

FACT SHEET

Western Sydney Hydrogen Hub



Introducing one of our renewable gas pilot production facilities, helping to take NSW a step closer to lower carbon emissions

Jemena is proud to play a role in pioneering the future of gas in Australia. Our pilot production facilities are demonstrating the practical potential for a transition to low-emission renewable gas, including renewable hydrogen.

Located in Horsley Park, the Western Sydney Hydrogen Hub commenced operations in late 2021, and will be generating renewable hydrogen over the next five years. An on-site 500kW electrolyser is powered by electricity from the grid and Jemena purchases renewable power from its retailer to offset

the electricity used. After being injected into Jemena's existing gas network, the hydrogen is blended with natural gas and is being used in homes and businesses in the surrounding Western Sydney area. The hub can also supply hydrogen to the on-site fuel cell and micro-turbine to produce renewable electricity for injection into the grid, which highlights one of the key benefits of renewable gas production in supporting other renewables and 'firming' the grid, to keep the grid stable in the face of intermittency.

With renewable gas as part of a future energy mix, households and businesses across Australia will be able to lower their carbon emissions while retaining their choice of energy supply, as well as the convenience, instant warmth and control that they love about their existing gas supply.

How renewable hydrogen is made and stored

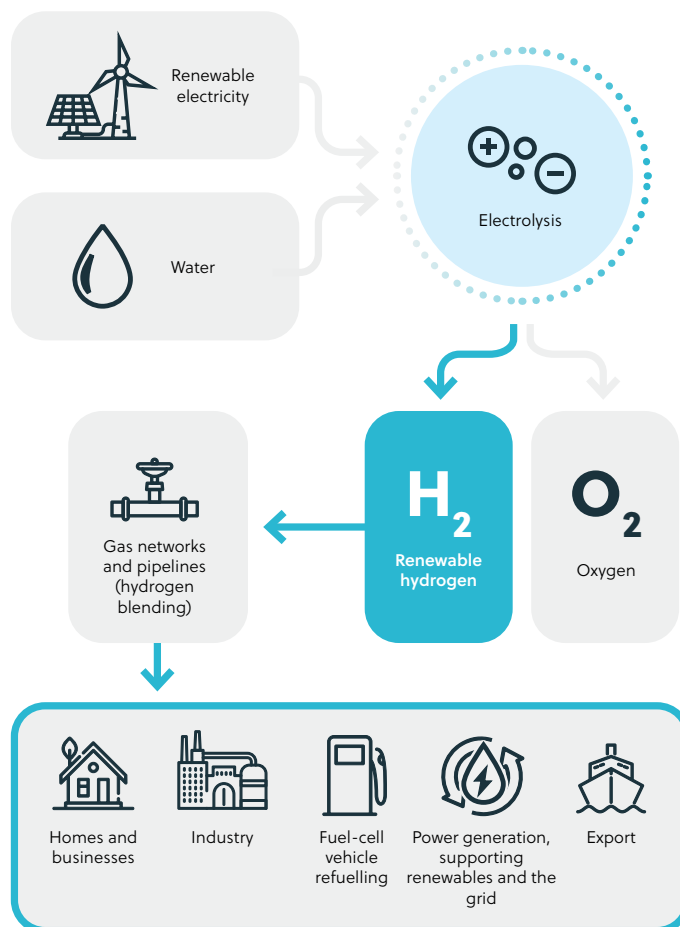
The Hydrogen Hub generates renewable hydrogen gas using a process called electrolysis, powered by purchased renewable electricity. Hydrogen is then either blended into the existing Jemena natural gas network, or stored in dedicated high purity hydrogen piping.

The hydrogen facility is a step towards providing an important renewable gas solution to complement renewable electricity in Australia's decarbonisation journey. It is demonstrating the important role of gas network emissions reduction in order to help meet the NSW Government's target to halve carbon emissions by 2030.

Although natural gas emits up to 50% less carbon than other fossil fuels, hydrogen burns with no carbon emissions at all, and when produced with renewable electricity, it can be a critical carbon-neutral fuel to support a cleaner energy future.

The Western Sydney Hydrogen Hub is currently blending hydrogen into the natural gas network at 2% to demonstrate viability, with aims to increase this percentage to 5% steadily over the life of the project.

In the coming years, Jemena will continue to work with customers and regulators to assess the potential to increase this to hydrogen blends of 10% and beyond.



When hydrogen is produced using renewable electricity, it is carbon neutral because there are net zero carbon emissions involved in its creation.





More About Renewable Gas



Research from Frontier Economics suggests that the continued utilisation of gas infrastructure to transport increasing blends of renewable gas can unlock the least-cost and fastest pathways to net zero emissions for Australian households and businesses.



Renewable hydrogen, made using renewable energy, can also be used to power Fuel Cell Electric Vehicles (FCEVs) - which travel further and with more power than most battery EVs - providing another zero-emission alternative to petrol and diesel.



A renewable gas industry could create employment and training opportunities in a range of advanced energy sector occupations, as well as boosting local economies and jobs especially in regional areas.



A transition to renewable gas could also help thousands of commercial and industrial gas users, that rely on gas to power their processes and operations, to meet their own emissions reduction targets more efficiently.

The Western Sydney Hydrogen Hub is co-funded by Jemena and ARENA (Australian Renewable Energy Agency).

Jemena's gas distribution network is the largest in NSW. It delivers natural gas to around 1.5 million residential and business customers, across Greater Sydney and parts of regional NSW.

ARENA is the government agency responsible for supporting the transition to net zero emissions by accelerating innovation for the benefit of Australian consumers and business.



Did you know?

Until the 1960s and 70s in Australia, hydrogen gas was often a large part of the blend of gases in a typical town gas supply.



Learn more about the Western Sydney Hydrogen Hub

The Western Sydney Hydrogen Hub is demonstrating how hydrogen, as part of a renewable gas industry, can create commercial opportunities for local governments, industry and business, as well as helping to meet sustainability commitments and emissions targets. Ask us how.



Visit gorenablegas.com.au

Contact us to explore the production facility, get involved and to find out how renewable gas could benefit households, businesses and communities across NSW.



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