



Hydrogen
Society
of Australia

Looking backwards, looking forward!

Hydrogen is marching on – will you join us?

In this month's Newsletter....

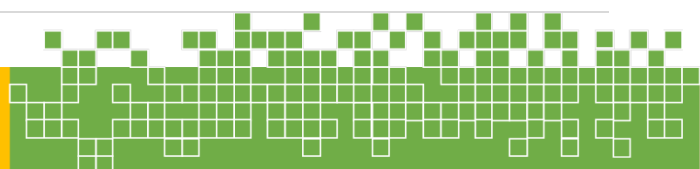
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Message from the HSA President – Adam Osseiran

Congratulations to one of our co-founders and Steering Committee colleagues, **Andrew McCluskey**, for being appointed by Siemens as the Executive GM for Hydrogen covering Australia and New Zealand. Andrew is another high calibre individual that consolidates HSA's executive team. Please see Andrew's message [Pg 2].

Last month we held the AGM and presented to members the new HSA National structure as well as the Working Groups strategy. We also heard that day from Professor **Craig Buckley** (Curtin University) about the latest in hydrogen storage and from **Katie Cook** (DJTSI-WA) about hydrogen development in WA. We had a number of inquiries about hydrogen and HSA from many attendees of the **AOG Energy** conference in Perth. I'm looking forward to more inquiries from upcoming hydrogen conferences and events and from HSA leaders in the other states. We keep spreading the word in our communities and it looks very promising for HSA's goals and vision.

Take a look at the new Member Benefit items, such as the **Hydrogen Standard** subscription and register for the demonstration that will show you how to gain access to the Global Government Hydrogen Platform, a renowned source of hydrogen policy data. You can also register to attend a tailored demonstration of the **Business News** website features. **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 McCluskey (Siemens)



I have the pleasure of being one of the founders of the **Hydrogen Society of Australia (HSA)** since its inception in 2018 and continue to contribute on the **HSA Steering Committee**. I have lived in Perth since 1999. My working life has so far notched up 38 years. The majority of this has been in automation of systems from robots to hospitals. These systems have mainly focused on comfort, security and operator efficiencies. Over the last 15 years energy management and reporting have become a vital piece of these

systems. The energy transition is well and truly under way and hydrogen has a role to play in this transition.

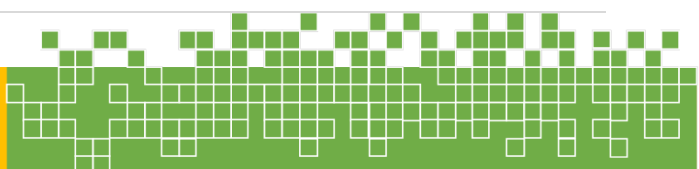
I have worked for **Siemens** since 2011. Siemens has been a pioneer and leader in the energy space over the past 175 years, over 150 years in Australia. The company supports customers with our technology in several markets including energy generation, renewable energy, health care, mobility, digital industries and smart infrastructure. Siemens has offices all over Australia. Our Head Office is in Melbourne. Our Research and Development centre is in Germany. The company spends over 7B euro each year on R & D and is one of the world's most prolific owners of patents. Our internal target is to be carbon neutral by 2030. Latest estimates have us achieving that milestone well before this date.

As a pioneer, Siemens has identified the need to support the hydrogen market here in Australia. To that end I have been appointed as the **Executive GM for Hydrogen** covering Australia and New Zealand. In this role I will be promoting Hydrogen and the multiple uses and benefits it can bring to our state and our country. Additionally, I will be responsible for developing a market for Siemens that will enable us to help solve some of the transition challenges with our technology. We are all well aware of the natural advantages Australia has, in particular what WA has in terms of providing the green component of green Hydrogen. I am excited about the progress that is now taking place in our country around the energy transition topic. It is time to leverage that progress and project hydrogen more broadly into the transition subject.

I am proud to be a part of the Hydrogen Society of Australia. I was at the HSA stand at **AOGEnergy 2023** recently and had the pleasure of meeting several of the conference attendees who visited our stand. It was very popular - in some ways an indication of the interest in Hydrogen right now. I need to acknowledge our Steering Committee member **Ghazal Avijegon** for arranging the booth for HSA. When I look at the talent that exists within the HSA, we have expertise that covers all aspects required to promote and encourage the adoption and expansion of Hydrogen as a long-term contributor to reducing our carbon footprint.

I look forward to seeing you at our next event.

Andrew McCluskey, Executive GM Hydrogen AU/NZ, Siemens Ltd



Career Opportunities:

There are a number of academic and employment opportunities highlighted in our Knowledge Portal including the most recent 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 Engineering Position

Prof Chuan Zhao and Dr Quentin Meyer are looking to recruit a PhD and a postdoc with a solid mechanical/chemical engineering background to join the School of Chemistry UNSW. We are looking to scale up our green electrolyzer and hydrogen fuelcell testing capability in the NanoElectrochemistry group led by Prof Chuan Zhao. The candidates will work on large-scale stack design, prototyping and testing for innovative electrodes and membranes. [Click here for further information](#)

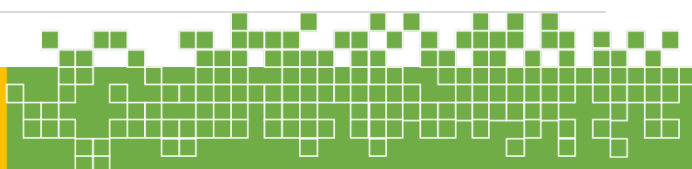
For the full list of opportunities currently advertised on the HSA website, [click on this link](#)

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, [click here and register to the WABN subscription product within our HSA Members Only portal](#)

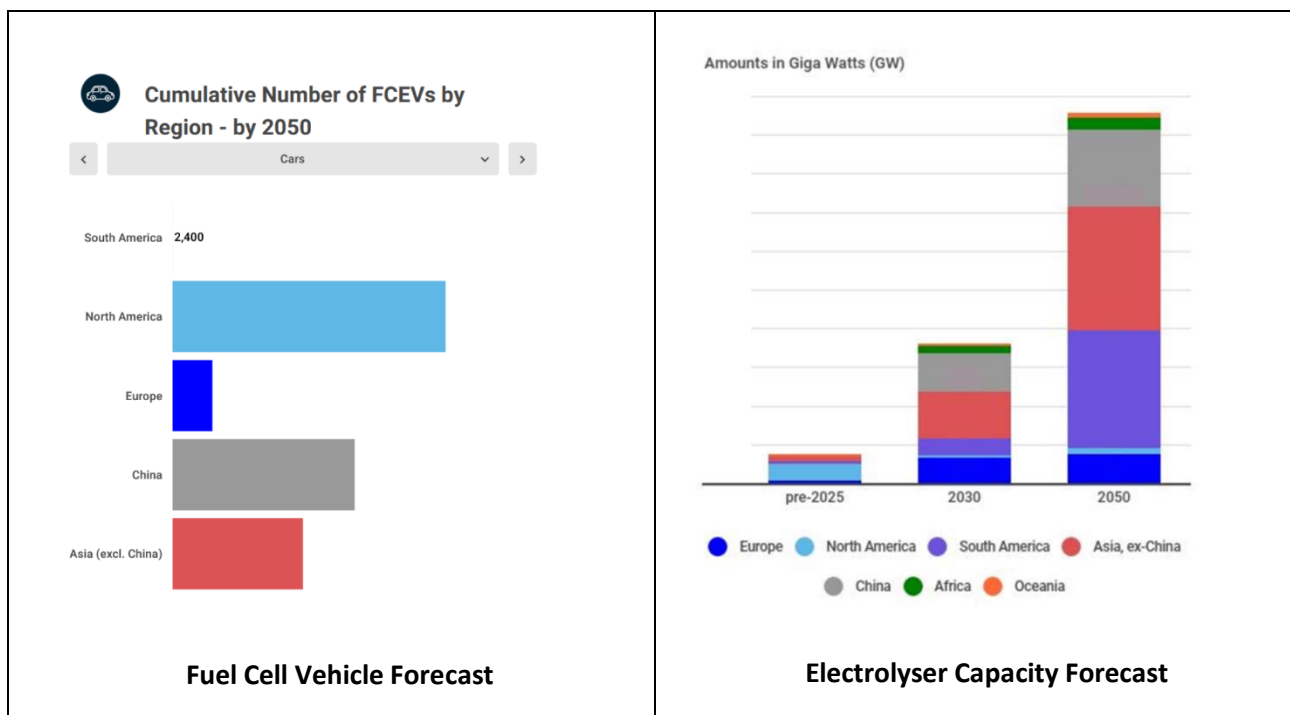
The Hydrogen Society of Australia has arranged for a tailored demonstration of the Business News website features to be delivered to our HSA members on **Thursday 27 April, from 10:00am to 11:00am AWST**. [Click here to register for this free online demonstration.](#)



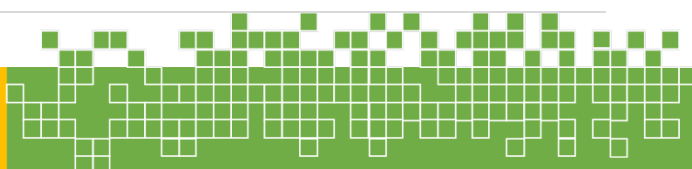
Member Benefit – Hydrogen Standard subscription (HSA members discount)

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.



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](#). The Hydrogen Society of Australia has arranged for a tailored demonstration of the Global Hydrogen Platform to be delivered to our HSA members on **Tuesday 18 April, from 2:30 to 3:30 AWST**. Join the HSA on a webinar where we walk you through the general overview of this platform and spend some extra attention on the hydrogen related implications in Australia. [Click here to register for this free online demonstration](#).



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 Videos section](#).

You can also view the event proceedings and find the links to the various presenters under **Past Events**:

HSA Annual General Meeting 2023 was held on 21 March 2023

Our Annual General Meeting took place on Tuesday 21 March. This was a hybrid event based in Perth, with the proceedings broadcast live across the globe. Perth based members were invited to network over breakfast from 7:30am to 8:00am AWST. Before the start of the formal AGM, we invited the following excellent speakers from government and academia to present their insights in the hydrogen space:

- **Ms Katie Cook**, Director of the Hydrogen and New Energies Division, Department of Jobs, Tourism, Science and Innovation, Government of Western Australia
- **Professor Craig Buckley**, John Curtin Distinguished Professor, leader of the Hydrogen Storage Research Group, Curtin University

Following the presentations, the formal AGM kicked off at 9:15am AWST and was broadcast live across the country until 10:15am AWST. Over the course of the AGM, we acknowledged our achievements over the past year (2022) and forecast our proposed initiatives over the coming year. Feedback and insights from our member participants were addressed via a Q&A process.

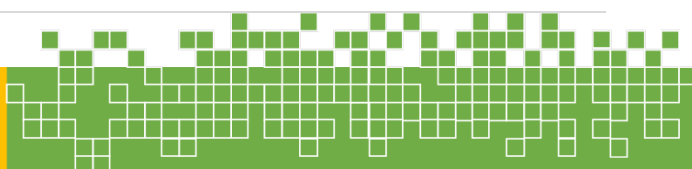
The minutes and recordings from the AGM event and preceding invited speakers are available for members only – to view this material, log in to your members only portal first and then click on the following links:

[Hydrogen Space 2023: Presentations and Networking](#)

[HSA AGM 2023](#)

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

This was the first AOG conference to proceed in two years, due to the COVID disruptions. The focus on the AOG Energy Conference this year was on the energy transition. The role of hydrogen in the energy transition was well acknowledged, and we were able to secure a booth at no charge, thanks to the negotiations of our Steering Committee members **Ghazal Avijegon** and **Brian Haggerty**. This booth enabled us to reach out to a broad audience, including the general community. We also collaborated with **Engineers Australia** and participated in a series of student tours. We offered to share our booth with our corporate enterprise supporters, which provided some excellent case studies of companies working in the hydrogen space (i.e.. **Integrated Energy; Horizon Education; H2E; and Global Energy Learning Solutions**).



Thanks to HSA Steering Committee members Ghazal Avijegon, Andrew McCluskey and Furat Dawood (left to right), with support from Ales Rakovsky (**Horizon Education**).



Above: Furat Dawood and Ghazal Avijegon presenting to a student tour.

Front left: Lorie Jones, HSA Vice President

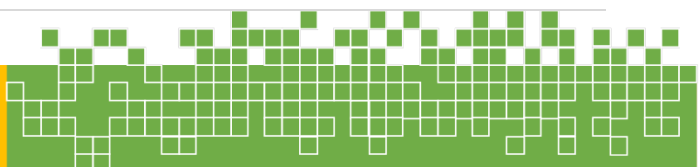
Front right: Kym Spann, **Engineers Australia**



Left: Furat Dawood (**H2E**) with educational models of the hydrogen ecosystem

Right: **The Horizon Hydrogen Grand Prix (H2GP)**

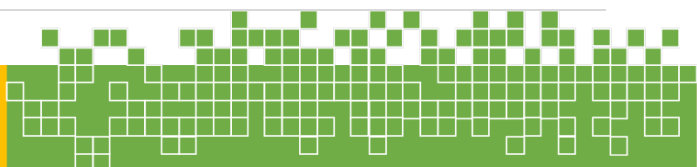
Ales Rakovsky demonstrates how H2GP gives students a real-life fuel cell and hands on experience designing hybrid technology.





Integrated Energy - HSA Corporate Enterprise Supporter offered virtual reality tours of several hydrogen refuelling stations including Hydrogen West Perth Airport.

Below: The students were keen to learn about hydrogen's role in the energy transition.



Women in Hydrogen – online event on 28 March 2023

International Women’s Day (IWD) is celebrated each year on 8 March. The theme for International Women’s Day 2023 is to embrace equity. The Hydrogen Society of Australia (HSA) was proud to support the IWD initiative through showcasing the interesting and valuable work undertaken by female engineers and scientists in the hydrogen space. This engaging event featured speakers from industry and academia, who provided their personal insights into the role of hydrogen in facilitating our energy transition.

Each speaker shared their perspectives in terms of:

- Looking backwards – education and career path
- Current situation – how their current role fits within the hydrogen ecosystem
- Looking forwards – what are the barriers, opportunities and key areas of focus
- Key members takeaways

The recording is now available for both members and non-members on the [HSA Members Portal video tab](#).



Lorie Jones - HSA Vice-President (event facilitator)



Dr. Bella Garg - Application Sales Manager H2, CCUS, O&G - Australasia Parker Hannifin Corporation



Kate Kendall - Project Manager, Siemens Mobility



Dr Ghazal Avijegon - HSA Steering Committee member



Dr Pouran Hudson - Research Fellow and Project Manager, Curtin University

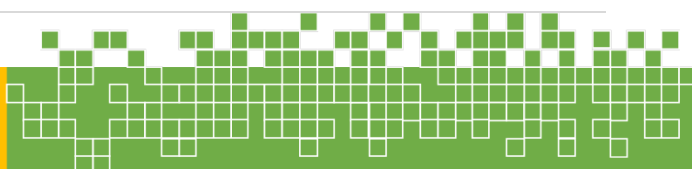


Dr Arshdeep Kaur - Research Scholar, Queensland University of Technology

World Hydrogen Mobility: The Future of Low-Emission Transport? – online webinar on 29 March 2023



On the 29th of March the World Hydrogen Mobility webinar, organised the **World Hydrogen Leaders**, discussed hydrogen’s huge potential to decarbonise the hard to abate sector of mobility. Heavy duty vehicles, shipping, and rail are all exploring hydrogen as a solution to decarbonising operations and supply chains. This does not come without its challenges and this webinar addressed these challenges and discussed potential solutions and opportunities for the mobility sector when it comes to hydrogen. The webinar was moderated by **Adam Osseiran** – President – Hydrogen Society of Australia. The panellists were **Stephane Kaba** - Smart and Green Mobility Director – **Alstom** – **France**; **Aleksander Rajch** – External Affairs Director - **Polish Alternative Fuels Association** – **Poland**; **Roxana Bekemohammadi** – Founder & Executive Director – **United States Hydrogen Alliance** – **USA**; **Thomas Hieltjes** – Commercial Director – **EOX Tractors** – **The Netherlands**. A link to the recording will be provided soon.



Upcoming Hydrogen Events

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. [Register Here](#).

Prioritising Policies for the Energy Transition – Perth/Hybrid - 27 April 2023 (5:30pm to 7:30pm AWST)

This event is a response to the climate change challenge of achieving net zero by 2050. We are currently in an energy transition, needing to understand the ecosystem and its interlinks with industry, regulators and government to determine how to achieve this energy transition, prioritising actions and policies.

In this presentation you will learn about:

- the current state of the energy transition
- current policy changes
- the ecosystem and its interlinks with industry, regulators and government
- policy priorities to achieve effective energy transition, and
- how hydrogen contributes to the energy transition.

This is an Engineers Australia event facilitated by the College of Leadership and Management. The Hydrogen Society of Australia was approached to provide a hydrogen perspective, and we nominated our HSA Steering Committee member **Andrew McCluskey** (Executive GM Hydrogen AU/NZ, Siemens Ltd) as one of the keynote speakers. [More details and to register here](#).

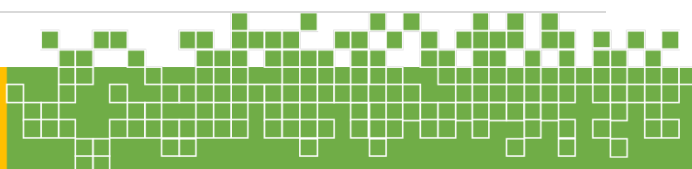
Sustainable Aviation Futures APAC Congress – Singapore – 09 to 11 May 2023

The APAC region is home to some of the world's most advanced economies and leading countries when it comes to clean energy initiatives. With regional SAF production facilities emerging and airlines continuing to increase sustainable strategies, Asia Pacific continues to lead developments to decarbonise the aviation industry. This 3-day, high-level networking event will feature over 60 expert speakers sharing insights into the development of sustainable solutions, showcasing policies, strategies and the challenges and opportunities the Asia Pacific aviation market faces in the bid to become carbon neutral by 2050. [Click here for more information](#)

ASEAN Green Hydrogen Conference 2023 – Kuala Lumpur – 23 to 24 May 2023

The Hydrogen Society of Australia is confirmed as one of the conference 'Association Partner' in this regional event, which will **provide our members with a 15% discount** on the delegate registration fee. This private and exclusive conference will act as a regional roadmap and aim as the catalyst for the regional's green hydrogen developments, assisting governments, leading energy companies, academics and service providers within the Hydrogen domain across South East Asian countries. Among the conference highlights for this edition including Green Hydrogen Policy and Regulations, Green Hydrogen Ecosystem & Value Chain, Technologies, Research and Developments and Green Hydrogen Financing.

Log into your members portal and [click on this link to obtain the HSA discount code](#), and then log into the [conference website to register for the event](#).



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 [conference website to register for the event](#).

Note that the Early Bird discount ends on 06 April, so don't delay.

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

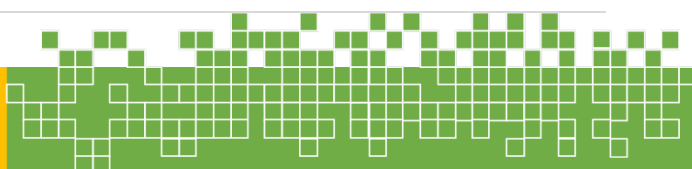
The HSA was proud to have supported the first Hydrogen Connect Summit in Brisbane as an Endorsing Association. Following the Summit there have been myriad State, Federal and private sector initiatives to provide funding, stimulate investment, accelerate off take and address the skills challenge. [Click 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.** <https://hydrogenconnect.com.au/>

Snippets of Hydrogen making moves around the world

2023 02 27_FMG plans green future, breaks records_BN

Andrew Forrest's **Fortescue Metals Group** broke its iron ore shipping record in the December quarter while plans to progress its green energy projects faced a setback. FMG's developments to advance its green energy projects towards final investment decisions this year were dampened by its partner withdrawing from the proposed \$116 million hydrogen electrolyser factory in Queensland. The proposed factory near Gladstone was meant to be a joint venture between Fortescue and US hydrogen company **Plug Power**, before the company pulled out due to concerns about the economics of the project.

In a more positive update, "Battery electric haul trucks, ammonia locomotives, and hydrogen-based transport and refuelling will all be tested in the next quarter on-site," FMG said in the announcement. "The first prototype green ammonia locomotive was delivered to Port Hedland to undergo further testing before being deployed in Fortescue's rail operations. "The opening of Western Australia's first green hydrogen refuelling station in partnership with **ATCO** to enable Fortescue, ATCO and third parties to support their fleets of hydrogen fuel cell vehicles." "Our Company has never performed better on the mining, exploration, green hydrogen and green energy development front, while leading the world as the first heavy industry company to achieve real zero with a fully costed plan. "Fortescue will step beyond fossil fuels this decade, saving shareholders approximately US\$1 billion a year and setting the global stage for all environmentally responsible companies to follow. [Click here for full article](#)



2023 02 28_Users on edge as plunging production sparks warnings of Victorian gas supply crunch_ABC

Recent reports by the Australian Energy Regulator (AER) and the Australian Competition and Consumer Commission forecast that potential gaps in Victoria's gas supply could emerge from winter 2023. The forecasts have sparked concerns from businesses, unions and charities that many big gas users could be forced to the wall amid price spikes and the spectre of supply interruptions. In contrast, Victorian Energy Minister Lily D'Ambrosio pointed out that Victoria was a net exporter of gas and that, in any case, there were enough supplies available nationally to avert any shortfalls. Ms D'Ambrosio argued it was the big gas exporters — who all operated from Queensland — who held the key to a short-term solution. Longer term, she said Victoria would turn to energy efficiency, electrification, **hydrogen** and bio-methane to cut its dependence on natural gas and drive down emissions. "Victoria continues to produce more than enough gas for our own needs, with the excess exported to other states — particularly NSW," Ms D'Ambrosio said. [Click here for full story](#)

2023 03 02_Natural Hydrogen: Two companies on the hunt for 'gold hydrogen'_Stockhead

Natural hydrogen, or "gold hydrogen" as it is also known, is hydrogen that is produced by certain geological processes such as when water reacts with certain rocks, deep in the subsurface. **Buru Energy** [ASX: BRU] is a leading oil and gas exploration and production company based in Perth, Western Australia. In addition to its core oil and gas activity, Buru also has a number of new energy businesses in natural hydrogen, carbon capture and storage (CCS) and battery minerals through its subsidiaries 2H Resources, Geovault and Battmin respectively. **Gold Hydrogen** [ASX: GHY] seeks to play a significant role in the low-carbon energy push by commercialising naturally occurring hydrogen. The company is sitting on a very large natural hydrogen prospective resource with plans for low-cost production. [Click here for the full article](#)

2023 03 03_ASX Tech Stocks: Sparc nabs \$1.1 million funding increase for hydrogen water splitting tech_Stockhead

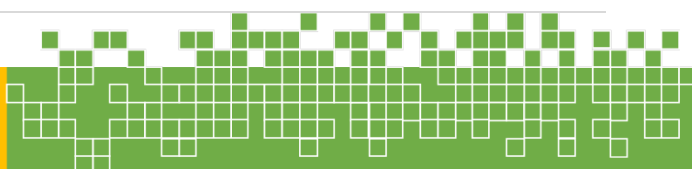
Green hydrogen tech developer Sparc Hydrogen (ASX:SPN) has secured a A\$1.1 million increase in funding increase for Stage 1 of its Joint Venture with the University of Adelaide, Fortescue Future Industries (FFI) and Sparc Technologies to develop its photocatalytic water splitting technology – with the aim of producing low-cost green hydrogen on a commercial scale. [Click here for the full article](#)

2023 03 03_Lion picks site for green hydrogen hub_BN

Subiaco-based Lion Energy has reached an agreement with the Port of Brisbane for a long-term lease to build its proposed green hydrogen hub. Lion intends to build and operate its first hydrogen generation and refuelling facility at the port, which it believes could be the first of its scale in Queensland and Australia. The hub would initially focus on supplying green hydrogen to the heavy truck and public bus fleet markets. The facility will house equipment to generate and dispense green hydrogen, as well as the capability to load compressed hydrogen onto tube trailers for transportation. Lion expects to commission the facility for the first quarter of 2024. [Click here for full article](#)

2023 03 03_The Ethical Investor: The year hydrogen comes of age, and 4 other cleantech trends to shape the world_Stockhead

Standard Chartered (Stanchart) along with Bloomberg have released the top five cleantech trends that are set to shape the world in 2023. While each trend touches on a different part of the transition, they all have one thing in common: each could present a multi-billion-dollar opportunity for many companies, including



those on the ASX. According to Stanchart, this could be the year that we see hydrogen finally gain traction. Progress in the hydrogen market was somewhat stalled in 2022 due to lack of viable offtake options despite significant developer interest and capital. The key catalyst will come this year in the form of policy. According to BloombergNEF, 35 countries have a hydrogen plan and 17 are preparing one. The US Department of Energy, for instance, aims to reduce the cost of hydrogen to \$1/kg by 2031. In Australia, the national hydrogen strategy is set for a review following an agreement by state and federal energy ministers last Friday. The meeting's communique stated that we need to "ensure the national strategy positions Australia on a path to be a global hydrogen leader by 2030 on both an export basis and for the decarbonisation of Australian industries.

2023 03 15_Sustainable aviation fuel the key to low-carbon air travel_EA Create

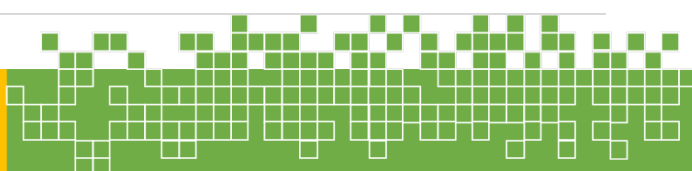
There is a real imperative across the aviation industry to make flying less carbon-intensive. Air bp's Regional Commercial Director Ajay Galdar presented to a packed room at the recent Avalon Australian International Airshow outlining his company's efforts to decarbonise by using Sustainable Aviation Fuel (SAF). Galdar described the four key technologies that Air bp are pursuing to decarbonise aviation energy sources: biofuels, hydrogen, eFuels and renewable electricity. eFuels are liquid or gas fuels produced from CO₂, biomass, and sustainable cement using "green hydrogen". Air bp aims to secure 20 per cent of the global SAF market by 2030. In fact, parent company bp has an ambition to be a net zero company across the board by 2050. [Click here for the full article](#)

2023 03 17_EU calls for 100GW of green hydrogen by 2030, with about 40% made using European electrolyzers_Hydrogen Insight

EU manufacturing capacity of "strategic net-zero technologies" — of which electrolyzers are one — will need to "approach or reach" 40% of Europe's total annual deployments needs, the EC said in its proposed Net Zero Industry Act, published this afternoon. The Act is widely believed to be an attempt to stave off the commercial threat to Europe's clean technology manufacturers from their Chinese competitors. For electrolyzers, the overall deployment target is 100GW by 2030, the draft act said. This would leave European electrolyser manufacturers needing to scale up enough to produce around 40GW capacity over the seven years to 2030. It is not yet clear how such a target could be enforced — or where the cash to incentivise electrolyser manufacturers would come from. [Click here for full article](#)

2023 03 20_ DFS confirms Bristol Springs as low-cost near-term hydrogen producer_Stockhead

Frontier Energy [ASX: FHE] has wrapped up the Definitive Feasibility Study (DFS) for its Bristol Springs hydrogen project in WA and it's looking good for low-cost near-term hydrogen. The company says the study has reaffirmed the potential for the project to be a leader in the Australian green (low carbon) hydrogen industry, benefiting significantly from proximity to existing infrastructure that drives annual production of green hydrogen to 4.9Mkg pa at a total cost of A\$2.77/kg (inclusive of capital costs). The low cost of the project is driven by low capital costs due to the projects ability to access surrounding existing infrastructure, including access to existing water pipeline, connection to the Southwest Interconnected System (SWIS) at the Landwehr Terminal as well as local skilled existing workforce (meaning no camp and other related infrastructure). [Click here for full article](#)



2023 03 20_ IPCC climate scientists issue 'a survival guide for humanity', warning window closing to reduce emissions_ABC

The world's climate scientists have issued what one expert says is a "final warning" before global warming exceeds 1.5 degrees Celsius. Warraber man Daniel Billy is afraid for his homeland, including the burial grounds of his family, as the ocean creeps closer to his community. "The climate time-bomb is ticking," said UN secretary-general António Guterres, at a meeting of the Intergovernmental Panel on Climate Change (IPCC), which this week released its final "synthesis report", marking six years of work by about 700 scientists. Representatives of 195 countries negotiated an agreed text for the summary report, after assessing tens of thousands of scientific studies. The report, known as the AR6, is a synthesis of six other reports by the IPCC and concludes the following:

- It was now "unequivocal" that climate is changing as a result of human activity, and that it is a threat to human societies and the natural world.
- Climate change is already making extreme weather events more frequent, with 3.3 to 3.6 billion people living in places "highly vulnerable" to these changes.
- Cuts to emissions need to be "deep, rapid and sustained" if the world is to limit warming to 1.5 degrees Celsius this decade.
- If warming goes above that, adaptation will likely be too much for some communities and ecosystems to survive.

[Click here for full article](#)

2023 03 23_ Ground Breakers: Could BHP be piloting green steel' by 2025?_Stockhead

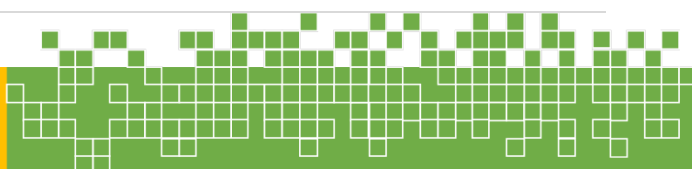
The lowest emissions pathway for steel at the moment is the electric arc furnace, primarily using scrap steel, or direct reduced iron, mainly using very high grades of iron ore made from magnetite ores, which need to be upgraded in an energy intensive process that makes them less economic than the ~62% hematite product BHP, Rio Tinto and others can ship with minimal processing from the Pilbara. But finding a pathway to reduce emissions from the steel production process is essential for BHP and Rio. Their Scope 3 emissions, those produced by customers overseas, dwarf their Scope 1 and 2 emissions generated onsite. BHP says it will work with global engineering firm Hatch to design an electric smelting furnace in support of a decision to construct a pilot facility in Australia, demonstrating a low CO2 intensity steel production method using BHP's Pilbara ores. It comes with BHP looking at plans to ramp up production capacity in the Pilbara from 290Mtpa to 300Mtpa in the near term and up to 330Mtpa in the long term. BHP says when combined with a direct reduced iron ore step, electric smelting can reduce emissions by 80 per cent and potentially use renewable electricity as well as **hydrogen** to replace coking coal in the reduction process.

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2023 03 23_Accelerate Hydrogen Newsletter_rechargenews.com

Hydrogen shipping | First movers into green H2-based fuels 'will get rewarded twice' under new EU rules.

European ship operators that invest in green hydrogen-based fuels will be rewarded twice over for their emissions savings under upcoming EU maritime regulations, sources have told Hydrogen Insight. In addition, the EU is reportedly aiming to use the new regulations, known as FuelEU Maritime, to push the



shipping sector to achieve a 1% share of renewable fuels of non-biological origin (RFNBOs) — typically green hydrogen-based fuels such as green ammonia, green methanol and e-methane — by 2034.

'Green steel will become cheaper than grey in US as soon as hydrogen tax credits kick in':

The forthcoming US hydrogen tax credits of up to \$3/kg will make steel produced using green H2 the cheapest type of steel in the US, according to Rethink Energy. The EU's plans to enforce a carbon border adjust mechanism in 2026, which will tax imports according to their carbon content, will make US green steel an attractive proposition for European buyers, says the UK based analyst. Rethink Energy also spells out the expected impact of green hydrogen on steel production in the EU and China.

[Click here for the full story](#)

23 03 24_ New platform to attract global investment in WA_BN

The state government has partnered with the Chamber of Commerce and Industry WA to launch a new online platform to promote investment-ready projects in Western Australia to international investors. The website, WA Investments, would enable global investors to access ready-to-invest commercial WA projects worth more than \$10 million. The platform has gone live today with 35 investment opportunities currently available with an estimated combined value of \$6 billion. State Development, Jobs and Trade Minister Roger Cook launched the new online platform this morning at a breakfast function. "We want to ensure our state is on the front foot to strengthen and diversify its economy, whether it's in critical minerals, hydrogen, advanced manufacturing, life sciences or some other emerging industry."

[Click here for the full story](#)

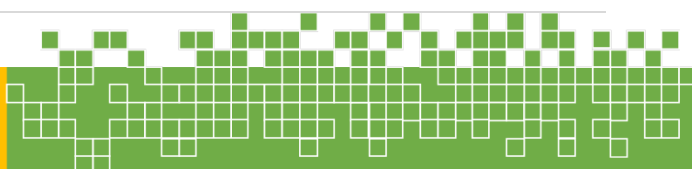
2023 03 27_ Greens strike deal with Labor on climate safeguard plan_BN

The Greens will back Labor's safeguard mechanism laws after a deal was struck, creating new hurdles for oil and gas projects but helping manufacturers. Greens leader Adam Bandt said his party had "secured a big hit on coal and gas", and claimed the changes would halt about half of 116 fossil fuel projects that would no longer go ahead "because they just won't be able to fit in to the hard pollution cap". Under a deal struck with the Greens, the government will put a ceiling on gross greenhouse gas emissions, which won't be able to exceed current pollution levels of 140 million tonnes a year, and there will be a decreasing cap over time. The Bill will include a "pollution trigger" that will require the climate change minister to test a new or expanded project's impact on the hard cap and net carbon budgets.

[Click here for full article](#)

2023 03 30_ Labor's climate safeguard laws clear Senate_BN

A new carbon pollution cap on big emitters will apply from July 1 after laws cleared the Senate. Changes to the safeguard mechanism, which was initially brought in by the coalition government, will force the nation's 215 biggest emitters to reduce their emissions by 4.9 per cent each year. This is expected to reduce emissions by 205 million tonnes by 2030. The legislation passed the Senate on Thursday and will be rubber-stamped in the government-controlled lower house. Assistant Climate Change and Energy Minister Jenny McAllister said it will make an important change to reducing emissions and boost investment during the transition to renewables. Senator McAllister said a fund under the government's energy transition plan would also ensure businesses aren't left high and dry. [Click here for full article](#)



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Hydrogen is marching on - will you march with us?

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