



# Fact Sheet

## Western Sydney Green Gas Project



Jemena owns and operates a diverse portfolio of energy transportation assets across the east coast of Australia. We employ 3,000 Australians and supply millions of households and businesses with essential services every day.

Jemena has partnered with the Australian Renewable Energy Agency (ARENA) to develop and deliver the Western Sydney Green Gas Project. The 'Power to Gas' demonstration is ARENA's largest investment in hydrogen technology to date.

Jemena's Power to Gas demonstration is Australia's most comprehensive hydrogen fuel study to date and, over the next five years, will test how we develop affordable energy storage to complement renewable energy when the sun doesn't shine and the wind doesn't blow.

### **What is the Western Sydney Green Gas Project?**

The Western Sydney Green Gas Project is a power to gas project, whereby renewable electricity is used to produce renewable hydrogen which can be injected, blended and stored in the gas distribution network.

The renewable hydrogen injected and blended into the gas network will provide enough energy to meet the cooking, heating and hot-water requirements of approximately 250 homes.

Another portion of the hydrogen will be stored underground which can supply a gas engine generator and fuel cell to regenerate electricity to the grid.

The project is also considering an onsite Hydrogen Refueling Station (HRS) for Fuel Cell Electric Buses.

### **How will you do this?**

Jemena's Western Sydney Green Gas Project will convert renewably sourced electricity like wind or solar to break water into oxygen and hydrogen (the process is known as electrolysis).

The renewable hydrogen is then captured, injected and blended into the existing gas network.

### **What is hydrogen?**

Hydrogen is the most common chemical substance in the universe. As a gas it is colourless, odorless, non-toxic and like natural gas is combustible.

Hydrogen can also be used in fuel cells where the hydrogen reacts with oxygen to produce electricity.

### **What are the carbon emissions of hydrogen?**

The production of and use of renewable hydrogen does not have any carbon emissions.

### **Will I need a new appliance?**

No, hydrogen at low percentages blends well with natural gas and can be safely distributed in existing pipeline infrastructure and used by existing appliances.



### Where will this take place?

The Project will take place at Jemena's existing Horsley Park site, in Western Sydney.

### Why is Jemena undertaking this Project?

Jemena aims to demonstrate that our gas network is ready to deliver clean, safe and sustainable renewable gas to customers.

In doing so, Jemena is supporting the decarbonisation of Australia's energy market by demonstrating a long term storage solution for renewable energy for when the sun doesn't shine and the wind doesn't blow.

### When will the project be built?

Jemena is currently in the delivery phase of this project. Jemena expects the Project to be operational in mid 2021.

### How do I find out more information?

You can view more information the project here:

<https://jemena.com.au/about/innovation/power-to-gas-trial>

You can get in touch with our team in these ways:

- Call our Community Feedback Line on 1800 571 972
- Visit our website at [www.jemena.com.au](http://www.jemena.com.au)
- You can view ARENA's work at its website: <https://arena.gov.au/>