



AHRN Newsletter September 2022

Mission The Australian Hydrogen Research Network (AHRN) is the community of researchers and interested stakeholders supporting the emerging hydrogen industry. We foster excellence in hydrogen-related research through an ongoing program of seminars and knowledge-sharing activities. By providing thought leadership, advocacy, and research tools, the AHRN offers its members domestic networking opportunities as well as access to international collaborations.

A flyer with more information on the AHRN can be downloaded [here](#). ***Please share this with your colleagues to encourage them to join our network.***

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Online AHRN Seminar - Bringing together Industry and Researchers, 20th October 2022 at 2.30 pm (AEST)

This seminar will bring together a panel of hydrogen industry representatives and leading researchers from the AHRN. In cooperation with Paul Hodgson we will explore how the

research community can help challenges facing the hydrogen industry in scaling from the present low number of operating projects in Australia, to the GW- scale plant necessary to achieve the vision of net-zero.

Please let your colleagues in the hydrogen research community know about this event. If they would like to attend and/or to receive AHRN newsletters and notifications of future events, please email AHRN admin at hydrogen_mission@csiro.au.

Update of HyResearch (Phase 2)

The [HyResearch](#) portal is now included within the CSIRO virtual [Hydrogen Knowledge Centre](#) which includes HyResource, HyLearning and Partner modules and resources. Research capability is now included in the latest update of HyResearch in terms. Apart from some minor adjustments to the show and feel of the site, Phase 2 of the online portal is now complete. In Phase 3 we are discussing how the portal can be made more useful to researchers both within Australia and overseas.

Please let us know how useful you find HyResearch and the knowledge centre in general so that we can continue to develop these online tools to best advantage the research community.

Report on Brisbane Seminar – 6th September, Griffith University

Thanks to all who took part in our first in-person seminar. We had 60 people attend the meeting at Griffith University with a further 35 online. Those attending were able to network over lunch and visit the Sir Samuel Griffith hydrogen micro-grid in the afternoon of the event. Our goal is to host more in-person events in the coming months in different locations.

Listed below are presentations that are available online from the Brisbane seminar

[*Methane Pyrolysis: the alternative blue hydrogen?* Prof Simon Smart](#)

[*Biological hydrogen generation.* Prof Ben Hankamer](#)

[*Pyrolysis of fuels to hydrogen.* Prof Prasad Kaparaju](#)

[*Building public acceptance of the hydrogen export industry: is any publicity, good?* Ellen Tyquin](#)

[*Mg-based alloys for hydrogen storage systems.* Manjin Kim](#)

[*A future solid state hydrogen compressor.* Ashleigh Cousins](#)

Registrations are open!

Call for abstracts deadline extended to the end of September for the Australian Hydrogen Research Conference 2023

Abstracts can now be submitted for presenting at the AHRN Hydrogen Research Conference in Canberra, on 8th to 10th February 2023. Submissions for oral or poster presentations can be made online at <https://ahrc2023.com.au/abstracts/>. Abstract submissions close on 30th September so please encourage your colleagues to submit as soon as possible. The conference is also open for sponsorship and a prospectus is available to download from the conference website. If you know of any companies or organisations that would like to offer support, please contact the conference co-chairs Kenneth Baldwin Kenneth.baldwin@anu.edu.au and Andrew Dicks adicks@ah2rn.org.au.

Other Australian News

Yuri ammonia project gets go-ahead

Funding from ARENA for construction of the 10MW solar powered electrolyser in Karratha has recently been approved, taking it to financial close by the end of the month and putting construction on track to begin next month. The massive, \$87 million project being developed by Engie Renewables Australia and Mitsui & Co will combine a 10MW electrolyser to produce renewable hydrogen, 18MW of solar PV to power the electrolyser and an 8MW/5MWh lithium-ion battery for firming.

The solar electrolyser plant will supply hydrogen and electricity to Yara Pilbara Fertilisers at its neighbouring liquid ammonia facility, with the capacity to produce up to 640 tonnes of renewable hydrogen a year once complete. As well as receiving WA government funding, the project has been backed by ARENA once before, back in 2019 when Yara was awarded a \$995,000 grant to investigate the feasibility of a renewable hydrogen and ammonia facility in the Pilbara.

Engie formed a subsidiary called Yuri to develop the project, with Mitsui agreeing to take a 28 per cent stake. Engie and Mitsui will operate the Yuri project through the joint venture company, including managing the construction and operation of the project's solar and battery.

Fortescue engages Native Title Holders for Green Hydrogen Hub in WA

Fortescue Future Industries (FFI) has held its first meeting with the Esperance Tjaltjraak Native Title Aboriginal Corporation (ETNTAC), after the two agreed earlier this year to explore the possibility for a green hydrogen hub in Southeast Western Australia.

ETNTAC represents the Kepa Kurl Wudjari People, the native title holders of the Esperance region where FFI proposes to undertake feasibility studies for its South East Western Australia Green Hydrogen Hub.

The studies will help to refine the project's footprint and land tenure requirements should FFI decide to progress with it.

Korean Companies Invest in Queensland Hydrogen

Hanwha and SK Group from Korea are to cooperate with Korea Zinc in a proposed \$20 billion-plus green hydrogen project in Queensland. The huge green hydrogen plans of the so-called "Han-Ho H2" consortium were revealed through the signing of a Memorandum of Understanding between Australian-based Ark Energy and its parent company Korea Zinc, as well as Hanwha Impact and SK Gas.

The plans centre around the development of Ark Energy's newly announced Collinsville Green Energy Hub, south-west of Bowen, which the companies say will have the potential to generate up to 3,000MW via a mix of wind and solar.

The project is forecast to export more than 1 million tonnes of green ammonia a year from Australia to Korea by 2032.

International News

World's first offshore green hydrogen electrolyser begins production

The world's first site for the production of green hydrogen at sea from offshore wind power has produced its first batch of hydrogen from a floating 1MW electrolyser off the coast of France. The 1MW "Seahyfe" pilot project was developed by French pure hydrogen producer Lhyfe and US-based Plug Power, which supplied the electrolyser. It has the capacity to produce up to 400kgs of green hydrogen each day.

The electrolyser is starting a 18-month demonstration phase. At the end of the pilot phase Lhyfe expects that it will be able to design a more mature offshore production system and deploy on a large scale with potential for 3GW of offshore electrolyser capacity by 2030-35. Lhyfe and Plug have agreed to jointly develop 300MW of green hydrogen plants across Europe by 2025.

FFI supports research in the USA

Andrew Forrest's Fortescue Future Industries has announced a partnership with the US Department of Energy's National Renewable Energy Laboratory that will see it back NREL research projects to the tune of \$80 million over up to 10 years. FFI also recently announced the [launch of its own US Technology Hub](#), based in Colorado, which will serve as a base to collaborate on research with the Colorado School of Mines, University of Colorado, Colorado State University, and other US research labs and universities.

Elsewhere in North America, FFI also [recently signed](#) a Memoranda of Understanding (MoU) with Miawpukek First Nation (MFN) in Newfoundland and Labrador, in Canada, to collaborate on a proposed hydrogen project on the island portion of the Canadian province.

Australian Hydrogen Events 2022/23

- 26-27 October, All Energy Australia 2022, Melbourne Conference and Exhibition Centre
- 30 Oct-4 November, 17th International Symposium on Metal-Hydrogen Systems, Pan Pacific Hotel, Perth WA
- 4-9 December, World Renewable Energy Conference, Murdoch University, Perth
- 6-7 December 2022, Australian Hydrogen Conference (West). Crown Perth.
- 8-10 February 2023, The first Australian Hydrogen Research Conference, ANU, Canberra

If you have news items that you would like to share with the Australian Hydrogen Research Network, please send them to adicks@ah2rn.org.au