

UPDATE #23

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15 December 2023

Season's greetings from Port Kembla! This **Port Kembla Hydrogen Hub Update #23** contains information on the following key projects and initiatives:

- **Gong Shuttle** goes greener as **hydrogen bus trial** starts in Wollongong - 7 December 2023
- **H2 Future Mobility Day #5** showcases FCEV and H2ICE technology - 7 December 2023
- **Hysata** receives **COP28 Presidency Award** in Dubai - 7 December 2023
- **Long wait ahead** for decision on **Illawarra Wind Zone** declaration - 23 November 2023
- **Indian** and **Chinese** energy delegations visit **Port Kembla** - 22 & 23 November 2023
- **BlueScope Steel** unveils **masterplan** for disused land, **scraps wind tower** plant - 20 November 2023
- **H2 Training + Safety Day #3** - 16 November 2023

Previous editions of the **Port Kembla Hydrogen Hub Update** newsletter are available [here](#).

Gong Shuttle goes greener as hydrogen bus trial starts in Wollongong

Date: 10 December 2023

<https://www.illawarramercury.com.au/story/8453850/illawarras-hydrogen-bus-trial-begins-on-gong-shuttle-route/>



Gong Shuttle goes greener as hydrogen bus trial starts in Wollongong

Wollongong residents will be able to spot the state's newest hydrogen bus in action this week, as it enters service on the popular free Gong Shuttle loop from Monday. Minister for the Illawarra Ryan

Park said passengers could expect "a greener, quieter, and more comfortable journey on the loop between Wollongong station and the university" as the six-month trial of the bus begins.

The bus will also be trialled on a number of other routes throughout the Illawarra to test its capabilities after the first six months. Wollongong MP Paul Scully has been calling for the free shuttle to be used for a hydrogen bus trial since 2021, and said the bus would help the region develop a greener fuel source for the future. "Transport is a way that we can help develop both the supply and demand for hydrogen in the region as it is looked at as a cleaner, greener industrial fuel source in the future," he said.

Data collected from the bus trial will be used by the transport department to make decisions about electric and hydrogen technology for regional bus operators, passengers, and communities. Wollongong MP Paul Scully has been calling for the free shuttle to be used for a hydrogen bus trial since 2021, and said the bus would help the region develop a greener fuel source for the future. "Transport is a way that we can help develop both the supply and demand for hydrogen in the region as it is looked at as a cleaner, greener industrial fuel source in the future," he said. Data collected from the bus trial will be used by the transport department to make decisions about electric and hydrogen technology for regional bus operators, passengers, and communities.

Transport Minister Jo Haylen said the government was transitioning the state's fleet of 8,000 diesel and gas buses on our public transport network to zero emissions technology. "That means rolling out electric buses onto roads in Sydney and Newcastle, and trialling technology like hydrogen buses in other parts of the state," she said. "It is great to see this new hydrogen bus roll out ... in Wollongong."



Minister for Transport Jo Haylen with Minister for the Illawarra and the South Coast, Minister for Regional Transport and Roads Jenny Aitchison, Member for Wollongong Paul Scully and Director of Premier Coaches John King to announce the trial of a new hydrogen bus in the Illawarra. Picture by Adam McLean

The bus can drive for 16 hours and cover 515km on 32kg of hydrogen, while a similar diesel bus would consume 170 litres of diesel to travel the same distance. The bus will be refuelled at the

[Coregas](#) hydrogen refuelling station at the [Port Kembla Hydrogen Hub](#) and is to be operated by [Premier Illawarra](#).



Minister for the Illawarra and South Coast Ryan Park fills up a hydrogen-powered truck in Port Kembla in July. Picture by Anna Warr

H2 Future Mobility Day #5

Date: 7 December 2023



Was a great turnout of interested people at the H2 Future Mobility Day #5 event hosted by the [Port Kembla Hydrogen Hub](#) at the BlueScope Visitor Centre. The event continued the focus on heavy vehicle FCEV and H2ICE technologies powered by hydrogen. Port Kembla is leading the way in the

decarbonisation of heavy road vehicles in Australia with the [Coregas H2Station](#) providing the enabling hydrogen refuelling infrastructure. Opened on the 28 July, the Coregas H2Station is the only commercial vehicle refuelling station currently operating in Australia with a 400kg/day capacity.



Chris Wade from [Remondis](#) gave some valuable insights about their journey working closely with Hyzon to deploy Australia's first FCEV truck into service in October this year. Remondis is tracking a range of key metrics to compare the operation of the FCEV refuse vehicle to its diesel equivalent.

Professor Shawn Kook discussed efforts he is involved in to commercialise H2ICE research by the [UNSW Engine Lab](#). A new entity, [DeCarice](#) has been setup to commercialise the UNSW world leading research into H2ICE technology. Toyota have chosen Australia to trial their latest H2ICE demonstration vehicle, a HiAce van that will be based in Melbourne over the next few months.

Wodek Jakubik from Coregas gave a presentation about the need to decarbonise the heavy road transport industry as one of the hard to abate sectors of the economy. A tour of the Coregas H2Station facility followed lunch with the Remondis refuse truck on site to demonstrate how the hydrogen refuelling process operates.

A key issue being championed by the Port Kembla Hydrogen Hub is the need to add local content to imported vehicles to create local jobs and value adding opportunities. An example of this was on display at the H2 Future Mobility Day event. [City Coast Services](#) displayed a Foton T5 electric truck with a tipper body they had made at their Albion Park facility. The [Foton T5](#) is Australia's best selling small electric truck and City Coast Services CEO Darryl Smith was on hand to answer questions about the tipper body and other fabrication services the company offers.

Special thanks to [Remondis](#) and [Hyzon](#) for making the FCEV refuse vehicle available to demonstrate the refuelling process and Coregas for hosting the site tour at their Port Kembla industrial gas plant.



Foton T5 electric truck with City Coast Services tipper body

Hysata receives COP28 Presidency Award in Dubai

Date: 7 December

<https://hysata.com/news/hysata-receives-cop28-presidency-award-in-dubai/>

Australian electrolyser company [Hysata](#) has been recognised with a top accolade at COP28 in the United Arab Emirates this week, receiving an Energy Transition Changemaker award along with 38 companies from around the world. Hysata is the only Australian company to be recognised in the Energy Transition Changemaker awards, an initiative delivered by the COP28 Presidency to recognise the private sector's role in delivering innovative and scalable decarbonisation projects.

Hysata was recognised in the low carbon hydrogen category for its project with Queensland power generator Stanwell, which involves the commercial demonstration of a 5MW electrolyser unit to be trialled at the Future Energy Innovation and Training Hub (FEITH) in Rockhampton, Queensland.

Hysata CEO Paul Barrett accepted the award on behalf of Hysata and joined a panel discussion at the Energy Transition Changemaker Showcase event held this week: "It is humbling to accept an Energy Transition Changemaker award for low carbon hydrogen initiatives from the COP28 UAE Presidency on behalf of our team at Hysata – and project partners Stanwell and the Australian Renewable Energy Agency (ARENA)."



“A proud moment to represent Hysata, Australia and the Wollongong region on a world stage - and be recognised for the transformational value potential of Hysata’s electrolyser system efficiency resulting in intrinsically low system OPEX and CAPEX and an unprecedented ability to hyperscale manufacturing. Our technology is uniquely placed to accelerate deep decarbonisation of the hard to abate sectors - a mission that really motivates us at Hysata. As we approach 2030 emissions targets, time is our enemy. We need to raise ambition across public and private sector, and follow this ambition with execution to unlock green hydrogen’s full potential.”

The Energy Transition Changemakers awards received more than 1,000 applications from across the world. Projects were considered that have overcome challenges through game-changing innovative solutions or approaches that have the potential to be replicated and scaled elsewhere.

Long wait ahead for decision on Illawarra wind zone declaration

Date: 23 November 2023

<https://www.illawarramercury.com.au/story/8433795/when-will-a-decision-on-illawarra-offshore-wind-zone-be-made/>

Illawarra residents will have to wait months for any decision on the declaration of a offshore wind zone and as the dust settles on two months of at times bruising consultation community groups are calling on the government to do better next time. Emails sent to those who made a submission on the Illawarra offshore wind zone after the end of the consultation period state that no decision will be made before the end of the year. The website of one of the leading proponents suggest that developers are expecting a decision on the zone in early 2024.

Under the Offshore Energy Infrastructure Act, the Energy Minister Chris Bowen has the power to declare the zone at the size in the draft zone, declare a smaller zone or not declare a zone at all. The minister also has the power to declare the zone with conditions, such as in Newcastle, where turbines were limited in height to 260 metres, due to aviation security concerns with the nearby Newcastle Airport and RAAF Williamtown Airbase.



A surfer during the paddle out to oppose the Illawarra offshore wind zone. Picture by Wesley Lonergan

Questions were sent to Minister Bowen's office about when the Illawarra could expect a decision, however no reply was received. Cunningham MP Alison Byrnes said there was no deadline for a decision. "With consultation closed obviously, Minister Bowen will have to go through all of the submissions and I'm not sure how long that's going to take."

During the consultation period, groups both for and against the proposal coalesced, and neither were winding down their activities. Grant Drinkwater, member of the Coalition Against Offshore Wind said the group was committed to continuing its activism on the issue. "We will continue to try to raise awareness of the proposal in the Illawarra and continue to try to hold the local federal member to account," he said. On Facebook groups opposing the wind farm proposal, users are sharing details of a rally in Sydney on November 30, opposing "reckless renewables", which is being organised by the Newcastle and Port Stephens Game Fishing Club, a vocal opponent of the Hunter offshore wind zone.

The Good for the Gong group which supports the wind farm proposal, with conditions, is also maintaining its activities, with spokesperson Sophia Walter saying the group was exploring wider community sentiment. "We reckon there's a silent majority of people in the Illawarra who either support offshore wind in principle or haven't made their mind up yet," Ms Walter said. "We want to talk to community members in a way that's not so vitriolic as it's been until now."

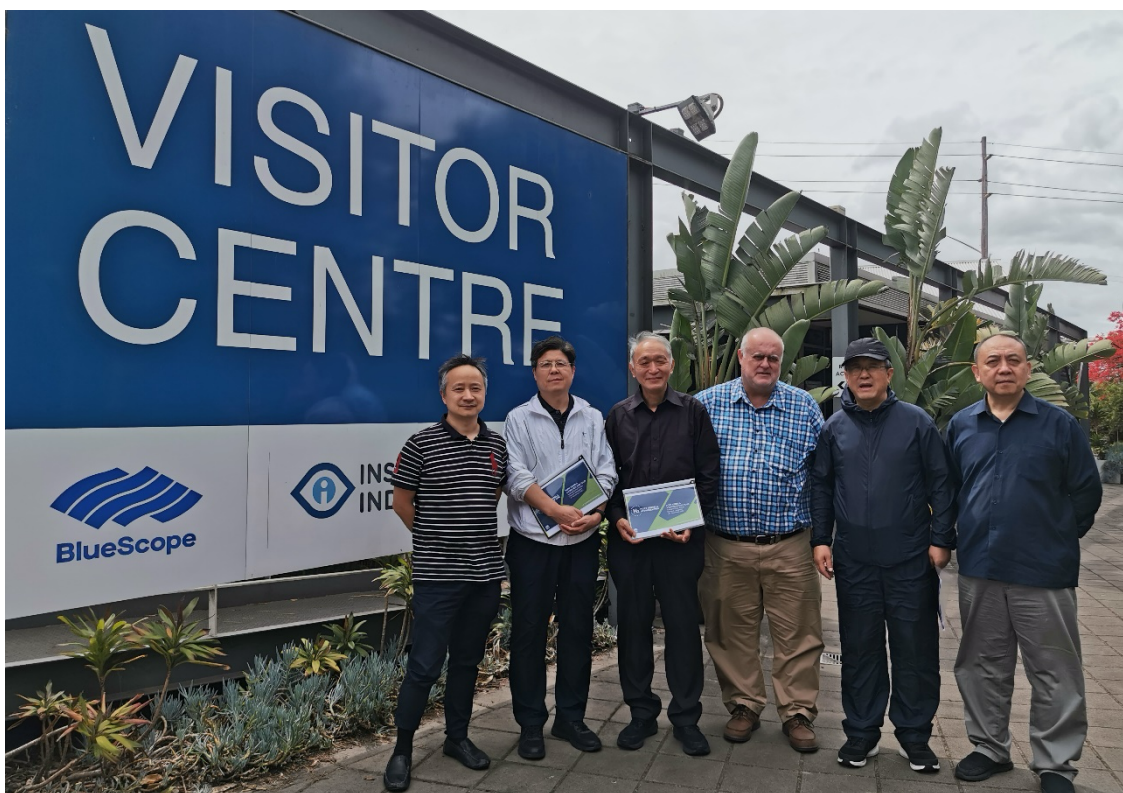
If Minister Bowen declares a zone there will be the opportunity for further community consultation on any licence conditions as well as environmental approvals. Ms Walter said that if the zone goes ahead, and further consultation sessions are held, there was an opportunity to do better. "The onus is on government to do a really good job of consultation, my expectation is that they are in the community, helping us to understand what the benefits are of offshore wind, what contribution we can make to climate change, what jobs come out of this, what local infrastructure and high environmental standards will look like."

Indian and Chinese energy delegations visit Port Kembla

Date: 22 & 23 November 2023

[Department of Regional NSW](#) recently hosted delegations from both India and China involved in the energy sector in both countries. Visiting Port Kembla on the 22 November 2023, the Indian delegation included regulators from their domestic electricity industry. [Endeavour Energy](#) provided an overview of some of the challenges they are facing adopting new technology and ensuring grid stability in a decarbonised environment.

Members of the China-Australia Energy Dialogue toured Port Kembla on the 23 November. With links to [University of Technology](#) in Sydney, the delegation had particular interest in hydrogen production and offshore wind energy.



China-Australia Energy Dialogue delegation – Port Kembla 24 November 2023

BlueScope Steel unveils masterplan for disused land, scraps wind tower plant

Date: 21 November 2023

<https://www.abc.net.au/news/2023-11-21/bluescope-steel-unveils-masterplan-for-disused-land/103132024>

[BlueScope Steel](#) has unveiled its vision for a vast parcel of disused industrial land, hoping to transform it into a state-of-the-art precinct to attract tens of thousands of workers back to the steelworks.

Key points:

- BlueScope Steel has released a master plan for the redevelopment of 200 hectares of disused land
- It has signed a deal with TAFE NSW to set-up a "Super TAFE" at the site
- The steelmaker has scrapped plans to establish a wind tower manufacturing plant

The steelmaker began developing a master plan for 200 hectares of land at Port Kembla deemed surplus to requirements 18 months ago. Danish architecture firm [Bjarke Ingels Group](#) (BIG) has produced renders of the site, which depict new office buildings, repurposed existing structures such as an old blast furnace and community parkland.



BlueScope Steel will redevelop 200 hectares of industrial land surplus to requirements. (Supplied: BlueScope Steel)

BlueScope chief executive Mark Vassella said the precinct would cater for the growth of emerging industries while returning some of the land to the community. "Our strategy is what are the adjacencies to our existing businesses that would be relevant for that large parcel of land," Mr Vassella said. "Whether that is renewable energy, modern manufacturing, defence as well as vocation and training. There are large tracts of land we think we will be able to give back to the community, to provide to the community for use."

Historic employer

BlueScope intends to retain 60 per cent of the site as "green and blue space" and keep 70 per cent of the existing buildings to preserve its "steelmaking heritage". The company is one of the Illawarra's largest employers. During the 1960s the Port Kembla steelworks employed nearly 30,000 workers. Modelling from consulting firm Deloitte forecasts the master plan could generate 20,000 jobs and contribute up to \$5 billion annually to the gross regional product.

The steelworks currently employs 10,000 workers, with 3,500 direct employees. There are hopes the plan can return the industrial hub to its former glory. "We have created our flag on the hill and said, 'wouldn't it be nice having 30,000 people working at Port Kembla again'," Mr Vassella said. Coinciding with the release of the master plan, the steelmaker has also signed a Memorandum of Understanding (MoU) with [TAFE NSW](#) to establish a "Super TAFE" as one of the first users of the precinct.



The master plan requires BlueScope to retain 70 per cent of buildings on the site. (Supplied: BlueScope Steel)

The ABC understands the project is scheduled to be completed before BlueScope's 100-year anniversary in 2028. Mr Vassella said he expected the redevelopment would be given State Significant Infrastructure Status due to its large scale.

Wind tower plant scrapped

BlueScope's efforts to take advantage of opportunities in the emerging wind energy sector have hit a roadblock after it was forced to abandon plans for a wind tower manufacturing plant. The project was part of the Advanced Steel Manufacturing Precinct under consideration for planning approval. BlueScope revised the scope of the project to remove the wind tower facility after receiving advice from Transport NSW. Mark Vassella says local road constraints make it "difficult" to build wind turbines at Port Kembla. Mr Vassella said the company still broadly supported efforts to manufacture wind turbines domestically, but other regions were likely to be more suitable.

"There are just some restrictions from a road bridge infrastructure perspective that make it difficult for the fabrication of wind towers to occur in this region," he said. "Physically you can't transport the wind towers because of the size of them and get them under existing bridge infrastructure. It is more likely to happen in regional areas where we don't have those restrictions." The steelmaker is still considering upgrading its plate mill to increase its output from 430,000 tonnes of plate steel to 600,000 tonnes.

H2 Training + Safety Day #3

Date: 16 November 2023

Some 90 people from around Australia attended the one-hour virtual H2 Training + Safety Day #3 event featuring hydrogen refuelling stations and operating hydrogen powered heavy vehicles. Australia's first Hydrogen Refuelling Station for heavy vehicles - the \$2m [Coregas H2Station](#) is now operational at Port Kembla. Training and safety are especially important topics as hydrogen powered

heavy vehicles begin to be deployed into service. As featured in Update #22, [Remondis](#) recently put into service Australia's first hydrogen powered refuse truck that is now using the Coregas facility on a regular basis. This FCEV vehicle is operating on a daily basis in both the Wollongong and Shellharbour Local Government Areas.

Speakers from [Coregas](#), [TAFE NSW](#), [Fire and Rescue NSW](#) and [HDrive International](#) presented at the event. Wodek Jakubik from Coregas spoke about Hydrogen Refuelling Station (HRS) safety. His presentation covered areas such as HRS design, processes, inspection and testing, maintenance, site induction and the importance of training.

Hugh Robinson from Fire and Rescue NSW spoke about the special properties of hydrogen, vehicle hazards and safety measures, types of hydrogen refuellers, refuelling incidents and emergency response to incidents. While the level of hydrogen related incidents has been relatively low, with increased production, transport and usage – it is inevitable that more hydrogen related incidents will occur. Lisa Rodrigues gave an update on the MicroSkills Training modules that have developed by TAFE NSW. They include a Refuelling Fuel Cell Electric Vehicles module that has been developed in consultation with industry and will feature the Coregas HRS.

Ben Kiddle from HDrive International spoke about how the hierarchy of controls method is used to isolate hazards from people on FCEV heavy vehicles. An example of this is with hydrogen fuel cylinders. A range of engineering controls are deployed with them such as destructive testing, thermal and overpressure protection, fire suppression, leak detection, lock off valves, roll over protection and engineered crash protection. As shown below, fire suppression on a hydrogen powered bus is designed to suppress and extinguish the fire at its source.

OCCUPANT SAFETY– FIRE SUPPRESSION



- Fire suppression will extinguish or suppress fire at the source
- Risk assessments made to ensure high risk areas covered
- PMARK Certified
- Driver warning and manual activation system on board
- Providing valuable time to evacuate vehicles



FURTHER INFORMATION

The Port Kembla Hydrogen Hub is facilitated by the [Department of Regional NSW](#) in partnership with the [Illawarra Shoalhaven Joint Organisation](#) (ISJO). For further information about the Port Kembla Hydrogen Hub, please visit the [webpage](#) or contact Nigel McKinnon, Deputy Director, Department of Regional NSW by email nigel.mckinnon@regional.nsw.gov.au.