

**Submission
No 10**

INQUIRY INTO DEVELOPMENT OF A HYDROGEN INDUSTRY IN NEW SOUTH WALES

Organisation: i3net (Illawarra Innovative Industry Network)

Date Received: 25 February 2021



NSW Standing Committee on State Development
Parliament of New South Wales
6 Macquarie Street
SYDNEY NSW 2000

25 February 2021

Dear Committee,

Re: Development of a Hydrogen industry in New South Wales

On behalf of the **Illawarra Innovative Industry Network – i3net**, thank you for the opportunity to provide a written submission supporting the development of a Hydrogen industry in New South Wales.

The **i3net** is a network of industry-based companies working within the Illawarra; it was established in 2002 to promote the collective capability of Illawarra Industry to local, national, and international markets.

The specific aim of the **i3net** submission is to highlight the location suitability and the prevalent capabilities of Wollongong as a strategic site for a large-scale Hydrogen industry cluster. The Wollongong area is home to leading education, training, research, and technology centres as well as highly-skilled manufacturing and services industries. This region's Port Kembla Harbour, with its complementing export capabilities and proximity to overseas markets, will also soon establish an LNG facility which further indicates the significance of the area for future industrial enterprise.

The local Illawarra economy has industry as its foundation; the **i3net** membership of industry-based companies operate throughout Illawarra with solid connections to the Shoalhaven and Southern Sydney regions. Companies across the region comprise a mix of heavy industries, engineering, technology and services businesses supporting a client base that extends from the region across Australia and internationally.

Among the **i3net** membership are some of Australia's largest companies who, along with SMEs and supply chain organisations, employ over 10,000 personnel. Long-term affiliates of **i3net** include BlueScope Steel, the University of Wollongong, Wollongong City Council, and the Department of Regional NSW.

The compelling case for a Hydrogen industry cluster for the City of Wollongong

As a region, the Illawarra has a long-established heavy industry base, a technology-focused university, an operating Port Kembla Hydrogen Hub, progressive local government, and the ability to reach into the greater Sydney metropolitan area. The Illawarra is particularly well suited to capitalise on both the use of hydrogen and the development of supporting technologies to enable the hydrogen supply chain's adoption.

This region has also attracted the attention of several significant projects that can provide early-stage opportunities to adopt hydrogen and develop a regional industry supporting the hydrogen supply chain.



These include H2X's announcement of their intent to build a hydrogen fuel cell vehicle manufacturing facility, Energy Australia's Tallawarra power station expansion, Australian Industrial Energy's (AIE) gas import terminal and potential gas turbine power station, and the probable adoption of hydrogen into the steelmaking processes at BlueScope Port Kembla Steelworks.

The Illawarra region has a long history of resilience and innovation within the industrial sector, most notably in mining and manufacturing, which illustrates this region's ability to diversify to adapt to the needs of various domestic and international markets.

The advantages gained by building on this robust capability and be recognised as a hydrogen hub would provide opportunities for several Illawarra businesses to develop their product and service offering further, to be part of this new industry and create new jobs.

New jobs are significant for the region as the University of Wollongong is continuing to recover after the effects of the reduction of international student numbers due to the Covid-19 pandemic; and the recent Independent Planning Commission's refusal of South32's Dendrobium Coal Mine's extension. Both have far-reaching and potentially devastating impacts on the Illawarra region.

Location

Port Kembla, an industrial suburb of Wollongong, is an ideal location for large-scale green hydrogen production due to the following factors:

- Access to significant quantities of renewable electricity and recycled water
- Access to customers across the industrial, heavy transport, electricity generation, gas network injection sectors in the Illawarra and Sydney, as well as to export markets
- Cost-effective supply chain as major Hydrogen consumers located in one industrial precinct
- Access to distribution infrastructure including road, rail, the Eastern Gas Pipeline, and the Port of Port Kembla
- The Port of Port Kembla is a primary gateway to and from Greater Sydney and only 60 minutes of travel time from the new Western Sydney Airport. The Wilton Growth Area – just 30 minutes from Port Kembla
- Established, industrialised precinct for 24/7 operations
- Existing supply-chains and valuable skills base able to pivot to support large-scale Hydrogen production
- An existing Hydrogen production facility
- A community that welcomes and integrates with industry
- Port Kembla is listed in the National Hydrogen Strategy as a potential Hydrogen hub. The NSW Government, through the Department of Regional NSW, is facilitating the development of the Port Kembla Hydrogen Hub in collaboration with industry partners such as **i3net**, research institutions and independent businesses.

This advanced readiness places the Illawarra and the City of Wollongong at the forefront for selection as a Hydrogen Industry Cluster.



Creating a Hydrogen Industry Cluster

i3net responded in late 2020 to the National Energy Recourses Australia (NERA) 'expression of interest' process to establish a Hydrogen cluster. This application is attached for your information. Unfortunately, the application placed second and was unsuccessful for the single funding offer, despite its broad support. Should additional funding become available to develop a region cluster, like in other jurisdictions, **i3net** is in a state of readiness for this role. We look forward to working with the State Government to develop a cluster so that Port Kembla can take its place in the cluster network.

The **i3net** constantly promotes the ongoing adoption of new technologies by representing regional industry interests while collaborating with the Department of Regional NSW, Wollongong City Council, University of Wollongong, NSW TAFE and other groups. These alliances and joint working groups can enable a Hydrogen cluster to reach a large portion of the region's businesses to build companies' capabilities and opportunities within the Hydrogen supply chain and industry.

The **i3net** Board, in unison with the 55+ member companies of the network, have previously indicated a keen interest in Hydrogen and pledge to support the development of a hydrogen cluster. Prepared to lead the Illawarra Hydrogen Industry Cluster to develop local expertise, skills and technology in green hydrogen production, storage, and transportation to:

- Strengthen the business case to attract investment into large-scale green hydrogen projects in the Illawarra, NSW and Australia by de-risking the supply-chain identification process for large-scale hydrogen producers
- Enhance the financial and environmental resilience of the Illawarra, NSW and Australian economies to aid in developing a new industry and creating new revenue streams
- Create new high-tech and high-wage jobs.

The **i3net** Illawarra Hydrogen Industry Cluster can do this by,

- Raising awareness among businesses in the Illawarra and Shoalhaven illustrating how they can add value to the green Hydrogen supply chain
- Connecting Illawarra and Shoalhaven companies to technical and commercial expertise from the commercial and academic sectors to develop in-demand solutions
- Facilitate introductions for Illawarra and Shoalhaven companies to the proponents of large-scale green Hydrogen projects and potential partners across NSW and Australia.

The **i3net** Illawarra Hydrogen Industry Cluster will collaborate closely with the other national Hydrogen clusters coordinated by National Energy Resources Australia (NERA) created in NSW, including the Hunter Hydrogen Technology Cluster and the Port Kembla Hydrogen Hub.

Barriers and steps to overcome

The critical barriers to the development of a regional Hydrogen supply chain, including the development of relevant technology for the Illawarra region, are currently perceived to be:

- Availability and cost of Hydrogen vehicles (medium-heavy-mobile plant)
- Availability and cost of Hydrogen fuel
- Size of the market for non-OEM Hydrogen technology, i.e. fuel cells, electrolyser equipment



- Uncertainty regarding timelines for adoption and at what level, i.e. FCEV, H2 blended gas networks
- Potential government regulation regarding reduction in hydrocarbons, i.e. carbon tax, phasing out of ICE vehicles
- Knowledge/education regarding the benefits of Hydrogen vs traditional fuels (pathway to electrification)
- Knowledge of what technologies will be needed (and in what format).

The **i3net** Hydrogen Industry Cluster would address these barriers by conducting events that bring regional businesses together with subject matter experts.

By utilising the work of the Port Kembla Hydrogen Hub and by collating feedback from network members, the **i3net** hydrogen industry cluster could then target the specific capabilities within this region.

The **i3net** Hydrogen Industry Cluster can deliver the following benefits:

- Improved regional business awareness of the benefits of Hydrogen adoption
- Identify regional capabilities to support/develop the Hydrogen supply chain – share with NERA and associated groups to improve the interoperability of these companies
- Strengthen the business case for attracting investment into large-scale green Hydrogen production in the Illawarra and Australia by de-risking the supply-chain identification process for large-scale Hydrogen producers
- Delivery of an “Illawarra Regional Hydrogen Capability Matrix” or “Port Kembla Hydrogen Industry Company Directory.
- Contribute to developing a business case for Hydrogen's adoption in the South Coast and greater Sydney region in collaboration with the University of Wollongong.
- Raise awareness in the community of the benefits of the Hydrogen industry.
- Develop a regional supply chain business case to illustrate potential Hydrogen technology/hardware development & manufacturing; define Hydrogen production & distribution and demand.
- Create new jobs and business opportunities with long-lasting impact throughout the state and nationally
- Ensure that a long-term Hub is maintained.

These activities can enable businesses and all government levels to see the potential benefits for future employment, economic growth, technology development and export, with skills development associated with the Hydrogen industry. As we are in the early stages of providing Hydrogen as an energy source, the cluster's initial focus is on engagement and opportunity identification. These initial stages of activity support the ongoing development of regional capabilities and ensure continued interest in the industry, aiming at local SME's who already can be a part of the industry in the short-term, creating new jobs in the process.

Through the collaborative efforts of **i3net**, Port Kembla Hydrogen Hub, Wollongong City Council, University of Wollongong and other strategic partners, the Illawarra has a broad range of potential 'Hydrogen supply chain partners' in the region. They can generate an enduring impact locally, throughout the state, and nationally.



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To conclude

i3net commends the NSW Government on its support for the development of a Hydrogen industry in NSW. Thank you for the opportunity to provide this submission positioning the City of Wollongong as the ideal location of a Hydrogen cluster.

Should additional funding become available to develop a region cluster, like in other jurisdictions, *i3net* is in a state of readiness for this role. We look forward to working with the State Government to develop a cluster so that Port Kembla can take its place in the cluster network.

Please contact Ms Bianca Perry - Chief Executive Officer *i3net* on mobile _____ for further information.

Yours sincerely,

Mr Emilio Salucci
Chairperson
Illawarra Innovative Industry Network – *i3net*