



# Renewable Hydrogen

## Hydrogen Park SA

World Plumbing Conference  
11 September 2019



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

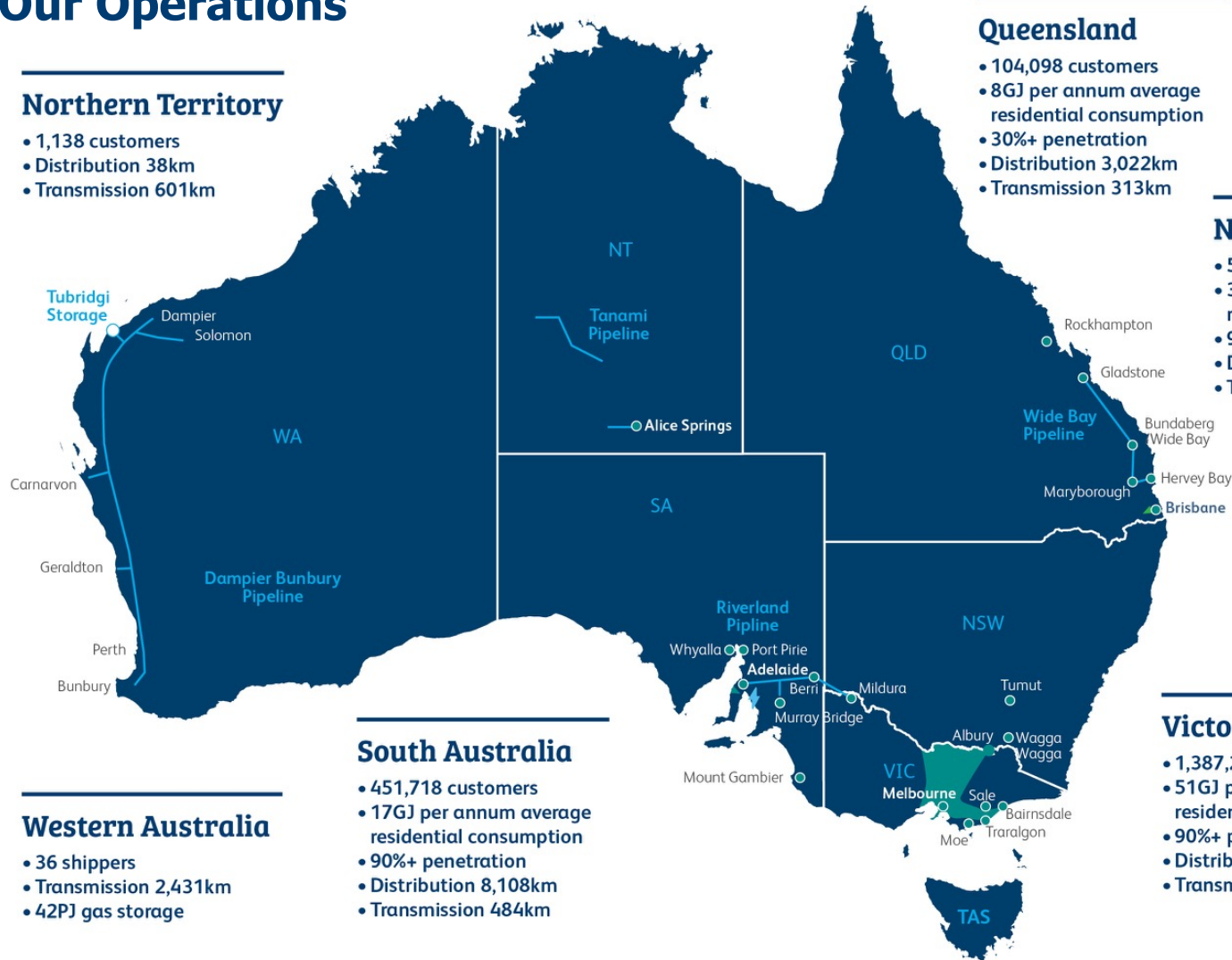
**Asset Value**  
\$8,340 million



# Our Operations

## Northern Territory

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



## 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

## South Australia

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

## Western Australia

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

## Victoria

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

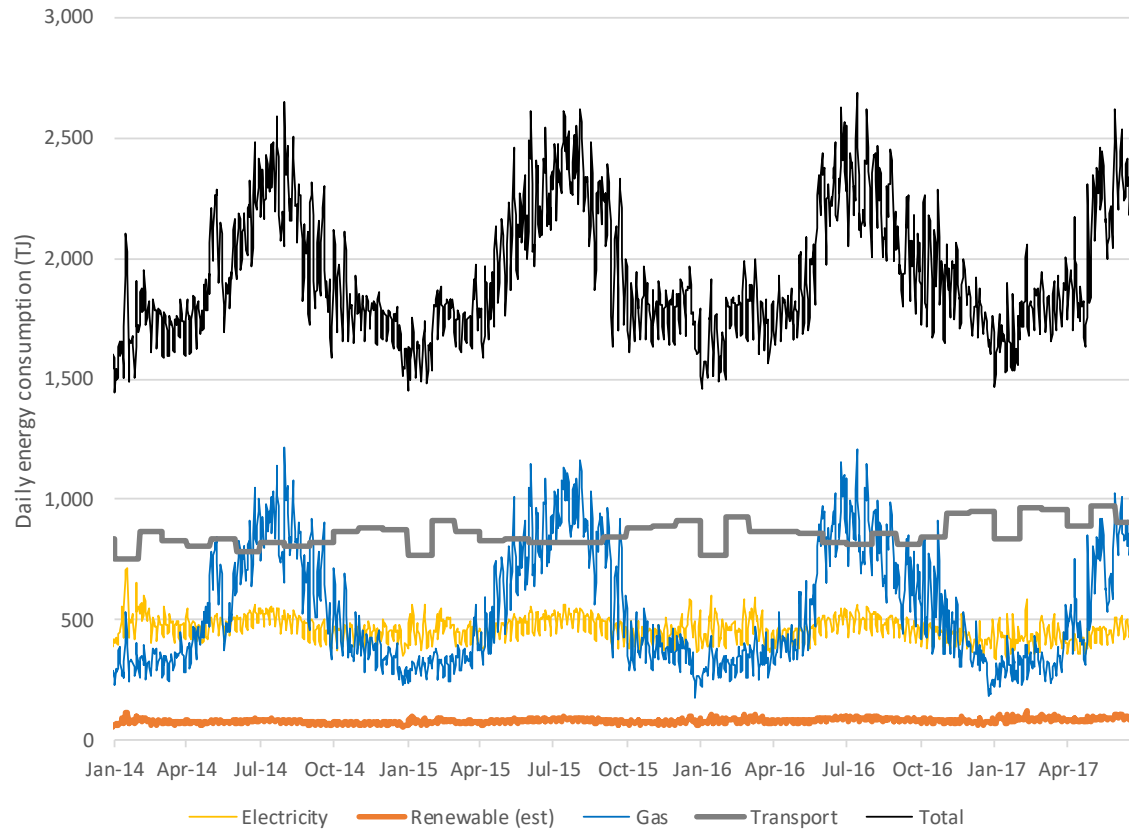
# Setting the Scene | The decarbonisation challenge

All sectors need to decarbonise

In Victoria, gas consumption is significant and concentrated in winter months



Energy Consumption for VIC



Total energy  
100%

Transport  
41%

Gas consumption  
30%

Electricity consumption  
25%

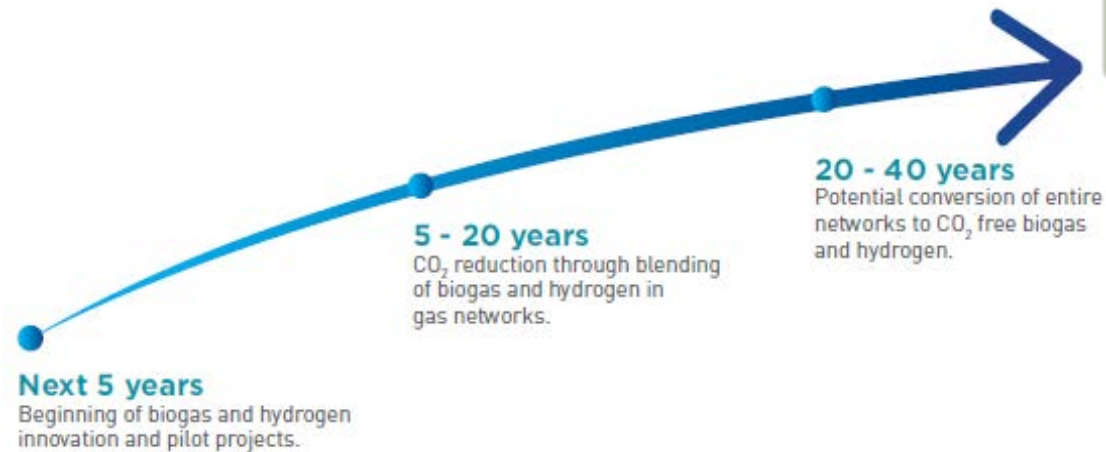
Renewable electricity  
Generation 4%



## Gas Vision 2050 | A vision to decarbonise gas

- An industry-wide vision to decarbonise the gas sector, released in March 2017
- Highlights the importance of gas to Australia today and into the future
- Established a credible pathway to decarbonise

Hydrogen  
produced from  
wind and solar  
generation and  
electrolysis is  
100%  
renewable



## Setting the Scene | Hydrogen Activity is Building

### Australia

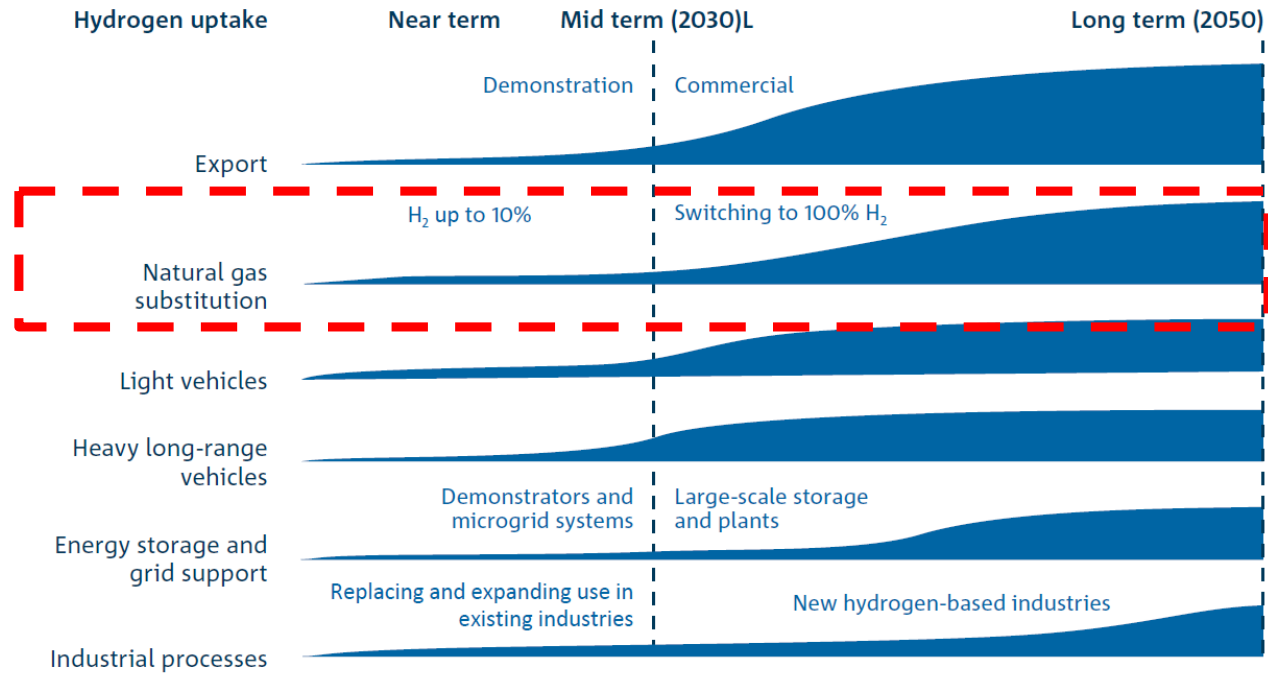
- National H<sub>2</sub> Strategy
- CSIRO H<sub>2</sub> Roadmap
- Future Fuels CRC
- SA Government Funding and Roadmap
- ARENA H<sub>2</sub> Funding Round
- Victorian H<sub>2</sub> Investment Program
- Queensland Hydrogen Industry Development Fund
- WA Hydrogen Development Fund
- Numerous H<sub>2</sub> production and use projects

### Internationally

- Various roadmaps – targeting import of H<sub>2</sub>
- Leeds H<sub>2</sub>1 feasibility of 100% H<sub>2</sub> conversion
- Various H<sub>2</sub> production and use projects including:
  - HyDeploy blending up to 20% H<sub>2</sub> into gas networks in the UK
  - GRHYD project: refuelling station and injection of up to 20% H<sub>2</sub> into the local gas network, supplying 200 homes
  - Trial in Germany blending up to 10% H<sub>2</sub>

## Developing the Hydrogen Economy | Where to start

“Progressively adding small amounts of hydrogen to domestic gas networks to meet existing demand and begin driving down production costs as manufacturing scales up”



Source: Hydrogen for Australia’s Future, A report prepared for the COAG Energy Council

## Hydrogen Park SA (HyP SA) | AGIG flagship project



### **A leading project**

An Australian-first project of its type and scale



### **More than 700 homes**

More than 700 homes and businesses in the project area



### **5% renewable gas**

Renewable hydrogen is expected to make up a maximum of 5% of the volume of gas in the network



### **Jobs**

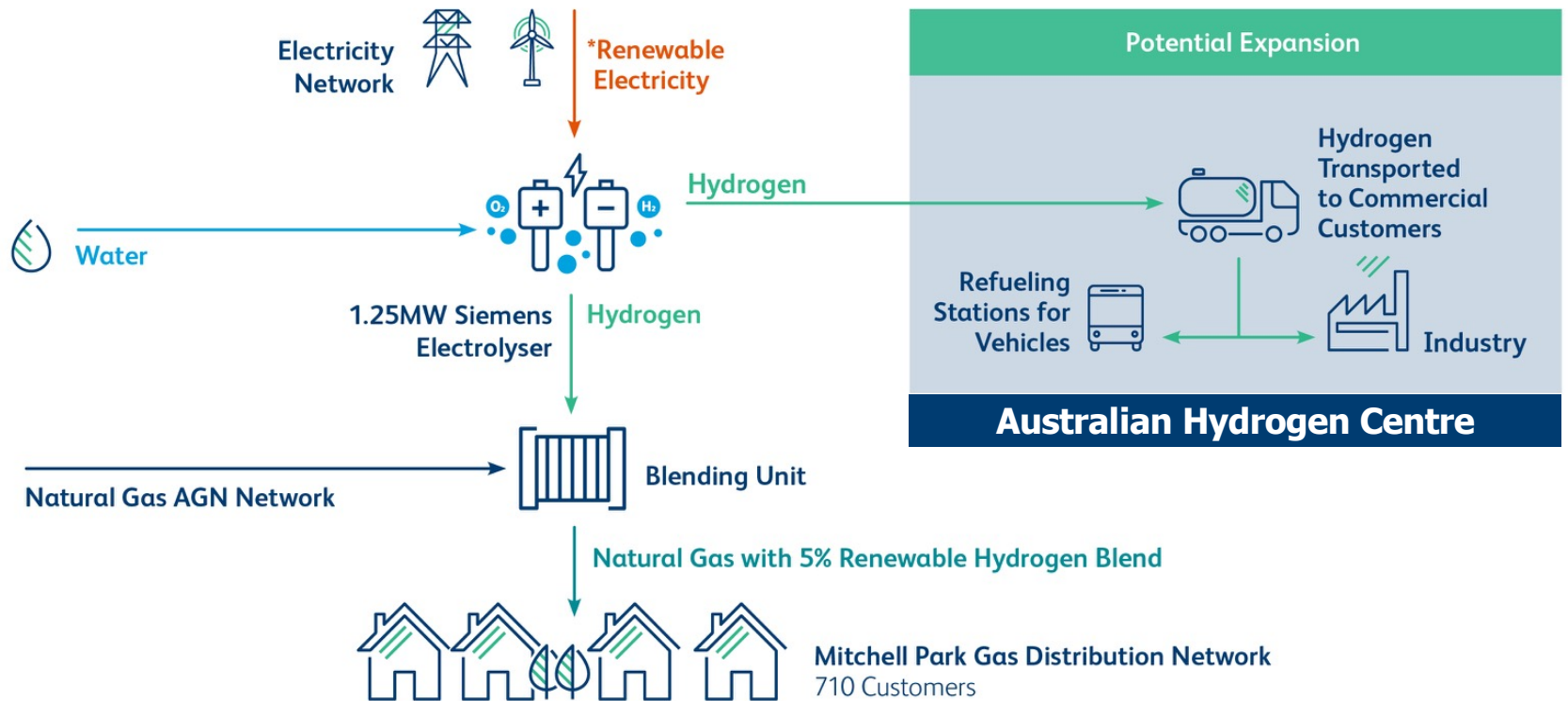
Building a new industry and jobs for Australians



2019 | 7

# Hydrogen Park South Australia

## How it works



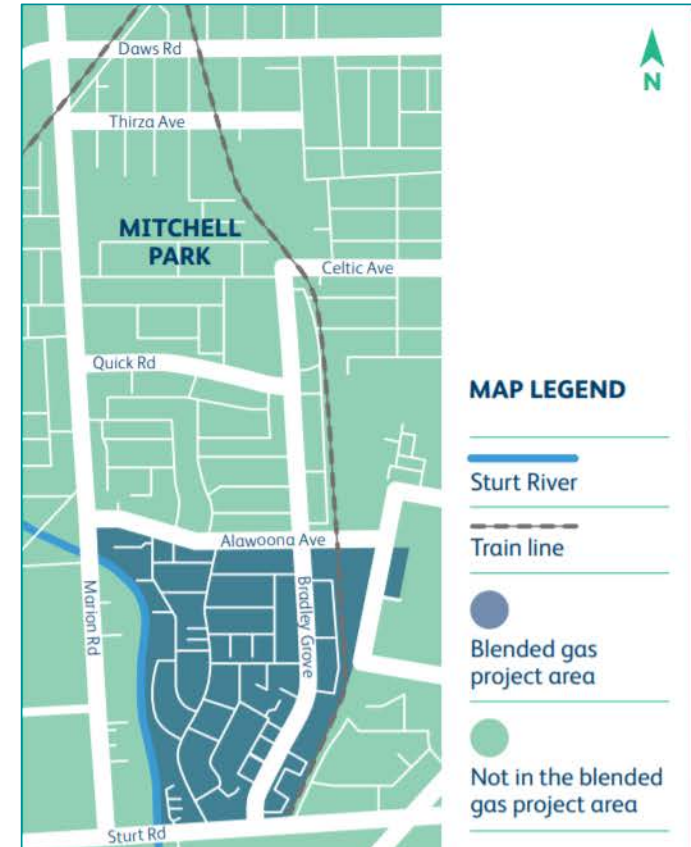


## HyP SA | Project location

Locate near the old Mitsubishi Assembly Building (MAB) precinct (redeveloped as the Tonsley Innovation District)



712 Households receiving 5% blended gas in Mitchell Park



## HyP SA | Informing and Engaging the Community

Stakeholder briefings

July 12 - letterbox drop with letter, brochure and Free Gas Appliance Efficiency Audit flyer and reply paid envelope

Website

Dedicated 1300 number and call centre

Project email address

Fact sheets

FAQs

Media program













Social media advertising and content

Ongoing support and discussions with gas customers

Neutral to positive response – consistent with Focus Group testing



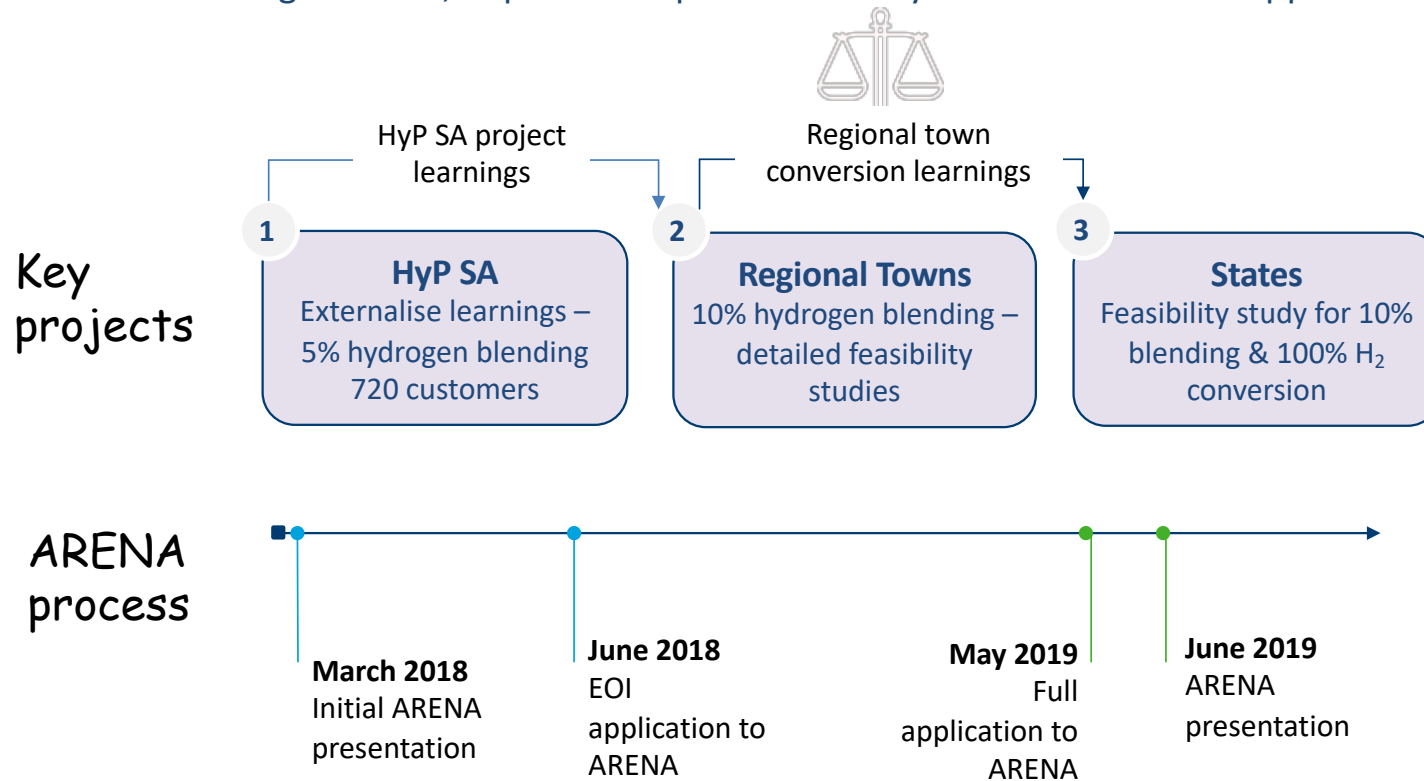
## HyP SA | Commercial Operation Date of Mid 2020

 <p><b>FEED</b> Completed August 2018</p>	 <p><b>Electrolyser</b> Purchased November 2018</p>	 <p><b>Land</b> Site finalised with Renewal SA and cleared in December 2018</p>
 <p><b>Design &amp; Construct</b> Preferred party selected February 2019</p>	 <p><b>Development Application</b> Crown Sponsorship received, submitted for assessment</p>	 <p><b>Engagement</b> Comprehensive community &amp; stakeholder program</p>
 <p><b>Safety Report</b> Submitted, part of our annual safety case reporting</p>	 <p><b>Electricity</b> Finalised network and wholesale contracts</p>	 <p><b>Appliance Testing</b> Future Fuels CRC and AGA</p>
 <p><b>AHC Tube and Trailer</b> Submission with ARENA BOC as partner</p>	 <p><b>H<sub>2</sub> Blend Injection</b> ~710 properties</p>	 <p><b>Project Term</b> Initial term of 5 years</p>



# Australian Hydrogen Centre (AHC) | Developing a pathway to decarbonise gas networks

- Detailed feasibility studies to decarbonise the Victorian and SA gas distribution networks
- Establishing the AHC, in partnership with Industry and Government support

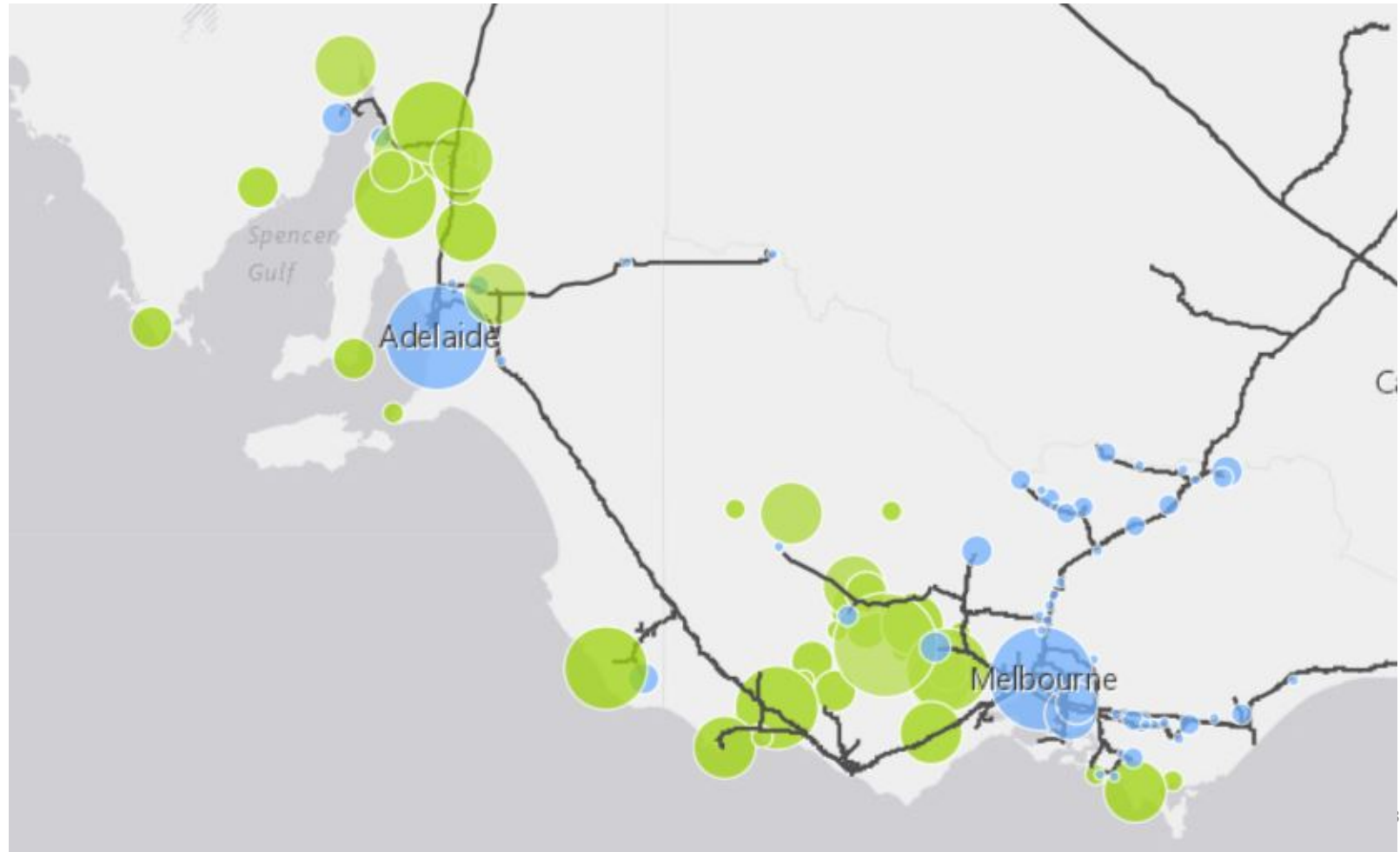




## Australian Hydrogen Centre (AHC) | Leveraging off our significant wind and solar resources

Many regional towns are in proximity of operational wind farms (and solar farms)

Regional towns of 10,000 plus households, represents a good platform to scale up and deploy learnings from HyP SA



## Summary



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



**Around 700 customers will receive a cleaner gas at no extra cost**



**Blended gas is as safe to use as 100% natural gas**



**We are engaging with the community**



**AHC delivers blueprint to decarbonise gas networks**



**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**

