

1 February 2023

Busy times at Port Kembla continue.

This is the first Port Kembla Hydrogen Hub Update for 2023 and contains information on the following key projects and initiatives:

- Hydrogen Mobility Matters – HDrive
- [NSW Hydrogen Hub Initiative](#) – hydrogen projects
- [Illawarra Regional Energy Zone \(REZ\)](#)
- Tallawarra B Power Station – Gas Generator arrives
- Jemena to start building pipeline

Hydrogen Mobility Matters – HDrive

Port Kembla Hydrogen Hub members are working on a range of hydrogen mobility trials that span buses, trucks, trains and industrial equipment. Some of these vehicles will be featured at our planned Future Mobility Day events this year. Port Kembla and the Illawarra region are a superior location to showcase zero emissions transport mobility.

On the 29 November 2022, Shellharbour Regional Airport hosted the Australian debut of the new [HDrive](#) double decker bus. The hydrogen powered bus had been imported through Port Kembla from Hong Kong. Port Kembla is Australia's largest vehicle importation centre with around 5,000 vehicles a week being processed through the Port.

Transport industry representatives and other invited guests were invited to Shellharbour Regional Airport to learn more about the features of the HDrive bus powered by a Ballard fuel cell. Attendees were invited to drive the hydrogen powered bus to experience first hand the benefits of zero emissions transport. A short video about the launch event is available [here](#).



FC120DD

Double-decker bus
city bus



NSW Hydrogen Hub Initiative

The last edition of the Hydrogen Hub Update covered the tremendous response to the EOI process for the \$150m NSW Hydrogen Hub Initiative fund that closed in February 2022. A total of ten hydrogen project EOI's advanced to the full application stage. This includes four projects with links to Port Kembla as shown in the list below. The proponents for these four projects include ATCO, BlueScope, BOC and Coregas.

An announcement about these projects is expected in the first half of 2023. The following information is drawn from the NSW Hydrogen Hub Initiative webpage available [here](#).

Hydrogen Projects

Applications have closed, and 10 projects are currently being assessed. We expect to award funding in the first half of 2023. Shortlisted projects are based in the Hunter, Illawarra, and regional NSW. They represent a wide range of end uses for green hydrogen including heavy transport, agricultural products, industrial feedstocks, power generation, gas blending and export. See more information about these projects in the table below.

The application and assessment process for this stream is competitive. Submissions will be assessed against the eligibility and merit criteria, outlined in the [guidelines](#). You can also learn more by reading the [frequently asked questions](#).

Applicant	Project name	Location	Project summary
AGL Energy Limited	Hunter hydrogen hub	Muswellbrook	AGL Energy, in conjunction with Fortescue Future Industries (FFI), has proposed the development of the Hunter hydrogen hub (H3). The project plans to develop green hydrogen from several potential locations in the Hunter Valley.
ATCO Australia Pty Ltd	Regional hydrogen production with carbon capture and methanation	Berrima	ATCO has partnered with the University of New South Wales, National Energy Resources Australia and AMSL Aero to produce renewable hydrogen in the Illawarra. The project will include the assessment of captured carbon dioxide for the production of clean methane by methanation, and export opportunities.
Australian Gas Networks Limited	Hydrogen park Wagga Wagga	Wagga Wagga	Hydrogen park Wagga Wagga will produce renewable hydrogen for use in multiple sectors including industrial, power generation and mobility end users. It will also blend into AGN's Wagga Wagga gas distribution network which supplies more than 23,500 homes and businesses.
BlueScope Steel Limited	HyKembla Port Kembla hydrogen hub	Port Kembla	BlueScope Steel and its major partner Shell plans to design, procure and install an electrolyser and related plant at Port Kembla Steelworks (PKSW) to deliver green hydrogen for multiple end-uses.
BOC Limited	The Illawarra hydrogen technology hub	Cringila	The Illawarra hydrogen technology hub will kick-start the adoption of green hydrogen in New South Wales for transport and electricity. The project will use existing infrastructure, is scalable and will create local clean energy jobs that will help transition NSW's workforce.
Coregas Pty Ltd	PK hydrogen mobility hub	Port Kembla	Coregas, in collaboration with industry partners and transport companies, propose to start a sustainable transition towards zero emission heavy transport in NSW. The initial deployment of a portable refueller will develop the region's capacity, and ultimately deliver a commercial scale refuelling station.
Hiringa Pty Ltd	Good earth green hydrogen and ammonia ("GEGHA")	Moree Plains	Good earth green hydrogen and ammonia (GEGHA) is an integrated solar energy to hydrogen and ammonia project. All manufacturing operations are co-located at the Wathagar ginning facility site on the Keytah agricultural property, near Moree in northern NSW
Keppel New Energy Pte Ltd	Kooragang Island green ammonia export project	Kooragang	Keppel Infrastructure and Incitec Pivot are investigating the feasibility of the production of green hydrogen-ammonia from Kooragang Island Newcastle for export to Singapore for a range of customer requirements in Singapore and northern Asia.
Origin Energy Future Fuels	Hunter Valley hydrogen hub	Newcastle	Origin Energy, with Orica and other partners, plans to develop a Hunter Valley hydrogen hub. This will deliver a safe, reliable and commercial-scale green hydrogen supply chain in the Newcastle industrial and port zone.
Port of Newcastle Operations Pty Limited	Port of Newcastle green hydrogen hub (H2Newcastle)	Newcastle	The Port of Newcastle's green hydrogen hub will leverage existing infrastructure to deliver green hydrogen for a range of end uses. The project benefits from excellent infrastructure and relationships that already exist at the Port of Newcastle.

Illawarra Renewable Energy Zone (REZ)

Some \$43 billion in potential investment spanning 44 projects were received as part of the EOI process for the establishment of the Illawarra REZ. A summary of these projects is shown below and include renewable electricity generation products and hydrogen production. The draft [Declaration](#) for the Illawarra REZ is open for public feedback until Monday 6 February 2023.

- Learn more about what is a Renewable Energy Zone [here](#).
- The following is drawn from the Illawarra REZ webpage [here](#).

Introduction

EnergyCo is also in the early stages of planning for a Renewable Energy Zone (REZ), as set out under the [Electricity Infrastructure Investment Act 2020](#), in the Illawarra region of NSW. The Illawarra REZ is located on the land of the Dharawal people.



Why the region was chosen

The Illawarra region contains unique features that make it an ideal location for a REZ. The region already hosts major energy, port and transport infrastructure, has a skilled workforce, has the potential to harness significant offshore wind generation and has strong demand for future hydrogen projects, including for future green steel production.

The Illawarra REZ will help strengthen the region's economy and support jobs for decades. Like the Hunter-Central Coast, the Illawarra is vulnerable to fluctuations in demand for coal exports, and the REZ will help local industry adapt and build resilience in the regional economy. Beginning in 2022, EnergyCo undertook a geospatial mapping analysis investigation of the Illawarra region to identify a nominal boundary for the REZ. [Read more here](#) about the methodology for defining the geographical area. You can view a map of the geographical area of the REZ in Schedule 1 of the draft declaration [here](#).

Consultation with the community

Like all REZs, designing and building the Illawarra REZ will be complex and take some years to achieve. EnergyCo will engage closely with local community, industry, local government and other stakeholders as the design and delivery of the REZ progresses.

Registration of Interest (ROI)

Between 9 June and 22 July 2022, EnergyCo ran a Registration of Interest (ROI) process for the Illawarra REZ. This was the first step in engaging with industry on the design of the REZ. The Illawarra REZ ROI attracted a significant response with over \$43 billion in potential investment. 44 projects were registered, potentially delivering over 17 gigawatts of generation and storage capacity.

In summary, industry interest has been registered in:

- 10 wind generation projects with 8 located offshore,
- 5 solar projects,
- 16 energy storage projects including 11 batteries,
- 4 pumped hydro projects,
- 4 hydrogen production and 2 hydrogen electricity generation projects, and
- 3 new load projects including green steel manufacturing.

As the results above show, the Illawarra REZ will underpin the growth of new low carbon industries which could service both domestic and export markets as the world decarbonises and shifts towards green manufacturing.

[Illawarra REZ fact sheet.](#)

Declaration

The NSW Government has begun the process for declaring the Illawarra REZ.

The REZ declaration is the first step in formalising the REZ under the [Electricity Infrastructure Investment Act 2020](#) (the Act). It sets out the intended network capacity (size), geographical area (location) and infrastructure that will make up the REZ. The declaration will also note that EnergyCo will be the Infrastructure Planner for the Illawarra REZ.

EnergyCo prepared the draft declaration in a way that considers local priorities and values, land-use planning, investor interest and legislative requirements. A stylised map of the draft geographical area of the REZ is included above for reference. It includes the existing 132 kV and 330 kV transmission infrastructure near and in the REZ as a geographical reference.

The draft declaration is on exhibition for public feedback until Monday 6 February 2023. It is not a declaration under the Act and has no legal effect. The final declaration will be made by the Minister for Energy under section 19(1) of the Act and be published in the NSW Gazette.

Once the final declaration is made, the Minister may amend it to expand the specified geographical area of the REZ, increase the intended network capacity, specify additional generation, storage and network infrastructure, provide further details and specifications or correct a minor error.

Learn more about the draft declaration [here](#).

Intended network capacity (size)

The draft declaration sets out the intended network capacity for network infrastructure in the Illawarra REZ of 1 gigawatt (GW). This will provide sufficient transfer capacity for existing and committed generation in Southern NSW and the Illawarra to dispatch into the electricity grid.

Importantly, the capacity of the Illawarra REZ may increase over time with the growth of offshore wind and other emerging technologies.

Network infrastructure

We have consulted with network planners, including the Australian Energy Market Operator to specify the network infrastructure that makes up the REZ.

In summary, this is:

- Planned, new and existing network infrastructure in the specified geographical area.

The above is a summary only. Interested parties should consult the full text in the [draft declaration](#).

Further specified network, generation and storage infrastructure may be added to the declaration later. EnergyCo will update this website as further information and engagement opportunities become available.

Next steps

The NSW Government will review feedback received during the exhibition period before the Minister declares the Illawarra REZ. The Minister may decide to make the final declaration different to the draft declaration.

EnergyCo will continue to engage closely with the local community, industry, local government and other stakeholders as the design and delivery of the REZ progresses.

Tallawarra B Power Station

Following the arrival of the GE gas turbine in May 2022, transporting the generator from Port Kembla to the Tallawarra site last November also provided many logistical challenges:

Mammoth 366-tonne megaload reaches its destination

November 23, 2022, 11:35 am

<https://bigrigs.com.au/index.php/2022/11/23/mammoth-366-tonne-megaload-reaches-its-destination/>



It's taken four prime movers and around 6.5 hours to complete one of the biggest movements ever attempted on NSW's roads.

A 366-tonne gas generator has been transported from Port Kembla to a new energy project in Yallah – EnergyAustralia's new Tallawarra B Project. Temporary closures put in place for sections of the Princes Motorway, Princes Highway, Five Islands Road and Springhill Road during the move. The load also had to be lowered at sections along the M1 to fit under bridges. The huge generator is roughly 13 metres long by 4.2 metres wide and 4.5m high. It was transferred using two 16x8m trailers with beam sets, with muscle provided by four prime movers.



Heavy haulage specialist Lampson Australia was involved with the move, which was coordinated together with Transport for NSW. It provided the two Kenworth T509s to do the pulling. While a Mack Titan and Kenworth C501 were at the back, doing the pushing. Overall, the monster combination measured 121 metres long, 5 metres wide and 5.7 metres high – with a total mass of 786 tonnes.

The move took place last weekend, starting late on Saturday night and running into the early hours of Sunday morning. Along with the trucks required for the move, support vehicles included two mechanic vehicles, three pilot vehicles, three NSW Police vehicles, one TfNSW operational vehicle, one Traffic Control Truck Mounted Attenuator vehicle.

This is the third and final piece of the puzzle for EnergyAustralia's Yallah project, following the move of a 370-tonne turbine in May and a 250-tonne transformer in October. Located on the shore of Lake Illawarra at EnergyAustralia's existing Tallawarra power station, Tallawarra B will be Australia's first peaking power station to be powered by a blend of gas and green hydrogen with direct emissions offset. In peak periods, the power station will deliver power to an additional 150,000 NSW homes.

Jemena to start building pipeline to connect Port Kembla LNG import terminal

By **LNG Prime Staff**

December 15, 2022

<https://lngprime.com/australia-and-oceania/jemena-to-start-building-pipeline-to-connect-port-kembla-lng-import-terminal/68848/>

Jemena is about to start building a lateral pipeline to connect Squadron Energy's FSRU-based Port Kembla LNG import terminal in New South Wales to the Eastern Gas Pipeline.

In March last year, Jemena and Australian Industrial Energy (AIE), a unit of Squadron Energy, [signed a deal for the pipeline](#). The pipeline firm said in a statement this week it is partnering with engineering and construction firms Zinfra, Nacap, and Wasco to connect Australia's first LNG import terminal at Port Kembla to the EGP.

According to Jemena, the appointment would see the partners build a 12km underground pipeline which would transport up to 130 petajoules of gas annually from Squadron Energy's Port Kembla Energy Terminal (PKET) to customers in NSW and Victoria. Once commissioned the pipeline would be able to transport enough gas to meet more than 75 percent of NSW's current gas needs, Jemena claims.

Under the deal, Zinfra will provide overarching project management and engineering services for the project, Nacap will construct the pipeline itself while Wasco will deliver the Kembla Grange Metering Station, where this pipeline connects to the EGP. Jemena did not provide any additional information such as the price of the deal and the timeline of the project.

The firm plans to duplicate the existing Port Kembla lateral pipeline, which forms part of the EGP.

Hoegh LNG FSRU

Andrew Forrest's Squadron Energy [said in August this year](#) that the terminal's wharf infrastructure was 80 percent complete and that the firm expected the terminal to become operational at the end of 2023.

Earlier this year, Hoegh LNG [said](#) that AIE had confirmed a long-term FSRU charter deal for its Port Kembla import terminal. The FSRU contract has a term of 15 years with early termination options for AIE after year 5 and 10. AIE has the right to time the start-up of the contract between 2023 and 2025, depending on its requirements, Hoegh said.

FURTHER INFORMATION

For further information about the Port Kembla Hydrogen Hub, please visit the Hub [webpage](#) or contact:

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The Department of Regional New South Wales acknowledges that it stands on Country which always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for Elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work.