injection of hydrogen into a diesel engine to significantly reduce emissions and fuel costs. "H2i made a strategic decision in 2022 to target stationary diesel engines, as it provided the quickest avenue to getting our product to market. We are pleased to see our go-to-market approach validated by independent research and believe we are strongly placed to optimise the significant opportunity at hand," says H2i Technology Chairman, David Vinson. [Click here for further details](#)

23 06 23_Billions for green hydrogen but no idea on break-even_BN

Taxpayers are on the hook for long-term tax breaks for hydrogen even though there's no timeline for the new industry to stand on its own feet. "We don't know at what point they'll be able to make a profit," Jo Evans, deputy secretary at Department of Climate Change, Energy, the Environment and Water, told a federal inquiry. But the intent is not to have an industry that needs constant subsidies. "The objective here is definitely to reduce costs," she said. Competing with larger programs already underway in the United States and Europe, the May budget allocated \$2 billion for green hydrogen production, with no restrictions on whether it is for domestic use or export. The Hydrogen Headstart program will back two or three flagship projects that will need up to 1000 megawatts of electrolyser capacity by 2030. [Click here for more details](#)

2023 06 26_Ten reasons why hydrogen fuel outperforms battery electric_United H2 Ltd

As the world grapples with the urgent need to reduce greenhouse gas emissions and combat the carbon challenge, the transition to cleaner and more sustainable modes of transportation is paramount. In this context, the heavy transport industry, encompassing trucks, buses, ships, aircraft and other large forms of commercial transport, plays a crucial role in the global economy. According to the International Energy Agency, transport has the highest reliance on fossil fuels of any sector and accounted for 37% of carbon dioxide emissions from end-use sectors in 2021. Although battery electric vehicles are being used increasingly, they do not yet provide a commercially viable solution to decarbonising the heavy transport industry. For this reason, United H2 Limited believes hydrogen presents a compelling case for powering heavy vehicles, ships and aircraft, offering a range of advantages over battery electric and traditional fossil fuels. [Click here for more details](#)



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