Demonstration project context

About Stanwell
Stanwell is a diversified energy business that generates electricity, has an electricity retail business, and trades coal.
Stanwell owns and operates more than 3,300 megawatts (MW) of generation capacity in Queensland which supplies around 30 per cent of Queensland’s total electricity demand.

The Stanwell Hydrogen Project
The project is a hydrogen demonstration plant which will be located approximately 150 metres north of the existing Stanwell Power Station in the Rockhampton region (refer to figure 1).

The 10 MW electrolyser will produce hydrogen, which will be transported by road to end-use customers. The volume of hydrogen produced would require two to three trucks per day delivering hydrogen to customers.

The hydrogen generated from this process is greened through the purchase of energy and certificates from renewable energy projects in the region which are equivalent to the energy used in the production process. As a result, a carbon-neutral product is generated for sale.

Project goals
By deploying hydrogen electrolysis at large scale, the demonstration plant would help drive down production costs and support the development of new domestic markets for hydrogen.

Ultimately Stanwell is aiming to encourage the growth of a hydrogen export industry in Central Queensland which would create jobs and investment, stimulate energy load growth in the region, ease pressure on the electricity network and support the growth of renewable energy.

Why Central Queensland?
Central Queensland has the renewable energy resources, available land and water, significant spare network strength and capacity, and access to major port infrastructure to enable it to develop a large-scale green hydrogen industry.
Central Queensland could become a major export hub for green hydrogen and ammonia, creating opportunities for local manufacturing and other complementary industries to meet expected demand from nations such as Japan and South Korea.

What is hydrogen?
Hydrogen is a clean energy carrier that can be used in transport, power generation and a range of industrial processes. It’s already a key input for a range of industries that provide vital products for our mining and agricultural sectors.

How would the hydrogen be made?
The demonstration plant will use electrolysis to produce hydrogen.

Electrolysis is a process that uses an electrical current to split water and create hydrogen, with oxygen the only by-product.

What would the hydrogen be used for?
Stanwell is exploring a number of different end uses for the hydrogen.

Hydrogen is a very flexible energy carrier that can be used as a natural gas replacement, transport fuel, and industrial feedstock for products such as ammonia which is used in farming and mining operations.
Project status

Stanwell completed a pre-feasibility study in June 2019 and identified commercial pathways that could result in a long-term sustainable business model. A full feasibility study is currently investigating these options and is expected to be finalised in September 2020.

As the green hydrogen market is in its infancy, Stanwell will seek grant funding to purchase the electrolyser, with the hydrogen produced being sold primarily to domestic customers.

Over time as the green hydrogen and ammonia markets develop, there is potential to move towards large-scale production of green hydrogen for export to international customers.

![Figure 1. Proposed site location](image)

Privacy

Information you share with us will help to understand the nature and scale of social impacts relating to the Project. Please note that the final report may be made publicly available. However, information and data captured through consultations will be anonymised and presented in aggregated format. Information will be presented in a way that cannot identify you or your responses, unless you have agreed to this. Information captured will be held securely and reported in a way that protects your privacy. For more information please contact hydrogen@stanwell.com

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