

South Australia's Hydrogen Jobs Plan

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Office of Hydrogen Power SA

Roundtable for Energy Resources in SA

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hydrogen.sa.gov.au



Acknowledgement of Country

Ngaityalya ngadlu taikunthitya yalaka, Yantupinarna iyangka Kurna Yartangka
Thank you for joining us today, as guests here on Kurna land.

Ngadlu tampinhi tupa yaintya pirku wapinhi, Yaitya Miyurnaku yartangka kuntanhi
We acknowledge everything this department does impacts on Aboriginal country.

Nata kumagka ngadlu padnitha, tirkatha kuma warpulayingutha
We are ready to walk, learn and work together.



“South Australia has an incredible opportunity before it to grow the **state’s wealth on the back of a green re-industrialisation**, featuring critical minerals like copper, green iron and steel”

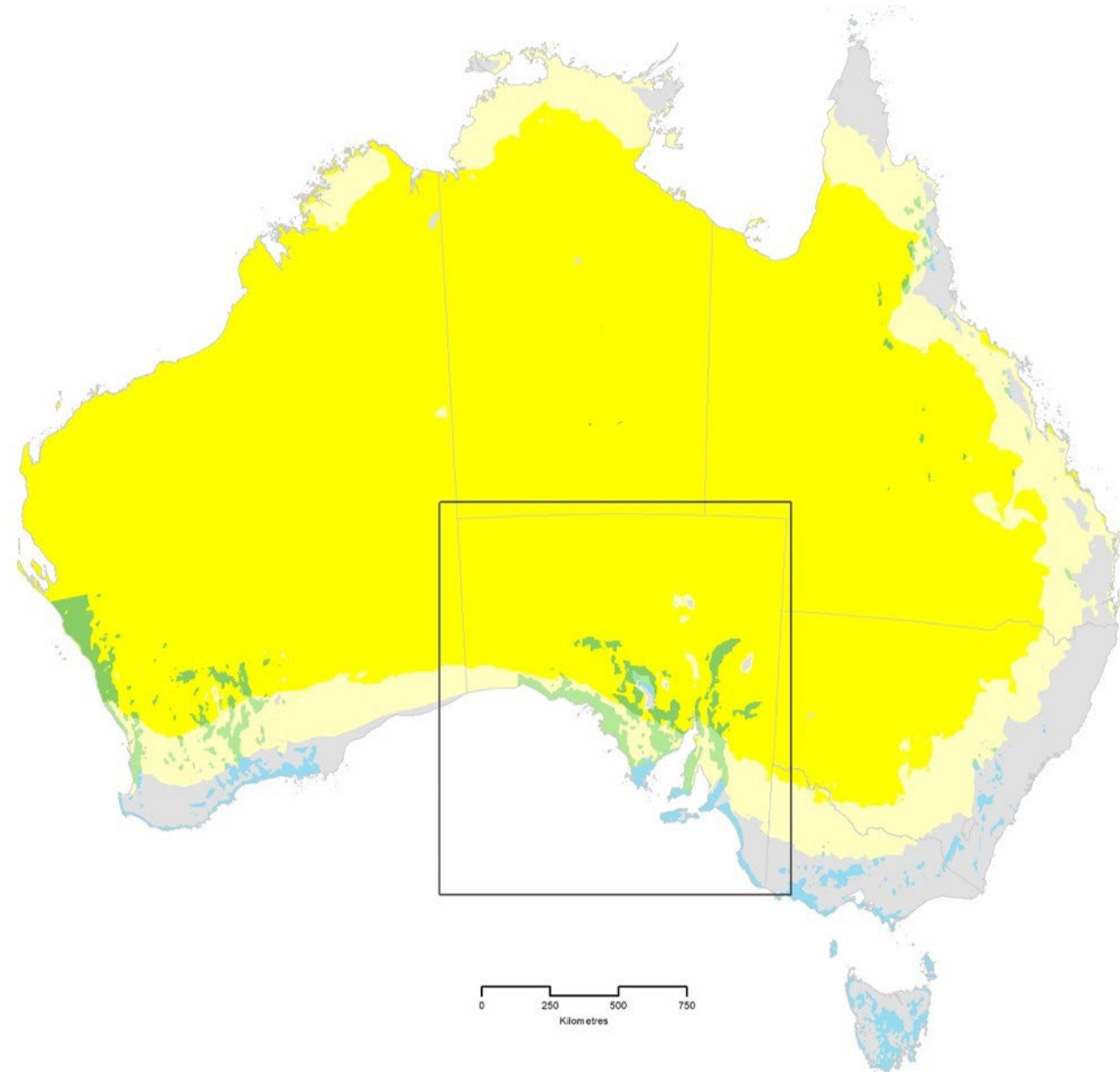
Peter Malinauskas, Premier of South Australia



Opportunity to attract energy intensive industries

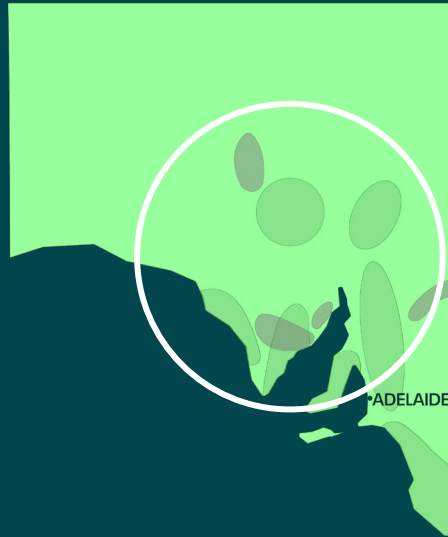
Optimal location for:

- ◆ SOLAR FARM
DNI greater than 23.5 MJ/m²
- ◆ SOLAR FARM
DNI greater than 20.5 MJ/m²
- ◆ WIND FARM
Predicted ave. wind speed above 7.31 m/sec
- ◆ WIND FARM AND/OR SOLAR FARM
Predicted ave. wind speed above 7.31 m/sec
DNI greater than 23.5 MJ/m²
- ◆ WIND FARM AND/OR SOLAR FARM
Predicted ave. wind speed above 7.31 m/sec
DNI greater than 20.5 MJ/m²



The energy transition

Upper Spencer Gulf and surrounds



C Copper

S Smelters & Steelworks

H Hydrogen

 Northern Water

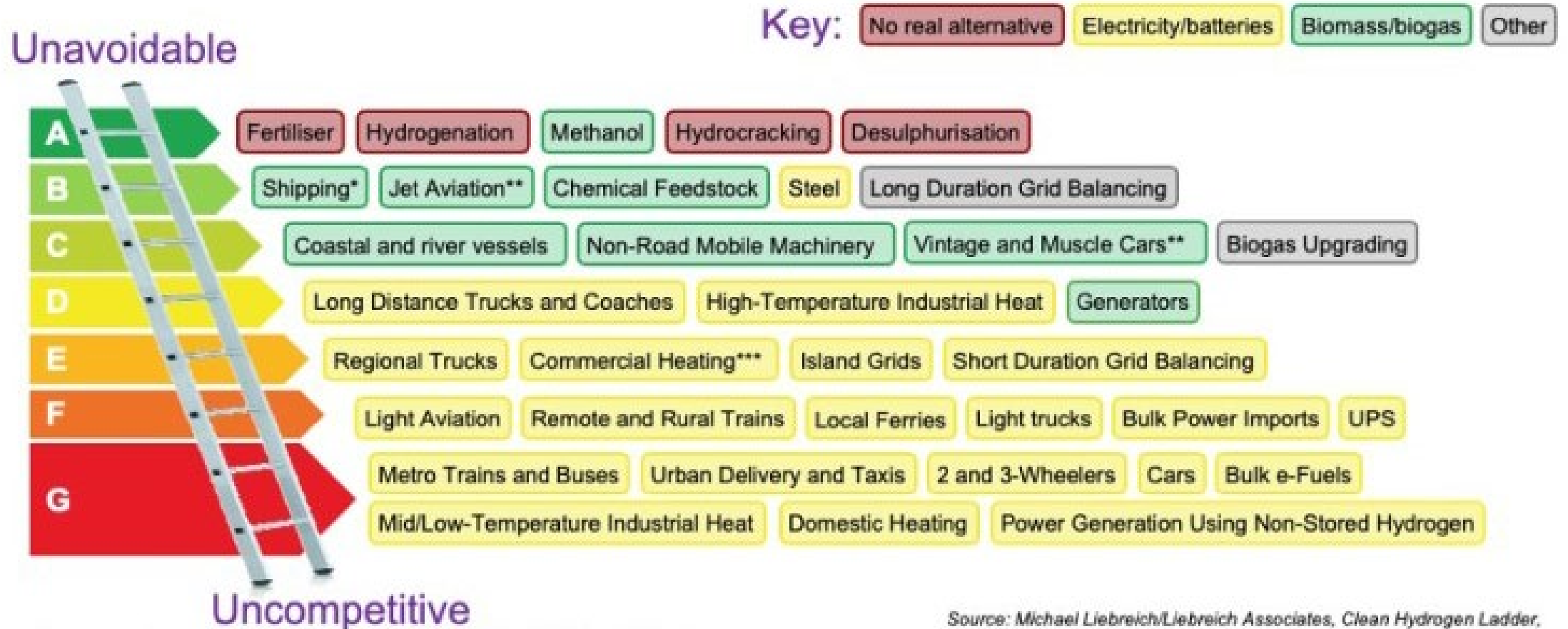
 Solar & Wind

 Magnetite Iron Ore

 Port Facilities

The low carbon technology race – where might hydrogen (molecules) play v electrification/batteries (electrons)

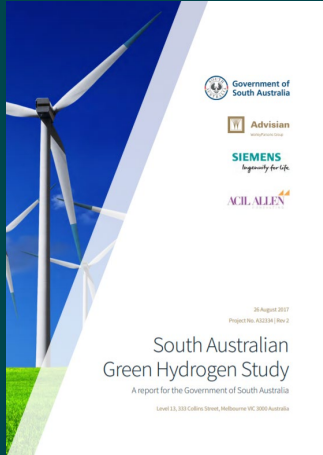
Use of hydrogen rated as..



*As ammonia or methanol **As e-fuel or PBTL ***As hybrid system

South Australia's hydrogen journey

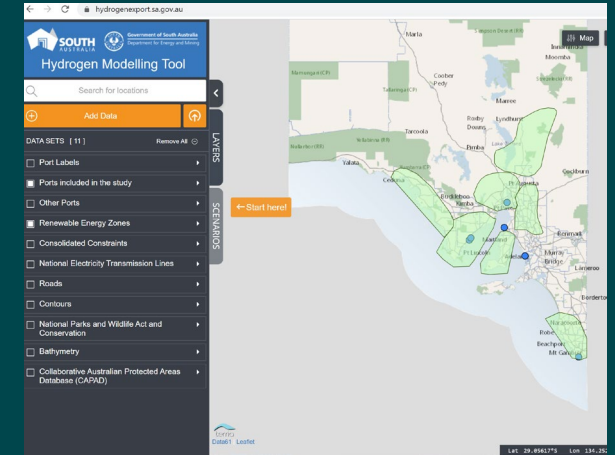
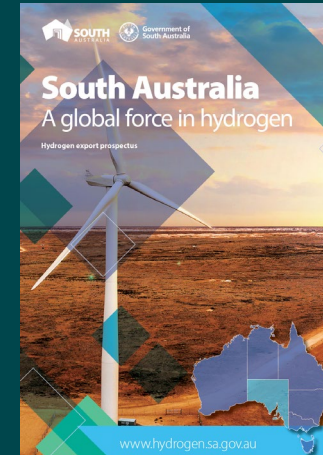
2017



2019



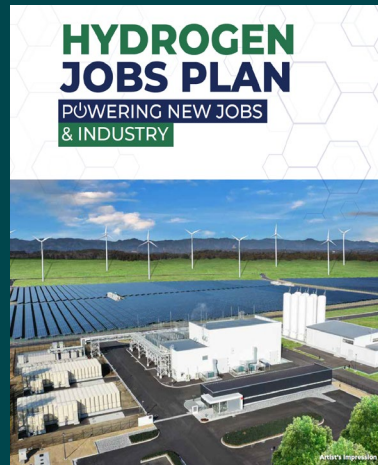
2020



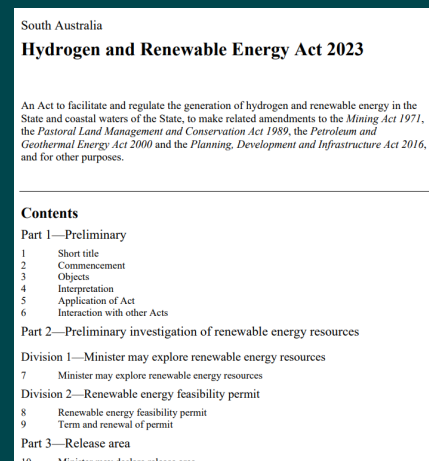
2021



2022



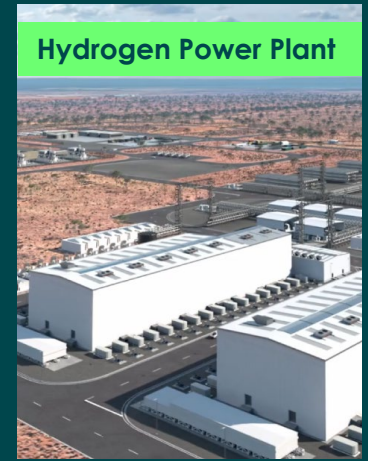
2023



2024



2026



Hydrogen Jobs Plan

- ✔ 250MWe of electrolysers
- ✔ 200MW hydrogen power generation
- ✔ 100 tonnes of hydrogen storage
- ✔ Stabilise grid by using excess renewable energy
- ✔ Improve grid security through new dispatchable electricity
- ✔ Operational from 2026



Project milestones

October 2023	ECI Agreements signed with project partners
December 2023	Application lodged under <i>Environment Protection and Biodiversity Conservation Act 1999</i>
February 2024	Agreement with G'day Group for 32 high quality cabins
	GE Vernova confirmed as preferred supplier of 100% hydrogen capable turbines
	Agreement with GFG Alliance to explore offtake opportunities
July 2024	Development approval received under state <i>Planning, Development and Infrastructure Act 2016</i>
August 2024	Early works civil packages expression of interest released through Industry Capability Network SA
	OHPSA and ElectraNet executed work order under the Master Terms for Preliminary Works Agreement enabling early transmission infrastructure works to occur
September 2024	Compressed natural gas / biomethane Request for Tender opened. Closes 4 November.
October 2024	Accommodation Request for Tender closed. Currently under evaluation.

Early contractor involvement (ECI)

Preferred delivery partners

End-to-end solution encompassing:

- 250MWe electrolysers
- 100% hydrogen-operated fast-startup turbines
- On-site storage

Dual purpose storage and transmission pipeline providing infrastructure connections for hydrogen production expansion and industrial offtake.

ATCO

BOC
A Linde company

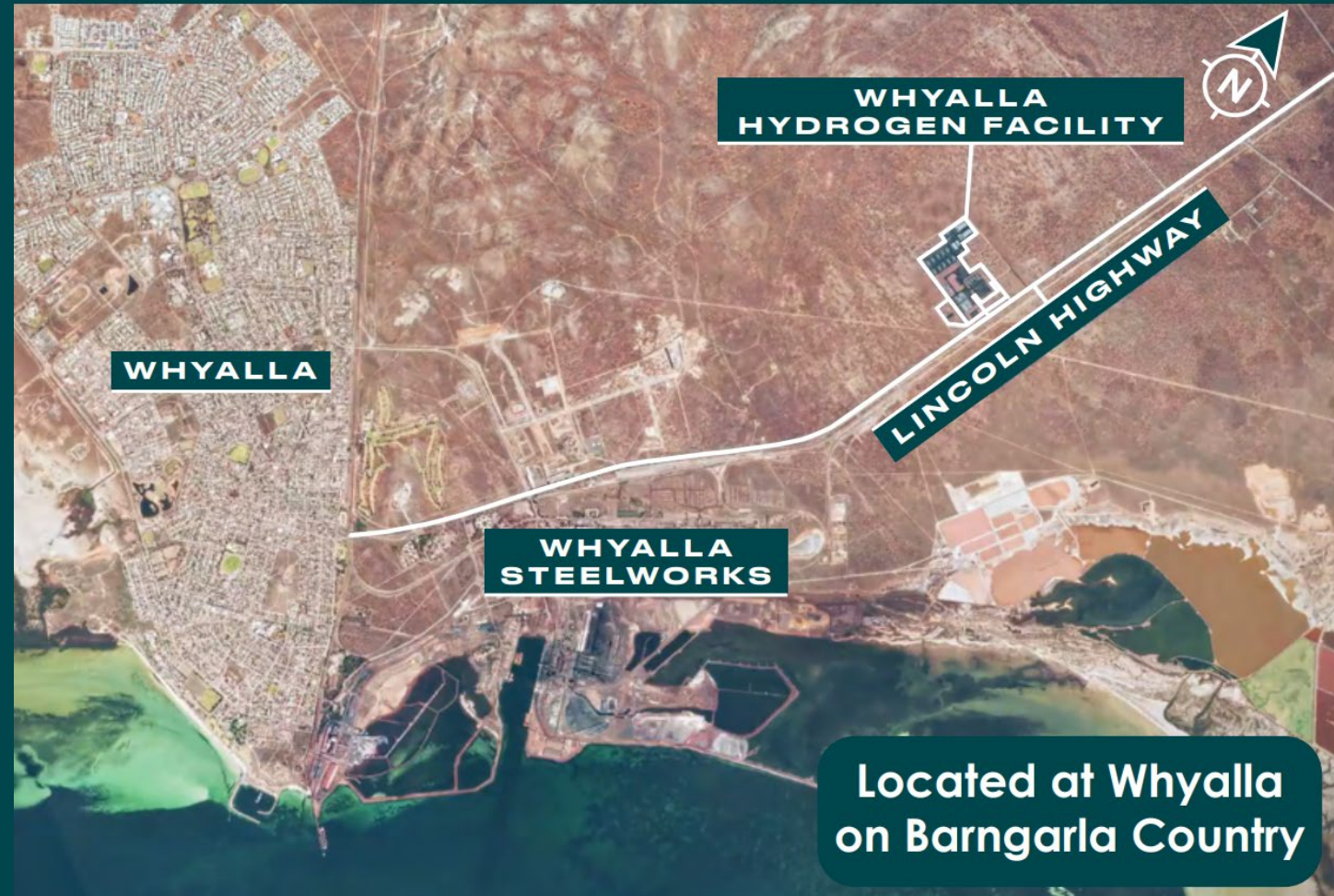
Energising SA: An ATCO & BOC Hydrogen Collaboration

 **epic
energy**



Project location

- Located approximately 9 kilometres north of Whyalla City Centre on the western side of the Lincoln Highway
- Proximity to renewable energy resources, deep-water port, airport, and rail infrastructure



Power generation

- GE Vernova selected as the preferred turbine supplier.
- Four GE Vernova aeroderivative turbine generators, each equipped with LM6000 turbines.
- Will be run on 100% hydrogen.
- Rapid-start capabilities.
- Engineered for regular starts and stops.
- Provides flexible solution for grids, like South Australia's, with a high penetration of renewable generation.



GE VERNOVA



Government
of South Australia



Hydrogen supply

- Early agreement signed with GFG Alliance.
- Commits to exploring opportunities for renewable hydrogen offtake from the Hydrogen Jobs Plan facility – commercial negotiations are progressing.
- Other supply discussions currently underway.



Government
of South Australia

Whyalla Hydrogen Information Hub

- Office of Hydrogen Power SA project office located in Whyalla opened to the public in February 2024.
- Source of latest project information for industry and the community.
- Open Tuesday to Thursday from 10am to 3pm or via appointment.





Port Bonython Hydrogen Hub

- On-track to be South Australia's first large-scale clean hydrogen production precinct
- Development agreements signed with five project partners
- Common user infrastructure planning and environmental assessments progressing










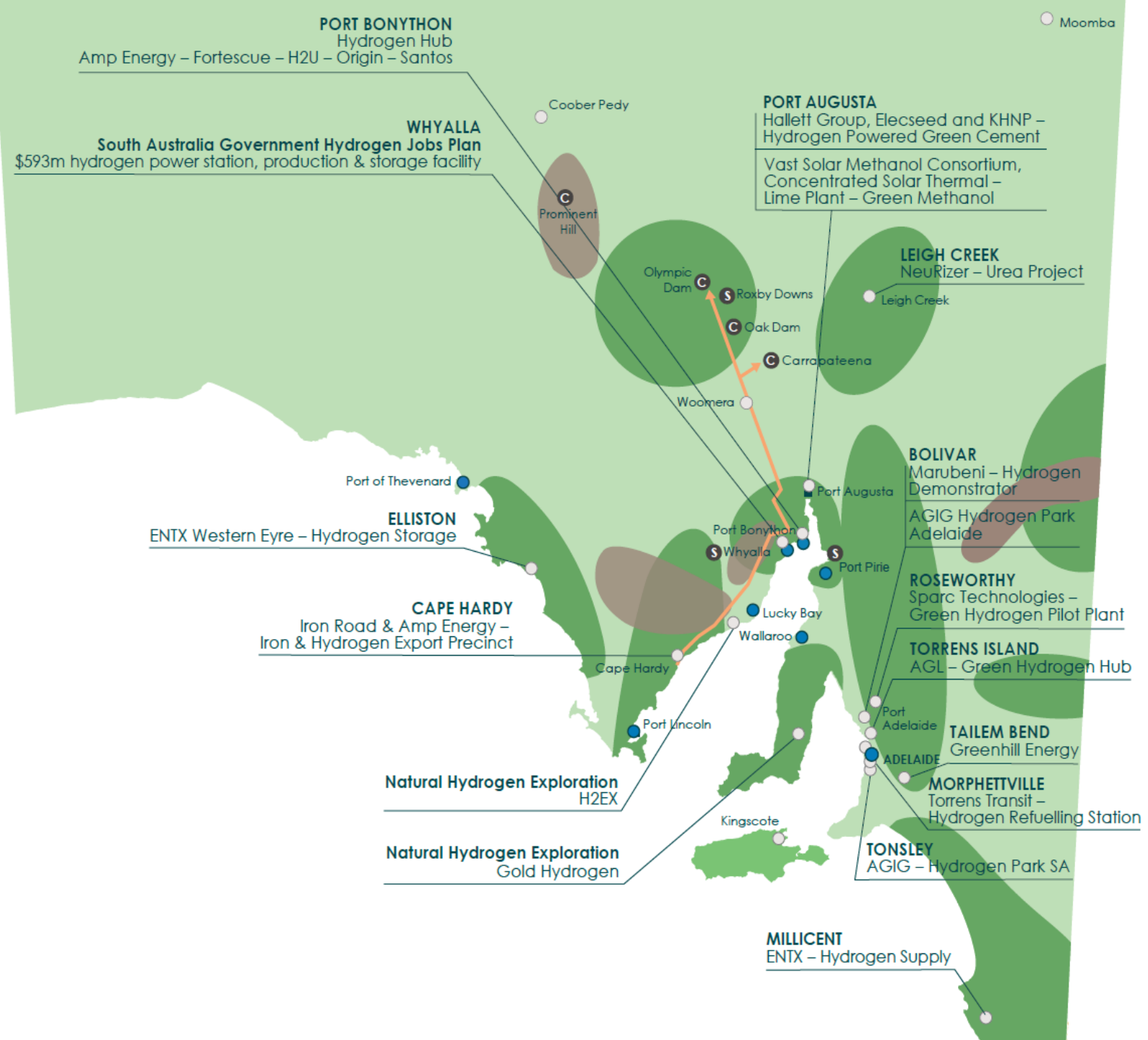
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SA hydrogen projects

-  Locations
-  Northern Water pipeline
-  Port Facilities
-  Renewable Energy Zone
-  Magnetite Zone
-  Copper
-  Smelters and Steelworks



SA hydrogen projects



TONSLEY
AGIG Hyp SA



BOLIVAR
AGIG Hyp Adelaide



BOLIVAR
Marubeni Demonstrator

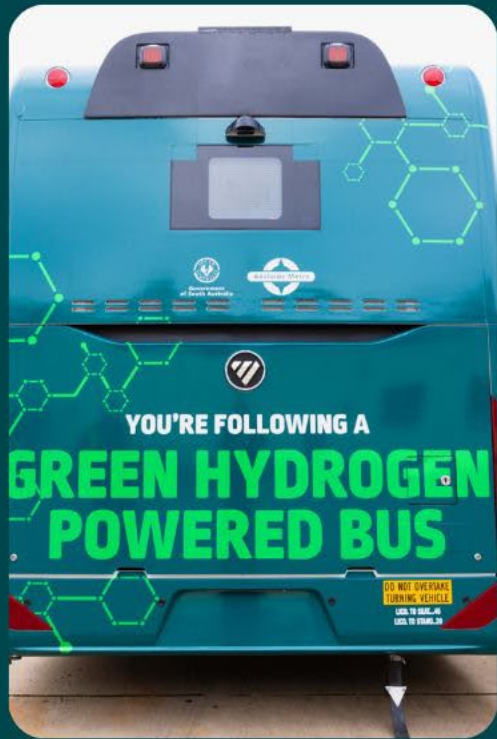


PORT AUGUSTA
Hallett Group
Green Cement



PORT AUGUSTA
Vast Solar CSP
Solar Methanol

SA hydrogen projects



ADELAIDE

Torrens Transit
Fuel cell bus and HRS



CAPE HARDY

Iron Road / Amp Energy



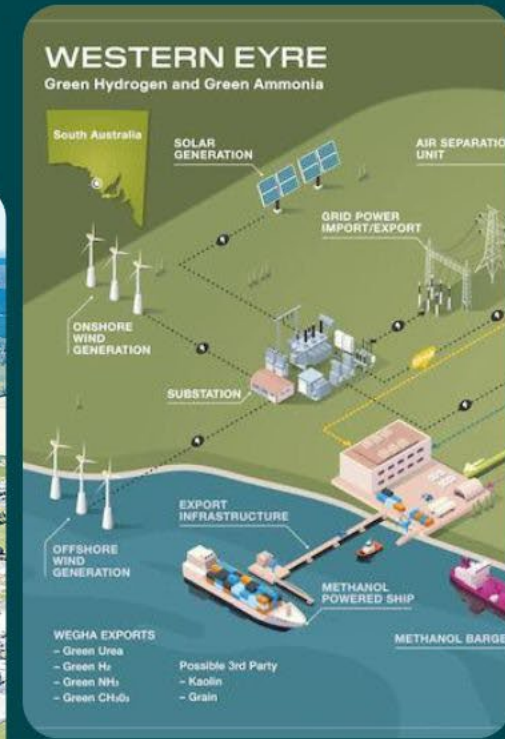
TAILEM BEND

Greenhill Energy
The Riverbend Energy
Hub



MILLICENT

EntX



ELLISTON

EntX

Thank you

Richard Day

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