



Hydrogen
Society
of Australia

Looking backwards, looking forward!

Hydrogen is marching on – will you join us?

In this month's Newsletter....

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 - Business News Subscription (free guest access and discount)
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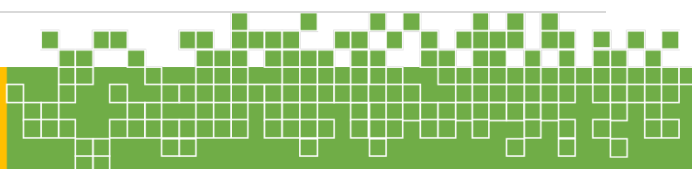
Message from the HSA President – Adam Osseiran

Happy New Year! 2023 is looking very good for the hydrogen industry in Australia, judging by the increasing number of events and activities on hydrogen. There have been more and more articles in the news and more events announced for this year on energy where hydrogen is often a major (if not the main) topic.

At the Hydrogen Society of Australia, we have been working hard to provide value to our members by offering services and benefits such as free guest access and discount for joining the **Business News**. Another member benefit that we will offer our members this year is a discounted subscription to the Hydrogen Standard online **Global Government Hydrogen Platform**. This is a treasure trove of information on hydrogen, published from Europe and the UK and offering global market insights, research and news for the global hydrogen community.

Last but not least, we are working with a number of organizations to offer our members upskilling training on hydrogen. Stay tuned!

If you haven't joined yet, please consider joining the HSA to get access to free or discounted events, training material and the latest information in the hydrogen space. Our membership rates will be increasing in the near future, so don't delay – [become a member](#)



Members Spotlight – [Parker Hannifin – Hydrogen Ecosystem Solutions - Supporting our global energy transition](#)

There is a major shift in today's world, focusing on the environment of tomorrow. This has paved the way for cleaner energy sources and has encouraged the move to renewable fuels. Parker Hannifin is supporting the global decarbonization efforts and can supply a range of components and systems for use with gaseous and liquid Hydrogen in infrastructure and on-vehicle applications. The detailed offering is available at the following link [Hydrogen Ecosystem Solutions](#) and summarized below.

Hydrogen Infrastructure Applications:

- Fluid Conveyance Solutions for production, distribution, storage and dispensing (Alkaline Electrolyzer, PEM Electrolyzer, Steam Methane Reformation, Booster Compressor, High- and Low-Pressure Buffer Storage, Dispensers).
- Valve solutions (ball, needle, lift, globe, and check valves for gaseous and liquid Hydrogen in a range of sizes, pressures, and temperatures).
- Sealing Solutions (seals, O-Rings, gaskets, gels, connectors, washers for Hydrogen production, storage, and transportation applications).
- Filtration Solutions (stand-alone and integrated filtration and gas generation solutions specifically designed for the manufacturing and distribution of Hydrogen for fuelling applications).

On Vehicle Hydrogen Applications including gaseous and liquid hydrogen tank systems, fuel delivery to fuel cell:

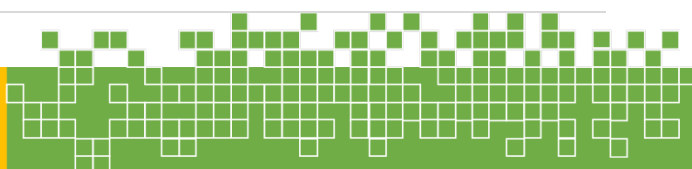
- Fuel Conveyance Solutions (small bore fittings, couplings, hose, and tube for gaseous and liquid Hydrogen in a range of sizes, pressures, and temperatures).
- Valve Solutions (solenoid, needle, lift, globe, and check valves for gaseous and liquid Hydrogen in a range of sizes, pressures, and temperatures).
- Sealing Solutions (seals, O-Rings, gaskets, gels, connectors, washers for Hydrogen fuel cell applications including the tank system, power electronic, stack and subcomponents).
- Filtration Solutions (as in traditional mobile applications, proper filtration for Hydrogen-fuelled vehicles is critical to optimal performance, safety, and comfort).



Bella Garg, PhD
**Application Sales Manager
H2, CCUS, O&G-Australasia**

“Not only offering excellence via our core product technologies, but also from our robust application engineering, global H₂ testing labs and 290 global manufacturing locations including one in Wodonga, VIC, we are delivering solutions to our customers across the entire H₂ value chain, which sets us apart from any other component supplier”, says Bella Garg, Application Sales Manager at Parker Hannifin Australia. PHA also has a very strong and well-established distribution network across Australia and New Zealand that brings further value addition when it comes to servicing and maintenance requirements, she adds. Parker is engaging with all kinds of organisations, including Australian startups for their prototype solutions, government or research Institutions and commercial businesses for clean energy projects.

As the hydrogen industry is still in its infancy, she believes almost all successful project kick offs are a result of effective collaborations and Parker can pace up this energy transition in similar ways via collaborating with various kinds of project developers. For those interested, please contact bella.garg@parker.com m: +61- 477996740



New 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 Global Government Hydrogen Platform offers a unique and comprehensive view of all the countries that are participating in the race to commercialise low-carbon hydrogen, from leading lights such as South Korea and the UK to hopefuls including Estonia and Brunei. If you are in the business of scoping global hydrogen opportunities or need a quick reference guide to the targets, policies and progress happening in any given region then the Global Hydrogen Governance Platform is a key knowledge portal.

The interactive platform provides exclusive content including:

- A summary of short, medium and long-term global commitments.
- A ranking of markets by hydrogen maturity.
- Detailed profiles of 65 hydrogen markets.

The interactive platform covers not only green and blue hydrogen announcements but also developments in fuel-cell vehicles, fuelling infrastructure, subsidies and more. Register now and benefit from:

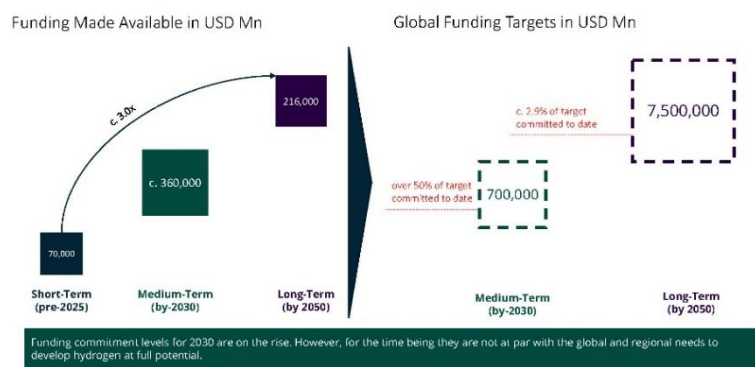
- Full insights into global governance developments.
- Detailed country-specific plans and ambitions.
- A regional summary of hydrogen plans.
- Monthly updates accessible in a slide deck.
- Frequent webinar updates.

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. Packages differ between student, individual and corporate.

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:

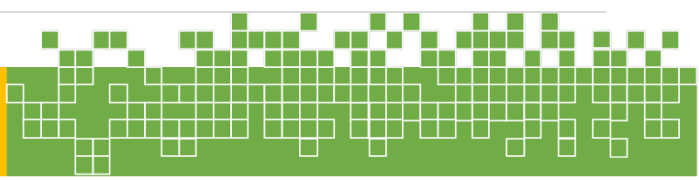
[Hydrogen Global Governance Platform Member Benefit](#)

Otherwise, contact **Johann Wiebe** (Founder and Editor-in-Chief, Hydrogen Standard) contact@thehydrogenstandard.com



Hydrogen Global Governance Platform

**Global Funding Targets
Example of content Available on the
Hydrogen Global Governance Platform**



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.

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 HSA Members Only portal:

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

Education and Knowledge Sharing – Past Events and Presentation Material

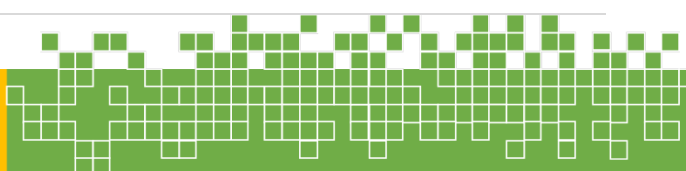
Login to your password protected HSA members portal and you can access the videos and powerpoint presentations from past events in the **Knowledge Centre**: <https://hydrogensociety.org.au/knowledge-centre/videos/> You can also view the event proceedings and find the links to the various presenters under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

Mission Hydrogen Webinar - “Hydrogen Fuel Cell Research” – 18 January 2023 (8:00pm AEST)

Our Steering Committee member Quentin Meyer (UNSW) delivered an online presentation on the topic of “Hydrogen Fuel Cell Research” which was very well attended (over 1500 attendees) followed by a detailed question and answer session. There are a number of other upcoming Mission Hydrogen webinars over the coming months which may be of interest to our members. <https://mission-hydrogen.de/>

World Renewable Energy Conference 2022 – Perth - 05 to 08 December 2022 – Knowledge Sharing

The Hydrogen Society of Australia (HSA), in collaboration with Murdoch University, delivered a short course on hydrogen followed by an industry workshop on Sunday the 4th of December 2022, from 8:30 am to 5:00 pm, in the Kim Beazley Lecture Theatre at Murdoch University. There was also a live broadcast from Perth to the other States. The Hydrogen Society of Australia focuses on providing an opportunity for collaboration whilst supporting the workforce to transition to hydrogen through education and knowledge sharing. The presentations and videos from the WREC short course will be uploaded onto the HSA website Members Portal over the coming weeks, subject to presenters’ approval.



Upcoming Hydrogen Events

Australian Hydrogen Research Conference – Canberra – 08 to 10 February 2023

This will be the first Australian Hydrogen Research Conference, which is organised by the Australian Hydrogen Research Network (AHRN). The Conference will cover all aspects of hydrogen research ranging from the fundamental science and engineering of hydrogen generation, storage and transport, to the enabling disciplines of economics, regulation, security, sociology and policy applied to a future hydrogen economy. Our HSA Steering Committee member Professor Craig Buckley (Curtin) will be one of the keynote speakers. <https://ahrc2023.com.au/>

Hydrogen Industry technical series – Melbourne – 15 February to 19 April 2023 (5:30pm to 8:30pm AEST)

Delivered by leading hydrogen industry practitioners, the program covers integral topics required by engineers to commence practising in the hydrogen industry. The objective of the program is to provide detailed information on the technical and practical aspects of hydrogen plant design, operation and product development. <https://www.engineersaustralia.org.au/learning-and-events/conferences-and-major-events/hydrogen-industry-technical-series#content-tab-0>

World Electrolysis Congress – Dusseldorf – Neuss - 14 to 16 March 2023

The annual World Electrolysis Congress <https://www.worldelectrolysiscongress.com> returns to Germany to bring the entire green hydrogen industry together once again with the objective of accelerating the roll-out and deployment of electrolyser technology to produce clean hydrogen and drive global capacity.

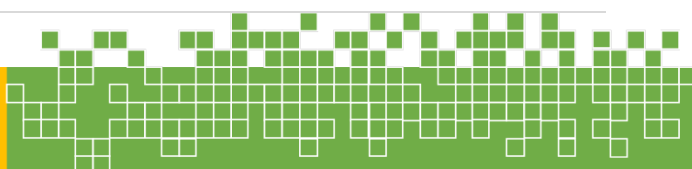
AOG Energy – Perth Convention & Exhibition Centre - 15 to 17 March 2023

Returning to Perth for the first time since 2021, AOG Energy will open its doors to the global supply chain from 15-17 March. Supported by government, major operators and industry leaders, this three-day event will showcase innovations and capabilities that solve tomorrow's energy challenges. From offshore wind, to decommissioning, low emissions technology, decarbonisation, subsea, hydrogen, renewables and so much more. AOG Energy will be the destination to reconnect, discover opportunity, and stimulate business growth in 2023. <https://aogexpo.com.au/>

The Hydrogen Society of Australia is proud to support the energy transition and will have a booth at this strategic event. In addition, in collaboration with Engineers Australia, HSA will support students and young professionals attending the event by facilitating tours of the exhibition. Join us for collaboration and knowledge sharing – we are all in this together!

Future Hydrogen Congress Australia – Sydney - 16 to 17 March 2023

The HSA has been invited to present at this international congress which is expecting to attract leading representatives from all over the world including C-level Executives and Head of strategy, sustainable development, hydrogen/new energy business, technology, business development, investment and finance and others of hydrogen relevant companies. <http://www.szwgroup.com/future-hydrogen-congress-australia/index.aspx>



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 exploring options for discounted registration to be made available to our members <https://www.apac.gh2events.com/agenda>

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/> and hold this date for the upcoming summit.

Snippets of Hydrogen making moves around the world

2022 12 14_Nuclear fusion 'breakthrough': How scientists achieved it, and what it means for clean energy_ABC News

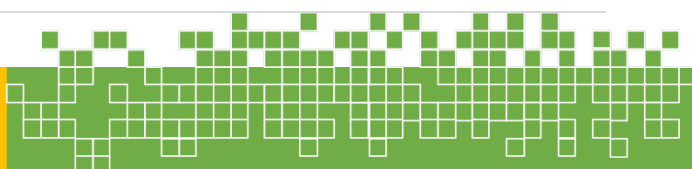
What is fusion energy? There are two types of nuclear energy: fission and fusion. The process of **fission** has been commercially viable for decades and is used in conventional nuclear power plants to generate about 10 per cent of the world's power. Energy is created by splitting a big, heavy atom like uranium, which also produces radioactive waste. **Fusion** fuses lighter elements such as hydrogen together to produce a heavier element. The process releases millions of times more energy than burning coal, oil or gas, and about four times as much as nuclear fission reactions (at equal mass of fuel). Australia is working with an international coalition of countries and institutions researching fusion energy. In 2016, Australia's nuclear agency ANTSO signed a cooperation agreement with the ITER international nuclear fusion energy organisation that's building what has been described as the world's biggest experiment. Other Australian participants include the ANU, University of Sydney, Curtin University, University of Newcastle, University of Wollongong and Macquarie University. Despite its promise of abundant and reliable clean energy, fusion energy may come too late to help with achieving net-zero greenhouse gas emissions by 2050. The heavy lifting for that will be done by renewables such as solar and wind and nuclear power in countries that allow it.

<https://www.abc.net.au/news/science/2022-12-14/nuclear-fusion-reaction-net-gain-clean-energy-explainer/101765634>

2022 12 15_Ten years to get the gas_BN

Rapid approvals proposed for green energy projects should also be available to gas producers, the industry has said, as a major shortage of the fuel is forecast for WA. Overnight, the Australian Energy Market Operator revealed projections warning the state would have almost a quarter of gas demand unmet by 2032. That comes as gas demand for use in power generation is set to rocket amid the state government's planned closure of Synergy coal power assets. Last week, the government promised \$22.5 million to streamline approvals for critical minerals, hydrogen and renewables projects. That would include a Green Energy Assessment Unit. A spokesperson for the state government said WA had the most robust energy security policies of any state, and the grid was well-prepared for summer.

<https://bit.ly/3j0RpQ5>



2022 12 15_Where real power lies_BN

ANALYSIS: It is accepted wisdom that Mark McGowan dominates the state government like few premiers before him. Around the premier is a small group of ministers and backroom advisers that drive the government's strategy and policy agenda. Mr Cook was given the hydrogen industry portfolio in this week's reshuffle, giving him a platform to have more impact - if he harnesses the same enthusiasm his predecessor Alannah MacTiernan had for the portfolio.

2022 12 17_Australia, a clean energy superpower_BN

Australia is undoubtedly an international mineral juggernaut; however it now finds itself on the crest of another wave that could even surpass the one started all those years ago by Hancock – the green energy revolution. Australia, and particularly Western Australia, is blessed with everything it needs to become a global green energy super-power. It has an abundance of sun, wind, gas and now lithium and all of its related battery metals. Whilst politicians and media the world over bicker over the merits of the great climate change debate, industry has made its mind up. Fuelled by investor sentiment and economic benefit, global firms from automakers to rock miners are moving rapidly into the clean energy future.

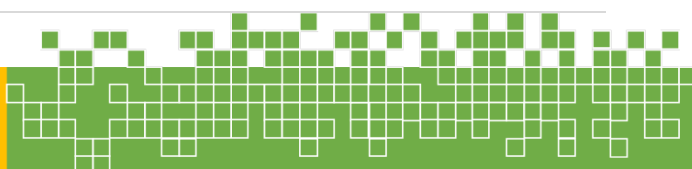
And influential international conservation organization, The World Wide Fund for Nature, or "WWF" believes it is this green energy revolution that presents the next great economic opportunity for Australia. The nation is blessed with bountiful open space famed for its endless sunshine, picturesque yet turbulent seas and abundant wind. These elements are a source of national pride. They are also elements that, according to the Australian Energy Market Operator's integrated system plan could be the backbone for a \$320bn energy generation, transmission and storage industry if harnessed correctly. To put some perspective to that figure, Australia's iron ore industry was worth about \$133bn in 2021-22. The Clean Energy Investment Group, or "CEIG" argues these natural elements could also drive renewable powered hydrogen, critical minerals and green metals industries, in addition to manufacturing, education and services. <https://bit.ly/3XtzQXU>

2022 12 17_Landmark year of deals and advancement sets Pure Hydrogen on path to generate revenue in 2023_Stockhead

Pure Hydrogen Corporation (ASX:PH2) has made significant progress throughout 2022 in delivering on its mission to develop a hydrogen ecosystem in Australia which covers all sections of the market from production to end-use. Following deals to develop hydrogen production hubs, bringing multiple products to market, securing sales agreements with major companies, and leading a successful IPO for one of its investees, Pure Hydrogen is well-placed to deliver significant value in 2023. This article summarises the key milestones which has provided them with a strong platform to generate revenue, begin commercial production of Emerald Hydrogen and deliver several ground breaking hydrogen products to customers. <https://stockhead.com.au/energy/landmark-year-of-deals-and-advancement-sets-pure-hydrogen-on-path-to-generate-revenue-in-2023/>

2022 12 21_Hydrogen hub a game changer_BN

In a warehouse near Perth Airport, subsidiary Fortescue Future Industries is hoping to transform the world's energy grids. Many of FFI's 100-strong manufacturing contingent are located there, advancing the company's electrolyser technology. Electrolysers are powered by electricity and split water into hydrogen and oxygen. It's the crucial enabler for green hydrogen production, so Fortescue will need plenty of



electrolysers to take its proposed hydrogen projects into operation. A yellow container in the Perth Airport facility houses a prototype electrolyser and support systems. There are three main methods of electrolysis: proton exchange membrane, alkaline, and solid oxide. Alkaline electrolysers use cheaper materials and produce less pure hydrogen, while proton exchange membrane systems use more expensive materials with a purer gas. The next generation will use anode exchange, with cheaper materials and pure gas. Earlier this year, Business News revealed Fortescue was planning a 5.4GW renewable energy hub at Uaroo, in the Pilbara. That's comparable to the state's main power grid, the Southwest Interconnected System. A renewable project of such scale will require a major logistics operation.

<https://bit.ly/3GYquMK>

2023 01 06_Boodarie, Ashburton land allocated for energy Projects_BN

The Western Australian state government today announced its industrial lands panel has approved land allocation within the Boodarie and Ashburton North Strategic Industrial Areas (SIA). The Ashburton North SIA is 12 kilometres south of the Onslow town site, while the Boodarie SIA is about 4 kilometres west of South Hedland and 12 kilometres south of Port Hedland. Posco, Fortescue Metals Group, Alinta Energy, Tees Valley Lithium and BP Australia were chosen as proponents for the land allocated in the Boodarie SIA, which covers 4,000 hectares. In August, Tees Valley Lithium announced a plan to build a lithium sulphate plant in Port Hedland to feed into its lithium hydroxide plant in Teesside in the UK. Tees Valley Lithium is a subsidiary of Alkemy Capital Investments, which is estimated to be worth £20 million GBP according to market data. Proponents allocated to the Ashburton SIA were announced as Equus Energy, a subsidiary of Western Gas Corporation, and Fortescue Future Industries.

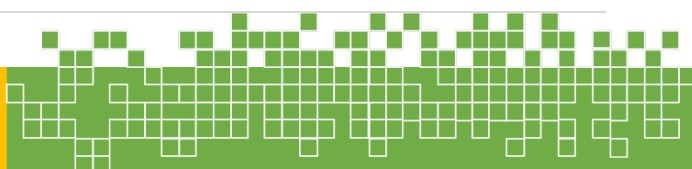
<https://bit.ly/3GWCleu>

2023 01 16_Sun Cable plan not viable:Forrest_BN

Plans to export electricity from Australia to Singapore via a subsea cable are no longer commercially viable and need to be amended, Andrew Forrest's top executive said today. Tattarang chief executive and Squadron Energy chairman John Hartman has opened up on the split between Mr Forrest and fellow billionaire Mike Cannon-Brookes over the \$35 billion Sun Cable project. Their failure to agree on new funding pushed Sun Cable into administration last week. Both men remain keen to invest in Sun Cable but on very different terms. While Squadron no longer supports the planned 4,200 kilometre-cable to Singapore, it continues to support other aspects of the Sun Cable project, notably a giant solar farm near Tennant Creek and an 800km transmission line to Darwin. The focus on green hydrogen and green ammonia aligns Squadron's plans with Fortescue Metals Group's green energy arm Fortescue Future Industries, which is pursuing multiple potential projects across the globe. <https://bit.ly/3ZVxfla>

2023 01 19_Frontier now has a team to make sure its green hydrogen project is properly green_Stockhead

Frontier Energy (ASX:FHE) has commenced several Sustainability, Environmental, Social and Governance (ESG) initiatives and plans to release its inaugural sustainability report mid-year. The company says setting a high standard in all its ESG activities and reporting is the foundation for the sustainable and responsible development of its Bristol Springs Green Hydrogen Project in Western Australia. Frontier Energy completed a Pre-Feasibility Study that outlined the Project's potential to be both an earlier mover and one of the lowest cost green hydrogen assets in Australia. It's set to release a Definitive Feasibility Study by mid-2023. <https://stockhead.com.au/energy/frontier-now-has-a-team-to-make-sure-its-green-hydrogen-project-is-properly-green/>



2023 01 24_WA government prepares to legislate 2050 net zero carbon emissions target_ABC News

The WA government has announced plans to enshrine its commitment to net zero carbon emissions by 2050 in law, but will not set targets to get there until at least the end of the year. The McGowan government had already committed to reducing public sector emissions by 80 per cent by 2030 compared to 2020 levels, and to become net zero by 2050, but these new goals will apply to the entire economy. Environment Minister Reece Whitby said the "important" legislation, which he expected to go before parliament later this year, would send a clear message to businesses and the community about what was expected. The government has been consulting with industries over how they can reduce their emissions since late 2021, with the process not expected to conclude until the end of the year. Mr Whitby said that would help inform the targets the government would set on their way to 2050.

<https://www.abc.net.au/news/2023-01-24/wa-target-of-net-zero-emissions-by-2050-to-be-legislated/101886510>

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	Hydrogen Energy Pty Ltd
BE&R Consulting	Integrated Energy Pty Ltd
Environmental Engineers International	Polish Investment and Trade
Gexcon	Truck Centre WA
CO2CRC Ltd	Edith Cowan University
Hyzon Motors	Queensland University of Technology
Good Water Energy Ltd	Business News
Murdoch University	HF Integration
Harry Butler Institute	Horizon Power
Draeger Australia Pty Ltd	DevelopmentWA
Hybrid Systems Australia	Sheoak International
Parker Hannifin	Environmental Clean Technologies Limited
The Hydrogen Standard	Global Drone Solutions

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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