Benefits of a hydrogen economy

Australian first project
Australian first project to deliver 10% renewable blended gas to homes and businesses

Jobs
Building a new industry and jobs for Australians

Economic benefit
Enhanced fuel security with potential to supply the world through export

CO_2 savings
Lowest cost decarbonisation for customers*

Transport and industrial use
Potential to decarbonise other markets including hydrogen vehicles and industry

Sector coupling
Coupling gas and electricity networks to allow efficient use of renewable electricity

Gas customer benefits

Safe
We deliver gas safely to thousands of customers Australia-wide every day. All necessary approvals will be in place from regulators and government to enable us to deliver renewable blended gas to homes and businesses

Easy for customers
No difference to gas service via the existing natural gas network

No New Network Costs
Customers in Gladstone will pay no more for the 10% renewable gas blend than for 100% natural gas

*Frontier Economics, 2020.

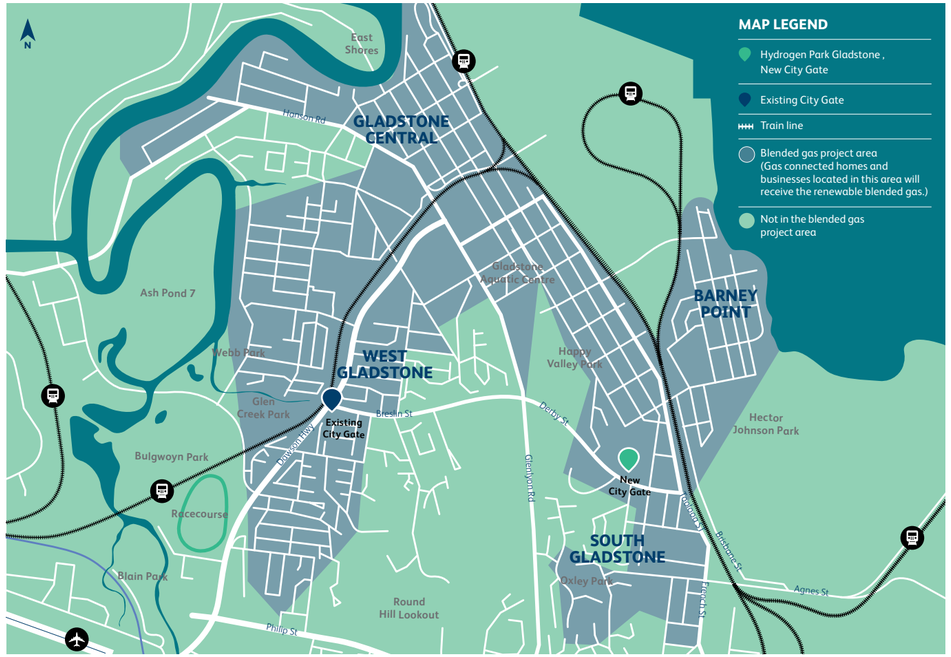
About the site

The HyP Gladstone facility is planned to be located on Derby Street, South Gladstone on a a 30x37 metre (approx. 1,110 square metre) site, an area similar to around four tennis courts or on Olympic-size swimming pool.

Selection of this site was driven by a need to relocate our natural gas City Gate for Gladstone, which is contained within this site. The existing City Gate on Breslin Street (near the Dawson Highway) is nearing the end of its operational life and requires relocating.

The City Gate takes gas from the transmission pipeline network and reduces its pressure for use in the distribution network which supplies homes and businesses in Gladstone, so needs to be located close to both distribution and transmission pipelines.

Gas network-connected customers living in Gladstone Central, Barney Point, South Gladstone and West Gladstone will receive the blended gas from the HyP Gladstone facility.



Map depicts overall project area; not all streets are gas connected

Timeline

Phase 1: Planning and Design
Mid 2020 – Mid 2021
Planning and design of onsite infrastructure at Hydrogen Park Gladstone

Phase 2: Engagement and Approvals
Mid 2021 – Early 2022
Development application lodged, Gladstone community introduced to project with support through ongoing engagement

Phase 3: Construction and Commissioning
Early 2022 – September 2022
Construction and commissioning of the Hydrogen Park Gladstone facility

Phase 4: Blended Gas Flows Commence
September 2022
Properties on the Gladstone gas distribution network will receive 10% renewable blended gas

AGN will continue to provide regular updates to the community throughout the project.

A safe and reliable gas supply

We are experts in developing and operating gas infrastructure safely and reliably. Our commitment to safety underpins all we do, and we must be satisfied that our renewable gas projects are safe before first production.

The properties of hydrogen are well known and there is a significant body of evidence on its safe handling, including from industries that have produced, transported and used hydrogen for more than 100 years. Blended gas, comprising natural gas and hydrogen, is already being used safely in Australia and around the world in homes and businesses.

Customers should not notice any difference in the quality, safety or reliability in gas, nor should there be any noticeable difference in flame colour or gas smell.

We are subject to regulation by government bodies,which are designed to ensure our commitment to safety, reliability and service continues. We will have all necessary approvals in place before production begins.

A pathway to a cleaner future

Blended 10% renewable gas in Gladstone

Australian Gas Networks

A pathway to a cleaner future

Queensland Government's energy transition ambitions include 50% renewable energy by 2030, and the Queensland Hydrogen Industry Strategy 2019-2024.

The future of gas is bright. As a business we are taking active steps to contribute to a low carbon economy.

Consistent with this, we are targeting 10% renewable gas in networks by no later than 2030 and delivering 100% renewable gas developments for customers who want it from 2025.

Full decarbonisation of our networks is targeted by no later than 2050, and by 2040 as our stretch target.

This is consistent with Australian state and territory ambitions, which collectively target being net zero carbon by 2050.

About

Hydrogen Park Gladstone (HyP Gladstone) is a small demonstration facility designed to produce renewable hydrogen to start to decarbonise gas supply in Gladstone.

HyP Gladstone is an important first step in the development of a sustainable renewable hydrogen economy as supported by the Queensland Hydrogen Industry Strategy 2019-2024.

At HyP Gladstone, we are proposing to produce renewable hydrogen using a 175 kilowatt electrolyser with water and renewable electricity. The renewable hydrogen is blended with natural gas at volumes of up to 10% and supplied to nearby homes and businesses via the existing gas network.

Through HyP Gladstone approximately 57 tonnes of carbon dioxide emissions will be saved per annum. This is the equivalent of removing around 19 petrol passenger vehicles from the road.

What is hydrogen?

Hydrogen is the simplest and most abundant molecule in the universe. It is colourless, odourless, non-toxic and an excellent carrier of energy.

Like natural gas, hydrogen can be used to heat buildings, power vehicles and produce electricity. Unlike natural gas, when burned, hydrogen produces only heat and water vapour - no carbon emissions.

The project is proudly supported by the Queensland Government, with grant funding of up to $1.78 million from the Hydrogen Industry Development Fund.

How is it made?

We are planning to produce hydrogen using an electrolyser, which splits water into hydrogen and oxygen using renewable electricity. This process has been around for a long time, first appearing in the 1800s and is in use around the world today.

HyP Gladstone will use a relatively small 175 kilowatt Proton Exchange Membrane electrolyser, which can produce up to 2.75 kilograms of hydrogen per hour. The site would store up to 10kg of hydrogen, which is the equivalent of four standard 8.5kg LPG bottles.

The water volumes consumed to produce hydrogen are low, an average of 101L litres per hour over a 24hr period. Annual volumes used to produce the hydrogen will be very low, the equivalent to six "water wise" households according to Gladstone Regional Council guidelines.

About Australian Gas Networks

Australian Gas Networks (AGN) is one of Australia's largest gas distribution companies. Our networks serve more than 1.3 million homes and businesses in South Australia, Victoria, Queensland, New South Wales and the Northern Territory.

As a longstanding owner of gas infrastructure in Gladstone and throughout Central Queensland, AGN is proud to contribute to a low carbon economy, and to be an important first step in the development of a sustainable renewable hydrogen economy as supported by the Queensland Hydrogen Industry Strategy 2019-2024.

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Hydrogen Fast Facts

- Hydrogen is the simplest and most abundant molecule in the universe
- Hydrogen is colourless, odourless, non-toxic and an excellent carrier of energy
- When burned, hydrogen produces only heat and water vapour – no carbon emissions
- Like natural gas, hydrogen can be used to heat buildings and power vehicles
- Research indicates that net zero emissions from gas networks can be reached with hydrogen at half the cost of electrification*
- Hydrogen production through electrolysis brings together gas and electricity networks, using the gas network like a giant battery to store excess renewable electricity
- Until the late 1990s parts of Queensland and Australia more broadly used to rely on Town Gas which was manufactured from coal and consisted of 50-60% hydrogen
- A hydrogen economy will deliver economic benefits by harnessing its strengths as an excellent energy carrier to deliver wind and sun energy to new and existing industries, including export

*Frontier Economics, 2020.

In the spirit of reconciliation AGN acknowledge the Byellee, Gooreng Gooreng, Gurang and Taribelang Bunda people who are the traditional custodians of the land in Gladstone and its surrounds. AGN would also like to pay respect to Elders past, present and emerging, and extends that respect to all Aboriginal and Torres Strait Islander peoples today.

Hydrogen Park Gladstone

Find out more

AGN will continue to provide regular updates to the community throughout the project.

If you have any further questions or would like to be kept informed about receiving renewable blended gas, get in touch:

Go online and visit blendedgas.agn.com.au

Email our project team at communityengagement@agig.com.au

Call 1300 001 001 and press option 8 to speak to our friendly team