

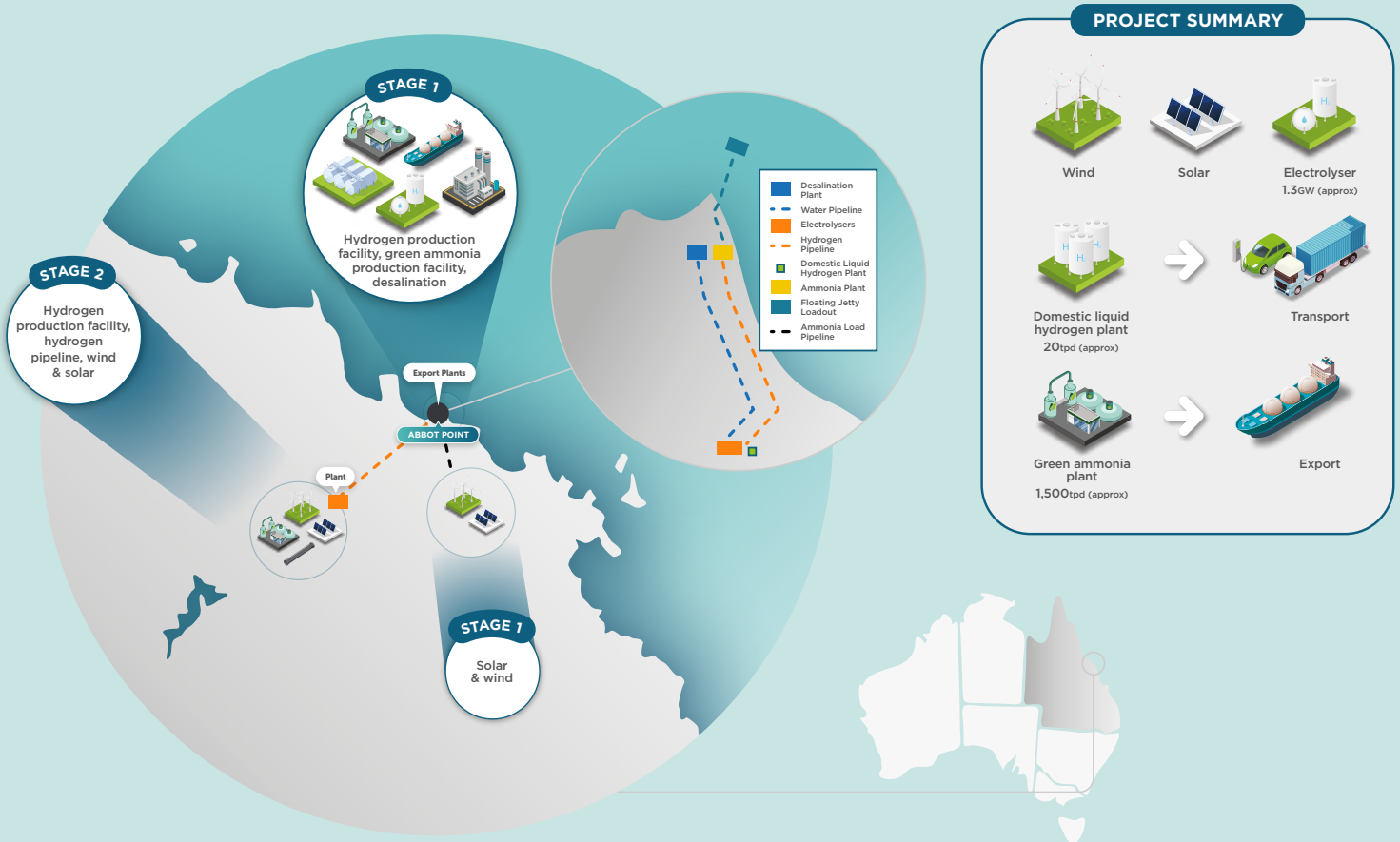
HyNQ North Queensland Clean Energy Project

Newsletter: July 2023

About the Project

North Queensland Clean Energy Project (HyNQ) is a large-scale integrated project involving renewable energy, green hydrogen, the export of green ammonia and the production of green liquid hydrogen for the domestic market. It is being developed by Energy Estate with support from project partners CS Energy and Idemitsu.

The project is planned to be located at the existing export terminal at Abbot Point, repurposing infrastructure into a decarbonisation platform to accelerate the energy transition for the region.



To contact us or for more information go to:
<https://hynqcleanenergyproject.com.au>

About the developers



Idemitsu Australia has been operating in Australia for over 40 years, as a subsidiary of Japanese company Idemitsu Kosan Co. Ltd. It plays a proactive role in diversifying Australia's energy portfolio. With a focus on innovation, Idemitsu is currently exploring solar, pumped hydroelectric storage, battery and green hydrogen/ammonia projects across QLD and NSW. It is deeply committed to the safety and wellbeing of its people and working with local communities to create sustainable outcomes.



CS Energy is a Queensland-owned and based energy company that provides power to some of our state's biggest industries and employers. We generate and sell electricity, we are an energy retailer to commercial and industrial businesses, and we are investing in new energy assets including renewable hydrogen, solar and wind farms, and battery storage. We employ more than 500 people and are committed to building positive, long-lasting relationships with the communities that host our operations.



Energy Estate is an advisory firm, developer and business accelerator, focused on accelerating the transformation of the global energy sector. Energy Estate has offices in Sydney, Brisbane, Adelaide and London. The team brings together experts across the industry, drawing on an understanding of the energy sector that is collaborative, innovative and holistic. Energy Estate has accelerated over 15GW of solar, wind, storage and hydrogen developments across Australia, NZ and MENA.

About our Project Manager



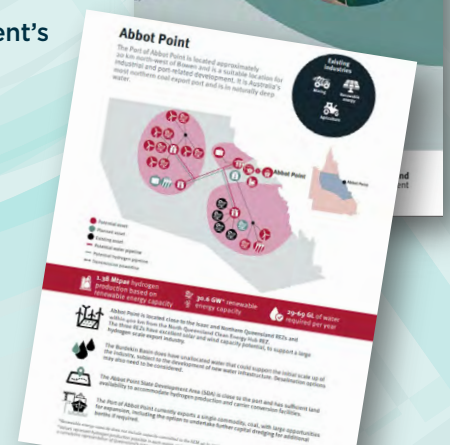
Claire Speedy is the Project Manager for HyNQ, works for Energy Estate and is based in Brisbane. She is a Chemical Engineer with over ten years' experience in managing industrial gas installations for a wide range of clients, and has recent experience with renewable driven hydrogen electrolysis. Claire became an engineer because it allows her to understand and optimise the chemical driven processes that permeate our modern life. When asked about her favourite aspect of the project she says "It is exciting to be leading a team of enthusiastic and curious people who are working together to develop what I consider will be a transformational clean energy hub. I love my job!"

Our site location

For this project, like with all of our projects, we went through a rigorous assessment process to inform our choice of location to include factors such as the quality of the renewable energy resource (wind or solar), proximity to transmission lines & existing infrastructure (such as roads) and the impact on the environment and local communities. All of this led us to the selection of our preferred site of Abbot Point near Bowen.

In reinforcement of our choice of preferred location, the Queensland Government's report called "Enabling Queensland Hydrogen Production and Export Opportunities" published in October 2022 recognised Abbot Point as a priority port for hydrogen for a number of reasons that include:

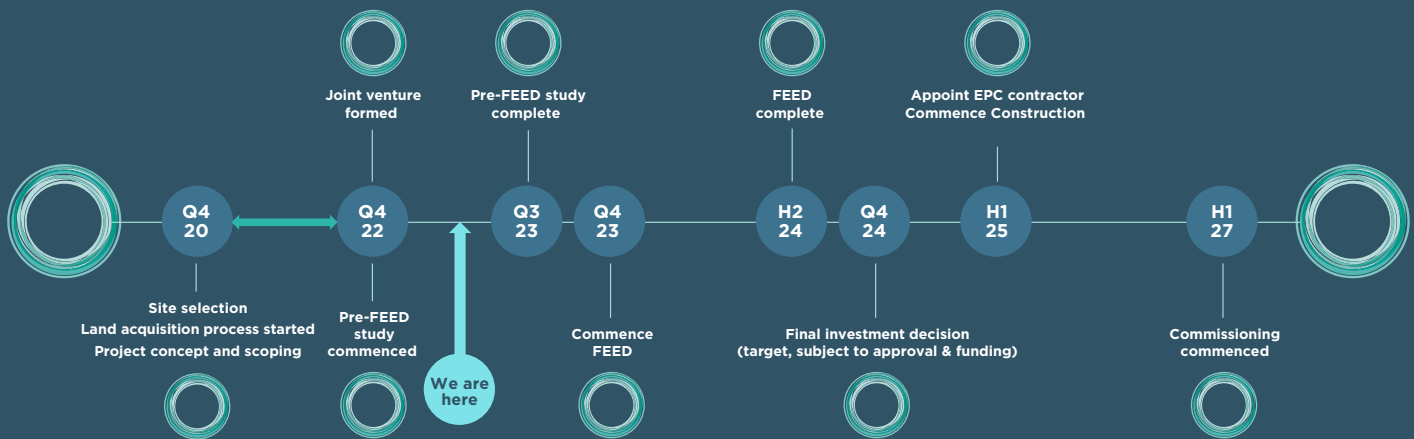
- Its close proximity to renewable energy zones
- The availability of land and berths
- Its suitable deep water shipping channel
- The potential for port expansion
- Its proximity to Townsville and other regional centres possessing supporting infrastructure and transferrable skills to support and grow a new industry.



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Indicative project milestones



Activities to date

From finding the right location, to obtaining the necessary planning approvals and finalising a design, to starting construction and ultimately operation, a lot of work goes into developing a large-scale integrated project like HyNQ. We are currently in the process of completing our Pre-FEED (Front End Engineering Design) studies to assess the project viability. While we are progressing Pre-FEED, there are many other considerations that need to be finalised before the project can reach FID, including funding, approvals and a decision on access to the port.

As part of the Pre-FEED process we are working with a number of experts and specialists, and these include:

Umwelt	<i>Planning & environmental</i>
Hatch	<i>Process precinct engineers</i>
Econnect	<i>Product export solutions</i>
Baringa	<i>Hydrogen market consultants</i>
ACIL Allen	<i>Economic strategy</i>
Enosi	<i>Green certification</i>
NRF	<i>Legal</i>
Ardent Underground	<i>Hydrogen storage infrastructure</i>
Nextracker	<i>Solar tracking systems</i>
Canadian Solar	<i>Solar panels</i>
SMA	<i>Solar inverters</i>
Dr Neil Thompson	<i>Hydrogen industry expert</i>



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Queensland's Energy Transformation & Abbot Point

Everyone knows that Queensland's energy system is transforming. By harnessing its natural resources to include the sun and wind, the Sunshine State is already accelerating a modern energy future where clean, reliable and affordable energy will provide power for generations. The Government has laid a clear path as to how to achieve this transformation as outlined in its *Queensland Energy and Jobs Plan*, its *'Supergrid' Infrastructure Blueprint* and its *Regional Transformation Partnership Framework* so that Queensland can achieve its goal of 50 per cent renewable energy by 2030, 70 per cent by 2032, and 80 per cent by 2035. If approved, HyNQ, as a scalable project powered by sun and wind with a co-located manufacturing, green chemical and export hub, will form a key role in achieving its 2030 goal.

A critical aspect of our vision for HyNQ and the expansion of the port at Abbot Point is the utilisation of "common infrastructure" across electricity transmission, substations, energy storage, water supply, product storage and ship loading. We have been discussing shared infrastructure (among other things) with our key stakeholders including:

- North Queensland Bulk Ports (as owner of Port of Abbot Point)
- Powerlink Queensland (as network operator)
- Economic Development Queensland (as landowner)

We are also in discussions with ammonia facilities owner/operators (for ammonia storage) and innovative ship-loading technology providers for the development of port and supply-chain facilities.

Update - Events

We were excited to be invited to provide an update on our Project to the **Bowen Collinsville Enterprise's Breakfast Forum** on 28 April at the Castle Hotel. It was interesting to hear the updates from other projects. We shared with the attendees how HyNQ will enhance the export capability of Abbot Point and provide a new opportunity for the region to participate in the global hydrogen economy.

We have submitted an Expression of Interest for funding under the Australian Government's **Townsville Region Hydrogen Hub Funding Program** that closed at the end of April.

Two of Energy Estate's team (Vincent Dwyer & Peter Conway) were among around 50 Australian industry and government trade agency representatives that turned out in force at the **World Hydrogen Summit (WHS)**, the biggest global hydrogen conference and trade fair, that was held in Rotterdam in the Netherlands on 9 - 11 May. Austrade was keen for Australia to put on a strong show from its hydrogen companies and they weren't disappointed. The delegation were lucky to take part in a tour of Rotterdam Port that took 5 hours by boat and demonstrated a breathtakingly vast industrial complex that stretches more than 40 kilometres inland from the North Sea.

In his blog about the summit Vincent observes: We are now starting to "normalise" a hydrogen future and the interest and appetite, as demonstrated by the participation at the WHS, is enormous. Desire for the change to a genuine hydrogen economy is very real,

customers are tentatively reaching out for product and talented people from across the spectrum are collaborating. The full blog *It takes a village to raise a child - reflections on the World Hydrogen Summit 2023* can be found here <https://www.energyestate.com/blog>.

On 23 May Claire attended the first ever **Australian Renewable Fuels Week** held in Brisbane which was a platform to discuss the opportunity to accelerate the significant potential of Australia's sustainable aviation fuel, renewable gas and renewable liquid fuels sector, to include discussion about the challenges facing these industries and how to maximise the opportunities.



Peter & Vincent pictured with some of the Australian delegation to the World Hydrogen Summit outside the residence of the Australian Ambassador to the Netherlands.