

# Australian Case Studies – HyP SA

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6 June 2019



# Our Operations

## LEGEND

- Transmission pipelines
- Distribution networks
- Gas distribution area
- Storage
- ⬇ Electrolyser under construction in SA

**Customers**  
2.0 million

**Distribution**  
34,393 km

**Transmission**  
4,265 km

**Storage Facilities**  
42 PJ

**Area**  
National

**Asset Value**  
\$8,340 million



## Northern Territory

- 1,138 customers
- Distribution 38km
- Transmission 601km



## Western Australia

- 36 shippers
- Transmission 2,431km
- 42PJ gas storage

## South Australia

- 451,718 customers
- 17GJ per annum average residential consumption
- 90%+ penetration
- Distribution 8,108km
- Transmission 484km

## Queensland

- 104,098 customers
- 8GJ per annum average residential consumption
- 30%+ penetration
- Distribution 3,022km
- Transmission 313km

## New South Wales

- 59,087 customers
- 36GJ per annum average residential consumption
- 90%+ penetration
- Distribution 1,979km
- Transmission 84km

## Victoria

- 1,387,217 customers
- 51GJ per annum average residential consumption
- 90%+ penetration
- Distribution 21,246km
- Transmission 504km



## Our Vision

Our vision is to be the leading gas infrastructure business in Australia. In order to deliver this we aim to achieve top quartile performance on our targets.



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### Delivering for customers

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Public safety

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Reliability

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Customer service

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### A good employer

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Health and safety

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Employee engagement

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Skills development

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### Sustainably cost efficient

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Working within industry benchmarks

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Delivering profitable growth

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Environmentally and socially responsible

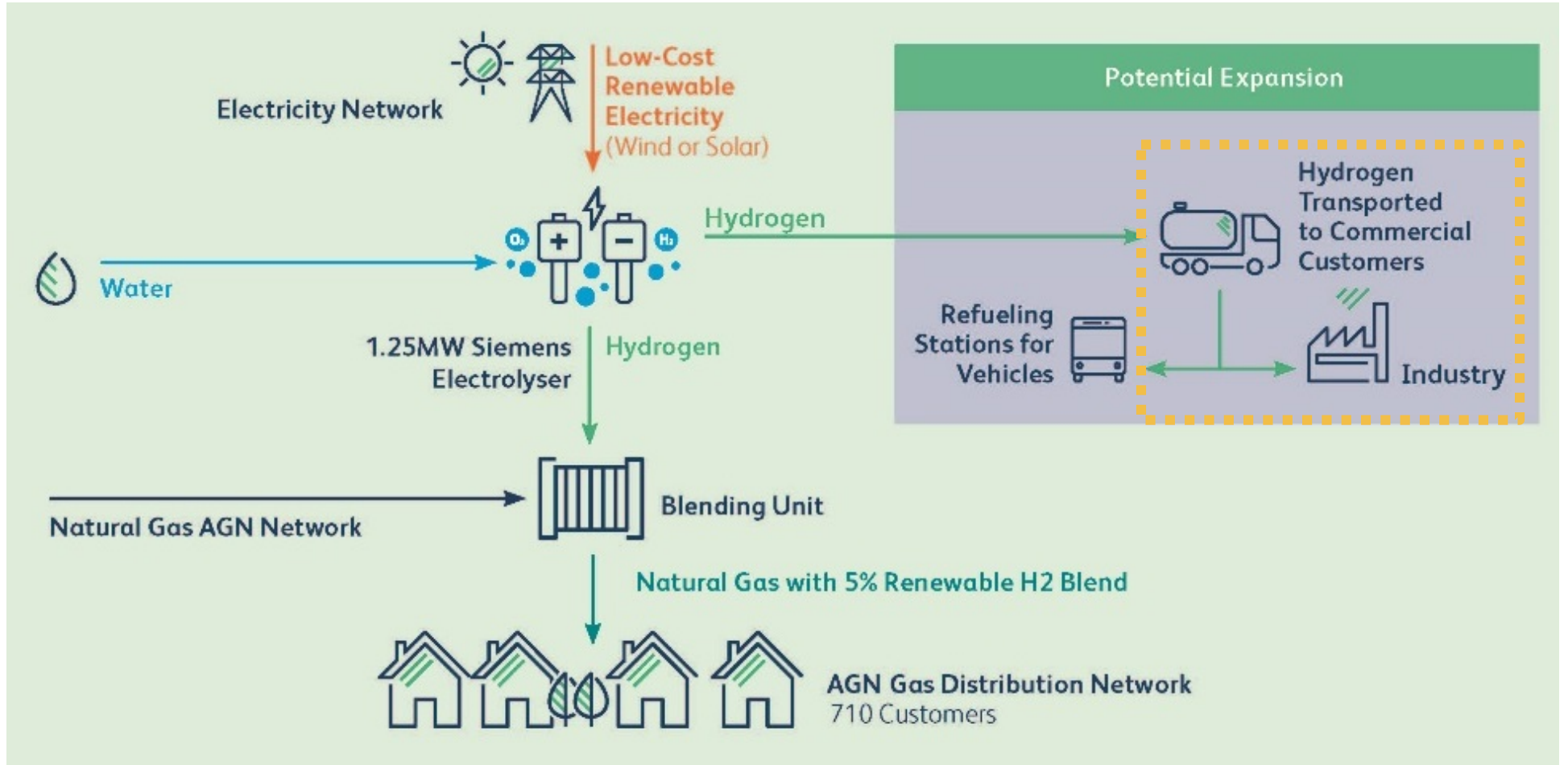
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# HyP SA | What is Hydrogen Park South Australia?

<p><b>An Australian first demonstration facility</b></p>	<p><b>\$11.4m project enabled by \$4.9m from the SA Government</b></p>	<p><b>Located at the Tonsley Innovation District in SA</b></p>	<p><b>Renewable H<sub>2</sub> to be blended in the SA Gas Distribution Network</b></p>	<p><b>5-year initial project period</b></p>
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# HyP SA | An Australian First Demonstration Facility



**Australian Hydrogen Centre**



## HyP SA | Why? Customers at the Forefront

- Customers like gas
- The environment is a concern, but price is key
- What's our vision for the future?

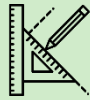
### Low carbon gas:

- Can deliver lowest cost decarbonisation
- Can reduce emissions from other sectors such as industry, transport & electricity
- Has the potential to bring jobs & growth

### HyP SA will...

- ✓ **Demonstrate production and blending technology in an Australian context**
- ✓ **Underpin further research and businesses cases – paving the way for commercial production**
- ✓ **Facilitate gas & electricity network coupling**
- ✓ **Socialises and normalises hydrogen with customers**

# HyP SA | Key Milestones



## FEED

Completed August 2018



## Electrolyser

Purchased November 2018



## Land

Site finalised with Renewal SA and cleared in December 2018



## Design & Construct

Preferred party selected February 2019



## Development Application

Crown Sponsorship received



## Engagement

Comprehensive community & stakeholder program



## Safety Report

Part of our annual safety case reporting



## Electricity

Finalising network and wholesale contracts



## Tube and Trailer

Finalising terms with BOC



## Australian H<sub>2</sub> Centre

Submission with ARENA



## H<sub>2</sub> Blend Injection

~710 properties

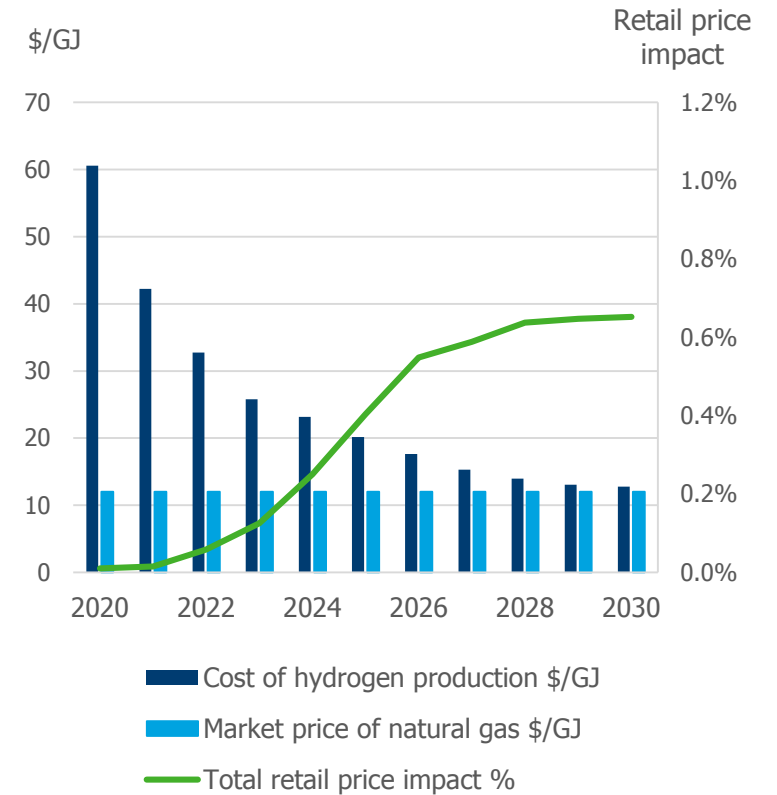


## Project Term

Initial term of 5 years

# Hydrogen | Delivering Commercial Production

- H<sub>2</sub> production costs are on a downward trajectory much like the reductions seen in batteries, wind and solar
  - A key driver of the reductions will be scale and automation of electrolyser construction
- A blending obligation of 10% into the domestic network is deliverable and will provide key market signals and scale to drive down cost
- By 2030, H<sub>2</sub> production cost parity with current natural gas cost is achievable (~\$12 per GJ)
- Under this scenario, 920 MW of electrolysis capacity is built by 2030
- Maximum retail price impact before parity of 0.7%



**A 10% blending obligation can kick-start the market with minimal bill impact**



# Summary



**HyP SA, an Australian-first project, on track for first production in mid-2020**



**Demonstrates in an Australian context and informs industry development**



**Normalise & socialise H<sub>2</sub>**



**Couples electricity & gas networks**



**Enables decarbonisation of other sectors**



**A technology neutral approach to decarbonisation is key to balancing emissions, security and price considerations**



**Commercial H<sub>2</sub> production is achievable with scale, networks can offer this**



**Industry and government are leading the way**



**Potential for jobs and economic growth from H<sub>2</sub> production and export**

